

**CONTRACT DOCUMENTS AND SPECIFICATIONS
FOR CONSTRUCTION OF**

**CITY OF UNALASKA
CAPTAINS BAY ROAD WATERLINE (WA22B)
DPW Project No. 22402**



FOR BID

April 22, 2024

**Engineer:
Regan Engineering, P.C.
P.O. Box 889
Camas, WA 98607
360-903-5064**

**Owner:
City of Unalaska
Department of Public Works
P.O. Box 610
Unalaska, Alaska 99685
907-581-1260**

City of Unalaska
CAPTAINS BAY ROAD WATERLINE
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Part 1

BIDDING REQUIREMENTS

Section 00030
INVITATION TO BID

Sealed Bids for the City of Unalaska **CAPTAINS BAY ROAD WATERLINE**, addressed to the City of Unalaska, will be received at the following location:

City of Unalaska
Office of the City Clerk
P.O. Box 610
43 Raven Way
Unalaska, Alaska 99685
Tel. 907-581-1251
Fax 907-581-1417

Sealed bids will be received until 2:00 p.m., local time on **May 30, 2024** and then will be publicly opened and read aloud. Any bids received after the time and date specified will not be considered.

The work will include, but not be limited to, furnishing all labor, tools, equipment, and materials and performing all operations in connection with the **CAPTAINS BAY ROAD WATERLINE**. The Work includes construction of a 16" Ductile Iron and PVC Pipe waterline including valves, hydrants, services, and appurtenant items. Phase 1 extends from Westward Seafoods, Inc. (WSI) to Offshore Systems, Inc. (OSI), a distance of 7,097 linear feet.

1. Project Location: Captains Bay Road, Unalaska, Alaska 99685
2. Owner: City of Unalaska, Department of Public Utilities

The Work will be constructed under a single prime contract. Payment will be made for designated items on a unit price basis.

Technical questions shall be directed in writing to the Engineer at the address shown below. An electronic copy of the Bidding Documents may be obtained from the City of Unalaska Website <http://www.ci.unalaska.ak.us/rfps>, for no charge.

Regan Engineering, P.C.
PO Box 889
Camas, WA 98607
Tel. 360-903-5064
Attn: Thomas Regan, P.E
Email: tom@reganengineering.com

Each Bid must be submitted on the prescribed form and accompanied by submittal information as prescribed in the Instruction to Bidders. The successful bidder will be required to furnish the necessary bond(s) for the faithful performance of the Contract, as prescribed in the Bidding Documents.

A prebid conference will be held on **May 14, 2024** at 2:00 p.m. at the City of Unalaska Department of Public Works. The prebid conference may be attended by teleconference at 1-888-204-5984, Access Code 2005439.

The successful Bidder shall hold such Contractors and Business Licenses as required by State Statutes and City of Unalaska Municipal Code Section 9.04. The right is reserved to reject any or all Bids, to waive informalities or irregularities in the bidding, and to accept bids that are considered to be in the best interest of the City of Unalaska.

No bidder may withdraw its bid after the time set for opening thereof, unless the award of the contract is delayed for a period exceeding 60 days.

Dated this _____ day of _____, 2024.

CITY OF UNALASKA, ALASKA

By _____
Scott Brown - Director of Public Works

Section 00100
INSTRUCTIONS TO BIDDERS

1. Defined Terms.

Terms used in these Instructions to Bidders which are defined in the General Conditions of the Contract Documents have the meanings assigned to them in the General Conditions.

Certain additional terms used in the Bidding Documents have the meanings indicated below which are applicable to both the singular and plural thereof.

- A. Bidder - one who submits a Bid directly to Owner as distinct from a subbidder, who submits a bid to a Bidder.
- B. Bidding Documents - the Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).
- C. Bidding Requirements - the Invitation to Bid, Instructions to Bidders, and Bid Form, plus additional documents that may be submitted with the Bid.
- D. Issuing Office - the City Public Works Department, from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
- E. Low Bidder - Low Bidder will be determined on the basis of the lowest Amount for the total bid including Owner chosen Additive and/or Deductive Bid Items as described in the Bid Form. If applicable, award of the Additive or Deductive Bid Items will be made to the extent that construction funds are available, in such order as may suit the best interest of the Owner. The Deductive and Additive Bid items are not in any specific order and are not listed in order of preference. The Owner reserves the right to select the low bidder on the basis of the Base Bid plus any combination of Additive and/or Deductive Bid items. If the order of the bids is affected, the award will be made on the basis of the Base Bid plus any combination of the Deductive and Additive Bid items.
- F. Successful Bidder - the lowest, qualified, responsible and responsive Bidder to whom the City (on the basis of the City's evaluation as hereinafter provided) makes an Award.

2. Copies of Bidding Documents.

- A. Complete sets of the Bidding Documents for the sum stated in the Invitation to Bid may be obtained from the Issuing Offices.
- B. Complete sets of Bidding Documents must be used in preparing Bids; the City does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

- C. The Drawings bound in the Contract Documents are at a scale indicated by a note or scale bar on the Drawings.
- D. The City, in making copies of Bidding Documents available on the above terms, does so only for the purpose of obtaining Bids for the work and does not confer a license or grant for any other use.

3. **Qualifications of Bidders.**

To demonstrate qualifications to perform the work, each Bidder must be prepared to submit within 5 days after Bid opening upon City's written request, information such as financial data, previous experience, present commitments, subcontractor names and qualifications, and other such data as may be called for below. Each Bid must contain evidence of Bidder's qualification to do business in Alaska. Bidders shall be eligible to obtain a business license from the City of Unalaska.

Nothing indicated herein should prejudice the right of Owner to seek additional pertinent information as provided in the General Conditions.

4. **License Requirements**

Contractors and subcontractors, in order to perform public work in the State of Alaska, are required to hold State of Alaska Contractor's licenses of the class required to perform the specified work. Contractors and subcontractors are also required to hold current Alaska Business Licenses and obtain a City of Unalaska business license in order to perform public work in the State of Alaska. Contractor's license and Alaska Business License numbers shall be inserted in the appropriate place on the Bid form. Evidence of subcontractor's compliance with the above shall be submitted to the City before starting subcontract work on public work contracts.

5. **Examination of Contract Documents and Site.**

- A. It is the responsibility of each Bidder before submitting a Bid:
 - 1. To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (including "technical data" referred to below);
 - 2. To visit the site to become familiar with and satisfy Bidder as to the general, local, and site conditions that may affect cost, progress, performance, or furnishing of the Work;
 - 3. To consider federal, state, and local Laws and Regulations that may affect cost, progress, performance, or furnishing of the Work;
 - 4. To study and carefully correlate Bidder's knowledge and observations with the Contract Documents and such other related data;

INSTRUCTIONS TO BIDDERS

5. To promptly notify the City of all conflicts, errors, ambiguities or discrepancies which Bidder has discovered in or between the Contract Documents and such other related documents;
 6. To review applicability of the City of Unalaska sales tax to any purchases of materials or services related to the Work.
- B. Information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based upon information and data furnished to the City by Owners of such Underground Facilities or others, and the City does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.
 - C. Provisions concerning responsibility for the adequacy of data furnished to prospective Bidders on subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Contract Documents due to differing or unanticipated conditions appear in Article 4 of the General Conditions.
 - D. Before submitting a Bid, each Bidder will be responsible to make or obtain such examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of the Contract Documents.
 - E. On request, the City will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests and studies as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the site to its former condition upon completion of any such explorations, investigations, test, and studies.
 - F. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 5; that, without exception, the Bid is premised upon performing and furnishing the work required by the Contract Documents and applying the specific means, methods, techniques, sequences, or procedures of construction (if any) that may be shown or indicated or expressly required by the Contract Documents; that Bidder has given the Contracting Officer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Contract Documents and the

written resolution thereof by the City is acceptable to Bidder; and that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

- G. The provisions of paragraph 5A through 5F above, inclusive, do not apply to asbestos, polychlorinated biphenyl (PCB), petroleum, hazardous waste, or radioactive material covered by the Supplementary Conditions.
- H. Nothing contained in the Bid Documents, any and all attachments thereto, or any and all addenda thereto, shall be interpreted by any party as requiring or allowing the Contractor to do anything that is not in compliance with all applicable codes and regulations, that is less than general standard industry quality, or that results in an unsafe, unstable or dangerous condition.

6. Availability of Lands for Work, Etc.

The lands upon which the work is to be performed, rights-of-way and easements for access thereto, and other lands designated for use by Contractor in performing the work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the work are to be obtained and paid for by the Successful Bidder. Easements for permanent structures or for permanent changes in existing facilities are to be obtained and paid for by the City unless otherwise provided in the Contract Documents.

7. Interpretations and Addenda.

- A. All questions about the meaning or intent of the Bidding Documents are to be directed to the City of Unalaska. Interpretations or clarifications considered necessary by the City in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by the Issuing Office as having received the Bidding Documents. Questions received less than 6 days prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- B. Addenda may also be issued to modify the Bidding Documents as deemed advisable by the City.

8. Bid Security.

- A. Each Bid must be accompanied by Bid security made payable to Owner for 5 percent of Bidder's Total Bid price and in the form of a certified bank check or a Bid Bond on form attached, issued by a Surety meeting the requirements of the General Conditions.

INSTRUCTIONS TO BIDDERS

- B. The Bid security of a successful bidder will be retained until such Bidder has executed the Agreement, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the successful Bidder fails to execute and deliver the Agreement and furnish the required Contract security within 15 days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The bid security of the Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the 7th day after the Effective Date of the agreement or the 60th day after the Bid opening, whereupon Bid security furnished by such Bidders will be returned. Bid security submitted with bids which are not competitive will be returned within 15 days after the Bid opening.

9. **Contract Times.**

The number of days within which, or the dates by which, the work is to be completed and ready for final payment (the Contract Times as defined in Article 1 of the General Conditions) are set forth in the Agreement (or incorporated therein by reference to the attached Bid Form).

10. **Liquidated Damages.**

Provisions for liquidated damages, if any, are set forth in the Agreement.

11. **Bid Form.**

- A. The Bid Form is included with the Bidding Documents.
- B. All blanks on the Bid Form must be completed by printing in black ink or by typewriter.
- C. Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.
- D. Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.
- E. All names must be typed or printed in black ink below the signature.
- F. The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).

- G. The address, telephone, email address, and FAX number for communications regarding the Bid must be shown.
- H. See Article 4 above, for required evidence of authority to conduct business as an out-of-state corporation in Alaska. State Contractor license number, if any, must also be shown.

12. **Submission of Bids.**

- A. Bids shall be submitted not later than the time prescribed, at the place, and in the manner set forth in the Invitation to Bid and shall be enclosed in an opaque sealed envelope, marked with the project title (and, if applicable, the designated portion of the project for which the Bid is submitted) and name and address of Bidder and accompanied by the other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "**BID ENCLOSED**" on the face of it.
- B. Only one Bid from any individual, firm, partnership, or corporation, under the same or different names, will be considered. Should it appear to the City that any Bidder is interested in more than one Bid for work contemplated, all Bids in which such Bidder is interested will be rejected.
- C. Attachments.

Bidder shall complete and submit the following forms with its Bid:

- Bid Form
- Addenda Acknowledgment
- Bid Bond (5% of Bid)
- Alaska Business and Contractor's License

13. **Modifications and Withdrawal of Bids.**

- A. Prior to the time and date designated for receipt of Bids, any Bid submitted may be withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder or by facsimile. If by facsimile, the modification received shall be over the signature of the Bidder and shall be received before the date and time set for receipt of Bids. Facsimile messages shall be worded as to not reveal the amount of the original or modified Bid. Facsimile telephone number is:

City of Unalaska (907) 581-1417

Bid modifications must be sent to the office to which the original proposal is delivered or sent.

- B. If, within 24 hours after Bids are opened, any Bidder files a duly signed, written notice with the City and promptly thereafter demonstrates to the reasonable satisfaction of the City that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid. Thereafter, that Bidder will be disqualified from further consideration on the Work to be provided under the Contract Documents.

14. **Opening of Bids.**

Bids will be opened and read aloud publicly at the place where Bids are to be submitted.

15. **Bids to Remain Subject to Acceptance.**

All Bids will remain subject to acceptance for 60 days after the day of the Bid opening, but the City may, in its sole discretion, release any Bid and return the Bid security prior to that date.

16. **Award of Contract.**

- A. The City reserves the right to reject any or all Bids, including without limitation the rights to reject any or all nonconforming, non responsive, unbalanced or conditional Bids, and to reject the Bid of any Bidder if the City believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. The City also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate Contract terms with the successful Bidder. Discrepancies in the multiplication of units of work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.
- B. In evaluating Bids, the City will consider the qualifications of Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- C. The City may consider the qualifications and experience of subcontractors, suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of subcontractors, suppliers, and other persons and organizations must be submitted as provided in the Supplementary Conditions. The City also may consider the operating costs, maintenance requirements, performance data, and guarantees of major items of materials and equipment

proposed for incorporation in the Work when such data are required to be submitted prior to the Notice of Award.

- D. The City may conduct such investigations as the City deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders, proposed subcontractors, suppliers, and other persons and organizations to execute the work in accordance with the Contract Documents to the City's satisfaction within the prescribed time.
- E. If, at the time this Contract is to be awarded, the total of the lowest acceptable Bid exceeds the funds then estimated by the City as available, the City may reject all Bids or take such other action as best serves the City's interests.
- F. If the Contract is to be awarded, it will be awarded to lowest responsive, responsible Bidder as stated in Section 00100 Instructions To Bidders, whose evaluation by the City indicates to the City that the award will be in the best interests of the Project.
- G. In the event of failure of the lowest responsive, responsible Bidder to sign the Contract and provide an acceptable Performance Bond, Payment Bond, and insurance certificate(s), the Owner may award the Contract to the next lowest responsive, responsible Bidder. Such award, if made, will be made within 60 days after the opening of Proposals.
- H. An Additive or Deductive Bid Item is an amount proposed by Bidders and stated on the Bid Form for certain construction activities defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems or installation methods described in the Contract Documents.
- I. Award of the Additive or Deductive Bid Items will be made to the extent that construction funds are available, in such order as may suit the best interest of the Owner. The Deductive and Additive Bid items are not in any specific order and are not listed in order of preference. The Owner reserves the right to select the Base Bid plus any combination of Additive and/or Deductive Bid items. If the order of the bids is affected, the award will be made on the basis of the Base Bid plus any combination of Additive or Deductive Bid items that the Owner selects at their option.

17. **Contract Security.**

Article 5 of the General Conditions sets forth Owner's requirements as to Performance and Payment Bonds. When the successful Bidder delivers the executed Agreement to Owner, it must be accompanied by the required Performance and Payment Bonds.

INSTRUCTIONS TO BIDDERS

18. **Signing of Agreement.**

When the City gives a Notice of Award to the successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement, with all other written Contract Documents attached. Within 10 days thereafter, contractor shall sign and deliver the required number of counterparts of the Agreement and attached documents to the City with the required Bonds. Within 10 days thereafter, the City shall deliver one fully signed counterpart to Contractor.

19. **State Required Wage Rates.**

Contractor shall comply with all applicable State labor regulations, including State of Alaska Title 36, Public Contracts, otherwise known as the Little Davis-Bacon Act, and all labor regulations and minimum rates of pay contained therein.

State Wage Rates can be obtained at <http://labor.alaska.gov/lss/pamp600.htm>. Use the state wage rates that are in effect 10 days before Bid Opening.

NOTE TO BIDDER: Use BLACK ink or typewriter for completing this Bid Form.

Section 00300

BID FORM

To: **City of Unalaska, Department of Public Works**
Address: **P.O. Box 610, Unalaska, Alaska 99685**
Project Identification: **City of Unalaska CAPTAINS BAY ROAD WATERLINE**

DEFINITIONS

The terms used in this Bid which are defined in the General Conditions and Instructions to Bidders included as part of the Contract Documents are used with the same meaning in this Bid.

BIDDERS DECLARATION AND UNDERSTANDING

This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm, or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over the City.

In submitting this Bid, Bidder represents, as more fully set forth in the Agreement, that Bidder has examined copies of all the Bidding Documents.

Bidder has familiarized itself with the nature and extent of the Contract Documents, work, site, locality, general nature of work to be performed by Owner or others at the site that relates to work for which this Bid is submitted as indicated in the Contract Documents, and all local conditions and all federal, state, and local Laws and Regulations that in any manner may affect cost, progress, performance, or furnishing of the work.

Bidder has reviewed and checked all information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, or similar information or data in respect of said Underground Facilities are or will be required by Bidder in order to perform and furnish the work at the Contract Price, within the Contract Time, and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.3 of the General Conditions.

Bidder has correlated information known to Bidder and the results of all such observations, examinations, investigations, explorations, tests, and studies with the Contract Documents.

Bidder has given the City written notice of all conflicts, errors, ambiguities or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by the City is acceptable to Bidder, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the work for which this Bid is submitted.

CONTRACT EXECUTION AND BONDS

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the City in the form included in the Contract Documents to perform and furnish all work as specified or indicated in the Contract Documents for the Contract price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

Bidder accepts all of the terms and conditions of the Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the day of Bid opening. Bidder will sign and deliver the required number of counterparts of the Agreement with the Bonds and City of Unalaska business license and other documents required by the Bidding Requirements within 10 days after the date of Owner's Notice of Award.

CERTIFICATE OF INSURANCE

Bidder agrees to furnish the City, before commencing any Physical Work related to this Contract and as required elsewhere, the certificates of insurance as specified in these Documents.

Bidder further agrees that the amount stated herein includes specific consideration for the insurance coverages, including contractual liability, specified in the Contract Documents.

CONTRACT COMPLETION TIME

Bidder agrees that the work will be completed and ready for final payment in accordance with the number of calendar days or completion date indicated in the Agreement.

LIQUIDATED DAMAGES

Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the work within the times specified in the Agreement.

ADDENDA

The Bidder hereby acknowledges that it has received Addenda No's _____, _____, _____, _____, _____ (Bidder shall insert No. of each Addendum received) and agrees that all addenda issued are hereby made part of the Contract Documents, and the Bidder further agrees that its Bid(s) includes all impacts resulting from said addenda.

SALES AND USE TAXES

The Bidder agrees that all sales and use taxes are included in the stated bid prices for the work, unless provision is made herein for the Bidder to separately itemize the estimated amount of sales tax.

SUBCONTRACTORS

The Bidder further agrees that if the bid is the apparent low bid, he shall submit, within 5 days after the bid opening, a listing of subcontracting firms or businesses that will be awarded subcontracts for work in excess of \$5,000 and a copy of the City of Unalaska business license for the Contractor and each Subcontractor.

BID TABULATION AND SUMMARY

The Bidder further proposes to accept, as full payment for work proposed herein, the amount computed under provisions of the Contract Documents and based on the following Bid amounts, it being expressly understood that the unit quantities of work shown on the plans is independent of the exact quantities involved. The Bidder agrees that the bid amount represent(s) a true measure of the labor and materials required to furnish, install, or provide the item of Work, including all allowances for overhead and profit. The amount shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

Bidder agrees to perform all of the work described in the Documents including the specifications, special provisions, and as generally shown on the plans for the prices stated in the Bid Schedules. Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding. Bidder understands that the Owner reserves the right to pick and choose what bid items will be constructed as part of this work, recognizing that Mobilization and Demobilization will be common to the remaining items of Work.

City of Unalaska
CAPTAINS BAY ROAD WATERLINE

BONDING

If the Bidder is awarded a construction Contract on this Proposal, the surety who provides the Performance Bond and Payment Bond will be _____

_____ whose address is _____

_____, _____
Street City

State Zip

BIDDER

An Individual

By

_____ (SEAL)

(Individual's name)

doing business as

Business

address: _____

Phone No.: _____

Fax No.: _____

Email address: _____

A Partnership

By _____ (SEAL)
(Firm name)

(general partner)

Business address: _____

Phone No.: _____

Fax No.: _____

Email address: _____

A Corporation

By _____
(Corporation name)

(state of incorporation)

By _____
(name of person authorized to sign)

(Title)

(Corporate Seal)

Attest _____
(Secretary)

Business address: _____

Phone No.: _____

Fax No.: _____

Email address: _____

A Joint Venture

By _____
(Name)

(Address)

By _____
(Name)

(Address)

Phone Number and Address for receipt of official communications

Business address: _____

Phone No.: _____

Fax No.: _____

Email address: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

SUBMITTED on _____, 20__.

BID PROPOSAL
CAPTAINS BAY ROAD WATERLINE
Phase 1 - WSI to OSI (BASE BID)

Item No.	Unit	Est. Qty	Description (Write Unit Bid Price in Words)	Unit Price	Total Price
1	Lump Sum	1	Mobilization and Demobilization _____. _____ per lump sum		
2	Lump Sum	1	Stormwater Pollution Prevention Plan (Type 3) _____. _____ per lump sum		
3	Lump Sum	1	Construction Survey _____. _____ per lump sum		
4	Ton	8,192	Furnish and Install Bedding Material (Class B) _____. _____ per ton		
5	Ton	5,213	Furnish and Install Surfacing Material _____. _____ per ton		
6	Linear Foot	6,784	Furnish and Install (16" DR18 PVC) Pipe _____. _____ per linear foot		
7	Linear Foot	313	Furnish and Install (16" CI 52 Ductile Iron) Pipe _____. _____ per linear foot		
8	Linear Foot	50	Furnish and Install (8" CI 52 Ductile Iron) Pipe _____. _____ per linear foot		
9	Each	3	Connect to Existing Pipe (16" DIP) _____. _____ per each		
10	Each	2	Furnish and Install (8") Gate Valve _____. _____ per each		
11	Each	7	Furnish and Install (16") Butterfly Valve _____. _____ per each		
12	Each	1	Furnish and Install Valve Box _____. _____ per each		
13	Each	1	Remove and Replace Valve Box _____. _____ per each		
14	Each	3	Furnish and Install Fire Hydrant (Single Pumper) _____. _____ per each		
15	Each	6	Furnish and Install Fire Hydrant (Double Pumper) _____. _____ per each		
16	Each	0	Furnish and Install (1") Water Service Line _____. _____ per each		

BID PROPOSAL
CAPTAINS BAY ROAD WATERLINE
Phase 1 - WSI to OSI

Item No.	Unit	Est. Qty	Description (Write Unit Bid Price in Words)	Unit Price	Total Price
17	Each	1	Furnish and Install (2") Water Service Line _____. _____per each		
18	Each	41	Furnish and Install Anode _____. _____per each		
19	Each	5	Furnish and Install Air/Vac Relief Vault _____. _____per each		
20	Linear Foot	862	Furnish and Install Board Insulation _____. _____per linear foot		
21	Lump Sum	1	Construct 16" Blow-Off _____. _____per lump sum		
22	Lump Sum	1	Construct Bridge Crossing _____. _____per lump sum		
23	Lump Sum	1	Traffic Control _____. _____per lump sum		
TOTAL PHASE 1					

TOTAL PHASE 1(Numerical) _____.

TOTAL PHASE 1(Written Text) _____.

BID AUTHORIZATION

The undersigned represents (check appropriate boxes) that he/she operates as an () Individual, () Joint Venture, () Partnership, or () Corporation, Incorporated in the State of _____.

BIDDER: _____

Bidding Company: _____

Name (Printed): _____

Signature and Date: _____

Contractor's Lic No; Business Lic No: _____

Corporate Seal (If Corporation): _____

BID BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

as Principal, hereinafter called Principal, and

(Name of Surety)

(Address of Surety)

a corporation duly organized under the laws of the State of Alaska as Surety, hereinafter called Surety, are held and firmly bound unto

City of Unalaska

(Name of Owner)

PO Box 610, Unalaska, Alaska 99685

(Address of Owner)

as Obligee, hereinafter called Obligee, in the sum of _____ Dollars, (\$ _____) for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for the City of Unalaska **CAPTAINS BAY ROAD WATERLINE**, located in Unalaska, Alaska.

NOW THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful

BID FORM

performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and Sealed this _____ day of _____ 2024

(Principal) Seal

(Witness)

(Title) Seal

(Surety) Seal

(Witness)

(Title) Seal

Part 2
CONTRACT FORMS

Section 00500
STANDARD FORM OF AGREEMENT
BETWEEN THE OWNER AND CONTRACTOR

THIS AGREEMENT is dated as of the _____ day of _____ in the year 2024, by and between the City of Unalaska (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK

CONTRACTOR shall complete all work as specified or indicated in the Contract Documents. The work is generally described as follows:

The work will include, but not be limited to, furnishing all labor, tools, equipment, and materials and performing all operations in connection with the **CAPTAINS BAY ROAD WATERLINE**. The Work includes construction of a 16" Ductile Iron and PVC Pipe waterline including valves, hydrants, services, and appurtenant items. Phase 1 extends from Westward Seafoods, Inc. (WSI) to Offshore Systems, Inc. (OSI), a distance of 7,097 linear feet.

1. Project Location: Captains Bay Road, Unalaska, Alaska 99685
2. Owner: City of Unalaska, Department of Public Utilities

The Work will be constructed under a single prime contract. Payment will be made for designated items on a unit price basis.

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR concerning the WORK consists of the following:

- Construction Drawings (Plan Sheets)
- Technical Specifications
- Agreement
- State of Alaska Title 36 Wage Rate Requirements
- Instructions to Bidders
- Bid Forms
- Performance Bond
- Payment Bond
- General Conditions
- Supplementary Conditions

- ADEC Permit
- Addenda numbers _____ to _____, inclusive.
- Change Orders which may be delivered or issued after Effective Date of the Agreement and not attached hereto.
- Property Plats
- Geotechnical Report (Draft), HDL Engineering Consultants, September 2018

Article 2. CONTRACT TIME

- 2.1 The CONTRACTOR is allowed **210-days** for this work. Once field construction starts, all work shall be completed within **120-days** from the start date.
- 2.2 Liquidated Damages. The OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that the OWNER will suffer financial loss if the work is not completed within the times specified above, plus any extensions thereof allowed in accordance with Article 11 of the General Conditions. These losses include inconvenience to the City, administration and inspection costs, loss of efficiency and general inconvenience to the public. They also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by the OWNER if the work is not completed on time. Accordingly, instead of requiring any such proof, the OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay the OWNER One Thousand Dollars (\$1,000.00) for each day that expires after the time specified above for *Final Completion* and readiness for final payment.

Article 3. CONTRACT PRICE

- 3.1 The OWNER shall pay CONTRACTOR for completion of the work in accordance with the Contract Documents an amount equal to sum of the established unit prices for each separately identified item of unit price work multiplied by the measured quantity of actual items installed plus the sum of the lump sum prices for each separately identified and selected bid item (herein referred to as the "Contract Sum"). The Contract sum is based upon the Bid Items which are set forth in the Contract Documents and which are hereby accepted by the OWNER.

Article 4. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Article 13 of the General Conditions. Applications for Payment will be processed by the OWNER as provided in the General Conditions.

- 4.1. Progress Payments. The OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment on or about a day of the month mutually agreeable to the OWNER and CONTRACTOR as agreed to at the preconstruction conference. All progress payments will be on the basis of the progress of the work measured by the actual installed quantity of items, plus allowances for stockpiled materials.
- 4.1.1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below, but, in each case, less the aggregate of payments previously made and

less such amounts as the OWNER shall determine, or the OWNER may withhold, in accordance with Article 13 (paragraph 13.8) of the General Conditions and the Supplemental Conditions.

- a. Ninety percent of work completed.
- b. Once 50 percent of the work is complete as determined by the OWNER, and if the character and progress of the work have been satisfactory to the OWNER, the OWNER, may determine that, as long as the character and progress of the work remain satisfactory to them, there will be no additional retainage on account of work completed; in which case, the remaining progress payments prior to - Substantial Completion will be in an amount equal to 100 percent of the work completed.

4.1.2. Upon Substantial Completion, in an amount sufficient to increase total payments to CONTRACTOR to 95 percent of the Contract Price, less such amounts as the OWNER shall determine, or the OWNER may withhold, in accordance with Article 13 of the General Conditions.

4.2. Final Payment. Upon final completion and acceptance of the work in accordance with the General Conditions; Affidavit of Payment of Debts and Claims; Affidavit of Release of Liens; and Receipt of Consent of Surety Company to Final Payment, the OWNER shall pay the remainder of the Contract Price as provided in said Article 13.

4.2.1 Deductions. The City may deduct from the amount of any payment made to Contractor any sums owed to City by Contractor including, but not limited to, past due sales tax, port and harbor fees, property tax, or rent. Before making any such deduction the City shall have provided Contractor written notice of the amount claimed by City to be due and owing from Contractor.

Article 5. INTEREST ON RETAINAGE

All retainage shall bear interest at the rate required by AS 36.90.250, if applicable.

Article 6. CONTRACTOR'S REPRESENTATIONS

In order to induce the OWNER to enter into this agreement, CONTRACTOR makes the following representations:

- 6.1. CONTRACTOR has familiarized itself with the nature and extent of the Contract Documents, work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance, or furnishing of the work.
- 6.2. CONTRACTOR has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, reports, and studies which pertain to the subsurface or physical conditions at or contiguous to the site or which otherwise may affect the cost, progress, performance, or furnishing of the work as CONTRACTOR considers necessary for the performance or furnishing of the work at the Contract Price, within the Contract Time, and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.2 of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies, or similar information or data are or will be required by CONTRACTOR for such purposes.

- 6.3. CONTRACTOR has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies, or similar information or data in respect of said Underground Facilities are or will be required by CONTRACTOR in order to perform and furnish the work at the Contract Price, within the Contract Time, and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.4 of the General Conditions.
- 6.4. CONTRACTOR has correlated the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents.
- 6.5. CONTRACTOR has given the OWNER written notice of all conflicts, errors, or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by the OWNER is acceptable to CONTRACTOR.

Article 7. MISCELLANEOUS

- 7.1. Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.
- 7.2. The CONTRACTOR shall submit the Performance Bond, Labor and Material Payment Bonds, and Certification of Insurance and City of Unalaska business licenses and all Subcontractor City of Unalaska business licenses as required by the Contract Documents, prior to commencement of the Work. The Performance and Material Payment Bonds shall be in the amount of 100% of the contract bid price. **Contractor shall comply with all applicable State labor regulations, including State of Alaska Title 36, Public Contracts, otherwise known as the Little Davis-Bacon Act, and all labor regulations and minimum rates of pay contained therein.**
- 7.3. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 7.4. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect of all covenants, agreements, and obligations contained in the Contract Documents.
- 7.5. Until Contractor receives notice from the City that project records need not be preserved, Contractor shall preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its subcontractors'

or agents' possession or control, or that come into its or its subcontractors' or agents' possession or control that relate to the Work.

IN WITNESS WHEREOF, The OWNER and CONTRACTOR have signed all counterparts of this Agreement. All portions of the Contract Documents have been signed or identified by the OWNER and CONTRACTOR.

This Agreement will be effective on _____, 2024.

CONTRACTOR

CITY OF UNALASKA, ALASKA

By: _____

By: _____

William Homka, City Manager

_____, Its _____

State of Alaska)

State of Alaska)

) ss.

) ss.

Third Judicial District)

Third Judicial District)

The foregoing instrument was acknowledged before me on the ____ day of _____, 2024, by _____, the _____ of _____

The foregoing instrument was acknowledged before me on the ____ day of _____, 2024, by William Homka, City Manager for the City of Unalaska, a First Class Alaska Municipal Corporation, on behalf of the City of Unalaska.

_____, a _____ Corporation, on behalf of the corporation.

Notary Public, State of Alaska

Notary Public, State of Alaska

My Commission Expires _____

My Commission Expires _____

Section 00610
PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

as Principal, hereinafter called Principal, and

(Name of Surety)

(Address of Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto

City of Unalaska
(Name of Owner)

PO Box 610, Unalaska, Alaska 99685
(Address of Owner)

as Obligee, hereinafter called Obligee, in the sum of _____

_____ Dollars, (\$ _____) for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Contractor has a written agreement dated _____ day of _____ 20 ____, entered into a Contract with Owner for the

City of Unalaska
CAPTAINS BAY ROAD WATERLINE

in accordance with the Specifications prepared by **Regan Engineering, P.C.**, which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly

- 1) Complete the Contract in accordance with its terms and conditions, or
- 2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as the Work progresses (even though there should be a default or a succession of defaults under the contract or contracts completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract price", as used in this paragraph, shall mean the total amount payable by Owner to the Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of six (6) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators, or successors of the Owner.

Signed and Sealed this _____ day of _____ 2024.

 (Principal) Seal

 (Witness)

 (Title) Seal

 (Surety) Seal

 (Witness)

 (Title) Seal

**Section 00620
PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS,

That _____ as Contractor, and
_____ as Surety, are held and firmly bound unto
City of Unalaska hereinafter called "OWNER", in the sum of _____ dollars, for the
payment of which sum, well and truly made, we bind ourselves, our heirs, executors,
administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said CONTRACTOR has been awarded and is about to enter into the annexed Agreement
with said OWNER to perform the WORK as specified or indicated in the Contract Documents
entitled

City of Unalaska
CAPTAINS BAY ROAD WATERLINE

NOW THEREFORE, if said CONTRACTOR, or subcontractor, fails to pay for any materials, equipment,
or other supplies, or for rental of same, used in connection with the performance of work
contracted to be done, or for amounts due under applicable State law for any work or labor
thereon, said Surety will pay for the same in an amount not exceeding the sum specified above,
and, in the event suit is brought upon this bond, a reasonable attorney's fee to be fixed by the
court. This bond shall inure to the benefit of any persons, companies, or corporations entitled to
file claims under applicable State law.

PROVIDED, that any alterations in the WORK to be done or the materials to be furnished, or
changes in the time of completion, which may be made pursuant to the terms of said Contract
Documents, shall not in any way release said CONTRACTOR or said surety thereunder, nor shall any
extensions of time granted under the provisions of said Contract Documents release either said
CONTRACTOR or said Surety thereunder, nor shall any extensions of time granted under the
provisions of said Contract Documents release either said CONTRACTOR or said Surety, and notice
of such alterations or extensions of the Agreement is hereby waived by said Surety.

SIGNED AND SEALED, this _____ day of _____, 2024.____

(SEAL)

(CONTRACTOR)

(Surety)

By: _____
(Signature)

By: _____
(Signature)

(SEAL AND NOTARIAL ACKNOWLEDGMENT OF SURETY)

PAYMENT BOND

Part 3
GENERAL CONDITIONS

GENERAL CONDITIONS

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- 7.9 Local Building Codes
- 7.10 Air Quality Control
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- 13.10 Substantial Completion
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- 14.1 CITY May Suspend Work
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- 15.1 Notification
- 15.2 Presenting Claim
- 15.3 Claim Validity, Additional Information & Project Manager's Action
- 15.4 Contracting Officer's Decision
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ATTACHMENTS

AFFIDAVIT OF RELEASE OF LIENS BY THE CONTRACTOR

UNCONDITIONAL WAIVER AND RELEASE OF LIEN/CLAIM FOR SUBCONTRACTOR UPON FINAL PAYMENT

RECEIPT AND WAIVER AND RELEASE OF CLAIM FOR CONTRACTOR UPON FINAL PAYMENT

GENERAL CONDITIONS

ACKNOWLEDGMENT

The City of Unalaska, "General Conditions" are based on the "Standard General Conditions of the Construction Contract" as published by the National Society of Professional Engineers (document number 1910-8, 1983 edition) on behalf of the Engineers Joint Construction Documents Committee. Portions of the NSPE General Conditions are reprinted herein by the express permission of NSPE to the State of Alaska, which supplied these General Conditions to the City of Unalaska. Modifications to the NSPE text are made to provide for State laws, regulations, and established procedures.

The granting of permission by NSPE to allow the State of Alaska to reprint portions of the NSPE document 1910-8, 1983 does not constitute approval of the State of Alaska General Conditions or the subsequently developed City of Unalaska General Conditions.

These General Conditions were modified and updated in May, 2020.

ARTICLE 1 - DEFINITIONS

Wherever used in the Contract Documents the following terms, or pronouns in place of them, are used, the intent and meaning, unless a different intent or meaning is clearly indicated, shall be interpreted as set forth below.

The titles and headings of the Sections, Subsections and Articles herein are intended for convenience of reference and shall not be considered as having bearing on their interpretation.

Whenever used in the Specifications or other Contract Documents the following terms have the meaning indicated which are applicable to both the singular and plural thereof. Working titles which have a masculine gender, are intended to refer to persons of either sex.

Terms not defined below shall have their ordinary accepted meanings within the context in which they are used. "Webster's Third New International Dictionary of the English Language, Unabridged, Copyright 1961", or subsequent revision thereof; shall provide ordinarily accepted meanings. Words which have a well-known technical or trade meaning when used to describe work, materials or equipment shall be interpreted in accordance with such meaning. Words defined in Article 1 are capitalized throughout these General Conditions.

Addenda - All clarifications, corrections, or changes issued graphically or in writing by the CITY after the advertisement but prior to the opening of bids.

Advertisement - The public announcement, as required by law, inviting Bids for work to be performed or materials to be furnished.

Application for Payment - The form provided by the CITY which is used by the CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

Approved or Approval - Means written approval by Contracting Officer or his authorized representative as defined in Article 2.1.

A.S. - Initials which stand for Alaska Statute.

Award - The acceptance, by the City, of the successful Bid.

Bid - The offer of a bidder, on the prescribed form to perform the work at the prices quoted.

Bid Bond - A type of bid Guarantee.

Bid Guaranty - The security furnished with a bid to guarantee that the bidder will enter into a contract if his proposal is accepted by the Department.

Bidder - Any individual, firm, corporation or any acceptable combination thereof, or joint venture submitting a bid for the advertised Work.

Calendar Day - Every day shown on the calendar, beginning and ending at midnight.

Change Order - A written order by the CITY directing changes to the contract, within its general scope.

City - The City of Unalaska, Alaska. References to "owner" or "Contracting Agency" mean the city.

Conditions of the Contract - Those portions of the Contract Documents which define the rights and responsibilities of the contracting parties and of others involved in the Work. The Conditions of the Contract include General Conditions, Supplementary Conditions and other Conditions.

Contract - The written agreement between the CITY and the CONTRACTOR setting forth the obligations of the parties and covering the Work to be performed, all as required by the Contract Documents.

Contract Documents - The Contract Form, Addenda, the Bidding Requirements and CONTRACTOR's Bid (including all appropriate bid tender forms), the Bonds, the Conditions of the Contract and all other Contract Requirements, the

Specifications, and the Drawings furnished by the CITY to the CONTRACTOR, together with all change orders and documents approved by the Contracting Officer for inclusion, modifications and supplements issued on or after the Effective Date of the Contract.

Contracting Officer - The person authorized to enter into and administer the contract on behalf of the CITY. He has authority to make findings, determinations and decisions with respect to the contract and, when necessary, to modify or terminate the contract. The Contracting Officer is identified on the Construction Contract.

Contractor - The individual, firm, corporation or any acceptable combination thereof, contracting with the CITY for performance of the Work.

Contract Price - The total moneys payable by the CITY to the CONTRACTOR under the terms of the Contract Documents.

Contract Time - The number of Calendar Days or the date specified in the Construction Contract and authorized time extensions which identify how much time the CONTRACTOR is allowed to achieve Final Completion.

Consultant - A person, firm, agency or corporation retained by the CITY to prepare Contract Documents, perform construction administration services, or other Project related services.

Defective - An adjective which refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to the CITY's approval of final payment.

Directive - A written communication to the CONTRACTOR from the Contracting Officer interpreting or enforcing a contract requirement or ordering commencement of an item of work.

Drawings - The drawings which show the character and scope of the Work to be performed and which have been furnished by the CITY or the CITY's Consultant and are by reference made a part of the Contract Documents.

Effective Date of the Contract - The date on which the Contract is fully executed by both CONTRACTOR and the CITY.

Final Completion - The Work (or specified part thereof) has progressed to the point that all Work is complete as determined by the Contracting Officer.

General Requirements - Sections of Division 1 of the Specifications which contain administrative and procedural requirements as well as requirements for temporary facilities which apply to Specification Divisions 2 through 16.

Holidays - The City of Unalaska recognizes the following holidays:

1. New Years Day - January 1
2. President's Day - Third Monday in February
3. Memorial Day - Last Monday in May
4. Independence Day - July 4
5. Labor Day - First Monday in September
6. Veteran's Day - November 11
7. Thanksgiving Day - Fourth Thursday in November
8. Christmas Day - December 25

If any holiday listed above falls on a Saturday, Saturday and the preceding Friday are both legal holidays. If the holiday should fall on a Sunday, Sunday and the following Monday are both legal holidays.

Install - Means to build into the Work, ready to be used in complete and operable condition and in compliance with Contract Documents.

Invitation for Bids or Invitation to Bid - A portion of the Bidding Documents soliciting bids for the Work to be performed.

Notice of Intent to Award - The written notice by the CITY to all Bidders identifying the apparent successful Bidder and establishing the CITY's intent to execute the Contract when all conditions required for execution of the Contract are met.

Notice to Proceed - A written notice to the CONTRACTOR to begin the Work and establishing the date on which the Contract Time begins.

Payment Bond - The security furnished by the CONTRACTOR and his surety to guarantee payment of the debts covered by the bond.

Performance Bond - The security furnished by the CONTRACTOR and his surety to guarantee performance and completion of the work in accordance with the contract.

Project - The total construction, of which the Work performed under the Contract Documents is the whole or a part, where such total construction may be performed by more than one prime contractor.

Project Manager - The authorized representative of the Contracting Officer who is responsible for administration of the Contract.

Proposal - The offer of a bidder, on the prescribed form to perform the work at the prices quoted.

Proposal Guaranty - The security furnished with a proposal to guarantee that the bidder will enter into a contract if his proposal is accepted by the Department.

Regulatory Requirement - Laws, rules, regulations, ordinances, codes and/or orders of the United States, State of Alaska or City of Unalaska to the extent applicable to the Work.

Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for the CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by the CONTRACTOR to illustrate material, equipment, fabrication, or erection for some portion of the Work.

Specification - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative and procedural details applicable thereto.

Subcontractor - An individual, firm, or corporation to whom the CONTRACTOR sublets part of the contract.

Substantial Completion - Although not fully completed, the Work (or a specified part thereof) has progressed to the point where, in the opinion of the CITY as evidenced by the CITY's written notice, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended. The terms "Substantially Complete" and "Substantially Completed" as applied to any Work refer to Substantial Completion thereof.

Supplemental Agreement - A written agreement between the CONTRACTOR and the CITY covering work that is not within the general scope of the contract.

Surety - The corporation, partnership, or individual, other than the CONTRACTOR, executing a bond furnished by the CONTRACTOR.

Unit Price Work - Work to be paid for on the basis of unit prices.

Using Agency - The entity who will occupy or use the completed Work.

Work - Work is the act of, and the result of, performing services, furnishing labor, furnishing and incorporating materials and equipment into the Project and performing other duties and obligations, all as required by the Contract Documents. Such Work, however incremental, will culminate in the entire completed Project, or the various separately identifiable parts thereof.

ARTICLE 2 - AUTHORITIES AND LIMITATIONS

2.1 Authorities and Limitations:

- 2.1.1 The Contracting Officer alone, shall have the power to bind the CITY and to exercise the rights, responsibilities, authorities and functions vested in the Contracting Officer by the Contract Documents, except that the Contracting Officer shall have the right to designate in writing authorized representatives to act for him. Wherever any provision of the Contract Documents specifies an individual or organization, whether Governmental or private, to perform any act on behalf of or in the interests of the CITY that individual or organization shall be deemed to be the Contracting Officer's authorized representative under this Contract but only to the extent so specified. The Contracting Officer may, at any time during the performance of this Contract, vest in any such authorized representatives additional power and authority to act for the Contracting Officer or designate additional representatives, specifying the extent of their authority to act for the Contracting Officer; a copy of each document vesting additional authority in or removing that authority from an authorized representative or designating an additional authorized representative shall be furnished to the CONTRACTOR. The City Council reserves the right to appoint a new Contracting Officer without affecting any of the CONTRACTOR's obligations to the CITY under this Contract.
- 2.1.2 The CONTRACTOR shall perform the Work in accordance with any written order (including but not limited to instruction, direction, interpretation or determination) issued by an authorized representative in accordance with the authorized representative's authority to act for the Contracting Officer. The CONTRACTOR assumes all the risk and consequences of performing the Work in accordance with any order (including but not limited to instruction, direction, interpretation or determination) of anyone not authorized to issue such order, and of any order not in writing.
- 2.1.3 Should the Contracting Officer or his authorized representative designate Consultant(s) to act for the CITY as provided for in Paragraph 2.1.1, the performance or nonperformance of the Consultant under such authority to act, shall not give rise to any contractual obligation or duty of the Consultant to the CONTRACTOR, any Subcontractor, any Supplier, or any other organization performing any of the Work or any Surety representing them.
- 2.1.4 The term "Contracting Officer" when used in the text of these General Conditions or other Contract Documents following this section shall also mean any duly authorized representative of the Contracting Officer when authorized in accordance with Paragraph 2.1.1.

2.2 Evaluations by Contracting Officer:

- 2.2.1 The Contracting Officer will decide all questions which may arise as to;
- a. Quality and acceptability of materials furnished;
 - b. Quality and acceptability of Work performed;
 - c. Compliance with the Schedule of Progress;
 - d. Interpretation of Contract Documents;
 - e. Acceptable fulfillment of the Contract on the part of the CONTRACTOR.
- 2.2.2 In order to avoid cumbersome terms and confusing repetition of expressions in the Contract Documents whenever the terms "as ordered", "as directed", "as required", "as approved", or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper" or "satisfactory" or adjectives of like effect or import are used it shall be understood as if the expression were followed by the words "the Contracting Officer". When such terms are used to describe a requirement, direction, review or judgment of the Contracting Officer as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise).

2.2.3 The use of any such term or adjective shall not be effective to assign to the CITY any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provision of paragraphs 2.3 or 2.4.

2.3 Means & Methods:

The means, methods, techniques, sequences or procedures of construction, or safety precautions and the program incident thereto, and the failure to perform or furnish the Work in accordance with the Contract Documents are the sole responsibility of the CONTRACTOR.

2.4 Visits to Site:

The Contracting Officer will make visits to the site and approved remote storage sites at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. Such observations or the lack of such observations shall in no way relieve the CONTRACTOR from his duty to perform the Work in accordance with the Contract Documents.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.1 Incomplete Contract Documents:

The submission of a Bid by the Bidder is considered a representation that the Bidder examined the Contract Documents to make certain that all sheets and pages were provided and that the Bidder is satisfied as to the conditions to be encountered in performing the Work. The CITY expressly denies any responsibility or liability for a Bid submitted on the basis of an incomplete set of Contract Documents.

3.2 Copies of Contract Documents:

The CITY shall furnish to the CONTRACTOR up to six copies of the Contract Documents. Additional copies will be furnished, upon request, at the cost of reproduction.

3.3 Scope of Work:

The Contract Documents comprise the entire Contract between the CITY and the CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the Regulatory Requirements.

It is specifically agreed between the parties executing this Contract that it is not intended by any of the provisions of the Contract to create in the public or any member thereof a third party benefit, or to authorize anyone not a party to this Contract to maintain a suit pursuant to the terms or provisions of the Contract.

3.4 Intent of Contract Documents:

3.4.1 It is the intent of the Contract Documents to describe a functionally complete Project to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied, without any adjustment in Contract Price or Contract Time, whether or not specifically called for.

3.4.2 Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Regulatory Requirements, whether such reference be specific or by implication, shall mean the edition stated in the Contract Documents or if not stated the latest standard specification, manual, code or Regulatory Requirements in effect at the time of Advertisement for the Project (or, in the Effective Date of the Contract if there was no Advertisement). However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of the CITY and the CONTRACTOR, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to the CITY or any of the CITY's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 2.3 or 2.4.

3.5 Discrepancy in Contract Documents:

3.5.1 Before undertaking the Work, the CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures, and dimensions shown thereon and all applicable field measurements. Work in the area by the CONTRACTOR shall imply verification of figures, dimensions and field measurements. If, during the above study or during the performance of the Work, the CONTRACTOR finds a conflict, error, discrepancy or omission in the Contract Document, or a discrepancy between the Contract Documents and any standard specification, manual, code, or Regulatory Requirement which affects the Work, The CONTRACTOR shall promptly report such discrepancy in writing to the Contracting Officer. The CONTRACTOR shall obtain a written interpretation or clarification from the Contracting Officer before proceeding with any Work affected thereby. Any adjustment made by the CONTRACTOR without this determination shall be at his own risk and expense. However, the CONTRACTOR shall not be liable to the CITY for failure to report any conflict, error or discrepancy in the Contract Documents unless the CONTRACTOR had actual knowledge thereof or should reasonably have knowledge thereof.

3.5.2 Discrepancy - Order of Precedence:

When conflicts, errors, or discrepancies within the Contract Documents exist, the order of precedence from most governing to least governing will be as follows:

Supplementary Conditions

General Conditions

General Requirements

Technical Specifications

Drawings (recorded dimensions will govern over scaled dimensions, large details over small scale, schedules over plans, architectural drawings over structural drawings over mechanical and electrical drawings)

3.6 Clarifications and Interpretations:

The Contracting Officer will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as the Contracting Officer may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

3.7 Reuse of Documents:

Neither the CONTRACTOR nor any Subcontractor, or other person or organization performing or furnishing any of the Work under a direct or indirect contract with the CITY shall have or acquire any title to or ownership rights in any of the Contract Documents (or copies thereof) prepared by or for the CITY and they shall not reuse any of the Contract Documents on extensions of the Project or any other project without written consent of the Contracting Officer.

Contract Documents prepared by the CONTRACTOR in connection with the Work shall become the property of the CITY.

ARTICLE 4 - LANDS AND PHYSICAL CONDITIONS

4.1 Availability of Lands:

The CITY shall furnish as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for use of the CONTRACTOR in connection with the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the CITY, unless otherwise provided in the Contract Documents. The CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 Visit to Site:

The submission of a Bid by the CONTRACTOR is considered a representation that the CONTRACTOR has visited and carefully examined the site and is satisfied as to the conditions to be encountered in performing the Work and as to the requirements of the Contract Documents.

4.3 Explorations and Reports:

The Supplementary Conditions identify those reports of explorations and tests of subsurface conditions at the site that have been utilized by the CITY in preparation of the Contract Documents. The CONTRACTOR may rely upon the accuracy of the factual data contained in such reports, but not upon interpretations or opinions drawn from such factual data contained therein or for the completeness or sufficiency thereof. Except as indicated in the immediately preceding sentence and in paragraphs 4.4 and 9.9, CONTRACTOR shall have full responsibility with respect to surface and subsurface conditions at the site.

4.4 Utilities:

4.4.1 The horizontal and vertical locations of known underground utilities as shown or indicated by the Contract Documents are approximate and are based on information and data furnished to the CITY by the owners of such underground utilities.

4.4.2 The CONTRACTOR shall have full responsibility for:

- a. Reviewing and checking all information and data concerning utilities.
- b. Locating all underground utilities shown or indicated in the Contract Documents which are affected by the Work.
- c. Coordination of the Work with the owners of all utilities during construction.
- d. Safety and protection of all utilities as provided in paragraph 6.17.
- e. Repair of any damage to utilities resulting from the Work in accordance with 4.4.4 and 4.5.

4.4.3 If Work is to be performed by any utility owner, the CONTRACTOR shall cooperate with such owners to facilitate the Work.

4.4.4 In the event of interruption to any utility service as a result of accidental breakage or as a result of being exposed or unsupported, the CONTRACTOR shall promptly notify the utility owner and the Contracting Officer. If service is interrupted repair work shall be continuous until the service is restored. No Work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority.

4.5 Damaged Utilities:

When utilities are damaged by the CONTRACTOR, the utility owner shall have the choice of repairing the utility or having the CONTRACTOR repair the utility. In the following circumstances, the CONTRACTOR shall reimburse the utility owner for repair costs or provide at no cost to the utility owner or the CITY, all materials, equipment and labor necessary to complete repair of the damage:

- a. When the utility is shown or indicated in the Contract Documents.
- b. When the utility has been located by the utility owner.
- c. When no locate was requested by the CONTRACTOR for utilities shown or indicated in the Contract Documents.
- d. All visible utilities.
- e. When the CONTRACTOR could have, otherwise, reasonably been expected to be aware of such utility.

4.6 Utilities Not Shown or indicated.

If, while directly performing the Work, an underground utility is uncovered or revealed at the site which was not shown or indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of, the CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work affected

thereby (except in an emergency as permitted by paragraph 6.19) identify the owner of such underground facility and give written notice thereof to that owner and to the Contracting Officer. The Contracting Officer will promptly review the underground utility to determine the extent to which the Contract Documents and the Work should be modified to reflect the impacts of the discovered utility. The Contract Documents will be amended or supplemented to the extent necessary through the issuance of a change document by the Contracting Officer. During such time, the CONTRACTOR shall be responsible for the safety and protection of such underground utility as provided in paragraph 6.17. The CONTRACTOR may be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are directly attributable to the existence of any underground utility that was not shown or indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of.

4.7 Survey Control:

The CITY will identify sufficient horizontal and vertical control data to enable the CONTRACTOR to survey and layout the Work. All survey work shall be performed under the direct supervision of a registered Land Surveyor when required by paragraph 7.8.

ARTICLE 5 - BONDS, INSURANCE, AND INDEMNIFICATION

5.1 Delivery of Bonds:

When the CONTRACTOR delivers the executed Contract to the Contracting Officer, the CONTRACTOR shall also deliver to the Contracting Officer such bonds as the CONTRACTOR may be required to furnish in accordance with paragraph 5.2.

5.2 Bonds:

The CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount as shown on the Contract as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These bonds shall remain in effect for one year after the date of Final Completion and until all obligations under this Contract, except special guarantees as per 12.7, have been met. All bonds shall be furnished on forms provided by the CITY (or copies thereof) and shall be executed by such Sureties as are authorized to do business in the State of Alaska. The contracting Officer may at his option copy the Surety with notice of any potential default or liability.

5.3 Replacement of Bond and Surety:

If the Surety on any bond furnished in connection with this Contract is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.2, or otherwise becomes unacceptable to the CITY, or if any such Surety fails to furnish reports as to his financial condition as requested by the CITY, the CONTRACTOR shall within five days thereafter substitute another bond and Surety, both of which must be acceptable to CITY.

5.4 Insurance Requirements:

5.4.1 The contractor shall carry and maintain throughout the life of this contract, at its own expense, insurance not less than the amounts and coverage herein specified, and the City of Unalaska, its employees and agents shall be named as additional insured under the insurance coverage so specified and where allowed, with respect to the performance of the work. There shall be no right of subrogation against the City or its agents performing work in connection with the work, and this **waiver of subrogation** shall be endorsed upon the policies. Insurance shall be placed with companies acceptable to the City of Unalaska; and these policies providing coverage thereunder shall contain provisions that no cancellation or material changes in the policy relative to this project shall become effective except upon **30 days** prior written notice thereof to the City of Unalaska.

5.4.2 Prior to commencement of the work, the contractor shall furnish certificates to the City of Unalaska, in duplicate, evidencing that the Insurance policy provisions required hereunder are in force. Acceptance by the City of Unalaska of deficient evidence does not constitute a waiver of contract requirements.

5.4.3 The contractor shall furnish the City of Unalaska with certified copies of policies upon request. The minimum coverages and limits required are as follows:

1. **Workers' Compensation** insurance in accordance with the statutory coverages required by the State of Alaska and **Employers Liability** insurance with limits not less than **\$1,000,000** and, where applicable, insurance in compliance with any other statutory obligations, whether State or Federal, pertaining to the compensation of injured employees assigned to the work, including but not limited to Voluntary Compensation, Federal Longshoremen and Harbor Workers Act, Maritime and the Outer Continental Shelf's Land Act.
2. **Commercial General Liability** with limits not less than **\$1,000,000** per Occurrence and **\$2,000,000** Aggregate for Bodily Injury and Property Damage, including coverage for Premises and Operations Liability, Products and Completed Operations Liability, Contractual Liability, Broad Form Property Damage Liability and Personal Injury Liability. Coverage shall not contain any exclusion of Explosion, Collapse, or Underground. Coverage is to be endorsed to include a per project aggregate. Additionally, such insurance shall be considered primary to any other insurance carried by the City of Unalaska and the insurer will endorse the policy accordingly.
3. **Commercial Automobile Liability** on all owned, non-owned, hired and rented vehicles with limits of liability of not less than **\$1,000,000** Combined Single Limit for Bodily Injury and Property Damage per each accident or loss.
4. If applicable, Contractor's Equipment insurance covering all of the contractor's equipment and machinery to be used in connection with the performance of the work specified in this contract. This coverage requirement may be waived at the discretion of the City of Unalaska if the Contractor self-insures the equipment and will waive all right of recovery against the City of Unalaska in writing.
5. **Umbrella/Excess Liability** insurance coverage of not less than **\$1,000,000** per occurrence and annual aggregate providing coverage in excess of General Liability, Auto Liability, and Employers Liability.
6. If work involves use of aircraft, Aircraft Liability insurance covering all owned and non-owned aircraft with a per occurrence limit of not less than \$1,000,000.
7. If work involves use of watercraft, Protection and Indemnity insurance with limits not less than \$1,000,000 per occurrence. Hull and Machinery coverage is to be carried on the vessel for the full current market value. This coverage requirement may be waived at the discretion of the City of Unalaska if the contractor self-insures the equipment and will waive all rights of recovery against the City of Unalaska in writing.
8. Where applicable, **Professional Liability** insurance with limits of not less than \$1,000,000 per claim and \$1,000,000 aggregate, subject to a maximum deductible of \$10,000 per claim. The City of Unalaska has the right to negotiate increase of deductibles subject to acceptable financial information of the policyholder.
9. Where applicable, Pollution Liability insurance with a project limit of not less than \$1,000,000 subject to a maximum deductible of \$10,000 to include coverage for Asbestos, Hazardous Materials, Lead or other related environmental hazards. The City of Unalaska has the right to negotiate increase of deductibles subject to acceptable financial information of the policyholder.

In the event Asbestos, Hazardous Materials, Lead or other related environmental hazards are transported by vehicle and/or marine vessel, the operator of such vehicles and vessels shall provide a Certificate of Insurance for the transportation of such materials (including loading and unloading) with limits of not less than \$1,000,000.

10. **Builder's Risk Insurance:** Coverage shall be provided on an "All Risk" completed value basis and protect the interests of the City, the contractor and his subcontractors. Coverage shall include all materials, equipment and supplies that are intended for specific installation in the project while such materials, supplies and equipment are located at the project site and in transit from port of arrival to job site and while temporarily located away from the project site.

- 5.4.4 Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the City, its officers, officials, employees and volunteers; or the contractor shall provide a financial guarantee

satisfactory to the City guaranteeing payment of losses and related investigations, claim administration and defense expense.

- 5.4.5 All insurance policies as described above are required to be written on an “occurrence” basis. In the event occurrence coverage is not available, the contractor agrees to maintain “claims made” coverage for a minimum of two years after project completion.
 - 5.4.6 If the contractor employs subcontractors to perform any work hereunder, the contractor agrees to require such subcontractors to obtain, carry, maintain, and keep in force during the time in which they are engaged in performing any work hereunder, policies of insurance which comply with the requirements as set forth in this section. This requirement is applicable to subcontractors of any tier.
 - 5.4.7 The contractor is required to maintain all certificates of insurance during the course of the project and for a minimum of three (3) years following the completion of such project. It is further agreed, that upon request by the City of Unalaska, the Contractor will provide copies of any and all subcontractor certificates of insurance for review of compliance.
 - 5.4.8 Failure by the Contractor to maintain the required insurance coverage or to comply with the above, may, at the option of the City of Unalaska, be deemed Defective Work and remedied in accordance with the contract.
- 5.5 Indemnification:
- 5.5.1 The CONTRACTOR and his Subcontractors will name the owner as “Additional Insured” and will provide a "Waiver of Subrogation” on all required policies of insurance.
 - 5.5.2 The CONTRACTOR shall indemnify, save harmless, and defend the CITY and its agents and its employees from any and all claims or actions for injuries or damages sustained by any person or property arising directly or indirectly from the CONTRACTOR's performance of this contract; however, this provision has no effect if, but only if, the sole proximate cause of the injury or damage is the negligence of the City or its agents.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.1 Supervision of Work:

The CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. All Work under this Contract shall be performed in a skillful and workmanlike manner. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction.

6.2 Superintendence by CONTRACTOR:

The CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent. The Contracting Officer shall be advised in writing of the superintendent's name, local address, and telephone number. This written advice is to be kept current until Final Acceptance by the CITY. The superintendent will be the CONTRACTOR's representative at the site and shall have full authority to act and sign documents on behalf of the CONTRACTOR.

All communications given to the superintendent shall be as binding as if given to the CONTRACTOR. The CONTRACTOR shall cooperate with the Contracting Officer in every way possible.

6.3 Character of Workers:

The CONTRACTOR shall provide a sufficient number of competent, suitable qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. The CONTRACTOR shall at all times maintain good discipline and order at the site. The Contracting Officer may, in writing, require the CONTRACTOR to remove from the Work any employee the Contracting Officer deems incompetent, careless, or otherwise detrimental to the progress of the Work, but the Contracting Officer shall have no duty to exercise this right.

6.4 CONTRACTOR to Furnish:

Unless otherwise specified in the General Requirements, the CONTRACTOR shall furnish and assume full responsibility for all materials, equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

6.5 Materials and Equipment:

All materials and equipment shall be of specified quality and new, except as otherwise provided in the Contract Documents. If required by the Contracting Officer, the CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to the CITY or any of the CITY's Consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 2.3 or 2.4.

6.6 Anticipated Schedules:

6.6.1 Within reasonable time prior to the preconstruction conference the CONTRACTOR shall submit to the Contracting Officer for review an anticipated progress schedule indicating the starting and completion dates of the various stages of the Work.

6.6.2 Within fifteen days after the date of the Notice to Proceed, the CONTRACTOR shall submit to the Contracting Officer for review:

Anticipated schedule of Shop Drawing submissions; and Anticipated Schedule of Values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by the CONTRACTOR at the time of submission.

6.7 Finalizing Schedules:

Prior to processing the first Application for Payment the Contracting Officer and the CONTRACTOR will finalize schedules required by paragraph 6.6.

Acceptance by the CITY of the progress schedule, will neither impose on the CITY nor relieve the CONTRACTOR from full responsibility for the progress or scheduling of the Work. If accepted, the finalized schedule of Shop Drawing and other required submissions will be acceptable to the CITY as providing a workable arrangement for processing the submissions. If accepted the finalized Schedule of Values will be acceptable to the CITY as an approximation of anticipated value of Work accomplished over the anticipated Contract Time. Receipt and acceptance of a schedule submitted by the CONTRACTOR shall not be construed to assign responsibility for performance or contingencies to the CITY or relieve the CONTRACTOR of his responsibility to adjust his forces, equipment, and work schedules as may be necessary to insure completion of the Work within prescribed Contract Time. Should the progress of the Work be discontinued for any reason, the CONTRACTOR shall notify the Contracting Officer at least 24 hours in advance of resuming operations.

6.8 Adjusting Schedules:

Upon substantial changes to the schedule or upon request, the CONTRACTOR shall submit to the Contracting Officer for acceptance (to the extent indicated in paragraph 6.7 and the General Requirements) adjustments in the schedules to reflect the actual present and anticipated progress of the Work.

6.9 Substitutes or "Or-Equal" Items:

6.9.1 Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is

permitted, materials or equipment of other Suppliers may be accepted by the Contracting Officer only if sufficient information is submitted by the CONTRACTOR which clearly demonstrates to the Contracting Officer that the material or equipment proposed is equivalent or equal in all aspects to that named. The procedure for review by the Contracting Officer will include the following as supplemented in the General Requirements.

6.9.2 Requests for review of substitute items of material and equipment will not be accepted by the Contracting Officer from anyone other than the CONTRACTOR.

6.9.3 If the CONTRACTOR wishes to furnish or use a substitute item of material or equipment, the CONTRACTOR shall make written application to the Contracting Officer for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not delay the CONTRACTOR's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with the CITY for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty.

6.9.4 All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by the Contracting Officer in evaluating the proposed substitute. The Contracting Officer may require the CONTRACTOR to furnish at the CONTRACTOR's expense additional data about the proposed substitute. The Contracting Officer may reject any substitution request which the Contracting Officer determines is not in the best interest of the CITY.

6.10 Substitute Means and Methods:

If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, the CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to the Contracting Officer, if the CONTRACTOR submits sufficient information to allow the Contracting Officer to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by the Contracting Officer will be similar to that provided in paragraph 6.9 as applied by the Contracting Officer and as may be supplemented in the General Requirements.

6.11 Evaluation of Substitution:

The Contracting Officer will be allowed a reasonable time within which to evaluate each proposed substitute. The Contracting Officer will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without the Contracting Officer's prior written acceptance which will be evidenced by either a Change Order or a Shop Drawing approved in accordance with Sections 6.20 and 6.21. The Contracting Officer may require the CONTRACTOR to furnish at the CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.

6.12 Dividing the Work:

The divisions and sections of the Specifications and the identifications of any Drawings shall not control the CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

6.13 Subcontractors:

The CONTRACTOR may utilize the services of licensed specialty Subcontractors on those parts of the Work which, under normal contracting practices, are performed by licensed specialty Subcontractors, in accordance with the following conditions:

6.13.1 The CONTRACTOR shall not award any Work to any Subcontractor without prior written approval of the Contracting Officer. This approval will not be given until the CONTRACTOR submits to the Contracting

Officer a written statement concerning the proposed award to the Subcontractor which shall contain required E.E.O. documents, evidence of insurance, and a copy of the proposed subcontract executed by the subcontractor. No acceptance by the Contracting Officer of any such Subcontractor shall constitute a waiver of any right of the CITY to reject Defective Work.

- 6.13.2 The CONTRACTOR shall be fully responsible to the CITY for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions.
- 6.13.3 All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate written agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the CITY and contains waiver provisions as required by paragraph 13.17 and termination provisions as required by Article 14.
- 6.13.4 Nothing in the Contract Documents shall create any contractual relationship between the CITY and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of the CITY to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Regulatory Requirements. The CITY will not undertake to settle any differences between or among the CONTRACTOR, Subcontractors, or Suppliers.
- 6.13.5 The CONTRACTOR and Subcontractors shall coordinate their work and facilitate general progress of Work. Each trade shall afford other trades every reasonable opportunity for installation of their work and storage of materials. If cooperative work of one trade must be altered due to lack of proper supervision, or failure to make proper provisions in time by another trade, such conditions shall be remedied by the CONTRACTOR with no change in Contract Price or Contract Time.
- 6.13.6 The CONTRACTOR shall include on his own payrolls any person or persons working on the contract who are not covered by written subcontract, and shall ensure that all Subcontractors include on their payrolls all persons performing work under the direction of the Subcontractor.

6.14 Use of Premises:

The CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project limits and approved remote storage sites and lands and areas identified in and permitted by Regulatory Requirements, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. The CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against the CITY by any such owner or occupant because of the performance of the Work, the CONTRACTOR shall hold the CITY and its agencies harmless.

6.15 Structural Loading:

The CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall the CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.16 Record Documents:

The CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Field Memos, Work Orders, Change Orders, Supplemental Agreements, and written interpretations and clarifications (issued pursuant to paragraph 3.6) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to the Contracting Officer for reference and copying. Upon completion of the Work, the annotated record documents, samples and Shop Drawings will be delivered to the Contracting Officer. Record documents shall accurately record variations in the Work which vary from requirements shown or indicated in the Contract Documents.

6.17 Safety and Protection:

The CONTRACTOR alone shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

- 6.17.1 All employees on the Work and other persons and organizations who may be affected thereby;
- 6.17.2 All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
- 6.17.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation or replacement in the course of construction.
- 6.17.4 The CONTRACTOR shall comply with all applicable Regulatory Requirements enacted for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The CONTRACTOR shall notify owners of adjacent property and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by the CONTRACTOR with no change in Contract Price or Contract Time except as stated in 4.6, except damage or loss attributable to unforeseeable causes beyond the control of and without the fault or negligence of the CONTRACTOR, including but not restricted to acts of God or the public enemy. The CONTRACTOR's duties and responsibilities for the safety and protection of the Work shall continue until Final Acceptance (except as otherwise expressly provided in connection with Substantial Completion).

The Contractor shall do whatever work is necessary for overall project safety and be solely and completely responsible for conditions of the job site, including safety of all persons (including employees) and property during the Contract period. This requirement shall apply continuously and not limited to normal working hours.

Safety provisions shall conform to Federal and State Departments of Labor Occupational Safety and Health Act (OSHA), and other applicable federal, state, county, and local laws, ordinances, codes, requirements set forth herein, and regulations that may be specified in other parts of these Contract Documents. Where these are in conflict, the more stringent requirements shall apply. Contractor shall become thoroughly familiar with governing safety provisions and shall comply with the obligations set forth therein.

The Contractor shall develop and maintain for the duration of the Contract, a safety program that will effectively incorporate and implement required safety provisions. Contractor shall appoint a qualified employee who is authorized to supervise and enforce compliance with the safety program.

The Engineer's duty to conduct construction review of the Contractor's performance does not include a review or approval of the adequacy of Contractor's safety supervisor, safety program, or safety measures taken in, on, or near the construction site.

As part of safety program, Contractor shall maintain at its office or other well-known location at the job site, safety equipment applicable to the Work as prescribed by governing safety authorities, and articles necessary for giving first aid to the injured. Establish procedures for the immediate removal to a hospital or a doctor's care of persons who may be injured on the job site.

Contractor shall do all work necessary to protect the general public from hazards, including but not limited to, surface irregularities, trenches, excavations, and blasting. Barricades, lanterns, and proper signs shall be furnished in sufficient amount to safeguard the public and the work. Construct and maintain satisfactory and substantial fencing, railings, barricades, or steel plates, as applicable, at all openings, obstructions, or other hazards. Such barricades shall have adequate warning lights as necessary or required for safety.

6.18 Safety Representative:

The CONTRACTOR shall designate a responsible safety representative at the site. This person shall be the CONTRACTOR's superintendent unless otherwise designated in writing by the CONTRACTOR to the Contracting Officer.

6.19 Emergencies:

In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the CITY, is obligated to act to prevent threatened damage, injury or loss. The CONTRACTOR shall give the Contracting Officer prompt written notice if the CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents is required because of the action taken in response to an emergency, a change will be authorized by one of the methods indicated in Paragraph 9.2, as determined appropriate by the Contracting Officer.

6.20 Shop Drawings and Samples:

6.20.1 After checking and verifying all field measurements and after complying with applicable procedures specified in the General Requirements, the CONTRACTOR shall submit to the Contracting Officer for review and approval in accordance with the accepted schedule of Shop Drawing submissions the required number of all Shop Drawings, which will bear a stamp or specific written indication that the CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as the Contracting Officer may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable the Contracting Officer to review the information as required.

6.20.2 The CONTRACTOR shall also submit to the Contracting Officer for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that the CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

6.20.3 Before submission of each Shop Drawing or sample the CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.

6.20.4 At the time of each submission the CONTRACTOR shall give the Contracting Officer specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to the Contracting Officer for review and approval of each such variation. All variations of the proposed shop drawing from that specified will be identified in the submission and available maintenance, repair and replacement service will be indicated. The submittal will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such variation, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by the CITY in evaluating the proposed variation. If the variation may result in a change of Contract Time or Price, or contract responsibility, and is not minor in nature; the CONTRACTOR must submit a written request for Change Order with the variation to notify the CITY of his intent. The CITY may require the CONTRACTOR to furnish at the CONTRACTOR's expense additional data about the proposed variation. The Contracting Officer may reject any variation request which the Contracting Officer determines is not in the best interest of the CITY.

6.21 Shop Drawing and Sample Review:

6.21.1 The Contracting Officer will review with reasonable promptness Shop Drawings and samples, but the Contracting Officer's review will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review of a separate item as such will not indicate acceptance of

the assembly in which the item functions. The CONTRACTOR shall make corrections required by the Contracting Officer and shall return the required number of corrected copies of Shop Drawings and submit as required new samples for review. The CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by the Contracting Officer on previous submittals.

6.21.2 The Contracting Officer's review of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless the CONTRACTOR has in writing advised the Contracting Officer of each such variation at the time of submission as required by paragraph 6.20.4. The Contracting Officer if he so determines, may give written approval of each such variation by Change Order, except that, if the variation is minor and no Change Order has been requested a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample review comments shall suffice as a modification. No approval by the Contracting Officer will relieve the CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.20.3.

6.21.3 Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to the Contracting Officer's review of the pertinent submission will be the sole expense and responsibility of the CONTRACTOR.

6.22 Maintenance During Construction:

The CONTRACTOR shall maintain the Work during construction and until Substantial Completion, at which time the responsibility for maintenance shall be established in accordance with paragraph 13.10.

6.23 Continuing the Work:

The CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with the CITY. No work shall be delayed or postponed pending resolution of any disputes, disagreements, or claims except as the CONTRACTOR and the Contracting Officer may otherwise agree in writing.

6.24 Consent to Assignment:

The CONTRACTOR shall obtain the prior written consent of the Contracting Officer to any proposed assignment of any interest in, or part of this Contract. The consent to any assignment or transfer shall not operate to relieve the CONTRACTOR or his Sureties of any of his or its obligations under this Contract or the Performance Bonds. Nothing herein contained shall be construed to hinder, prevent, or affect an assignment of monies due, or to become due hereunder, made for the benefit of the CONTRACTOR's creditors pursuant to law.

6.25 Use of Explosives:

6.25.1 When the use of explosives is necessary for the prosecution of the Work, the CONTRACTOR shall exercise the utmost care not to endanger life or property, including new Work and shall follow all Regulatory Requirements applicable to the use of explosives. The CONTRACTOR shall be responsible for all damage resulting from the use of explosives.

6.25.2 All explosives shall be stored in a secure manner in compliance with all Regulatory Requirements, and all such storage places shall be clearly marked. Where no Regulatory Requirements apply, safe storage shall be provided not closer than 1,000 feet from any building, camping area, or place of human occupancy.

6.25.3 The CONTRACTOR shall notify each public utility owner having structures in proximity to the site of his intention to use explosives. Such notice shall be given sufficiently in advance to enable utility owners to take such steps as they may deem necessary to protect their property from injury. However, the CONTRACTOR shall be responsible for all damage resulting from the use of the explosives, whether or not, utility owners act to protect their property.

6.26 CONTRACTOR's Records:

6.26.1 Records of CONTRACTOR and Subcontractors relating to personnel, payrolls, invoices of materials, and any and all other data relevant to the performance of the Contract, must be kept on a generally recognized accounting system. Such records must be available during normal work hours to the Contracting Officer for

purposes of investigation to ascertain compliance with Regulatory Requirements and provision of the Contract Documents.

- 6.26.2 Payroll records must contain the name and address of each employee, his correct classification, rate of pay, daily and weekly number of hours of work, deductions made, and actual wages paid. The CONTRACTOR and Subcontractors shall make employment records available for inspection by the Contracting Officer and representatives of the State of Alaska Department of Labor and Workforce Development and will permit such representatives to interview employees during working hours on the Project.
- 6.26.3 Records of all communications between the CITY and the CONTRACTOR and other parties, where such communications affected performance of this Contract, must be kept by the CONTRACTOR and maintained for a period of three years from Final Acceptance. The CITY or its assigned representative may perform an audit of these records during normal work hours after written notice to the CONTRACTOR.

ARTICLE 7 - LAWS AND REGULATIONS

7.1 Laws to be Observed:

The CONTRACTOR shall keep fully informed of all Regulatory Requirements and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the Work, or which in any way affect the conduct of the Work. The CONTRACTOR shall at all times observe and comply with all such Regulatory Requirements, orders and decrees; and shall protect and indemnify the CITY and its representatives against claim or liability arising from or based on the violation of any such Regulatory Requirement, order, or decree whether by the CONTRACTOR, Subcontractor, or any employee of either. Except where otherwise expressly required by applicable Regulatory Requirements, the CITY shall not be responsible for monitoring CONTRACTOR's compliance with any Regulatory Requirements.

7.2 Permits, Licenses, and Taxes:

- 7.2.1 The CONTRACTOR shall procure all permits and licenses, pay all charges, fees and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the Work. As a condition of performance of this Contract, the CONTRACTOR shall pay all Federal, State and local taxes incurred by the CONTRACTOR, in the performance of the Contract. Proof of payment of these taxes is a condition precedent to final payment by the CITY under this Contract.
- 7.2.2 The CONTRACTOR's certification that taxes have been paid (as contained in the Release of Contract) may be verified with the Department of Revenue and Department of Labor and Workforce Development and Unalaska City Clerk, prior to final payment.
- 7.2.3 If any Federal, State or local tax is imposed, charged, or repealed after the date of Bid opening and is made applicable to and paid by the CONTRACTOR on the articles or supplies herein contracted for, then the Contract shall be increased or decreased accordingly by a Change Order.
- 7.2.4 The Contractor shall require all Subcontractors to obtain a City of Unalaska Business License.

7.3 Patented Devices, Materials and Processes:

If the CONTRACTOR employs any design, device, material, or process covered by letters of patent, trademark or copyright, the CONTRACTOR shall provide for such use by suitable legal agreement with the patentee or owner. The CONTRACTOR and the Surety shall indemnify and save harmless the CITY and its agents, any affected third party, from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the CITY for any costs, expenses, and damages which it may be obliged to pay by reason of any infringement, at any time during the prosecution or after the completion of the Work.

7.4 Compliance of Specifications and Drawings:

If the CONTRACTOR observes that the Specifications and Drawings supplied by the CITY are at variance with any Regulatory Requirements, CONTRACTOR shall give the Contracting Officer prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 9.2. as determined appropriate by the Contracting Officer. If the CONTRACTOR performs any Work knowing or having reason to know that it is contrary to

such Regulatory Requirements, and without such notice to the Contracting Officer, the CONTRACTOR shall bear all costs arising therefrom; however, it shall not be the CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings supplied by the CITY are in accordance with such Regulatory Requirements.

7.5 Accident Prevention:

The CONTRACTOR shall comply with AS 18.60.075 and all pertinent provisions of the Construction Code Occupational Safety and Health Standards issued by the Alaska Department of Labor.

7.6 Sanitary Provisions:

The CONTRACTOR shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees and CITY representatives as may be necessary to comply with the Regulatory requirements.

7.7 Business Registration:

The Contractor shall comply with AS 08.18.011 which states, as follows: "it is unlawful for a person to submit a bid or work as a contractor until he has been issued a certificate of registration by the Department of Commerce. A partnership or joint venture shall be considered registered if one of the general partners or ventures whose name appears in the name under which the partnership or venture does business is registered." The Contractor shall obtain a City of Unalaska Business License prior to commencement of the Work to the extent required by the City of Unalaska Code of Ordinances section 9.30.101.

7.8 Professional Registration and Certification:

All craft trades, architects, engineers and land surveyors, electrical administrators, explosive handlers, and welders employed under the Contract shall specifically comply with applicable provisions of AS 08.18, 08.48, 08.40, 08.52, and 08.99. Provide copies of individual licenses within seven days following a request from the Contracting Officer.

7.9 Local Building Codes:

The CONTRACTOR shall comply with AS 35.10.025 which requires construction in accordance with applicable local building codes including the obtaining of required permits. City of Unalaska permits required for the work are identified in the Supplemental Conditions.

7.10 Air Quality Control:

The CONTRACTOR shall comply with all applicable provision of AS 46.03.04 as pertains to Air Pollution Control.

7.11 Archaeological or Paleontological Discoveries:

When the CONTRACTOR's operation encounters prehistoric artifacts, burials, remains of dwelling sites, or paleontological remains, such as shell heaps, land or sea mammal bones or tusks, the CONTRACTOR shall cease operations immediately and notify the Contracting Officer. No artifacts or specimens shall be further disturbed or removed from the ground and no further operations shall be performed at the site until so directed. Should the Contracting Officer order suspension of the CONTRACTOR's operations in order to protect an archaeological or historical finding, or order the CONTRACTOR to perform extra work, such shall be covered by an appropriate Contract change document.

7.12 Not used.

7.13 Preferential Employment:

To the fullest extent allowed by law, the CONTRACTOR shall comply with AS 36.10, as amended, which provides for preferential employment of Alaska residents.

7.14 Wages and Hours of Labor:

7.14.1 One certified copy of all payrolls shall be submitted weekly to the State Department of Labor to assure compliance with AS 36.05.040, Filing Schedule of Employees Wages Paid and Other Information. The prime

CONTRACTOR shall be responsible for the submission of certified copies of payrolls of all Subcontractors. The certification shall affirm that the payrolls are current and complete, that the wage rates contained therein are not less than the applicable rates referenced in these Contract Documents, and that the classification set forth for each laborer or mechanic conforms with the work he performed. The CONTRACTOR and his Subcontractors shall attend all hearings and conferences and produce such books, papers, and documents all as requested by the Department of Labor. Should Federal funds be involved, the Contracting Agency shall also receive a copy of the CONTRACTOR's certified payrolls.

7.14.2 The following Labor provisions shall also apply to this Contract:

- a. The CONTRACTOR and his Subcontractors shall pay all employees unconditionally and not less than once a week;
- b. Wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the CONTRACTOR or Subcontractors and laborers, mechanics, or field surveyors;
- c. The scale of wages to be paid shall be posted by the CONTRACTOR in a prominent and easily accessible place at the site of the work;
- d. The CITY shall withhold so much of the accrued payments as is necessary to pay laborers, mechanics, or field surveyors employed by the CONTRACTOR or Subcontractors the difference between
 1. the rates of wages required by the contract to be paid laborers, mechanics, or field surveyors on the work, and
 2. the rates of wages in fact received by laborers, mechanics or field surveyors.

7.15 Overtime Work Hours and Compensation:

Pursuant to 40 U.S.C. 327-330 and AS 23.10.060, the CONTRACTOR shall not require nor permit any laborer or mechanic in any workweek in which he is employed on any work under this Contract to work in excess of eight hours in any Calendar Day or in excess of forty hours in such workweek on work subject to the provisions of the Contract Work Hours and Safety Standards Act unless such laborer or mechanic receives compensation at a rate not less than one and one half times his basic rate of pay for all such hours worked in excess of eight hours in any Calendar Day or in excess of forty hours in such workweek whichever is the greater number of overtime hours. In the event of any violation of this provision, the CONTRACTOR shall be liable to any affected employee for any amounts due and penalties and to the CITY for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of this provision in the sum of \$10.00 for each Calendar Day on which such employee was required or permitted to be employed on such work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by this paragraph.

7.16 Covenant Against Contingent Fees:

The CONTRACTOR warrants that no person or selling agent has been employed or retained to solicit or secure this Contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee. For breach or violation of this warranty, the CITY shall have the right to annul this Contract without liability or, in its discretion, to deduct price of consideration from the Contract or otherwise recover the full amount of such commission, percentage, brokerage, or contingent fee.

7.17 Officials Not to Benefit:

No member of or delegate to the U.S. Congress, the State Legislature, Unalaska City Council or other State or City Officials shall be admitted to any share or part of this Contract, nor to any benefit that may arise there from. However, this provision shall not be construed to extend to this Contract if made with a corporation for its general benefits.

7.18 Personal Liability of Public Officials:

In carrying out any of the provisions thereof, or in exercising any power or authority granted to the Contracting Officer by the Contract, there will be no liability upon the City nor upon its agents or authorized as its representatives, either

personally or as officials of the City of Unalaska, it being always understood that in such matters they act as agents and representatives of the CITY.

ARTICLE 8 - OTHER WORK

8.1 Related Work at Site:

- 8.1.1 The CITY reserves the right at any time to contract for and perform other or additional work on or near the Work covered by the Contract.
- 8.1.2 When separate contracts are let within the limits of the Project, the CONTRACTOR shall conduct his Work so as not to interfere with or hinder the work being performed by other contractors. The CONTRACTOR shall join his work with that of the others in an acceptable manner and shall perform it in proper sequence to that of others.
- 8.1.3 If the fact that other such work to be performed is identified or shown in the Contract Documents, the CONTRACTOR shall assume all liability, financial or otherwise, in connection with this Contract and indemnify and save harmless the City of Unalaska and its agents from any and all damages or claims that may arise because of inconvenience, delay, or loss experienced by the CONTRACTOR because of the presence and operations of other contractors.
- 8.1.4 If the fact that such other work to be performed was not identified or shown in the Contract Documents, written notice thereof will be given to the CONTRACTOR prior to starting any such other work. If the CONTRACTOR believes that such performance will require an increase in Contract Price or Contract Time, the CONTRACTOR shall notify the Contracting Officer of such required increase within fifteen (15) calendar days following receipt of the Contracting Officer's notice. Should the Contracting Officer find such increase(s) to be justified, a Change Order will be executed.

8.2 Access, Cutting, and Patching:

The CONTRACTOR shall afford each utility owner and any other contractor who is a party to such a direct contract with the CITY (or the CITY, if the CITY is performing the additional work with the CITY's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work and shall properly connect and coordinate the Work with the work of others. The CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work, the CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter such other work with the written consent of the Contracting Officer. The duties and responsibilities of the CONTRACTOR under this paragraph are for the benefit of other contractors to the extent that there are comparable provisions for the benefit of the CONTRACTOR in said direct contracts between the CITY and other contractors.

8.3 Defective Work by Others:

If any part of the CONTRACTOR's Work depends for proper execution or results upon the work of any such other contractor, utility owner, or the CITY, the CONTRACTOR shall inspect and promptly report to the Contracting Officer in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. The CONTRACTOR's failure to so report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR's Work except for latent or non apparent defects and deficiencies in the other work.

8.4 Coordination:

If the CITY contracts with others for the performance of other work at the site, Contracting Officer will have authority and responsibility for coordination of the activities among the various prime contractors.

ARTICLE 9 - CHANGES

9.1 CITY's Right to Change:

Without invalidating the Contract and without notice to any Surety, the CITY may, at any time or from time to time, order additions, deletions or revisions in the Work within the general scope of the Contract, including but not limited to changes:

- 9.1.1 In the Contract Documents;
- 9.1.2 In the method or manner of performance of the Work;
- 9.1.3 In City-furnished facilities, equipment, materials, services, or site;
- 9.1.4 Directing acceleration in the performance of the Work.

9.2 Authorization of Changes within the General Scope:

Additions, deletions, or revisions in the Work within the general scope of the Contract as specified in 9.1 shall be authorized by one or more of the following ways:

- 9.2.1 Directive (pursuant to paragraph 9.3)
- 9.2.2 A Change Order (pursuant to paragraph 9.5)
- 9.2.3 CITY's acceptance of Shop Drawing variations from the Contract Documents as specifically identified by the CONTRACTOR as required by paragraph 6.20.4.

9.3 Directives:

- 9.3.1 The Contracting Officer shall provide written clarification or interpretation of the contract documents (pursuant to paragraph 3.6).
- 9.3.2 The Contracting Officer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents.
- 9.3.3 The Contracting Officer may order the Contractor to correct Defective Work or methods which are not in conformance with the Contract Documents.
- 9.3.4 The Contracting Officer may direct the commencement or suspension of Work or emergency related work (as provided in paragraph 6.19).
- 9.3.5 Upon the issuance of a Directive to the CONTRACTOR by the Contracting Officer, the CONTRACTOR shall immediately proceed with the performance of the work as prescribed by such Directive.
- 9.3.6 If the CONTRACTOR believes that the changes noted in a Directive may cause an increase in the Contract Price or an extension of Contract Time, the CONTRACTOR shall immediately provide written notice to the Contracting Officer depicting such increases before proceeding with the Directive, except in the case of an emergency. If the Contracting Officer finds the increase in Contract Price or the extension of Contract Time justified, a Change Order will be issued. If however, the Contracting Officer does not find that a Change Order is justified, the Contracting Officer may direct the CONTRACTOR to proceed with the work. The CONTRACTOR shall cooperate with the Contracting Officer in keeping complete daily records of the cost of such work. If a Change Order is ultimately determined to be justified, in the absence of agreed prices and unit prices, payment for such work will be made on a cost of the work basis as provided in 10.4.

9.4 Change Order:

A change in Contract Time, Contract Price, or responsibility may be made for changes within the scope of the Work only by Change Order. Upon receipt of an executed Change Order, the CONTRACTOR shall promptly proceed with the work

involved which will be performed under the applicable conditions of the Contract Documents except as otherwise specifically provided. Changes in Contract Price and Contract Time shall be made in accordance with Article 10 and 11.

9.5 Shop Drawing Variations:

Variations by shop drawings shall only be eligible for consideration under 9.4 when the conditions affecting the price, time, or responsibility are identified by the CONTRACTOR in writing and a request for a Change Order is submitted as per 6.20.4.

9.6 Changes Outside the General Scope; Supplemental Agreement:

Any change which is outside the general scope of the Contract, as determined by the Contracting Officer, must be authorized by the appropriate representatives of the CITY and the CONTRACTOR.

9.7 Unauthorized Work:

The CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in this Article 9, except in the case of an emergency as provided in paragraph 6.19 and except in the case of uncovering Work as provided in paragraph 12.4.2.

9.8 Notification of Surety:

If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents including, but not limited to, Contract Price or Contract Time is required by the provisions of any Bond to be given to a Surety, the giving of any such notice will be the CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

9.9 Differing Site Conditions:

9.9.1 The CONTRACTOR shall promptly, and before such conditions are disturbed (except in an emergency as permitted by paragraph 6.19), notify the Contracting Officer in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in the Contract, and which could not have been discovered by a careful examination of the site, or (2) unknown physical conditions at the site, or an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract. The Contracting Officer shall promptly investigate the conditions, and if the Contracting Officer finds that such conditions do materially so differ and cause an increase or decrease in the CONTRACTOR's cost of, or time required for, performance of this Contract, an equitable adjustment shall be made and the Contract modified in writing accordingly.

9.9.2 Any claim for additional compensation by the CONTRACTOR under this clause shall be made in accordance with Article 15 and shall not be allowed unless the CONTRACTOR has first given the notice required by this Contract. In the event that the Contracting Officer and the CONTRACTOR are unable to reach an agreement concerning an alleged differing site condition, the CONTRACTOR will be required to keep an accurate and detailed record which will indicate the actual cost of the work done under the alleged differing site condition. Failure to keep such a record shall be a bar to any recovery by reason of such alleged differing site conditions. The Contracting Officer shall be given the opportunity to supervise and check the keeping of such records.

ARTICLE 10 - CONTRACT PRICE; COMPUTATION AND CHANGE

10.1 Contract Price:

The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to the CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the CONTRACTOR shall be at his expense without change in the Contract Price. The Contract Price may only be changed by a Change Order or Supplemental Agreement.

10.2 Claim for Price Change:

Any claim for an increase or decrease in the Contract Price shall be submitted in accordance with the terms of Article 15, and shall not be allowed unless notice requirements of this Contract have been met.

10.3 Change Order Price Determination:

The value of any work covered by a Change Order for an increase or decrease in the Contract Price shall be determined in one of the following ways:

- 10.3.1 Where the work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of paragraphs 10.9.1
- 10.3.2 By mutual acceptance of a lump sum price which includes overhead and profit.
- 10.3.3 When 10.3.1 and 10.3.2 are inapplicable, on the basis of the Cost of the Work (determined as provided in paragraphs 10.4 and 10.5) plus a CONTRACTORS's fee for overhead and profit (determined as provided in paragraph 10.6).

10.4 Cost of the Work:

The term Cost of the Work means the sum of all costs necessarily incurred and paid by the CONTRACTOR in the proper performance of the work. Except as otherwise may be agreed to in writing by the CITY, such costs shall be in amount no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 10.5:

- 10.4.1 Payroll costs for employees in the direct employ of the CONTRACTOR in the performance of the work under schedules of job classifications agreed upon by the CITY and the CONTRACTOR. Payroll costs for employees not employed full time on the work shall be apportioned on the basis of their time spent on the work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by the CITY.
- 10.4.2 Cost of all materials and equipment furnished and incorporated in the work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to the CONTRACTOR unless the CITY deposits funds with the CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to the CITY. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to the CITY, and the CONTRACTOR shall make provisions so that they may be obtained.
- 10.4.3 Payments made by the CONTRACTOR to Subcontractors for work performed by Subcontractors. If required by the CITY, CONTRACTOR shall obtain competitive quotes from Subcontractors or Suppliers acceptable to the CONTRACTOR and shall deliver such quotes to the CITY who will then determine which quotes will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a Fee, the Subcontractor's Cost of the Work shall be determined in the same manner as the CONTRACTOR's Cost of Work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.
- 10.4.4 Costs of special consultants (including but not limited to engineers, architects, testing laboratories, and surveyors) employed for services necessary for the completion of the work.
- 10.4.5 Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel and subsistence expenses of the CONTRACTOR's employees incurred in discharge of duties connected with the work.

- b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the work, and cost less market value of such items used but not consumed which remain the property of the CONTRACTOR.
- c. Rentals of all construction equipment and machinery and the parts thereof whether rented from the CONTRACTOR or others in accordance with rental agreements approved by the CITY and the costs of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the work.
- d. Sales, consumer, use or similar taxes related to the work, and for which the CONTRACTOR is liable, imposed by Regulatory Requirements.
- e. Deposits lost for causes other than negligence of the CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by the CONTRACTOR in connection with the performance and furnishing of the Work provided they have resulted from causes other than the negligence of the CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of the CITY. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining the CONTRACTOR's Fee. If, however, any such loss or damage requires reconstruction and the CONTRACTOR is placed in charge thereof, the CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraphs 10.6.2.a and 10.6.2.b.
- g. The cost of utilities, fuel and sanitary facilities at the site.
- h. Minor expenses such as long-distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the work.
- i. Cost of premiums for additional bonds and insurance required because of changes in the work and premiums for property insurance coverage within the limits of the deductible amounts established by the CITY in accordance with Article 5.

10.5 Excluded Costs:

The term Cost of the Work shall not include any of the following:

- 10.5.1 Payroll costs and other compensation of CONTRACTOR's officer, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agency, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.1 or specifically covered by paragraph 10.4.4 - all of which are to be considered administrative costs covered by the CONTRACTOR's Fee.
- 10.5.2 Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.
- 10.5.3 Any part of CONTRACTOR's capital expenses including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.
- 10.5.4 Cost of premiums for all bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 10.4.5.i above).
- 10.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of

Defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

10.5.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.4.

10.6 CONTRACTOR's Fee:

The CONTRACTOR's Fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

10.6.1 A mutually acceptable fixed fee; or if none can be agreed upon.

10.6.2 A fee based on the following percentages of the various portions of the Cost of the Work:

- a. For costs incurred under paragraphs 10.4.1 and 10.4.2, the CONTRACTOR's Fee shall be twenty percent;
- b. For costs incurred under paragraph 10.4.3, the CONTRACTOR's Fee shall be fifteen percent; and if a sub-contract is on the basis of Cost of the Work Plus a Fee, the maximum allowable to CONTRACTOR on account of overhead and profit of all subcontractors shall be fifteen percent;
- c. No fee shall be payable on the basis of costs itemized under paragraphs 10.4.4, 10.4.5 and 10.5;
- d. The amount of credit to be allowed by the CONTRACTOR to the CITY for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR's Fee by an amount equal to ten percent of the net decrease; and
- e. When both additions and credits are involved in any one change, the adjustment in CONTRACTOR's Fee shall be computed on the basis of the net change in accordance with paragraphs 10.6.2.a through 10.6.2.d, inclusive.

10.7 Cost Breakdown:

Whenever the cost of any work is to be determined pursuant to paragraphs 10.4 and 10.5, the CONTRACTOR will submit in form acceptable to the CITY an itemized cost breakdown together with supporting data.

10.8 Cash Allowances:

It is understood the CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Subcontractors or Suppliers and for such sums within the limit of the allowances as may be acceptable to the Contracting Officer. CONTRACTOR agrees that:

10.8.1 The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and

10.8.2 CONTRACTOR's cost for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

Prior to final payment, an appropriate Change Order will be issued to reflect actual amounts due the CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

10.9 Unit Price Work:

10.9.1 Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Contract. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the

actual quantities and classifications of Unit Price Work performed by the CONTRACTOR will be made by the CITY in accordance with paragraph 10.9.3.

10.9.2 Each unit price will be deemed to include an amount considered by the CONTRACTOR to be adequate to cover the CONTRACTOR's overhead and profit for each separately identified item. If the "Basis of Payment" clause in the Contract Documents relating to any unit price in the bid schedule requires that the said unit price cover and be considered compensation for certain work or material essential to the item, this same work or material will not also be measured or paid for under any other pay item which may appear elsewhere in the Contract Documents.

10.9.3 Payment to the CONTRACTOR shall be made only for the actual quantities of work performed and accepted or materials furnished, in conformance with the Contract Documents. When the accepted quantities of work or materials vary from the quantities stated in the bid schedule, or change documents, the CONTRACTOR shall accept as payment in full, payment at the stated unit prices for the accepted quantities or work and materials furnished, completed and accepted; except as provided below:

- a. When the quantity of work to be done or material to be furnished under any item, for which the total cost of the item exceeds 10% of the total Contract Price, is increased by more the 25 per cent of the quantity stated in the bid schedule, or change documents, either party to the Contract, upon demand, shall be entitled to an equitable unit price adjustment on the portion of the work above 125 per cent of the quantity stated in the bid schedule.
- b. When the quantity of work to be done or material to be furnished under any major item, for which the total cost of the item exceeds 10% of the total Contract Price, is decreased by more than 25 per cent of the quantity stated in the bid schedule, or change documents either party to the contract, upon demand, shall be entitled to an equitable price adjustment for the quantity of work performed or material furnished, limited to a total payment of not more the 75 per cent of the amount originally bid for the item.

10.10 Determinations for Unit Prices:

The Contracting Officer will determine the actual quantities and classifications of Unit Price Work performed by the CONTRACTOR. The Contracting Officer will review with the CONTRACTOR preliminary determinations on such matters before certifying the prices on the Bid Schedule. The Contracting Officer's certification thereon will be final and binding on the CONTRACTOR, unless, within ten days after the date of any such decisions, the CONTRACTOR delivers to the Contracting Officer written notice of intention to appeal from such a decision.

ARTICLE 11 - CONTRACT TIME; COMPUTATION AND CHANGE

11.1 Commencement of Contract Time; Notice to Proceed:

The Contract Time will commence to run on the day indicated in the Notice to Proceed. The CONTRACTOR shall notify the CONTRACTING OFFICER at least fourteen (14) days in advance of the time actual construction operations will begin

11.2 Starting the Work:

No work on contract items shall be performed before the effective date of the Notice to Proceed. The CONTRACTOR shall notify the Contracting Officer at least 24 hours in advance of the time actual construction operations will begin. The CONTRACTOR may request a limited Notice to Proceed after award has been made, to permit him to order long lead materials which could cause delays in project completion. However, granting is within the sole discretion of the Contracting Officer, and refusal or failure to grant a limited Notice to Proceed shall not be a basis for claiming for delay, extension of time, or alteration of price.

11.3 Computation of Contract Time:

- 11.3.1 When the contract time is specified on a calendar days basis, all work under the contract shall be completed within the number of calendar days specified. The count of contract time begins on the day following receipt of the Notice to Proceed by the CONTRACTOR, if no starting day is stipulated therein. Calendar days shall continue to be counted against contract time until and including the date of Final Completion of the Work.

11.3.2 When the Contract completion time is specified as a fixed calendar date, it shall be the date of Final Completion.

11.4 Time Change:

The Contract Time may only be changed by a Change Order or Supplemental Agreement.

11.5 Extension Due to Delays:

The right of the CONTRACTOR to proceed shall not be terminated nor the CONTRACTOR charged with liquidated or actual damages because of any delays to the completion of the Work due to unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including, but not restricted to the following: acts of God or of the public enemy, acts of the CITY in contractual capacity, acts of another contractor in the performance of a contract with the CITY, floods, fires, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather and delays of Subcontractors or Suppliers due to such causes. Any delay in receipt of materials on the site, caused by other than one of the specifically mentioned occurrences above, does not of itself justify a time extension. Provided, that the CONTRACTOR shall within twenty-four (24) hours from the beginning of any such delay (unless the Contracting Officer shall grant a further period of the time prior to the date of final settlement of the Contract) notify the Contracting Officer in writing of the cause of delay. The Contracting Officer shall ascertain the facts and the extent of the delay and extend the time for completing the Work when the findings of fact justify such an extension.

11.6 Essence of Contract:

All time limits stated in the Contract Documents are of the essence of the Contract.

11.7 Reasonable Completion Time:

It is expressly understood and agreed by and between the CONTRACTOR and the CITY that the date of beginning and the time for Final Completion of the Work described herein are reasonable times for the completion of the Work.

11.8 Delay Damages:

Whether or not the CONTRACTOR's right to proceed with the Work is terminated, he and his sureties shall be liable for damages resulting from his refusal or failure to complete the Work within the specified time. Liquidated damages for delay shall be paid by the CONTRACTOR or his Surety to the City in the amount as specified in the Agreement or the Supplementary Conditions for each Calendar Day the completion of the Work or any part thereof is delayed beyond the Contract Time required by the Contract, or any extension thereof. If such amount of liquidated damages is not established by the Contract Documents, then the CONTRACTOR and his Surety shall be liable to the City for any actual damages occasioned by such delay. The CONTRACTOR acknowledges that the liquidated damages established herein are not a penalty but rather constitute an estimate of damages that the City will sustain by reason of delayed completion. These liquidated damages are intended as compensation for losses difficult to estimate, and include those items enumerated in the Supplementary Conditions or elsewhere in the Contract Documents. These damages will continue to run both before and after termination in the event of default termination. These liquidated damages do not cover excess costs of completion or the CITY's costs, fees, and charges related to procurement. If a default termination occurs, the Contractor or his Surety shall pay in addition to these damages, all excess costs and expenses related to completion as provided by Article 14.2.5.

ARTICLE 12 - QUALITY ASSURANCE

12.1 Warranty and Guaranty:

The CONTRACTOR warrants and guarantees to the CITY that all Work will be in accordance with the Contract Documents and will not be Defective. Prompt notice of all defects shall be given to the CONTRACTOR. All Defective Work, whether or not in place, may be rejected, corrected or accepted as provided for in this Article.

12.2 Access to Work:

The CITY and the CITY's representatives, testing agencies and governmental agencies with jurisdiction interests will have access to the Work at reasonable times for their observation, inspecting and testing. The CONTRACTOR shall provide proper and safe conditions for such access.

12.3 Tests and Inspections:

- 12.3.1 The CONTRACTOR shall give the Contracting Officer timely notice of readiness of the Work for all required inspections, tests or approvals.
- 12.3.2 If Regulatory Requirements require any Work (or part thereof) to specifically be inspected, tested or approved, the CONTRACTOR shall assume full responsibility therefor, pay all costs in connection therewith and furnish the Contracting Officer the required certificates of inspection, testing or approval. The CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with CITY's acceptance of a Supplier of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to the CONTRACTOR's purchase thereof for incorporation in the Work. The cost of all inspections, tests and approvals in addition to the above which are required by the Contract Documents shall be paid by the CONTRACTOR. The CITY may perform additional tests and inspections which it deems necessary to insure quality control. All such failed tests or inspections shall be at the CONTRACTOR's expense.
- 12.3.3 If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of the Contracting Officer, it must, if requested by the Contracting Officer, be uncovered for observation. Such uncovering shall be at the CONTRACTOR's expense unless the CONTRACTOR has given the Contracting Officer timely notice of CONTRACTOR's intention to cover the same and the Contracting Officer has not acted with reasonable promptness in response to such notice.
- 12.3.4 Neither observations nor inspections, test or approvals by the CITY of others shall relieve the CONTRACTOR from the CONTRACTOR's obligations to perform the Work in accordance with the Contract Documents.

12.4 Uncovering Work:

- 12.4.1 If any Work is covered contrary to the written request of the Contracting Officer, it must, if requested by the Contracting Officer, be uncovered for the contracting Officer's observation and replaced at the CONTRACTOR's expense.
- 12.4.2 If the Contracting Officer considers it necessary or advisable that covered Work be observed, inspected or tested, the CONTRACTOR, at the Contracting Officer's request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Contracting Officer may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is Defective, the CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) and the CITY shall be entitled to an appropriate decrease in the Contract Price. If, however, such Work is not found to be Defective, the CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction.

12.5 CITY May Stop the Work:

If the Work is Defective, or the CONTRACTOR fails to supply suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, the Contracting Officer may order the CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Contracting Officer to stop the Work shall not give rise to any duty on the part of the Contracting Officer to exercise this right for the benefit of the CONTRACTOR.

12.6 Correction or Removal of Defective Work:

If required by the Contracting Officer, the CONTRACTOR shall promptly, as directed, either correct all Defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by the Contracting Officer, remove it from the site and replace it with Work which conforms to the requirements of the Contract Documents. The CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

12.7 One Year Correction Period:

If within one year after the date of Final Completion or such longer period of time as may be prescribed by Regulatory Requirements or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be Defective, the CONTRACTOR shall promptly, without cost to the CITY and in accordance with the Contracting Officer's written instructions, either correct such Defective Work, or, if it has been rejected by the Contracting Officer, remove it from the site and replace it with conforming Work. If the CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, the CITY may have the Defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by the CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service for the benefit of the CITY before Substantial Completion of all the Work, the correction period for the item may begin on an earlier date if so provided in the Specifications or by Change Order. Provisions of this paragraph are not intended to shorten the Statute of Limitations for bringing an action.

12.8 Acceptance of Defective Work:

Instead of requiring correction or removal and replacement of Defective Work, the Contracting Officer may accept Defective Work, the CONTRACTOR shall bear all direct, indirect and consequential costs attributable to the Contracting Officer's evaluation of and determination to accept such Defective Work (costs to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals). If any such acceptance occurs prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the CITY shall be entitled to an appropriate decrease in the Contract Price. If the CITY has already made final payment to the CONTRACTOR, an appropriate amount shall be paid by the CONTRACTOR or his Surety to the CITY.

12.9 CITY May Correct Defective Work:

If the CONTRACTOR fails within a reasonable time after written notice from the Contracting Officer to proceed to correct Defective Work or to remove and replace rejected Work as required by the Contracting Officer in accordance with paragraph 12.6, or if the CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if the CONTRACTOR fails to comply with any other provision of the Contract Documents, the CITY may, after seven days' written notice to the CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph the CITY shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, the Contracting Officer may exclude the CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend the CONTRACTOR's services related thereto, take possession of the CONTRACTOR's tool, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or approved remote storage sites or for which the CITY has paid the CONTRACTOR but which are stored elsewhere, the CONTRACTOR shall allow the Contracting Officer and his authorized representatives such access to the site as may be necessary to enable the Contracting Officer to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of the CITY or its agents in exercising such rights and remedies will be charged against the CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the CITY shall be entitled to an appropriate decrease in the Contract Price. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court and arbitration costs and all cost of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of the CONTRACTOR's Defective Work. The CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by the Contracting Officer of the CITY's rights and remedies hereunder.

ARTICLE 13 - PAYMENTS TO CONTRACTOR AND COMPLETION

13.1 Schedule of Values:

The Schedule of Values established as provided in paragraph 6.6 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to the Contracting Officer. Progress payments on account of Unit Price Work will be based on the number of units completed.

13.2 Preliminary Payments:

Upon approval of the Schedule of Values the CONTRACTOR may be paid for direct costs substantiated by paid invoices and other prerequisite documents required by the General Requirements. Direct costs shall include the cost of Bonds, insurance, approved materials stored on the site or at approved remote storage sites, deposits required by a Supplier prior to fabricating materials, and other approved direct mobilization costs substantiated as indicated above. These payments shall be included as a part of the total Contract Price as stated in the Contract.

13.3 Application for Progress Payment:

The CONTRACTOR shall submit to the Contracting Officer for review an Application for Payment filled out and signed by the CONTRACTOR covering the Work completed as of the date of the Application for Payment and accompanied by such supporting documentation as is required by the Contract Documents. Progress payments will be made as the Work progresses on a monthly basis or twice a month when requested by the CONTRACTOR, but only when the approved invoice exceeds \$10,000.00.

13.4 Review of Applications for Progress Payments:

Contracting Officer will, either indicate in writing a recommendation of payment, or return the Application for Payment to the CONTRACTOR indicating in writing the Contracting Officer's reasons for refusing to recommend payment. If the latter case, the CONTRACTOR may make the necessary corrections and resubmit the Application for Payment.

13.5 Stored Materials and Equipment:

If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that the CITY has received the materials and equipment free and clear of all charges, security interests and encumbrances and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect the CITY's interest therein, all of which will be satisfactory to the Contracting Officer. No payment will be made for perishable materials that could be rendered useless because of long storage periods. No progress payment will be made for living plant materials until planted. The payment may be reduced by an amount equal to transportation and handling cost if the materials are stored offsite, in a remote location, or will require special handling.

13.6 CONTRACTOR's Warranty of Title:

The CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to the CITY no later than the time of payment free and clear of any claims, liens, security interests and further obligations.

13.7 Withholding of Payments:

The CITY may withhold or refuse payment for any of the reasons listed below provided it gives written notice of its intent to withhold and of the basis for withholding:

- 13.7.1 The Work is Defective, or completed Work has been damaged requiring correction or replacement, or has been installed without approval of Shop Drawing, or by an unapproved Subcontractor.
- 13.7.2 The Contract Price has been reduced by Change Order.
- 13.7.3 The CITY has been required to correct Defective Work or complete Work in accordance with paragraph 12.9.
- 13.7.4 The CITY's actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.2.1.a through 14.2.1.k inclusive.
- 13.7.5 Claims have been made against the CITY or against the funds held by the CITY on account of the CONTRACTOR's actions or inactions in performing this Contract, or there are other items entitling the CITY to a set off.

13.7.6 Subsequently discovered evidence or the results of subsequent inspections or test, nullify any previous payments for reasons stated in subparagraphs 13.7.1 through 13.7.5.

13.7.7 The CONTRACTOR has failed to fulfill or is in violation of any of his obligations under any provision of this Contract.

13.8 Retainage:

At any time the CITY finds that satisfactory progress is not being made it may in addition to the amounts withheld under 13.7 retain a maximum amount equal to 10% of the total amount earned on all subsequent progress payments. This retainage may be released at such time as the Contracting Officer finds that satisfactory progress is being made.

13.9 Request for Release of Funds:

If the CONTRACTOR believes the basis for withholding is invalid or no longer exists, immediate written notice of the facts and Contract provisions on which the CONTRACTOR relies, shall be given to the CITY, together with a request for release of funds and adequate documentary evidence proving that the problem has been cured. In the case of withholding which has occurred at the request of the Department of Labor and Workforce Development, the CONTRACTOR shall provide a letter from the Department of Labor stating that withholding is no longer requested. Following such a submittal by the CONTRACTOR, the CITY shall have a reasonable time to investigate and verify the facts and seek additional assurances before determining whether release of withheld payments is justified.

13.10 Substantial Completion:

When the CONTRACTOR considers the Work ready for its intended use the CONTRACTOR shall notify the Contracting Officer in writing that the Work or a designated portion thereof is substantially complete (except for items specifically listed by the CONTRACTOR as incomplete) and request that the CITY issue a certificate of Substantial Completion. Within a reasonable time thereafter, the Contracting Officer, the CONTRACTOR and appropriate Consultant(s) shall make an inspection of the Work to determine the status of completion. If the Contracting Officer does not consider the Work substantially complete, the Contracting Officer will notify the CONTRACTOR in writing giving the reasons therefor. If the Contracting Officer considers the Work substantially complete, the Contracting Officer will within fourteen days execute and deliver to the CONTRACTOR a certificate of Substantial Completion with tentative list of items to be completed or corrected. At the time of delivery of the certificate of Substantial Completion the Contracting Officer will deliver to the CONTRACTOR a written division of responsibilities pending Final Completion with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties which shall be consistent with the terms of the Contract Documents. The CITY shall be responsible for all CITY costs resulting from the initial inspection and the first re-inspection, the CONTRACTOR shall pay all costs incurred by the CITY resulting from re-inspections, thereafter.

13.11 Access Following Substantial Completion:

The CITY shall have the right to exclude the CONTRACTOR from the Work after the date of Substantial Completion, but the CITY shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

13.12 Final Inspection:

Upon written notice from the CONTRACTOR that the entire Work or an agreed portion thereof is complete, the Contracting Officer will make a final inspection with the CONTRACTOR and appropriate Consultants and will notify the CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or Defective. The CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies. The CONTRACTOR shall pay for all costs incurred by the CITY resulting from re-inspections.

13.13 Final Application for Payment:

After the CONTRACTOR has completed all such corrections to the satisfaction of the Contracting Officer and delivered all maintenance and operating instructions, schedules, guarantees, bonds, certificates of payment to all laborers, Subcontractors and Suppliers, certificates of inspection, marked-up record documents and other documents - all as required by the Contract Documents, and after the Contracting Officer has indicated that the Work is acceptable (subject to the provisions of paragraph 13.17), the CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all certificates, warranties, guaranties, releases, affidavits, and other documentation required by the Contract Documents.

13.14 Final Payment and Final Completion:

- 13.14.1 If on the basis of the Contracting Officer's observation of the Work during construction and final inspection, and the Contracting Officer's review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, the Contracting Officer is satisfied that the Work has been completed and the CONTRACTOR's other obligations under the Contract Documents have been fulfilled, the CITY will process final Application for Payment. Otherwise, the Contracting Officer will return the Application for Payment to the CONTRACTOR, indicating in writing the reasons for refusing to process final payment, in which case the CONTRACTOR shall make the necessary corrections and resubmit the final Application for Payment.
- 13.14.2 If, through no fault of the CONTRACTOR, Final Completion of the Work is significantly delayed, the Contracting Officer shall, upon receipt of the CONTRACTOR's final Application for Payment, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by the CITY for Work not fully completed or corrected is less than the retainage provided for in paragraph 13.8, and if Bonds have been furnished as required in paragraph 5.1, the written consent of the Surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the CONTRACTOR to the CITY with the application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.
- 13.14.3 In addition to other requirements, final payment shall not be due until CITY's receipt of verification from the State of Alaska Department of Labor and Workforce Development ("the Department") that (i) Contractor has complied with AS 36.05.045(a) and (ii) the Department is not conducting an investigation and (iii) the Department has not issued a notice of violation of AS 36.05 to Contractor or to any subcontractor.
- 13.14.4 The Contractor shall furnish the attached forms fully executed prior to the City making final payment. These forms include the Affidavit of Release of Liens by the Contractor; Lien Release Form; and the Lien Release General to City. The forms will be made available to the contractor in electronic format upon request.

13.15 Final Acceptance:

Following receipt of the CONTRACTOR's Release with no exceptions, and certification that laborers, Subcontractors and materialmen have been paid, certification of payment of payroll and sales taxes and revenue taxes, and final payment to the CONTRACTOR, the CITY will issue a letter of Final Acceptance, releasing the CONTRACTOR from further obligations under the Contract, except as provided in paragraph 13.16.

13.16 CONTRACTOR's Continuing Obligation:

The CONTRACTOR's obligation to perform and complete the Work and pay all laborers, Subcontractors, and materialmen in accordance with the Contract Documents shall be absolute. Neither any progress or final payment by the CITY, nor the issuance of a certificate of Substantial Completion, nor any use or occupancy of the Work or any part thereof by the CITY, nor any act of acceptance by the CITY nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor any correction of Defective Work by the CITY will constitute an acceptance of Work not in accordance with the Contract Documents or a release of the CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents.

13.17 Waiver of Claims by CONTRACTOR:

The making and acceptance of final payment will constitute a waiver of all claims by the CONTRACTOR against the CITY other than those previously made in writing and still unsettled.

13.18 No Waiver of Legal Rights:

The CITY shall not be precluded or be stopped by any payment, measurement, estimate, or certificate made either before or after the completion and acceptance of the Work and payment therefor, from showing the true amount and character of the Work performed and materials furnished by the CONTRACTOR, nor from showing that any payment, measurement, estimate or certificate is untrue or is incorrectly made, or that the Work or materials are Defective. The CITY shall not be

precluded or stopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the CONTRACTOR or his Sureties, or both, such damages as it may sustain by reason of his failure to comply with requirements of the Contract Documents. Neither the acceptance by the CITY, or any representative of the CITY, nor any payment for or acceptance of the whole or any part of the Work, nor any extension of the Contract Time, nor any possession taken by the CITY, shall operate as a waiver of any portion of the Contract, or of the power herein reserved, or of any right to damages. A waiver by the CITY of any breach of the Contract shall not be held to be a waiver of any other subsequent breach.

ARTICLE 14 - SUSPENSION OF WORK, DEFAULT AND TERMINATION

14.1 CITY May Suspend Work:

14.1.1 The CITY may, at any time suspend the Work or any portion thereof by notice in writing to the CONTRACTOR. If the Work is suspended without cause the CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if the CONTRACTOR makes an approved claim therefor as provided in Article 15. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that suspension is due to the fault or negligence of the CONTRACTOR, or that suspension is necessary for Contract compliance, or that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the CONTRACTOR.

14.1.2 In case of suspension of Work, the CONTRACTOR shall be responsible for preventing damage to or loss of any of the Work already performed and of all materials whether stored on or off the site or approved remote storage sites.

14.2 Default of Contract:

14.2.1 If the CONTRACTOR:

- a. Fails to begin the Work under the Contract within the time specified in the "Proposal", or
- b. Fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workmen or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 6.6 as revised from time to time), or
- c. Performs the Work unsuitably or neglects or refuses to remove materials or to correct Defective Work.
- d. Discontinues the prosecution of the Work, or
- e. Fails to resume Work which has been discontinued within a reasonable time after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency except as prohibited by 11 U.S.C. 363e, or
- g. Allows any final judgment to stand against him unsatisfied for period of 60 days, or
- h. Makes an assignment for the benefit of creditors without the consent of the Contracting Officer, or
- i. Disregards Regulatory Requirements, or
- j. Otherwise violates in any substantial way any provisions of the Contract Documents, or
- k. For any cause whatsoever, fails to carry on the Work in an acceptable manner, the Contracting Officer may give notice in writing to the CONTRACTOR and his Surety of such delay, neglect, or default.

If the CONTRACTOR or Surety, within the time specified in the above Notice of Default, shall not proceed in accordance therewith, then the CITY may, upon written notification from the Contracting Officer of the fact of such delay, neglect or default and the CONTRACTOR's failure to comply with such notice, have full power and authority without violating the Contract, to take the prosecution of the Work out of the hands of the CONTRACTOR. The CITY may terminate the services of the CONTRACTOR, exclude the CONTRACTOR

from the site and take possession of the Work and of all the CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by the CONTRACTOR (without liability to the CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which the CITY has paid the CONTRACTOR but which are stored elsewhere, and finish the Work as the CITY may deem expedient. The CITY may enter into an agreement for the completion of said Contract according to the terms and provisions thereof, or use such other methods that in the opinion of the Contracting Officer are required for the completion of said Contract in an acceptable manner.

- 14.2.3 The Contracting Officer may, by written notice to the CONTRACTOR and his Surety or his representative, transfer the employment of the Work from the CONTRACTOR to the Surety, or if the CONTRACTOR abandons the Work undertaken under the Contract, the Contracting Officer may, at his option with written notice to the Surety and without any written notice to the CONTRACTOR, transfer the employment for said Work directly to the Surety. The Surety shall submit its plan for completion of the Work, including any contracts or agreements with third parties for such completion, to the CITY for approval prior to beginning completion of the Work. Approval of such contracts shall be in accordance with all applicable requirements and procedures for approval of subcontracts as stated in the Contract Documents.
- 14.2.4 Upon receipt of the notice terminating the services of the CONTRACTOR, the Surety shall enter upon the premises and take possession of all materials, tools, and appliances thereon for the purpose of completing the Work included under the Contract and employ by contract or otherwise any person or persons to finish the Work and provide the materials therefor, without termination of the continuing full force and effect of this Contract. In case of such transfer of employment to the Surety, the Surety shall be paid in its own name on estimates covering Work subsequently performed under the terms of the Contract and according to the terms thereof without any right of the CONTRACTOR to make any claim for the same or any part thereof.
- 14.2.5 If the Contract is terminated for default, the CONTRACTOR and the Surety shall be jointly and severally liable for damages for delay as provided by Article 11.8, and for the excess cost of completion, and all costs and expenses incurred by the CITY in completing the Work or arranging for completion of the Work, including but not limited to costs of assessing the Work to be done, costs associated with advertising, soliciting or negotiating for bids or proposals for completion, and other procurement costs. Following termination the CONTRACTOR shall not be entitled to receive any further balance of the amount to be paid under the contract until the work is fully finished and accepted, at which time if the unpaid balance exceeds the amount due the CITY and any amounts due to persons for whose benefit the CITY has withheld funds, such excess shall be paid by the CITY to the CONTRACTOR. If the damages, costs, and expenses due the CITY exceed the unpaid balance, the CONTRACTOR and his Surety shall pay the difference.
- 14.2.6 If, after notice of termination of the CONTRACTOR's right to proceed under the provisions of this clause, it is determined for any reason that the CONTRACTOR was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, or that termination was wrongful, the rights and obligations of the parties shall be determined in accordance with the clause providing for convenience termination.

14.3 Rights or Remedies:

Where the CONTRACTOR's services have been so terminated by the CITY, the termination will not affect any rights or remedies of the CITY against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due the CONTRACTOR by the CITY will not release the CONTRACTOR from liability.

14.4 Convenience Termination:

- 14.4.1 The performance of the Work may be terminated by the CITY in accordance with this section in whole or in part, whenever, for any reason the Contracting Officer shall determine that such termination is in the best interest of the CITY. Any such termination shall be effected by delivery to the CONTRACTOR of a Notice of Termination, specifying termination is for the convenience of the CITY the extent to which performance of Work is terminated, and the date upon which such termination becomes effective. Immediately upon receipt of a Notice of Termination and except as otherwise directed by the Contracting Officer the CONTRACTOR shall:
- a. Stop Work on the date and to the extent specified in the Notice of Termination;

- b. Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the Work as is not terminated;
- c. Terminate all orders and subcontracts to the extent that they relate to the performance of Work terminated by the Notice of Termination;
- d. With the written approval of the Contracting Officer, to the extent he may require, settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, the cost of which would be reimbursable, in whole, or in part, in accordance with the provisions of the Contract;
- e. Submit to the Contracting Officer a list, certified as to quantity and quality, of any or all items of termination inventory exclusive of items the disposition of which had been directed or authorized by the Contracting Officer;
- f. Transfer to the Contracting Officer the completed or partially completed record drawings, Shop Drawings, information, and other property which, if the Contract had been completed, would be required to be furnished to the CITY;
- g. Take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to the Contract which is in the possession of the CONTRACTOR and in which the CITY has or may acquire any interest. The CONTRACTOR shall proceed immediately with the performance of the above obligations.

14.4.2 When the CITY orders termination of the Work effective on a certain date, all Work in place as of that date will be paid for in accordance with the Basis of Payment clause of the Contract. Materials required for completion and on hand but not incorporated in the Work will be paid for at cost plus 15% with materials becoming the property of the CITY - or the CONTRACTOR may retain title to the materials and be paid an agreed upon lump sum. Materials on order shall be canceled, and the CITY shall pay reasonable factory cancellation charges with the option of taking delivery of the materials in lieu of payment of cancellation charges. The CONTRACTOR shall be paid 10% of the cost, freight not included, of materials canceled, and direct expenses only for CONTRACTOR chartered freight transport which cannot be canceled without charges, to the extent that the CONTRACTOR can establish them. The extra costs due to cancellation of Bonds and insurance and that part of job start-up and phase-out costs not amortized by the amount of Work accomplished shall be paid by the CITY. Charges for loss of profit or consequential damages shall not be recoverable except as provided above.

14.4.3 The termination claim shall be submitted promptly, but in no event later than 90 days from the effective date of termination, unless one or more extensions in writing are granted by the Contracting Officer upon request of the CONTRACTOR made in writing within the 90-day period. Upon failure of the CONTRACTOR to submit his termination claim within the time allowed, the Contracting Officer may determine, on the basis of information available to him, the amount, if any, due to the CONTRACTOR by reason of the termination and shall thereupon pay to the CONTRACTOR so determined.

14.4.4 The CONTRACTOR and the Contracting Officer may agree upon whole or any part of the amount or amounts to be paid to the CONTRACTOR by reason of the total or partial termination of the Work pursuant to this section. The Contract shall be amended accordingly, and the CONTRACTOR shall be paid the agreed amount. In the event of the failure of the CONTRACTOR and the Contracting Officer to agree in whole or in part, as provided heretofore, as to the amounts with respect to costs to be paid to the CONTRACTOR in connection with the termination of the Work the Contracting Officer shall determine, on the basis of information available to him, the amount, if any, due to the CONTRACTOR by reason of the termination and shall pay to the CONTRACTOR the amount determined as follows:

- a. All costs and expenses reimbursable in accordance with the Contract not previously paid to the CONTRACTOR for the performance of the Work prior to the effective date of the Notice of Termination;
- b. So far as not included under "a" above, the cost of settling and paying claims arising out of the termination of the Work under subcontracts or orders which are properly chargeable to the terminated portions of the Contract;

- c. The reasonable costs of settlement with respect to the terminated portion of the Contract heretofore, to the extent that these costs have not been covered under the payment provisions of the Contract.

14.4.5 The CONTRACTOR shall have the right of appeal under the CITY's claim procedures, as defined in Article 15, for any determination made by the Contracting Officer, except if the CONTRACTOR has failed to submit his claim within the time provided and has failed to request extension of such time, CONTRACTOR shall have no such right of appeal. In arriving at the amount due the CONTRACTOR under this section, there shall be deducted:

- a. All previous payments made to the CONTRACTOR for the performance of Work under the Contract prior to termination;
- b. Any claim which the CITY may have against the CONTRACTOR;
- c. The agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the CONTRACTOR or sold pursuant to the provisions of this section and not otherwise recovered by or credited to the CITY; and,
- d. All progress payments made to the CONTRACTOR under the provisions of this section.

14.4.6 Where the Work has been terminated by the CITY said termination shall not affect or terminate any of the rights of the CITY against the CONTRACTOR or his Surety then existing or which may thereafter accrue because of such default. Any retention or payment of monies by the CITY due to the CONTRACTOR under the terms of the Contract shall not release the CONTRACTOR or his Surety from liability. Unless otherwise provided for in the Contract Documents, or by applicable statute, the CONTRACTOR, from the effective date of termination and for a period of three years after final settlement under this Contract, shall preserve and make available to the CITY at all reasonable times at the office of the CONTRACTOR, all its books, records, documents, and other evidence bearing on the cost and expenses of the CONTRACTOR under his Contract and relating to the Work terminated hereunder.

ARTICLE 15 - CLAIMS AND DISPUTES

15.1 Notification:

- 15.1.1 In addition to the notice requirements set out elsewhere in this Contract, if the CONTRACTOR becomes aware of any act or occurrence which may form the basis of a claim by the CONTRACTOR for additional compensation or an extension of time for performance, or if any dispute arises regarding a question of fact or interpretation of the contract, the CONTRACTOR shall immediately inform the Project Manager.
- 15.1.2 If the matter cannot be resolved by agreement within 7 days, the CONTRACTOR shall, within the next 14 days, submit an Intent to Claim in writing to the Project Manager.
- 15.1.3 If the claim or dispute is not resolved by the City, then the CONTRACTOR shall submit a written claim to the Project Manager, in writing, within 90 days after the CONTRACTOR becomes aware of the basis of the claim or should have known the basis of the claim, whichever is earlier.
- 15.1.4 CONTRACTOR waives any right to claim if the PROJECT MANAGER was not notified properly or afforded the opportunity to inspect conditions or monitor actual costs or if the Claim is not submitted within the time required.

15.2 Presenting Claim:

The Claim shall specifically include the following:

- 15.2.1 The act, event or condition giving rise to the claim.
- 15.2.2 The Contract provisions which apply to the claim and under which relief is provided.
- 15.2.3 The item or items of Contract Work affected and how they are affected.
- 15.2.4 The specific relief requested, including contract time if applicable, and the basis upon which it was calculated.

15.3 Claim Validity, Additional Information, and Project Manager's Actions:

The Claim, in order to be valid, must not only show that the CONTRACTOR suffered damages or delay but that those conditions were actually a result of the act, event or condition complained of and that the Contract provides entitlement to relief to the CONTRACTOR for such act, event, or condition. The Project Manager reserves the right to make written request to the CONTRACTOR at any time for additional information which the CONTRACTOR may possess relative to the Claim. The CONTRACTOR agrees to provide the Project Manager such additional information within 30 days of receipt of such a request. Failure to furnish such additional information may be regarded as a waiver of the Claim. The Claim, if not resolved by agreement within 60 days of its receipt, will automatically be forwarded to the Contracting Officer for formal written decision.

15.4 Contracting Officer's Decision:

The CONTRACTOR will be furnished the Contracting Officer's Decision within the next 90 days, unless additional information is requested by the Contracting Officer. The Contracting Officer's Decision is final and conclusive unless fraudulent as to the Claim.

15.5 Notice of Appeal:

Within 30 days of receipt of the Decision, the CONTRACTOR may deliver a Notice of Appeal to the City Manager of Unalaska, Alaska. The Notice of Appeal shall include specific exceptions to the Contracting Officer's Decision, including specific provisions of the contract, which the CONTRACTOR intends to rely upon in the appeal. General assertions that the Contracting Officer's decision is contrary to law or fact are not sufficient.

15.6 City Manager's Decision:

The decision of the City Manager will be rendered within 120 days of Notice of Appeal. This decision constitutes the exhaustion of contractual and administrative remedies. The time limits given above may only be extended by mutual consent. The decision of the City Manager shall be final and conclusive unless the CONTRACTOR commences action through the court within 120 days from receipt thereof.

AFFIDAVIT OF RELEASE OF LIENS BY THE CONTRACTOR

TO ALL WHOM IT MAY CONCERN:

WHEREAS, the undersigned has been employed by City of Unalaska to furnish labor and materials under a contract dated _____ for the _____, in the Unalaska, Alaska of which the City of Unalaska is the Owner.

NOW, THEREFORE, this ____ day of _____, 201__, the undersigned, as the Contractor for the above-named Contract pursuant to the Conditions of the Contract, hereby certifies that to the best of his knowledge, information and behalf, except as listed below, the Releases or Waivers of Lien* attached hereto include the Contractor, all subcontractors, all suppliers of materials and equipment, and all performers of work, labor or services, who have or may have liens against any property of the Owner and on the monies or other considerations due or to become due from the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS: (If none, write "None." If required by the Owner, the Contractor shall furnish bond satisfactory to the Owner for each Exception.) _____.

ATTACHMENTS:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Release or Waiver of Liens from Subcontractors and material and equipment suppliers.

Contractor (Name of sole ownership corporation or partnership)

(Signature of Authorized Representative)

Title

* The word lien as used herein shall include Stop Orders, Stop Notices, or Freeze Orders on the monies other consideration of the Owner that are due or to become due on the Contract referenced above.

[INSERT GENERAL CONTRACTOR NAME].
(“Contractor”)

*Unconditional Waiver and Release of
Lien/Claim for Subcontractor Upon
Final Payment*

Project Name and Location:

Company Name:

[INSERT SUB NAME]

Project # _____

(“Payee”)

Unalaska, Alaska

AMOUNT OF PAYMENT: _____

WHEREAS,

_____, being first duly sworn, states that he is
[INSERT TITLE] of Payee which has a contract with **Contractor** on the above-referenced
project.

NOW, THEREFORE, in **FINAL PAYMENT**, the undersigned, for and in
consideration of the amount of payment identified above received or to be received and other
good and valuable consideration, the receipt of which is hereby acknowledged, does hereby
waive and release any and all liens or right of liens or claims on the aforementioned property
and all improvements thereon, and on monies or other consideration due or to become due on
account of labor or services, materials, fixtures, or apparatus heretofore furnished, or which
may be furnished at anytime hereafter, and do hereby further release and forever discharge the
City of Unalaska and Contractor, and any payment and performance bond surety, of and from
all manner of debts, claims, demands or other sums due or claimed to be due or owed on
account of the above-referenced project and/or the above-referenced contract.

THIS WAIVER AND RELEASE IS UNCONDITIONAL, save and except only the
receipt of payment and final bank clearance of said remittance in the above-stated amount.

THE UNDERSIGNED further warrant that; 1) no other sums are claimed, 2) that all
laborers, subcontractors, and suppliers employed by Payee. have been paid all sums previously
due, and will be paid all current sums due out of this payment, 3) that none of such laborers,
subcontractors or suppliers is or will be entitled to claim or assert any claim against the above-
described real estate or the improvements thereon for labor or materials furnished to or for the
account of Contractor; 4) there are no federal, state or municipal taxes or other charges unpaid
or delinquent.

EXCEPT as set forth below:

EXCEPTIONS:

Person	Amount
_____	_____
_____	_____
_____	_____

Upon request, Payee shall list the names of each of its subcontractors and suppliers, with contract and payment status, and furnish waivers from said parties.

THE PERSONS SIGNING below, by signing, do hereby certify that he/she is fully authorized and empowered to execute this instrument and to bind the Company hereto.

DATED: _____

By: _____

DATED: _____

By: _____

STATE OF ALASKA)
) ss.
 THIRD JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this ____ day of _____, 20____,
 before me appeared _____, who acknowledged being the
 _____, an Alaska corporation, and voluntarily signing and
 sealing the foregoing instrument on behalf of said Corporation, and being authorized so to do.

 Notary Public in and for Alaska
 My Commission Expires: _____

STATE OF ALASKA)
) ss.
 THIRD JUDICIAL DISTRICT)

SUBSCRIBED AND SWORN to before me this __ day of _____, 201__.

 Notary Public For Alaska
 My Commission Expires: _____

CITY OF UNALASKA

*Receipt and Waiver and Release of
Claim for Contractor Upon Final Payment*

Project Name and Location:

Company Name:

**[INSERT CONTRACTOR
NAME]
“CONTRACTOR”**

Unalaska, Alaska

PAYMENT AMOUNT: _____

WHEREAS, _____, being first duly sworn, states that he is [INSERT TITLE] of CONTRACTOR, general contractor to the City of Unalaska for the above-referenced project.

NOW, THEREFORE, in **FINAL PAYMENT**, the undersigned, for and in consideration of the PAYMENT AMOUNT identified above and other good and valuable consideration paid or to be paid to CONTRACTOR, the receipt of which is hereby acknowledged, CONTRACTOR does hereby waive and release any and all liens or right of liens or claims on the aforementioned property and all improvements thereon, and on monies or other consideration due or to become due on account of labor or services, materials, fixtures, or apparatus heretofore furnished, or which may be furnished at any time hereafter, and does hereby further release and forever discharge the City of Unalaska of and from all manner of debts, claims, demands or other sums due or claimed to be due or owed on account of the above-referenced project and/or the above-referenced contract.

THIS WAIVER AND RELEASE IS UNCONDITIONAL, save and except only; 1) the receipt of payment and final bank clearance of said remittance in the above-stated amount; and 2) the Exceptions identified below or in the Contractor’s affidavit attached hereto.

EXCEPTIONS:

Person	Amount
_____	_____
_____	_____

THE UNDERSIGNED further warrants that; 1) no other sums are claimed, 2) that all laborers, subcontractors, and suppliers employed by Contractor have been paid all sums previously due, and will be paid all current sums due out of this payment, 3) that none of such laborers, subcontractors or suppliers is or will be entitled to claim or assert any claim against the above-described real estate or the improvements thereon or any surety bond related to the

Project for labor or materials furnished to or for the account of Contractor; and 4) there are no federal, state or municipal taxes or other charges unpaid or delinquent.

THIS WAIVER AND RELEASE IS UNCONDITIONAL, save and except only the receipt of payment and final bank clearance of said remittance in the above-stated amount

THE PERSONS SIGNING below, by signing, do hereby certify that he/she is fully authorized and empowered to execute this instrument and to bind Contractor hereto.

CONTRACTOR.

DATED: _____ BY: _____

_____,
[insert title]

STATE OF ALASKA)

) ss.

THIRD JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this ____ day of _____, 20__, before me appeared _____, who acknowledged to me that he was the _____ of _____, and he acknowledged to me that he had, in his official capacity aforesaid, executed the foregoing documents as the free act and deed of said Corporation, for the uses stated therein.

Notary Public in and for Alaska
My Commission Expires: _____

Section 00800
SUPPLEMENTARY CONDITIONS

REFERENCE: 1. "GENERAL CONDITIONS OF THE CONTRACT", constitutes the General Conditions of this Contract and is further revised and supplemented by the provisions of these Supplementary Conditions to the Contract, hereinafter called the "Supplementary Conditions." The General Conditions and the Supplementary Conditions are applicable to all of the Work under this Contract and shall apply to the Contractor and all Subcontractors.

SUPPLEMENTS: 2. The following supplements modify, change, delete, or add to the General Conditions. Where any article of the General Conditions is modified or any paragraph deleted, subparagraph or clause thereof is modified, or deleted by these supplements, the unaltered provisions of such article, paragraph, subparagraph or clause shall remain in effect.

SC-1 ARTICLE 1 - DEFINITIONS, Add the following:

OWNER - The OWNER and CONTRACTING OFFICER ENGINEER - The ENGINEER is further defined as:
are further defined as:

City of Unalaska
Department of Public Works
P.O. Box 610
Unalaska, Alaska 99685-0610
Tel. (907) 581-1260
FAX (907) 581-2187
Attn: Marc Kielmeyer City Engineer
Email: mkielmeyer@ci.unalaska.ak.us

Regan Engineering, P.C.
P.O. Box 889
Camas, WA 98607
Tel. (360) 903-5064
Attn: Thomas Regan, P.E.
Email: tom@reganengineering.com

SC-2 ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

Delete "3.2 The CITY shall furnish to the CONTRACTOR up to six copies of the Contract Documents. Additional copies will be furnished, upon request, at the cost of reproduction."

Change to:

"3.2 The CITY shall furnish to the CONTRACTOR electronic files of the Contract Documents and associated Exhibits in pdf format. The CONTRACTOR shall make their own provisions to obtain paper copies from an appropriate reproduction establishment."

SC-3 ARTICLE 5 – BONDS, INSURANCE, AND INDEMNIFICATION

Item 5.4 Insurance Requirements, 5.4.1, add the following:

"Regan Engineering, P.C. shall be named as additional insured with a waiver of subrogation under the insurance coverage so specified and where allowed."

Item 5.4 Insurance Requirements, 5.4.3; Delete item 10 from the General Conditions. Builders Risk insurance is not required for this project.

SC-4 ARTICLE 11 - CONTRACT TIME; COMPUTATION AND CHANGE

11.2 Starting the Work; Change the second sentence to read as follows:

"CONTRACTOR shall notify the CONTRACTING OFFICER at least fourteen (14) days in advance of the time actual construction operations will begin."

Part 4
MINIMUM RATES OF PAY

Contractor shall comply with all State labor regulations, including State of Alaska Title 36, Public Contracts, otherwise known as the Little Davis-Bacon Act, and all labor regulations and minimum rates of pay contained therein.

State Wage Rates

State Wage Rates can be obtained at <http://labor.alaska.gov/lss/pamp600.htm>. Use the State wage rates that are in effect 10 days before Bid Opening.

Part 5
TECHNICAL SPECIFICATIONS

SECTION 01010 GENERAL

Article 1.1 Related Documents

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Specification Sections, apply to this Section.

Article 1.2 Work Covered by Contract Documents

- A. The work will include, but not be limited to, furnishing all labor, tools, equipment, and materials and performing all operations in connection with the **CAPTAINS BAY ROAD WATERLINE**. The Work includes construction of a 16" Ductile Iron and PVC Pipe waterline including valves, hydrants, services, and appurtenant items. Phase 1 extends from Westward Seafoods, Inc. (WSI) to Offshore Systems, Inc. (OSI), a distance of 7,097 linear feet.
 - 1. Project Location: Captains Bay Road, Unalaska, Alaska 99685
 - 2. Owner: City of Unalaska, Department of Public Utilities
- B. The Work will be constructed under a single prime contract. Payment will be made for designated items on a unit price basis.

Article 1.3 Work Plan

- A. The Contractor shall schedule the Work to prioritize providing active service to the North Pacific Fuel (NPF) area.
- B. The Contractor shall submit a schedule as required by the General Conditions plus a Work Plan no later than 3-weeks prior to the start of any construction. The Work plan shall contain the following:
 - 1. An updated schedule with a delineation of the different work sites with work sequence, duration and phasing;
 - 2. A staging plan with designated sites for storage of pipe, appurtenant items and earthen materials;
 - 3. Demonstrated coordination with owners and lessees along or affected by the proposed construction including WSI, NPF, OSI, AML, Lynden Transport, private land owners including native allotments, and Trident Seafoods.

Article 1.4 Meetings

- A. The Contractor and relevant subcontractors shall attend and participate in scheduled progress meetings during construction. Meetings will be held as frequently as once per week or as otherwise agreed to by the City. Meeting agenda and minutes will be prepared and organized by the Owners representative. At each meeting, the agenda shall include but not be limited to the following:
 - 1. Review of outstanding action items and determination of disposition.
 - 2. Review of status of project data submittals.

3. Discussion of upcoming work. Contractor shall prepare for each meeting a schedule for the current work week and the following two calendar work weeks.
4. Discussion of impacts of construction work on local users.
5. Discussion of work quality and progress.
6. Review of outstanding Contract Change issues.
7. Discussion of other issues, as appropriate.

Article 1.5 Contractor Use of Construction Site

- A. During the construction period, the Contractor shall have use of the City Rights-of-Way and easements for construction operations except one lane of traffic shall remain open at all times. Materials can be staged at any locations or pullouts along the proposed route that are owned or controlled by the City.
- B. The City will make the pad area immediately above the existing Pyramid Water Treatment Plant available for disposal of excess or unsuitable earthen materials for use at the Contractors option.
- D. Use of the Sites:
 1. Driveways and Entrances: Keep driveways and vehicle entrances clear and available for local users and emergency vehicles at all times. Do not use these areas for parking or storage of materials without explicit permission from the property owner(s).
 2. Privately Owned Properties: The Contractor shall make their own arrangements for use of any and all properties not included in the designated Rights-of-Ways or along the proposed pipe route. The Contractor shall receive written permission to use these property(s).

Article 1.6 Pre-Installation Meetings

- A. Prior to working through the industrial areas along the proposed pipe route, coordination meetings shall be conducted with the appropriate representatives from those sites, including the facilities identified in the Work Plan specified above. Items for discussion include schedule, temporary utilities/service, access, security, traffic control, utility locates, materials staging, relocation of stored/stockpiled materials, and other items to minimize disruptions to ongoing operations.

Article 1.7 Utilities

- A. In general, the locations of existing utilities, whether aboveground or underground, are indicated on the Drawings. This information has been obtained from utility maps, existing drawings, as noted herein, and field surveys. The accuracy or completeness of this information is not guaranteed, and it is to be understood that other underground facilities not shown on the Drawings may be encountered during the course of the work. Vertical locations of underground utilities are estimated so it is imperative that the lines be exposed and verified prior to the installation of any new pipe.

- B. The Contractor shall coordinate locating of all non-City owned or maintained utilities, including fuel lines, telephone/TV, fiber optic, and all other privately owned utilities with owners of those utilities.
- C. At a sufficient distance prior to encountering a known obstacle or a tie into an existing pipe, the Contractor shall expose and verify the exact location of the obstacle or pipe so that alignment and/or grade of the proposed pipe may be determined before the pipe sections are laid in the trench and backfilled. Removal and relocation of any newly installed pipe resulting from failure to expose known obstacles or ties into existing utilities is the responsibility of the Contractor and no additional compensation will be made.
- D. Existing utilities, whether shown on the Drawings or not, shall be maintained, relocated, rerouted, removed, repaired and restored as may be necessary to complete the work by the Contractor in a manner satisfactory to the owners and operators of the utilities and to the City.
- E. Temporary shutdowns required to make connections to existing water lines/services shall be limited to 8-hours per connection except where service to users is uninterrupted. Shutdowns shall be coordinated with and approved by impacted users. The City water utility shall operate all existing valves.
- F. The Contractor is responsible to notify affected users a minimum 48-hours prior to any shutdowns. The Water Utility shall be given at least 48-hours notice prior to executing a water main shutdown so they can be on hand to reroute flows and assure continuity of service. The Contractor shall closely coordinate with the City Water Utility regarding all shutdowns.
- G. Water for flushing will be made available to the Contractor. Scheduling shall be coordinated so that the Work is accomplished without impact to fish processors and the City's ability to provide uninterrupted service to current users.

Article 1.8 Permits

- A. The ADEC permit is included in the Appendix of this project manual. This permit is incorporated into and becomes a part of these Contract Documents. The Contractor shall review and comply with the conditions of the permit.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01010

SECTION 01025.01 GENERAL

Article 1.1 Scope

- A. Payment for the various items of the Bid Schedule, as further specified herein and in associated specifications, shall include full compensation to be received by the CONTRACTOR for furnishing all tools, equipment, supplies, and manufactured articles, and for all materials, labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the WORK in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA) and the Alaska Department of Labor (ADOL). No separate payment will be made for any item that is not specifically set forth in the Bid Schedule, and all costs therefore shall be included in the prices named in the Bid Schedule for the various appurtenant items of WORK.

Article 1.2 Related Requirements

- A. Section 01010 – Summary of Work
- B. Section 02200 – Earthwork
- C. Section 02550 – Construction Survey
- D. Section 02668 – Water Systems

Article 1.3 Pay Items

- A. Pay items indicated in the Bid Form are for bidding and contract purposes only. For Lump Sum bid items, required quantities and measurements supplied or placed in the WORK shall be the full responsibility of the CONTRACTOR.

Article 1.4 Payment

- A. Payment includes full compensation for furnishing all required labor, materials, products, tools, equipment, plant, transportation, services, incidentals, erection, application, or installation of all items of the WORK described or required, and all other costs for the items to necessary to provide complete functional systems in place.
- B. Payment for Lump Sum and Unit Cost pay items will be in accordance with the General Conditions and Section 00800 - Supplementary General Conditions.

Article 1.5 Non-Payment for Rejected Items

- A. Payment will not be made for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products placed beyond the lines and grades of the required WORK.
 - 4. Products remaining on hand at the completion of the WORK.

5. Loading, hauling, and disposing of rejected products.
6. Overly wet or frozen material.
7. Excavation or fill made for the convenience of the CONTRACTOR for any purpose or reason.

PART 2 - PRODUCTS (Not Used)

PART 3- MEASUREMENT AND PAYMENT

Article 3.1 Incidental Work

- A. Several items of work not specifically covered in the Contract Documents will be considered incidental to the cost of the contract. These items include, but are not limited to the following:
1. Temporary pumping and/or maintenance of utility service during construction.
 2. Restoration of disturbed areas and final grading to restore the ground to uniform grades.
 3. Site Safety.
 4. Dewatering.
 5. Replacement of Survey Monuments, Property Corners or other Survey Markers removed or disturbed during construction.
 6. Removal and disposal of designated or abandoned utilities, manholes, pipe, catch basins, etc.
 7. Plugging and abandoning existing pipes.
 8. Removal and replacement of signs requiring removal to construct improvements
 9. Removal and replacement of guardrail necessary to construct improvements
 10. Coordination with private land owners related to access, utility locates, materials staging, traffic control, and other items related to work on private land.
 11. Coordinate with Owner(s) and/or provide or assist with removal and replacement of stored or stockpiled items including fishing gear (crab pots, nets, floats, lines, etc.), tires, fenders, metals, soil berms, pallets, drums, tanks, barriers, and other items necessary to conduct the Work.
 12. Hauling and disposal of unsuitable earthen materials.
 13. Sheeting, shoring, or bracing necessary for trench stabilization/safety or protection of encountered utilities.
 14. Other items not specifically called out but otherwise necessary for proper construction.

These items are considered incidental to other work performed under this contract. No separate payment will be made. The items are not in any order of precedence.

Article 3.2 Measurement and Payment

- A. Measurement and payment are defined in the individual specification sections associated with the described work item. Below are descriptions not associated with other specified bid items.

Article 3.3 Mobilization and Demobilization

- A. Measurement: No measurement of quantities will be made. Mobilization and Demobilization includes costs of transporting, mobilizing, and demobilizing all materials, construction equipment, and personnel necessary to complete this project, bonds, and insurance. No measurement of

quantities will be made. The measurement will be split so that 50% of the payment is made with mobilization and 50% is made with Demobilization. Demobilization will be paid for after the project is complete, the site is cleaned up and fully restored, and closeout documentation is submitted, including record drawings.

- B. Basis of Payment: Payment for this work shall be in accordance with the General Conditions and shall include full payment for all work described. Payment will be made under the following Units:

<u>ITEM No.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
1	Mobilization and Demobilization	Lump Sum

Article 3.4 Construct Bridge Crossing

- A. Measurement: No measurement of quantities will be made. Work includes all work described and detailed.
- B. Basis of Payment: Payment for this work shall be in accordance with the General Conditions and shall include full payment for all work described. Payment will be made under the following Units:

<u>ITEM No.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
22	Construct Bridge Crossing	Lump Sum

Article 3.5 Traffic Control

- A. Measurement: No measurement of quantities will be made. Traffic Control includes all Work shown and described in the plans. Work shall comply with the requirements of the ADOT Standard Specifications and the Manual of Uniform Traffic Control Devices (MUTCD). Work consists of performing all the necessary measures to protect and control traffic during the life of the project including, but not limited to, furnishing, erecting, maintaining, replacing, cleaning, moving and removing the traffic control devices, construction signs, portable barriers, safety fences, and flagging required to safeguard the traveling public and all administrative responsibilities necessary to implement this Work.
- B. Basis of Payment: Payment for this work shall be in accordance with the General Conditions and shall include full payment for all work described. Payment will be made under the following Units:

<u>ITEM No.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
23	Traffic Control	Lump Sum

END OF SECTION 01025

SECTION 02200.01 GENERAL

For the purposes of this Division, the terms "unsuitable" and "unusable" are equivalent when used as a description of a type of material and may be used interchangeably.

Article 1.1 Scope of Work

The Work covered by this Division consists of providing all plant, labor, equipment, supplies, material, transportation, handling, and storage, and performing all operations pertaining to the construction for all trench excavation, backfill, bedding, surfacing and foundation material for utility installation.

Article 1.2 Definitions

- A. Backfill: Material placed in an excavated area.
- B. Bedding: Material immediately surrounding the newly installed pipe or conduits.
- C. Borrow: Material used as fill and/or backfill which is obtained from a source other than required excavation.
- D. Compaction: Tamping by hand or machine to achieve required density in soils.
- E. Disposal Site: Any area where waste, unsuitable, unusable or surplus material from construction is placed.
- F. Excavation: Area or material removed to provide a suitable base for improvement.
- G. Fill: Fill is considered the material placed above the original or natural ground line.
- H. Non-Frost-Susceptible Material: Non-organic soil containing less than three percent (3%) by weight of grains smaller than .02 mm obtained from minus three inches (-3") material.
- I. Service Connection: Any connection from a main line utility to a property line for the purpose of providing service to an individual property
- J. Subgrade or Bottom Excavation: The subgrade is material below the bottom of excavation and upon which the bedding material is placed.
- K. Surfacing Material: Material above the backfill used for the final surface and contact with vehicles.
- L. Trench: Any excavation for a utility or drainage system.
- M. Unsuitable or Unusable Material: Unsuitable or unusable material may consist of any material which is, in the opinion of the Engineer, inadequate for use in the proposed construction.

Article 1.3 Applicable Standards

The latest revision of the following standards of the American Society for Testing and Materials (ASTM) and the American Association of State Highway Transportation Officials (AASHTO) are hereby made a part of these specifications:

ASTM C-29	Test for Unit Weight of Aggregate
ASTM C-117	Test for Materials Finer than No. 200 Sieve in Aggregates by Washing
ASTM C-131	Test for Resistance to Abrasion of Small Size Coarse Aggregate by Use of the Los Angeles Machine
ASTM C-136	Test for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM D-422	Test for Particle Size Analysis of Soil
ASTM D-424	Test for Plastic Limit and Plasticity Index of Soils
AASHTO M-147	Materials for Aggregate and Soil-Aggregate Subbase, Base, and Surface

	Courses
AASHTO T-180-D	Test for Moisture-Density Relations of Soils
AASHTO T-205	Test for Field Determination of Density of Soil In-Place AASHTO
T-238	Test for Density of Soil In-Place by Nuclear Method.

Article 1.4 Equipment

All equipment, tools, and machines used in the performance of the Work covered by these Specifications shall be subject to the approval of the Engineer and shall comply with all applicable safety requirements. All equipment used on the project shall be adequately maintained and shall be the proper equipment for the Work being accomplished so as to produce the result required by the Contract Documents.

Article 1.5 Compaction Standards

The required density of fill and backfill shall meet the requirements as outlined in Section 02200.08 - Unclassified Fill and Backfill. In areas outside of road rights-of-way, the density shall be as required by the Contract Documents or as directed by the Engineer.

Where compaction density is specified, the maximum density shall be determined in accordance with the current requirements of AASHTO Standard Method T-180-D.

Backfill under traffic and building structures and trench backfill in the public rights-of-way from six inches (6") below the bottom of the pipe to the surface shall be compacted to ninety-five percent (95%) of maximum density, unless otherwise noted and approved by the Engineer.

The backfill material shall be placed in horizontal lifts not exceeding twelve inches (12") in thickness and compacted. Any excavations improperly filled shall be reopened to the depth required for proper compaction, then refilled and compacted at the Contractor's expense. The use of water in excess of the quantity required to obtain specified density (optimum moisture content) to settle or compact the backfill will not be permitted.

Article 1.6 Subsurface Investigation

Information pertaining to subsurface exploration, borings, test pit locations, and other preliminary investigation is in the Bidding Documents for Phase 1 Work. This information was acquired for design purposes only and is not considered adequate for construction.

The soils classifications and geotechnical designations recorded are informational only and represent only those subsurface conditions on the particular date, at the specific location, as indicated on each soils log and on the plans. The ground water levels indicated on the test hole logs and shown on the Drawings were recorded at the time the test holes were performed. These water levels may vary seasonally and are shown for design and informational purposes only. Contractor shall assume responsibility for any conclusions that may be drawn from such information and the conclusions shall not be considered just cause for a claim for additional compensation or contract time extension. Contractor should obtain and analyze such additional information as the Contractor may feel necessary and shall be responsible for any conclusions drawn from that information.

The Owner does not warrant the correctness of the soils investigation or of any interpretation, deduction, or conclusion given in the report relative to subsurface conditions. The Bidder shall make his own deductions and conclusions as to the nature of the materials to be excavated, the difficulties of making and maintaining the required excavations, the difficulties which may arise from subsurface conditions, and of doing any other Work affected by the subsurface conditions, and shall accept full responsibility therefore.

Article 1.7 Weather Limitations

Unless otherwise authorized by the Engineer, fill and backfill material, bedding, and surfacing course

shall not be placed when the atmospheric temperature is below thirty-five degrees Fahrenheit (35 F). When the temperature falls below thirty-five degrees Fahrenheit (35 F), it shall be the responsibility of the Contractor to protect all areas of completed Work against any detrimental effects. Any areas of Work not completed in accordance with the Contract Documents that are damaged by weather shall be reconditioned, reshaped, and recompact by the Contractor in conformance with the requirements of the Contract Document without additional cost to the Owner.

Article 1.8 Underground Utilities

The Contractor shall continuously support underground utilities during excavation, backfill placement and compaction.

Article 1.9 Contaminated Material

Unless otherwise noted in the Contract Documents, the Owner is not aware of any contaminated material within the project limits. If such material is encountered, Contractor shall notify the Engineer immediately for direction. Unless the contamination was caused by Contractor's operation, discovery of contaminated material will be treated as a changed condition per the General Conditions.

SECTION 02200.02 STORM WATER POLLUTION PREVENTION PLAN**Article 2.1 General**

The Work described in this Section shall consist of providing all labor, equipment, materials, and services to prepare, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) for projects that may adversely impact receiving waters or waters of the United States. The type of plan required depends on the area disturbed by the project including the construction site and off-site activities which include, but may not be limited to, material sites, waste disposal sites, borrow and fill sites, and equipment and material storage areas.

A Type 3 SWPPP is required for all Projects that disturb one or more acres of land.

As a requirement of this Contract, the Contractor shall accept a delegation of authority from the City to act as the City's duly authorized representative for the purpose of overseeing compliance with the APDES Construction Permit at the project site.

Article 2.2 Definitions

Alaska Certified Erosion and Sediment Control Lead (AK-CESCL) - A person who has completed training, testing, and other requirements of, and is currently certified as, an AK-CESCL from an AK-CESCL Training Program (a program developed under a Memorandum of Understanding between the City and others). The City recognizes AK-CESCLs as "qualified personnel" required by the CGP. An AK-CESCL shall be recertified every three years.

Alaska Department of Environmental Conservation (ADEC) - The State agency authorized by EPA to administer the Clean Water Act's National Pollutant Discharge Elimination System (NPDES).

Alaska Pollutant Discharge Elimination System (APDES) - A system administered by ADEC that issues and tracks permits for storm water discharges.

Best Management Practices (BMPs) - Temporary or permanent structural and non- structural devices, schedules of activities, prohibition of practices, maintenance procedures, and other management practices to prevent or minimize the discharge of pollutants to waters of the United States. BMPs also include, but are not limited to, treatment requirements; operating procedures; practices to control site runoff, spillage or leaks; sludge or waste disposal; or drainage from material storage.

Clean Water Act (CWA) - Federal Water Pollution Control Amendments of 1972, as amended (33 U.S.C. 1251 et seq.).

Construction Activity - Work by Contractor, subcontractor or utility company within the project area, that may result in erosion, sedimentation, or a discharge of pollutants into storm water. Construction Activity includes soil disturbing activities (e.g. clearing, grubbing, grading, excavating); construction materials or equipment storage or maintenance areas (e.g. material piles, borrow area, concrete truck chute wash down, fueling); and activities that may discharge storm water and are directly related to the construction process (e.g. concrete or asphalt batch plants).

Construction General Permit (CGP) - The current permit authorizing storm water discharges from Construction Activities, issued and enforced by ADEC. The CGP authorizes storm water discharges provided permit conditions and water quality standards are met.

Electronic Notice of Intent (eNOI) - The electronic Notice of Intent submitted to ADEC to obtain coverage under the CGP.

Electronic Notice of Termination (eNOT) - The electronic Notice of Termination submitted to ADEC to end coverage under the CGP.

Environmental Protection Agency (EPA) - A federal agency charged to protect human health and the environment.

Final Stabilization - The CGP defines Final Stabilization as:

1. All soil disturbing activities at the site have been completed and either of the following criteria have been met:
 - a. A uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or
 - b. Equivalent non-vegetative permanent stabilization measures have been employed (such as use of rip rap, gabions, porous backfill (ADOT&PF specification 703-2.10), railroad ballast or subballast, ditch lining (ADOT&PF Specification 610-2.01 with <3% smaller than #200 sieve), geotextiles, or fill material with low erodibility as determined by an engineer familiar with the site and documented in the SWPPP.
 - c. Roads are restored to a useable surface meeting City standards and the requirements shown in the plans.
2. When background native vegetation will cover less than one hundred percent (100%) of the ground (e.g., arid areas, beaches), the seventy percent (70%) coverage is adjusted as follows: if the native vegetation covers fifty percent (50%) ($0.70 \times 0.50 = 0.35$), thirty-five percent (35%) total cover is required for final stabilization. On a beach with no natural vegetation, no stabilization is required.

Hazardous Material Control Plan (HMCP) - The Contractor's detailed project specific plan for prevention of pollution from storage, use, transfer, containment, cleanup, and disposal of hazardous material (including, but not limited to, petroleum products related to construction activities and equipment). The Contractor shall include the HMCP as an appendix to the SWPPP.

Inspection - An inspection required by the CGP or the SWPPP, usually performed together by the Contractor's SWPPP Manager and the City designated Inspector.

Multi-Sector General Permit (MSGP) - The Alaska Pollutant Discharge Elimination System General Permit for storm water discharges associated with industrial activity.

Operator(s) - The party or co-parties associated with a regulated activity that has responsibility to obtain permit coverage under the CGP. "Operator" for the purpose of the CGP and in the context of storm water associated with construction activity, means any party associated with a construction project that meets either of the following two criteria:

1. The operator has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
2. The operator has day to day responsibility and operational control for all activities at a project which are necessary to fully comply with the CGP and the project SWPPP for the site or other requirements of the permit. For the purpose of a Contractor executing project Work under this Contract with the City, the Contractor is the operator responsible for CGP and SWPPP coverage and compliance under the CGP for the Work.

Permit - References to permit pursuant to this section shall mean the Construction General Permit (CGP) defined above.

Pollutant - Any substance or item meeting the definition of pollutant contained in 40 CFR § 122.2. A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, wrecked or discarded equipment, rock, sand, cellar dirt,

and industrial or municipal waste.

Project Zone - The Project Zone includes the area of street, road, highway or other facility under construction; project staging and equipment areas; and material and disposal sites, when those areas, routes and sites are directly related to the Contract.

Records - Any record, report, information, document, or photograph required to be created or maintained pursuant to the requirements of the CGP, the CGP storm water requirements of the Clean Water Act and applicable local, state, and federal laws and regulations pertaining to document preservation.

Spill Prevention, Control and Countermeasure Plan (SPCC Plan) - Contractor's detailed plan for petroleum spill prevention and control measures that conform to the requirements of 40 CFR 112.

Spill Response Field Representative - Contractor's representative with authority and responsibility for managing, implementing, and executing the HMCP and SPCC Plan.

Storm Event - A rainfall event that produces more than one half inch (0.5") of precipitation in twenty-four (24) hours and that is separated from the previous storm event by at least three (3) days of dry weather. Event can be measured on site using a rain gauge or Contractor can utilize the nearest National Weather Service (NWS) precipitation gauge station to determine the amount of rain fall during a storm event if the NWS gauge used is located within twenty (20) miles of the site.

Storm Water Pollution Prevention Plan (SWPPP) - Contractor's detailed project- specific plan to minimize erosion and contain sediment within the Project Zone and to prevent discharge of pollutants that exceed applicable water quality standards. The SWPPP includes, but is not limited to the plan, amendments, records of activities, inspection schedules and reports, qualifications of key personnel, and all other documentation, required by the CGP and this specification, and other applicable local, state, and federal laws and regulations.

Storm Water Pollution Prevention Plan Type

Type 1- if area of disturbance is 500 to <10,000 square feet or 4 feet or more in depth and is not part of a common plan of development that disturbs 10,000 square feet or more.

Type 2- if the area of ground disturbance is 10,000 square feet or greater but less than 1 acre and not part of a common plan of development that disturbs one acre or more.

Type 3 - if the area of disturbance is 1 acre or greater, or part of a common development that disturbs one or more acres.

Subcontractor Spill Response Coordinator - The Subcontractor's Representative with authority and responsibility for coordinating the Subcontractor's activities in compliance with the HMCP and SPCC Plan.

Subcontractor SWPPP Coordinator - The Subcontractor's Representative has responsible charge of and authority to direct the Subcontractor's Work; is responsible for the subcontractor's compliance with the SWPPP; and performs coordination with the Superintendent and SWPPP Manager.

Superintendent - Contractor's duly authorized representative in responsible charge of the Work. The Superintendent has responsibility and authority for the overall operation of the Project and for Contractor-furnished sites and facilities directly related to the Project.

SWPPP Amendment - A revision or document that adds to, deletes from, or modifies the SWPPP.

SWPPP Manager - Contractor's qualified representative who conducts inspections, has authority to suspend work and implement corrective actions required for CPG compliance, except they do not have authority to prepare the initial SWPPP or sign inspection reports.

SWPPP Preparer - Contractor's qualified representative who is responsible for developing the initial SWPPP.

Article 2.3 Applicable Standards

The latest version of the following permits, standard and requirements are hereby made a part of these specifications:

- A. Alaska 2011 Construction General Permit (CGP) #100000
- B. Alaska Department of Environmental Conservation (ADEC) Storm Water Pollution Prevention Plan (SWPPP) Template

Article 2.4 Plan and Permit Submittals

Partial and incomplete submittals will not be accepted for review. A submittal that is re-submitted or revised after submission, but before the review is completed, will restart the submittal review timeline. No additional Contract time or additional compensation will be allowed due to delays caused by partial or incomplete submittals, or required re-submittals.

- A. Storm Water Pollution Prevention Plan (SWPPP)

Contractor shall submit an electronic copy and two hard copies of the SWPPP to the Engineer for approval. Contractor shall organize and bind the SWPPP and related documents for submittal.

The City will review the SWPPP submittals within fourteen (14) days after they are received. Submittals will be returned to the Contractor, and marked as either "rejected" with reasons listed or as "approved" by the City. When the submittal is rejected, the Contractor shall revise and resubmit the SWPPP. The fourteen (14) day review period will restart when the Contractor resubmits an electronic copy and two hard copies of the revised SWPPP to the Engineer for approval.

After the SWPPP is approved by the City, the Contractor shall sign and certify the approved SWPPP.

- B. Hazardous Material Control Plan (HMCP)

Contractor shall submit an electronic copy and two hard copies of the HMCP, as an appendix to the SWPPP, to the Engineer for approval. The HMCP submittal and review timeline, and signature requirements are the same as the SWPPP. The HMCP shall be appended to and submitted with the SWPPP.

- C. Spill Prevention, Control and Countermeasure Plan (SPCC)

When a SPCC Plan is required under Article 2.11, Contractor shall submit an electronic copy and two signed hard copies of the SPCC Plan to the Engineer. at least 21 days before beginning Construction Activity. The City reserves the right to review the SPCC Plan and require modifications.

- D. Construction General Permit (CGP) Coverage

The Contractor is responsible for permitting of Contractor and subcontractor Construction Activities related to the Project, including any material sites, waste disposal sites, borrow & fill sites, and equipment and material storage areas that are not covered by a different permit.

Prior to beginning Construction Activity, Contractor shall submit an eNOI with the required fee to ADEC for coverage under the Construction General Permit (CGP). Submit a copy of the signed eNOI and ADEC's acknowledgement letter to the Engineer as soon as practicable and no later

than three days after filing eNOI or receiving a written responses from ADEC.

The Contractor shall not begin Construction Activity until in full compliance with the conditions listed in Article 2.14.A.

The City will submit an eNOI to ADEC for Construction Activities on Municipal Projects if required. The Engineer will provide the Contractor with a copy of the City's eNOI and ADEC's written acknowledgment by letter, or other document for inclusion in the SWPPP.

E. Ending CGP Coverage

Contractor shall submit an eNOT to ADEC, and submit both a copy of the signed eNOT and ADEC's acknowledgement letter to the City, within 30 days after the Engineer has determined the Contractor has fully complied with the conditions listed in Article 2.16.F.

F. Modifying Contractor's eNOI

When required by The CGP Part 2.7, Contractor shall modify the eNOI to update or correct information. Reasons for modification include a change in start or end dates, small changes in number of acres to be disturbed, change in decision to use or not use treatment chemicals, or change in location of SWPPP Records.

The Contractor shall submit an eNOT and then submit a new eNOI instead of an eNOI modification when: the operator has changed, the original eNOI indicates disturbed area less than five acres and the project will disturb more than five acres, or a project over five disturbed acres grows by more than 50%.

Article 2.5 Personnel Qualifications.

A. General

Contractor shall provide documentation in the SWPPP that the individuals serving in these positions are "qualified Personnel" pursuant to the CGP.

The City accepts persons having either of the following certificates as equivalent to AK-CESCL, if the certificates are current according to the sponsoring organization's policies:

- CPESC - Certified Professional in Erosion and Sediment Control, or
- CISEC - Certified Inspector in Sediment and Erosion Control

B. SWPPP Preparer

The SWPPP Preparer shall meet at least one of the following qualifications:

- current certification as a Certified Professional in Erosion and Sediment Control (CPESC); or
- current certification as AK-CESCL, and at least three years experience in erosion and sediment control (provide documentation including project names, project timelines, and work responsibilities demonstrating the experience requirement); or
- Professional Engineer licensed in the State of Alaska

C. Superintendent

The Superintendent shall hold current certification as AK-CESCL and be a duly authorized representative as defined in the CGP, Appendix A, Part 1.12.3 and Section 02200.1.2 definitions.

D. SWPPP Manager

The SWPPP Manager shall have current certification as AK-CESCL, and shall meet the CGP

experience, training, and authority requirements identified for the Storm Water Lead and Storm Water Inspector positions as defined in the CGP, Appendix C, Qualified Person.

E. Storm Water Inspector & Monitoring Person

The Storm Water Inspector and the Storm Water Monitoring Person shall have current certification as AK-CESCL.

F. Active Treatment System Operator

The Active Treatment System (ATS) operator shall have current certification as AK-CESCL and shall be knowledgeable in the principals and practices of treatment systems in general, including the operation of the project-specific ATS. Active Treatment System operator shall have at least six (6) months field experience with ATS, or completion of an ATS manufacturer's training course, or completion of system operator's certification course.

Article 2.6 Signature/Certification Requirements and Delegations

A. eNOI and eNOT

The eNOI and eNOT shall be signed and certified by a responsible Contractor corporate officer according to CGP Appendix A, Part 1.12.2. Signature and certification authority for the eNOI and eNOT shall not be delegated.

B. Delegation of Signature Authority for Other SWPPP Documents and Reports

The Contractor shall use Form F-108 to delegate signature authority and certification authority to the Superintendent position, according to CGP Appendix A, Part 1.12.3, for the SWPPP, Inspection Reports and other reports required by the CGP. The Superintendent position is responsible for signing and certifying the SWPPP, Inspection Reports, and other reports required by the CGP, except the eNOI and eNOT.

C. Subcontractor Certification

Subcontractors shall certify that they have read and will abide by the CGP and the conditions of the project SWPPP.

D. Signatures and Initials

Contractor and subcontractor personnel shall handwrite (wet ink) signatures or initials on CGP documents and SWPPP forms, wherever a signature or initial is required.

Article 2.7 Responsibility for Storm Water Permit Coverage

A. Contractor is responsible for permitting and permit compliance.

B. The Contractor has sole responsibility for compliance with ADEC and other applicable federal, state, and local requirements, and for securing all necessary clearances, rights, and permits.

C. The Contractor is responsible for permitting and permit compliance for any disposal site receiving materials, waste, or any product generated as a result of the Project.

D. Contractor shall indemnify, defend and hold the City and their designee harmless for any and all fines resulting from non-compliance with the permit conditions.

Article 2.8 Utility Responsibilities

Not used.

Article 2.9 Storm Water Pollution Prevention Plan (SWPPP) Requirements**A. General**

Contractor shall prepare SWPPP in accordance with the applicable standards of this Section. Contractor shall submit and maintain the SWPPP in three-ring binder with tabbed and labeled dividers for each section and appendix.

B. SWPPP Preparer and Pre-Construction Site Visit

Contractor shall hire or designate a SWPPP Preparer to prepare the SWPPP and associated documents according to the requirements of the CGP. The SWPPP shall identify the SWPPP Preparer and include qualifications (including the expiration date of any certifications), title, and company name in the SWPPP.

The Contractor and SWPPP Preparer shall conduct a pre-construction inspection at the project site before construction activity begins. If the SWPPP Preparer is not a Contractor employee, the SWPPP Preparer shall visit the site accompanied by Contractor's superintendent. Contractor shall provide the City at least seven (7) days written notice of the site visit, so that the City may participate.

During the pre-construction inspection, the SWPPP Preparer shall identify or, if a draft of the SWPPP has already been prepared, verify that the SWPPP fully addresses and describes:

1. opportunities to phase construction activities;
2. appropriate BMPs and their sequencing; and
3. sediment controls that shall be installed prior to beginning construction activities.

Contractor shall document the SWPPP Preparer's pre-construction inspection in the SWPPP on Form F-106, SWPPP Pre-Construction Site Visit, including the names of attendees and the date.

C. SWPPP Development

Contractor shall prepare the SWPPP with sections and appendices, in accordance with the current ADEC SWPPP template and the following additional information:

1. Add additional appendices for:
 - a. Appendix L -- Hazardous Material Control Plan (HMCP)
 - b. Appendix M -- SWPPP Preparer's Site Visit
 - c. Appendix N -- Rainfall Logs
 - d. Appendix O - NOT forms and Acknowledgement letters from ADEC (Include both City's and Contractor's)
2. Provide the following forms for completion by the City and include the completed forms in the SWPPP:
 - a. SWPPP Delegation of Signature Authority - (F-107)
 - b. SWPPP Certification for City (F-109)
3. Use the following forms for recording information in the SWPPP:
 - a. SWPPP Amendment Log (F-114)
 - b. SWPPP Certification for Contractor (F-111)
 - c. SWPPP Construction Site Inspection Report (F-100 parts 1&2)
 - d. SWPPP Corrective Action Log (F-112)
 - e. SWPPP Daily Record of Rainfall (F-115)

- f. SWPPP Delegation of Signature Authority Contractor (F-108)
- g. SWPPP Grading and Stabilization Activities Log (F-110)
- h. SWPPP Pre-Construction Site Visit (F-106)
- i. SWPPP Subcontractor Certification (F-105)
- j. SWPPP Training Log (F-125)

The forms are available on the municipal (Municipality of Anchorage) website, www.muni.org, under Project Management and Engineering Publications.

D. SWPPP Considerations and Contents

The SWPPP shall provide erosion and sediment control measures for all Construction Activity.

The SWPPP shall include the activities of the Contractor, all subcontractors, and utility companies performing Work. The SWPPP shall describe the roles and responsibilities of the Contractor, subcontractors, and utility companies with regard to implementation of the SWPPP.

The SWPPP shall identify all operators for the Project including utility companies performing Construction Activity, and identify the areas over which each operator has operational control and where the City and Contractor are co- operators.

The SWPPP shall include any material sites, waste disposal sites, borrow and fill sites, and equipment and material storage sites. If those sites are covered under a different permit or operated by a different entity, the Contractor shall provide the permit information and/or operational information as part of the SWPPP.

Contractor shall prepare the SWPPP according to the requirements of the CGP and this specification, including accounting for the Contractor's construction methods and phasing, and identifying the amount of mean annual precipitation.

Contractor shall include an Antidegradation Analysis in the SWPPP, if storm water from the Project discharges into a receiving water that is considered a high quality water and constitutes an outstanding national resource. The City does not provide the analysis. The Contractor shall perform this analysis according to the CGP Part 2.1.5.

There are special requirements in the CGP Part 3.2, for storm water discharges into an impaired water body, which may include monitoring of storm water discharges. For projects meeting the permit criteria, the Contractor is responsible for compliance with the CGP Part 3.2 inside and outside the Project Zone.

Contractor shall preserve natural topsoil where possible. Contractor shall delineate the site in accordance to CGP Part 4.1. Contractor shall use stakes, flags, or silt fence, etc. to identify areas where land disturbing activities will occur and areas that will be left undisturbed. Contractor shall minimize the amount of soil exposed during Construction Activity in accordance to CGP Part 4.1.2.

Contractor shall conform to the dewatering requirements of CGP Part 4.3.

The SWPPP shall identify specific areas where potential erosion, sedimentation, or pollution may occur. The potential for wind erosion shall be addressed. The potential for erosion at drainage structures shall be addressed.

SWPPP shall include in the "Stabilize Soils" section, a description of how the Contractor will minimize the amount of disturbed and unstabilized ground in the fall season. Contractor shall identify anticipated dates of fall freeze-up and spring thaw. Contractor's SWPPP shall describe

how the Contractor will stabilize areas when it is close to or past the seasonal time of snow cover or frozen conditions, and before the first seasonal thaw. Contractor's SWPPP shall include a plan for final stabilization. Plans for Active Treatment Systems shall be submitted to ADEC for review at least fourteen (14) days prior to their application and the Operator of the ATS identified in the SWPPP. Treatment chemicals shall be identified on the NOI.

The SWPPP shall provide designated areas for equipment and wheel washing, equipment fueling and maintenance, chemical storage, staging or material storage, waste or disposal sites, concrete washouts, paint and stucco washouts, and sanitary toilets. These activities shall be done in designated areas that are located, to the extent practicable, away from drain inlets, conveyance channels, and waters of the US. No discharges are allowed from concrete washout, paint and stucco washout; or from release oils, curing compounds, fuels, oils, soaps, and solvents. Equipment and wheel washing water may be treated and discharged.

Contractor shall implement temporary BMPs for a two (2)-year-twenty-four (24) hour storm event. Contractor shall describe BMPs in the SWPPP and in SWPPP Amendments, including source controls, sediment controls, discharge points, and all temporary and permanent stabilization measures. Contractor's SWPPP shall describe the design, placement, installation, and maintenance of each BMP, using words and drawings as appropriate. Contractor shall provide a citation to the BMP Manual or publication used as a source for the BMP, including the title of the BMP Manual or publication, the author (individual or agency), and date of publication. If no published source was used to select or design a BMP, then the SWPPP or SWPPP amendment shall state that "No BMP manual or publication was used for this design."

Contractor shall describe the sequence and timing of activities that disturb soils and of BMP implementation and removal. Contractor shall phase earth disturbing activities to minimize unstabilized areas and to achieve temporary or final stabilization quickly. Whenever practicable, the Contractor shall incorporate final stabilization work into excavation, embankment and grading activities.

Contractor shall identify the inspection frequency in the SWPPP. At a minimum the inspection frequency shall be:

- at least once every seven (7) days during construction; or
- at least once every fourteen (14) days during construction and within twenty-four (24) hours of the end of a storm event of one-half inch (1/2") or greater rainfall in a twenty-four (24) hour period (one-half inch (1/2") rainfall as recorded at the project site rain gauge or the local weather station).

The SWPPP shall cite and incorporate applicable requirements of the Project permits, environmental commitments, and commitments related to historic preservation. Make additional consultations or obtain permits as necessary for Contractor specific activities which were not included in the City's permitting and consultation.

The SWPPP is a dynamic document. The Contractor shall maintain the SWPPP current by noting installation, modification, and removal of BMPs, and by using amendments, SWPPP amendment logs, Inspection Reports, corrective action logs, records of land disturbance and stabilization, and other records necessary to document storm water pollution prevention activities and to satisfy the requirements of the CGP and this specification.

E. Recording Personnel and Contact Information in the SWPPP.

Contractor shall include records of the AK-CESCL cards or certificates for the Superintendent, SWPPP Manager, acting Superintendent and acting SWPPP Managers in the SWPPP.

Contractor shall provide twenty-four- (24)-hour contact information for the Superintendent and SWPPP Manager. The Superintendent and SWPPP Manager shall have twenty-four- (24)-hour contact information for all Subcontractor SWPPP Coordinators and Utility SWPPP Coordinators.

Article 2.10 Hazardous Material Control Plan (HMCP) Requirements

Contractor shall prepare the HMCP for prevention of pollution from storage, use, containment, cleanup, and disposal of hazardous material, including petroleum products related to construction activities and equipment. Contractor shall append the HMCP to the SWPPP. Contractor shall compile Material Safety Data Sheets (MSDS) in one location and reference that location in the HMCP.

HMCP shall designate a Contractor's Spill Response Field Representative and provide twenty-four- (24)-hour contact information. Contractor shall designate a Subcontractor Spill Response Coordinator for each Subcontractor. The Superintendent and Contractor's Spill Response Field Representative shall have twenty-four- (24)-hour contact information for each Subcontractor Spill Response Coordinator and the Utility Spill Response Coordinator.

HMCP shall list and provide the location and estimated quantities of hazardous materials (including materials or substances listed in 40 CFR 117 and 302, and petroleum products) to be used or stored on the Project. Hazardous materials shall be stored in covered storage areas. Contractor shall provide secondary containment for all hazardous material storage areas.

HMCP shall identify the locations where fueling and maintenance activities will take place and describe the activities, and list controls to prevent the accidental spillage of petroleum products and other hazardous materials. Controls include placing absorbent pads or other suitable containment under fill ports while fueling and under equipment during maintenance or repairs.

HMCP shall use secondary containment under all stationary equipment (equipment that does not have a seat for driving) that contains petroleum products and use secondary containment under pumps, compressors, and generators.

HMCP shall list the types and approximate quantities of response equipment and cleanup materials available on the Project, including a list and location map of cleanup materials at each different work site and readily available off site (materials sources, material processing sites, disposal sites, staging areas, etc). Spill response materials shall be stored in sufficient quantity at each work location, appropriate to the hazards associated with that site.

HMCP shall describe procedures for containment and cleanup of hazardous materials. Contractor shall describe a plan for the prevention, containment, cleanup, and disposal of soil and water contaminated by spills and a plan for dealing with contaminated soil and water encountered during construction. Contractor shall clean up spills or contaminated surfaces immediately.

HMCP shall describe methods of disposing of waste petroleum products and other hazardous materials generated by the Project, including routine maintenance. Contractor shall identify haul methods and final disposal areas and provide assurance that final disposal areas are permitted for hazardous material disposal.

HMCP shall describe methods of complying with the requirements of AS 46.04.010-900, Oil and Hazardous Substances Pollution Control, and 18 AAC 75, including contact information for reporting hazardous materials and petroleum product spills to the Project Engineer and reporting to federal, state and local agencies.

Article 2.11 Spill Prevention, Control, and Countermeasure Plan (SPCC Plan) Requirements

Contractor shall prepare and implement an SPCC Plan when required by 40 CFR 112 and when both of

the following conditions are present on the Project:

- oil or petroleum products from a spill may reach navigable waters (as defined in 40 CFR 112); and
- total above ground storage capacity for oil and petroleum products is greater than 1,320 gallons (not including onboard tanks for fuel or hydraulic fluid used primarily to power the movement of a motor vehicle or ancillary onboard oil- filled operational equipment, and not including containers with a storage capacity of less than 55 gallons)

HMCP and SWPPP shall reference the SPCC plan.

Article 2.12 Superintendent and SWPPP Manager Responsibility and Authority

Contractor's superintendent is responsible for the overall operation of the Project and all Contractor-furnished sites and facilities directly related to the Project. The Superintendent shall sign and certify the SWPPP, Inspection Reports, and other reports required by the CGP except the NOI and NOT. The Superintendent may not delegate the task or responsibility of signing and certifying the SWPPP submitted under Article 2.4, Inspection Reports, and other reports required by the CGP.

The Superintendent may assign certain duties to the SWPPP Manager, which may include:

- ensuring Contractor's and subcontractor's compliance with the SWPPP and CGP;
- ensuring the control of erosion, sedimentation, or discharge of pollutants;
- directing and overseeing installation, maintenance, and removal of BMPs;
- performing Inspections; and
- updating the SWPPP including adding amendments and forms.

Contractor shall ensure that Superintendent and SWPPP Manager are knowledgeable in the requirements of this Section, the SWPPP, CGP, BMPs, HMCP, SPCC Plan, environmental permits, environmental commitments, and historic preservation commitments.

Contractor's Superintendent and SWPPP Manager shall have the complete authority and shall be responsible for suspending construction activities that do not conform to the SWPPP or CGP.

Article 2.13 Materials

Contractor shall

- use materials suitable to withstand hydraulic, wind, and soil forces, and to control erosion and trap sediments according to the requirements of the CGP and the Specifications.
- use the temporary seed mixture specified by special provision, or use annual rye grass if no temporary seed mix is specified.
- use straw that is certified free of noxious weed by the United States Department of Agriculture (USDA), Natural Resources Conservation Service, Local Soil and Water Conservative District (NRCS). Alaska Weed Free Forage Certification Program shall be used when available. Hay may not be substituted for straw.

BMP's shall conform to the requirements set forth in the SWPPP.

Article 2.14 Construction Requirements

Contractor shall be familiar with the requirements of the CGP. Contractor shall fully comply with the SWPPP and the requirements of the CGP.

A. Prior to Construction

Contractor shall complete the following actions before construction activity begins:

1. the SWPPP Preparer shall visit the Project, the visit shall be documented in the SWPPP, and the SWPPP shall be developed (or amended) with findings from the visit;
 2. the SWPPP shall be approved by the Engineer;
 3. the Contractor shall be authorized to begin construction only by the Engineer;
 4. the Project eNOIs for the City and for the Contractor, as well as other eNOIs if there are additional operators, shall be listed as Active Status on the ADEC website before construction activity commences;
 5. Contractor shall post notices on project site containing the following information:
 - Copy of all eNOIs related to this project
 - Name and twenty-four- (24)-hour phone number of SWPPP Manager and Superintendent
 - Location of the SWPPP
 6. Contractor shall prominently post notices at an approved location near the project site. Postings shall be protected from the weather. Contractor shall locate postings so the public can read them without obstructing construction activities or the traveling public (for example, at an existing pullout). Do not use retro-reflective signs for the SWPPP posting. Do not locate SWPPP signs in locations where the signs may be confused with traffic control signs or devices. Contractor shall update the notices if the listed information changes.
 7. Contractor shall delineate the site for both ground disturbing activities and areas that will be left undisturbed and install sediment controls and other BMPs that shall be placed prior to the initiation of Construction Activity.
- B. During Construction
1. Contractor shall ensure subcontractors understand and comply with the SWPPP and the CGP, and have signed a SWPPP Subcontractor Certification, Form F-105. Contractor shall include SWPPP Subcontractor Certifications as an appendix to the SWPPP. Contractor shall provide SWPPP information to utility companies and coordinate with Subcontractors and utility companies doing work in the Project Zone so that BMPs, including but not limited to, temporary and permanent stabilization, are installed, maintained, and protected from damage.
 2. Contractor shall provide on-going training to employees and Subcontractors, on control measures at the site and applicable storm water pollution prevention procedures. Training shall be documented on the SWPPP Training Log Form F-125, including the dates and attendees to these trainings. Contractor shall include the SWPPP Training Log as an appendix to the SWPPP.
 3. Contractor shall notify the Engineer immediately if the actions of any utility company or Subcontractor do not comply with the SWPPP and the CGP.
 4. Contractor shall not install concrete washout containment within one hundred (100) feet of wetlands and/or other water bodies.
 5. Contractor shall comply with requirements of the HMCP and SPCC Plan, and all local, state and federal regulations that pertain to the handling, storage, containment, cleanup, and disposal of petroleum products or other hazardous materials.
 6. Contractor shall keep the SWPPP current (refer to Article 2.9.C SWPPP Considerations and Contents)

C. Pollutant and Hazardous Materials Reporting Requirements

Contractor shall immediately report incidents of non-compliance with the CGP that may endanger health or the environment to ADEC. Incident report shall conform to the CGP, Appendix A, Part 3.0. Contractor shall immediately notify the Engineer and coordinate reports to ADEC with the Engineer. The report shall include:

- a description of the noncompliance and its causes;
- the exact dates and times of noncompliance;
- if not yet corrected, the anticipated time the project will be brought back into compliance; and
- the corrective action taken or planned to reduce, eliminate and prevent re-occurrence.

Contractor shall report spills of petroleum products or other hazardous materials to the Engineer and other agencies as required by law. Contractor shall use the HMCP and SPCC Plan for contact information to report spills to regulatory agencies.

D. Corrective Action and Maintenance of BMPs

If a corrective action is not implemented within the time requirements of this Section, the Contractor shall document the situation in the SWPPP, notify the Engineer and immediately implement alternative BMPs.

1. Contractor shall implement maintenance of BMP's as required by the CGP, SWPPP, and manufacturer's specifications, whichever is more restrictive.
2. Contractor shall implement corrective action should any of the following occur:
 - a. if an incident of non-compliance with the SWPPP or CGP is identified;
 - b. if an Inspection identifies the SWPPP or any part of the SWPPP is ineffective in preventing erosion, sedimentation or the discharge of pollutants;
 - c. if the Engineer determines the SWPPP or any part of the SWPPP is ineffective in preventing the erosion, sedimentation, or the discharge of pollutants;
 - d. if any BMP is damaged, undercut, or unable to effectively perform the intended function;
 - e. before sediment or debris fills any BMP (including sediment traps, ponds and silt fences) to 50% of its design storage capacity (or manufacturer's specifications or SWPPP requirements, whichever is lower); or
 - f. whenever there is a change in conditions, design, construction, operation, or maintenance that could result in erosion, sedimentation, or the discharge of pollutants.
3. Contractor shall implement corrective actions so that the following time requirements are satisfied:
 - a. corrective action is completed as soon as possible;
 - b. corrective action is completed before the next storm event;
 - c. corrective action is completed in time to protect water quality; and
 - d. corrective action is completed no later than the Complete-by-Date that was entered in an Inspection Report (see Article 2.16 for more information).

E. Stabilization

Contractor shall stabilize disturbed areas using temporary or permanent BMP's. Contractor shall initiate stabilization of disturbed soils, erodible stockpiles, disposal sites, and of erodible

aggregate layers so that all of the following conditions are satisfied:

- as soon as practicable;
- as soon as necessary to avoid erosion, sedimentation, or the discharge of pollutants;
- as identified in the SWPPP; and
- disturbed land or land surface shall be stabilized within fourteen (14) days after the temporary or permanent cessation of land-disturbing activities on a portion of the site in accordance with the SWPPP.

Contractor shall coordinate work to minimize the amount of disturbed soil at any one time. Contractor shall not disturb more soil than the Contractor can stabilize with the resources available. Land which is disturbed multiple times during a project will require as necessary multiple stabilization efforts.

Contractor shall temporarily stabilize from wind and water erosion those portions of disturbed soils, portions of stockpiles, and portions of disposal sites that are not in active construction. Temporary stabilization measures may require a combination of measures including, but not limited to, vegetative cover, mulch, stabilizing emulsions, blankets, mats, soil binders, non-erodible cover, dust palliatives, or other approved methods.

Before applying temporary or permanent seeding, Contractor shall prepare the surface to be seeded to reduce erosion potential and to facilitate germination and growth of vegetative cover. Contractor shall apply seed, maintain seeded areas, and reseed areas where growth of temporary vegetative cover is inadequate to stabilize disturbed ground.

Contractor shall apply permanent seed, within the time periods required, at locations where seeding is indicated on the Drawings and after land-disturbing activity is permanently ceased.

When installing a culvert or other drainage structure where a stream bypass is not used, Contractor shall install temporary or permanent stabilization concurrently or immediately after placing the culvert or drainage structure in a manner that complies with the SWPPP, applicable project permits and prevents discharge of pollutants. Contractor shall install temporary and permanent stabilization:

- at the culvert or drainage structure inlet and outlet and
- in the areas upstream and downstream that may be disturbed by the process of installing the culvert, culvert end walls, culvert end sections, or drainage structure.

F. Ending CGP Coverage and BMP Maintenance

The Engineer will determine the date that all the following conditions for ending CGP coverage have been met within the Project Zone based on, but not limited to, the following:

- land disturbing activities have ceased;
- Final Stabilization has been achieved (including at material sources, disposal sites, staging areas, equipment areas, etc.)
- temporary BMPs have been removed.

After the Engineer has determined the conditions for ending CGP coverage have been met, the City will:

- provide written notice to the Contractor with the date that the conditions were met;
- submit an eNOT to ADEC; and
- provide a copy of the eNOT and ADEC's acknowledgement letter to the Contractor

Contractor shall end permit coverage within the Project Zone by submitting an eNOT to ADEC within 30 days of meeting the conditions for ending CGP coverage. The Contractor is responsible for BMP maintenance and SWPPP updates until permit coverage is ended.

If the Contractor's coverage includes areas where the City is not an Operator, the Contractor may not be able to file an eNOT at the same time as the City. In this case, the Contractor shall amend the SWPPP to remove the City from CGP coverage and state that the City is no longer an Operator within the Project Zone.

Contractor shall indicate in the SWPPP the areas that have reached Final Stabilization, and the dates land disturbing activities ended and Final Stabilization was achieved. The Contractor shall submit an eNOT to ADEC, and insert copies of the City's and the Contractor's eNOTs with ADEC's acknowledgement letters in the appendix of the SWPPP.

Contractor shall submit a copy of each signed eNOT and ADEC's acknowledgement letter to the City within 30 days of receiving them.

G. Transmit final SWPPP

Contractor shall transmit one (1) copy of the final SWPPP, including all amendments and appendices, to the Engineer when the project eNOTs are filed, or within thirty (30) days of the City's eNOT being filed, whichever is sooner. Transmittal shall be by both electronic and hard copy.

Article 2.15 SWPPP Documents (Location on-site and Record Retention)

Contractor shall maintain the SWPPP and related documents as the Record that demonstrates compliance with the CGP. Copies of SWPPP documents transmitted to the Engineer under the requirements of this specification are informational and do not relieve the Contractor of his responsibility to maintain complete records as required by the CGP and this Section.

Contractor shall maintain the SWPPP, HMCP and SPCC Plan at the on-site project office. If there is not an on-site project office, the Contractor shall maintain the documents at an onsite project location that meets CGP requirements and this specification. Records may be moved to another office for record retention during winter shutdown or after the eNOTs are filed. Contractor shall update on-site postings if records are relocated during winter shutdown. Contractor shall update and maintain all postings current and shall provide the City with copies of all Records.

Contractor shall retain Records and a copy of the SWPPP for at least three years after the date of eNOT. If EPA or ADEC inspects the project, issues a Notice of Violation (NOV), or begins investigation for a potential NOV before the retention period expires, Contractor shall retain the SWPPP and all Records related to the SWPPP and CGP until at least three years after EPA and/or ADEC has determined all issues related to the investigation are settled.

The SWPPP and related documents shall be made available for review and copies provided to other regulatory agencies that request them. The project site documents, including related off-site areas or support activities, shall be made available for inspection, or sampling and monitoring, by the City and other regulatory agencies.

Article 2.16 SWPPP Inspections, Amendments, Reports, and Logs

Contractor shall perform inspections, prepare inspection reports, and prepare SWPPP Amendments in compliance with the SWPPP and the CGP. Contractor shall update the SWPPP Corrective Action Log, SWPPP Amendment Log, SWPPP Grading and Stabilization Activities Log, and SWPPP Daily Record of Rainfall forms. For active projects the Contractor shall update the Records daily.

A. Inspection during Construction

Contractor shall conduct periodic inspections according to the schedule and requirements of the SWPPP and CGP.

Inspections required by the CGP and SWPPP shall be performed jointly by the Contractor's SWPPP Manager and the City's inspector.

B. Inspection Reports

Contractor shall use SWPPP Construction Site Inspection Report Form F-100 to record Inspections. Changes or revisions to Form F-100 are not permitted; except for adding or deleting data fields that list the location of discharge points and site specific BMPs. Contractor shall complete all fields included on the Inspection Report form; do not leave any field blank.

Unless otherwise directed by the Engineer, Contractor shall insert a Complete-by- Date for each listed corrective action. Complete-by-date is a date that either complies with the time requirements listed in Article 2.16.D or six calendar days after the date of the inspection, whichever is sooner. Contractor shall provide a copy of the completed Inspection Report to the Engineer by noon of the day after inspection.

The Superintendent shall review, correct errors, and sign and certify the Inspection Report, within three days of the date of Inspection. The Engineer may coordinate with the Superintendent to review and correct errors or omissions before the Superintendent signs the report. Corrections are limited to adding missing information or correcting entries to match field notes and conditions present at the time the Inspection was performed. Contractor shall deliver the signed and certified Inspection Report to the Engineer on the same day the Superintendent signs it.

The Engineer may make corrections after the Superintendent has signed and certified the Inspection Report. The Engineer will initial and date each correction. If the Engineer makes corrections, the Superintendent shall re-certify the Inspection Report by entering a new signature and date in the white space below the original signature and date lines. Contractor shall deliver a copy of the recertified Inspection Report to the Engineer on the day it is recertified.

If subsequent corrections to the certified Inspection Report are required, Contractor shall document the corrections in an addendum that addresses only the omitted or erroneous portions of the original Inspection Report. The Superintendent shall sign and certify the addendum.

C. Inspection before Seasonal Suspension of Work

Contractor and the City shall conduct an inspection not more than fourteen (14) days before seasonal suspension of work to confirm BMPs are installed and functioning according to the requirements of the SWPPP and CGP.

D. Reduced Inspection Frequencies

Contractor shall conduct inspections according to the inspection schedule in the approved SWPPP. Changes in inspection frequency, including beginning and ending dates shall be approved by the Engineer, and documented as an amendment to the SWPPP.

Inspection frequency during winter work or seasonal suspension of work may be reduced to at least one Inspection every thirty (30) days, if approved by the Engineer, and one of the following requirements is met:

- the entire site is temporarily stabilized;
- runoff is unlikely due to winter conditions (e.g. the site is covered with snow, ice or the ground is frozen, and water flow or seepage is not likely to occur); or

- soil disturbing activities are suspended.

The Engineer may waive winter monthly Inspection requirements until twenty-one (21) days before thawing conditions are expected to result in a discharge, if the following requirements are met:

- frozen conditions are anticipated to continue for more than one month; and
- land disturbance activities have been suspended.

Inspections shall resume according to the normal inspection schedule identified in the SWPPP, at least twenty-one (21) days before anticipated spring thaw.

The Engineer may waive requirements for updating the Grading and Stabilization Activities Log and Daily Record of Rainfall during seasonal suspension of work. If so, Contractor shall resume collecting and recording weather data on the Daily Record of Rainfall form one month before thawing conditions are expected to result in runoff. The Contractor shall resume recording land disturbance and stabilization activities on the Grading and Stabilization Activities Log when Construction Activity resumes.

E. Stabilization before Spring Thaw

Construction Activities within the Project Zone shall be stabilized in accordance with the CGP by the Contractor with appropriate BMPs prior to spring thaw.

F. Inspection before Project Completion

Contractor shall conduct an inspection to ensure Final Stabilization is complete throughout the Project, and temporary BMPs that are required to be removed are removed. Temporary BMPs that are biodegradable and are specifically designed and installed with the intent of remaining in place until they degrade, may remain in place after project completion.

G. Items and Areas to Inspect

Contractor shall conduct inspections of the areas required by the CGP and SWPPP.

H. SWPPP Amendments and SWPPP Amendment Log

The Superintendent and the SWPPP Manager are the only persons authorized to amend the SWPPP and update the SWPPP Amendment Log, Form F-114. The Superintendent or the SWPPP Manager shall sign and date amendments to the SWPPP and updates to the SWPPP Amendment Log.

SWPPP Amendments shall be approved by the Engineer.

Amendments shall be prepared whenever:

- there is a change in design or construction operation;
- maintenance occurs at the construction site that has or could cause erosion or sedimentation;
- there is a discharge of pollutants that has not been previously addressed in the SWPPP;
- an Inspection identifies that any portion of the SWPPP is ineffective in preventing erosion, sedimentation, or the discharge of pollutants;
- an Inspection identifies a problem that requires additional or modified BMPs;
- a BMP is modified during construction or a BMP not shown in the original SWPPP is added;
- the Inspection frequency is modified (note beginning and ending dates); or
- a change occurs in personnel who are identified in the SWPPP, according to

Article 2.9.D.

Contractor shall record removal of BMPs as amendments to the SWPPP. See Article 2.9.C for documenting removal of BMPs.

Contractor shall amend the SWPPP narrative as soon as practicable after a change or modification, but in no case, later than seven (7) days following identification of the need for an amendment. The SWPPP Amendment shall be signed, dated, and cross-reference the amendment number with the Corrective Action Log or SWPPP page number, as applicable. When a BMP is modified or added, describe the BMP according to Article 2.9.C

The Contractor shall maintain the SWPPP Amendment Log. Prior to performing each scheduled Inspection, the Contractor shall submit to the Engineer a copy of the pages of the Amendment Log that contain new entries since the last submittal, including copies of any documents amending the SWPPP.

The Contractor shall append the SWPPP Amendment Log to the SWPPP.

I. Site Maps

Contractor shall document installation, routine maintenance and removal of BMPs by annotating the SWPPP Site Maps, including the date and the recording person's initials by these notes. Contractor shall identify areas where Construction Activities begin, areas where Construction Activities temporarily or permanently cease, and areas that are temporarily or permanently stabilized.

J. Corrective Action Log

The Superintendent and SWPPP Manager are the only persons authorized to make entries on the SWPPP Corrective Action Log, Form F-112. Contractor shall document the need for corrective action within twenty-four (24) hours of either:

- identification during an inspection; or
- discovery by the City's or Contractor's staff, a subcontractor, or a regulatory agency inspector.

Modification or replacement of a BMP, installation of a new BMP not shown in the original SWPPP, or overdue maintenance (for example after a sediment trap exceeds fifty percent (50%) of capacity) is a corrective action and shall be documented on the Corrective Action Log. Do not record removal of BMPs on the Corrective Action Log.

After each Inspection Report has been signed and certified, Contractor shall update the Corrective Action Log with the date of inspection and all proposed corrective actions noted on the Inspection Report.

After the corrective action has been accomplished, the Contractor shall note the action taken if a SWPPP amendment was needed and date and initial the entry.

Contractor shall maintain the Corrective Action Log current and submit a copy to the Engineer prior to performing each scheduled SWPPP Inspection.

Contractor shall append the Corrective Action Log as an appendix to the SWPPP.

K. Grading and Stabilization Activities Log

The Superintendent and SWPPP Manager are the only persons authorized to date and initial entries on the SWPPP Grading and Stabilization Activities Log, Form F-110. Contractor shall use the SWPPP Grading and Stabilization Activities Log to record land disturbance and stabilization activities.

Contractor shall keep the Grading and Stabilization Activities Log current and submit a copy to

the Engineer prior to performing each scheduled SWPPP Inspection.

Contractor shall append the Grading and Stabilization Activities Log as an appendix to the SWPPP.

L. Daily Record of Rainfall

Contractor shall use SWPPP Daily Record of Rainfall, Form F-115 to record weather conditions at the Project and update the form daily, including the initials of the person recording each day's entry. Contractor shall submit a copy to the Engineer prior to performing each scheduled Inspection. Contractor shall append the Daily Record of Rainfall to the SWPPP.

Article 2.17 Failure to Perform Work

The Engineer will suspend Work and withhold monies for incidents of non-compliance with either the CGP or SWPPP. If the suspension is to protect workers, the public, or the environment from imminent harm, the Engineer may orally order the suspension of Work. Following an oral order of suspension, the Engineer will promptly give written notice of suspension. In other circumstances, the Engineer will give the Contractor written notice of suspension before suspension of Work. A notice of suspension will state the defects or reasons for a suspension, the corrective actions required to stop suspension, and the time allowed to complete corrective actions. If the Contractor fails to take the corrective action within the specified time, the Engineer may:

1. suspend the work until corrective action is completed;
2. withhold monies due the Contractor until corrective action is completed;
3. assess damages or equitable adjustments against the Contract amount; and
4. employ others to perform the corrective action and deduct the cost from the Contract amount.

Reasons for the Engineer to take action under this section include, but are not limited to, the Contractor's failure to:

- obtain appropriate permits before Construction Activities occur;
- perform SWPPP Administration;
- perform timely Inspections;
- update the SWPPP;
- transmit updated SWPPP, Inspection Reports, and other updated SWPPP forms to the Engineer;
- maintain effective BMPs to control erosion, sedimentation, and pollution in accordance with the SWPPP, the CGP, and applicable local, state, and federal requirements;
- perform duties according to the requirements of this Section; or
- meet requirements of the CGP, SWPPP, or other permits, laws, and regulations related to erosion, sediment, or pollution control.

No additional Contract time or additional compensation is allowed due to delays caused by the Engineer's suspension of Work under this Article.

Article 2.18 Measurement

The Work in this Section is measured by lump sum and will consist of all labor, materials, and equipment required to prepare and implement a SWPPP, including all required SWPPP amendments, revisions, inspections, and all other measures necessary to complete the Work.

Article 2.19 Basis of Payment

Payment for this Work shall be in accordance with The General Conditions and shall include full payment for all Work described in this Section.

Payment will be made under the following item:

<u>ITEM No.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
2	Storm Water Pollution Prevention Plan (Type 3)	Lump Sum

SECTION 02200.04 DEWATERING**Article 4.1 General**

The Work under this Section consists of performing all work and operations pertaining to the dewatering of Work areas, including diversion of surface and subsurface water flows, to provide a dry and stable environment throughout the project for excavation, backfill, and trench Work.

Article 4.2 Materials

Contractor is responsible for preparing and implementing a Dewatering Plan if necessary during construction. The Contractor shall provide all equipment, materials, and personnel necessary to prepare and implement the Dewatering Plan; and to provide a dry and stable construction environment throughout the project.

Article 4.3 Construction

Design, installation, and operation of dewatering systems shall comply with current safety and environmental regulations.

When dewatering approval is required by ADEC, the Contractor shall submit a copy of the approved dewatering plan to the Engineer.

The Contractor shall exercise reasonable precaution, use sound engineering judgment, use prudent construction practices, prevent overloading or misuse of existing or new structures, assure the adequacy and safety of such Works, and be responsible for potential damage or undermining of existing or completed Work.

Water resulting from Contractor's dewatering effort may not be pumped or otherwise diverted into existing storm drains unless required permits, including, but not limited to, the Alaska Department of Environmental Conservation and Environmental Protection Agency, are obtained by Contractor. Under no circumstances will Contractor be allowed to divert water from the excavation directly onto roadways or into the adjacent water body. Contractor shall provide disposal site for excess water and shall be responsible for securing all necessary permits and approvals. Contractor shall provide copies of permits and approvals to the Engineer.

The Contractor shall prevent debris and sediments from entering the bay, creeks, lakes, ponds, wetlands areas and drainage systems.

Article 4.4 Measurement

No measurement of quantities will be made.

Article 4.5 Basis of Payment

No separate payment will be made. Dewatering, if necessary, will be considered incidental to other Work.

SECTION 02200.05 TRENCH EXCAVATION AND BACKFILL**Article 5.1 General**

The Work under this Section consists of providing all materials and performance of all operations pertaining to items of Work involved in excavation, bedding, backfill, and compaction of trenches. When unsuitable or surplus excavation material is removed from the job site, it will be considered incidental to other Work. When material is imported, it will be paid for under the appropriate item.

Any shoring, sheeting, or bracing required shall be considered incidental to Work under this Section.

Article 5.2 Trench Excavation and Backfill - Description

This Work shall consist of all excavation and backfill of trenches as specified for pipe installation and all other miscellaneous items as specified in this Section.

The Contractor shall minimize the width of the trench. Trench limits shall be shown on the Drawings. Any reference to "limits" within this Section shall be in regards to Trench limits. Trench width at or below the top of the pipe shall be of a width that will allow compaction equipment to be utilized at the sides of the pipe. Trenches shall be of the necessary width for proper laying of pipe, conduit, or cable and the banks shall be sloped so as to conform to the prevailing safety requirements.

Trench depth shall be excavated not less than six inches (6") below the barrel of the pipe unless otherwise directed by the Engineer. Where maximum trench width is limited, the Contractor shall provide trench shoring or supports systems as necessary to ensure that the trench width does not exceed the established limits. The Contractor shall erect and maintain continuous trench barricades to prevent access around all excavations left open at the end of the workday. The Contractor shall provide and maintain adequate barricades to insure public safety at all times during the prosecution of the Work.

If at any time the Engineer determines that the construction trench section is greater than the dimensions shown on the Drawings or described herein, the Contractor may be required to implement appropriate construction techniques to reduce the trench section or absorb all costs associated with the greater trench section, including, but not limited to: disposal of surplus material and furnishing bedding material. The limits as shown on the Drawings and described herein are to limit pay quantities and incidental costs only and are not intended to limit or in any way alter the requirements of Occupational Safety and Health Administration (OSHA) or State of Alaska safety regulations. The Contractor is required to conduct all trenching operations in accordance with current safety standards.

The Contractor shall be responsible for any and all costs resulting from over excavation, including the need for additional backfill beyond the maximum pay limits as shown on the Drawings or described herein. In addition, the Contractor shall be responsible for all costs and time required for the repair or replacement of streets, alleys, driveways, buildings, sidewalks, curb and gutter, drainage patterns, gravel pads, fences, lawns, property corner markers, survey monumentation, street name signs, traffic control signs, light poles, trees, utilities, shrubbery, retaining walls, utility markers, rockeries, landscaping, guardrails, or other public or private improvements damaged by the Contractor. The cost of repairing damage or replacing such facilities shall be included as part of the unit price for the pay item under construction or shall otherwise be considered incidental to the Contract.

Resurfacing of trench excavation and backfill shall conform to the detail included in the drawings.

Article 5.3 Construction**A. Trench Excavation**

The Contractor shall perform all excavation of every description and whatever substance encountered including bedrock. Excavation will be to the extent indicated on the Drawings and

as staked in the field. All excavated materials for backfill shall be placed in an orderly manner and placed at a distance from the trench section which conforms to all state and/or federal safety codes.

All excavated organic or other unsuitable backfill materials shall be placed in a similar manner, but shall be kept separate from all excavated sandy or gravelly material.

Time is of the essence; therefore, the Contractor shall not begin excavation of the trench until all materials, equipment, and personnel are present to complete the Work in the most expedient manner. Not more than four hundred feet (400') of trench shall be open in advance of pipe or conduit installation unless authorized in writing by the Engineer. Unless otherwise indicated in the Drawings and Specifications, all excavation will be open cut.

Where rock is encountered, it shall be removed as necessary for installation of pipe bedding material as detailed or as directed by the Engineer, and shall be replaced with approved material.

All unusable or surplus material excavated from within the trench section, as shown on the Drawings, shall be removed from the project site. Work performed to remove the unusable or surplus material shall be performed in accordance with Section 02200.08 — Unclassified Fill and Backfill. Unusable or surplus material shall be disposed of at the Contractor's expense.

B. Trench Dewatering

Contractor shall protect adjacent utilities and property by trench dewatering and to successfully install the new utility lines. Dewatering shall be performed in accordance with Section 02200.04 - Dewatering.

C. Bedding

All pipe shall be placed in bedding material as specified or as shown on the Drawings. Bedding materials for the type specified shall conform to the requirements of Section 02200.06 - Bedding Material.

Bedding material shall be placed so that it does not free fall for a distance greater than two feet (2') above the top of the pipe. If the distance is greater than two feet (2'), the Engineer may require the Contractor to expose the exterior surface of the pipe being bedded. The Contractor shall provide the Engineer an opportunity to inspect the uncovered Work for damage. Upon completion of the inspection, the Contractor shall repair or replace damaged Work to the satisfaction of the Engineer. All costs associated with inspection, repair, replacement, and installation of the Work due to the bedding material free falling greater than two feet (2') shall be incidental to the Contract.

Class B bedding material shall be placed under and around the pipe in lifts not to exceed twelve inches (12") and compacted to ninety-five percent (95%) of maximum density. In no case shall bedding material be placed above the spring line of the pipe in a single lift.

The trench shall be accurately graded to provide uniform bearing and support for each section of the pipe for its entire length, except for the portion of the pipe sections where it is necessary to excavate for the bell holes and other type joints and for the proper sealing of the joints. Bell holes and depressions for joints shall be dug after the trench bottom has been graded and, in order that the pipe will rest on the prepared bottom for as nearly its full length as practical, bell holes and depressions shall be only of such length, depth, and width as required for properly making the particular type of joint. The trench shall be over-excavated so a minimum of six inch (6") depth of bedding material is required to bring the trench bottom up to the specified grade. This bedding material shall be compacted to a minimum of ninety-five percent (95%) of maximum density prior to the installation of the pipe.

D. Trench Backfill

Trench backfill is defined as the placement of material above the level of bedding material. Material for backfill shall be obtained from trench excavation. Rocks in excess of 12" diameter and unsuitable materials shall be removed from the excavated material prior to backfilling. Backfill shall be placed in maximum 12-inch lifts and compacted in such a manner that ninety-five percent (95%) of maximum density is obtained. No separate payment will be made for compaction to ninety-five percent (95%) of maximum density. Mechanical compaction shall be accomplished in accordance with Section 02200.01, Article 1.5 - Compaction Standards. Backfill shall not contain broken bituminous pavement or Portland Cement Concrete.

E. Locator Tape

Contractor shall provide and install a detectable locator tape properly coded and labeled identifying the utility or utilities installed in the trench. The locator tape shall not be less than five (5) mil, foil backed, and six inch (6") wide vinyl tape. The Contractor shall install the locator tape above and parallel to the axis of the utility with no breaks in continuity. The Contractor shall install the locator tape as detailed. Installation of the locator tape is considered incidental to Trench Excavation and no separate payment shall be made.

F. Cleanup

This item consists of cleanup and finishing of all construction areas to their original condition or better. All Work areas shall be restored to a minimum of their original condition at the completion of Work.

G. Insulation

Refer to Section 02200.10 - Insulation and drawing details for insulation installation requirements.

Article 5.4 Measurement

No measurement of quantities will be made. Trench excavation and backfill with mechanical compaction will be included with furnishing and installing pipe on a linear foot basis or with services and hydrants on a lump sum basis.

Article 5.5 Basis of Payment

No separate payment will be made for excavation and backfill. Trench excavation and backfill is considered incidental to Furnishing and Installing Pipe, Hydrants or Services.

SECTION 02200.06 FURNISH BEDDING MATERIAL

Article 6.1 General

The Work under this Section consists of performance of all operations pertaining to providing bedding material for underground utilities.

Article 6.2 Materials

The aggregate material shall conform to the requirements specified below:

A. Class "B" Bedding

Materials furnished by the Contractor for use as "B" bedding classified fill and/or backfill shall be graded within the limitations delineated below:

U.S. Std. Sieve	<u>Class "B" Bedding</u> Cumulative % Passing by Weight
1"	100
3/8"	60-100
#4	40-85
#10	25-70
#40	5-40
#200	0-6

In addition to the grading limits listed above, the fraction of material passing the #200 sieve shall not be greater than thirty-five percent (35%) of that fraction passing the #40 sieve. The bedding materi

Article 6.3 Construction

Placement of bedding shall conform to the requirements of Section 02200.05, Article 5.3 - Construction.

Article 6.4 Measurement

Measurement of bedding shall be per ton of bedding material placed in the trench.

Article 6.5 Basis of Payment

Payment for this Work shall be in accordance with The General Conditions and shall include full payment for all Work described in this Section.

Payment shall be made under the following units:

ITEM	DESCRIPTION	UNIT
4	Furnish and Install Bedding Material (Class B)	Ton

SECTION 02200.07 DRAIN ROCK**Article 7.1 General**

The Work under this Section consists of performing all operations pertaining to furnishing and placing a layer of drain rock as shown on the plans or as directed by the Engineer.

Article 7.2 Materials

Materials furnished by the Contractor for drain rock shall be graded within the limitations delineated below or as approved by the Engineer:

<u>Drain Rock</u>	
U.S. Std. Sieve	Cumulative % Passing by Weight
3"	100
2"	50-80
1"	25-50
#200	0-1

Article 7.3 Construction

The drain rock shall be handled, dumped, or spread into place so as to secure a stone mass of the dimensions shown on the Drawings.

Article 7.4 Measurement

No measurement of quantities will be made.

Article 7.5 Basis of Payment

No separate payment will be made. Drain rock will be included with the associated pay item.

SECTION 02200.8 UNCLASSIFIED FILL AND BACKFILL**Article 8.1 General**

The Work under this Section consists of furnishing all plant, labor, equipment, supplies, and material in performance of all operations pertaining to the excavation, stockpiling on site, placement of Unclassified Fill and Backfill, and disposal of excess or unsuitable material.

Article 8.2 Material

Unclassified Fill and Backfill shall be defined as excavated non-organic material that is determined by the Engineer to be suitable for Backfill. The Contractor shall make effort to sort unsuitable material including oversized rocks and organic materials from the excavated soils for disposal off site.

Article 8.3 Construction

Excavated material shall have all rocks in excess of 12-inch diameter removed and then be used for trench backfill. Excess Unclassified Fill and Backfill not used shall be disposed of at a Contractor-furnished disposal site or at an Owner provided disposal site.

The Owner makes available the pad area located adjacent to Pyramid Creek Road immediately above the Pyramid Water Treatment Plant. If the Contractor opts to use this site, SWPPP practices shall be applied prior to placement of any fill. The Contractor can relocate any currently stockpiled materials as necessary. The Contractor is responsible to grade, dress and compact materials to leave the site in a finished condition suitable as a laydown or storage area.

Article 8.4 Measurement

No measurement of quantities will be made. Unclassified fill and backfill will be included with furnishing and installing pipe on a linear foot basis or with services and hydrants on a lump sum basis.

Article 8.5 Basis of Payment

No separate payment will be made. Backfilling the trench and disposal of unsuitable materials are considered incidental to other Work.

SECTION 02200.9 SURFACING MATERIAL**Article 9.1 General**

The Work under this Section consists of performing all operations necessary to complete construction of the surfacing material on the prepared subbase.

Article 9.2 Material

The surfacing material shall consist of crushed gravel, rock, sand, or other approved material. The aggregate shall be free from lumps, balls of clay, or other objectionable matter, and shall be durable and sound. The portion of the material retained on a No. 4 sieve shall be known as coarse aggregate. Both coarse and fine aggregates shall conform to the quality requirements of AASHTO M-147.

A. Coarse Aggregate

The coarse aggregate material conforming to the requirements specified above shall have a percentage of wear not to exceed forty-five (45) after five hundred (500) revolutions, as determined by the current requirements of AASHTO T 96. The Degradation Value shall be a minimum of 45 per ATM 313. It shall consist of angular fragments reasonably uniform in density and quality, and reasonably free from thin and elongated pieces, dirt, and other objectionable material. At least fifty percent (50%) of the coarse aggregate particles shall have two or more mechanically fractured faces.

B. Fine Aggregate

The fine aggregate shall consist of material free of organic or other objectionable matter. The fine aggregate, either naturally combined with the coarse aggregate or separately obtained and mixed therewith, shall be of such character that the composite material will conform to the gradation and other requirements specified.

C. Gradation

The composite mixture of coarse aggregate and fine aggregate, processed as hereinafter specified, shall conform to the following gradation limits meeting the requirements of ADOT E-1 per ADOT Standard Specification Table 703-2:

<u>Surfacing Material</u>	
U.S. Std. Sieve	Cumulative % Passing by Weight
1"	100
3/4"	70-100
3/8"	50-85
#4	35-65
#8	20-50
#50	15-30
#200	8-15

Article 9.3 Construction

The surfacing course shall be placed to the lines, grades, and thicknesses shown on the Drawings and shall consist of the materials hereinbefore specified.

A. Preparation of Subbase

Subbase preparation shall consist of dressing, shaping, wetting, and compacting of the subbase prior to placement of the Surfacing Course. Surfaces shall be cleaned of all foreign substances and debris. Any ruts or soft yielding spots that may appear in the subbase surface shall be

corrected by loosening, removing and adding approved material, reshaping, and recompacting the affected areas to the line, grade, and to the specified density requirements. Loose rocks in excess of 1" diameter shall be removed prior to placement of surfacing course.

B. Placing

The approved Surfacing Course material shall be deposited and spread in a uniform layer to the required contour and grades and to such loose depth that when compacted to the density required will achieve the specified thickness. The material shall be spread uniformly on the prepared subbase from moving vehicles or spreading boxes, then leveled to match the adjacent road surfaces and graded. Portions of the layer which become segregated in spreading shall be remixed to the required gradation.

C. Compacting

The Surfacing Material shall be compacted to a minimum of ninety-five percent (95%) of maximum density. Blading, rolling and tamping shall continue until the surface is smooth and free from waves and inequalities.

Article 9.4 Measurement

The Surfacing Material shall be measured in tons of materials delivered and placed in accordance with these Specifications .

Article 9.5 Basis of Payment

Payment for this Work shall be in accordance with The General Conditions and shall include full payment for all Work described in this Section.

Payment shall be made under the following unit:

ITEM	DESCRIPTION	UNIT
5	Furnish and Install Surfacing Material	Ton

SECTION 02200.10 INSULATION**Article 10.1 General**

The Work under this Section consists of performing all operations including labor and material pertaining to the placement of insulation. Contractor shall provide polystyrene insulation board(s), extruded or expanded, in conformance with the Drawings and these Specifications

The Work under this Section also includes shaping and compacting a level area under the horizontal insulation boards and placing the insulation as indicated on the Drawings.

Article 10.2 Materials

The insulation board shall have a minimum full board size of four foot by eight foot (4' x 8'), have the minimum thickness specified in the Contract Documents, meet the specified R-Value or better, and conform to the requirements of AASHTO M230. R-Value of insulation shall be based on manufacturer's warranted R-Value. The insulation board shall be rigid, homogeneous, and conform to the following:

Property	Test Method	Value
Compressive Strength psi, minimum at yield or 5 percent strain	ASTM D-1621	60.0
Water Absorption, maximum percent by volume	ASTM C-272	0.3%
Thermal Resistance, Minimum R-Value at 75°F, °F-Ft ² -Hr/BTU	ASTM C-177	R-5/inch

Article 10.3 Construction

Contractor shall install the insulation board with staggered joints when layered. Layering of insulation to obtain the specified thickness is allowed as long as joints are overlapped at least one foot (1'). Contractor shall blade, shape, and compact the area prior to placing the insulation board in accordance with this Division. Contractor shall shape the subgrade to the lines and grades shown on the Drawings and provide a smooth surface on which to place the insulation board. Prior to placing the insulation board on the prepared subgrade, the Contractor shall furnish straightedges to the Inspector for checking surface uniformity. Surface irregularities shall not exceed one inch (1") within eight feet (8'), or three-eighths inch (3/8") in two feet (2'). Contractor shall uniformly compact the subgrade. Contractor shall hand-rake smooth and recompact the ridges left by the compaction equipment. Contractor shall accurately set the horizontal insulation boards to the line and grade established and in such a manner as to hold the board firmly in place by mechanically connecting it to the subgrade.

Contractor shall replace or repair insulation panels broken, crushed, or cracked, as determined by the Engineer, at no additional cost to the Owner.

Contractor shall cover the insulation board with approved bedding material, placed in a six-inch (6") lift, spread, and compacted for the full width of the insulation layer prior to placing subsequent lifts.

Contractor shall place, spread, and compact in such a manner as not to damage the insulation board. Engineer will approve spreading and compacting equipment prior to its use.

Article 10.4 Measurement

The insulation board is measured per linear foot, 2" thickness, 4' wide, complete and accepted in place.

Additional Work required for preparing the subgrade to the smoothness required is incidental to the bid item(s) in this Section and no separate payment is made.

Article 10.5 Basis of Payment

Payment for this Work shall be in accordance with The General Conditions and shall include full payment for all Work described in this Section.

Payment will be made under the following unit:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
20	Furnish and Install Board Insulation	linear foot

**SECTION 02200.11 SHORING, SHEETING AND BRACING/SHORING AND SHEETING
LEFT IN THE TRENCH AND PORTABLE****Article 11.1 General**

The Work under this Section consists of all operations pertaining to furnishing and installing sheeting, shoring, and bracing to support the trench section to prevent any movement that might damage adjacent facilities or injure workmen or the public, and the use of portable steel shielding.

Article 11.2 Materials

The Contractor shall obtain approval from the Engineer for all sheeting, bracing and shoring materials and/or equipment to be used on the project. Materials used shall be in accordance with Section 1926.651, Subparagraph 1 of the Federal Register, Volume 37, No. 243, OSHA Regulations.

Article 11.3 Construction

All construction requirements for design, installation, and use of sheeting, shoring, bracing, and shielding shall be in accordance with current safety regulations. All sheeting, shoring, bracing, and shielding shall be designed by a Professional Engineer commissioned by the Contractor. All shop drawings and design data shall be submitted to the Engineer for approval.

When shoring and sheeting is left in the trench, sheeting must be lower than the bottom of the pipe and cut off one foot (1') below ground surface. No transverse bracing will be permitted to remain.

Any Contractor provided portable trench shielding shall comply with relevant OSHA regulations. The Contractor shall provide the Engineer certification of such compliance from the portable shield manufacturer or supplier.

Article 11.4 Measurement

No measurement will be made for Work in this Section.

Article 11.5 Basis of Payment

No separate payment shall be made for shoring, sheeting, bracing, or portable shields. Any single technique or combination of techniques used for shoring, sheeting, and bracing shall be considered incidental to the Contract.

SECTION 02550.01 GENERAL**Article 1.1 Scope of Work**

The Contractor shall furnish all labor and materials necessary to perform all surveying and staking essential for the completion of construction in conformance with the Drawings, Specifications, and Contract Documents. The Contractor shall perform all the necessary Work and calculations required to accomplish the Work in accordance with this Division.

Requirements for Earthwork, Water Systems, and other associated work items are found in other Divisions and are complimentary to this Division. See Specification 02668 Water Systems for additional survey requirements.

This Section establishes a minimum standard of field survey specifications and procedures to properly control the construction project. The Contractor shall insure that commonly accepted practice of survey methods and procedures are followed. Errors or damages resulting from the Contractor's survey shall be corrected or made whole at the expense of the Contractor. The Owner shall not be held liable for any additional expense. Any method conflicting with these survey specifications must be approved by the Engineer prior to its use.

An Alaskan Registered Professional Surveyor, subcontracted to the Contractor shall perform initial surveying and staking.

The Contractor shall notify the Engineer twenty-four (24) hours in advance prior to beginning Work. All requests for information or determinations concerning the project shall be directed to the Engineer.

Deflection of PVC pipe joints is limited. The pipes are to be located horizontally straight between bends. Available deflections will be used for vertical adjustments. Bend locations shall be staked along the proposed pipe alignments. The ROW and/or ROW centerline location shall be staked in the Phase 1 area.

SECTION 02550.02 SURVEY**Article 2.1 Project Control**

See plan sheet G5 for additional survey control information.

The Phase I area was surveyed by HDL Engineering Consultants, Inc. (HDL) as part of a proposed paving project. Phase 1 of the watermain is stationed on the drawings using the centerline of the existing Rights-of-Way (ROW) or an offset of the east ROW line. Improvements are identified by station and offset distance. It is imperative that all permanent improvements for Phase 1 be contained inside the existing ROW or in an identified easement.

Plat information for parcels along the Phase 1 project alignment is available to the Contractor. The plats and/or drawings contain information necessary to lay out the ROW boundaries. The Contractor shall initially stake the Phase 1 west ROW boundary for continuous identification during construction activities. Locations for bends shall be staked with offsets.

The Contractor shall recover project survey control monuments shown on the Drawings or establish survey control to ensure the project is properly located and constructed according to the Contract Documents. Temporary Bench Marks (TBM's) shall be set as necessary for vertical control.

The Contractor shall notify the Engineer immediately if a discrepancy exists between the field conditions and the Contract Documents. Work unaffected by the discrepancy shall continue uninterrupted.

A. Construction Centerline

1. Phase 1 - Establish ROW West Boundary

The ROW Boundary and project stationing shall conform to that shown on the Drawings. Any errors found in the line shall be corrected and shown on the specific plan view with reference to the centerline stationing. If control points do not exist, they shall be established and referenced so that the line can be readily re-established when required. A minimum of two reference points shall be established to reference each project control point or monument. Each reference point shall be visible to the other reference point. Reference points shall be placed at locations where there is the least possibility of their being disturbed during the construction period. Measurements and sketches of the reference points shall be kept in the horizontal control survey field book. The west ROW boundary shall be staked to assure all Work is contained in the ROW.

2. Check Existing Ground Profile

A centerline profile shall be run prior to establishing construction grade stakes. The existing ground elevations shall be checked against the existing profile elevations shown on the Drawings to verify design grade relative to the existing ground conditions. The Contractor shall review the centerline profile information and immediately notify the Engineer of any elevations that do not match the plan profile information. The Engineer will direct the Contractor how to proceed.

Article 2.2 Field Notes

The Contractor shall furnish hardbound field books for recording survey information. Digital (pdf format) scanned copies of these field books shall be submitted to the Owner with the As-built information. Scanned field books must be clean, readable, and in Adobe Portable Document Format (PDF).

Each book shall be indexed and its contents referred to by page number prior to delivering them to the Owner. All field books containing field note information shall be sealed and signed by an Alaskan Registered Professional Land Surveyor on the title page of each field book. The date, weather conditions, survey crew personnel, and instruments used shall be shown at the beginning of each day's notes. As a general rule, field notes for each phase of the Work shall be placed in a separate series of field books. Field notes shall include the information listed below:

- observations recorded directly in field book.
- complete an index page in the front of the book with specific references to pages where monument

recovery, horizontal and vertical control were established for the project, cut/fill notes, slope staking, laying out the project alignment, as-built of improvements or utilities, and sketches with specific references (dimensions, stationing, point numbers and relationship to ROW).

- original notes shall be in pencil; redline book with corrections, means, level adjustments, etc.
- each page shall be labeled with the appropriate header information including: date, crew, instrumentation, weather, and north arrows as applicable.
- notes shall be complete and reduced.
- sketches and traverse data shall be graphic.
- stationing shall increase from the bottom to the top of the page.
- notes shall be precise and sufficiently detailed.
- monument recovery pages shall include detailed descriptions of condition and location of the monuments with sketches identifying nearby streets and properties.

In addition, requirements for scanned field book copies submitted in PDF format include:

- scans will be in color using a minimum of 300 dpi.
- scan all pages including the cover, index page and blank pages, excluding those beyond the used portion of the book.
- review the scanned file and ensure that the entire page was captured and is clear and legible.
- use the bookmark function in Adobe add a bookmark to match the index page; the index page shall be included in the bookmarks; the user of the digital file should be able to go through the book as if they had the physical copy of the book using the book marks.
- use Adobe optimization settings to compress the file size and check to ensure they result is still clear and legible; The Engineer will reject poor quality scans and require a new version be created before acceptance and payment.

Refer to Section 02550.02, Article 2.6 – Electronic Data Collection, Radial Surveys, and Global Positioning Systems (GPS) procedures for logging field notes with the use of electronic data collectors and automated field systems.

Pegging of notes and erasures of information will not be acceptable. A line shall be drawn through those portions of the notes in error leaving the original note legible. The correction shall be noted above the original entry. Corrections shall be initialed and dated. Where appropriate, a note of explanation shall be included.

Field notes shall conform to surveying standards. Failure on the part of the Contractor to keep and maintain complete and accurate field notes, as required by this Section, shall be sufficient reason to withhold payment for those items of Work where survey is required. No final project payment will be made to the Contractor until the field books have been submitted and approved by the Engineer.

Article 2.3 Water Systems

In addition to staking the west ROW boundary in the Phase 1 area, the Contractor shall stake in the field

the alignment and grade for Work to be done under the Contract. Two (2) offset hubs and lath shall be set for each bend, tee, hydrant, water service, valve, angle point, and grade break in the alignment. The lath shall identify the feature being staked and state the elevation of the hub, the offset distance to the center of the feature, and the station of the feature as shown on the Drawings. The offsets shall be set at a reasonable distance to protect them from disturbance.

The Contractor shall be responsible for, and pay all costs for, the transfer of the control points from the reference hubs to such hubs or batter boards as required for the prosecution of the Work. An original ground line profile directly above the water line shall be run prior to excavation. The ground line profile refers to the elevation of the ground directly above the centerline of pipe and the grade line refers to the elevation of the bottom of pipe, except where otherwise noted. The field notes shall record the profile, the hub elevations, offset of the hubs, and the station of the feature being staked.

Article 2.4 Miscellaneous Construction

The Contractor shall provide sufficient stakes for adequate control of all structures and incidental construction not specifically covered above. A staking diagram with respect to centerline and measurements for pay quantities shall be maintained in the field notes. Other items such as horizontal and vertical control shall be shown in the field book and shall be governed by procedures established in previous articles of this Specification.

Article 2.5 Electronic Data Collection, Radial Surveys and Global Positioning Systems (GPS)

Data gathered by electronic data collection by radial methods shall be submitted in AutoCAD drawing file format to be determined by the Engineer along with the digital submittals outlined below. The Contractor shall be guided by the following specifications:

- A. A standard field book shall be used to record the date of survey, weather conditions, instrumentation, data collector or GPS units used, crew, project description and sketches, listing of horizontal and vertical control points used and established, and other information needed to set up the reconstruction of the survey.

Project improvements may be identified in the field book by computed point number, station and offset, feature number or the corresponding letter reference used in the Drawings or other unique identifier. The references used for project features in the field book should be readily matched to the Drawings, and raw data or ascii coordinate files submitted with the project.

GPS static field notes shall include receiver/unit name, height readings in feet, antenna type, local start and stop time, GDOP and satellite information. GPS RTK field notes shall include base station name, rover height, horizontal and vertical precision to control checks, local time and C.Q. readings to each point.

All survey point numbers assigned to control, computed positions for staking project improvements, excavation etc. will be noted in the field book with the associated raw data file (name). Radial survey field notes will include: code descriptors, horizontal circle information and

vertical circle information based on zenith and slope distance expressed in feet.

- B. The Contractor will provide digital copies of all unedited raw data files from data collectors and GPS receivers used on the project. A sheet containing the explanation of the codes used to identify the various shots shall be provided.
- C. The Contractor will prepare a memory drive with electronic deliverables separated into ACAD, Monument Reports, Survey Field Notes and Raw Data folders. The folders will contain AutoCad drawings, Monument of Record Forms (MORFs), scanned field notes, ascii point files, and raw data output files generated by electronic data collection from Total Stations and Static or RTK GPS units. Ascii coordinates files will consist of the reduced and adjusted data represented by point number, station left or right of centerline, elevation, descriptor and coordinates of the point.

Article 2.6 As-built Surveys and Record Drawings

As-built survey measurements shall be required for all constructed facilities and improvements to confirm the dimensions, lines, grades, and locations of constructed improvements. Survey measurements shall be taken, field notes shall be kept, and accuracy shall be attained in accordance with this Division. Swing ties to a minimum of two structures should be provided if permanent buildings or structures are available near the installed improvements. As-built information shall be marked on a clean set of full-size paper copy Drawings and be submitted to the Engineer at the completion of construction activity. The Drawings shall be clearly stamped "Record Drawings." No final project payment will be made to the Contractor until the Record Drawings have been submitted to and approved by the Engineer.

The following abbreviations shall be used on the Record Drawings to denote a deviation from the Drawings:

ASB "As-Built" - The actual horizontal, vertical, dimension, or quantity measured by survey after it has been constructed.

F.C. "Field Change" - Revision or change of original design made in the field.

"DELETED" - Not constructed.

Minimum requirements for construction of Record Drawings:

- When paper copies are used for record Drawing purposes, As-built Work shall be marked in red ink or red pencil to clearly identify the changes to the original design.
- A straight line drawn through stationing, elevations, and notes shall show a change, deletion, or omission and shall be followed with the appropriate symbol.
- Storm sewer, water, sanitary sewer, fuel oil lines, or any construction that has been deleted or relocated will be crosshatched.
- Crossed out information should still remain legible.
- The scale of new water or any new construction not shown should conform to the scale of the drawings.
- Reference information used to prepare Record Drawings, such as change orders, and field books,

shall be noted on the drawings.

- Profile changes will be made with elevations or stationing only. The profile line need not be re-drawn unless the change is significant.
- As-builts for water, sewer, fuel lines, utilidor pipes, storm drain systems, and miscellaneous utilities shall be accurate within three-tenths feet (0.3') vertically and one-half feet (0.5') horizontally. As-built Information shall be referenced to the new water main and/or centerline of the right-of-way stationing with offsets as appropriate.
- As-builts for structures shall be accurate to within one-tenth foot (0.10') vertically and horizontally.
- The name of the Record Drawing preparer, the employer, and the date of the preparation shall appear in the appropriate title block on each Record Drawing sheet.

The construction of Record Drawings is incidental to other Work and no measurement or payment shall be made.

Article 2.7 Final Acceptance Date

As identified in the General Conditions, the Final Acceptance Date for the project is dependent on the review and approval of the Engineer and related submittals including:

- Construction survey field books and/or scanned copies of field books Electronic field data and/or reduced GPS data output
- Record Drawings/As-builts

Article 2.8 Method of Measurement

No measurement of quantities will be made. The Lump Sum bid price includes all required surveying, including Rights-of-Way staking, waterline staking, offset stakes, measurement of quantities, computer time, calculations, field notes, and other required survey items. The price also includes maintaining as-built record drawings with measurment of installed items and items encountered during execution of the Work.

Article 2.9 Basis of Payment

Payment for this item shall be in accordance with the General Conditions and shall include full payment for all Work described in this Section.

Payment shall be made under the following units:

ITEM	DESCRIPTION	UNIT
3	Construction Survey	Lump Sum

End of Section 02550

SECTION 02668.01 GENERAL

This section is to be applied and used for all Sections in Specification 02668.

Article 1.1 Scope of Work

The Work covered by these Specifications consists of providing all plant, labor, equipment, supplies, material, permitting, transportation, handling and storage, and performing all operations necessary to complete the construction of all water facilities.

Requirements for earthwork, surveying, and other associated work items are found in other Divisions and are complimentary to this Division.

The Contractor is to locate and treat utilities in compliance with the General Conditions.

The Contractor, by providing a Bid Proposal and entering into a Contract with the Owner, has found that the access, easements, rights-of-way, and other work areas designated in the Drawings are adequate to perform the Work and/or the Contractor has or will secure additional work areas to complete the Work. Furthermore, all costs associated with the Contractor secured work areas are to be included in the Bid Proposal.

Additional areas secured by the Contractor from parties not associated with the Contract are to be memorialized in the form of a right of entry agreement between the Contractor and party having authority to enter an agreement for the work area. A copy of the right of entry agreement is to be provided to the City. The right of entry agreement is to extend the indemnification requirements found in the Contract to Contractor obtained work areas.

The Contractor is to restore the area of Work to preconstruction conditions or better except where shown different in the Contract Documents.

Where the requirements in this division call out for an Engineer and there is no one assigned the duties of the Engineer, then the City of Unalaska is to be consulted for direction for items that require an Engineer or Inspector.

Article 1.2 Build America, Buy America

This Work is partially or fully grant funded. All furnished materials shall be made in America as required by the United States Office of Management and Budget. See federal requirements (madeinamerica.gov) for details. At a minimum, the following apply:

- For iron and steel items, all manufacturing processes, from the initial melting stage through the application of coatings, must occur in the United States;
- For manufactured products, the manufacturing process must occur in the United States and the cost of components mined, produced, or manufactured in the United States must be greater than 55-percent;
- For construction materials, all manufacturing processes must occur in the United States.

An article, material, or supply should only be classified into one of the categories above. Build America,

Buy America conditions do not apply to tools, equipment, and supplies not used in the completed product that are brought to a construction site and removed at or before the completion of construction.

Article 1.3 Applicable Standards

The most recent revisions of the following standards are made a part of these Specifications:

AASHTO M306	Standard Specification for Drainage, Sewer, Utility, and Related Castings, Single User Digital Publication
ASTM A126	Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings
ASTM B88	Specification for Seamless Copper Water Tubing
ASTM D256	Test Methods for D-C Resistance of Plastics and Electrical Insulating Materials
ASTM D3035	Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Controlled Outside Diameter
ASTM D3261	Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
ASTM D3350	Specification for Polyethylene Plastic Pipe and Fittings Materials
ASTM F1674	Standard Test Method for Joint Restraint Products for Use with PVC Pipe.
ASTM F4777	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
AASHTO M45	Sand for Cement Mortar
AWWA C104/ ANSI A21.4	Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
AWWA C105/ ANSI A21.5	Polyethylene Encasement for Ductile Iron Piping for Water and Other Liquids
AWWA C110/ ANSI A21.10	Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in., for Water and Other Liquids
AWWA C111/ ANSI A21.11	Rubber-Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings
AWWA C115/ ANSI A21.15	Flanged Ductile-Iron Pipe with Threaded Flanges
AWWA C150/ ANSI A21.50	Thickness Design of Ductile-Iron Pipe
AWWA C151/ ANSI A21.51	Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids
AWWA C153/ ANSI A21.53- 84	Ductile-Iron Compact Fittings

AWWA C500	Gate Valves for Water and Sewerage Systems
ANSI/ AWWA C502	Dry-Barrel Fire Hydrants
ANSI/ AWWA C504	Rubber-Seated Butterfly Valves
AWWA C509	Resilient-Seated Gate Valves for Water Supply Service
AWWA C515	Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service
ANSI/AWWA C600	Installation of Ductile-Iron Water Mains and Their Appurtenances
ANSI/AWWA C605	Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
AWWA C651	Disinfecting Water Mains
ANSI/AWWA C800	Underground Service Line Valve and Fittings
AWWA C901	Standard for Polyethylene (PE) Pressure Pipe and Tubing, 1/2 in. through 3 in., for Water Service
AWWA C900	Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 inch through 12 inch for Water Transmission and Distribution
AWWA C905	Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 inch through 48 inch for Water Transmission and Distribution
SSPC-SP	Steel Structures Painting Council Surface Preparation Specifications
SSPC-PA	Steel Structures Painting Council Paint Application Specifications
NSF (Standard 61)	Drinking Water System Components – Health Effects
UBC	Uniform Building Code, latest edition
IBC	International Building Code, latest edition
UFC	Uniform Fire Code, latest edition
IFC	International Fire Code, latest edition
UMC	Uniform Mechanical Code, latest edition
IMC	International Mechanical Code, latest edition
UPC	Uniform Plumbing Code, latest edition
NEC	National Electrical Code, latest edition
NFPA	Other National Fire Protection Association Standards, latest edition
HMWPE	High Molecular Weight Polyethylene
NACE	National Association of Corrosion Engineers

Article 1.4 Survey

Survey must be performed by the Contractor per Section 02550 - Construction Survey. The Contractor is to as-built and record at a minimum the following items based on the design survey horizontal and vertical control:

- Each pipe bottom and length of pipe segment
- Pipe Bends
- Fire hydrants, valves, keyboxes, tees, fittings, restraint, pipe to pipe connections specialized fittings
- Other buried utility conduits, vaults, utilitdors, wires, manholes, catch basins
- Other utility surface features such as pedestals, junction boxes

Before working in developed areas, the Contractor is to take photographs and video documenting existing conditions. Photographs and video are to include major construction areas and their boundaries as well as a zone fifty feet (50') outside the furthest anticipated impact. Photo and video documentation is incidental to the Work.

Article 1.5 Definitions

The definitions provided within this Article are supplemental to definitions provided in the General Conditions and are to govern in the interpretation of all disputes. Industry standard definitions are to apply if a definition is not provided. Where a term, word or phrase has varying meanings, the Engineer will have final say on the interpretation.

- Water Connection – water pipe and associated apparatuses from the point of connection at an existing water main to the terminus of the installed water main. For copper water services, the keybox is normally the terminus point of City of Unalaska maintenance requirements.
- Water Extension – typically it is water pipe and associated apparatuses on a parcel of land that begins where the Water Connection ends. A Water Extension typically ends five feet outside a building foundation.
- Service – connection, extension, and/or building piping from the City of Unalaska water distribution system.
- Main Line – Water pipe servicing multiple customers. Water line and water main have the same meaning and are used interchangeably in the Contract Documents.
- Water Distribution System – Anything that is used to distribute potable water.
- Fire Line – A portion of the water service with no additional branches that has the primary purpose of providing fire protection inside of a building. Typically, a service that originates at a mainline or at a valve downstream of a fire hydrant tee continuing directly into a building with a sprinkler fire suppression system. Water extensions that are four inches (4") and larger will be considered a fire line for the purpose of pressure testing.
- Sewer – Non-domestic and domestic wastewater as defined in 18 AAC 72.990.

Article 1.6 Payment - General

No separate payment will be made to the Contractor for Contractor obtained work areas or the restoration thereof.

Restoration Work not covered by bid items is to be considered incidental and no separate payment will be made. Restoration completed in Contractor secured areas is incidental to the contract.

Payment for all Work included in this Division will be paid for in accordance with the General Conditions and will include full payment for all Work described.

SECTION 02668.02 FURNISH AND INSTALL PIPE**Article 2.1 General**

The Work under this Section consists of performing all Work required for furnishing and installing an operational piping system in a workman like manner meeting applicable standards. The Contractor shall install piping systems as specified within these Contract Documents, the manufacturer's recommendations, the American Water Works Association (AWWA) standards, and in conformity with the details, lines and grades as shown on the Drawings. The Contractor shall adhere to the conditions stipulated in the ADEC permit obtained for modifications to a public water system. Where the previously stated requirements are in conflict, the more stringent requirement is to govern.

Article 2.2 Submittals

Submittals are to be provided to the Engineer for review and acceptance as stated in the General Conditions. The Contractor is to clearly demarcate items to be incorporated into the Work. Submittals for pipe and fittings should at least contain the following items:

- Pipe, Including Arctic Pipe
- Fittings
- Detectable underground warning tape
- Trace and continuity wire
- Polyethylene baggies and sheeting
- Coatings
- Flushing and testing plan
- NSF Certification
- Build America Buy America Certification

Article 2.3 Material

- A. Ductile Iron Pipe is to be cement mortar lined, conform to the requirements of AWWA C151, and have a minimum pipe wall thickness meeting Class 52 requirements. The cement mortar lining is to conform to the requirements of AWWA C104/ANSI A24.1. At least 10% of the pipe delivered is to be gauged full length of the pipe and marked as such
- B. Polyvinyl Chloride (PVC) Pipe: Sixteen inch (16") Polyvinyl Chloride Pipe must conform to the requirements of AWWA C900-16, have a DR of 18. All PVC pipe is to be blue in color. PVC water main and piping must be installed with an over insertion prevention device equal to EBAA Iron Mega Stop or the Cert-Lok bi-directionally restraint system.
- C. Coated Copper Pipe must be soft-drawn Type K, seamless, annealed copper pipe suitable for use as underground service water connections for general plumbing purposes and ASTM B88 compliant with an approved coating system. Approved coatings include factory applied minimum twenty-six (26) mil thick polyethylene or a field applied coating.

D. High Density Polyethylene Pipe: High Density Polyethylene Pipe (HDPE) and fittings are to be manufactured in accordance with AWWA C906 with the additional stipulation that the HDPE is to be manufactured from PE4710 polyethylene compounds that meet or exceed ASTM D3350 Cell Classification 445574. HDPE pipe and fitting material compound is to contain color and ultraviolet (UV) stabilizer meeting or exceeding the requirements of Code C per ASTM D3350. Electrofusion fittings will not be allowed. All fittings are to have pressure class ratings not less than the pressure class rating of the pipe to which they are joined. Pipe shall be NSF 61 Certified except for future sewer pipe. See drawings for steel pipe requirements for Arctic Pipe section.

E. Field Applied Coatings

Where a coating is required, field applied coatings may be used for repair of, in conjunction with or substitution for other coatings. Field applied coatings are to be denso wrap system, trenton wax tape system, viscotag viscowrap system, or WrapidWrap® system as detailed. The term “system” requires the use of more than one product from the specified manufacturer to be used in concert to seal the pipe from corrosive and/or potentially contaminated environments and water. At a minimum, the system is to fully encapsulate the piping and fittings, fill voids/gaps and adhere to the pipe. The coating system must not interfere with the operation of moving parts.

F. Fittings and Gaskets

Romac 501 couplers are not allowed on water lines.

Unless otherwise indicated on the Drawings, rubber gaskets for iron pipe are to conform to AWWA C111

Ductile iron fittings are to be a minimum of three hundred fifty-pound (350#) pressure rating, compact, cement-mortar lined, mechanical joint type. Fittings must conform to the requirements of AWWA C110/ANSI A21.10 or C153 A21.53-06. Ductile Iron fittings are to have exterior and interior surfaces coated with fusion bonded epoxy in accordance with AWWA C116/A21.13-09, with the only exception being for PVC overstab bell protection devices which do not need to be coated. Coatings shall be NSF 61 Certified.

Fittings with nuts and bolts are to utilize stainless steel nuts and bolts. Fittings with stainless steel bolts and nuts must conform to the dimensional standards as outlined in AWWA C111 and C115 and the material standards in ASTM F593 and F594 with a minimum tensile strength of 75,000 psi. Bolts and nuts must have imprinted markings indicating the material and grade of the metal used in fabrication.

Fittings used with copper pipe are to be rated high pressure per AWWA C800. Brass and other components in contact with potable water are to comply with Public Law 111-380 (No Lead Rule). Fittings are to accept flared copper pipe or have NPT threads for threading into other fittings. Buried Brass fittings are to be field coated in the same manner as coated copper pipe.

G. Thrust Restraint System

All thrust restraint system components are to be FM Global approved for the intended use or be UL listed. The surfaces of ferrous components are to have a fusion bonded epoxy coating in accordance with AWWA C116/A21.13-09.

Thrust restraint systems are required. The entire length of pipe is to be restrained. Megalug style restraints are required at ductile iron mechanical joint fittings where specified on the Drawings at tees, bends, valves, and piping deflection points. All PVC to PVC joints shall be restrained with integrated restraining gaskets or a restraint harness. Non-certified (i.e., FM Global, Underwriter Laboratories, ASTM, AWWA) thrust restraint systems are not allowed.

1. Additional Requirements for Copper Pipe

Copper pipe thrust restraint systems are the use of flared fittings and silver solder brazed joints.

H. Pipe Material Limitations

Copper is the only pipe material allowed on small diameter (less than 4") water service connections. Copper pipe for direct bury is limited in size from 1" to 2" in nominal diameter.

I. Trace Wire

Trace wire for water lines is to be #10 AWG high-strength copper clad steel with a 30-mil HDPE insulation jacket (color blue) and have a 600-pound average tensile break load. Tracer wire is to be manufactured by Copperhead Industries or an approved equal.

Grounding rods are to be a minimum of twenty-four inches (24") in length and copper clad.

The direct burial grounding clamps are to be EK17 as manufactured by Erico or approved equal.

All splice connections are to be constructed using 3M DBR watertight connectors or approved equal.

DryConn Waterproof Direct Bury Lugs as manufactured by King Innovation, or approved equal, is to be used to splice into the main line tracer wire.

Trace wires shall be routed to the valves located on hydrant legs to allow access for testing without the need to work in the travelled way or expose buried valve boxes.

J. Continuity Strap Wire

The wire shall be insulated No. 2 AWG stranded copper conductor rated for 600V. Insulation shall be HMWPE or approved for use in buried low temperature service. Split bolts or mechanical bolt connection of the wires will not be allowed

K. Warning Tape (Locator Ribbon)

Warning tape must not be less than five (5) mil, foil backed, six inches (6") wide vinyl tape, colored blue, with "Caution Buried Water Line Below" continuously printed in black along the tape length.

L. Polyethylene Encasement

Polyethylene encasement material for ductile iron pipe is to be eight (8) mils thick and conform to AWWA C105. Polyethylene encasement is to include a VBio film system incorporating corrosion control additives and MIC control additives as provided by US Pipe or approved equal.

Article 2.4 Construction

A Water Flow Interruptions

All planned interruptions require notifying the Engineer, the City of Unalaska Fire Department, property owners, property managers and residents a minimum of seventy-two (72) hours and a maximum of one-hundred forty-four (144) hours in advance of the interruption.

Interruptions at Westward Seafoods, Inc. (WSI) are limited to low flow periods, typically between May 1 and June 10 or October 1 and December 1. Shut downs for connection to the existing City main or the WSI utility line shall be coordinated with WSI to allow planning to minimize disruptions to users.

Properties with fire sprinklers require a minimum of three non-holiday and non-weekend days of notice to allow property managers time to mitigate impacts to fire suppression systems.

Each interruption requires a separate notification. Interruptions not started within the planned interruption period require a new notice and notifying period. Along with notice requirements, planned interruptions may not affect any portion of a previous interruption until a minimum of forty-eight (48) hours has passed the previous interruption.

It shall be the Contractor's responsibility to coordinate "turn-off" and "turn-on" with the Engineer and the City of Unalaska Water Division.

Where the supply of water to a City of Unalaska customer is interrupted more than eight (8) hours, the Contractor shall furnish and install a temporary water system.

B. Excavation and Backfill

The Contractor is to provide all excavation, backfill, and compaction necessary to install the pipe. Trench excavation and backfill is to be completed in accordance with Specification Section 02200 – Earthwork. In addition, trenching and excavation is to meet the requirements of 29 CFR 1926.651 and 1926.652 (OSHA Trench and Excavation).

All pipes are to be bedded with specified bedding unless another material is authorized in writing by the City of Unalaska. Bedding is to be laid the full width of the ditch and compacted to a minimum of ninety-five percent (95%) of the maximum density.

Water pipe bedding is to extend six (6) inches below and twelve (12) inches above the pipe and constructed in accordance with the details shown in the drawings.

C. Materials Delivery

Pipe and appurtenances are to be handled in such a manner to ensure delivery to the trench in a sound, undamaged condition. Particular care is to be taken not to damage the pipe, pipe coating,

or lining. Before, after and during installation the engineer is to be provided an opportunity to examine the pipe and appurtenances for damage and defects. Damaged or defective pipe may be rejected. Rejected pipe must be removed from the project and replaced with acceptable material at no additional cost.

The pipe is not to be strung out along the shoulders of the road for long distances if it causes inconvenience to the public. The amount of pipe strung at the job site is at the discretion of the Engineer.

Rubber gaskets are to be protected from extended exposure to direct sunlight. Non-integrated gaskets are to be installed into the piping when the gasket and pipe are above freezing temperature and the gasket is pliable.

D. Connection to water lines

Mainline taps are to be done by the Contractor. The mainline tap must be accomplished with a drilling machine approved for use on the pipe material being tapped, capable of drilling through the tapping saddle and corporation stop and pipe wall.

Tapping saddles are to be used for all taps.

Taps are to be made at sufficient distances from each other, tees, bells, joints, and other critical areas to prevent compromising the structural integrity of the pipe being tapped. Taps are not to be made any closer than three feet (3') to each other or to a bell.

The Contractor shall provide all trench excavation, shoring, bracing, backfill and compaction necessary to complete a successful tap connection. The trench shall be long enough and of sufficient width at the bottom to allow installation of the valve.

The Contractor shall bear the expenses incurred if a water main or other utilities within and directly adjacent to the project site should be damaged during construction.

Where the Drawings require the connection to an existing valve, the Contractor may choose to use the valve at their risk or replace it at their expense.

E. Installation

Installation is to follow the requirements of the drawings, AWWA C600, C605, M23, M41 and M55, these specifications, special provisions, and the plan details. The City of Unalaska will have final say when deciding on which requirement the Contractor is to meet where these documents conflict at no additional cost to the Owner.

Deflection at pipe-to-pipe joints is to be limited to 50% of the maximum deflection angle recommend by the pipe manufacturer for ductile iron pipe. Deflection at pipe-to-pipe joints for PVC pipe shall be limited to 0.5-degrees vertically. PVC pipes shall be installed horizontally without deflection between bends.

If the alignment requires deflection in excess of the above limitations, the Contractor shall furnish fittings to provide angular deflections within the limits allowable. Short radius curves and closures

are to be formed by shorter lengths of pipe, factory fittings or fabricated fittings.

The interior of the pipe and accessories are to be thoroughly cleaned of foreign matter before being lowered into the trench. The pipe is to be kept clean during laying operation by plugging.

Pipe and appurtenances are to be carefully lowered into the trench by means of derrick, ropes, belt slings, or other suitable equipment. Under no circumstances are any of the pipes or appurtenances to be dropped or dumped into the trench. Care is to be taken to avoid abrasion of the pipe or coating. Poles used as levers or skids are to be of wood and have broad flat faces to prevent damage to the pipe and coating. Where any part of the coating or lining is damaged, a repair is to be made by the Contractor at their expense and in a manner satisfactory to the Engineer.

Damage to a factory applied coating on copper pipe is to be repaired with a field applied coating system.

The trench bottom is to be graded to provide uniform support for the pipe barrel. Water is to be kept out of the trench by pumping, if necessary, until the jointing is completed. When Work is not in progress, open ends of the pipe, fittings, and valves are to be securely plugged so that no trench water, earth, or other substances will enter the pipes or fittings.

At a sufficient distance prior to encountering a known obstacle or tie-in to an existing pipe, the Contractor is to expose and verify the exact location of the obstacle or pipe so that proper alignment and/or grade may be determined before the pipe sections are laid in the trench and backfilled.

Pipe ends left for future connections are to be capped and restrained. The Contractor is to install vertically a 4x4 wood post, and locator target, directly over the end of pipe.

Cutting of pipe is to be done in a neat and workmanlike manner without damage to the pipe.

The Contractor is required to use mechanically restrained joints and fittings on all bends, fittings, and hydrant leads. The Engineer has the option of checking any or all mechanical joints to assure proper torque as specified by the manufacturer. All ductile iron pipe shall have an anode affixed as detailed. Isolated fittings do not require anodes.

All ductile iron pipes and/or fittings are to be encased in one layer of polyethylene encasement. Isolated fittings require a polyethylene encasement. All valve boxes and hydrant barrels are to be encased in three layers of polyethylene encasement.

Water mains and services are to be constructed to meet all separation requirements of 18 AAC 80.020. Variance from the separation requirements requires a waiver from the Alaska Department of Environmental Conservation and prior approval from the City of Unalaska .

The Contractor is to stagger the joints for the water pipe such that no joint is closer than nine feet (9') from the centerline crossing of water to sewer. In addition, where water and sewer mains and services intersect, the vertical separation between the water and sewer pipe is to be a minimum of eighteen inches (18") clear between exterior pipe surfaces.

F. Alignment and Grade

All adjustments to line and grade are to be done by scraping away or filling the earth under the body of the pipe and not by blocking or wedging up.

The Contractor shall continually survey line, grade and location of the pipe and appurtenances with the use of transits and levels during pipe laying operations. Survey is to be completed by qualified personnel to transfer line, grade and record required information. The Engineer will determine qualifications based on submittal of work examples and notes being made in the field. The Contractor is to replace any personnel the Engineer deems to be less than qualified based on work examples provided or work being performed.

Each piece of pipe is to be laid to within three-one hundredths (0.03) of a foot horizontally and from the design alignment. Regardless of the limits applied to full length individual pieces of pipe, the accumulated variance of pipe alignment and grade must not be greater than two-inches (2"). The Contractor must re-lay the water line when alignment and grade requirements are not met.

Elevations and locations for each piece of pipe and appurtenances are to be recorded in a field book. The Contractor will furnish to the Engineer a copy of the surveyor's notes and redlined drawings for transfer to record drawings. The Contractor is to make any clarifications, corrections or fill in missing data in the survey notes and redlines when requested.

The practice of placing backfill over a section of pipe to provide a platform for instruments is to be subject to the approval of the Engineer and be accomplished in accordance with the trench excavation and backfill requirements

G. Jointing of Ferrous Metal Pipe

Mechanical joints with restraining glands are required wherever restrained joints are required to be used. All joints are to conform to the requirements of ANSI/AWWA C600.

Metallic pipe is to have two (2) electrical continuity straps installed on each side of every joint for all pipe diameters. Straps are to be welded to a clean, dry surface. Each exothermic wire weld connection is to be protected with one (1) field applied Royston Handy Cap IP or equal. Uncoated surfaces are to be coated with coal tar pitch to the satisfaction of the Engineer.

H. Jointing of PVC Pipe

All joints are to conform to the requirements of AWWA C605. PVC pipe shall be connected to ductile iron mechanical joint fittings using Megalug style retainer glands as shown on the drawings. PVC push-on joints shall have integrated restraining gaskets or a restraint harness. Bell protection over insertions collars shall be installed on all male PVC pipe ends prior to insertion into PVC pipe bells.

I. Jointing of Copper pipe

Copper pipe may be joined with the use of silver brazing copper couplers, flared fittings and by swedging and silver brazing. Solder must be lead free silver solder. All joints are to be outside of the rights-of-ways and/or City of Unalaska easements, unless given prior approval by the City of Unalaska.

J. Joining of High Density Polyethylene

All HDPE water main piping and fittings are to be butt-fused in accordance with ASTM D2657. The individual who performs the joint fusion is to have written certification from an HDPE pipe manufacturer or supplier stating he/she has successfully completed an 8-hour (minimum) certification class on joint fusion techniques and procedures. In addition, this individual is to have fused a combined total of more than 5,000 feet of HDPE piping in diameters 4-inches and larger. Internal beads are to be shaved to provide a smooth bore.

The following Quality Control requirements shall be adhered to:

1. Installer shall be qualified to perform the required butt-fusion welds;
2. Storage, field handling and installation will be performed in strict accordance with the manufacturer's recommendations;
3. Pipe will be visually inspected for damage prior to installation;
4. Pipe and fittings will be verified to meet project requirements;
5. Specifying temperature and pressure requirements will be established by the manufacturer.
6. Joining will be accomplished as follows:
 - a. Pipes will be put in place and aligned;
 - b. Temporary shelter will be provided for all fusion activities during inclement weather;
 - c. Surfaces will be wiped to assure they are clean and dry;
 - d. The ends of the pipes will be squared using the facing tool;
 - e. The line-up will be checked to assure that the pipe ends meet squarely and accurately;
 - f. A clean heater plate will be aligned between ends without pressure to achieve the melt pattern recommended by the manufacturer;
 - g. The pipes will be parted and the heater plate removed. If the pipe sticks to the heater plate or is disturbed, the process will be repeated;
 - h. The melted ends will be brought together to form a double roll-back bead around the entire circumference of the pipe between 1/8" and 3/16" wide;
 - i. The joint will be allowed to cool and will be visually inspected for uniformity.
7. One sample joint shall be taken for each size pipe on all days that butt-fusion is performed. The trial butt-fused joint shall have a test strap removed for testing. The test strap shall be 6" or 15 pipe wall thicknesses long on each side of the fusion and about 1 or 1-1/2 wall thicknesses wide. The strap will be bent until the ends of the strap touch. Any disbondment at the fusion is unacceptable. If failure occurs, the procedures or machine set up shall be changed and a new trial fusion and bent strap test specimen will be prepared and tested.
8. Data will be logged for each joint, including time, location, and temperature. This information shall be furnished to the engineer;
9. All joints will be 100% visually inspected;

K. Detectable Warning Tape

Detectable underground warning tape is required for installation of all pipe types. The warning tape must be continuously laid with the pipe as detailed.

L. Tracer Wire for Non-metallic Pipe

Tracer wire is to be grounded at all dead ends, except fire hydrant legs. The trace wire is to be connected to the grounding rod with grounding clamps.

Tracer wire is to be securely affixed to the top exterior surface of the pipe using PVC pipe tape at 5-foot intervals or less. Tracer wire is to be looped around valves, saddles, curb stops, and other appurtenances in such a manner that there is no interference with the operation of the appurtenances. Tracer wire must be continuous and without splices, breaks, or cuts except for spliced-in connections as approved by the Engineer. All spliced connections must be inspected by the Engineer before being buried.

Tracer wire must be brought to the surface at all junctions and terminals, including at all valve boxes by splicing into the main line tracer wire. The main line tracer wire must not be broken or cut. Tracer wire is to be spiral- wrapped around the exterior of the valve box riser pipe and brought into the valve box top section. Provide three feet (3') minimum of additional wire neatly coiled within each valve box.

M. Polyethylene Encasement

The Contractor is to install polyethylene encasement on all ductile iron pipe and isolated fittings as outlined below.

1. Cut a section of polyethylene tube approximately two (2) feet longer than the pipe section or fitting. Remove all lumps of clay, mud, cinders, or other material that might have accumulated on the pipe surface during storage. Slip the polyethylene tube around the pipe, starting at the spigot end. Bunch the tube accordion fashion on the end of the pipe. Pull back the overhanging end of the tube until it clears the pipe end.
2. Dig shallow bell hole in the trench bottom at the joint location to facilitate installation of the polyethylene tube. Lower the pipe into the trench and make up the pipe joint with the preceding section of pipe.
3. Move the strap to the bell end of the pipe and lift the pipe slightly to provide clearance to easily slide the tube. Spread the tube over the entire barrel of the pipe. Note: Make sure that no dirt or other bedding material becomes trapped between the wrap and the pipe.
4. Make the overlap of the polyethylene tube by pulling back the bunched polyethylene from the preceding length of pipe and securing it in place. Note: The polyethylene may be secured in place by using tape or plastic tie straps.
5. Overlap the secured tube end with the tube end of the new pipe section. Secure the new tube end in place.
6. Take up the slack in the tube along the barrel of the pipe to make a snug, but not tight, fit. Fold excess polyethylene back over the top of the pipe.
7. Secure the fold at several locations along the pipe barrel (approximately every three (3) feet).
8. Repair all small rips, tears, or other tube damage with adhesive tape. If the polyethylene is badly damaged, repair the damaged area with a sheet of polyethylene and seal the edges of the repair with adhesive tape.
9. Carefully backfill the trench in according to procedures in AWWA C600 Standard. To prevent

damage during backfilling, allow adequate slack in the tube at the joint. Backfill should be free of cinders, rocks, boulders, nails, sticks, or other materials that might damage the polyethylene. Avoid damaging the polyethylene when using tamping devices.

Damaged polyethylene encasement is to be repaired or the pipeline removed and the polyethylene encasement replaced at no additional cost.

The requirements of Method A of ANSI/AWWA A21.5/C105 are to be used to make any clarifications to the installation process as outlined above.

Article 2.5 Flushing and Testing

Flushing and testing are to be completed as specified in the requirements of the referenced AWWA standards unless hereinafter modified. A City of Unalaska representative, the Engineer, and the Contractor must be present for all flushing and testing.

Flushing and testing are to be completed separately and sequentially starting with pre-disinfecting, flushing, hydrostatic testing, disinfection, and continuity. The Contractor is to provide, install and remove fittings, pipes, pumps, hoses, gauges, and other items necessary to perform the flushing and testing.

All water piping, including but not limited to main line, services, fire lines, and fire hydrant legs must be flushed and tested before the piping system can be put into service.

Pipe, gaskets, mechanical joints, fittings, valves, hydrants, and other water distribution components found to be cracked or defective through flushing and testing are to be removed and replaced with sound material at the Contractor's expense. When repairs are needed to make corrections pass flushing and testing requirements, the flushing and testing procedures are to be restarted for all test sections impacted by the repair.

Each request to supply water for flushing, testing, and disinfecting is to be scheduled in writing with the Engineer and the City of Unalaska at least forty-eight (48) hours prior to obtaining City of Unalaska supplied water. Coordinate with Westward Seafoods, Inc. since flushing will stir sediments from upstream pipe and the sediments will adversely affect fish processing. Scheduling of flushing, testing, and disinfecting will be subject to water availability. At no additional cost, the Contractor is to modify their schedule to match water availability and the fish processing schedule, which may require work on non-working days or outside of normal work shifts. There will be no charges for water used to test, chlorinate, or flush the newly installed system.

If the Contractor is not prepared for flushing or testing, they are to provide a cancellation notice to the Engineer and City of Unalaska at least two (2) hours prior to the scheduled event.

Earthwork for roadways and sidewalks as well as installation of other utilities that share the same frontage as the water distribution system being tested is to be Substantially Complete prior to flushing and testing.

The Contractor is not authorized to operate the City of Unalaska water distribution system. Only City of Unalaska personnel are authorized to manipulate the existing pipe system to supply water for flushing and testing.

The Contractor shall submit, in writing, for the Engineer to review and approve, a schedule and procedure

for the testing and flushing of all newly installed pipe. The plan is to include flush and de/chlorinated water handling and discharge procedures. Water discharge locations must receive approval from the governing authority of the discharge location.

When, in the opinion of the Engineer, the testing and flushing schedule and procedure are deficient, inadequate, improper, or conditions are such that the impact to existing water service areas are adversely affected by service interruptions, the Contractor will be notified in writing by the Engineer. Such notification is to be accompanied by a statement of the corrective action to be taken. Contractor shall adhere to the testing and flushing schedule and comply with such instruction as directed by the Engineer.

A. Pre-disinfecting

The Contractor is to place calcium hypochlorite granules/tablets in the water main as it is being constructed. The following table provides the Contractor the minimum amount of granules/tablets required at the fill point and at an interval of 500' thereafter:

<u>Pipe Diameter (inches)</u>	<u>Calcium Hypochlorite (oz)</u>
6"	3.8
8"	6.7
12"	15.1
16"	26.8

At the completion of the water pipe installation, but prior to flushing, the Contractor is to slowly fill the newly installed pipe, fire hydrants, services, and other appurtenance with water and limit flow velocity to less than one foot per second (1ft/sec). Upon filling the pipe, the Contractor is to wait one hour (1 hr) prior to flushing. The Air/Vac Relief valves shall be monitored during filling and draining operations to assure capacities are not exceeded and to assure proper function.

B. Flushing

All newly installed water pipes are to be open-bore flushed through un-restricted outlet(s). Flush water is to achieve a *minimum* velocity of three feet per second (3 ft/sec) and the minimum water quantity flushed at the minimum velocity is to equal three times the quantity of water in the piping being flushed OR as determined by the City.

Mainline flushing water may become turbid from disturbance of silt depositions in the existing pipe system. WSI should be notified prior to mainline flushing to minimize potential impacts to their fish processing operations. The flushing schedule shall be coordinated with WSI.

Flush piping on service water connections are to be connected to the service water extension side of the key box, extended a minimum of two feet (2') above finish grade and remain in place until the Final Acceptance Date.

Flush water must not be directly connected to the sanitary sewer system.

Close the valves at the Air/Vac Relief vaults prior to open-bore flushing.

Flush water shall be dechlorinated prior to discharge.

C. Hydrostatic Testing

All hydrostatic testing will be performed through a test copper. The test station is to be placed at the highest end of the pipe being tested when there is an elevation change in the pipe greater than ten feet (10'). The test pressure is not to exceed the maximum allowable operating pressure of the pipe, fittings, valves, thrust restraints, or other appurtenances of the test section. Use of fire hydrants for testing will not be allowed. The specified test pressure shall be applied by means of an approved pumping assembly connected to the pipe in a manner satisfactory to the Engineer.

When the pressure decreases below the required test pressure during the test period, the pipe being tested will be declared void and will require re-testing.

The Contractor is to provide a test pressure gauge for measuring and determining results of the hydrostatic test.

The Contractor shall suitably valve-off or plug the outlet to the existing or previously-tested water main at his expense prior to making the required hydrostatic test. Prior to testing, all air is to be expelled from the pipe.

If permanent air vents are not located at all high points and dead ends, the Contractor must install and abandon corporation stops at such points so the air can be expelled as the line is slowly filled with water.

All intermediate valves within the section being tested will be closed and reopened during the test. Only static pressure will be allowed on the opposite side of the end valves of the section being tested.

Hydrostatic testing of water lines containing a chlorine mixture above 2 ppm will not be allowed.

The minimum hydrostatic test pressure is to be two hundred pounds per square inch (200 psi) for a minimum duration of thirty (30) minutes for non-fire lines. A minimum test pressure of 150 psi is required for any installed sewer mains, including pipe for future use. This includes both the force main and carrier pipes between stations 19+00B and 23+00B.

Pumping will be terminated and disconnected upon starting the test. The test pressure at the start of the test is to be maintained for the duration of the test period. Any loss of pressure will be considered a failed pressure test for all pipe types.

The Contractor is to use the Continuous Feed Method to disinfect the newly installed water distribution system:

The chlorinating agent must be applied at a point of not more than ten feet (10') from the beginning of the project. Under no conditions is the chlorinating agent to be introduced through a fire hydrant.

Water is to be fed slowly into the new water line with chlorine applied in amounts to produce an initial water and chlorine mixture in the pipe of not having less than twenty-five parts per million

(25 ppm) of free chlorine. During the chlorination process, all intermediate valves and accessories are to be operated by the Contractor.

The Contractor is to discharge water from the end of all main lines, branches, service connections and extensions until the Engineer verifies that all portions of the newly constructed water distribution system has the initial minimum free chlorine level of the water source supply.

The chlorinated water is to be retained in the piping for a minimum of twenty-four hours (24 hrs) and have a minimum residual level of free chlorine of ten parts per million (10 ppm). At the completion of the twenty-four hour (24hr) period the Contractor is to sample the water and have the chlorine concentration tested. If the free chlorine drops below ten parts per million (10 ppm) the Contractor is to restart the flushing and testing.

The Contractor shall provide a plan for concurrence by the Engineer for disposal of chlorinated waters from the disinfection process. The plan must include a method to dechlorinate and hold the discharge prior to leaving the Contractor's control. Under no circumstances is the solution to be discharged to the sanitary sewer system.

After dechlorination is complete, the Contractor shall provide access and accommodate in its schedule for coliform testing. The Contractor shall collect two sets of acceptable samples, taken 24-hours apart, of water from the disinfected piping at the location(s) required by AWWA C651. The samples are to be tested in as specified in AWWA C651 Standard Methods for the Examination of Water and Wastewater and show the absence of coliform organisms. Samples are to be collected by a qualified person and processed in a certified lab. The Contractor shall furnish the Engineer and City copies of all test results.

All preparation and coordination required for disinfection testing and re-testing shall be the responsibility of the Contractor. Additional compensation or contract time extensions for re-testing due to inadequate disinfection will not be granted.

CHLORINATION

<u>Pipe Diameter (ID)</u>	<u>Dosage (oz.) per 100 feet</u>
6"	0.76
8"	1.34
12"	3.02
16"	5.34

This table is to be used as a guide for chlorinating water mains by the calcium hypochlorite and water mixture method. This dosage takes into account that contractors most frequently use granular HTH, which is sixty-five percent (65%) pure. If another chlorinating agent is used, the dosage must be adjusted. Caution should be exercised against producing too high a concentration of chlorine in the line. Disinfection will not be allowed until all temporary open-bore flush pipes are removed and the water system is sealed.

The Contractor may submit a deviation request to the Engineer for review and approval for

alternate disinfection plans that meet the requirements of ANSI/AWWA C-651.

The Contractor shall produce summary report(s) including dates documenting flushing, pressure testing, disinfection, test reports for chlorine concentration(s), test reports for coliform, etc. to the Engineer. All tests shall be witnessed by the Engineer or a representative from the City. The Contractor and the Witness(es) shall sign the reports prior to submission. Failure to produce such report(s) will be considered incomplete or defective Work and will be handled as allowed by the General Conditions.

D. Continuity Tests

The Contractor will perform line tracing on plastic pipe installed with trace wire.

All tracing tests will be through wires connected to the main and brought to the surface. The use of water service thaw wires, fire hydrants and valves as substitutes for wires will not be accepted. All wires brought to the surface to complete the continuity test are to be placed in a valve box adjustment sleeve. Wires shall be routed to hydrant valve boxes so tests can be conducted without the need to work in the travelled way or to excavate buried valve boxes.

Where continuity or tracing is not continuous the Contractor, at no additional cost to the Owner, must make necessary repairs/corrections.

Continuity and tracing tests must not be performed until all excavations have been completed and backfilled.

E. Test and Air Vent Copper Pipe Removal

The Contractor is to remove all temporary test and air vent copper pipes upon successful completion of the flushing and testing requirements and install a copper disc in the corporation stop in the presence of the Engineer.

Article 2.6 Measurement

Measurement for furnishing and installing water main line is per linear foot of horizontal distance of the various types and sizes as set forth in the Bid Schedule. Measurement will be from station to station as staked in the field and as shown on the Drawings. Measurement includes but is not limited to trench excavation and backfill, piping, fittings, joint restraint, over-insertion devices, locator tape, disinfection, continuity wire, trace wire, polyethylene encasement and similar to make a functioning water system.

Connections to existing water lines are measured as a complete unit in place.

Article 2.7 Basis of Payment

Payment for this Work will be in as specified in the General Conditions and includes full payment for all Work described in this Section.

All requirements for flushing, chlorination and testing are incidental to the Work.

Variations from the depth of the piping or connection points indicated in the Drawings will not be grounds

for additional compensation.

Unless specifically identified for payment under a separate pay item, the unit price bid includes all labor, equipment, and materials to complete the Work including, but not limited to, the following incidental items:

- Furnishing and installing pipe;
- Continuity straps on ductile iron pipe
- Trench excavation and backfill;
- Compaction;
- Joint sealing;
- Shoring;
- concrete thrust blocks;
- tracer wire and warning tape/locator ribbon;
- installation of all pipe tees, crosses, bends, caps, plugs, adapters, reducers, over-insertion devices, thrust restraint systems, and other fittings;
- protection and/or restoration of all existing utilities;
- delivery of non-serviceable portions of removed pipe, valves, and fittings at a Contractor-furnished disposal site;
- delivery of serviceable portions of removed pipe, valves, and fittings to the City of Unalaska,
- adjustment to finish grade;
- maintenance of existing water distribution system flows;
- maintenance and restoration of existing drainage patterns;
- restoration of existing private or public improvement such as but not limited to:
 - driveways
 - signage
 - guardrails
 - sidewalk, curb and gutter;
- landscaping, utility markers, survey monumentation;
- cleanup, and miscellaneous items required to complete the Work as shown on the Drawings.

Payment will be made on the following unit bid items:

ITEM	DESCRIPTION	UNIT
6,7,8	Furnish and Install (Size, Type) Pipe	Linear Foot
9	Connect to Existing Water Line (Connection Size)	Each

SECTION 02668.03 FURNISH AND INSTALL VALVES**Article 3.1 General**

The Work under this Section consists of the performance of all Work required for furnishing and installing valves, including valve boxes and marker posts.

Article 3.2 Submittals

Submittals are to be provided to the Engineer for review and acceptance as stated in the General Conditions. The Contractor is to clearly demarcate items to be incorporated into the Work. Submittals for valves should include, but is not limited to the following information:

- Manufacturer valve submittal cut sheets
- Build America Buy America Certification
- NSF Certification
- Valve box
 - Lid
 - Top Section
 - Dust Pan
 - Riser
 - Bottom Section
 - Rubber centering sleeve
- Geotextile

Article 3.3 Material

Tie back rods and/or tie back rod and shackle assemblies are not acceptable as restrained joints or restraining system for valves and valve/pipe joint interface.

Unless otherwise detailed on the Drawings, valve and valve/pipe interface are to be mechanical-joints conforming to AWWA C111 and be restrained per Specification 02668-02.

A. Gate Valves

Gate valves shall be iron body, fully bronze mounted, double disc, parallel or resilient seat valves as specified in AWWA C509 "Resilient-Seated Gate Valves for Water Supply Service" or AWWA C515 "Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service".

Gate valve bonnet bolts shall be Type 316 stainless steel with a minimum tensile strength of 75,000 PSI and shall conform to ASTM F593 and F594. All bolts shall be stamped with the grade marking on the head of the bolt, and shall be "T-316", "316", or "F593".

B. Butterfly Valves

Butterfly valves shall be of the rubber-seated tight-closing type. They shall meet or exceed the performance requirements of AWWA C504 for operational pressures of 150 psi working pressure and 300 psi hydrostatic pressure with the requirements of Table 2 of ANSI/AWWA C504. Accessories (bolts, glands, and gaskets) shall be supplied by the valve manufacturer.

Butterfly valve actuator bolts that are exposed shall be Type 316 stainless steel with a minimum tensile strength of 75,000 PSI and shall conform to ASTM F593 and F594. All bolts shall be stamped with the grade marking on the head of the bolt, and shall be "T-316", "316", or "F593".

Valves must use full ANSI/AWWA C504 Class 150 B valve shaft diameter and full Class 150 B underground service operator torque rating throughout entire travel to provide capability for operation in emergency service. Valves shall be NSF Certified.

Valve body shall be high-strength cast iron ASTM A126 Class B. For valves with the rubber seat mounted on the disc, the mating surface in the body shall be 304 or 316 stainless steel. For valves containing the rubber seat in the body, the method of seat retention shall be in accordance with the requirements of ANSI/AWWA C504, except that no retaining fasteners or other hardware shall be permitted in the flow stream.

Valve operators, unless otherwise required by the Contract Documents, shall be of the traveling nut type, sealed, gasketed, and lubricated for underground service and capable of withstanding an overload input torque of four hundred fifty (450) foot-pounds at full open or closed position without damage to the valve or valve operator. The number of turns to operate the valve shall be a minimum of two (2) turns per inch of valve diameter for ninety degrees (90°) of closure travel at a maximum pull of eighty (80) pounds. All valves shall open counterclockwise and be equipped with two inch (2") square AWWA operating nut.

For butterfly valves twenty inches (20") and less, the valve shaft shall be one piece extending full size through valve bearings, disc, and shaft seal. In the event that the shaft is turned down to fit connections to the operator, the limits of ANSI/AWWA C504, Section 3.3.2 shall be strictly observed. Carbon steel shafts, if used, shall have 304 or 316 stainless steel journals with static seals to isolate the interior of the disc and the shaft from the water.

C. Valve Boxes

Valve boxes are to be constructed of the following individual parts:

- Lid – cast or ductile iron with lifting ears that conforms with and fits closely with the top section and is rated heavy duty
- Top section - cast or ductile iron, rated heavy duty, 18" minimum height, minimum 6" inner diameter, recessed to receive the lid
- Dust pan – cast or ductile iron, 3" minimum height, ¼" minimum thick material, lift handle/bar and fits into and rests on the riser
- Riser – cast or ductile iron pipe that fits inside the top section and over the bottom section, delivered to the Work site
- Bottom section – cast or ductile iron, rated heavy duty, 24" minimum height, with round or oval bottom hood sections to fit over the top of the valve
- Geotextile – woven, class 2 in conformance with MASS Section covering geotextile fabric

- Polyethylene film – 8 mil in conformance with this Division.
- Rubber centering ring –a rubber compound sleeve placed on a valve to align the valve box bottom section with the valve top, such as the Valve Box Adaptor II or equal. The centering ring must conform to the shape of the valve and valve box to seal out soil.
- Tape – minimum 2” wide, 20 mil thick, UPC approved PVC Tape
- Heavy duty rated items are to meet AASHTO M306 criteria. Internal diameter of the smallest section shall not be less than five inches (5”). The minimum thickness of the metal shall not be less than five-sixteenth inch (5/16”). Castings shall be smooth and the workmanship shall be acceptable to the Engineer.
- City of Unalaska standard specification part numbers are provided on the drawings.

Article 3.3 Construction

Valve interiors are to be cleaned of all foreign matter before installation. If the valve is at the end of the line, it is to be plugged prior to backfilling. The valve shall be inspected by the Contractor in the open and closed positions prior to installation to ensure that all parts are in working condition.

Place the rubber centering ring inside the bottom section over the valve bonnet. After placement of the bottom section the Contractor is to wrap three (3) layers of woven geotextile fabric around the outside of the valve and bottom section of the valve box. The geotextile is to be secured in place with PVC pipe tape to the bottom section and pipes. Encase the valve box assembly with three layers of eight-mil (8 mil) polyethylene, encasement, taped securely in place.

Valve box components are to be plumb and centered over the operating nut.

The butterfly valve operators are to be placed on the side of the water main away from the centerline of the street or easement.

After final inspection of valves located in unpaved areas the Contractor is to place the specified bedding directly over the valve box lid to final grade elevations. The Contractor must expose and rebury all valve box lids for testing, pre-final and final inspections in unpaved areas.

At locations where replacing a valve box assembly is required, it is to be removed by excavating to fully expose the valve and connecting pipes then reconstructed to the requirements of this section and the standard details. Valve box components removed are to be replaced with materials meeting this section and not re-used in any portion of the Work.

Install a single locator/marker bollard off of the road near each valve (16” mainline valves only) to aid with locating valves in the future.

Article 3.4 Measurement

Furnishing and installing valves will be measured as a whole unit designated by type and size inclusive of all parts required to provide a functioning valve including but not limited to valve, valve connection components, bottom section, riser, top section, dustpan, lid, elevation adjustments, bollard, bollard sleeve, and corrosion/intrusion/frost protection per these specifications, special provisions, standard details and

Drawings.

Replacement of valve boxes will be measured as complete units in place including but not limited to the bottom section, riser, top section, dust pan, lid, markers, and corrosion/intrusion/frost protection.

Furnishing and installing a valve box over an existing valve shall include all work detailed on the drawings.

When the bid item includes the removal and replacement of valve box components, then those same components will not be measured for payment under any other bid item.

Disposal of removed parts will not be measured for payment and is considered incidental to the item being constructed.

Unless specifically identified for payment under a separate pay item, the unit price bid to complete the Work includes all costs, labor, equipment, and materials to complete the Work including, but not limited to, the following incidental items:

- Furnish and Install valve, valve box and joint restraint;
- Excavation, backfill and compaction;
- Bollard;
- Removal and replacement of ground surface features
- adjustment to finish grade;
- protection and/or restoration of all existing utilities;
- maintenance of existing water distribution system flows;
- shoring excavations
- restoration of existing private or public improvement such as but not limited to:
 - driveways
 - signage
 - trees and shrubs located on private property;
- landscaping, utility markers, survey monumentation;
- cleanup, and miscellaneous items required to complete the Work as shown on the Drawings

Article 3.5 Basis of Payment

Payment for this Work is to be as specified in the General Conditions and shall include full payment for all Work described in this Section.

Payment shall be made on the following unit:

ITEM	DESCRIPTION	UNIT
10	Furnish and Install (Size) Gate Valve	Each
11	Furnish and Install (Size) Butterfly Valve	Each
12	Furnish and Install Valve Box	Each
13	Remove and Replace Valve Box	Each

SECTION 02668.04 FURNISH AND INSTALL FIRE HYDRANTS**Article 4.1 General**

The Work under this Section consists of the performance of all Work required for the furnishing and installation of "L-Base" Fire Hydrant Assemblies, including the fire hydrant leg pipe, auxiliary gate valve, valve box, joint restraint, guard rails and/or posts, tracer wires, coatings, board insulation, wrappings, and fire hydrants.

Article 4.2 Submittals

Submittals are to be provided to the Engineer for review and acceptance as stated in the General Conditions. The Contractor is to clearly demarcate items to be incorporated into the Work. Submittals for fire hydrants should include, but is not limited to the following information:

- Manufacturer fire hydrant submittal cut sheets with the selected ordering options clearly marked.
- Build America Buy America Certification
- NSF Certification
- Thrust restraint system
- Corrosion protection items

Article 4.3 Materials**A. Fire Hydrants**

Fire hydrants are to conform to the requirements of ANSI/AWWA C502 for Dry Barrel Fire Hydrants. Fire hydrants are to be Mueller Centurion A-423 or American Darling 5-1/4 B62B-5 with 20" nozzle section.

1. The operating nut of the hydrants is to be a minimum of twenty-eight (28") above the traffic breakaway flange. The traffic breakaway flange is to be between three inches (3") to nine inches (9") above adjacent grades.
2. All single pumper hydrants are to be furnished with a six-inch (6") ANSI Class 125 standard mechanical-joint end. All double pumper hydrants must be furnished with an eight-inch (8") ANSI Class 125 standard mechanical-joint.
3. All connections are to be mechanical-joint unless otherwise indicated in the Contract Documents.
4. Single pumper hydrants must be furnished with two (2) two and one-half inch (2.5") hose connections and one (1) four and one-half inch (4.5") pumper connection. Double pumper hydrants are to be furnished with one (1) two and one-half inch (2.5") hose connection and two (2) four and one-half inch (4.5") pumper connections.
5. Unless otherwise required by the Contract Documents, all hydrants are to be furnished with a barrel length that will allow a minimum of four feet (4') of bury. The lower barrel must be one piece to achieve a four-foot burial depth.

6. The main valves are to be of the compression type, where water pressure holds the main valve closed permitting easy maintenance or repair of the entire barrel assembly from above the ground without the need of a water shutoff.
 7. All fire hydrants must be furnished with a breakaway flange which allows both barrel and stem to break clean upon impact from any angle. Traffic flange design must be such that repair and replacement can be accomplished above ground.
 8. Painting and coating are to be shop coated in accordance with cited AWWA Specifications. The paint is to be federal standard colors. Mueller hydrants shall be yellow; American hydrants shall be red.
 9. Operating and nozzle nuts are to be pentagon shaped with one and one-half inch (1.5") point to flat measurements.
 10. Hose nozzle threading must be in conformance with NFPA #194 for National (America) Standard Fire Hose Coupling Screw Threads.
 11. All working parts are to be bronze or noncorrosive metal in accordance with the requirements of ANSI/AWWA C502.
 12. All hydrants are to be right hand opening (clockwise).
 13. All hydrants shall be provided with a drain plug.
 14. All fire hydrants are to be supplied with a five and one-fourth inch (5.25") main valve opening.
 15. Brass components in contact with potable water are to comply with Public Law 111-380 (No Lead Rule).
 16. NSF Certification
- B. Auxiliary Gate Valves
- All gate valves and valve boxes are to be furnished and installed as specified in Section 02668.03 - Furnish and Install Valves.
- C. Thrust-Restraint System
- Fire hydrants are to be fully restrained back to and include the connection to the main line. Thrust restraint is to be furnished and installed as specified in Section 02668.02 – Furnish and Install Pipe.
- D. Guard Posts
- The Contractor shall install guard posts for each hydrant installation as shown with the plan details. If, in the opinion of the Engineer, the guard posts are not to be installed, they are to be delivered to the City of Unalaska storage yard.
- E. Continuity and Trace Wire
- Trace wires shall be provided to the hydrant valves to allow access without the need to work in the travelled way. Continuity and trace wires are to meet the requirements of Section 02668.02.

Article 4.4 Construction

The Contractor is to complete all trench excavation, backfill and compaction necessary to install the fire hydrant assembly.

An eight-foot (8') wide clear, slightly sloping (max 5% in any direction) access path that extends four feet (4') beyond the fire hydrant must be provided. Where a ditch is encroached upon by the access path, the ditch is to be relocated or filled and a twelve inch (12") diameter culvert installed to pass run off by the hydrant.

The Contractor shall wrap the hydrant barrel section with three layers of 8-mil thick polyethylene encasement, up to the finished ground surface.

The fire hydrant auxiliary valve is to be closed during installation and remain closed during all main line open bore flushing operations. The Contractor is to open the auxiliary gate valve for hydrostatic pressure testing, disinfection and for hydrant raising. The hydrant leg must have hydrostatic pressure for the hydrant to be raised. All fire hydrant legs are to be installed level. The fire hydrant barrel is to be installed plumb. The Contractor is responsible for access to the hydrant location and all trench excavation, dewatering and backfill operations prior to, during, and after the fire hydrants are adjusted. The cost for raising or adjusting the fire hydrant is incidental to the fire hydrant installation.

All fire hydrants that have yet to be approved for use must be covered and identified as being "not in service". The cover is to be firmly secured to the hydrant. Not in service bags are to be at least 27" wide x 42" tall x 4 mil thick polypropylene material, brightly colored (e.g., orange, yellow, green) and in bold black print clearly show in large, easy-to-read lettering the words "NOT IN SERVICE".

The Contractor must paint in two-inch (2") black lettered stenciling, the direction and distances to the nearest one-tenth foot (1/10' or 0.1') of the fire hydrant auxiliary valve box. The lettering is to be placed on the face of the fire hydrant directly below the bonnet flange.

Article 4.5 Measurement

The method of measurement to furnish and install fire hydrants is to be as follows:

A. Single Pumper Fire Hydrants

Single Pumper Fire Hydrants are to be measured as complete assemblies furnished, constructed, installed, and accepted in place for each installation, including, but not limited to trench excavation, backfill, compaction, fire hydrants six-inch (6") leg to main, six inch (6") auxiliary gate valve and valve box, guard posts, coatings, trace wire, coverings, board insulation, and thrust-restraint system. The price must include full compensation for furnishing and installing single pumper hydrants as shown in the plan details, required by these specifications and shown in the Drawings.

B. Double Pumper Fire Hydrants

Double Pumper Fire Hydrants are to be measured as complete assemblies furnished, constructed, installed, and accepted in place for each installation, including, but not limited to trench excavation, backfill, compaction, fire hydrants eight-inch (8") leg to main, eight-inch (8") auxiliary gate valve and valve box, guard posts, coatings, trace wire, coverings, board insulation, and thrust-restraint

system. The price is to include full compensation for furnishing and installing double pumper hydrants as shown in the plan details, required by these specifications and shown in the Drawings.

Article 4.6 Basis of Payment

Payment for this Work is to be as specified in the General Conditions and includes full payment for all Work described in this Section. Payment is to be made under the following units:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
14	Furnish and Install Fire Hydrant (Single Pumper)	Each
15	Furnish and Install Fire Hydrant (Double Pumper)	Each

SECTION 02668.05 WATER SERVICE LINES**Article 5.1 General**

The Work under this Section consists of the performance of Work required for furnishing and installing water service lines including but not limited to tapping, connecting, piping, fittings, valves, and key boxes at the location and depth required by the Contract Documents.

The Contractor is to notify the City of Unalaska a minimum of twenty-four (24) hour in advance of any required or needed inspection.

Article 5.2 Submittals

Submittals are to be provided to the Engineer for review and acceptance as stated in the General Conditions. The Contractor is to clearly demarcate items to be incorporated into the Work. Submittals for water service lines should include, but is not limited to the following information:

- Piping – See Section 02866.02
- Build America Buy America Certification
- NSF Certification
- Corporation stop
- Curb stop
- Key box
- Key box rod
- Flare nuts
- Thrust restraint system
- Corrosion protection items

Article 5.3 Material**A. Pipe**

Pipe material must comply with Section 02668.02 – Furnish and Install Pipe

B. Key Box, Curb Stop, Corporation stop, valve and Valve boxes

Keyboxes are to be telescoping, furnished with a lid, have an arch pattern base and are to be constructed of cast or ductile iron. The operating rod and connection pin are to be constructed of stainless steel alloy type 304 or 316. The connection pin is to be a minimum of 3/16" by two inches (2") long and inserted completely through cast connection head that is welded to the operating rod. Bent plate connection heads will not be allowed.

Curb stops (key box valves) are to conform to AWWA C800, be rated for minimum 150 psi working water pressure, have a waste port, be NSF 61 certified, accept copper flare nuts on both ends and conform to the "no lead" standard for parts in contact with potable water. For one-inch (1") services, the flare nut on the Utility side of the curb stop is to come with an integral wire connector for an anode connection. For services greater than one inch (>1"), a bronze direct burial compression pipe clamp is to be used in conjunction with a flare nut.

Corporation stops/valves shall be PTFE coated brass ball valves, rated for 300 psi water pressure, conform to AWWA C800, be NSF 61 certified, and conform to the "no lead" standard. Inlet end shall have the AWWA/CC taper and outlet end shall have copper flare straight connection. The corp shall come with a flare with an integral wire connector (up to one-inch) and a bronze direct burial compression pipe clamp thaw nut for sizes greater than 1-inch. Corp shall be Mueller H-15023 (1-1/2 & 2") or H-15008N (1") corp and thaw nut.

All components in contact with drinking water shall be NSF Certified.

C. Continuity and Trace Wire

Continuity and/or trace wires are to meet the requirements of Section 02668.02 – Furnish and Install Pipe.

Article 5.4 Construction

Water service piping and valves are to be constructed as outlined in Section 02668.01, Section 02668.02 and Section 02668.03 with the following special considerations.

The Contractor must excavate whatever substances that are encountered to the depth required for the connections, including excavation through bedrock. The Contractor is to expose any main to be tapped for a minimum distance of two feet (2' on either side of the proposed tap location and below the pipe for proper clearance of the tapping saddle.

The Contractor is responsible for all costs for damaging private utilities or City of Unalaska controlled piping included but not limited to damage during excavation, tapping or backfilling. The Contractor shall repair the damaged main.

Except where shown on City of Unalaska approved Drawings, The Contractor shall lay water connections at ninety degrees (90°) to the street line. Water service piping is to have a minimum of four-feet (4') of bury from the point of connection to a point at the ROW line or as shown. Where the main line has less than four-feet of bury, the service must be immediately lowered to achieve the required bury depth and insulated where there is less than four feet of bury. Water services are not to be within a horizontal distance of ten feet (10') or have less than eighteen inches (18") of vertical separation at crossings to a sewer or footing drain.

Trenches are to be OSHA compliant and have a minimum of two and one-half feet (2.5') wide bottom for a single copper water service. The service is to be centered in the ditch. Where multiple copper services are laid in the same trench, the services must have a minimum separation of two feet (2') and the key boxes must not be separated more than twelve feet (12'). Non-copper services cannot share the same excavation.

Key boxes shall be of an acceptable construction as shown in the plan details and the requirements of the Specifications. Key boxes are to be installed at the furthest point of City of Unalaska maintenance, which is typically at the property or utility easement line, whichever is a greater distance from the water mainline. The key box must not be installed horizontally closer than:

- ten feet (10') to a known or proposed structure, utility transformer pad, electrical/telephone/cable box, and other utility pedestals, sewer piping

- five feet (5') to an adjacent property line,
- fifteen feet (15') to a fire hydrant or hydrant leg

The Contractor will relocate any service not meeting the separation requirements at their own expense. Valve box adjustment sleeves as defined in Section 02668.03 – Furnish and Install Valves are to be used for key boxes located in pavement or concrete.

Key and valve boxes are to be installed plumb, be centered over the water line valve, have an unobstructed access way, and be wrapped with eight mils (8-mils) thick polyethylene encasement. Key and valve boxes must not be in contact with other utility lines, such as but not limited to fuel, electric, telephone or cable.

Where key box and valve box locations are not shown on a plan they shall be installed in the standard location as shown in the plans.

Keyboxes located within pavement or concrete are to be adjusted to finish grade and installed in a valve box adjustment sleeve. Adjustment of keyboxes is to be accomplished by removing the keybox lid, installing a black iron pipe coupling, installing a section of black iron pipe, and replacing the keybox lid at the finish grade.

Services stubbed to the property line or beyond for future use must have a bleeder pipe brought above grade, be marked at the end of the service with a 2" X 4" X 8' marker, protruding three (3') feet above grade, painted blue, and stenciled with the word "WATER" in white two (2") inch high letters near the top. Trace wires shall be spliced to the mainline wire and be brought to the surface at the curb stop.

The Contractor is to record the as-built vertical and horizontal locations of the water service, service length, bottom of pipe elevations at the main and property line, key box, and valves based on the survey control provided in the Drawings. When survey control is not provided to the contractor, the recording of the as-built information is to be relative to two permanent fixed points such as, but not limited to, manholes, valve boxes, building structures and property corners. The fixed point cannot be living, movable (e.g., boulders, rocks, fence posts), or changing attributes of something larger (e.g., sidewalk cracks, building paint schemes). The record information must be turned into the City of Unalaska prior to the City allowing the water service to be turned on.

When the Engineer may direct, but only after the service lines and appurtenances have been properly completed and inspected, the trenches and appurtenant structures may be backfilled in accordance with the construction requirements found in Section 02200 – Earthwork.

The Contractor shall exercise due care in backfilling to keep the service box and continuity wire vertical and in place. In the event the service box or continuity wire is displaced, the Contractor will be required to excavate and restore the service box and continuity wire to the proper position. Any work necessary to restore the service box and continuity wire to the proper position will be performed at the Contractor's expense.

Hydrostatic testing must comply with Section 02668.02 – Furnish and Install Pipe. A bleeder will be installed at each service line key box and extended a minimum of one and a half feet (1.5') above the existing ground. The bleeder will be capped after testing is complete. The bleeder may not be used for the on-property

system and must be disconnected at the time of the on-property extension.

No unions will be allowed in the right-of-way on newly constructed service lines.

All on-property installations are to be constructed to the same standard as off-property installations.

Article 5.5 Measurement

Measurement for Furnishing and Installing Water service Lines 2" and smaller shall be per each, including all work between and including the main Corp Stop and the Curb Stop.

Article 5.6 Basis of Payment

Payment for this Work will be as specified the General Conditions and includes full payment for all Work described in this Section.

Unless specifically identified for payment under a separate pay item, the unit price bid to Furnish and Install (size) Water Service Lines includes all costs, labor, equipment, and materials to furnish and install a functional potable water service including, but not limited to, the following incidental items:

- verify location of existing water services;
- trench excavation and backfill;
- excess excavation and backfill;
- excavation dewatering;
- trench support system;
- compaction of fill;
- installation of pipe,
- fittings, adapters, valves, key boxes, or other necessary appurtenances;
- polyethylene encasement;
- hydrostatic testing, flushing, and disinfection;
- water service trace wire;
- seeding; protection of existing utilities;
- restoration of existing drainage patterns;
- removal and replacement of existing culverts, guardrail, fences, landscaping, and other public or private improvements; finish grading;
- cleanup

Where the Work includes disconnecting existing water services from an existing water line and reconnecting them to a new water line, the disconnection and reconnection of those existing water services will be considered incidental to the costs bid for installation of the new water line.

Fittings and appurtenances as shown on the Drawings or not specifically identified for payment under a separate pay item but required for normal completion of water service line installation, will be considered incidental and will be included in the linear foot cost of the water service lines.

CAPTAINS BAY ROAD WATERLINE

DIVISION 2 - SITE WORK

Section 02668

WATER SYSTEMS

Payment is to be made under the following unit:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
16,17	Furnish and Install (Size) Water Service Line	Each

SECTION 02668.06 FURNISH AND INSTALL GALVANIC ANODES**Article 6.1 General**

The Work under this Section consists of the performance of all Work required for furnishing and installing galvanic anodes for added protection of water pipe from corrosion. The Contractor shall install galvanic anodes in accordance with these specifications and in conformity with the plan details or as shown on the Drawings.

Article 6.2 Submittals

Submittals are to be provided to the Engineer for review and acceptance as stated in the General Conditions. The Contractor is to clearly demarcate items to be incorporated into the Work. Submittals for anodes should include, but is not limited to the following information:

- Anodes
- Build America Buy America Certification
- Lead wire
- Thermite Welding
- Anode connectors

Article 6.3 Materials**A. Anodes**

Anodes utilized for typical galvanic anode system installation are prepackaged magnesium style anodes weighing twenty (20) pounds. Anode composition is to be in accordance with ASTM B843-2003 Table 1, Grade HP, M1C.

Anodes are to be packaged in a low resistive backfill consisting of seventy-five percent (75%) gypsum, twenty percent (20%) bentonite, and five percent (5%) sodium sulfate.

Anodes shall be provided with #10 AWG stranded copper, single-conductor cable with HMWPE insulation. Lead wire cable shall be rated for six hundred (600) volts and designed for direct burial applications.

B. Pipe Connection Lead Wire

Lead wires must be of sufficient length for splice-free routing between the anode and the pipe and is to be #10 AWG stranded copper, single-conductor cable with HMWPE insulation. Lead wire cable must be rated for six hundred (600) volts and designed for direct burial applications.

C. Thermite Welding Equipment and Materials

Equipment and materials used to bond the #10 AWG HMWPE to the pipeline is of the "CADWELD" type as manufactured by ERICO Products, Inc. of Cleveland, Ohio, or approved equal. Thermite weld caps, designed to protect the CADWELD bonds from corrosion, is to be Royston "Handy Cap 2" or approved equal.

Article 6.4 Construction

The following is a list of general procedures utilized for typical installation of galvanic anodes:

1. Anode Placement

Anodes are to be installed eighteen to thirty-six inches (18" to 36") from the side wall of the pipe, to a centerline depth in line with the approximate horizontal plane of the pipe's bottom dead center. Anodes are to be placed on alternating sides of the pipeline and at a frequency of no less than one anode per every ductile iron pipe section (joint) that is greater than nine feet in length. One anode may not protect more than twenty-seven feet (27') of pipe segments. One anode can cover all fittings within a twenty-foot (20') radius as long as all fittings are electrically connected to the anode. Anodes are not required on isolated bends.

2. Lead wire connection from anode to pipe, anode to fitting, fitting to fitting

The #10 AWG HMWPE lead wires must be attached to the top dead center of the pipe. Lead wire connections to the pipe are to utilize exothermic weld connection methodology and follow the manufacturer's instructions for use.

Lead wire connections to fittings are to be done with a stainless steel metal plate with two holes through the plate. One hole is to be placed and sized 1/8" larger than the fitting bolt to allow the fitting bolt to pass through the hole. The second hole is to be 5/16" in diameter to allow connection of the anode lead wire with a 1/4" diameter by 1" long stainless steel bolt with a nut and locking washer. The anode lead wire is to be fitted with a 5/16" diameter wire ring terminal. Were a connector plate is used, the Contractor must ensure a metal to metal connection is made to all metallic parts being protected by the anode.

3. Backfilling

Extreme care shall be taken not to damage the anodes or direct buried lead wires during backfill procedures.

Article 6.5 Measurement

Measurement for furnishing and installing anodes will be per each anode installed. The price includes full compensation for furnishing and installing anodes as described herein and as shown on the Drawings.

Unless specifically identified for payment under a separate pay item, the unit price bid to complete the anode installation includes all costs, labor, equipment, and materials to complete the Work including, but not limited to, the following incidental items:

- Connection of anode to pipe or fitting
- Excavation;
- Lead wire, jumper wires, connectors, bolts, nuts, washers
- Backfill and compaction;
- Removal and replacement of ground surface features
- adjustment to finish grade;

- protection and/or restoration of all existing utilities;
- maintenance of existing water distribution system flows;
- shoring excavations
- restoration of existing private or public improvement such as but not limited to:
 - driveways
 - signage
 - trees and shrubs located on private property;
- landscaping, utility markers, survey monumentation;
- cleanup, and miscellaneous items required to complete the Work as shown on the Drawings

Article 6.6 Basis of Payment

Payment for this Work is as specified in the General Conditions and includes full payment for all Work described in this Section.

Payment is to be made under the following unit:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
18	Furnish and Install Anode	Each

SECTION 02668.07 FURNISH AND INSTALL AIR/VAC RELIEF VAULT**Article 6.1 General**

The Work under this Section consists of the performance of all Work required for furnishing and installing Combination Air/Vacuum relief valves and vaults at high points in the water system. The function is to exhaust large quantities of air when filling, open during draining or negative pressure, and release accumulated air when the system is under operation and pressure. The Contractor shall install Air/Vac relief Manholes in accordance with these specifications and in conformity with the plan details or as shown on the Drawings.

Article 6.2 Submittals

Submittals are to be provided to the Engineer for review and acceptance as stated in the General Conditions. The Contractor is to clearly demarcate items to be incorporated into the Work. Submittals for anodes should include, but is not limited to the following information:

- Combination Air Valves
- Build America Buy America Certification
- NSF Certification
- Precast Concrete Vault, Access Hatch, Ladder
- Board Insulation, Adhesive
- PVC Vent Piping, Insect Screen
- Corp Stops
- Geotextile Fabric
- HDPE Pipe and adapters
- Shut-off Valves

Article 6.3 Materials

- A. See plan sheets.

Article 6.4 Construction

The following is a list of general procedures utilized for typical installation of Air/Vac Relief Manholes:

- A. Tap the newly installed main at high points to allow migration of air into or out of the new main;
- B. Install Corporation Stop with a double strap service saddle at the main;
- C. Install HDPE pipe with consistent uphill grade to Combination Air Valve (CAV);
- D. Install Vault plumb, level and square. Install on a compacted 6" thick layer of leveling course. Install drain rock wrapped in geotextile fabric under the drain sump. Install board insulation inside vault. Set vault elevation to allow installation of the CAV inside of vault.
- E. Install vent pipe with insect screen plumb and level;
- F. Install board insulation over top of the HDPE pipe when the bury depth is less than 4-feet.

Article 6.5 Measurement

Measurement for furnishing and installing Air/Vac relief Vaults will be per each installed. The price includes full compensation for furnishing and installing valves, pipe, vault, and appurtenances as described herein and as shown on the Drawings.

Unless specifically identified for payment under a separate pay item, the unit price bid to complete the vault installation includes all costs, labor, equipment, and materials to complete the Work including, but not limited to, the following incidental items:

- Excavation, backfill and compaction
- Connection to newly installed pipe
- Installation of HDPE pipe and insulation
- Installation of the concrete vault, lid, ladder, vent pipe, and insulation
- Vault insulation
- Leveling course, drain rock, fabric, backfill and compaction;
- Removal and replacement of ground surface features
- protection and/or restoration of all existing utilities;
- shoring excavations
- restoration of existing private or public improvement such as but not limited to:
 - driveways
 - signage
 - trees and shrubs located on private property;
- landscaping, utility markers, survey monumentation;
- cleanup, and miscellaneous items required to complete the Work as shown on the Drawings

Article 6.6 Basis of Payment

Payment for this Work is as specified in the General Conditions and includes full payment for all Work described in this Section.

Payment is to be made under the following unit:

ITEM	DESCRIPTION	UNIT
19	Furnish and Install Air/Vac Relief Vault	Each

SECTION 02668.07 FURNISH AND INSTALL BLOWOFF PIPE

Article 6.1 General

The Work under this Section consists of the performance of all Work required for furnishing and installing 16” diameter ductile iron blow-off pipes. The Work includes the wye branch, 45-degree bend, joint restraint, thrust blocks, and other work not associated with main line pipe installation. The ductile iron pipe and 16” butterfly valves are paid for separately. The Contractor shall install blow-off pipes in accordance with these specifications and in conformity with the plan details or as shown on the Drawings.

Article 6.2 Submittals

Submittals to be provided to the Engineer are included in 02668-02 Furnish and Install Pipe and 02668-03 Furnish and Install Valves. No separate submittal is required for this pay item.

Article 6.3 Materials

- A. See 02668-02 Furnish and Install Pipe and 02668-03 Furnish and Install Valves.

Article 6.4 Construction

- A. See 02668-02 Furnish and Install Pipe and 02668-03 Furnish and Install Valves.

Article 6.5 Measurement

Measurement for furnishing and installing 16” blow-off pipes will be per each installed. The price includes full compensation for furnishing and installing the wye branch, 45-degree bend, joint restraint, continuity straps, thrust blocks, copper service connection, bollard, and other work not associated with main line pipe installation as described herein and as shown on the Drawings. Measurement excludes the pipe, valve, bedding, surfacing material and anodes.

Unless specifically identified for payment under a separate pay item, the unit price bid to complete the blow-off pipe installation includes all costs, labor, equipment, and materials to complete the described Work.

Article 6.6 Basis of Payment

Payment for this Work is as specified in the General Conditions and includes full payment for all Work described in this Section.

Payment is to be made under the following unit:

ITEM	DESCRIPTION	UNIT
21	Construct 16” Blow-Off	Lump Sum

Part 6
***DRAWINGS (25-Sheets)**

G1	COVER SHEET
G2	SHEET INDEX, NOTES
G3	LEGEND, ABBREVIATIONS
G4	TABLES
G5	SURVEY CONTROL
G6	KEY MAP
PP1 - PP9.1	PLAN & PROFILE, Phase 1, WSI to OSI
B1	PYRAMID CREEK BRIDGE – Utility Crossing Section
B2	PYRAMID CREEK BRIDGE – Utility Crossing Elevation
D1 – D4	DETAILS – MISCELLANEOUS WATER UTILITY
D5	DETAILS - CATHODIC PROTECTION SYSTEM
D6	DETAILS - AIR/VACUUM RELIEF VAULT
D7	DETAILS – TRAFFIC CONTROL PLAN

* Due to the file size, the listed Drawings are not attached to the Project Manual but instead are made available for the Contractors use. The drawings are printed in 22"x34" ANSI D size so they can be plotted on ANSI D or 1/2 size on 11"x17" paper sizes. The complete Drawing set can be found and downloaded from the City's Website.

Part 7

PERMITS



April 25, 2024

Erik Hernandez
Deputy Director of Public Utilities
City of Unalaska
P.O. Box 610
Unalaska, AK 99685
ehernandez@ci.unalaska.ak.us

File: Unalaska Water System
PWSID: 260309
Class: Community
Source: Surface Water
DEC Project ID: 18769

Re: Unalaska Captains Bay Road Waterline
Conditional Approval to Construct & Separation Distance Waiver

Dear Mr. Hernandez,

This office received submittals requesting construction approval and separation distance waivers for modifications to the Unalaska Water System (PWSID 260309) distribution system on February 13th, 2024 from Thomas Regan, P.E. with Regan Engineering, P.C. Additional information was received on April 25th, 2024.

This letter issues Conditional Approval to Construct as well as Separation Distance Waivers for the drinking water improvements as detailed in the submitted engineering plans and outlined below.

Project Overview

This project will install 11,267 feet of new 16-inch diameter water distribution main west along Captains Bay Road from Westward Seafoods, Inc. to the Trident Seafoods development site (currently Bering Shai Rock and Gravel). A waiver is being requested for sanitary sewer crossings and proximity to a proposed sewer main. It will also install associated fire hydrants, service connections, and service lines. A temporary water distribution system shall provide water to the community during construction.

New distribution main

- 10,984 feet of new buried 16-inch DR18 polyvinylchloride (PVC) water distribution pipe meeting ANSI/AWWA C900-16 requirements.
- 283 feet of new 16-inch Class 52 Ductile Iron Pipe (DIP).
- Water lines will have a minimum of 4 feet of cover or will have supplemental insulation installed where minimum burial depth cannot be met.
- When crossing Pyramid Creek, the water main will consist of approximately 56 feet of 24-inch diameter arctic pipe (18-inch Schedule 40 HDPE water main enclosed in foam insulation and steel casing) running alongside existing bridge girders supported by 12-foot long MC12x50 HDG channel (hung from bottom of girders) at mid-span of bridge.
- All laterals and fittings will be ductile iron C153 mechanical joint compact fittings with a 350 PSI pressure rating.

- Three new single pumper fire hydrants assemblies and twelve new double pumper fire hydrant assemblies.
- Five new service connections (four 1-inch and one 2-inch polyethylene coated Type K copper).
- Pipe will have concrete thrust blocks, and megalug style restraints at ductile iron mechanical joint fittings.
- Appurtenances include valves, hydrants, combination air vacuum/relief manholes, services, blow-offs, cathodic protection system for the ductile iron pipe segments, thrust blocks, and other associated items.
- The water main for this area is normally served from the chlorine contact tank located in Pyramid Valley.

Separation Distance Waiver Determination

The proposed water main has five sanitary sewer crossings and one long section where the water main runs parallel to the sanitary sewer main south of the Offshore Systems Incorporated building between Station 19+00B to 23+00B.

Table 1: 16-inch PVC Water Main Separation Distance Encroachments

Sheet	Water line Sta.	Water Line (proposed)	Potential Contaminant (existing)	Separation	Position Relative to Source
PP7	56+96	16" PVC Water Main	8-inch DIP Sanitary Sewer	>18 inches vertical	Crossing above
PP8	60+08				
PP13	17+50B		Sanitary Sewer		
PP14	18+57B				
PP14	19+14B				
PP14	19+00B to 23+00B	Proposed 6-inch HDPE SS within 10-inch HDPE sleeve	12 inches horizontal	Parallel	

1. Overall, this project is an enhancement of the public water distribution system and is necessary to improve service and provide fire protection;
2. There are no reasonable alternatives to the proposed pipe route and there is no option but to cross sewers when they run perpendicular to the proposed route;
3. The new watermain will normally be maintained at approximately 135 psi. Sanitary sewers are generally close to atmospheric pressure, making cross contamination unlikely during normal operation;
4. Water line joints will be at least nine feet from the sewer/storm line joints;
5. All water main will be pressure tested to create a watertight system;
6. The new pipes will be installed with a minimum 18-inch vertical clearance to the sewer pipe crossings;
7. In the area which is adjacent to multiple septic tanks (Stations 17+80B to 18+70B), the joints on the proposed water main pipe will be sealed for a 90-foot section of pipe to

mitigate potential contamination to the drinking water system even though the required 10-foot separation distance will be maintained.

8. All new pipe will be pressure tested DR18 PVC or Class 52 Ductile Iron pipe.
9. Existing sewer pipe will be inspected when exposed for construction and repairs will be made if any defects are noted, including signs of previous leakage and/or inflow/infiltration.
10. Bedding and structural integrity of the existing sewer mains will be maintained during construction and restored if disturbed;

Where the water main will run in parallel with the proposed sewer

11. The sewer will be pressure tested to 150 psi;
12. QA/QC including visual joint inspections as well as destructive fusion joint testing on both the water and sewer line joints;
13. The sewer pipe will be enclosed in an HDPE carrier pipe.

Based on an evaluation of the available information, justification, and endorsement of the submitting engineer, a **Separation Distance Waiver is issued in accordance with the State's Drinking Water regulations, 18 Alaska Administrative Code (AAC) 80.**

This waiver is limited to this project and its current design and site conditions. If the water or sewer lines are replaced or modified in the future, this waiver is void and the water or sewer may be required to be relocated to meet separation distance requirements at that time. Site conditions and related contamination risks may change with time, voiding the waiver. Approval of this waiver does not obligate the department to approve future waiver requests proposing the same design.

Conditional Approval to Construct

The submitted engineering plans and supporting information have been reviewed and are approved in accordance with Alaska Drinking Water Regulations (18 AAC 80). The enclosed Construction and Operation Certificates, with the **Approval to Construct** section completed, constitutes written approval.

Issuance of this approval is contingent upon project compliance with the conditions listed below:

A temporary water system has been proposed for this project and is approved under this Conditional Approval to Construct given the temporary water system meets the following conditions and requirements:

1. If the temporary water system is to be operated during winter conditions, freeze protection shall be provided;
2. All materials used in the temporary water system which are in contact with potable water must be certified under the National Sanitation Foundation (NSF) Standard 61;
3. At least 20 psi of service pressure should be maintained throughout the entire temporary distribution main under peak flow conditions;
4. The temporary water distribution system must be disinfected and flushed in accordance with AWWA Standard C651; and
5. The temporary water system may not serve water to the public until analytical test results show that the system is free from coliform bacteria and submitted to our office.

Requirements for Approval to Operate

Interim Approval to Operate (IATO) must be requested and granted prior to putting the new water components into service. IATO may be requested in phases. As part of your submittal(s) requesting IATO, please provide written verification of the following:

1. Construction of the modifications to the public water system have been completed under the direction of a professional engineer licensed to practice in the State of Alaska and in accordance with the approved engineering plans, specifications, and any other DEC imposed conditions of construction.
2. Water main has been successfully pressure tested.
3. Water main system has been flushed, disinfected, and repeat sampled for total coliform in accordance with AWWA Standards. Provide the location in the system where each sample was taken, the date and time taken, and results of each to our office.

Final Approval to Operate (FATO) should be requested within 90 days after receiving IATO, unless otherwise requested when applying for IATO. As part of your submittal requesting FATO, provide:

1. Record Drawings, sealed and signed by an engineer licensed in the State of Alaska, confirming the system meets the requirements of 18 AAC 80. "Record Drawings" refers to the original plans prepared for construction and department approval, revised to reflect how the system was constructed or installed.

Expirations, Limitations, and Appeal Process

If the applicant fails to complete a project to construct, install, alter, renovate, or improve the water system within two years, this approval is void in accordance with 18 AAC 80.215(b). If during the two-year period site conditions, plans and information, and requirements in 18 AAC 80 do not change, and if the applicant pays the required fee, the department will grant the applicant an extension.

Approval of submitted plans is not an approval of omissions or oversights by this office, and does not guarantee correctness of the functional design or waive the owner's responsibility for continued compliance with state, federal, and local regulations. You are advised to obtain any other necessary authorizations before proceeding with your project.

A person authorized under a provision of 18 AAC 15 may request an informal review of a contested decision by the Division Director in accordance with 18 AAC 15.185 and/or an adjudicatory hearing in accordance with 18 AAC 15.195 - 18 AAC 15.340. See DEC's "Appeal a DEC Decision" web page <https://dec.alaska.gov/commish/review-guidance/> for access to the required forms and guidance on the appeal process. Please provide a courtesy copy of the adjudicatory hearing request in an electronic format to the parties required to be served under 18 AAC 15.200. Requests must be submitted no later than the deadline specified in 18 AAC 15.

If you have any questions, please contact me at 907-269-3076 or robert.ellis@alaska.gov.

Sincerely,



Robert Ellis
Engineering Associate I, DEC

Encl.: Construction and Operations Certificate for Public Water Systems

Cc.: Project Engineer, Thomas Regan, P.E., Regan Engineering, P.C.
tom@reganengineering.com
McKenzie Berry, WT2, WD3, mberry@ci.unalaska.ak.us
DEC-Drinking Water, kristine.crippen@alaska.gov and chris.jackson@alaska.gov
DEC Operator Training and Certification, dec.opcert@alaska.gov



State of Alaska
Department of Environmental Conservation
Drinking Water Program



PUBLIC WATER SYSTEM
CONSTRUCTION AND OPERATION CERTIFICATE

Approvals listed below are for compliance with the requirements of the State of Alaska Drinking Water Regulations 18 AAC 80. Any approvals granted do not imply or grant any other federal, state or local authorizations that may be required.

Water System Name: Unalaska **PWSID:** AK 260309

Water Source: Surface Water **Classification:** Community

System Wide Approval **Modification Approval**

Project Description: Unalaska Captains Bay Road Waterline

This project will install 11,267 feet of new 16-inch diameter water distribution main west along Captains Bay Road from Westward Seafoods, Inc. to the Trident Seafoods development site (currently Bering Shai Rock and Gravel). A waiver is being requested for sanitary sewer crossings and proximity to a proposed sewer main. See letter dated April 25, 2024 for details.

A. APPROVAL TO CONSTRUCT

Plans submitted in accordance with 18 AAC 80.205 by Thomas Regan, P.E. with Regan Engineering have been received and are

approved as submitted conditionally approved, see attached letter

Robert Ellis Engineering Associate I, DEC April 25, 2024
 Robert Ellis, E.I.T. (Title) (Date of Approval)
 (Reviewing Engineer)

If applicant fails to complete a project to construct, alter, install, or modify the system within two years of the date of approval to construct, approval is void, and plans must be resubmitted for Department review and approval (as per 18 AAC 80.215 (a)).

Approved Change Order

Change (contract order number or description): _____

 (Reviewing Engineer) (Title) (Date of Approval)

B. APPROVAL TO OPERATE

This section must be completed and signed by the Department before any water is made available for public use.

Interim Approval to Operate:

This interim approval to operate expires on _____. *It is illegal to operate a public water system beyond the expiration date without **Final Approval to Operate** from the Department.*

 (Reviewing Engineer) (Title) (Date of Approval)

Interim Approval Extension:

This interim approval to operate has been extended to _____.

 (Reviewing Engineer) (Title) (Date of Approval)

Interim Approval Extension:

This interim approval to operate has been extended to _____.

 (Reviewing Engineer) (Title) (Date of Approval)

Final Approval to Operate

Record drawings and other documents submitted to the Department, or an inspection by the Department, has confirmed that the public water system was constructed in substantial conformance to 18 AAC 80.

 (Reviewing Engineer) (Title) (Date of Approval)

Part 8

***EXHIBITS/REFERENCES**

Exhibit 01 – Geotechnical Report for Captains Bay Road, HDL Engineering Consultants, inc.

Exhibit 02 – NPF Site Utilities (1-Sheet)

Exhibit 03 – Plats 91-22 (2-Sheets), 94-43, 93-23, 94-21, 93-4, 96-2 (1-Sheet Each)

- * Due to the file size, the listed Exhibits are not attached but instead are made available for the Contractors use. The Exhibits can be found and downloaded from the City's Website. The Exhibits supplement the information provided in the Drawings.

