



THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

**Department of Environmental  
Conservation**

DIVISION OF ENVIRONMENTAL HEALTH  
Drinking Water Program

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March 10, 2015

Mr. James Armstrong, P.E.  
Anchorage Water & Wastewater Utility  
3000 Arctic Blvd.  
Anchorage, AK 99503

File: Denali St., NLB-Fireweed Water Rehab.  
PWSID: 210906 - AWWU

Re: Denali St., Northern Lights Boulevard-Fireweed Water Rehabilitation Project  
Construction Approval & Separation Distance Waiver

Dear Mr. Armstrong:

On July 25, 2014, this office received your submittal requesting Construction Approval and a Separation Distance Waiver for the above referenced project. On December 18, 2014, this office retrieved updated engineering drawing and specification documents from the Municipality of Anchorage Purchasing Department Invitation to Bid for the referenced project, specifically engineering drawings dated November 6, 2014 and the Specifications and Contract Documents dated October 23, 2014. **This letter issues Approval to Construct and Separation Distance Waiver Determinations for the modifications as outlined below. Requests for waivers that are denied may be re-applied for with updated information as described below – those sections do not have approval to construct.**

**Project Description**

This project proposes to remove the existing 6" cast iron pipe (CIP) water main and replace it with approximately 995 linear feet of 8", class-52, zinc coated, ductile iron pipe (DIP) along Denali Street from Northern Lights Boulevard to Fireweed Lane. Also included in the project are: the installation of two single pumper fire hydrant assemblies and valves; cathodic protection; re-establishment of service connections; a temporary water distribution system; and other related appurtenances. During construction, water service will be provided by the temporary water distribution system detailed below. At several locations the proposed water main encroaches on established minimum separation distance requirements for drinking water mains and potential sources of contamination as per 18 AAC 80. Table 1 summarizes the separation distance encroachments for this project.

**Table 1: Separation Distance Encroachments**

Water line Sta.	Water Line	Potential Contaminant	Encroachment Type	Separation (≈feet)		Position Relative to Water Main	Status of Waiver
				Vert.	Horz.		
5+81, 29' R to 5+81, 6' L	8" DIP : (P)	12" PCMP-SD lead : (RR)	Crossing	>1.5	-	PCMP-SD above	None required, serves a single SD lead
5+81, 6' L	" : "	SDCB : (RR)	W/in 10'	5.5	6.0	SDCB above	Approved
5+81, 6' L to 6+80, 10' R	" : "	12" PCMP-SD : (RR)	W/in 10' & Crossing	5.5	-	PCMP-SD above	Denied - See Basis for Waiver Denials item #1-4
7+01	" : "	18" PCMP-SD : (RR)	Crossing	>3	-	PCMP-SD above	Denied - See Basis for Waiver Denials items #3 & 4
7+08 to 7+40	" : "	12" PCMP-SD lead : (RR)	W/in 10' & Crossing	3.0	-	PCMP-SD above	None required, serves a single SD lead
7+40, 6' L	" : "	SDCB lead: (RR)	W/in 10'	5	5	SDCB above	None required, SD lead
8+75	" : "	8" AC-SS : (E)	Crossing	1.5	-	AC-SS above	Approved - See Sanitary Sewer Special Provisions
10+03, 28' R to 10+09, 9' L	" : "	12" PCMP-SD lead : (RR)	Crossing	>1.5	-	PCMP-SD above	None required, serves a single SD lead
10-09, 9' L	" : "	SDCB : (RR)	W/in 10'	3.0	8.5	SDCB above	Approved
10+09, 9' L to 10+73, 7' R	" : "	12" PCMP-SD : (RR)	W/in 10' & Crossing	4.0	-	PCMP-SD above	Denied - See Basis for Waiver Denials items #3 & #4
10+73, 7' R	" : "	SDCBMH : (E)	W/in 10'	1.5	7.0	SDCBMH above	Approved
10+74	" : "	18" PCMP-SD : (E)	Crossing	3.0	-	CMP-SD above	Denied - See Basis for Waiver Denials items #3 & #4
10+73, 7'R to 10+96, 9R	" : "	12" PCMP-SD : (RR)	W/in 10'	>4	8	PCMP-SD above	None required, serves a single SD lead
10+96, 9R	" : "	SDCB : (RR)	W/in 10'	>4	8	SDCB above	None required, SD lead
Abbreviations	AC-SS - Asbestos concrete sanitary sewer, E - Existing, RR - Remove & replace, SD - Storm drain, SDCB[MH] - Storm drain catchbasin [manhole], P - Proposed, P[CMP] - Precoated [corrugated metal pipe], W/in - Within						

### **Basis for Waiver Denials**

The following conditions were taken into consideration in reviewing the waiver request and are referenced in table 1:

1. The plans submitted do not identify a reason that the separation distance cannot be met such as site configuration, the system design, or the presence of other obstacles that have regulated separation distance requirements.
2. A crossing should be designed to be approximately a 90-degree intersection. The intersection of the water and storm sewer crossing is at such a shallow angle that this office does not consider it a standard "crossing". The angle at which they intersect acts effectively as single trench construction and results in the storm sewer line being within 10 horizontal feet of the sewer line for approximately 100 feet including multiple storm sewer joints which would not be watertight.
3. Based on feedback from AWWU, the storm sewer line cannot be pressure tested to ensure water tightness or be enclosed in a carrier pipe of similar strength and rating as the actual pipe, which is required by 18 AAC 80 for sewer lines within 10 horizontal feet of a water line.
4. The storm sewer line is not designed or constructed in a manner equivalent to the requirements for a potable water pipe, which is required by 18 AAC 80 for sewer lines within 10 horizontal feet of a water line, and no justification has been provided for why this requirement is not being met.

### **Basis for Waiver Approvals**

The following items were taken into consideration in reviewing this waiver request:

1. The proposed water main will be installed and pressure tested in accordance with Municipality of Anchorage Standard Specification 60.02; and

2. For the sections of listed as approved in table 1 the design maximizes horizontal and vertical separation distances as grade, configuration, existing utilities, and typical construction practices allow.

### **Sanitary Sewer waiver special provision**

The existing asbestos concrete sanitary sewer can't be pressure tested or double encased at this point in time. The sanitary sewer has been identified on the master plan for replacement in the future, and when the sewer line is repaired or replaced the waiver for the asbestos concrete sewer line crossing is void and the sanitary sewer must meet the crossing requirements of 18 AAC 80.020(f) including but not limited to it being constructed in a manner equivalent to the requirements for a potable water pipe and either pressure tested to ensure watertightness or enclosed in a carrier pipe of similar strength and rating as the actual pipe. The waterline must be constructed to maximize the distance between the waterline joints and the sanitary sewer.

**Based on an evaluation of the available information and in accordance with the State's Drinking Water Regulations, 18 AAC 80, the separation distance waiver requests have been approved or denied as detailed in Table 1.**

### **Temporary Water Distribution System**

During construction service will be provided via a temporary water distribution system. The proposed high-density polyethylene (HDPE) main will connect directly to existing nearby fire hydrants. Service connections will be made via various sizes of HDPE lines connected to existing service line extensions. Metered service connections and service lines 2" or smaller will incorporate a Watts Series 7 dual check valve; the remaining services will rely on each connection's existing backflow prevention device. **Based on an evaluation of the available information and in accordance with the State's Drinking Water Regulations, 18 AAC 80, the proposed Temporary Water System is approved subject to the following conditions:**

1. 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.
2. At least 20 psi of service pressure should be maintained at the highest elevation of the temporary distribution main under peak flow conditions.
3. The temporary water distribution system must be disinfected and flushed in accordance with AWWA Standard C651.
4. The temporary water system may not serve water to the public until analytical test results show that the system is free from coliform bacteria.
5. If the temporary water system is to be operated during winter conditions, freeze protection should be provided.

### **Construction Approval**

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 Certificate, with the Approval to Construct section completed, constitutes written approval. Deviations from approved plans which affect capacity, flow, pressure, operation, compliance, or materials of major system components (particularly any components which do not meet NSF Standard 61), must be approved by the Drinking Water Program prior to their construction or implementation.

### **Interim Approval to Operate**

As part of your submittal requesting Interim Approval to Operate, please provide written verification of the following:

1. Construction of the modifications to the 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 engineering plans and specifications;
2. Water distribution lines have been successfully pressure tested; and
3. Water distribution lines have been flushed, disinfected, and sampled for total coliform in accordance with AWWA Standard C651. Provide the location in the system where each sample was taken (plan or station numbers), the time and date of each sample, and the results for each sample.

**Final Approval to Operate**

Final Approval to Operate should be requested 90 days after receiving Interim Approval to Operate. As part of your submittal requesting Final Approval to Operate, please provide:

1. Record Drawings, stamped and signed by an engineer licensed in the State of Alaska, confirming that 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.

**Approval Expiration**

If the applicant fails 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.

**Limitations**

Any changes, constructed or natural, that affect the conditions to which this approval was granted will void this approval. This does not imply the granting of additional authorizations, nor obligate any federal, state, or local regulatory body to grant required authorizations. This is not an approval of omissions or oversights by this office or noncompliance with any applicable regulation. The Department's issuance of this construction approval does not guarantee correctness of the functional design nor waiver the owner's responsibility for continued compliance with State regulations.

**Appeal Process**

Any person who disagrees with this decision may request by mail, e-mail, or facsimile an informal review in accordance with 18 AAC 15.185 or an adjudicatory hearing in accordance with 18 AAC 15.195-15.340. Informal review requests must be delivered to Division Director Elaine Busse Floyd within 15 days of receipt of this decision. Adjudicatory hearing requests must be delivered to Commissioner Larry Hartig within 30 days of this decision, otherwise, the right to appeal is waived. For more information, visit [www.dec.state.ak.us/commish/ReviewGuidance.htm](http://www.dec.state.ak.us/commish/ReviewGuidance.htm).

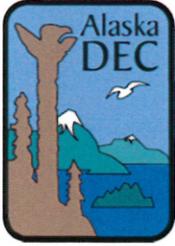
If you have any questions regarding this plan review please do not hesitate to contact me.

Sincerely,



Roy Robertson, P.E.  
Engineer II  
Drinking Water Program, Anchorage Office

Encl.: Construction and Operations Certificate for Public Water Systems



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: AWWU PWSID: 210906

Water Source: Mixed Surface Water & Ground Water Classification: Community

System Wide Approval  Modification Approval

Project Description: Denali Street, Northern Lights Boulevard-Fireweed Water Rehabilitation Project

**A. APPROVAL TO CONSTRUCT**

Plans submitted in accordance with 18 AAC 80.205 by James Armstrong, P.E. have been received and are

approved as submitted  conditionally approved, see attached letter

Roy Robertson Engineer II, DEC 3/10/2015  
Roy Robertson (Reviewing Engineer) (Title) (Date of Approval)

*If applicant fails 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.*

T.W. Brannan \_\_\_\_\_  
(Reviewing Engineer) (Title) (Date of Approval)