



CITY OF NORTH POLE
Regular Meeting January 07, 2019
North Pole Council Chambers
125 Snowman Lane, North Pole, Alaska
www.northpolealaska.com

Monday, January 07, 2019
Committee of the Whole: 6:30 p.m.
Regular City Council Meeting – 7:00 p.m.

MAYOR

Michael Welch
488-8584

CITY CLERK

Judy Binkley
488-8583

COUNCIL MEMBERS

Doug Isaacson – Mayor Pro Tem	322-3133
Avery Thompson – Deputy Mayor Pro Tem	388-5351
Perry Walley – Alt Dep Mayor Pro Tem	347-0135
DeJohn Cromer	347-2808
Aino Welch	488-5834
David Skippis	750-5106

- 1. Call to Order/Roll Call**
- 2. Pledge of Allegiance to the US Flag**
- 3. Invocation**
- 4. Approval of the Agenda**
- 5. Approval of the Minutes**
 - a. December 10, 2018**
- 6. Communications from the Mayor**
- 7. Council Member Questions of the Mayor**
- 8. Communications from Department Heads, Borough Representative and the City Clerk**
- 9. Ongoing Projects Report**

10. Citizens Comments (Limited to Five (5) minutes per Citizen)

11. Old Business

12. New Business

- a. Request to Adopt the Service Line Requirements for Water and Wastewater-Commercial and Residential Structures, Revised November 26, 2018.
- b. Request for Approval of Consulting Engineer Contracts with North Star Engineering and Inspection and Meurlott Consulting to Perform Building Plan Reviews and Inspections for the Building Department.
- c. Request for Approval of Proposed Scope of Services, Additional Site Characterization, City of North Pole 8th Avenue Fire-Well Pump House, ADEC File No. 100.38.224.
- d. Request for Approval of a Memorandum of Understanding Between the US Army Corps of Engineers and City of North Pole for \$275,000 to Initiate Engineering and Design Work for the Moose Creek Water System Expansion Project.

13. Executive Session

- a. To Discuss Legal Issues and Strategy Associated with PFOS/PFOA.
- b. To Discuss Personnel Issues in the Utility Department.
- c. To Discuss Personnel Issues in the City Clerk/HR Department.

14. Council Comments

15. Adjournment

Detailed information and copies of agenda documents may be obtained at the Office of the City Clerk, 125 Snowman Lane or on the City website www.northpolealaska.com. Notice of Council Action is available at City Hall and on the City website following the meeting. Council Meetings are aired live via audio streaming from the City's website. Inquiries concerning ADA compliance or accommodations should be directed to the City Clerk.



**Committee of the Whole – 6:30 P.M.
Regular City Council Meeting – 7:00 P.M.**

A regular meeting of the North Pole City Council was held on Monday, December 10, 2018 in the Council Chambers of City Hall, 125 Snowman Lane, North Pole, Alaska.

CALL TO ORDER/ROLL CALL

Mayor Welch called the regular City Council meeting of Monday, December 10, 2018 to order at 7:00 p.m.

There were present:

Doug Isaacson – *Mayor Pro Tem*
Avery Thompson – *Deputy Mayor Pro Tem*
Perry Walley – *Alt Dep Mayor Pro Tem*
DeJohn Cromer
Aino Welch
David Skipps
Mayor Welch

Absent/Excused

Excused

Excused

PLEDGE OF ALLEGIANCE TO THE U.S. FLAG

Led by Mayor Welch

INVOCATION

Invocation was given by Mr. Isaacson

APPROVAL OF AGENDA

Mr. Isaacson *moved to* **approve the agenda of December 10, 2018**

Seconded by Ms. Welch

DISCUSSION

Mr. Isaacson *moved to* **consent the following items:**

Old Business:

- a. Ordinance 18-32, An Ordinance of the City of North Pole, Alaska to Amend the 2018 Building, Public Works, Utility, Administration, and Fire Departments Budgets.

Seconded by Ms. Welch

Discussion

None

On the amendment

PASSED

Yes: 5- Thompson, Isaacson, Welch, Cromer, Welch

No: 0

Absent: 2 – Skipps, Walley

On the Agenda as amended

Discussion

None

PASSED

Yes: 5- Thompson, Isaacson, Welch, Cromer, Welch

No: 0

Absent: 2 – Skipps, Walley

APPROVAL OF MINUTES

Mr. Isaacson moved to approve the Minutes of December 03, 2018

Seconded by Ms. Welch

Discussion

None

PASSED

Yes: 5- Thompson, Isaacson, Welch, Cromer, Welch

No: 0

Absent: 2 – Skipps, Walley

COMMUNICATIONS FROM THE MAYOR (Audio 5:02)

- Proclamation: December 2018 Student of the Month, Jacob Blanchard.
- December 4, 2018 – Visited State Senator John Coghill's office to review and sign as the Mayor of the City of North Pole our input for the establishment of Military Facility Zone(s) for the North Star Borough to include Ft. Wainwright. This document will be presented to the 31st Alaska State Legislature when it convenes in January 2019.
- December 4, 2018 – Attended the IGU Board at Key Bank Building on Cushman Street. What I learned was the technical complexities that this board faces in the detailed

preparation of liquefied natural gas to be brought to the FNSB. The survivability of the Titan I complex following the earthquake at Port McKenzie was discussed. Siemens may bring a technical and a financial package to the table.

- December 7, 2018 – Attended the FEDCO Holiday meeting. Exchanged ideas concerning our Legislative Priorities for the 31st Alaska State Legislature session when I attend in February 2019. Met with many key program managers that are part of FEDCO that are working on our Air Quality Initiatives, liquefied natural gas, FAI airport expansion of their Master Plan for 2019-2020. Mr. Jim Dodson discussed his visit to the Wilson Center in Washington, D.D., especially concerning the strategy of the Arctic, especially concerning our security posture in light of Russia and China's involvement.
- December 8, 2018 – KJNP Over the Coffee Cup radio talk show with Mr. Dick Olsen.
- December 8, 2018 – Attended the 354th Fighter Wing's Holiday Party at Eielson, AFB as a guest of Wing Commander Benjamin Bishop and his wife, Erin. Made extremely valuable contacts with Colonel Bishop's staff to give me guidance to establishing a dynamic, enhanced video welcoming package for the new airmen to be stationed here between September 2019 and April 2020. Learned directly from Colonel Bishop that nearly half of the new wing will be in place by the end of September 2019.
- December 10, 2018 – Hosted Mr. Chris Maggio, a freelance photographer of Vogue, Inc. around the City of North Pole. We visited with Administration, Police, Fire, as well as various neighborhoods and businesses. A great sense of appreciation goes to Mr. Dick Olsen of KJNP for giving us an hour-long tour of the radio and television studio. We also toured Pagoda and Hotel North Pole, to include the Santa Claus Suite.
- Confirmed with the Hotel North Pole that the City of North Pole has reserved the engagement room to hold approximately 100 for our Christmas Party for Saturday, December 22, 2018 from 1800-2200. The meal will be catered by Benny Lin of Pagoda. Please confirm by 12/12/2018 by called me at 488-8584 the number in your party, and do include your children and their ages as toys are to be given away for their enjoyment this Christmas of 2018.

COUNCIL MEMBER QUESTIONS OF THE MAYOR

None

COMMUNICATIONS FROM DEPARTMENT HEADS, BOROUGH REPRESENTATIVE AND THE CITY CLERK

Fire Dept., Chief Coon (Audio 14:45)

- The North Pole Fire Department is pleased to announce that Dr. Robinson will be our physician sponsor. Dr. Robinson will be only the fourth physician to sponsor us since we started doing EMS. The department would like to welcome Dr. Robinson to our department and look forward to working with him.
- Maintenance Report:
 - Engine 21's power steering leak was repaired.

- Scheduling repairs on leaking pump valves. This is done in house as time and parts allow.
- A-shift completed the shower install in the live-in facilities.
- Several of the light and medium duty vehicles will be undergoing “B” inspections and repairs.
- We continue to have paramedic students ride along with our medics and it seems to be working out well. The students are getting some good training and our medics enjoy the process.
- The department will begin preparations to decorate Squad 21 for Christmas Caroling. Caroling will start on the 15th at 1800hrs and run through Christmas Day.
- With the earthquake still fresh in everyone’s mind it is good reminder to everyone to have an emergency plan that would include a week work of supplies. These supplies should include at least:
 - Food and water
 - Medications
 - Gas/diesel
 - Approved heating device
 - Communications
- Visit www.ready.alaska.gov

Finance, Tricia Fogarty (Audio 20:30)

- Thanks to Council for passing the 2019 budget at the last meeting. If you leave your budget books, we will reprint the final for you and have them ready at the next meeting. I will work to get the approved budget on the website this week.
- I’m working on payroll and since there are no more meetings this month, Council will be paid this Friday.

Director of City Services, Bill Butler

None

Police Dept., Chief Dutra (Audio 22:00)

- I attended the Anchorage Executive Development conference. We learned a ton.
 - Met new AG for DPS (complete disassemble of SB 91).
 - Class on Police Officer Fatigue and how to fight it.
 - Use of Force – changes on horizon.
 - I also was part of the APSC board and AACOP, both an honor.
 - Leadership – learned it is all about me and plan on bringing this training to all.
- My budget is now back in balance – one minor change needed in professional services. Thank you and I hope we have been fiscally responsible.
- Thank you all for passing the budget in my absence and I would like to thank Sgt. Binkley for sitting in.
- Stats.

- New water lines have been put in so we can now wash cars in new bays.
- Det. Gibson has asked to step down from Major Crimes Detective and Det. Milne has applied to take her place and leave the SDEU. This position is open and closes on Monday next week. We are also about to hold Sgt. Testing so we can establish a list for next year's departure of Sgt. Stevenson. Lots of ball juggling.
- Tracstar evaluation program has now gone up to \$1880. We have been paying \$750 - \$1000 for over 10 years. I am not convinced it is enough of a value to continue.
- I attended the APOA Christmas party last night – it was well attended.
- Completed a student internship the other day for Eielson High School kid.
- Merry Christmas and thank you for all your support.

Borough Representative

None

City Clerk's Office, Judy Binkley (Audio 38:46)

- I will be swearing in the new officers for Santa's Senior Center during their monthly birthday lunch on Wednesday, December 19th at 11am. If anyone would like to join me, please let me know ASAP so I can RSVP.
- Merry Christmas and Happy New Years! We have a little break as our next Council meeting won't be until January 7th, 2019.

ONGOING PROJECTS

None

CITIZENS COMMENTS – (Limited to Five (5) minutes per Citizen) (Audio 39:44)

- **Santa Claus**, North Pole, Alaska: Stated he was happy that City Council was able to present a proclamation to the Secretary of the Air Force for NORAD Tracks Santa and also to the postmaster general. Offered his annual Santa blessing to everyone – may each of you have a lifetime that's filled with happiness, peace, good health, prosperity, and most of all, love, which is the greatest gift. Merry Christmas.

OLD BUSINESS

Consented

Public Comment

None

NEW BUSINESS

RESOLUTION 18-16, A RESOLUTION ESTABLISHING CITY OF NORTH POLE LEGISLATIVE PRIORITIES FOR THE 31ST LEGISLATURE 2019 REGULAR

SESSION. (Audio 41:15)

Mayor Welch introduced the resolution.

Public Comment

None

Mr. Isaacson *moved to* introduce and adopt Resolution 18-16, A Resolution Establishing the City of North Pole Legislative Priorities for the 31st Legislature 2019 Regular Session.

Seconded by Ms. Welch

Discussion (Audio 42:30)

Mr. Isaacson *moved to* amend Resolution 18-16, A Resolution Establishing the City of North Pole Legislative Priorities for the 31st Legislature 2019 Regular Session by:

1. Line 172 - Reprioritize #5 to #1 and re-number accordingly.
2. Line 175, after “solution.” add “A state that is energy rich must find sustainable solutions for affordable consumer energy costs to include heating, transportation, and electricity.
3. Add to the end of Line 181 “The City of North Pole requests the Legislature and Governor to incorporate into the plan and provide hook-up cost mitigation and assistance in order to encourage compliance with Federal EPA Clean Air Standards for PM 2.5 emissions. The North Pole area is considered the worst air quality in the State of Alaska, largely due to the high numbers of wood burners who defray the high cost of diesel oil to heat their homes. The FNSB has been designated as a “serious non-attainment area” by the EPA, prompting the development of a serious state implementation plan, which may collectively cost the community over \$100 million, further adding additional costs to our already high energy rates and may worsen the PM 2.5 emissions by driving more people to burn wood to heat their homes.

Seconded by Mr. Thompson

Discussion (Audio 49:42)

Mr. Thompson stated that he absolutely agrees with Councilman Isaacson and with the way he presented the amendment, would like to co-sponsor the resolution.

Ms. Welch stated she would also like to co-sponsor the resolution.

Mr. Cromer agreed to co-sponsor the resolution as well.

On the amendment

PASSED

Yes: 5- Thompson, Isaacson, Welch, Cromer, Welch

No: 0

Absent: 2 – Skipps, Walley

Discussion on the motion as amended (Audio 51:46)

Mr. Isaacson stated he would like to co-sponsor the resolution too.

On the motion as amended

PASSED

Yes: 5- Thompson, Isaacson, Welch, Cromer, Welch

No: 0

Absent: 2 – Skipps, Walley

COUNCIL COMMENTS (Audio 52:40)

Mr. Isaacson – I really appreciate having serviced with the City of North Pole Council again for the last two years and am seriously looking at this as my last year. I'm thankful for this Christmas season and my family. I'm grateful for City employees who labor so diligently and so hard for us.

Mr. Thompson – It's been a great year for the City of North Pole. I look forward to what 2019 will bring. Merry Christmas and Happy New Years.

Mr. Skipps – Absent

Mr. Walley – Absent

Mr. Cromer – I want to wish everybody a Merry Christmas. I look forward to next year.

Ms. Welch – I'm very thankful for everything we have been able to accomplish this year. Just to promote the City a little bit, Christmas in Ice is in full swing.

Mayor Welch – I was privileged to attend the celebration of life for Terry Walley and I got a lot out of that. I think we should conduct ourselves in our life in such a way that people look forward to coming to our celebration of life. I've also been happy to be able to host different film crews and photographers and show them around the City. I would like to revisit the motto "where the spirit of Christmas lives year round" by bringing some happiness and cheer to other people. Merry Christmas to all.

Mr. Isaacson *moved to adjourn the meeting at 8:11 p.m.*

Seconded by Ms. Welch

The regular meeting of Monday, December 10, 2018 adjourned at 8:12 p.m.

These minutes passed and approved by a duly constituted quorum of the North Pole City Council on Monday, January 7, 2019.

Michael W. Welch, Mayor

ATTEST:

Judy Binkley, North Pole City Clerk

125 Snowman Lane
North Pole, Alaska 99705
(907) 488-8593
(907) 488-3002 (fax)
bill.butler@northpolealaska.org

City of North Pole
Director of City Services

Memo

To: North Pole City Council
From: Bill Butler
Date: December 31, 2018
Subject: Accept updated Service Line Requirements for Water and Wastewater-commercial and Residential Structure

Recommendation

Accept the updated *Service Line Requirements for Water and Wastewater-Commercial and Residential Structures* prepared by Stantec Consulting and funded by the Water System Expansion Project.

Background

A professional services agreement with Stantec Consulting, approved by the Council in May 2018, included work to update the North Pole Utility's Service Line Requirements. The project was fully funded by the sulfolane legal settlement. The project partners—City of North Pole, State of Alaska and Flint Hills Resources—reviewed and provided comments on the draft Service Line Requirements with the North Pole Utility being the “final arbiter” if there were disagreements or if they wanted to see specific changes to the Service Line Requirements. The most significant change to the Service Line Requirements was inclusion of a new standard that allows for HDPE service lines, while the previous standard only allowed metal service lines (copper or ductile iron). There are additional engineering details that will assist the Utility and contractors when installing service line connections with excessively long service lines, a condition common in areas of the Water System Expansion service areas. The revised Service Line Requirements also include updated technical details that reflect changes in industry standards that have occurred since the last update of the Service Line Requirements that occurred in 2007.



**City of North Pole
Service Line Requirements for
Water and Wastewater —
Commercial and Residential
Structures**

Revised:

November 26, 2018

Prepared for:



City of North Pole
125 Snowman Lane
North Pole, AK 99705

Prepared by:

Stantec Consulting Services Inc.
475 Riverstone Way, Unit 3
Fairbanks, Alaska 99709-2945

Stantec Project No: 2047056204

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Abbreviations

ADEC	Alaska Department of Environmental Conservation
ADOT	Alaska Department of Transportation & Public Facilities
AWWA	American Water Works Association
CONP	City of North Pole
DIP	Ductile Iron Pipe
FNSB	Fairbanks North Star Borough
HDPE	High Density Polyethylene
NSF	National Sanitation Foundation
PEX	Cross-linked Polyethylene
PRV	Pressure Reducing Valve
ROW	Right of Way
FL	Flanged
MJ	Mechanical Joint

1.0 GENERAL

1.1 SCOPE

This document covers the acceptable design and construction features for service connection to the City of North Pole water and wastewater systems and will serve as the official inspection guideline prior to connection by the Utility. Deviation from this document is permitted only by written consent of the Utility. The Utility shall have the ultimate authority to interpret this document and may direct modifications for specific situations. Connection to the Utility is at the sole discretion of the Utility.

The City of North Pole assumes no responsibility or liability concerning the suitability or applicability of this document to the requirements of the Customer.

It is not the intent of this specification to supersede regulations, City ordinances, or other regulations, but rather to provide customers, designers, and installers a guide for design and installation of underground piping systems compatible with the Utility distribution system.

1.2 DEFINITIONS

The following definitions apply to this document:

Utility: North Pole Water & Sewer Utility.

Customer: That person contracting with the Utility to obtain water and/or wastewater service. The Customer has certain responsibilities and liabilities detailed in Section 3 of this document.

Designer: Any person who designs the system governed by this document.

Installer: Any person acting on behalf of the Customer who will perform installation, excavation, insulation, or any other work relating to complete or partial accomplishment of connection to the Utility system. The Installer is responsible to the Customer to provide a system which conforms to the requirements of this document.

1.3 OWNERSHIP

Utility services belong to the property owner of the lot served. The Utility's ownership is limited to the utility main, the Utility installed water meter and automatic meter reading equipment. All other piping, fittings, valves, pumps, and other material, whether required by law, necessity, or this document, remain the property and responsibility of the Customer. The Customer shall be responsible for the maintenance and all other costs associated with the service connection.

1.4 CUSTOMER RESPONSIBILITY

The Customer is responsible for paying for and obtaining verification from the designer and Installer that all design and installation work is in conformance with this document, Utility requirements, and applicable City of North Pole (CONP) ordinances. The Customer is responsible for obtaining and complying with all required permits including but not limited to those noted in Section 3.4 PERMITS.

The Customer is responsible for meeting the requirements of the City of North Pole utility ordinances. The Customer and Installer will be held accountable for violations of the City of North Pole utility ordinances and/or damage to Utility facilities resulting from failure to comply with the requirements of the City of North Pole utility ordinances, Utility requirements, and this document.

The Customer or their Installer shall be responsible for determining the location of all underground utilities and shall be responsible for any damages to underground utilities caused by the work.

The Customer is responsible for protecting and maintaining the water service piping, fittings, and appurtenances, including the meter, from freezing, breaking, or any other damage that may occur.

1.5 DESIGN REQUIREMENTS

This document is for services within the limits noted. The Customer is responsible for determining the suitability of this document for their service. The following general requirements should be addressed prior to construction both when using this document or custom design.

1. HDPE services shall not be used in areas where petroleum contamination is suspected or likely to be encountered. Metal piping and chemical resistant joints are required where petroleum contamination is suspected.
2. Circulation pumps are recommended on all water services. Circulation pumps are **required**:
 - A. To maintain a minimum flow of 0.1 ft/s in service piping if no pitorifice is used;
 - B. If water service piping length exceeds 50 feet from Water main to structure;
 - C. On water services larger than 1 inch;
 - D. On all water services outside of the City Limits, and in the Highway Park service area.
 - E. A circulation pump many also be required in any event where freeze up have occurred regardless of the length of the service.

Refer to CONP Municipal Code Section 13.16.020.

1.6 INSTALLER REQUIREMENTS

For a residential structure (single family or duplex), the property owner may install the water service (but not the connection to the main), provided that the property owner does the actual installation. If the actual installation is not performed by the property owner, then the work must be performed by competent plumbers holding valid Alaska

Department of Labor Journeymen Plumber Cards or licensed Mechanical Administrator (required by Alaska State Law).

The connection to the main line must be done by a bonded contractor licensed in the State of Alaska. Connection includes excavating within 10' of the main, tapping the main, hanging valve or corporation stops, and backfilling within 10' of the main. Contractor must provide the City with the following:

1. Contractor's License number (State of Alaska).
2. Mechanical Contractor; Plumber Journeyman Certificate of Fitness or Plumber Utility Certificate of Fitness number.
3. Alaska Business License number.
4. City of North Pole Business License number.
5. Contractor proof of commercial liability insurance.
6. Proof of Workman's Compensation Insurance, if required by law.
7. Excavation permit (if excavating in City right-of-way) including any required bond.
8. Approved Utility Tie-in permit.
9. Work plan, including schedule.
10. If working in FNSB or DOT rights-of-way, proof of authorization to work in the ROW.
11. If a new easement is required, proof easement has been obtained; if vacation of an easement is required, proof the easement has been vacated.
12. Other proof of capability to perform such work as required by the Director of City Services.

The Installer is responsible for the protection of private and public property, including other utilities. The Installer is responsible for meeting the applicable requirements of this document, the Uniform Plumbing Code and amendments adopted by the City, and the Construction Code of the Occupational Safety and Health Standards except as modified by this document.

2.0 PROCEDURES FOR OBTAINING A NEW SERVICE

2.1 INFORMATION TO OBTAIN

Call or visit City Hall at 907-488-2281 or 125 Snowman Lane, North Pole AK 99705, for information on:

1. The availability of service.
2. The service type of connection allowed at a given property.
3. Whether or not assessments have been paid.
4. Application forms and procedures.
5. Scheduling field location of Utility mains, inspections, and other Utility services.

To obtain a new service, the Customer must:

1. Complete a Service Tie-in Application and pay the associated fees and assessments.
2. Secure necessary permits and easements.

The Customer must apply for service prior to requesting the scheduling of Utility services.

2.2 SERVICE LINE SIZE AND INSTALLATION

The type of service connection allowed by the Utility will depend upon location of water main, sewer main, service piping diameter, and Customer material preferences. Typically, residential services within North Pole City Limits require the use of pitorifices, while any service over 50 feet in length, and residential services outside North Pole City Limits require a circulation pump.

Each property owner shall coordinate with the Utility to verify the type of service connections allowed for a given property. The Customer is required to state the type and size of piping intended to be installed. Final determination of materials and connection type is to be made by the Utility.

A service connection shall serve no more than one (1) lot. No service connection may cross a lot line other than that for which it is intended to provide service unless an easement has been provided. A structure shall be served by a single service connection. Where multiple structures occupy a single lot, coordinate with Alaska Department of Environmental Conservation (ADEC) Drinking Water Program, 451-2108, for ADEC plan review prior to applying for service.

1. Water: Refer to Section 5.0 for Water Service Requirements. The Customer is responsible for all engineering calculations required for non-standard services:
 - A. Minimum size for buried water service piping is 1-inch.
 - B. The standard size for residential water services is 1-inch. This is generally sufficient for single family and duplex structures with service lengths of less than 300 feet from main to structure.
 - C. Service lengths over 300 feet, or service flows over 10 gpm may require larger piping to provide adequate flow or pressure. Contact the Utility to confirm service sizing requirements.
 1. For non-standard water services the Customer is responsible for obtaining signed sizing computations from an Alaska registered professional engineer, and submitting calculations with the service application.
 2. Service size shall be based on the number of units to be served, and a minimum water main pressure of 50 psi or as directed by the Utility. Minimum flow for a single family home shall be 10 gpm. Size service to deliver no less than 40 psi at the service entrance, or furthest fixture for multiunit or multistory construction.
 3. For single family homes only, in lieu of submitting engineering calculations, or when directed by the Utility, for services greater than 300 feet, but less than 500 feet, provide 1.50 inch minimum service piping.
 - D. Multifamily housing, commercial, and non-standard water connections, and all services with fire protection requirements require professional engineering calculations to determine size of service piping.
2. Wastewater: Wastewater services are generally four (4) inch minimum for residential services, with six (6) inch minimum for multifamily and commercial connections. Wastewater service line size is based on the number bedrooms for residential structures. Refer to Section 7.0 for Wastewater Service Requirements.

2.3 APPLICATION FOR SERVICE

Application: Apply for service and pay necessary fees at City of North Pole, 125 Snowman Lane, North Pole, Alaska 99705.

3.0 UTILITY SERVICE REQUIREMENTS

3.1 STANDARDS

Only work, materials, and tools meeting acceptable standards shall be permitted. All plumbing shall conform to the standards set forth in the most recent edition of the Uniform Plumbing Code as adopted by City of North Pole. All excavation shall conform to Occupational Safety and Health Administration Regulations. All work and materials shall be free of defects and leaks.

In the event of conflicts between this document and the most recent edition of other Standards, the following governance shall apply:

1. City of North Pole Ordinance
2. This Document
3. Uniform Plumbing Code adopted and amended by the City of North Pole

3.2 SCOPE OF UTILITY PERSONNEL WORK

Utility personnel will perform water and wastewater locates, shut off water main lines, and once the Installer has connected the service line reactivate the water main lines. Utility personnel will also install the water meter head. This, together with the inspection of service line's materials and construction, will constitute the entire scope of Utility personnel work unless specific arrangements have been made in writing.

3.3 REQUIRED INSPECTION

Inspection of a utility service is the responsibility of the Utility. Each phase of work must be inspected by Utility personnel or the Utility's authorized representative before going on to the next phase. Inspection No. 1 inspects the service line for correct installation of materials prior to authorizing the Customer's contractor to connect into the utility main. The Utility will notify the Customer upon successful completion of Inspection No. 1 and authorize the contractor to tap into the utility main. Inspection No. 2 inspects the amount of insulation on a service line and re-insulation on the main line prior to backfilling.

Water: The Utility will inspect all piping and appurtenances from the water main to the back-flow preventer(s).

Wastewater: The Utility will inspect all piping and appurtenances from the main to the first cleanout outside the structure (for gravity systems) or the exterior wall penetration of the structure (for pressurized systems).

3.4 PERMITS

Permits for the construction of a utility service may be required and may include, but are not limited to ADEC, Alaska Department of Transportation & Public Facilities (ADOT), CONP, and Fairbanks North Star Borough (FNSB).

3.4.1 Right of Way (ROW)

Permits are required for working within a ROW. These are typically owned by ADOT, CONP, or FNSB. The Customer is responsible for complying with all permit requirements.

ADOT: Contact ADOT Northern Region at 451-5400 or 1-800-475-2464 for permit(s) required to work within an ADOT ROW.

CONP: Within the CONP boundary limits, work within the Public ROW requires a Street Excavation permit. Contact the CONP at 488-2281 for additional information for applying for this permit. A PDF version of the application is available online at the CONP website (www.northpolealaska.com) at the Utility Department webpage.

FNSB: Within a Road Service Area of FNSB, work within the Public ROW requires a Construction in Right of Way (ROW) permit. Contact Rural Services Division at 459-1223 for additional permit information and to verify the applicable Road Service Area. A PDF version of the application is available online at the FNSB website (<http://www.co.fairbanks.ak.us>) Service Areas webpage. For FNSB ROW that is not within a Road Service Area, see 3.12 Surface Restoration of this document for typical road reconstruction section requirements

3.4.2 Alaska Department of Environmental Conservation (ADEC) – Plan Review

Any utility service connected to the public water system that serves two or more detached structures, or an auxiliary water use detached from the primary structure, such as a fire hydrant or free standing hose bib is classified as a utility main extension by ADEC. Approval to construct this type of utility connection requires a Utility Extension Permit issued by the CONP and a Plan Review and Authorization to Construct from the ADEC. All ADEC plan review applications, fees and requirements are the sole responsibility of the Customer. If you wish to install such a utility extension, contact the North Pole Utility at 907-488-2281.

3.5 EROSION AND SEDIMENT CONTROL

The Installer is responsible for erosion and sediment control as necessary to comply with federal, state, and municipal laws that prohibit unpermitted discharge of pollutants, including sediments, as a result of construction activities. The Installer shall complete work so that sediment is not transported onto the roadways or adjacent property. At a minimum sediment tracked onto paved surfaces shall be swept up within 24-hours to minimize dust, wash-off and other transport offsite.

3.6 UNDERGROUND UTILITIES

The Customer or the Installer shall be responsible for determining the location of all underground utilities and shall be responsible for any damages to underground and above grade utilities caused by the work. Possible underground

utilities to be located are telephone lines, cable TV lines, fiber optic lines, electrical lines, street light power, water and wastewater mains, gas lines, storm drains, etc. Call 811 to notify Alaska Digline prior to excavation; be aware that utilities including GVEA, North Pole Utility and North Pole Public Works Department, do not participate in the Alaska Digline and must be contacted directly.

For CONP Utilities, an appointment must be made in advance. Alaska Statutes require a forty-eight (48) hour notice; however, based on workflow, the Utility can normally support a twenty-four (24) hour notice. Water and wastewater utility locates are provided by the Utility without charge.

3.7 EXCAVATION

Excavation on CONP right-of-way, property or easements requires an Excavation Permit from the CONP. Information on applying for an Excavation Permits can be found at the CONP website (www.northpolealaska.com) North Pole Utility webpage.

The Installer is responsible for protection of private and public property and provisions of a safe excavation for service connection. Contact the Utility immediately if any damage to the main occurs. Repairs to a damaged main shall be performed by the North Pole Utility and billed to the Customer. All excavations shall meet the requirements of Alaska Department of Labor and Federal OSHA Regulations. The Installer shall furnish all necessary construction and safety equipment including but not limited to shoring, de-watering pumps, excavation equipment, ladders, barricades, and signs. The Installer shall remove all standing and inflowing water from the excavation. Connections will not be made in cases of improper excavation, excessive groundwater, or other unsafe conditions.

Installer shall support and protect all existing conduit and utilities not scheduled for removal or abandonment, where encountered in the excavation.

Remove materials unsuitable for bedding to a minimum of six (6) inches below the bedding surface. If any frozen or deleterious material exists in-situ, over excavate a minimum of twelve (12) inches. Replace with suitable material and compact to achieve desired elevation. Grade the bottom of trenches to provide uniform bearing and support for the entire pipe length. Compaction requirements vary with the ROW and permits issued but are generally 95% of maximum density within the roadway.

3.8 SERVICE LINE PLACEMENT

Buried piping shall be installed with a minimum of four (4) feet soil cover or additional insulation must be provided. Any cover less than four (4) feet requires written approval from the Utility prior to backfilling.

A minimum three (3') foot horizontal separation between water and wastewater services shall be provided. In addition, the bottom of the water service piping shall be installed at least twelve (12") inches above the top of the wastewater service piping. These separation distances are required by ADEC. The water service pipe shall be placed on a solid shelf excavated at one side of the common trench. If the water service cannot be installed above the sewer service at all locations, then it is necessary that the service lines be installed in two (2) separate trenches a minimum of ten (10) feet apart. Insulation for water and sewer services shall be separate; i.e., the two services shall not be foamed together.

Water and wastewater service lines shall be installed a minimum of ten (10) feet from lot lines unless services are installed within an existing utility easement.

Due to the risk associated with hydrocarbon permeation of HDPE water lines, HDPE service lines must be placed no closer than ten (10) feet to any underground fuel tank, fuel lines, or source of potential contamination. All trench backfill must be clean and free of measurable hydrocarbon or other contamination.

3.9 INSULATION

Insulation material shall be sprayed urethane foam. Applicator shall demonstrate prior experience of at least two (2) years and the North Pole Utility shall be the sole judge of the qualifications of system, application method, and applicator.

1. For water service lines with four (4) feet or more cover, the minimum insulation thickness shall be three (3) inches on the top, sides, and bottom.
2. For water service lines with less than four (4) feet of cover, the minimum insulation thickness shall be four (4) inches on the top, sides, and bottom, including where water services rise vertically near an outside wall. Typically, one (1) inch of insulation shall be provided for each foot of soil cover less than four (4) feet. Additional insulation will be required by the North Pole Utility for conditions such as shallow service lines installed under driveways and sidewalks, crossing other utilities, and vertical service lines.
3. Any hole cut in an outside concrete wall for service must be sprayed full of insulation.
4. The Installer shall be responsible for fully re-insulating the main at the service connection.

Installer shall apply waterproof coating to all insulation on the water main and the first six to 10 feet of the service line. If the water service is in contact with groundwater, it is recommended the waterproof coating be extended the entire length of the service.

3.10 BEDDING AND BACKFILL

Bedding is the gravel layer placed over the excavated subgrade in a trench before laying pipe. Bedding shall be placed to ensure the pipe is given a uniform bearing for its full length. Bedding material shall be placed in maximum layers of four (4) inches and compacted by hand-operated tampers up to the spring line of the pipe. Above the spring line, place bedding in uniform layers not more than six (6) inches deep and compact. Backfill within twelve (12) inches of the pipe shall be placed by hand. In situ material meeting requirements for bedding may be used in lieu of imported bedding subject to the approval of the North Pole Utility. When in situ material is used, trench bottom shall be graded and shaped prior to placing pipe.

Under unimproved areas (i.e. yards, lawns, woods, or brush) the backfill material shall be placed in layers not exceeding twelve (12) inches and compacted to a minimum of 85% of maximum density. Under improved areas (i.e. roadways, driveways, sidewalks, or paths) backfill material or subbase shall be subject to the CONP's Guidelines for Streets and Drainage available at the CONP website (www.northpolealaska.com) at the Public Works webpage and according to any DOT and FNSB permitting requirements in their ROWs.

Bedding and backfill shall be free of organic matter, frozen material, lumps or excessive amounts of clay or silt, and objectionable or foreign substances.

3.11 SURFACE RESTORATION

Restore all disturbed property, including drainage swales, pavements, driveways, pathways, utilities, and other improvements to preconstruction condition or as acceptable to impacted property owners.

To reconstruct a roadway, the Installer is responsible for complying with all requirements in the CONP's Guidelines for Streets and Drainage available at the CONP website (www.northpolealaska.com) at the Public Works webpage. Requirements for restoration of FNSB and DOT roadways will be specified in the FNSB or DOT ROW permit.

3.12 DEWATERING

Excavations shall be free from standing water. Pipes shall not be laid in water. The Installer shall be responsible for taking whatever action is necessary to provide an excavation sufficiently dry to properly construct the service and place and compact bedding and backfill. In no case shall water in the excavation be allowed to enter the service piping, nor will the North Pole Utility tap the main in standing water conditions.

Any dewatering activity shall be done in accordance with ADEC dewatering regulations. The Installer shall be responsible for obtaining and complying with any required dewatering permit.

Dewatering must be conducted without damage to adjacent property, inconvenience to property owners or impairment of traffic. The Installer shall assume all liability for flooding or related water damage to property as a result of dewatering.

4.0 MATERIALS

4.1 GENERAL

1. All materials in direct contact with potable water must be certified by an ANSI accredited organization to conform with ANSI/SF Standard 61. All pipe, fittings, and equipment shall be labeled with the NSF 61 marking.
2. Materials shall also be "lead free" per ANSI/NSF Standard 372 and not contain more than 0.2 percent lead when used with solder and flux and nor more than 0.25 percent lead by weighted average with respect to surfaces in contact with water.
3. All materials shall be new.

4.2 INSULATION

Field applied insulation shall be rigid closed cell, two component urethane foam, Quadfoam 2.0 or approved equal, with the following properties:

1. K Factor: 0.14 (BTU-in/FT² – Hr - °F) per ASTM C518.
2. Compressive Strength (min): 35 psi per ASTM D 1621.
3. Nominal Density: 2.0 pcf per ASTM D 1622.

Waterproof coating shall be a two (2) component, one hundred (100) percent solids, sprayable polyurethane coating, Permax 700 by Resin Technology or approved equal, with the following properties:

1. Tensile Strength: 1800 PSI.
2. Elongation (percent): 120.
3. Water Vapor Transmission: 0.413 Perms.

Plastic film for bundling of water service piping prior to insulation shall be polyethylene film (2 mil thickness minimum) or non-adhesive plastic stretch bundling film (e.g., pallet wrap).

4.3 BALL MARKER

The North Pole Utility will provide at cost to the Installer an electronic utility locate ball marker. See the individual Water Service Details for the location the ball marker is to be placed for individual installations.

4.4 WARNING TAPE

Acid- and alkali-resistant polyethylene film warning tape is required above the length of the service line located within the CONP, FNSB or DOT right-of-way and is optional but recommended above the remainder of the service line on private property. The warning tape should be manufactured for marking and identifying underground utilities, minimum 6 inches wide and 5 mills thick, continuously inscribed with a description of utility, with detectable, metallic core encased in a protective jacket for corrosion protection

Tape Color: Blue for Water and Green for Wastewater

4.5 BEDDING

Imported bedding material will not normally be required provided the native material meets the below gradation and can be compacted. Large stone, unstable soils, saturated soils, and organic soils are not suitable materials. If native material is unacceptable, Installer is to provide imported material conforming to the following gradation:

Table 1: Bedding Gradation

U.S. Standard Sieve	Cumulative % Passing by Weight
2-inch	100
No. 4	20 – 60
No. 200	0 – 5

If wet trench conditions are encountered, the North Pole Utility may approve uniformly graded pea gravel (1/4" to 1/2") for use as bedding. The North Pole Utility must authorize the use of pea gravel prior to placement.

4.6 BACKFILL

Under normal circumstances, backfill material will be the native material obtained during excavation. The material shall be thawed and have a reasonably low moisture content. North Pole Utility rejected material shall be removed from the site and replaced with acceptable material.

4.7 WATER SERVICE PIPING AND FITTINGS

Each water service line (supply or return) shall be a minimum of one (1) inch diameter and as required by size of structure to be served. Refer to Section 2.2 Service Line Size and Installation for sizing requirements. Confer with the North Pole Utility for the appropriate material for your installation.

Flanged connections for underground piping runs and underground fittings are not acceptable except for valves.

4.7.1 HDPE

HDPE SDR 11 tubing for sizes one (1") inch and larger conforming to standard IPS. No joints are permitted in the tubing run between the main and the service entry where a continuous roll of tubing is feasible. HDPE shall be made from resin PE3408 or PE4710 and have a cell classification of 345434C in accordance with ASTM 3350-05.

HDPE fittings shall be factory molded from PE resins compatible with the pipe, or factory fabricated from previously specified PE pipe by means of thermal butt fusion. Field fabrication of fittings is expressly prohibited. HDPE fittings shall match the full pressure rating of the pipe (160 psi for PE3408, 200 psi for PE4710). Molded fittings may be rated at full pressure. Miter welded fittings require reduction of SDR and a heavier wall thickness. The fitting outlet ends shall be machined to match the adjoining pipe SDR. All fittings shall be long-sweep mitered or fabricated injection-molded fittings.

MJ adapters, when combined with standard MJ DIP fittings and gaskets shall provide a fully restrained, leak free joint to MJ joints and couplings. MJ adapters shall be by Central Plastics or approved equal.

4.7.2 Copper

Type "K" soft drawn copper for sizes one (1) inch and larger.

All fittings shall be threaded bronze or brass material. Brass flared fittings shall be used below ground to join copper tubing on long runs. No compression type couplings or unions shall be used. Soldered joints are not permitted in buried piping or the circulation loop; soldered joints are permitted only in the domestic branch after the check valve.

4.7.3 Ductile Iron

Ductile iron pipe may be used for pipe sizes four (4) inches and larger. Ductile iron pipe shall conform to the latest revision of AWWA C151. Ductile iron pipe shall be thickness Class 50, cement mortar lined.

Ductile iron fittings shall conform to AWWA C110/C153. Joints may be push-on (Tyton), mechanical, dresser coupling, or flanged. In no case shall flanged joints be acceptable underground without prior written approval from the North Pole Utility.

Thrust restraint shall be by use of Field Lok gaskets or mechanical joints with gripper glands. Submit thrust restraint plan to the North Pole Utility for approval. The use of anchors, restraining rods, and/or thrust blocks shall not be used.

4.7.4 Steel

Steel pipe (Schedule 40) and fittings conforming to ASTM A36/A53 are allowed for sizes two (2) inch, three (3) inch, four (4) inch, six (6) inch, and eight (8) inch. **GALVANIZED PIPE IS NOT PERMITTED.** Pipe shall be butt welded or connected with dresser type couplings with appropriate restraints. **THREADED PIPE IS NOT PERMITTED UNDERGROUND.**

4.7.5 PEX

Thaw tubing shall be ¾" PEX A or PEX B, complying with ASTM F876/F877.

4.7.6 Transition Fittings

Manufactured Fitting-Type Transition Couplings shall be the same size as pipes to be joined. Pressure rating at least equal to pipes to be joined. End connections compatible with pipes to be joined. Submit proposed fitting product data to the North Pole Utility for approval prior to installation.

4.8 VALVES

4.8.1 Ball

Ball valves may be used in lieu of 2" and smaller gate valve.

Size 1 to 2 inches – Two-piece with full port, Bronze, or brass trim, CWP Rating 600 psig, ASTM B124; Chrome plated ball, Handle Stainless steel tee handle with vinyl insulator; features blow-out proof stem.

Approved manufactures: FNW, Apollo; Jamesbury; Marwin; Velan; Watts

4.8.2 Gate

Size 1" to 2 1/2" – Pressure Rating Class 125, Body Bronze: ASTM B 62

Approved manufactures: FNW, Apollo; Jamesbury; Marwin; Velan; Watts

Size 3" and greater – Gate valves - AWWA C515 ductile iron body, epoxy coated; Trim hard faced with 13 percent chrome; Ends Flanged, AWWA C115; Features Resilient wedge seat type with non-rising stem, bolted bonnet with Teflon impregnated packing.

Approved manufacturers: American, AVK, M&H, Mueller, FNW

4.8.3 Corporation Stop

Bronze body 1- to 2-inch, with flare connection for copper or fully restrained adapter for HDPE. Services larger than 2" requires a gate valve.

4.8.4 PRV

Bronze body complying with AWWA C550 and meets requirements of ASSE 1003. Initial working pressure of 150 psig. Design Inlet Pressure of 160 psig and design outlet pressure setting of 60 psig, adjustable set point.

Approved manufactures: Cash Acme, Conbraco, Honeywell International, Watts, Zurn Industries

4.9 PITORIFICE

Copper, 1-inch size, manufactured by Ford Meter Corporation.

4.10 BACKFLOW PREVENTER

The minimum backflow prevention requirement for all water services is a double check valve (non-testable).

The North Pole Utility, at their discretion, may require a testable double check valve assembly or other back-flow prevention device on any water service connection with potential for contamination or backflow risk to ensure compliance with the North Pole Utility's Cross Connection Control Program. The Cross Connection Control Program is available at the CONP website (www.northpolealaska.com) North Pole Utility webpage.

4.10.1 Dual Check Valve (Residential Service)

Dual check valve shall consist of two (2) spring loaded, independently operating check valves with tightly closing shut-off valves; test cocks not required. Bronze body conforming to ASSE 1013, with a pressure loss of 5 psi maximum through the middle third of flow range.

Approved manufacturers: Ames Fire & Waterworks. Conbraco Industries, FEBCO, Flomatic Corporation, Watts, Zurn Industries

4.10.2 Double Check Valve Assembly (Commercial Service)

A manufactured assembly of two (2) independently operating spring-loaded check valves with tightly closing shut off valves on each side of the check valves, plus properly located test cocks for the testing of each check valve, UL listed as a backflow prevention assembly. Bronze or stainless steel body conforming to ASSE 1015, with a pressure loss of 5 psi maximum through the middle third of flow range.

Approved Manufacturers: Ames Fire & Waterworks. Conbraco Industries, FEBCO, Flomatic Corporation, Watts, Zurn Industries

4.10.3 Double Check Valve Assembly (Fire Sprinkler Service)

A manufactured assembly of two (2) independently operating spring-loaded check valves with tightly closing shut off valves on each side of the check valves, plus properly located test cocks for the testing of each check valve, UL listed as a backflow prevention assembly, and NFPA approved for fire service. Bronze or stainless steel body conforming to ASSE 1015 and AWWA C510, with a pressure loss of 5 psi maximum through the middle third of flow range.

Approved manufacturers: Ames Fire & Waterworks. Conbraco Industries, FEBCO, Flomatic Corporation, Watts, Zurn Industries

4.10.4 Reduced Pressure Principle (RPZ) Backflow Preventer Assembly

For higher risk services as specified by the CONP cross connection control program.

A manufactured assembly of two (2) independently operating spring-loaded check valves in series, with a vented, lower pressure zone between the valves that acts to release and vent pressure and flow in event of backflow. Equipped with tightly closing shut off valves on each side of the check valves, plus properly located test cocks for the testing of each check valve, UL listed as a backflow prevention assembly. Bronze or stainless steel body conforming to ASSE 1015 and AWWA C510, with a pressure loss of 5 psi maximum through the middle third of flow range.

Approved manufacturers: Ames Fire & Waterworks. Conbraco Industries, FEBCO, Flomatic Corporation, Watts, Zurn Industries

4.11 CIRCULATION PUMP

Services without pitorifices, services over 50 feet in length from the main to the structure's foundation, and services outside of the City Limits or in the Highway Park service area shall utilize a pumping system that is designed with consideration given to pump load requirements, circulation path, and heat balance. The Utility may also require a circulation pump on services with prior freezing problems.

The Customer is responsible for providing and maintaining the pump. The information provided in this section may be used for sizing and selecting pumps for typical and standard services. For non-standard services outside the specified ranges, the Customer shall submit a pumping and circulation plan.

Pump shall be a factory assembled and tested, single-stage, close-coupled, in-line, sealless centrifugal pumps as defined in ANSI / Hydraulic Institute (HI) 5.1-5.6. Pump and Motor Assembly: Hermetically sealed, replaceable-cartridge-type unit with motor and impeller on common shaft and designed for installation with pump and motor shaft mounted horizontally. Casing: Bronze or Stainless Steel, with threaded companion-flange connections. Impeller: Corrosion-resistant material. Pump shall be UL listed (electrical safety) and NSF 61 listed (sanitation and health safety). Acceptable pumps include:

1. Grundfos UP, UPS Stainless, or Alpha 1 Stainless
2. Taco 110 Series stainless steel or 0015 (3-speed) stainless steel.
3. Bell & Gossett Ecocirc Series, stainless.
4. Armstrong Astro 200 Series stainless.

Circulation pumps shall conform to the following requirements:

1. All services one hundred (100) feet or less in length (one way):
Horsepower: 87 watts 1/8 HP
Maximum flow at zero head: 24 GPM at high speed setting
Maximum head at zero flow: 18 feet at high speed setting
Grundfos UPS 15-55 SFC BF (three speed, use at high speed setting) or equal
Rated for 145 PSI
2. All household services between one hundred (100) feet and five hundred (500) feet in length (one way):
Horsepower: 205 watts 1/4 hp
Maximum flow at zero head: 25 GPM
Maximum head at zero flow: 30 feet
Grundfos UP 26-96 BF or equal
Rated for 145 PSI
3. All commercial services between one hundred (100) feet and five hundred (500) feet in length (one way), up to 4-inch diameter service with 1-inch return:
Horsepower: 245 watts 1/3 HP
Maximum flow at zero head: 34 GPM
Maximum head at zero flow: 32 feet
Grundfos UP 26-99 BF or equal
Rated for 145 PSI
4. Any service over five hundred (500) feet in length shall utilize a pumping system that is designed with consideration given to pump load requirements, circulation path, and heat balance. Calculated thermal degradation shall be limited to two (2° F) degrees Fahrenheit over the entire distance through the service piping. Pump shall be sized to provide a minimum flow velocity of 0.1 feet per second in the largest pipe or ten (10) gallons per minute, whichever is larger, without consideration of the contributions of pitorifices. For such services, a circulation plan prepared and stamped by an engineer licensed in the State of Alaska is required.

4.12 PILOT LIGHT SWITCH

Light switch with toggle that illuminates when power to the load is turned on.

4.13 SADDLE

Service saddles to conform to ANSI/AWWA C-800 Standard for Underground Service Line Valve and Fittings and have a minimum working pressure of 200 psig. The North Pole Utility will provide size and material type of main.

For hot tapping ductile iron mains, service saddles shall have a wraparound design with ductile iron body coated with nylon or other corrosion control coating, a broad pressure activated gasket molded of virgin rubber and two corrosion resistant, forged AISI C-1018 steel straps, zinc plated with dichromate seal. The gasket shall be permanently bonded into a cavity in the saddle body, which provides internal as well as external gasket retention.

Approved manufacturers: ROMAC 101N service saddle up to 2 inch, or ROMAC SST tapping sleeve for service up to 8 inch, or equal products by JCM Industries, Mueller, or Ford.

For hot tapping HDPE mains, service saddles shall be nylon coated ductile iron with single or dual stainless steel straps, minimum 2 inch band width for taps up to 2 inches. Full wrap around tapping sleeve for larger diameters. HDPE saddles must use spring washers to compensate for pipe contraction during temperature and pressure changes.

Approved manufacturers: ROMAC 101N-H HDPE service saddle up to 2 inch, or ROMAC SST-H for service up to 8 inch, or equal products by JCM Industries, Mueller, or Ford.

4.14 LOCATE WIRE

A tracer wire is required on HDPE pipe. A tracer wire is recommended but not required on copper or DIP services

Tracer wire shall be #12-gauge, insulated, copper coated steel or copper wire. Wire insulation shall be at least 30 mil HDPE jacket and be colored blue to correspond with water or green to correspond with wastewater. Copperhead High Strength 1230 or approved equal.

Connections shall be made using a mechanical connector Copperhead SnakeBite, 3M DBR, or approved equal.

5.0 WATER SERVICE REQUIREMENTS

5.1 PIPE

HDPE shall be joined by butt fusion. Procedures and qualifications must meet the requirements of Title 49 of the US Code of Federal Regulations #192.285 as it applies to butt fusion. Personnel who will perform the pipe butt-fusion attend a class given by an HDPE pipe manufacturer and obtain a written certification from the pipe manufacturer stating they have successfully completed the class within the last 12 months. Electrofusion must be preapproved by the North Pole Utility and only where other methods are not feasible.

1. Copper water service piping shall be installed such that a two (2) inch minimum horizontal separation is provided between supply and return.
2. Maintain a minimum of ten (10) feet horizontal separation between water and fuel or wastewater features including pipes, tanks, septic systems, and soil absorption systems.
3. Where water pipes must cross wastewater piping (including storm drainage), no joints shall be within 9 feet of the crossing and 18 inches shall be maintained between pipes.
4. Water service lines shall be sloped down to the main and installed as straight as possible (except for angle points) such that trapped air may travel towards the structure being served.
5. Installer shall minimize the number of joints in the buried sections of the service line and are restricted as in Sections 4.7.

5.2 CIRCULATION PUMP

Circulation pump installation is subject to approval by the North Pole Utility. The flow direction for the pump shall be as indicated on the standard service details.

The electrical installation must conform to the latest edition of the National Electric Code (NFPA 70) and amendments as adopted by the CONP with all applicable state and local statutes. Power for the circulation pump shall be provided from a dedicated circuit breaker within a Customer's electrical panel and clearly identified in the circuit schedule. The branch circuit breaker shall be rated for 15-amps at the pump's operating voltage. Branch wiring shall include a ground wire and all conductors shall be copper, 14-awg at a minimum. Routing of conductors shall be in conformance with current electrical code and shall be protected from damage. The circulation pump shall be installed with a permanent power connection; a receptacle with cord and plug is not an acceptable means of power connection.

A local disconnecting means for the pump shall be provided by a pilot light switch. This switch shall be installed in an accessible location, be lit when the switch is in the on position and labeled "Utility Circulation Pump."

Pumps will be rigidly installed to resist hydraulic and seismic loads. Supports and braces will allow access to the pump for service and replacement.

5.3 INTERIOR VALVES

A valve must be installed between the circulation loop and the meter for Customer use. The Customer shall not use the valves on the circulating loop. These valves must remain open for proper circulation in the service lines. Closing one of these valves could cause the service to freeze during winter months.

5.4 METER

The meter shall be located in a warm, dry, and accessible area. The plumbing must be installed in such a manner that will allow the meter to be installed horizontally with the register upward. The floor of the space where the meter is installed, shall be above flood elevation, unless the North Pole Utility approves otherwise at the time of application.

The size of meter is determined prior to installation of the service. Residential service meters are typically ¾-inch; meters for commercial services are sized based on water demand. Meter sizes are at the discretion of the North Pole Utility. The North Pole Utility will furnish the Installer with a meter base or meter assembly depending upon the meter type to be installed within the water service loop. The Installer will install the meter base prior to the first North Pole Utility inspection.

5.5 PRV

PRV shall be provided by the Installer where the main pressure is higher than the desired operating pressure of the structure. The location of the PRV will be in accordance with the service installation diagrams. The Installer shall provide adequate space and isolation to service, adjust, and replace the PRV. Set field-adjustable pressure set points of water pressure-reducing valves to a pressure not to exceed 80 psi.

5.6 BACKFLOW PREVENTER

All water services at a minimum shall have a double check valve. Install the double check valve in accordance with the manufacturer's instructions.

Where the North Pole Utility has specified enhanced backflow prevention such as a testable double check valve assembly, or a reduced pressure principle (RPZ) assembly, install the device in accordance with the manufacturer's instructions. Installer shall have each assembly tested by an approved testing and certification agency. Submit test report to the North Pole Utility.

Backflow preventer assemblies will be considered defective if they do not pass annual tests and inspections. Replace defective assemblies immediately. At the Utilities request, Customer to submit annual double-check valve assembly test reports.

5.7 PRIVATE WELLS

All private wells, holding tanks, pressure vessels or any other water source shall be physically disconnected from the structure plumbing prior to connection to the North Pole Utilities water mains. There must be an "air gap" between the North Pole Water system and any other water system present on the Customers property. Valves or backflow preventers are not sufficient separation.

The North Pole Utility shall inspect disconnection of well, holding tank, or other water source prior to connection of service lines to structure plumbing.

Customer may continue to operate additional water system(s) that are physically separate from piping associated with connection to the Utility. Customer shall label and sign all such water systems and spigots as Non-Potable as indicated on the Standard details. Disconnected piping must remain exposed for confirmation by the North Pole Utility.

The North Pole Utility does not require abandonment or removal of well unless there is federal, state or CONP regulation that requires decommissioning of the well prior to installation of water service. The Customer shall coordinate with ADEC, and/or DNR for abandonment and closure requirements if Customer desires or is required to decommission the well for any reason.

5.8 CONNECTION TO MAIN

City statutes require a forty-eight (48) hour notice prior to connection to the main. The North Pole Utility requires that all the components of the water service be present at the time North Pole Utility personnel arrive on site to do the first inspection.

For 2" and larger services, gate valve end connection will normally be mechanical joint. Other configurations are available based on Customer's requirements.

5.9 FIRE SPRINKLER SYSTEMS

The installation of a fire booster pump is prohibited on the North Pole water systems without advance written approval from the North Pole Utility.

5.10 FIRE HYDRANTS

If a fire hydrant is installed on a service line, all equipment and methods of installation shall be designed and installed in accordance with the North Pole North Pole Utility Standards of Construction.

5.11 TESTING AND DISINFECTION

All piping shall be hydrostatically tested, disinfected, and flushed. The Installer shall furnish all temporary hose, pipes, pumps, and fittings required to accomplish this work.

5.11.1 Pressure Testing

Residential services shall be tested at main line pressure upon energizing the service. All pipe and fittings shall be free of any drips or leaks during visual inspection. Large commercial services (other than fire systems) will be tested at one hundred fifty (150) pounds per square inch (psi). Leak-down tests are required for pipe runs of over one hundred-fifty (150) feet and shall be conducted in accordance with the current test procedure as published in the North Pole Utility Standards of Construction. See NFPA 13 and 24 for the applicable leakage rates for fire supply piping. Fire system test pressure shall be two hundred (200) psi for two (2) hours. Structure plumbing after the double check valve assembly may be isolated and does not need to be included or connected for pressure testing of the Utility service piping. Provide testing report documenting test pressure, duration, and results of pressure test.

5.11.2 Disinfection

Disinfection of service lines shall be with a chlorine solution which shall be of sufficient strength three hundred (300) parts per million (PPM) to provide a contact kill of bacteria and shall remain in contact with all inside surfaces of the piping for three (3) hours. Upon completing disinfection, the chlorinated water shall be flushed to a safe location and disposed of properly. One half (1/2) cup of Clorox bleach in five (5) gallons of water is approximately a three hundred (300) PPM solution. Provide disinfection report stating measured concentration of chlorine solution and duration, or in lieu of concentration measurement, amount of chlorine chemical and water used. Large commercial water services (larger than 2") shall be bacteria tested after disinfection and flushing. Two bacteria tests a minimum of 16 hours apart are required; provide laboratory test results to the Utility.

5.11.3 Flushing

Upon connection of the installed pipe to the North Pole Utility mains, the pipes shall be full bore flushed. Flushed water shall be conveyed to a safe location away from the excavation. The flushing shall be sufficient to remove all debris and disinfectant solution. Highly chlorinated water must be dechlorinated prior to discharge to the North Pole sewer system, a septic system, or any body of water.

5.12 CROSS CONNECTIONS

Cross connections to other water sources or interconnection to other water systems or services is expressly prohibited. Any connection that can allow entry of untreated or contaminated water or water from any other sources into the North Pole Utility distribution system is forbidden. All service connections must comply with the CONP Cross Connection Control Program. (See, CONP website, www.northpolealaska.com, North Pole Utility webpage.)

5.13 PROPERTY LOOP

Pitorifice service loops stubbouts have occasionally been installed with new water mains at the time of construction and extended to the property line. No warranty as to the current condition and proper function of the property loop piping can be made by the North Pole Utility. Complete shutoff can only be accomplished by excavating to the main.

Service loops belong to the property owner of the lot served by the loop. The property owner shall be responsible for the maintenance and all other costs associated with the service connection loop.

To determine if a service stub was installed at the time that the water main was constructed, consult the North Pole Utility. The as-built drawings indicate if there was a water service stub. In many cases the water service stub was marked with a white post along the property line. Service stubs installed in 2005 and later may have electronic ball markers that can be located by the North Pole Utility.

6.0 WATER SERVICE DETAILS

Figure 1: Residential Water Service (Interior Piping)

Figure 2A: Residential Main Connection (Copper Service Lines)

Figure 2B: Residential Main Connection (HDPE Service Lines)

Figure 3: Pitorifice Section

Figure 4: Copper Service Lines Section

Figure 5: HDPE Service Lines Section

Figure 6: Commercial Water Service 2" and Larger (Interior Piping)

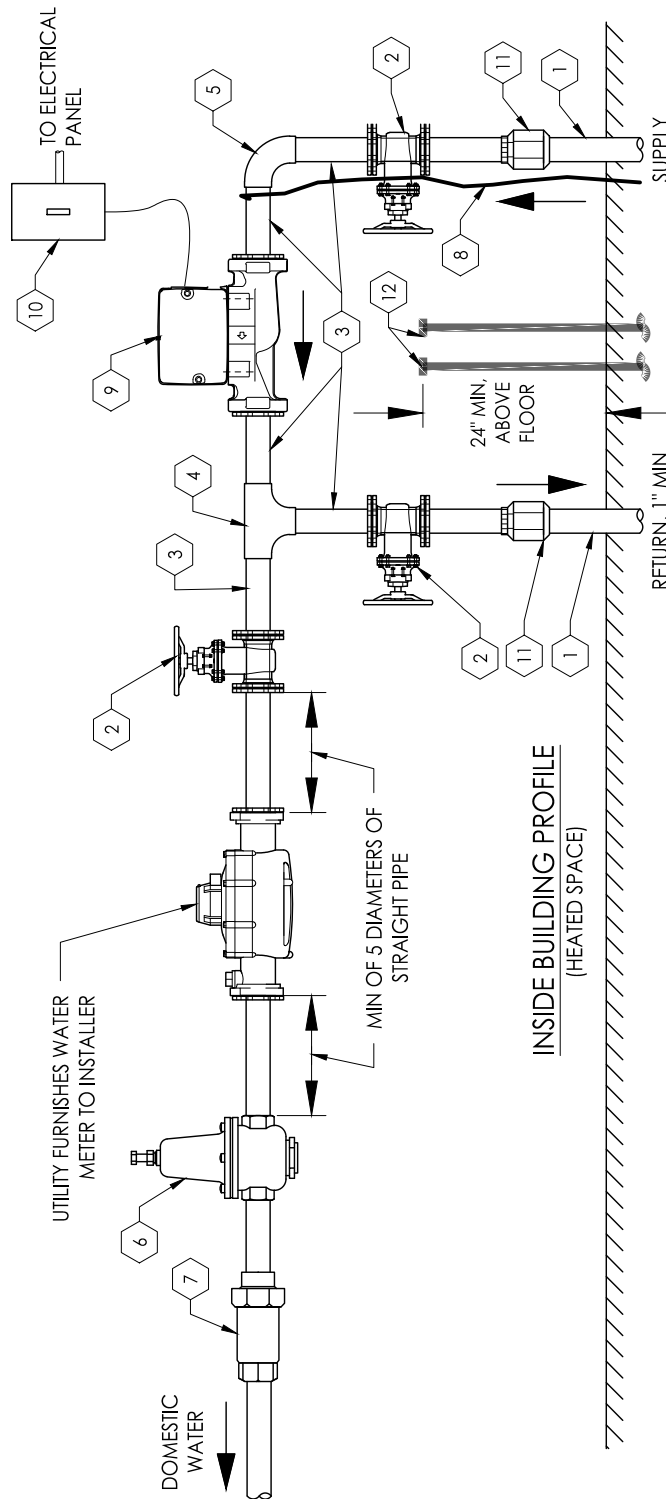
Figure 7: Fire Sprinkler Service (Interior Piping)

Figure 8: Commercial or Fire Sprinkler Main Connection

Figure 9: Commercial or Fire Sprinkler Service Lines Section

Figure 10: Disconnection from Existing Water Source

CITY OF NORTH POLE WATER SERVICE LINE SPECIFICATIONS 2018 WATER SYSTEM EXPANSION



MATERIAL LIST	
ITEM	DESCRIPTION
1	COPPER OR HDPE SERVICE LINE PIPE
2	GATE OR BALL VALVE
3	METAL PIPE AND NIPPLES, LENGTHS VARY
4	TEE
5	ELBOW
6	PRESSURE REDUCING VALVE
7	DUAL CHECK VALVE
8	12 GA. JACKETED LOCATE WIRE (SEE NOTE 5)
9	CIRCULATION PUMP (SEE NOTE 4)
10	PILOT LIGHT SWITCH (IF CIRCULATION PUMP INSTALLED)
11	TRANSITION FITTING (FOR HDPE SERVICE LINES)
12	PEX THAW TUBES (FOR HDPE SERVICE LINES)

NOTES:

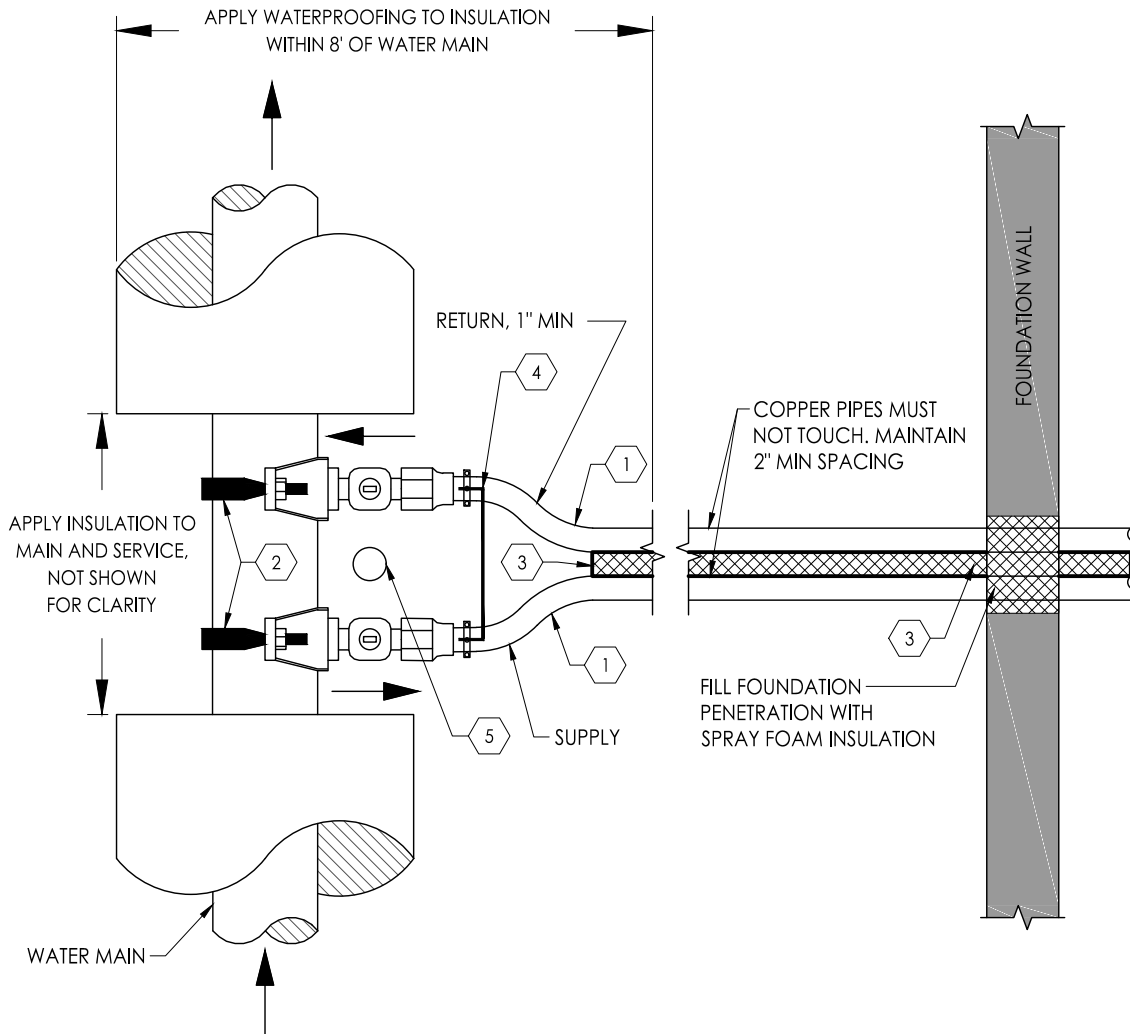
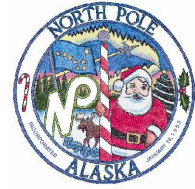
1. STANDARD RESIDENTIAL METER IS 3/4" NPT.
2. METER SHALL BE A MIN OF 1' AND MAXIMUM OF 4' ABOVE FLOOR LEVEL.
3. SEE SECTION 2.2 FOR SERVICE LINE SIZING REQUIREMENTS.
4. CIRCULATION PUMP OPTIONAL ON SHORT PITORIFICE CONNECTIONS. REQUIRED WHERE THE BUILDING IS GREATER THAN 50 FEET FROM THE WATER MAIN OR AS MANDATED BY THE UTILITY.
5. LOCATE WIRE OPTIONAL FOR COPPER SERVICE LINES.
6. HDPE WATER SERVICE NOT SUITABLE FOR ELECTRICAL GROUND.

1

RESIDENTIAL WATER SERVICE (INTERIOR PIPING)

(CUSTOMER TO SUPPLY ALL ITEMS ON MATERIAL LIST)

CITY OF NORTH POLE WATER SERVICE LINE SPECIFICATIONS 2018 WATER SYSTEM EXPANSION



MATERIAL LIST	
ITEM	DESCRIPTION
1	COPPER PIPE
2	SADDLE AND CORPORATION STOP
3	2" RIGID BOARD INSULATION AS SEPARATION BLOCKING
4	THAW BUSS, #1 AWG MIN, AND CLAMPS
5	UTILITY LOCATOR BALL BURIED ABOVE CORP STOPS

NOTES:

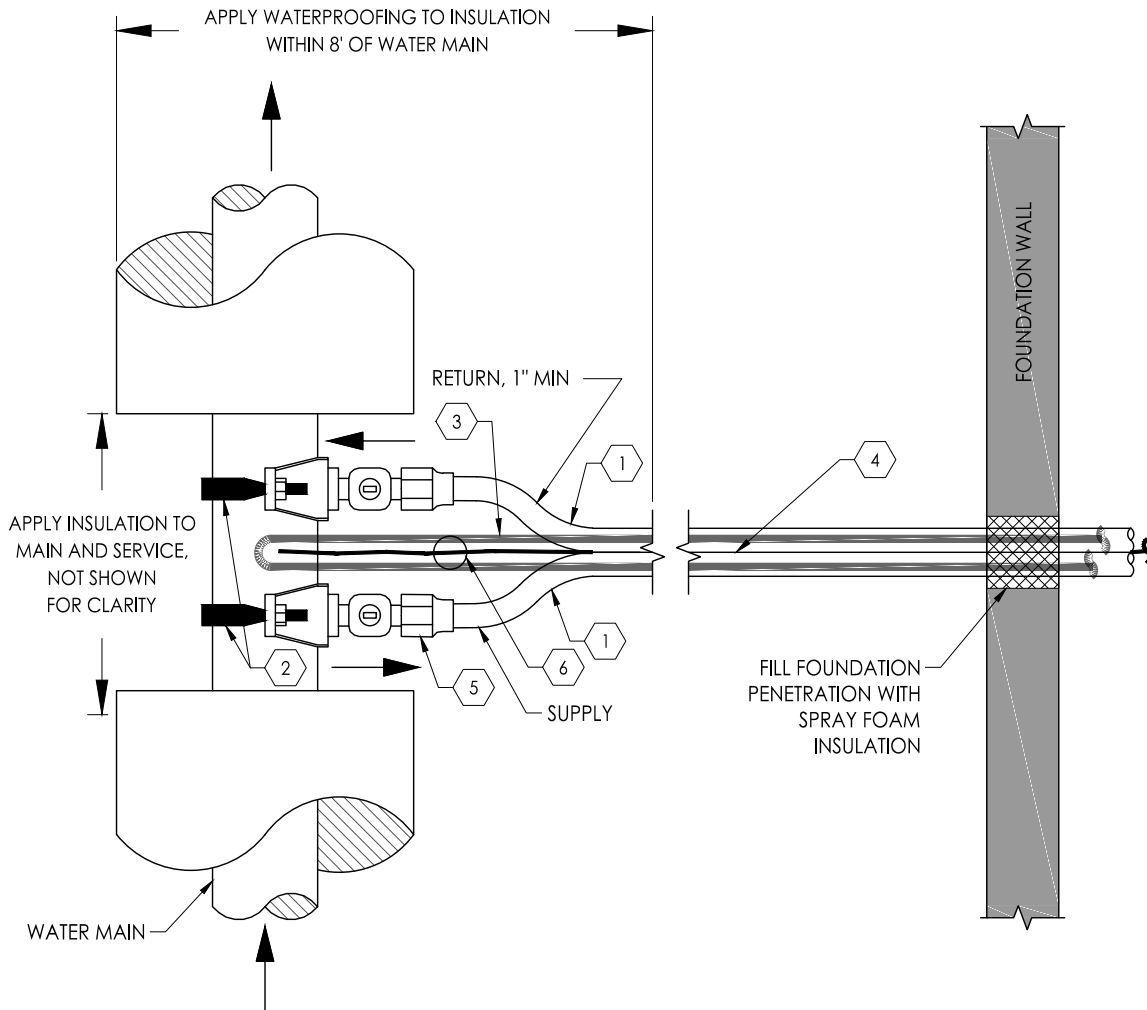
1. WATER SERVICE PIPES SHALL HAVE A LEVEL OR POSITIVE GRADE FROM THE WATER MAIN TO THE BUILDING (NO HUMPS OR DIPS) TO PREVENT AIR TRAPS.
2. PLACE BLUE UTILITY TAPE CENTERED OVER THE FULL LENGTH OF THE WATER SERVICE PIPING, 2' BELOW GRADE.
3. LOCATE WIRE OPTIONAL FOR COPPER SERVICES.
4. COPPER SERVICE IS REQUIRED IN AREAS WITH SOIL CONTAMINATION, AND OPTIONAL FOR GENERAL USE.

2A

RESIDENTIAL MAIN CONNECTION (COPPER SERVICE LINES)

(CUSTOMER TO SUPPLY ALL ITEMS ON MATERIAL LIST)

**CITY OF NORTH POLE
WATER SERVICE LINE SPECIFICATIONS
2018 WATER SYSTEM EXPANSION**



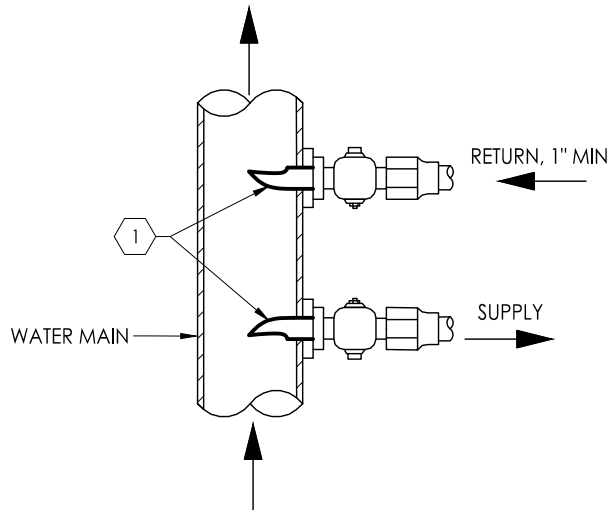
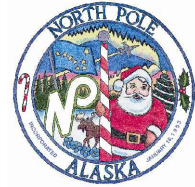
MATERIAL LIST - CUSTOMER ITEMS	
ITEM	DESCRIPTION
1	HDPE, SDR 11, PIPE
2	SADDLE AND CORPORATION STOP
3	PEX THAW TUBES
4	JACKETED LOCATE WIRE, 12 GA
5	TRANSITION FITTING
6	UTILITY LOCATOR BALL BURIED ABOVE CORPORATION STOPS

NOTES:

1. WATER SERVICE PIPES SHALL HAVE A LEVEL OR POSITIVE GRADE FROM THE WATER MAIN TO THE BUILDING (NO HUMPS OR DIPS) TO PREVENT AIR TRAPS.
2. PLACE BLUE UTILITY TAPE CENTERED OVER THE FULL LENGTH OF THE WATER SERVICE PIPING, 2' BELOW GRADE.
3. HDPE SERVICE ACCEPTABLE FOR GENERAL USE EXCEPT IN CASE OF CONTAMINATED SOILS.

2B RESIDENTIAL MAIN CONNECTION (HDPE SERVICE LINES)
(CUSTOMER TO SUPPLY ALL ITEMS ON MATERIAL LIST)

CITY OF NORTH POLE WATER SERVICE LINE SPECIFICATIONS 2018 WATER SYSTEM EXPANSION

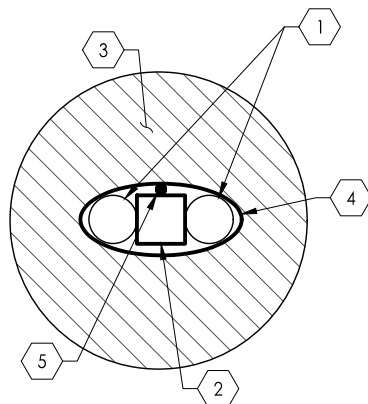


MATERIAL LIST	
ITEM	DESCRIPTION
1	PITORIFICE

3

PITORIFICE SECTION

(CUSTOMER TO SUPPLY ALL ITEMS ON MATERIAL LIST)



MATERIAL LIST	
ITEM	DESCRIPTION
1	COPPER SERVICE LINES
2	2" RIGID BOARD INSULATION AS SEPARATION BLOCKING
3	3" MIN POLYURETHANE INSULATION
4	PLASTIC FILM
5	12 GA, JACKETED LOCATE WIRE (OPTIONAL)

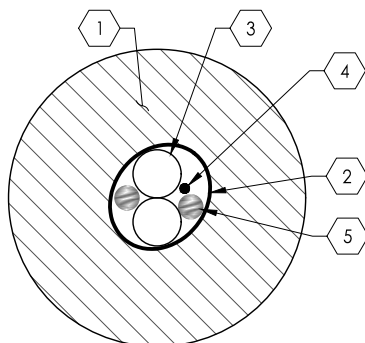
NOTE:

COPPER PIPES MUST NOT TOUCH EACH OTHER FOR ELECTRICAL THAW PURPOSES. MAINTAIN 2" MINIMUM SPACING.

4

COPPER SERVICE LINES SECTION

(CUSTOMER TO SUPPLY ALL ITEMS ON MATERIAL LIST)



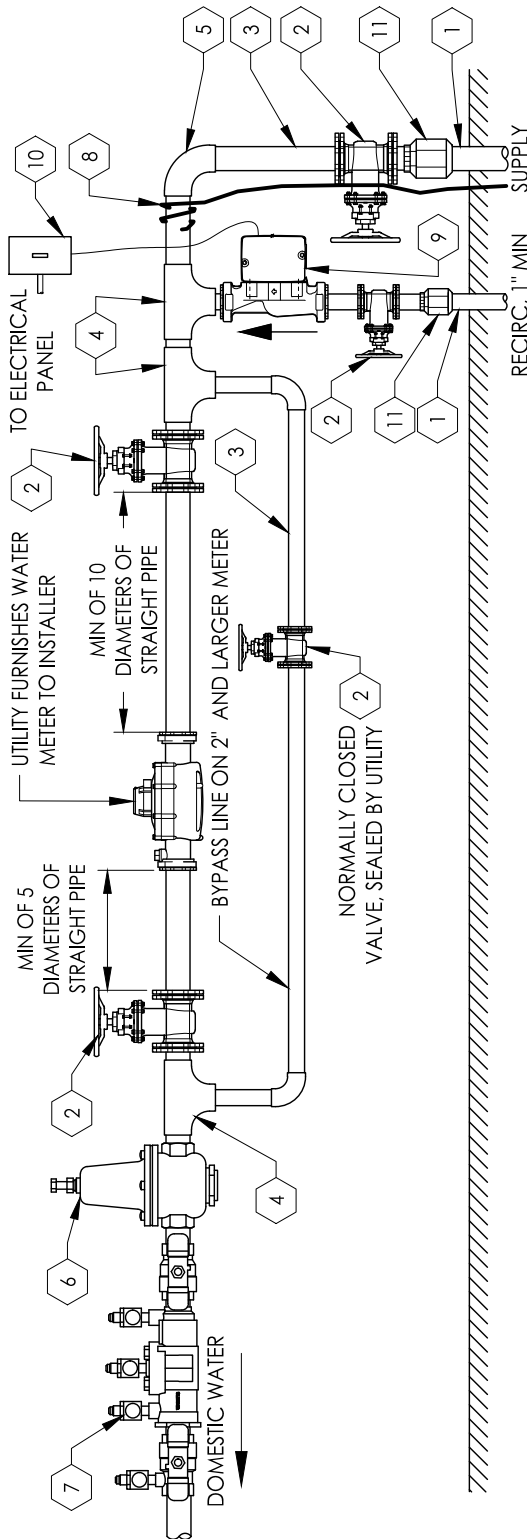
MATERIAL LIST	
ITEM	DESCRIPTION
1	3" MIN POLYURETHANE INSULATION
2	PLASTIC FILM
3	HDPE, SDR 11, SERVICE LINE PIPE
4	12 GA, JACKETED LOCATE WIRE
5	PEX THAW TUBES

5

HDPE SERVICE LINES SECTION

(CUSTOMER TO SUPPLY ALL ITEMS ON MATERIAL LIST)

CITY OF NORTH POLE WATER SERVICE LINE SPECIFICATIONS 2018 WATER SYSTEM EXPANSION

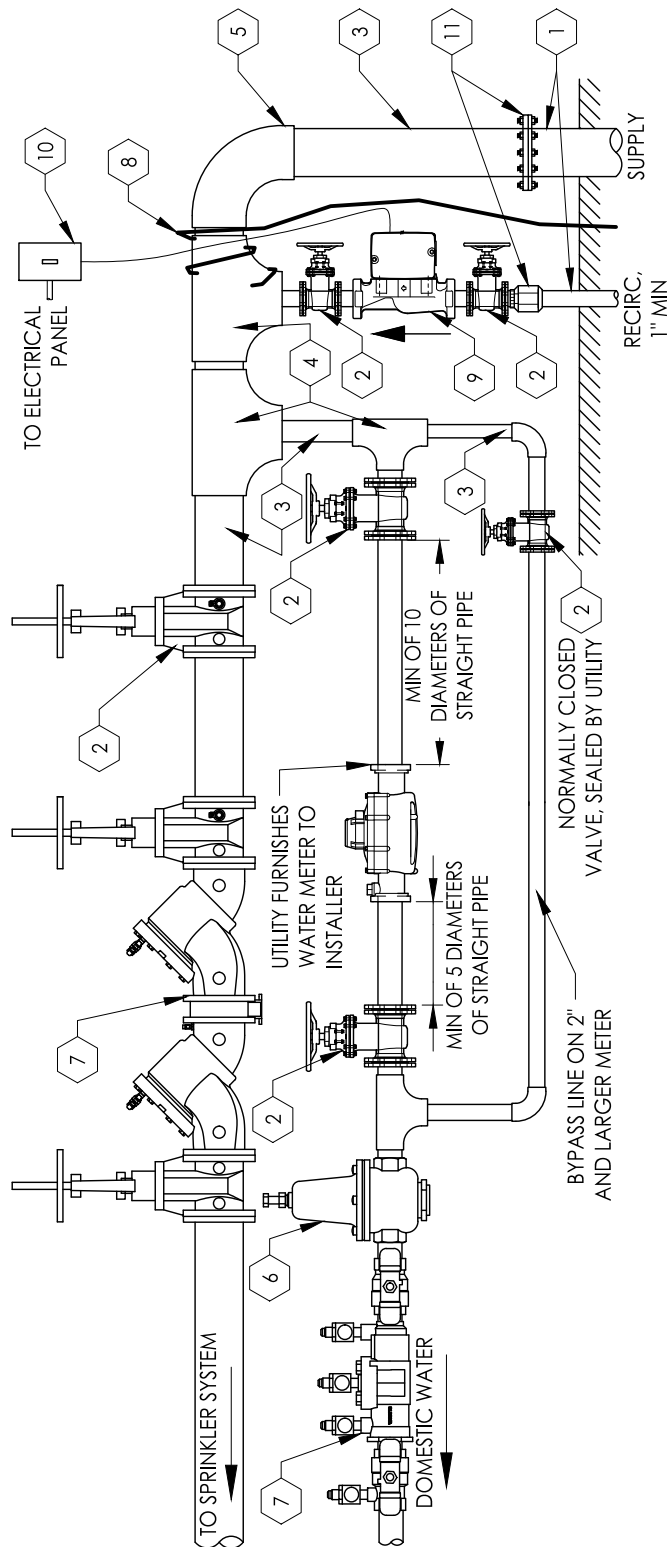
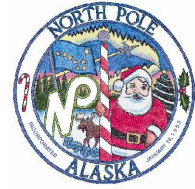


NOTES:

1. SEE SECTION 2.2 FOR SERVICE LINE SIZING REQUIREMENTS.
2. METER SHALL BE A MIN OF 1' AND MAXIMUM OF 4' ABOVE FLOOR LEVEL.
3. LOCATE WIRE OPTIONAL FOR COPPER OR DIP SERVICE LINES.
4. UTILITY MAY REQUIRE ENHANCED BACKFLOW PREVENTION SEE SECTION 4.10.

MATERIAL LIST	
ITEM	DESCRIPTION
1	COPPER, HDPE, OR DIP SERVICE LINE PIPE
2	GATE VALVE
3	METAL PIPE AND NIPPLES, LENGTHS VARY
4	TEE OR SADDLE
5	ELBOW
6	PRESSURE REDUCING VALVE
7	DOUBLE CHECK VALVE ASSEMBLY (SEE NOTE 4)
8	12 GA., JACKETED LOCATE WIRE (SEE NOTE 3)
9	CIRCULATION PUMP
10	PILOT LIGHT SWITCH
11	TRANSITION FITTING (FOR HDPE SERVICE LINES)

CITY OF NORTH POLE WATER SERVICE LINE SPECIFICATIONS 2018 WATER SYSTEM EXPANSION



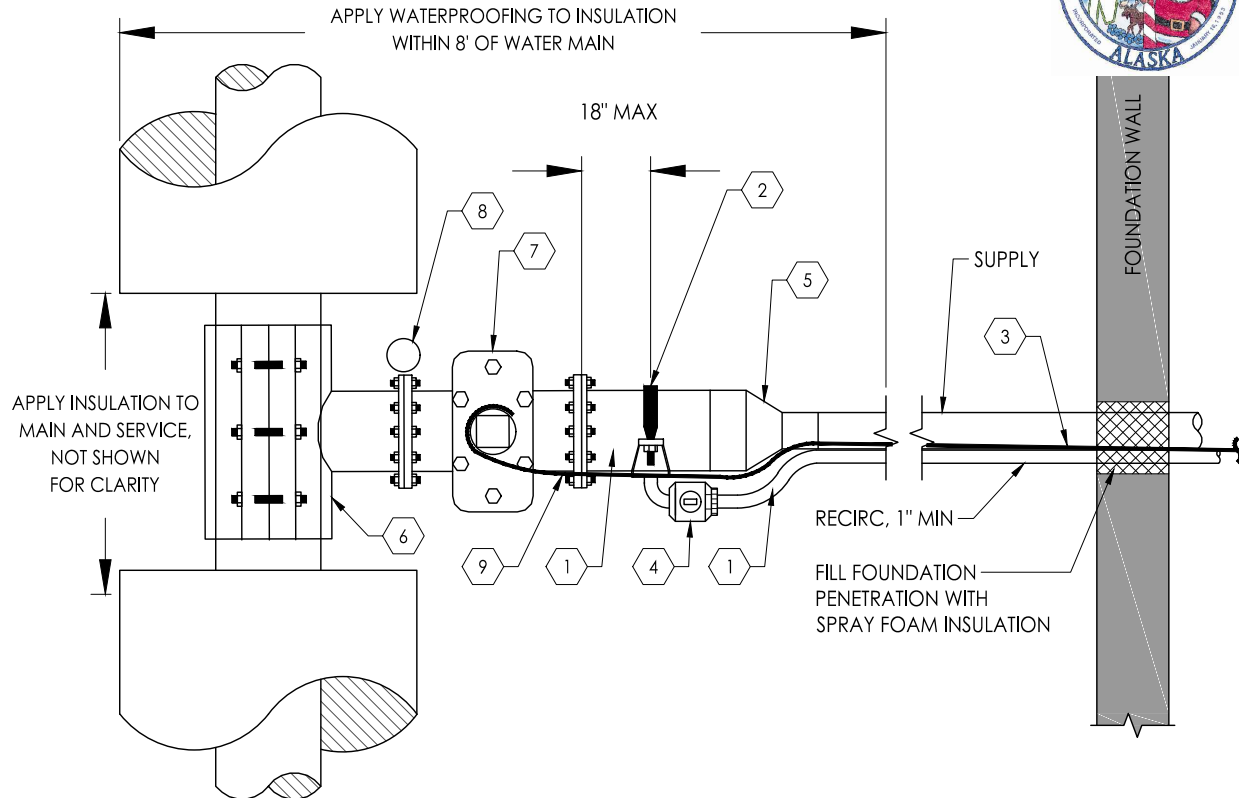
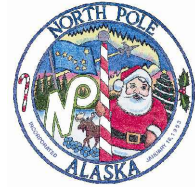
NOTES:

1. SEE SECTION 2.2 FOR SERVICE LINE SIZING REQUIREMENTS.
2. METER SHALL BE A MIN OF 1' AND MAXIMUM OF 4' ABOVE FLOOR LEVEL.
3. LOCATE WIRE OPTIONAL FOR COPPER OR DIP SERVICE LINES.
4. UTILITY MAY REQUIRE ENHANCED BACKFLOW PREVENTION. SEE SECTION 4.10.
5. CUSTOMER RESPONSIBLE FOR NFPA AND CODE COMPLIANCE ON ALL FIRE PROTECTION DEVICES.

MATERIAL LIST	
ITEM	DESCRIPTION
1	COPPER, HDPE, OR DIP SERVICE LINE PIPE
2	GATE VALVE
3	METAL PIPE AND NIPPLES, LENGTHS VARY
4	TEE OR SADDLE
5	ELBOW
6	PRESSURE REDUCING VALVE
7	DOUBLE CHECK VALVE ASSEMBLY (SEE NOTE 4)
8	12 GA. JACKETED LOCATE WIRE (SEE NOTE 3)
9	CIRCULATION PUMP
10	PILOT LIGHT SWITCH
11	TRANSITION FITTING (FOR HDPE SERVICE LINES)

7 FIRE SPRINKLER SERVICE (INTERIOR PIPING) (CUSTOMER TO SUPPLY ALL ITEMS ON MATERIAL LIST)

CITY OF NORTH POLE WATER SERVICE LINE SPECIFICATIONS 2018 WATER SYSTEM EXPANSION

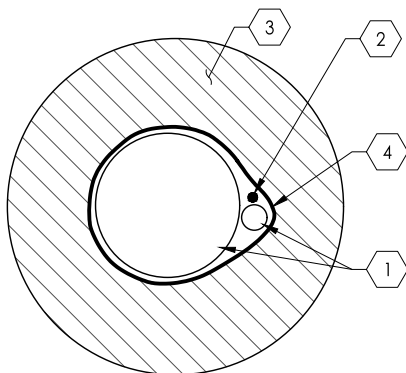


MATERIAL LIST	
ITEM	DESCRIPTION
1	COPPER, HDPE, OR DIP SERVICE LINES
2	SADDLE (OR TEE) WITH 90° FITTING
3	JACKETED LOCATE WIRE, 12 GA (OPTIONAL WITH HDPE)
4	TRANSITION FITTING AND CORPORATION STOP
5	REDUCER, AS REQUIRED
6	TAPPING TEE, 6" MIN
7	FLxMJ GATE VALVE, 6" MIN
8	UTILITY LOCATOR BALL
9	12 GA, JACKETED LOCATE WIRE (SEE NOTE 3)

NOTES:

1. WATER SERVICE PIPES SHALL HAVE A LEVEL OR POSITIVE GRADE FROM THE WATER MAIN TO THE BUILDING (NO HUMPS OR DIPS) TO PREVENT AIR TRAPS.
2. PLACE BLUE UTILITY TAPE CENTERED OVER THE FULL LENGTH OF THE WATER SERVICE PIPING, 2' BELOW GRADE.
3. LOCATE WIRE OPTIONAL FOR COPPER OR DIP SERVICE LINES.

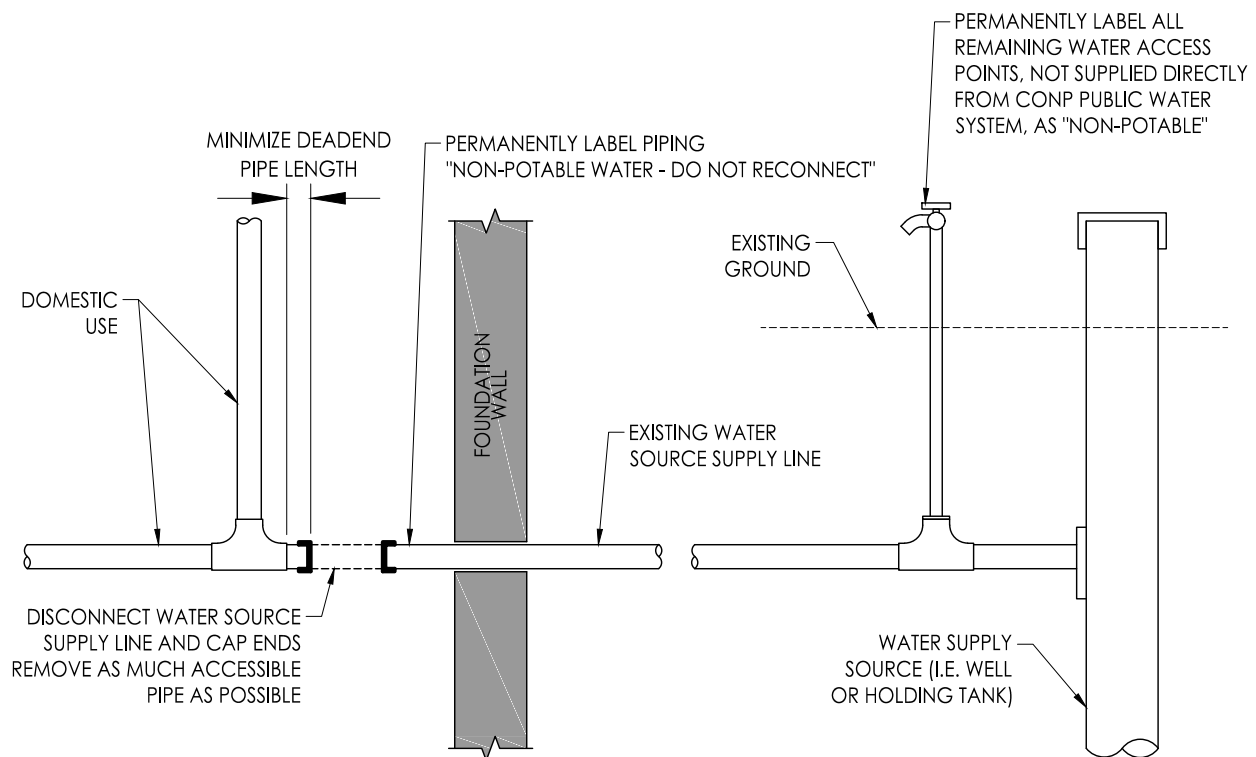
8 COMMERCIAL OR FIRE SPRINKLER MAIN CONNECTION (CUSTOMER TO SUPPLY ALL ITEMS ON MATERIAL LIST)



MATERIAL LIST	
ITEM	DESCRIPTION
1	COPPER, HDPE, OR DIP SERVICE LINES
2	JACKETED LOCATE WIRE, 12 GA (OPTIONAL WITH HDPE)
3	3" MIN POLYURETHANE FOAM INSULATION
4	PLASTIC FILM

9 COMMERCIAL OR FIRE SPRINKLER SERVICE LINES SECTION (CUSTOMER TO SUPPLY ALL ITEMS ON MATERIAL LIST)

**CITY OF NORTH POLE
WATER SERVICE LINE SPECIFICATIONS
2018 WATER SYSTEM EXPANSION**



NOTES:

1. OWNER MAY MAINTAIN AND CONTINUE TO USE EXISTING WELL, ONLY IF IT IS PHYSICALLY DISCONNECTED AND SEPARATED FROM PUBLIC WATER SYSTEM BY "AIR GAP". A VALVE OR BACKFLOW PREVENTER ARE NOT ACCEPTABLE SEPARATION.
2. CONNECTION TO CONP WATER SYSTEM SHALL NOT OCCUR UNTIL ALL OTHER WATER SOURCES ARE PERMANENTLY DISCONNECTED AND LABELED "NON-POTABLE".
3. OWNER RESPONSIBLE FOR DRAINING AND/OR FREEZE PROTECTION OF REMAINING WELL SYSTEM OR HOLDING TANK.
4. OWNER RESPONSIBLE TO CLOSE ABANDONED WELLS IN ACCORDANCE WITH CURRENT ADEC AND DNR REGULATIONS.

10 DISCONNECTION FROM EXISTING WATER SOURCE

7.0 WASTEWATER SERVICE REQUIREMENTS

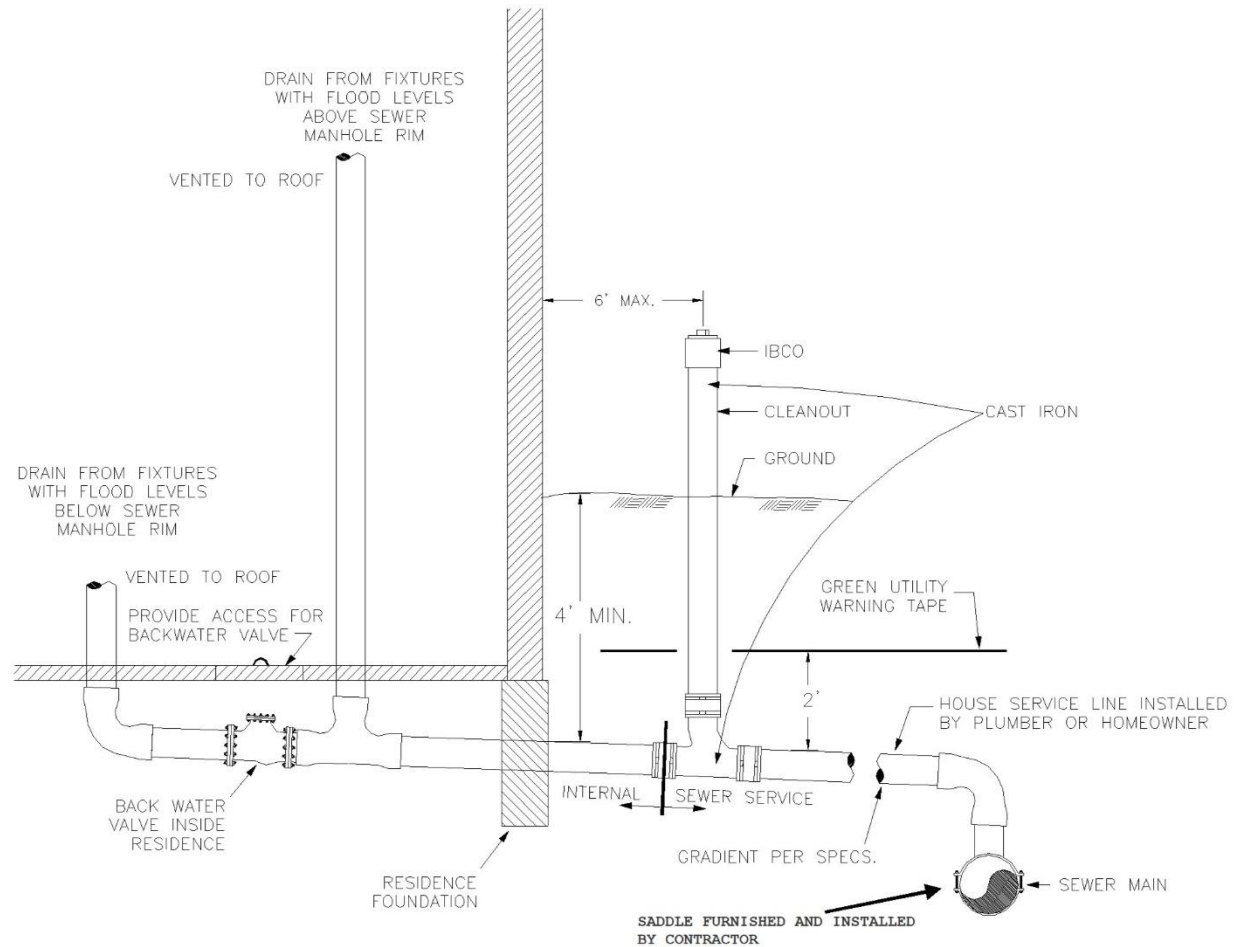


Figure 11: Wastewater Service

7.1 CONNECTION

A number of connection alternatives are acceptable depending upon the type of saddle, riser, fitting(s), and service line. All other work and material shall be provided by the customer/Installer.

All wastewater service piping shall be approved ductile iron or high-density polyethylene pipe. Wastewater service begins with the cleanout. Piping from the structure to the cleanout is considered internal plumbing.

The structure's wastewater service connection will be in compliance with Figure 11: Wastewater Service.

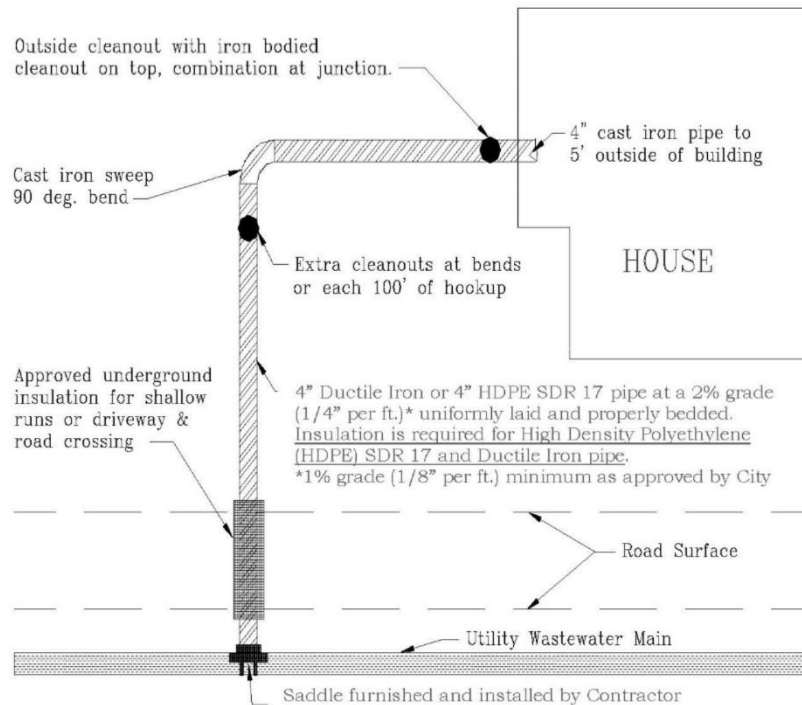


Figure 12: Typical Wastewater Service

7.2 STUB OUTS

The structure's wastewater service may be connected to a wastewater service stub out if available. Utility personnel shall verify the condition of the stub out against blockage and structural integrity prior to final connection. The Utility assumes no responsibility or liability for the found condition or integrity of the wastewater stub-out. Any repairs to the stub-out are the sole responsibility of the Installer.

Service connection stubs belong to the property owner of the lot served by the stub. The property owner shall be responsible for the maintenance and all other costs associated with the service connection stub.

To determine if a service stub was installed at the time that the water main was constructed, consult the City of North Pole. The as-built drawings indicate if there is a water service stub. In many cases the water service stub was marked with a white post along the property line. Service stubs installed in 2005 and later may have electronic ball markers that can be located by the Utility.

7.3 SERVICE REQUIREMENTS

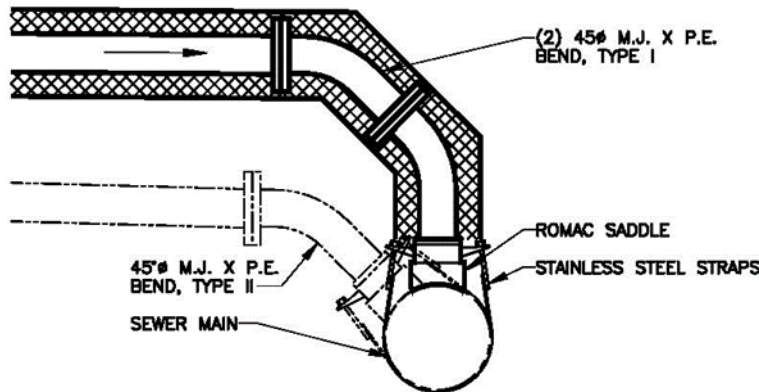


Figure 13: Connection Schemes

1. Wastewater service connections shall be cut or bored into wastewater mains. Only Contractors licensed in the State shall tap Utility mains and install wastewater service saddles and connections. All wastewater saddles, both new installations and upon replacement of a service line, shall be attached to the top of the main (Type I) as illustrated in Figure 10. Type II connections require Utility approval at the time of application. It is imperative that the Installer verifies the wastewater main elevation and the wastewater service elevation/slope prior to the installation of the wastewater service piping.
2. The wastewater service line shall be run in practical alignment and at a uniform slope of not less than one-quarter (1/4) inch per foot toward the point of disposal. Where it is impractical, due to the depth of the street wastewater main or to structure features to obtain a slope of one-quarter (1/4) inch per foot, any such pipe four (4) inches or larger may have a slope of not less than one-eighth (1/8) inch per foot.
3. The wastewater service line shall not be laid through any existing cesspool or septic tank unless such cesspool or septic tank has been excavated, backfilled, and compacted.
4. Wastewater service line piping shall be laid on a firm bed of approved materials that have been properly compacted throughout its entire length.
5. Wastewater service lines constructed of HDPE pipe must use pipe that is pre-insulated in a factory setting with a minimum of three (3) inches of urethane spray foam insulation. Insulation shall be rigid closed cell, two (2) component, urethane foam and be applied by an experienced applicator. Ductile iron must also be insulated.
6. Wastewater services that are insulated in the trench shall be laid to grade and blocked every five (5) feet so that there are no sags and the bottom of the pipe is at least three (3) inches above the bottom of the trench. This is necessary to ensure adequate insulation on the bottom of the service pipe.
7. Fittings shall consist of the following:
 - A. No-Hub cast iron fittings for HDPE pipe (HDPE fittings are not allowed).
 - B. Ductile iron fittings for ductile iron pipe.

8. Persons seeking approval of materials that are not specifically mentioned as being approved in this document must do so prior to installation.
9. High-density polyethylene pipe shall be installed with gas tight and water tight, non-fusion joints. The connection of HDPE to HDPE pipe or HDPE pipe to a No-Hub fitting shall be a flexible coupling, such as Mission Rubber Company XL 56-44 ARC Flex-Seal Coupling for four (4) inch diameter piping. Any substitute must be approved by the Utility in writing, prior to installation. The Utility does not allow the use of standard no hub clamps from the structure stub out to the wastewater main. Butt welding of HDPE pipe joints is not allowed. The Fernco Coupling 1056-44RCXL is an acceptable substitute. As an alternative, pipe connections may be made with an all stainless steel, full circle clamp coupling with neoprene gasket as a Rockwell No. 256, Romac style SS1.
10. When connecting wastewater service pipe having different outside diameters, an all stainless steel, full circle clamp coupling as described above shall be used and the smaller outside diameter pipe shall be built up with three (3) inch wide neoprene gasket material to match inside diameter.

7.4 CLEANOUTS

1. Wastewater clean-outs will be installed using a "No Hub" cast iron wye and one eighth (1/8) bend, or combination and a vertical cast iron pipe riser with iron bodied clean out cap, not less than four (4) inch in diameter.
2. A clean out shall be placed in every service line no farther than five (5) feet outside the structure and at intervals not to exceed one hundred (100) feet, in straight runs.
3. Changes in alignment or grade in excess of forty-five (45) degrees in a structure's wastewater service shall be served by a clean out.

7.5 BACKWATER VALVES

1. The Installer shall provide a suitable backwater valve (as shown in Figure 11) designed to prevent the flow of wastewater from Utility mains into the structure for that part of the wastewater service that is connected to fixtures with flood level rims located below the elevation of the nearest upstream manhole cover of the Utility wastewater system as required by Section 710 of the Uniform Plumbing Code.
2. Backwater valves shall be located where they will be accessible for inspection and repair at all times, and unless continuously exposed shall be enclosed in a watertight pit, fitted with an adequately sized removable cover.

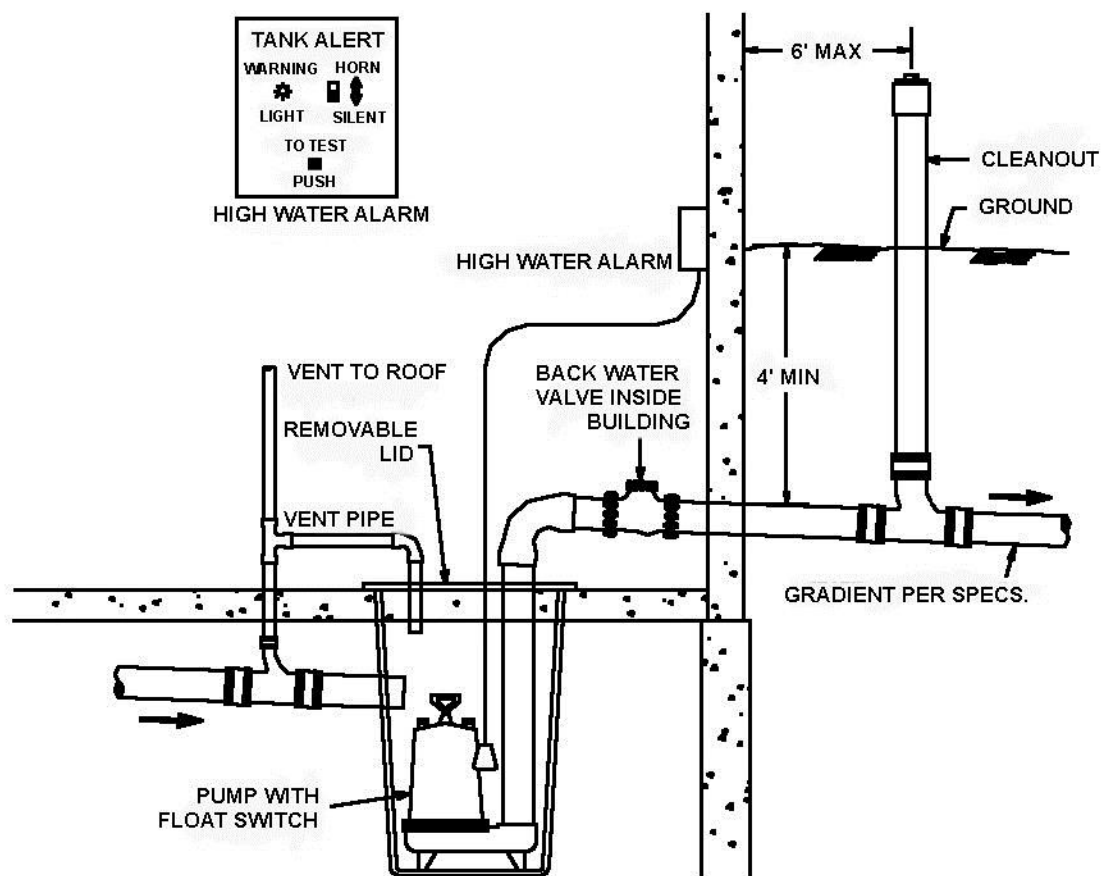


Figure 14: Wastewater Service Lift Station

7.6 LIFT STATIONS

1. Occasionally, the location and distance of the facility to be served by the Utility is such that gravity drainage is not possible along the entire length of the wastewater service. The Installer shall, at the direction of the Utility, install a suitable lift station to provide the necessary pumping capacity to meet the volume, elevation, and distance requirements of the wastewater service. Basic requirements and features of lift stations are as shown in Figure 11, and as described by the Uniform Plumbing Code.
2. The lift station shall feature a tank, a suitable pump with motor starting control, a level switch, an access plate for maintenance of the tank, and alarm switch contacts for high water level.
3. The Installer shall furnish an alarm light and audible alarm to be activated on high water level switch closure.

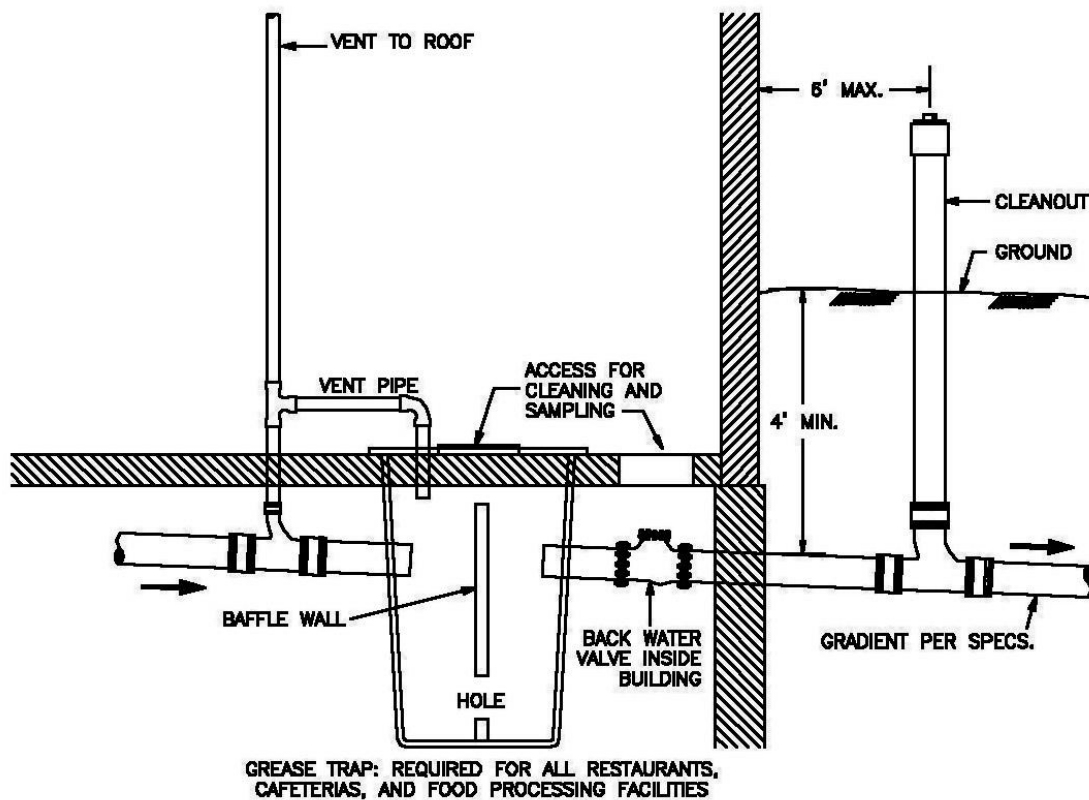


Figure 15: Typical Wastewater Interceptor Tank

7.7 PRE-TREATMENT

All solid or liquid wastes which are prohibited, by ordinance, from being discharged into the Utility wastewater system shall be removed from the waste stream or pre-treated prior to final discharge. The type of pre-treatment device or system will be determined by the Utility.

1. Grease Traps/Interceptors: The customer will furnish and maintain a grease trap/interceptor to trap animal and vegetable-based greases and oils. Final acceptance of such a device is subject to approval by the Utility. All commercial kitchens and other food processing facilities shall be equipped with such a device. Further applicability and information on this requirement can be obtained from the Utility. See Figure 15: Typical Wastewater Interceptor Tank.
2. Sand Traps and Oil/Water Separators: The customer will furnish and maintain an approved sand trap designed to collect sand, dirt, silt, and gravel from vehicle washing facilities or those facilities of similar purpose. As determined by the Utility, the customer will furnish and maintain an approved oil/water separator designed to collect petroleum or mineral based oils and greases. Those facilities requiring an oil/water separator include, but are not limited to, those performing vehicle maintenance and vehicle washing. Specific discharge limits and applicability of such pre-treatment devices shall be determined by the Utility.

3. Disposal: The sludges, grease, oils, silt, grit, or sand collected in the pre-treatment devices shall not be disposed in the wastewater main. The waste material must be disposed in a safe and acceptable manner in accordance with the Environmental Protection Agency and Alaska Department of Environmental Conservation regulations.

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(907) 488-3002 (fax)
bill.butler@northpolealaska.org

City of North Pole
Director of City Services

Memo

To: North Pole City Council
From: Bill Butler
Date: December 31, 2018
Subject: Approve 2019 contracts with engineering firms to provide plan review and building inspection services to the Building Department

Recommendation

Approve contracts with North Star Engineering and Inspections and Meurlott Consulting to provide plan review and building inspection services for the Building Department.

Background

Prior to 2008, the City of North Pole did not have a Building Department. Construction oversight was reflected in a single line within the Public Works Department. Public Works provided limited building permit services for the fees it collected. Sporadically, Public Works hired a host of private consultants to provide building inspection services. In 2007, the City faced complaints for a construction project permitted by the City and granted a Certificate of Occupancy where the City's oversight was questioned. In an effort to more professionalize construction permitting in the City, Public Works solicited statements of qualifications from area engineers with experience conducting plan reviews and building inspections. This process initially identified North Star Engineering and Inspections and Meurlott Consulting to perform these functions. As the activities overseeing building permitting became more formalized, these functions were removed from Public Works and the City created a dedicated Building Department. Several years later the Building Department contracted with a third consulting engineering firm, Alaska Structural Engineering, Inc. Alaska Structural Engineering, Inc. provided services for the Building Department for only a few years until its owner/operator returned to working for the Fairbanks Building Department. North Star Engineering and Inspections and Meurlott Consulting have been reliable contractors providing plan review and building inspection services since 2008.

Contracting with engineers to provide plan review and building inspection services became more formalized over time with assistance from the City Attorney who helped to write a standardized contract. The practice over the past several years has been to write a new contract for each construction project. This has proven to be a cumbersome process that generates lots of unnecessary paperwork. Working with the City Attorney during the summer of 2018, the concept grew to make

contracting for plan review and inspection services parallel how the City contracts for other services—have a contract for services and amend it as necessary to reflect any changes in the agreed upon work.

The Building Department is proposing that consulting engineers who provide plan review and inspection services to sign a single contract at the start of each year. The contract identifies the standard requirements of the contractor and the City. When there are changes to the contract, these changes will be reflected in an amendment. In most cases, I expect amendments to be identification of the location of a new construction projects. For commercial, industrial and institutional projects, I expect contract amendments to include the location of the project and the approved payments to the engineer.

**Contract for Building Plan Review
and Building Inspections**
Contract #: North Star-2019

The firm of North Star Engineering and Inspection. (hereafter North Star) a duly licensed engineering firm in the State of Alaska, agrees to perform building plan reviews and building inspections for the City of North Pole (hereinafter the City). North Star will review plan sets in compliance with the applicable building codes contained in Title 15 of the City of North Pole Municipal Code and any state adopted codes that supersede City building codes and to conduct building inspections to ensure compliance with the applicable building codes.

North Star agrees to the following in its role as building plan reviewer and building inspector:

1. Building plan reviews and building inspections are performed by North Star acting as an independent contractor to the City. Plan reviews shall take place in the offices of North Star and at the building site and shall be conducted without supervision, control or direction by the City.
2. Building plan reviews and building inspections will be performed on a lump sum basis.
 - A. Residential project plan reviews shall be performed at the following rates per project:
 - 1) Plan review: \$1,000 per project.
 - 2) Building inspections: \$1,500 per project.
 - B. Commercial, Institutional and Industrial project plan reviews shall be performed at the following rates per project:
 - 1) Plan reviews: 80% of plan review fees collected by the City from permit applicants.
 - 2) Building inspections: 80% of building permit fees collected by the City from permit applicants.
3. The building plan reviews will be completed and the plan review reports shall be provided to the City within 10 business days from receipt of the plans. If the plan reviews are going to require more than ten business days, North Star, will contact the City to explain the reasonable need for additional time.
4. North Star shall submit plan review reports to the City based upon the plan reviews. The reports should indicate any deficiencies in the plans that in the professional opinion of North Star, should be corrected before a building permit is issued. The reports should indicate if any of the issues or concerns are of such magnitude that North Star recommends that the plans be re-submitted for a second review after the applicant has responded to the concerns and updated the plans. The reports shall also identify any concerns or issues that in the professional opinion of North Star the City should be aware, but are not of sufficient magnitude to recommend not issuing a building permit. Notations should be indicated directly on the structural plans as necessary and referenced in the building plan inspection report.

5. Should the permit applicant request clarification that the City cannot adequately provide, North Star will make themselves available for a personal consultation with the permit applicant. This consultation can occur electronically or in person and North Star will be compensated \$150.00 per hour for the consultation. The City will schedule and mediate any such consultation.
6. If North Star has a conflict of interest related to a plan review and/or building inspection request, they shall identify the conflict in writing and submit the statement to the City. This statement will be shared with the applicant and become part of the permit application file. If the conflict precludes North Star from proceeding with the plan review and/or building inspections they shall not receive any compensation for their time incurred prior to their recusal.
7. Submission of invoices for payment.
 - a. Plan Review. North Star may submit invoices for plan reviews after the plan reviews are complete and plan review reports have been submitted to the City.
 - b. Building Inspections. North Star shall submit invoices for building inspection services rendered as follows:
 1. 25% of the lump sum upon completion of the foundation inspection(s);
 2. 25% of the lump sum upon completion of the framing/rough-in inspections
 3. 50% of the lump sum after completion of all remaining inspections and submission of the final inspection report.
 4. If the project is not completed in a timely manner by the construction contractor, North Star may invoice at a rate of \$250 for each inspection completed not to exceed the contracted amount for inspection services unless under terms mutually agreed upon by the parties and attached as an amendment to this contract.
 - c. For projects that do not follow the construction schedule outlined in “b” above, a payment plan mutually agreed to by the City and North Star will be attached to this contract as an amendment.
8. Certificate of Insurance

North Star must furnish a certificate of insurance within the (10) days of receipt of the contract signing and must provide for a thirty (30) day prior notice of cancellation, non-renewal or material change of the policies. Failure to furnish satisfactory evidence of insurance or lapse of policy shall be endorsed with a waiver of subrogation in favor of the City. All other insurance policies required of the North Star by this agreement shall be endorsed to provide that such insurance shall apply as primary insurance and that any insurance or self-insured carried by the City will be excess only and will not contribute with the insurance required by this agreement. All other insurance policies required of the North Star and subcontractors by this Agreement shall be endorsed to name the City as additional insured. All insurance shall be on an occurrence from acceptable to the City.

- a. Workers' Compensation and Employers' Liability Insurance as required by any applicable law or regulation. Employers' liability insurance shall be in the amount no less than \$500,000 each accident for bodily injury, \$500,000 policy limit for bodily injury by disease and \$500,000 each employee for bodily injury by disease. North Star shall be responsible for Workers' Compensation Insurance for any subcontractor who directly or indirectly provides services under this contract. This coverage must include statutory coverage for states in which employees are engaging work. If there is an exposure of injury to North Star's employees under the U.S. Longshoremen's Harbor Workers' Compensation Act, the Jones Act, or under laws, regulations or statutes applicable to maritime employee, coverage shall be included for such injuries or claims.
- b. Commercial General Liability Insurance: North Star is required to provide Commercial General Liability (CGL) insurance with limits not less than \$1,000,000 combined single limit per occurrence and \$2,000,000 in the aggregate not excluding premises operations, independent contractors, products, and completed operations, broad form property damage, blanket contractual, explosion, collapse and underground hazards. Limits may be a combination of primary and excess (umbrella) policy forms.
- c. Comprehensive Automobile Liability Insurance: Covering all owned, hired and non-owned vehicles with coverage limits not less than \$1,000,000 single limit per occurrence bodily injury and property damage.
- d. Proof of Insurance: North Star shall furnish the City with a Certificate of Insurance or where requested by the City, the policy declaration page with required endorsements attached thereto showing the type, amount, effective dates and dates of expiration of all policies. All endorsements shall reference policy number and the project name and project number.
- e. To the fullest extent permitted by law, North Star shall defend, indemnify and hold harmless the City occurs, and employees from and against any and all loss, expense, damage, claim, demand, judgment, fine, charge, lien, liability, action, cause of action, or proceedings of any kind whatsoever (whether arising on account of damage to or loss of property, or personal injury, emotional distress or death) arising directly or indirectly in connection with the performance or activities of North Star hereunder, whether the same arises before or after completion of the contractor's operations or expiration of this Agreement, except for damage, loss or injury resulting from the City's gross negligence or willful misconduct.
- f. Without limiting its indemnification, North Star shall maintain, until acceptance of the project by the City, occurrence type coverage of the kinds and minimum amounts set forth above. All insurance limits are minimum. If North Star's policy contains higher

limits, the City shall be entitled to coverage to the extent of such higher limits. The City, at its sole discretion, may rise or lower the limit.

9. Termination

- a. The City may terminate this contract on 24 hours' notice for the following reasons:
 - 1) The project owner terminates the construction project.
 - 2) North Star is, in the determination of the City, unable to timely complete the contract due to death or disability of personnel.
- b. The City may terminate this contract on 14 days' notice for the following reasons:
 - 1) Breach of this agreement by North Star and said breach is not cured within 7 days from written notice of the same to North Star.
 - 2) The City determines that continuation of the contract is not in the best interests of the City.
- c. In the event the contract is terminated through no fault or breach of North Star, North Star's sole and exclusive remedy shall be payment for services rendered to date based upon the pro rata percentage of contract completion as of the date of termination relative to all the services required under the entire contract. In the event the contract is terminated due to North Star's inability to perform or a breach of the agreement by North Star, the City shall obtain substitute services from another contractor, as required to complete the contract, and shall be entitled to deduct all fees for said services from the total contract price. The remaining balance, if any, shall be paid to North Star. If insufficient funds remain due on the contract to pay for substitute services North Star shall be liable to the City for any deficiency.

The City of North Pole agrees to the following in its role as the contractor for plan reviews and building inspections:

- A. Supply North Star, with a set of plans for contracted projects.
- B. Collect all plan review and building permit fees from the permit applicant.
- C. Be available for consultations with North Star, related to the plan reviews and building inspections.
- D. Be the intermediary between the permit applicant and North Star
- E. Pay North Star's invoices for plan review and inspection services within 30 days or explain any delay in the payment.

This agreement is the entire agreement between the parties and shall not be modified except by written attachment hereto, signed by both parties.

Authorizing signatures

City of North Pole

Michael W. Welch

Date

North Star

Charlie Jeannet, PE

Date

**Contract for Building Plan Review
and Building Inspections**
Contract #: Meurlott-2019

The firm of Meurlott Consulting, Inc. (hereafter Meurlott) a duly licensed engineering firm in the State of Alaska, agrees to perform building plan reviews and building inspections for the City of North Pole (hereinafter the City). Meurlott, will review plan sets in compliance with the applicable building codes contained in Title 15 of the City of North Pole Municipal Code and any state adopted codes that supersede City building codes and to conduct building inspections to ensure compliance with the applicable building codes.

Meurlott agrees to the following in its role as building plan reviewer and building inspector:

1. Building plan reviews and building inspections are performed by Meurlott acting as an independent contractor to the City. Plan reviews shall take place in the offices of Meurlott and at the building site and shall be conducted without supervision, control or direction by the City.
2. Building plan reviews and building inspections will be performed on a lump sum basis.
 - A. Residential project plan reviews shall be performed at the following rates per project:
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This agreement is the entire agreement between the parties and shall not be modified except by written attachment hereto, signed by both parties.

Authorizing signatures

City of North Pole

Michael W. Welch

Date

Meurlott

Vince Meurlott, PE

Date

125 Snowman Lane
North Pole, Alaska 99705
(907) 488-8593
(907) 488-3002 (fax)
bill.butler@northpolealaska.org

City of North Pole
Director of City Services

Memo

To: Mayor and City Council
From: Bill Butler
Date: December 28, 2018
Subject: Request for approval of Shannon & Wilson's Scope of Services for Additional Site Characterization, City of North Pole 8th Avenue Fire-Well Pump House, ADEC File No. 100.38.224.

Recommendation:

Authorize Shannon & Wilson's professional services agreement for \$40,505 to conduct the second phase of a site characterization of a fuel oil spill the Utility experienced in 2009 at the 8th Avenue Well House.

Background

In 2009, the Utility experienced a heating fuel oil spill when a shut-off switch failed on a pump at the 8th Avenue Well House. A resident reported to the Fire Department that there was fuel oil being pumped out of the well house. After investigating the call, the Fire Department contacted the Utility about the problem and the Utility switched off the pump. The Utility did not know the length of time the pump was running or volume in the fuel tank when the switch failed. Without knowing this information, it was difficult to estimate the volume of the spill—it was likely in excess of 200 gallons. Initially, the Utility hired a contractor to excavate and dispose of contaminated soil. The Alaska Department of Environmental Conservation required the Utility to implement additional measures to remove the spilled fuel oil, including removal of additional soil and installation of a recovery well. Over approximately two years, the Utility monthly during the spring, summer and fall skimmed fuel from the recovery well (in the winter months the water surface in the well was frozen). After approximately two years, there was insufficient fuel oil in the recovery well to collect any product.

In 2017, ADEC Contaminated Sites contacted the Utility to determine the status of the fuel spill recover in an effort to close out the project file. In January 2018, the Utility hired Shannon and Wilson to conduct a site assessment to determine if the site had been sufficiently cleaned up to ADEC requirements. In summer 2018, Shannon & Wilson collected soil samples, sampled the recover well and installed a monitoring well. Shannon &

Wilson provided a report that indicated that levels of contaminants continued to exceed ADEC standards. ADEC required the Utility to conduct additional sampling and to further attempt to delineate the extent of the contamination. A disconcerting finding in the initial site characterization found indicators of gasoline products at the site—there was no gasoline in the Utility's 2009 fuel oil spill. Shannon & Wilson did an historical review of spills in the vicinity of the 8th Avenue Well House and identified a spill at the North Pole Middle School. There was also a monitoring well along the Grange Road on Railroad property not installed by the Utility. Shannon & Wilson found no record of whom or why that monitoring well was installed.

Shannon & Wilson submitted to ADEC an expanding monitoring plan and efforts to further characterize the extent of the fuel oil spill and to try to determine the source of the gasoline mixed with the groundwater contamination. ADEC reviewed and approved Shannon & Wilson's plan and that plan is the basis of the professional services proposal they submitted to the Utility in September 2018. Because the Utility did not have funding in its 2018 budget for such a project, I requested ADEC to allow the Utility to delay until 2019 the efforts to further delineate the fuel oil contamination spill and the source of the gasoline. The 2019 Water Division Budget approved by the City Council in December 2018 included \$50,000 transferred into the operating budget from Utility Reserves for this project.

September 28, 2018

City of North Pole
125 Snowman Lane
North Pole, AK 99705

Attn: Mr. Bill Butler

**RE: PROPOSED SCOPE OF SERVICES, ADDITIONAL SITE
CHARACTERIZATION, CITY OF NORTH POLE 8TH AVENUE FIRE-WELL
PUMP HOUSE, ADEC FILE NO. 100.38.224**

We are pleased to present this proposed scope of services and cost estimate for additional site characterization of the 8th Avenue Fire-Well Pump House site, located on the corner of 8th Avenue and Grange Road in North Pole, Alaska. The site is listed on the Alaska Department of Environmental Conservation (ADEC) Contaminated Site Database due to a fuel release to the ground surface on July 8, 2009. Analytical results from our sampling in April and May 2018 indicate a potential gasoline source may be affecting soil and groundwater quality at the site.

BACKGROUND

On July 8, 2009, the recirculating fuel pump at the fire-well pump house malfunctioned, causing an overflow of the day tank in the pump-house building. Based on delivery records, the City estimated 274 to 474 gallons of fuel were released. We responded to the spill and assisted the City of North Pole by removing fuel-contaminated soil. Samples from the limits of the excavation indicated gasoline range organics (GRO), diesel range organics (DRO), and the volatile organic compounds (VOCs) benzene, toluene, ethylbenzene, and xylenes (BTEX) were present at concentrations greater than ADEC soil cleanup levels for the migration-to-groundwater criteria.

City of North Pole personnel conducted free-phase fuel recovery from a recovery well installed within the excavation footprint from 2009 to 2011. As of 2011, the City had recovered 130 gallons of fuel. We understand that free-phase fuel has not been observed in site wells since 2011, though gauging visits may have been limited to the summer season.

In 2018, we advanced and sampled two soil borings and completed the borings as monitoring wells. Soil and groundwater sample results indicated petroleum constituents were present at concentrations exceeding ADEC CULs. Additionally, an assessment of the 2018 soil sample

chromatograms by the laboratory chemist indicated, “the hydrocarbon pattern is consistent with a weathered gasoline.”

SCOPE OF SERVICES

We propose collecting additional analytical samples to further characterize and delineate the extent of soil and groundwater contamination at the site and investigate for potential vapor intrusion into nearby residences. Our proposed project scope includes the following tasks:

- Prepare a work plan for submittal to ADEC;
- Subcontract with GeoTek Alaska, Inc. (GeoTek) to advance three soil borings and complete the borings as monitoring wells;
- Collect samples from the soil borings, and from the new and existing site monitoring wells, and submit the samples for laboratory analysis;
- Conduct residential indoor-air sampling in nearby residences if analytical sample results indicate a vapor intrusion pathway may be complete;
- Subcontract with Design Alaska, Inc. (Design Alaska) to conduct a survey of site monitoring wells for the purpose of calculating the groundwater flow direction;
- Conduct/support monthly gauging of wells RW-1 and MW-01 to monitor for free-phase fuel;
- Prepare a summary report of our findings.

Work Plan Preparation

During preparation of our work plan, we will research other potential sources for the gasoline range organics observed in the 2018 samples. We will incorporate the findings of our investigation into the conceptual site model which will be discussed in the work plan. We will provide the work plan to you for review, then to ADEC project manager Mr. Jim Fish for his review and comment. We will revise the work plan as appropriate following each review.

The work plan will guide the field activities and will be developed in general accordance with the ADEC’s *Site Characterization Work Plan and Reporting Guidance for Investigation of Contaminated Sites* (March 2017). It will include a sampling and analysis plan describing sample-collection procedures, a quality assurance program plan describing analytical methods and data-quality objectives, and a site-safety and health plan for Shannon & Wilson personnel to follow during field activities.

Soil and Groundwater Sampling

We propose advancing three soil borings to approximately 15 feet below ground surface (bgs) in three locations approximately upgradient, downgradient, and cross-gradient of identified contamination based on the calculated groundwater flow direction. The soil borings will be completed as 2-inch diameter PVC monitoring wells and will be constructed in accordance with the ADEC September 2013 *Monitoring Well Guidance*. We will collect two soil samples from each soil boring, and one groundwater sample from each newly installed wells following development. We will also sample four existing site wells: MW-01, MW18-01, MW18-02, and a newly discovered well southwest of the site and adjacent to Grange Road which we will refer to as MW-02. Field quality-control (QC) samples will be collected in accordance with the ADEC August 2017 *Field Sampling Guidance*.

We will submit soil and groundwater samples to SGS North America, Inc. (SGS) for laboratory analysis of GRO by Alaska (AK) Method 101, DRO by AK Method 102, VOCs by Environmental Protection Agency (EPA) Method 8260C, and polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270D.

Indoor-Air Sampling

If analytical results from soil and groundwater samples indicate a potential vapor intrusion risk for nearby properties, we propose coordinating with property homeowners to collect indoor-air samples from residences adjacent to the site. For the purpose of this proposal, we have included the estimated costs for sampling the indoor-air of three residences. We will complete the ADEC *Building Inventory and Indoor Air Sampling Questionnaire* for each residence sampled. We will collect the three samples and one field QC sample using 6-liter summa canisters, and submit the samples to Eurofins Laboratory for analysis of VOCs by EPA Method TO-15 SIM. We will compare VOC concentrations to the residential indoor air target levels listed in ADEC's *Vapor Intrusion Guidance for Contaminated Sites*.

Well Gauging

We propose conducting monthly gauging to monitor for possible accumulation of free-phase fuel. We understand the City of North Pole personnel gauged the recovery well RW-1 three times during the summer of 2017 and did not observe fuel or a sheen in the well. Changes in the groundwater table may lead to measurable accumulation during periods of low groundwater elevation. If a recoverable amount of fuel is observed at the site, we will coordinate with the City of North Pole to determine an appropriate fuel recovery program.

Reporting

After we have reviewed and evaluated analytical data, we will prepare a report in which we document field activities, summarize soil and groundwater sampling results, and evaluate those results in the context of ADEC cleanup levels. Qualified Shannon & Wilson personnel will review field data, including sample descriptions and pertinent observations, during preparation of the report. We will provide a discussion of sample results and recommendations for additional investigation, corrective action, monitoring, or site closure as appropriate. We will also include laboratory data reports, ADEC data-review checklists, and copies of COC records with the report.

PROJECT SCHEDULE

Upon authorization to proceed, we will begin drafting the work plan for your review, after which we will provide it to the ADEC for their review. We anticipate the field investigation will be completed in summer 2019. Monthly monitoring for free-phase fuel will continue until November 2019 so measurements can be made during the anticipated groundwater elevation minima.

ESTIMATE OF PROBABLE COSTS

Our fee for the proposed work will be completed on a time-and-expenses basis with an estimated fee of \$40,505. Our approach, scope of services, schedule, and price contained in this proposal are subject to Shannon & Wilson, Inc.'s Standard General Terms and Conditions, attached to and incorporated in this proposal. Our estimates of probable costs are enclosed and include our labor and expenses for the services described in this proposal.

If this proposal meets with your approval, please sign in the space provided at the end of the proposal and return one signed copy of this letter, which will constitute your authorization for us to proceed with this scope of services. The estimated fee for this work is firm for 30 days from the date of this proposal. Should authorization to begin be received after 30 days, we will review our estimated fee to determine if any price changes have occurred that would affect the estimated cost of the project.

Please contact me at (907)458-3152 or vew@shanwil.com if you have any questions regarding our proposed scope of services.

Sincerely,

SHANNON & WILSON, INC.



Digitally signed by
Valerie Webb, C.P.G.
Date: 2018.09.28 13:30:13
-08'00'

Valerie Webb, CPG
Senior Geologist

Enc: Summary of Probable Costs
Standard General Terms and Conditions (All Purpose)
Important Information about your Proposal

ACCEPTANCE

I accept the above conditions and authorize the work to proceed.

By: _____ Printed Name: _____

Title: _____ Date: _____

Estimate of Probable Costs

	Rate	Quantity	Subtotal	Total
Task 1 - Work Plan Preparation				
Officer	\$220.00 /hr	1 hr	\$220.00	
Sr. Assoc	\$175.00 /hr	1 hr	\$175.00	
Sr Eng/Sci II	\$125.00 /hr	8 hrs	\$1,000.00	
Eng/Sci IV	\$92.00 /hr	36 hrs	\$3,312.00	
Ofc. Svs. V	\$86.00 /hr	1 hr	\$86.00	
			Task 1 Total	\$4,793
Task 2 - Soil and Groundwater Sampling				
Sr Eng/Sci II	\$120.00 /hr	2 hrs	\$240.00	
Eng/Sci IV	\$105.00 /hr	24 hrs	\$2,520.00	
Eng/Sci III	\$92.00 /hr	24 hrs	\$2,208.00	
Equipment & Supplies	\$500.00 /day	3 days	\$1,500.00	
			subtotal	\$6,468
GeoTek Alaska (drilling services)				
Mob/demob	\$300.00 /ea	1 mob	\$300.00	
GeoTek per diem	\$450.00 /day	1 day	\$450.00	
Drilling Services	\$3,000.00 /day	1 day	\$3,000.00	
Monitoring Well Consumables	\$700.00 /ea	3 wells	\$2,100.00	
Drums	\$135.00 /ea	1 drums	\$135.00	
Fee			\$898	
			subtotal	\$6,883
Design Alaska (surveying)				
	\$1,000.00 ls		\$1,000	
Fee			\$150	
			subtotal	\$1,150
SGS North America (laboratory analysis)				
Soil				
GRO (AK 101)	\$65.00 /ea	7 tests	\$455	
DRO (AK 102)	\$65.00 /ea	7 tests	\$455	
VOCs (EPA 8260B)	\$160.00 /ea	7 tests	\$1,120	
PAH (EPA 8270 SIM)	\$160.00 /ea	7 test	\$1,120	
GRO (AK 101) trip blank	\$32.50 /ea	1 tests	\$33	
VOCs (EPA 8260B) trip blank	\$80.00 /ea	1 tests	\$80	
Water				
GRO (AK 101)	\$65.00 /ea	9 tests	\$585	
DRO (AK 102)	\$65.00 /ea	9 tests	\$585	
VOCs (EPA 8260B)	\$160.00 /ea	9 tests	\$1,440	
PAH (EPA 8270 SIM)	\$160.00 /ea	9 test	\$1,440	
GRO (AK 101) trip blank	\$32.50 /ea	1 tests	\$33	
VOCs (EPA 8260B) trip blank	\$80.00 /ea	1 tests	\$80	
Fee			\$1,114	
			subtotal	\$8,539
			Task 2 Total	\$23,040

Task 3 - Indoor-Air Sampling

Sr Eng/Sci II	\$120.00 /hr	2 hrs	\$240.00
Eng/Sci IV	\$105.00 /hr	20 hrs	\$2,100.00
Equipment & Supplies	\$200.00 /day	2 days	\$400.00
		subtotal	\$2,740

Eurofins Air Toxics, Inc. (laboratory analysis)**Air**

VOCs (TO-15)	\$288.00 /ea	4 tests	\$1,152
Fee			\$173

subtotal \$1,325

Task 3 Total \$4,065**Task 4 - Monthly Well Gauging**

Eng/Sci IV	\$105.00 /hr	12 hrs	\$1,260
Eng/Sci II	\$92.00 /hr	12 hrs	\$1,104
Equipment & Supplies	\$80.00 /day	12 day	\$960

Task 4 Total \$3,324**Task 5 - Reporting**

Officer	\$220.00 /hr	2 hrs	\$440.00
Sr. Assoc	\$175.00 /hr	2 hrs	\$350.00
Sr Eng/Sci II	\$120.00 /hr	8 hrs	\$960.00
Eng/Sci III	\$92.00 /hr	36 hrs	\$3,312.00
Ofc. Svs. V	\$86.00 /hr	2 hrs	\$172.00
Misc Expenses			\$50.00

Task 5 Total \$5,284

TOTAL \$40,505

IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL PROPOSAL

More construction problems are caused by site subsurface conditions than any other factor. The following suggestions and observations are offered to help you manage your risks.

HAVE REALISTIC EXPECTATIONS.

If you have never before dealt with geotechnical or environmental issues, you should recognize that site exploration identifies actual subsurface conditions at those points where samples are taken, at the time they are taken. The data derived are extrapolated by the consultant, who then applies judgment to render an opinion about overall subsurface conditions; their reaction to construction activity; appropriate design of foundations, slopes, impoundments, and recovery wells; and other construction and/or remediation elements. Even under optimal circumstances, actual conditions may differ from those inferred to exist, because no consultant, no matter how qualified, and no subsurface program, no matter how comprehensive, can reveal what is hidden by earth, rock, and time.

DEVELOP THE SUBSURFACE EXPLORATION PLAN WITH CARE.

The nature of subsurface explorations—the types, quantities, and locations of procedures used—in large measure determines the effectiveness of the geotechnical/environmental report and the design based upon it. The more comprehensive a subsurface exploration and testing program, the more information it provides to the consultant, helping to reduce the risk of unanticipated conditions and the attendant risk of costly delays and disputes. Even the cost of subsurface construction may be lowered.

Developing a proper subsurface exploration plan is a basic element of geotechnical/environmental design, which should be accomplished jointly by the consultant and the client (or designated professional representatives). This helps the parties involved recognize mutual concerns and makes the client aware of the technical options available. Clients who develop a subsurface exploration plan without the involvement and concurrence of a consultant may be required to assume responsibility and liability for the plan's adequacy.

READ GENERAL CONDITIONS CAREFULLY.

Most consultants include standard general contract conditions in their proposals. One of the general conditions most commonly employed is to limit the consulting firm's liability. Known as a "risk allocation" or "limitation of liability," this approach helps prevent problems at the beginning and establishes a fair and reasonable framework for handling them, should they arise.

Various other elements of general conditions delineate your consultant's responsibilities. These are used to help eliminate confusion and misunderstandings, thereby helping all parties recognize who is responsible for different tasks. In all cases, read your consultant's general conditions carefully and ask any questions you may have.

HAVE YOUR CONSULTANT WORK WITH OTHER DESIGN PROFESSIONALS.

Costly problems can occur when other design professionals develop their plans based on misinterpretations of a consultant's report. To help avoid misinterpretations, retain your consultant to work with other project design professionals who are affected by the geotechnical/environmental report. This allows a consultant to explain report implications to design professionals affected by them, and to review their plans and specifications so that issues can be dealt with adequately. Although some other design professionals may be familiar with geotechnical/environmental concerns, none knows as much about them as a competent consultant.

OBTAIN CONSTRUCTION MONITORING SERVICES.

Most experienced clients also retain their consultant to serve during the construction phase of their projects. Involvement during the construction phase is particularly important because this permits the consultant to be on hand quickly to evaluate unanticipated conditions, to conduct additional tests if required, and when necessary, to recommend alternative solutions to problems. The consultant can also monitor the geotechnical/environmental work performed by contractors. It is essential to recognize that the construction recommendations included in a report are preliminary, because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site.

Because actual subsurface conditions can be discerned only during earthwork and/or drilling, design consultants need to observe those conditions in order to provide their recommendations. Only the consultant who prepares the report is fully familiar with the background information needed to determine whether or not the report's recommendations are valid. The consultant submitting the report cannot assume responsibility or liability for the adequacy of preliminary recommendations if another party is retained to observe construction.

REALIZE THAT ENVIRONMENTAL ISSUES MAY NOT HAVE BEEN ADDRESSED.

If you have requested only a geotechnical engineering proposal, it will not include services needed to evaluate the likelihood of contamination by hazardous materials or other pollutants. Given the liabilities involved, it is prudent practice to always have a site reviewed from an environmental viewpoint. A consultant cannot be responsible for failing to detect contaminants when the services needed to perform that function are not being provided.

ONE OF THE OBLIGATIONS OF YOUR CONSULTANT IS TO PROTECT THE SAFETY, PROPERTY, AND WELFARE OF THE PUBLIC.

A geotechnical/environmental investigation will sometimes disclose the existence of conditions that may endanger the safety, health, property, or welfare of the public. Your consultant may be obligated under rules of professional conduct, or statutory or common law, to notify you and others of these conditions.

RELY ON YOUR CONSULTANT FOR ADDITIONAL ASSISTANCE.

Your consulting firm is familiar with several techniques and approaches that can be used to help reduce risk exposure for all parties to a construction project, from design through construction. Ask your consultant, not only about geotechnical and environmental issues, but others as well, to learn about approaches that maybe of genuine benefit.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland



Date:	September 28, 2018
To:	City of North Pole; Attn: Bill Butler
Re:	Additional Site Characterization City of North Pole 8 th Ave Fire-Well Pump House

STANDARD GENERAL TERMS AND CONDITIONS (ALL PURPOSE)

ARTICLE 1 – SERVICES OF SHANNON & WILSON

Shannon & Wilson's scope of work (Work) shall be limited to those services expressly set forth in its Proposal and is subject to the terms and conditions set forth herein.

Shannon & Wilson shall procure and maintain all business and professional licenses and registrations necessary to provide its services. Upon Client's request (and for additional compensation, if not already included in Shannon & Wilson's Proposal), Shannon & Wilson shall assist Client in attempting to obtain, or on behalf of Client and in Client's name attempt to obtain, those permits and approvals required for the project for which Shannon & Wilson's services are being rendered.

Client acknowledges, depending on field conditions encountered and subsurface conditions discovered, the number and location of borings, the number and type of field and laboratory tests, and other similar items, as deemed necessary by Shannon & Wilson in the exercise of due care, may need to be increased or decreased; if such modifications are approved by Client, Shannon & Wilson's compensation and schedule shall be equitably adjusted.

If conditions actually encountered at the project site differ materially from those represented by Client and/or shown or indicated in the contract documents, or are of an unusual nature which materially differ from those ordinarily encountered and generally recognized as inherent for the locality and character of the services provided for in Shannon & Wilson's scope of work, Shannon & Wilson's compensation and schedule shall be equitably adjusted.

Without increasing the scope of work, price, or schedule contained in Shannon & Wilson's Proposal, Shannon & Wilson may employ such subcontractors as Shannon & Wilson deems necessary to assist in furnishing its services.

If Shannon & Wilson's scope of work is increased or decreased by Client, Shannon & Wilson's compensation and schedule shall be equitably adjusted.

ARTICLE 2 – TIMES FOR RENDERING SERVICES

Shannon & Wilson shall perform its services in accordance with the schedule set forth in its Proposal.

If Shannon & Wilson's Proposal sets forth specific periods of time for rendering services, or specific dates by which services are to be completed, and such periods of time or dates are extended or delayed through no fault of Shannon & Wilson, Shannon & Wilson's compensation and schedule shall be equitably adjusted.

If Shannon & Wilson's schedule is increased or decreased by Client, Shannon & Wilson's compensation shall be equitably adjusted.

ARTICLE 3 – PAYMENTS TO SHANNON & WILSON

Invoices shall be prepared in accordance with Shannon & Wilson's standard invoicing practices and shall be submitted to Client by Shannon & Wilson monthly. The amount billed in each invoice shall be calculated as set forth in Shannon & Wilson's Proposal.

Unless Shannon & Wilson's Proposal contains a fixed lump-sum price, Shannon & Wilson's actual fees may exceed the estimate contained in its Proposal. Shannon & Wilson shall not exceed the estimate contained in its Proposal by more than ten percent (10%) without the prior written consent of Client; provided however, unless the Client authorizes additional funds in excess of the estimate contained in Shannon & Wilson's Proposal, Shannon & Wilson shall have no obligation to continue work on the project.

Invoices are due and payable within 30 days of receipt. If Client fails to pay Shannon & Wilson's invoice within 30 days after receipt, the amounts due Shannon & Wilson shall accrue interest at the rate of one and one-half percent (1.5%) per month (or the maximum rate of interest permitted by law, if less) after the 30th day. In addition, Shannon & Wilson may, after giving seven (7) days written notice to Client, suspend services under this Agreement until Shannon & Wilson has been paid in full.

If Client disputes Shannon & Wilson's invoice, only the disputed portion(s) may be withheld from payment, and the undisputed portion(s) shall be paid.

Records of Shannon & Wilson's direct and indirect costs and expenses pertinent to its compensation under this Agreement shall be kept in accordance with generally accepted accounting practices and applicable federal, state, or local laws and regulations. Upon request, such records shall be made available to Client for inspection on Shannon & Wilson's premises and copies provided to Client at cost.

ARTICLE 4 – CLIENT'S RESPONSIBILITIES

Client shall grant or obtain free access to the project site for all equipment and personnel necessary for Shannon & Wilson to perform its services.

ARTICLE 5 – STANDARD OF CARE / ABSENCE OF WARRANTIES / NO RESPONSIBILITY FOR SITE SAFETY OR CONTRACTOR'S PERFORMANCE

Standard of Care

The standard of care for all professional services performed or furnished by Shannon & Wilson under this Agreement shall be the skill and care ordinarily exercised by other members of Shannon & Wilson's profession, providing the same or similar services, under the same or similar circumstances, at the same time and locality as the services were provided by Shannon & Wilson. The construction, alteration, or repair of any object or structure by Shannon & Wilson shall be performed in a good and workmanlike manner in accordance with general industry standards, and conform to this Agreement. Shannon & Wilson warrants for one (1) year from substantial completion of the Work, all goods delivered hereunder shall be new and free from defects in material or workmanship,

and shall conform to the specifications, drawings, or sample(s) specified or furnished, if any, and shall be merchantable and fit for their intended purpose(s). Shannon & Wilson warrants that Shannon & Wilson has good and marketable title to all goods delivered hereunder, and that all goods delivered hereunder shall be free and clear of all claims of superior title, liens, and encumbrances of any kind.

Subsurface explorations and testing identify actual subsurface conditions only at those points where samples are taken, at the time they are taken. Actual conditions at other locations of the project site, including those inferred to exist between the sample points, may differ significantly from conditions that exist at the sampling locations. The passage of time or intervening causes may cause the actual conditions at the sampling locations to change as well.

Interpretations and recommendations made by Shannon & Wilson shall be based solely upon information available to Shannon & Wilson at the time the interpretations and recommendations are made.

Shannon & Wilson shall be responsible for the technical accuracy of its services, data, interpretations, and recommendations resulting therefrom, and Client shall not be responsible for discovering deficiencies therein. Shannon & Wilson shall correct any substandard work without additional compensation, except to the extent that such inaccuracies are directly attributable to deficiencies in Client-furnished information.

No Warranties

Shannon & Wilson makes no guarantees or warranties, express or implied, under this Agreement or otherwise, about Shannon & Wilson's professional services.

Client-Furnished Documents

Shannon & Wilson may use requirements, programs, instructions, reports, data, and information furnished by Client to Shannon & Wilson in performing its services under this Agreement. Shannon & Wilson may rely on the accuracy and completeness of requirements, programs, instructions, reports, data, and other information furnished by Client to Shannon & Wilson. Client shall, only to the fullest extent permitted by law, waive any claims against Shannon & Wilson and its subcontractors, and indemnify and hold Shannon & Wilson and its subcontractors harmless from any claims, liability, or expenses (including reasonable attorneys' fees and costs) arising from Shannon & Wilson's reliance on Client-furnished information, except to the extent of Shannon & Wilson's and its subcontractor's negligent or wrongful acts, errors, omissions, or breach of contract.

Site Damage

Shannon & Wilson shall take reasonable precautions to minimize damage to the project site, but it is understood by Client that, in the normal course of Shannon & Wilson's services, some project site damage may occur, and the correction of such damage is not part of this Agreement unless so stated in Shannon & Wilson's Proposal. Client shall, only to the fullest extent permitted by law, waive any claims against Shannon & Wilson and its subcontractors, and indemnify and hold Shannon & Wilson and its subcontractors harmless from any claims, liability, or expenses (including reasonable attorneys' fees and costs) arising from any project site damage caused by Shannon & Wilson, except to the extent of Shannon & Wilson's and its subcontractor's negligent or wrongful acts, errors, omissions, or breach of contract.

Buried Structures

If there are any buried structures and/or utilities on the project site where subsurface explorations are to take place, Client shall provide Shannon & Wilson with a plan showing their existing locations. Shannon & Wilson shall contact a utility locator service to request that they identify any public utilities. Shannon & Wilson shall use reasonable care and diligence to avoid contact with buried structures and/or utilities as shown. Shannon & Wilson shall not be liable for any loss or damage to buried structures and/or utilities resulting from inaccuracy of the plans, or lack of plans, or errors by the locator service relating to the location of buried structures and/or utilities. Client shall, only to the fullest extent permitted by law, waive any claims against Shannon & Wilson and its subcontractors, and indemnify, and hold Shannon & Wilson and its subcontractors harmless from any claims, liability, or expenses (including reasonable attorneys' fees and costs) arising from damage to buried structures and/or utilities caused by Shannon & Wilson's sampling, except to the extent of Shannon & Wilson's and its subcontractor's negligent or wrongful acts, errors, omissions, or breach of contract.

Aquifer Cross-Contamination

Despite the use of due care, unavoidable contamination of soil or groundwater may occur during subsurface exploration when drilling or sampling tools are advanced through a contaminated area, linking it to an aquifer, underground stream, or other hydrous body not previously contaminated and capable of spreading contaminants off the project site. Because Shannon & Wilson is powerless to totally eliminate this risk despite use of due care, and because sampling is an essential element of Shannon & Wilson's services, Client shall, only to the fullest extent permitted by law, waive any claims against Shannon & Wilson and its subcontractors, and indemnify and hold Shannon & Wilson and its subcontractors harmless from any claims, liability, or expenses (including reasonable attorneys' fees and costs) arising from cross-contamination caused by Shannon & Wilson's sampling, except to the extent of Shannon & Wilson's and its subcontractor's negligent or wrongful acts, errors, omissions, or breach of contract.

Opinions of Probable Construction Costs

If opinions of probable construction costs are included in Shannon & Wilson's Proposal, Shannon & Wilson's opinions of probable construction costs shall be made on the basis of its experience and qualifications and represent its judgment as a professional generally familiar with the industry. Opinions of probable construction costs are based, in part, on approximate quantity evaluations that are not accurate enough to permit contractors to prepare bids. Further, since Shannon & Wilson has no control over: the cost of labor, materials, equipment, or services furnished by others; the contractor's actual or proposed construction methods or methods of determining prices; competitive bidding; or market conditions, Shannon & Wilson cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from opinions of the components of probable construction cost prepared by Shannon & Wilson. If Client or any contractor wishes greater assurance as to probable construction cost, Client or contractor shall employ an independent cost estimator.

Review of Contractor's Shop Drawings and Submittals

If review of a contractor's shop drawings and submittals are included in Shannon & Wilson's Proposal, Shannon & Wilson shall review and take appropriate action on the contractor's submittals, such as shop drawings, product data, samples, and other data, which the contractor is required to submit, but solely for the limited purpose of checking for general overall conformance with Shannon & Wilson's design concept. This review shall not include a review of the accuracy or completeness of details, such as quantities; dimensions; weights or gauges; fabrication processes; construction means, methods, sequences or procedures; coordination of the work with other trades; or construction safety precautions, all of which are the sole responsibility of the contractor. Shannon & Wilson's review shall be conducted with reasonable promptness while allowing sufficient time, in Shannon & Wilson's judgment, to permit adequate review. Review of a specific item shall not be construed to mean that Shannon & Wilson has reviewed the entire assembly of which the item is a component. Shannon & Wilson shall not be responsible for any deviations by the contractor in the shop drawings and submittals from the construction documents, which are not brought to the attention of Shannon & Wilson by the contractor in writing.

Construction Observation

If construction observation is included in Shannon & Wilson's Proposal, Shannon & Wilson shall visit the project site at intervals Shannon & Wilson deems appropriate, or as otherwise agreed to in writing by Client and Shannon & Wilson, in order to observe and keep Client generally informed of the progress and quality of the work. Such visits and observations are not intended to be an exhaustive check or a detailed inspection of any contractor's work, but rather are to

allow Shannon & Wilson, as a professional, to become generally familiar with the work in progress in order to determine, in general, whether the work is progressing in a manner indicating that the work, when fully completed, will be in accordance with Shannon & Wilson's general overall design concept. Shannon & Wilson's authority shall be limited to observing, making technical comments regarding general overall compliance with Shannon & Wilson's design concept, and rejecting any work which it becomes aware of that does not comply with Shannon & Wilson's general overall design concept. Shannon & Wilson's acceptance of any non-conforming work containing latent defects or failure to reject any non-conforming work not inspected by Shannon & Wilson shall not impose any liability on Shannon & Wilson or relieve any contractor from complying with their contract documents. All construction contractors shall be solely responsible for construction site safety, the quality of their work, and adherence to their contract documents. Shannon & Wilson shall have no authority to direct any contractor's actions or stop any contractor's work.

If Shannon & Wilson is not retained to provide construction observation of the implementation of its design recommendations, Client shall, only to the fullest extent permitted by law, waive any claims against Shannon & Wilson, and indemnify and hold Shannon & Wilson harmless from any claims, liability, or expenses (including reasonable attorneys' fees and costs) arising from the implementation of Shannon & Wilson's design recommendations, except to the extent of Shannon & Wilson's and its subcontractor's negligent or wrongful acts, errors, omissions, or breach of contract.

No Responsibility for Site Safety

Except for its own subcontractors and employees, Shannon & Wilson shall not: supervise, direct, have control over, or authority to stop any contractor's work; have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected by any contractor; be responsible for safety precautions and programs incident to any contractor's work; or be responsible for any failure of any contractor to comply with laws and regulations applicable to the contractor, all of which are the sole responsibility of the construction contractors. This requirement shall apply continuously, regardless of time or place, and shall in no way be altered because a representative of Shannon & Wilson is present at the project site performing his/her duties. Notwithstanding anything to the contrary, Shannon & Wilson shall never be deemed to have assumed responsibility for the project's site safety by either contract or conduct. No act or direction by Shannon & Wilson shall be deemed the exercise of supervision or control of any contractor's employees or the direction of any contractor's performance. Any direction provided by Shannon & Wilson shall be deemed solely to ensure the contractor's general overall compliance with Shannon & Wilson's design concept.

No Responsibility for Contractor's Performance

Except for its own subcontractors and employees, Shannon & Wilson shall not be responsible for safety precautions, the quality of any contractor's work, or any contractor's failure to furnish or perform their work in accordance with their contract documents.

Except Shannon & Wilson's own employees and its subcontractors, Shannon & Wilson shall not: be responsible for the acts or omissions of any contractor, subcontractor or supplier, or other persons at the project site, or otherwise furnishing or performing any work; or for any decision based on interpretations or clarifications of Shannon & Wilson's design concept given without the consultation and concurrence of Shannon & Wilson.

Approval of Contractor's Applications for Payment

If approval of a contractor's applications for payment are included in Shannon & Wilson's Proposal, Shannon & Wilson shall review the amounts due the contractor and issue a recommendation about payment to Client. Shannon & Wilson's review and approval shall be limited to an evaluation of the general progress of the work and the information contained in the contractor's application for payment and a representation by Shannon & Wilson that to the best of the Shannon & Wilson's knowledge, the contractor has performed work for which payment has been requested, subject to further testing and inspection upon substantial completion. The issuance of a recommendation for payment shall not be construed as a representation that: Shannon & Wilson has made an exhaustive check or a detailed or continuous inspection check of the quality or quantity of the contractor's work; approved the contractors means, methods, sequences, procedures, or safety precautions; or that contractor's subcontractors, laborers, and suppliers have been paid.

ARTICLE 6 – CONFIDENTIALITY AND USE OF DOCUMENTS

Confidentiality

Shannon & Wilson agrees to keep confidential and to not disclose to any person or entity (other than Shannon & Wilson's employees and subcontractors), without the prior consent of Client, all information furnished to Shannon & Wilson by Client or learned by Shannon & Wilson as a result of its work on the project; provided however, that these provisions shall not apply to information that: is in the public domain through no fault of Shannon & Wilson; was previously known to Shannon & Wilson; or was independently acquired by Shannon & Wilson from third-parties who were under no obligation to Client to keep said information confidential. This paragraph shall not be construed to in any way restrict Shannon & Wilson from making any disclosures required by law. Client agrees that Shannon & Wilson may use and publish Client's name and a general description of Shannon & Wilson's services with respect to the project in describing Shannon & Wilson's experience and qualifications to others.

Copyrights and Patents – Shannon & Wilson shall indemnify, hold harmless, and defend Client from any and all actions, damages, demands, expenses (including reasonable attorneys' fees and costs), losses, and liabilities arising out of any claims that any goods or services furnished by Subcontractor infringe any patent, trademark, trade name, or copyright.

Use of Documents

All documents prepared by Shannon & Wilson are instruments of service with respect to the project, and Shannon & Wilson shall retain a copyrighted ownership and property interest therein (including the right of reuse) whether or not the project is completed.

Shannon & Wilson grants to Client a non-exclusive, irrevocable, unlimited, royalty-free license to use any documents prepared by Shannon & Wilson for Client. Client may make and retain copies of such documents for their information and use. Such documents are not intended or represented to be suitable for reuse by Client, or others, after the passage of time, on extensions of the project, or on any other project. Any such reuse without written verification or adaptation by Shannon & Wilson, as appropriate for the specific purpose intended, shall be at Client's sole risk, and Client shall, only to the fullest extent permitted by law, waive any claims against Shannon & Wilson and its subcontractors, and indemnify and hold Shannon & Wilson and its subcontractors harmless from any claims, liability, or expenses (including reasonable attorneys' fees and costs) arising from such reuse, except to the extent of Shannon & Wilson's and its subcontractor's negligent or wrongful acts, errors, omissions, or breach of contract. Any verification or adaptation of the documents for extensions of the project or for any other project by Shannon & Wilson shall entitle Shannon & Wilson to additional compensation to be agreed upon by Client and Shannon & Wilson.

Copies of documents that may be relied upon by Client are limited to the printed copies (also known as hard copies) that are signed or sealed by Shannon & Wilson. Text, data, or graphics files in electronic media format are furnished solely for the convenience of Client. Any conclusion or information obtained or derived from such electronic files shall be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

Because data stored in electronic media can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving an electronic file agrees that it shall perform acceptance tests or procedures within 60 days after its receipt, after which, unless notice of any errors are given in

writing to the delivering party, the receiving party shall be deemed to have accepted the data thus transferred. Any errors reported within the 60-day acceptance period shall be corrected by the party delivering the electronic files at their sole expense. Shannon & Wilson shall not be responsible for maintaining documents stored in electronic media format after acceptance by Client.

When transferring documents in electronic media format, neither Client nor Shannon & Wilson makes any representations as to long-term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used for the document's creation.

ARTICLE 7 - INSURANCE

Shannon & Wilson shall purchase and maintain during the term of this contract, the following insurance coverage at its sole expense:

Commercial General Liability - \$1,000,000 each occurrence/\$2,000,000 annual aggregate Bodily Injury/Property Damage Combined Single Limit including Blanket Contractual Liability, Broad Form Products and Completed Operations, Explosion/Collapse/Underground (XCU) Exposures, and Washington Stop Gap coverage.

Auto Liability - \$1,000,000 Bodily Injury/Property Damage Combined Single Limit including Owned, Hired, and Non-Owned Liability coverage.

Umbrella Liability - \$10,000,000 Bodily Injury/Property Damage combined Single Limit in excess of Commercial General Liability, Auto Liability, and Employers' Liability.

Workers' Compensation - Statutory in monopolistic states and \$500,000 per accident/\$500,000 per disease/\$500,000 disease policy aggregate Employers' Liability in non-monopolistic including if applicable, U.S. Longshore & Harbor Workers coverage.

Professional Liability - \$5,000,000 per claims/\$5,000,000 annual aggregate for professional errors and omissions including Pollution Liability coverage.

If requested in writing by Client, Shannon & Wilson shall name Client as an additional insured on its Commercial General Liability policy.

If requested in writing by Client, Shannon & Wilson shall deliver to Client certificates of insurance evidencing such coverage. Such certificates shall be furnished before commencement of Shannon & Wilson's services.

Client shall cause Shannon & Wilson and its subcontractors to be listed as additional insureds on any Commercial General Liability insurance carried by Client that is applicable to the project.

Client shall require the project owner to require the general contractor on the project to purchase and maintain Commercial General Liability, Automobile Liability, Workers Compensation, and Employers Liability insurance, with limits no less than set forth above, and to cause Shannon & Wilson and its subcontractors to be listed as additional insureds on that Commercial General Liability insurance. Client shall require the project owner include the substance of this paragraph in the prime construction contract.

All insurance policies shall contain a waiver of subrogation.

ARTICLE 8 - HAZARDOUS ENVIRONMENTAL CONDITIONS

Disclosure of the Existence of Hazardous Environmental Conditions

Client has disclosed to Shannon & Wilson all data known to Client concerning known or suspected hazardous environmental conditions, including but not limited to, the existence of all asbestos, PCBs, petroleum, hazardous waste, or radioactive material, if any, located at or near the project site, including its type, quantity, and location, or has represented to Shannon & Wilson that, to the best of Client's knowledge, no hazardous environmental conditions exist at or near the project site.

If any hazardous environmental condition is encountered or believed to exist, Shannon & Wilson shall notify Client and, to the extent required by applicable laws and regulations, the project site owner, and appropriate governmental officials.

Disposal of Non-Hazardous Samples and Hazardous or Toxic Substances

All substances on, in, or under the project site, or obtained from the project site as samples or as byproducts (e.g., drill cuttings and fluids) of the sampling process are the project site owner's property. Shannon & Wilson shall preserve such samples for forty-five (45) calendar days after Shannon & Wilson's issuance to Client of the final instrument of service that relates to the data obtained from them. Shannon & Wilson shall dispose of all non-hazardous samples and sampling process byproducts in accordance with applicable law; provided however, any samples or sampling process byproducts that are, or are believed to be, affected by regulated contaminants shall be packaged by Shannon & Wilson in accordance with applicable law, and turned over to Client or left on the project site. Shannon & Wilson shall not transport store, treat, dispose of, or arrange for the transportation, storage, treatment, or disposal of, any substances known, believed, or suspected to be affected by regulated contaminants, nor shall Shannon & Wilson subcontract for such activities.

Shannon & Wilson shall, at Client's request (and for additional compensation, if not already included in Shannon & Wilson's Proposal), help Client or the project site owner identify appropriate alternatives for transportation, storage, treatment, or disposal of such substances, but Shannon & Wilson shall not make any independent determination about the selection of a transportation, storage, treatment, or disposal facility.

Client or the project site owner shall sign all manifests for the transportation, storage, treatment, or disposal of substances affected by regulated contaminants; provided however, notwithstanding any other provisions of this Agreement to the contrary if Client directs Shannon & Wilson, Shannon & Wilson's employees, or Shannon & Wilson's agents to sign such manifests and/or to hire for Client or the project site owner a contractor to transport store, treat, or dispose of the contaminated substances, Shannon & Wilson shall do so only as Client's disclosed agent.

Contaminated Equipment and Consumables

Client shall reimburse Shannon & Wilson for the cost of decontaminating field or laboratory equipment that is contaminated by regulated materials encountered at the project site and for the cost of disposal and replacement of contaminated consumables. In some instances, the cost of decontamination may exceed the fair market value of the equipment, were it not contaminated, together with the cost of properly transporting and disposing of the equipment. In such instances, Shannon & Wilson will notify Client and give Client the option of paying for decontamination or purchasing the equipment at its fair market value immediately prior to contamination. If Client elects to purchase equipment, Client and Shannon & Wilson will enter into a specific agreement for that purpose. Any equipment that cannot be decontaminated shall be considered a consumable.

Client's Liability for Hazardous or Toxic Materials

Except to the extent caused by Shannon & Wilson's and its subcontractor's negligent or wrongful acts, errors, omissions, or breach of contract, and only to the maximum extent permitted by law, Client shall: indemnify and hold harmless Shannon & Wilson, its subcontractors and their partners, officers, directors, employees, and agents; from and against any and all actions (whether sounding in tort, contract (express or implied), warranty (express or implied), statutory

liability, strict liability, or otherwise), claims (including, but not limited to, claims for bodily injury, death, property damage (including bodily injury, death, or property damage to Shannon & Wilson's own employees), or arising under CERCLA, MTCA, or similar federal, state, or local environmental laws), costs, damages (including without limitation, economic, non-economic, general, special, incidental, consequential), demands, expenses (including, but not limited to, reasonable attorneys' fees and costs of defense), fines, judgments, liens, liabilities, and penalties of any kind whatsoever; arising from the arrangement for and/or ownership, operation, generation, labeling, transportation, storage, disposal, treatment, release, or threatened release of any hazardous or toxic materials, as defined by CERCLA, MTCA, or similar federal, state, or local environmental laws, on and/or from the project site.

ARTICLE 9 - ALLOCATION OF RISK

Indemnification of Client

To the maximum extent permitted by law, Shannon & Wilson shall: indemnify and hold harmless Client, its appointed and elected officials, partners, officers, directors, employees, and agents; from and against any and all actions (whether sounding in tort, contract (express or implied), warranty (express or implied), statutory liability, strict liability, or otherwise), claims (including, but not limited to, claims for bodily injury, death, property damage, (including bodily injury, death, or property damage to Shannon & Wilson's own employees) or arising under CERCLA, MTCA, or similar federal, state, or local environmental laws), costs, damages (including without limitation, economic, non-economic, general, special, incidental, consequential), demands, expenses (including, but not limited to, reasonable attorneys' fees and costs of defense), fines, judgments, liens, liabilities, and penalties of any kind whatsoever; arising from the negligent or wrongful acts, errors, or omissions, or breach of contract or warranty express or implied, by Shannon & Wilson or any of its subcontractors; but only to the extent of Shannon & Wilson's and its subcontractor's relative degree of fault. In furtherance of these obligations, and only with respect to Client, its appointed and elected officials, partners, officers, directors, employees and agents, Shannon & Wilson waives any immunity it may have or limitation on the amount or type of damages imposed under any industrial insurance, worker's compensation, disability, employee benefit, or similar laws. Shannon & Wilson acknowledges that this waiver of immunity was mutually negotiated.

Limitation of Shannon & Wilson's Liability

A. Total Liability Limited to Insurance Proceeds

Notwithstanding any other provisions of this Agreement, and only to the maximum extent permitted by law, the total liability, in the aggregate, of Shannon & Wilson, its subcontractors, and their partners, officers, directors, employees, agents and, or any of them, to Client and/or anyone claiming by, through, or under Client, for any and all actions (whether sounding in tort, contract (express or implied), warranty (express or implied), statutory liability, strict liability, or otherwise), claims (including, but not limited to, claims for bodily injury, death, property damage, (including bodily injury, death, or property damage to Shannon & Wilson's own employees) or arising under CERCLA, MTCA, or similar federal, state, or local environmental laws), costs, damages (including without limitation, economic, non-economic, general, special, incidental, consequential), demands, expenses (including, but not limited to, reasonable attorneys' fees and costs of defense), fines, judgments, liens, liabilities, and penalties of any kind whatsoever, arising out of, resulting from, or in any way related to the project or this Agreement, shall be limited to the insurance proceeds payable on behalf of or to Shannon & Wilson by any insurance policies applicable thereto. If you are unwilling or unable to limit our liability in this manner, we will negotiate this limitation and its associated impact on our approach, scope of work, schedule, and price, with you. You must notify us in writing before we commence our work of your intention to negotiate this limitation and its associated impact on our approach, scope of work, schedule, and price. Absent your prior written notification to the contrary, we will proceed on the basis that our total liability is limited as set forth above.

B. Professional Liability Limited to \$50,000 or 10% of Fee

With respect to professional errors or omissions only, notwithstanding any other provisions of this Agreement, and only to the maximum extent permitted by law, the total liability, in the aggregate, of Shannon & Wilson, its subcontractors, and their partners, officers, directors, employees, agents, or any of them, to Client and/or anyone claiming by, through, or under Client, for any and all actions (whether sounding in tort, contract (express or implied), warranty (express or implied), statutory liability, strict liability, or otherwise), claims (including, but not limited to, claims for bodily injury, death, property damage (including bodily injury, death, or property damage to Shannon & Wilson's own employees) or arising under CERCLA, MTCA, or similar federal, state, or local environmental laws), costs, damages (including without limitation, economic, non-economic, general, special, incidental, consequential), demands, expenses (including, but not limited to, reasonable attorneys' fees and costs of defense), fines, judgments, liens, liabilities, and penalties of any kind whatsoever, arising out of, resulting from, or in any way related to the professional errors or omissions of Shannon & Wilson, its subcontractors, or their partners, officers, directors, employees, agents or, or any of them, shall not exceed the aggregate total amount of \$50,000.00, or ten percent (10%) of the total compensation actually paid to Shannon & Wilson under this Agreement, whichever is greater. If you are unwilling or unable to limit our professional liability to these sums, we will negotiate the amount of this limitation and its associated impact on our approach, scope of work, schedule, and price, with you. You must notify us in writing before we commence our work of your intention to negotiate the amount of this limitation and its associated impact on our approach, scope of work, schedule, and price. Absent your prior written notification to the contrary, we will proceed on the basis that our total professional liability is limited to \$50,000.00 or ten percent (10%) of the total compensation actually paid to Shannon & Wilson under this Agreement, whichever is greater.

ARTICLE 10 – MISCELLANEOUS

Termination

This Agreement may be terminated without further obligation or liability by either party, with or without cause (for convenience), upon 30 days prior written notice to the other. Shannon & Wilson shall be entitled to compensation for all services performed prior to the termination of this Agreement. This Agreement may be terminated by the non-breaching party upon any breach of this Agreement that remains uncured after 10 days notice to the breaching party by the non-breaching party. Upon payment of all amounts due Shannon & Wilson, Client shall be entitled to copies of Shannon & Wilson's files and records pertaining to services performed prior to the termination of this Agreement.

Successors, Assigns, and Beneficiaries

This Agreement shall be binding upon each party's assigns, successors, executors, administrators, and legal representatives.

Neither Client nor Shannon & Wilson may assign or transfer any rights under or interest in this Agreement without the written consent of the other. No assignment shall release or discharge the assignor from any duty or responsibility under this Agreement.

Nothing in this Agreement shall be construed to create, impose, or give rise to any duty owed by Client or Shannon & Wilson to any third-party. All duties and responsibilities undertaken under this Agreement shall be for the sole and exclusive benefit of Client and Shannon & Wilson. There are no intended third-party beneficiaries. Notwithstanding the foregoing, should a court find a third-party to be a beneficiary of this Agreement, it is the intent of the parties that the judicially created third-party beneficiary be bound by and subject to all of the terms and conditions of this Agreement.

Jurisdiction, Venue, and Choice of Law

Any applicable Statute of Limitation shall be deemed to commence running on the date which the claimant knew, or should have known, of the facts giving rise to their claims, but in no event later than the date of substantial completion of Shannon & Wilson's services under this Agreement. To the maximum extent

permitted by law, as a condition precedent to commencing a judicial proceeding, a party shall give written notice of their claims, including all amounts claimed, and the factual basis for their claims, to the other party within one (1) year of when the claimant knew, or should have known, of the facts giving rise to their claims, but in no event later than one (1) year from the date of substantial completion of Shannon & Wilson's services under this Agreement. As a condition precedent to commencing a judicial proceeding, a party shall first submit their claims to non-binding mediation through and in accordance with the rules of the American Arbitration Association.

This Agreement shall be construed in accordance with and governed by the laws (except choice and conflict of law provisions) of the state in which the Project is located.

Any judicial action shall be brought in the state in which the Project is located.

Attorneys' Fees

Should any dispute or claims arise out of this Agreement, whether sounding in tort, contract (express or implied), warranty (express or implied), statutory liability, strict liability, or otherwise, the prevailing party shall be entitled to an award of their reasonable attorneys' fees and costs, including upon appeal and in the enforcement of any judgment. Should neither party prevail on all of their claims or receive all of the relief they sought, then the substantially prevailing party shall be awarded their reasonable attorneys' fees and costs, including upon appeal and in the enforcement of any judgment.

Waiver

A waiver of any of the terms and conditions or breaches of this Agreement shall not operate as a subsequent waiver.

Headings

The headings used in this agreement are for general ease of reference only. They have no meaning and are not part of this Agreement.

Integration

This Agreement, together with all attachments hereto, are incorporated by reference into each other, and supercede all prior written and oral discussions, representations, negotiations, and agreements on the subject matter of this Agreement and represent the parties' complete, entire, and final understanding of the subject matter of this Agreement.

Survival

Notwithstanding completion or termination of this Agreement for any reason, all representations, warranties, limitations of liability, and indemnification obligations contained in this Agreement shall survive such completion or termination and remain in full force and effect until fulfilled.

Severability

If any of the terms or conditions of this Agreement are found to be void or unenforceable for any reason, the remainder of this Agreement shall continue in full force and effect, and the court shall attempt to judicially reform the void or unenforceable provisions to the maximum extent possible, consistent with the original intent expressed in the provisions, to render it valid and enforceable. If the court is unable to reform the provisions to render it valid and enforceable, the court shall strike only that portion which is invalid or unenforceable, and this Agreement shall then be construed without reference to the void or unenforceable provisions.

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**CITY OF NORTH POLE
ORDINANCE 19-01**

**AN ORDINANCE OF THE CITY OF NORTH POLE, ALASKA TO
AMEND THE 2019 OPERATING BUDGET IN SUPPORT OF THE
MOOSE CREEK WATER SYSTEM EXPANSION PROJECT**

WHEREAS, changes to the public service practices and policies is a continually changing requirement; and,

WHEREAS, the City of North Pole budget should be amended to conform to the requirements of the City; and,

WHEREAS, adjustment in the budget are necessary to remain compliant with council approved authorizations and budget management rules; and,

WHEREAS, fiscal notes are the method prescribed by the code to amend a budget; and,

WHEREAS, Resolution 17-5, Resolution Stating Positions in Regard to the Moose Creek Feasibility Study Dated June 2017 stated: "The City is willing to expand its utility so long as it is contiguous with its existing system; and,

WHEREAS, the November 2017 United States Airforce "Interim Feasibility Study for Community of Moose Creek, Alaska, Long-Term Drinking Water Supply" identified the North Pole Utility as the preferred alternative to supply drinking water to Moose Creek; and,

WHEREAS, the Feasibility Study estimates that the Moose Creek Water System Expansion project will cost in excess of \$26 million; and,

WHEREAS, on December 3, 2018, the City Council approved PDC Engineers to perform the engineering work for the Moose Creek Water System Expansion Project; and,

WHEREAS, the USAF has provided the City with a Cooperative Agreement enabling engineering work begin on or about January 15, 2019 so that the Water System Expansion Project can go to bid on or about November 1, 2019; and,

WHEREAS, the fiscal note has been reviewed by the Accountant and Mayor for accuracy and will be recorded as amendments to the budget upon approval.

NOW, THEREFORE, BE IT ORDAINED by the Council of the City of North Pole that it approves changes as listed in the fiscal note to be attached to this ordinance for the purpose of managing the City budget.

Section 1. This ordinance is of a general nature and shall not be codified.

Section. Effective date.

This ordinance shall become effective immediately upon passage.

PASSED AND APPROVED by a duly constituted quorum of the North Pole City Council this
____ day of _____, 2019.

Michael W. Welch, Mayor

ATTEST:

Judy L. Binkley, City Clerk

PASSED/FAILED

Yes:

No:

Absent:



City of North Pole, Alaska

Fiscal Note Year:

Accompanying Ordinance/Resolution:

Originator / sponsor:

Date: _____

Does the Ordinance or Resolution have a fiscal impact? **yes** **no**

FUND	Account Description	Account #	Debit	Credit

Summary: (Brief description of proposed alterations as defined by accompanying ordinance or resolution. Where did the money come from and how will it be used).

Prepared By: _____ **Date:** _____

Finance Approval: _____ **Date:** _____

NOTE- Fiscal notes attached to an ordinance are considered amendments to the budget and do not require an additional approval for insertion into the budget document.