CITY OF NORTH POLE
Alaska

REGULAR CITY COUNCIL MEETING
Monday, May 18, 2015

Committee of the Whole – 6:30 p.m.
Regular City Council Meeting – 7:00 p.m.

MAYOR
Bryce Ward 888-4444

CITY CLERK
Kathy Weber, MMC 488-8583

COUNCIL MEMBERS

Michael Welch- *Mayor Pro Tem*	488-5834
Thomas McGhee- *Deputy Mayor Pro Tem*	455-0010
Preston Smith – *Alt. Deputy Mayor Pro Tem*	488-8824
Elizabeth Holm	488-6125
Sharron Hunter	978-5591
Kevin McCarthy	590-0800

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**
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. Contract amendment with Stantec (formerly USKA, Inc.) for feasibility engineering for alternative treated wastewater discharge options in response to "Notice of Violation".

b. Ordinance 15-06, An Ordinance of the City of North Pole, Alaska to amend Title 4, Revenue and Finance, Section 20.010, Sale of City Property.

c. Resolution 15-11, A Resolution of the City of North Pole, Alaska supporting the purchase of Pentex Corporation as a critical step to the timely advancement of the Interior Energy Project.

13. Council Comments

14. Adjournment

The City of North Pole will provide an interpreter at City Council meetings for hearing impaired individuals. The City does require at least 48 hours' notice to arrange for this service. All such requests are subject to the availability of an interpreter. All City Council meetings are recorded on CD. These CD's are available for listening or duplication at the City Clerk's Office during regular business hours, Monday through Friday, 8:00 a.m. to 5:00 p.m. or can be purchased for $10.00 per CD. The City Clerk's Office is located in City Hall, 125 Snowman Lane, North Pole, Alaska.

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, May 4, 2015 in the Council Chambers of City Hall, 125 Snowman Lane, North Pole, Alaska.

CALL TO ORDER/ROLL CALL

Mayor Ward called the regular City Council meeting of Monday, May 4, 2015 to order at 7:00 p.m.

There were present:	***Absent/Excused***
Ms. Holm	
Ms. Hunter	
Mr. McCarthy	
Mr. McGhee	
Mr. Smith	
Mr. Welch	
Mayor Ward	

CALL TO ORDER/ROLL CALL

Mayor Ward called the regularly scheduled meeting of the North Pole City Council to order on Monday, May 4, 2015 at 7:00 p.m.

PLEDGE OF ALLEGIANCE TO THE U.S. FLAG

Led by Mayor Ward

INVOCATION

Invocation was given by Mr. McGhee

APPROVAL OF AGENDA

Mr. McGhee *moved to* **Approve the Agenda of May 4, 2015**

Seconded *by* **Mr. Welch**

Discussion

None

Mr. McGhee moved to amend the agenda to consent under New Business as follows:

a. Memorandum of Agreement between the State of Alaska Department of Transportation and Public Facilities and the City of North Pole

Seconded by Mr. Welch

On the amendment

PASSED
Yes: 7 – McGhee, Holm, Welch, Smith, Hunter, McCarthy, Ward
No: 0
Absent: 0

On the Agenda as Amended

PASSED
Yes: 7 – McGhee, Holm, Welch, Smith, Hunter, McCarthy, Ward
No: 0
Absent: 0

APPROVAL OF MINUTES
Mr. Welch *moved to* **Approve the minutes of April 20, 2015.**

Seconded *by* **Mr. McGhee**

Discussion
None

PASSED
Yes: 7 – McGhee, Holm, Welch, Smith, Hunter, McCarthy, Ward
No: 0
Absent: 0

COMMUNICATIONS FROM THE MAYOR
The Mayors Report for the May 4th, 2015 City Council Meeting

We are seeking donations for the Trooper Park. If you are interested in donating your time or resources please talk to me or Chief Dutra with the Police Dept. Thanks to our volunteers we had the entire lot cleared by last Friday. Special thanks to Weber Inc. who will begin grubbing and site prep, foundation detail this next week. We still have a lot of work that needs to be done so come and help!

Monday, May 11th at 6pm will be the festival committee meeting. If you are interested please contact me or Katy Englund for details. The 4th is on a Saturday this year so get ready for a great

time! Flint Hills Resources has graciously agreed to come on as title sponsor again this year. Thank YOU!

May 7th is the National Day of Prayer and New Jerusalem Church of God in Christ is hosting a prayer breakfast at 6am. Council and the public are welcome to attend. Every year the mayor issues the National Day of Prayer Proclamation.

May 7th is also Senior Citizen Appreciation day at the Carlson Center. It begins at 10:30am and is hosted by the Parks and Rec Department of the Fairbanks North Star Borough. The three mayors attend and give out the awards.

Cleanup Day is May 9th this year. Bags are available at any Fire Department or the Boy Scout offices in Fairbanks.

May 29th through the 31st the North Pole Lions are hosting a, Circus in Town, next to Mt. McKinley Bank. The times will be 4:30 pm and 7:00pm each day. Proceeds will go to the North Pole Lions. The Lions are also hosting the Cruzin with Santa Car Show on the 30th of May. Hopefully we don't have snow this year…

May 11th is the official State of Alaska Bike to Work day. I have agreed to bike to work and fortunately I do not have any meetings in Fairbanks as of yet.

May 19th is the North Pole High School Graduation at Carlson Center, if you have a student or friend graduating please come join the celebration, also if you are interested in donating to the graduation party committee please contact the High School.

Friday May 1st was the Military Appreciation dinner and I was privileged to host, on behalf of the City, Eielson AFB, Master Sergeant Richard Aguliar and his wife Raquel. They have been here for almost three years and are leaving Alaska this year.

Auditors will be here the week of May 11th. They are willing to set up specific times to meet with you individually here at City Hall. Corresponding with auditor must be done as a body and not individually.

COUNCIL MEMBER QUESTIONS OF THE MAYOR

COMMUNICATIONS FROM DEPARTMENT HEADS, BOROUGH REPRESENTATIVE AND THE CITY CLERK

Police Department, Chief Dutra

- Sgt. Bellant updated council on the class he took in San Jose on drug recognition.

Fire Department, Chief Lane

- None

Finance, Tricia Fogarty

- None

Director of City Services, Bill Butler

Building Department

- Building permit issued for Starbucks within Safeway
- Proposed senior housing project on Patriot Drive: FNSB Planning Department indefinitely delayed public hearing on Conditional Use of site pending submission of additional information by the developer
- Two residential building permit applications submitted by Liberty Homes; plans under review

Public Works

- City street sweeping continues and will hopefully be completed by Tuesday.
- Brush cutting as part of the Interior Gas Utility Project completed within City except for possible minor issues
- Released advertisement announcing summer hire positions available

Utility Department

- Awaiting permit application for discharge of de-water water as part of the gas line project
  - Contractor plans to begin with four borings (within City) under Alaska Railroad tracks
  - May need to excavate into the water table which will require de-watering and they are applying to discharge de-watering water to City sewer system because ground water in area is contaminated with sulfolane

Natural Gas Utility Board

- Memorandum of Agreement between ADOT&PF and City for DOT to provide inspection services of gas line excavations within city
  - IGU's excavation permit payment to City in the form of a Reimbursable Services Agreement (RSA)
  - DOT will bill City for inspectors' time performing work on City streets and City will pay these costs from IGU's permit fees paid via the RSA
  - Goal is to have City's cost covered and not to profit from IGU
- 65% design drawings for Phase 2 submitted to City for comment
  - Phase 2 will include areas the City north of Hurst Road plus other areas outside the City

Borough Representative

- None

City Clerk, Kathy Weber

- A short survey went out to all employees this past week and I will have the results to you at our meeting next week. Craig Kestram from Alaska USA will be here to update you on the renewal.

- The RFP for the Strategic Planning closed on Wednesday, April 22, 2015 at 2:00 p.m. The RFP committee met on Thursday, April 30th and chose a vendor for the project. That item will be on the next agenda.
- Set up meeting with Aha web design to work on getting the audio from council meetings online.
- On Wednesday, May 6th Alaska National Insurance Co. will be out here to audit our General Liability and Workmens' Comp for the previous year.
- I will not be here for the next meeting on May 18th. Stephanie DeCristo will be sitting in for me. I will be attending the IIMC conference in Hartford, Connecticut.

ONGOING PROJECTS

None

CITIZENS COMMENTS

Phil Zastrow, 2255 Peridot

Mr. Zastow said he is not a big fan of HC Contractors. He said that they have damaged Peridot and have not fixed it after promising to do so. Mr. Zastrow stated that they have not done any dust control and trucks run every 5 minutes. He said that you can see the toxic fumes from the HC asphalt plant settling near the ground. Mr. Zastrow produced pictures to show council of the damage to Peridot.

OLD BUSINESS

None

NEW BUSINESS

Approved by consent agenda

COUNCIL COMMENTS

McCarthy – said he would like to see the rate of pay raised for council members to help get people to run for office.

McGhee – no comment.

Welch - said it would be nice to have the council show up for employee appreciation functions. He said that the employees are concerned about the questionnaire they got on the medical insurance and is hoping that the council gets enough information prior to the meeting so they can ask meaningful questions and also see our employees engage in those ideas. He agrees with Mr. McCarthy that we need to see about raising the stipend for the City Council to attract qualified people. He believes it needs to be passed prior to the election. He is glad to see that the streets are swept and are up to 17 hours of daylight.

Holm – thanked Mr. Zastrow for coming out and reporting on Peridot. She said she used to go around on Badger Rd to get to Peridot because the road was so bad. Ms. Holm said that she had to call 911 today and had 3 officers show up to help her. She is proud of the Police Department and all they do.

Hunter – it's good to be back and wished everyone a good 2 weeks before we get back.

Smith – is happy to see people out on the bicycle paths. The first swath of mosquitos are out. He sees a lot of positive things coming our way.

Ward – he appreciates the staff and wonderful environment with the walking and biking. He said it is encouraging seeing the public out enjoying the paths. Mayor Ward said that any council member is able to draft an ordinance or resolution.

ADJOURNMENT

Mr. McGhee adjourned the meeting at 7:53 p.m.

Seconded *by* **Mr. Welch**

The regular meeting of May 4, 2015 adjourned at 7:53 p.m.

These minutes passed and approved by a duly constituted quorum of the North Pole City Council on Monday, May 18, 2015.

_____
Bryce J. Ward, Mayor

ATTEST:

_____
Kathryn M. Weber, MMC
North Pole City Clerk

chise transfer at next March's annual meeting.

think the policy of somebody we find committed such a vio-

the services and resources available."

most attention, especially when they aren't selected as early as

dy Bridgewater, Louisville's star quarterback.

We are fortunate in our community to have so many family friendly employers. This year, a record-breaking 188 employees took the time to send in nominations for 105 different employers. 51 of those employers have not been nominated previously. Over the years, 338 different employers have been nominated, some many times over.

FAIRBANKS 50 YEARS NORTH STAR BOROUGH

grow better kids

Early Childhood Development Commission

Fairbanks is a Family Friendly Place!

North Pole Police Department

Public Employer 1 – 25 employees

Chief Steve Dutra

My supervisor endeavors constantly to accommodate the families that work under him. If an officer has a scheduling conflict with work vs. childcare, he works to resolve it so the officers can attend to their families. He rearranges schedules for those with family conflicts. He has even taken shifts himself to cover for an officer with a sick family member. He always is the first to send out notifications when someone has a child. Days off for family events and the like are pretty much guaranteed.

This is the only department I have worked in where the family is always put first. Not the job. It takes a conscientious commander in law enforcement to do that. He has pushed training for officers in home preparedness so that when officers have to be protecting the community, their family is safe. His efforts in promoting the health and vitality of those with families that work for him is unheard of in the police community.

Not only does this employer allow ALL school activities or family events, my children love to come to my work and even volunteer here. Last summer they spent several of their "yaaaaay I'm free" summer vacation hours helping me. They were even awarded a volunteer appreciation certificate!

I never have to worry about staying home (losing money) if my kids are sick because my employer created an online office system where I can work at home when/if needed.

Fairbanks Native Association

Non Profit 25+ employees

Steve Guiness, Executive Director

As a single mother, caretaker of elderly parents, and a full time employee, I feel that my employer definitely allows me to be a good mom, an excellent daughter and still be a great employee! They do this by supporting and caring about me as a person as well as an employee. When my parents got sick, my employers provided me with FMLA, fellow employees donated leave so I could take care of my mom and dad, they checked in on

LifeMed Alaska

Company/Business 25+ employees

Scott Kirby, CEO & Katie Dillon, Fairbanks Base Manager

During my initial hiring process, my mother was diagnosed with terminal cancer. In the ten brief but beautiful months following the initial diagnosis, my colleagues and managers stood steadfast behind my family, supporting us every step of the way.

When I asked for five weeks off to join Mom for one last grand adventure, it was granted without hesitation. When I needed a flexible schedule to care for mom while she was on hospice, it was arranged. Mom died at home surrounded in love. I was told I could take off as much time as I needed, even though I didn't have much leave accrued. No worries, our HR director said—my time off would still be paid regardless.

At Mom's memorial service, an entire row of pilots, paramedics and nurses from our Fairbanks base stood vigil in uniform at the back of the church to honor Mom's memory.

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: May 13, 2015

Subject: Professional Services Proposal for Phase 2 response to Notice of Violation for Sewer Outfall

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Recommendation

Accept Stantec's proposal for $195,980.00 to generate mandatory response on behalf of the Utility to the Alaska Department of Environmental Conservation (ADEC) Notice of Violation (NOV) for sewer outfall.

Background

In 2014, the City received a legislative grant for $500,000 to respond to the loss of river flow at its sewer outfall on the Tanana River. The Utility has experienced periodic loss of flow at the sewer outfall. ADEC recognizes that the loss of river flow is an act of nature; however, it still represents a violation of the Utility's permit to discharge treated wastewater to the Tanana River. To date, the Utility has spent approximately $15,000 of the grant to respond to ADEC's notice of violation issued in November 2014. The City contracted with Stantec to generate this Phase 1 response to the NOV. For your information, the NOV, the professional services agreement with Stantec for Phase 1 and Stantec's response to the NOV on behalf of the Utility are attached.

As part of the NOV, ADEC required the Utility explore several possible alternatives to correct the loss of river flow at the sewer outfall. The Utility in preliminary discussions with ADEC, the Department of Natural Resources (DNR), Stantec and our wastewater consultant, Mike Pollen of NTL, had proposed several possible solutions. These proposed possible solutions included: (1) a longer sewer main to a permanent channel of the Tanana River; (2) dredging the channel where the utility discharges treated wastewater; (3) construct a large pond that would function like a leech field, (4) request a modification of the discharge permit to allow the Utility to continue discharging even when the channel losses water flow, and (5) upgrading the treatment process so that the treated wastewater meets the water quality standard. These proposed solutions formed the basis of Stantec's work plan to respond to the NOV. Stantec used these options as a starting point for their analysis. Stantec's analysis looked at permitting issues, feasibility and cost to generate recommendations for the Utility.

ADEC and DNR quickly removed the option of continuing to discharge to the Tanana River even when there was a loss of river flow. Based upon their analysis, Stantec recommended the two most reasonable options to be (1) extending the sewer outfall main to a permanent channel of the Tanana River and (2) construction of a large discharge pond. The Utility agreed that these were the most feasible and submitted the report and recommendations to ADEC. ADEC concurred with the Utility's recommendation and required the Utility to proceed to Phase 2 to investigate in greater detail the two approved options. The Utility asked Stantec to submit a proposal for the Phase 2 of the NOV response.

Stantec's proposal is attached. The cost is significant, but there is a potential that the final cost will be less. Stantec structured the investigation to perform initial percolation tests for the discharge pond first. If the Utility's new land does not prove to be acceptable for a percolation pond, Stantec will not proceed to the large-scale percolation test. Not having to do the large-scale percolation test could save in excess of $30,000. As part of the Utility's discharge permit, it has to periodically perform effluent toxicity testing and other laboratory tests. The effluent testing needed for the proposed engineering options is unknown at this time and will be dependent upon the additional engineering of the different solutions. The proposal includes a time and materials figure of $15,000 for laboratory testing. This funding will only be spent for the tests need as the engineering dictates. In addition, existing testing performed by the Utility could be adequate. Stantec was being prudent including a time and materials request for laboratory testing because the Utility will only be charged if the work is performed.

One of the important products Stantec will produce as part of Phase 2 is design drawings to the 35% level. Design drawings to this level are necessary to generate reliable cost estimates for each of the proposed options. Cost will be a significant factor in the process of selecting a preferred solution. In addition, proceeding with the final design and engineering for the approved option should reduce these cost because the engineer will only have to generate the 65% and 95% design drawings.

Stantec Consulting Services Inc.
2515 A Street
Anchorage AK 99503-2709
Tel: (907) 276-4245
Fax: (907) 258-4653

May 13, 2015

Bill Butler
Director of City Services
125 Snowman Lane
North Pole, AK 99705

Project: City of North Pole Wastewater Effluent Discharge Alternatives Study
Subject: Phase 2 - Professional Services Fee Proposal

Dear Mr. Butler:

In preliminary "Phase 1" investigations for the subject project, Stantec Consulting Services Inc. (Statnec)completed conceptual development and regulatory scoping activities for five alternatives intended to correct the City of North Pole's (CONP) wastewater treatment plants (WWTP) discharge permit violations caused by loss of flows in the receiving river braid. Of the five alternates, two were found to be potentially viable and achievable by CONP:

Alternate 3; Construct New Discharge to Tanana River
Alternate 4; Construct Effluent Infiltration Pond

These alternatives are discussed in the Preliminary Discharge Study of March 6, 2015. Each of the alternatives has merits, but each also has regulatory and engineering challenges. Additional investigation, design, and regulatory negotiations are required to further validate the alternatives and select the preferred course of action.

On April 7, 2015, the Alaska Department of Environmental Conservation, (ADEC) directed CONP to:

a. *Complete the evaluations necessary to select a final course of action between alternatives 3 and 4;*
b. *Provide a project timeline for executing the chosen course of action, to include all phases of construction, agency approvals and other limiting factors;*
c. *Provide a projected project completion date.*

ADEC has requested this effort be completed by July 31, 2015. To comply with the ADEC direction, Stantec proposes the following tasks and scope of work:

Task 1 - Investigations

Task 1A – Wetlands and Habitat Delineation. Wetland and habitat resources impacted by the alternatives need to be more specifically identified. Stantec will include figures showing relevant wetlands and critical habitat information from USACE and wildlife agency maps and resources. This information will identify areas where mitigation measures may be required, an important consideration in cost estimating. This is a paper study with limited ground investigation; field delineation of wetlands if ultimately required, will be deferred until design of the final selected alternative.

Bill Butler
Director of City Services
125 Snowman Lane
North Pole, AK 99705

Task 1B – Topographic Survey. For this phase, Fairbanks North Star Borough (FNSB) mapping and LiDAR topography will be the basis for our work. However, this data is not accurate in dense vegetation, and will not have river bed elevations. Limited Topographic survey will be conducted to collect river elevations in the area of the proposed discharge, along with several elevations for LiDAR confirmation. This will include establishing horizontal and vertical control at the infiltration pond site relative to the existing ponds. The survey task also produces the background maps that will be used for preparation of the concept plans. Control set during this survey will be useful in the future when the actual design survey is done.

Task 1C – Geotechnical Investigation. Shannon & Wilson will provide geotechnical investigation for the infiltration pond alternative. Some of the data will come from S&W's inventory of existing data in the North Pole area, but site specific exploration and tests are needed for the infiltration pond. S&W will conduct borings on the new City lot, and perform percolation testing to determine how fast / how much effluent can be applied to the soil and groundwater table. This will confirm if an infiltration pond will work or not, and be used to determine how big the pond will need to be. S&W's work includes a total of 9 borings, 3 percolation tests, 3 ground water piezometers, 2 "large scale" infiltration tests, the geotechnical report, and mob / demob of track mounted drill rig, backhoe, and water trucks. The two "large scale" infiltration tests are needed to examine ability of the groundwater table to continuously infiltrate water for long periods of time. The procedure involves excavation of test pits of various sizes to the ground water level, and continuously filling the pit with water for a day or more to measure saturated infiltration capacity. Because of the scale of these tests, they are relatively expensive, and account for about half of the overall geotechnical costs. We will perform the ordinary borings and percolation tests first; in the event these tests suggest infiltration is not feasible, we will delete the large scale tests and not bill CONP for those.

Task 1D - Eagle Nest Survey. While eagles are occasionally present in the North Pole area, this is not preferred habitat, and eagle nests are unlikely to interfere with the project. Eagle Nest surveys can be costly, and generally require aerial inspection of the project area. For this reason, we have not included a nest survey at this time. We will coordinate this issue with Fish and Game, and the surveyors and engineers will take note if Eagles are seen on site, but we expect to be able to address this item administratively rather than with survey.

Task 1E - Effluent Testing (Contingency Task). For Alternative 3, it is assumed that a discharge to the river will require a new mixing zone similar to the existing one. While not required today, within the next 5 years, it is likely that effluent ammonia toxicity and nutrient loading limits will be incorporated into the CONP's discharge permit. For that reason, additional testing of the effluent may be needed to complete the final design and permit processes. This will include nutrient load assessment (nitrate, nitrite, other nitrogen forms, and phosphorus), and whole effluent toxicity (WET) testing which, shows whether the effluent is compatible with aquatic life and microorganisms. We won't know exactly what tests are required, or when they will be needed until we consult further with ADEC. For the time being, we have included an allowance ($15,000) for laboratory services and testing labor in the fee. This work will be done T&M, and you will only be invoiced for actual effort required.

Task 2 – Hydrologic Analysis and Groundwater Study

This task includes analysis of the infiltration testing, and development of size requirements for the infiltration pond. This task is performed by a combination of S&W and Stantec resources. Should the pond alternative not be feasible, efforts on that alternative will end with this task. Based on statements from ADEC Contaminated Sites Program collected during the Phase 1 investigations, it has been assumed that analysis of the sulfolane plume will not be required.

Task 3 – Wastewater Treatment Engineering

Task 3A - Schematic Drawings. This task includes engineering development of the two alternates to a 20-35% level of completion, and the preparation of schematic drawings.

Task 3B Design Study Report. Along with the schematic drawings, we will prepare construction cost estimates, and a report evaluating the advantages / disadvantages / technical feasibility of each alternative. We will include a discussion of likely operating costs. This task also examines freezing potential of the alternatives. Cost estimates will be sufficient for funding applications.

Background data was developed sufficiently during the Phase 1 report. This Design Study Report will be focused on validation and final selection of a single preferred alternative. We anticipate preparing a draft and final report, with a review conference following the draft submittal with CONP, ADEC and / or other agencies as may be desired.

Task 4 – Environmental Activities

The Phase 1 preliminary report prepared earlier this year includes a good overview of critical issues and scoping activities to date. Additional environmental activities will be minimized, and we do not intend to repeat the environmental scoping process at this time. However, work will continue with several agencies such as Fairbanks North Star Borough, FEMA, DNR, etc., on specific items that were identified in the Phase 1 report. This includes resolution of flood protection requirements for the infiltration pond alternative, and future discharge permit criteria.

The need for eagles nest, cultural or historic resource surveys, and other specialized environmental activities as may be required by future funding source (i.e., EPA, categorical exclusion, etc.), are not included at this time. If found to be required, these items will be scoped with the City for additional services or incorporated into the final project design.

Fee Proposal

The total fee for all services is $195,980 to be performed on a lump sum basis (the $15,000 T&M allowance for effluent testing is included in this total). A worksheet showing the costs and assumptions associated with each task is attached. The project will be invoiced monthly, on a percent completed basis for each task.

Bill Butler
Director of City Services
125 Snowman Lane
North Pole, AK 99705

In the event the testing program determines the infiltration pond is not feasible, investigation of that alternative will end with Task 2, Hydrologic Analysis. In that event, effort required for Task 3, Wastewater Treatment Engineering is reduced, and we will pro-rate our fee or otherwise credit CONP for the work no longer required.

Schedule

ADEC has requested a completed response no later than July 31, 2015, approximately 11 weeks from now. This is attainable, with the schedule dependent on receipt of NTP and scheduling of survey and geotechnical investigation. Allowing approximately 4 weeks for field work, 4 weeks for engineering and preparation of the draft report, and considering the holidays, the draft report will be complete in mid- July. The draft report will meet the ADEC requirements for final selection of alternatives and project timelines. Following submittal of the draft report, we anticipate scheduling a review conference with ADEC and CONP, after which we will finalize the report. Pending comment from ADEC, the final report will be complete in late August or early September of 2015.

Closure

We are ready to begin immediately upon approval and your notice to proceed. If you have any questions, or would like to discuss the scope of work, please contact me or Stephanie Gould at (907) 276-4245.

Sincerely,

Dean E. Syta, P.E.
Project Manager

Attachment: Fee worksheet

c: File

Work Order: 204700163

DES\sdg U:\204700163\Proposal\NP Effluent Fee Proposal.Doc

NORTH POLE WASTEWATER EFFLUENT DISCHARGE STUDY - PHASE 2

Work Plan Item	Estimated Fee	Basis
The following Engineering Services estimate is to support examination of Alternatives 3 and 4 for replacement of the existing City of North Pole wastewater effluent discharge system. Scope and assumptions are as specified in the notes below, please refer to the complete proposal letter dated May 13, 2015, for complete details.		
Task 1 Investigations		
Project Kickoff / Site Visits	$5,710.00	Kickoff meetings, site visits, overall project coordination and management.
Wetlands and Habitat	$3,540.00	Extension of the scoping efforts previously conducted, narrowed to design as developed, with negotiations and site visit and documentation of wetlands, habitat and environmental considerations that may impact design and permitting.
Topographic Survey	$17,690.00	Collection of survey data at existing and proposed outfall locations, river elevations, integration with aerial and LIDAR data, setting elevation control for infiltration ponds.
Geotechnical	$62,710.00	Includes total of (9) 25 foot borings, (3) percolation tests on WWTP property for infiltration pond option, (2) large scale infiltration tests, mob /demob of a track rig for drilling work, backhoe and water trucks for infiltration tests, tree clearing for access
Eagle Nest Survey	$0.00	Not included at this time.
Effluent Testing (Contingency)	$15,000.00	Effluent sampling and testing beyond WWTP routine sampling, for nutrient load assessment (3 sets nitrate, nitrite, nitrogen, phosphorous), ammonia, and whole effluent toxicity (WET) testing for impact to aquatic organisms and health hazards. (2 sets WET). WWTP may have some of this data already, so this item will be performed T&M not to exceed specified budget.
Task 2 Hydraulic And Groundwater Analysis	$18,860.00	Includes analysis of percolation testing, characterization of existing soils and sites, and general geotechnical recommendations
Task 3 Wastewater Treatment Engineering		
Schematic Drawings	$28,800.00	Preliminary engineering development of the two alternatives, and preparation of drawings to the 20-35% level of completion, as needed to evaluate construction cost and feasibility.
Cost Estimates	$4,160.00	Unit price, line item construction cost estimate for each alternative. Will also examine operational costs for each alternative.
Draft Design Study Report	$16,990.00	Report will evaluate feasibility of the two alternatives, advantages, / disadvantages, technical feasibility and / or concerns, address agency issues raised during the preliminary investigation (Phase 1) report, and make recommendation for preferred alternative.
ADEC / CONP Review Conference	$4,240.00	Assumes one in-person review conference in Fairbanks.
Final Design Study Report	$8,650.00	Incorporates CONP and ADEC review comments, finalizes the design study report and selection of preferred alternative.
Printing and Misc Materials	included in above items.	Assumes total of two submittals, 5 hard copies each, color figures, dwgs, etc. Will also be provided as electronic PDF. Includes allowance for misc office supplies, phone, etc.
Task 4 Environmental Activities		
Agency Coordination	$9,630.00	Meetings with ADEC, FEMA, FNSB, etc, as needed to define and resolve regulatory concerns and comments collected during Phase 1 Agency Scoping process.
Agency Scoping Meeting	$0.00	Previously completed in Phase 1
Permit Negotiations	$0.00	Not included at this time.
Environmental Document (CATEX, EIS)	$0.00	Not included at this time.
Total Estimated Fee	**$195,980.00**	

THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Environmental Conservation
DIVISION OF WATER
Compliance Program
610 University Avenue
Fairbanks, AK 99709
Main: 907.451.2298
Fax: 907.451.2187

NOTICE OF VIOLATION

Failure to Comply with Permit Conditions under 18 AAC 83.405(b)

Mr. William Butler
Director of City Services
City of North Pole
125 Snowman Lane
North Pole, AK 99705

Enforcement Tracking No. 14-0154-50-0001
File No 100.45.012

The Department of Environmental Conservation (DEC) alleges that beginning on or about May 3, 2012 and continuing until the present, the City of North Pole (CONP) did unlawfully fail to comply with the conditions of the Alaska Pollutant Discharge Elimination System (APDES) Permit Number AK0021393 for the Wastewater Treatment Facility (WWTF) in North Pole, Alaska. Section I.D. of the permit requires the permittee to conduct surface water monitoring at the outside edge of the mixing zones during summer conditions (June 1 through September 30) and winter conditions (October 1 through May 31).

May 3, 2012, Dry Channel, Non-Compliance Notification: The CONP notified DEC that the CONP was unable to conduct the requisite summer surface water monitoring at the outside edge of the mixing zone due to a lack of flow (from the main stem of the Tanana River) at Outfall 001 (the point of discharge into the channel). On May 23, 2012, DEC personnel met with CONP officials for a field inspection of the area and documented the loss of the river flow. The CONP advised that there were no known previous instances of the channel going dry, and it was possible the event was anomalous.

A DEC inspection report, dated June 13, 2012, documented the May 23, 2012 field inspection of the Tanana River in the vicinity of Outfall 001. The inspection report documented the DEC Inspector's observation of the loss of river flow at the outfall, and included as a corrective action item for the CONP to provide a detailed written description of its intentions regarding contingency planning for the possible relocation of the outfall in the future.

On June 19, 2013, DEC received a letter from the CONP discussing its then-current engineering analysis for the WWTF and design upgrade project. This project was described as encompassing a number of alternatives such as extending the existing outfall main into an active channel of the Tanana River. The CONP also stated that the 2012 dry channel instance was the first in twenty years, and advocated installing "signage spaced along the open flow path of treated wastewater to the point it reaches the Tanana River."

October 9, 2013, Dry Channel, Non-Compliance Notification:
On October 9, 2013, the CONP notified DEC that winter surface water monitoring at the outside edge of the mixing zone revealed that total chlorine residuals exceeded permit limits. Upon further investigation, the WWTF operator once again found a lack of river flow at Outfall 001.

The CONP subsequently requested a meeting with DEC and Department of Natural Resources staff to discuss the lack of mixing zone. At the meeting, which was held on December 2, 2013, the CONP provided an update regarding the status of flow at Outfall 001, and advised that there now was hydrologic reason to believe the main river channel is continuing to move further south and will no longer be able to recharge the outfall channel. A second meeting was held on April 10, 2014.

To begin to address the violation(s) described above, the Department requests that you submit by December 15, 2014 a detailed evaluation of the alternative design upgrades that would be necessary. The evaluation must include a consideration of the permits and approvals necessary for each alternative. Thus we can start the process for negotiating effective corrective actions and appropriate conditions for permit renewal.

Penalties for violation of State statutes and regulations may be quite serious. In a civil action, a person who violates or causes or permits to be violated a provision of the above-cited regulations may be liable to the State under AS 46.03.760 for substantial monetary damages.

In a criminal prosecution under AS 46.03.790, a person who acts with criminal negligence may be guilty of a Class A misdemeanor, and each day of violation may be considered a separate violation. Upon conviction, a defendant who is not an organization may be sentenced to pay a fine not exceeding $10,000.00 for each separate violation, see AS 46.03.790(g), and/or sentenced to a definite term of imprisonment of not more than one year, see AS 12.55.135(a). Upon conviction, a defendant that is an organization may be sentenced to pay a fine not exceeding the greater of $500,000.00 or an amount which is three times the pecuniary damage or loss caused by the defendant to another or property of another. Alaska law allows the State to pursue both civil and criminal actions concurrently.

Nothing in this notice shall be construed as a waiver of the State's authority or as an agreement on the part of the State to forego the judicial or administrative enforcement of the above-described violation(s) or the recovery of damages, costs, and penalties as prescribed by law. In addition, nothing herein shall be construed as a waiver of enforcement for past, present, or future violations not specifically set forth herein.

If you have additional questions, I may be contacted at 907.451.2298 or via e-mail: tiffany.larson@alaska.gov.

Enforcement Officer
Credential No. R-0186

Check One:
( ) Personally Served
(X) Sent by Certified Mail
7010 1060 0001 4982 3367
on the 30 day of October, 2014

cc: Brian Doyle, DEC (email only)
Marie Klingman ,DEC (email only)
Tonya Bear, DEC (email only)

Professional Services Agreement

City of North Pole
and
Stantec

Project name: Sewer Outfall Technical Consultations

Parties

Stantec
2515 A Street
Anchorage, AK 99503
907-276-4245

City of North Pole
125 Snowman Lane
North Pole, AK 99705
907-488-2281

Scope of Services

Stantec shall provide technical consulting for the North Pole Utility to respond to an Alaska Department of Environmental Conservation, Division of Water Notice of Violation related to the Utility's sewer outfall.

Compensation

Stantec shall be compensated on a time and materials basis not to exceed $14,398.00. Additional project work is being compensated from a prior professional services agreement.

Schedule

This agreement shall be effective from November 18, 2014 through February 20, 2015. The agreement may be extended upon mutual agreement. Any extension must be confirmed in writing.

Other Terms

The City authorizes Stantec to perform Tasks 1A, Task 5, Task 6A and 6B of the attached proposal. These tasks include the habitat review; development of alternatives and the draft report; environmental review, and agency scoping tasks. This work involves development of a list of proposed alternative solutions to the sewer outfall; compilation of background material; distribution of these materials to appropriate and interested stakeholders and regulatory agencies for a concept level review. Stantec will meet with the agencies to discuss their concerns and permit requirements. The scoping work shall generate a detailed list of each agency's requirements and restrictions related to the proposed alternatives. The project report is due by February 13, 2015.

Authorization

The services covered by this agreement will be performed in accordance with the provisions and contained herein and any attachments or schedules, to include the Stantec professional services terms and conditions, copy attached. This agreement supersedes all prior agreements and understandings and may only be changed by written amendments executed by both parties.

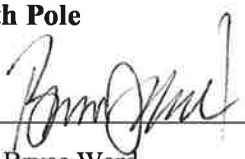
Professional Services Agreement

City of North Pole

and

Stantec

(Continued)

Stantec		**City of North Pole**	
Signature		Signature	
Printed	Dean Syta	Printed	Bryce Ward
Title	Principal	Title	Mayor
Date	12/22/2014	Date	12/15/2014

PROFESSIONAL SERVICES TERMS AND CONDITIONS

The following Terms and Conditions are attached to and form part of a proposal for services to be performed by Consultant and together, when the CLIENT authorizes Consultant to proceed with the services, constitute the AGREEMENT. Consultant means the Stantec entity issuing the Proposal.

DESCRIPTION OF WORK: Consultant shall render the services described in the Proposal (hereinafter called the "SERVICES") to the CLIENT.

TERMS AND CONDITIONS: No terms, conditions, understandings, or agreements purporting to modify or vary these Terms and Conditions shall be binding unless hereafter made in writing and signed by the CLIENT and Consultant. In the event of any conflict between the Proposal and these Terms and Conditions, these Terms and Conditions shall take precedence. This AGREEMENT supercedes all previous agreements, arrangements or understandings between the parties whether written or oral in connection with or incidental to the PROJECT

COMPENSATION: Payment is due to Consultant upon receipt of invoice. Failure to make any payment when due is a material breach of this AGREEMENT and will entitle Consultant, at its option, to suspend or terminate this AGREEMENT and the provision of the SERVICES. Interest will accrue on accounts overdue by 30 days at the lesser of 1.5 percent per month (18 percent per annum) or the maximum legal rate of interest. Unless otherwise noted, the fees in this agreement do not include any value added, sales, or other taxes that may be applied by Government on fees for services. Such taxes will be added to all invoices as required.

NOTICES: Each party shall designate a representative who is authorized to act on behalf of that party. All notices, consents, and approvals required to be given hereunder shall be in writing and shall be given to the representatives of each party.

TERMINATION: Either party may terminate the AGREEMENT without cause upon thirty (30) days notice in writing. If either party breaches the AGREEMENT and fails to remedy such breach within seven (7) days of notice to do so by the non-defaulting party, the non-defaulting party may immediately terminate the Agreement. Non-payment by the CLIENT of Consultant's invoices within 30 days of Consultant rendering same is agreed to constitute a material breach and, upon written notice as prescribed above, the duties, obligations and responsibilities of Consultant are terminated. On termination by either party, the CLIENT shall forthwith pay Consultant all fees and charges for the SERVICES provided to the effective date of termination.

ENVIRONMENTAL: Except as specifically described in this AGREEMENT, Consultant's field investigation, laboratory testing and engineering recommendations will not address or evaluate pollution of soil or pollution of groundwater.

PROFESSIONAL RESPONSIBILITY: In performing the SERVICES, Consultant will provide and exercise the standard of care, skill and diligence required by customarily accepted professional practices normally provided in the performance of the SERVICES at the time and the location in which the SERVICES were performed.

LIMITATION OF LIABILITY: Each party releases the other from any liability and from any and all claims, damages, losses, and/or expenses, direct and indirect, or consequential damages, including but not limited to attorney's fees and charges and court and arbitration costs, arising out of, or claimed to arise out of, the performance of the SERVICES or of the other obligations set forth herein, excepting liability arising from the negligence or willful misconduct of the released party. As each party's sole and exclusive remedy under this AGREEMENT any claim, demand or suit shall be directed and/or asserted only against the other party and not against any of the other party's employees, officers or directors.

Each party's liability with respect to any claims arising out of this AGREEMENT shall be absolutely limited to direct damages arising out of the SERVICES or the other obligations set forth herein and neither party shall bear any liability whatsoever for any consequential loss, injury or damage incurred by the other party, including but not limited to claims for loss of use, loss of profits and/or loss of markets.

DOCUMENTS: All of the documents prepared by or on behalf of Consultant in connection with the PROJECT are instruments of service for the execution of the PROJECT. Consultant retains the property and copyright in these documents, whether the PROJECT is executed or not. These documents may not be used for any other purpose without the prior written consent of Consultant. In the event Consultant's documents are subsequently reused or modified in any material respect without the prior consent of Consultant, the CLIENT agrees to defend, hold harmless and indemnify Consultant from any claims advanced on account of said reuse or modification.

Any document produced by Consultant in relation to the Services is intended for the sole use of Client. The documents may not be relied upon by any other party without the express written consent of Consultant, which may be withheld at Consultant's discretion. Any such consent will provide no greater rights to the third party than those held by the Client under the contract, and will only be authorized pursuant to the conditions of Consultant's standard form reliance letter.

Consultant cannot guarantee the authenticity, integrity or completeness of data files supplied in electronic format ("Electronic Files"). CLIENT shall release, indemnify and hold Consultant, its officers, employees, Consultant's and agents harmless from any claims or damages arising from the use of Electronic Files. Electronic files will not contain stamps or seals, remain the property of Consultant, are not to be used for any purpose other than that for which they were transmitted, and are not to be retransmitted to a third party without Consultant's written consent.

FIELD SERVICES: Consultant shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with work on the PROJECT, and shall not be responsible for any

contractor's failure to carry out the work in accordance with the contract documents. Consultant shall not be responsible for the acts or omissions of any contractor, subcontractor, any of their agents or employees, or any other persons performing any of the work in connection with the PROJECT. Consultant shall not be the prime contractor or similar under any occupational health and safety legislation.

GOVERNING LAW/COMPLIANCE WITH LAWS: The AGREEMENT shall be governed, construed and enforced in accordance with the laws of the jurisdiction in which the majority of the SERVICES are performed. Consultant shall observe and comply with all applicable laws, continue to provide equal employment opportunity to all qualified persons, and to recruit, hire, train, promote and compensate persons in all jobs without regard to race, color, religion, sex, age, disability or national origin or any other basis prohibited by applicable laws.

DISPUTE RESOLUTION: If requested in writing by either the CLIENT or Consultant, the CLIENT and Consultant shall attempt to resolve any dispute between them arising out of or in connection with this AGREEMENT by entering into structured non-binding negotiations with the assistance of a mediator on a without prejudice basis. The mediator shall be appointed by agreement of the parties. If a dispute cannot be settled within a period of thirty (30) calendar days with the mediator, if mutually agreed, the dispute shall be referred to arbitration pursuant to laws of the jurisdiction in which the majority of the SERVICES are performed or elsewhere by mutual agreement.

ASSIGNMENT: The CLIENT and Consultant shall not, without the prior written consent of the other party, assign the benefit or in any way transfer the obligations under these Terms and Conditions or any part hereof.

SEVERABILITY: If any term, condition or covenant of the AGREEMENT is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions of the AGREEMENT shall be binding on the CLIENT and Consultant.

Stantec Consulting Services Inc.
2515 A Street
Anchorage AK 99503-2709
Tel: (907) 276-4245
Fax: (907) 258-4653

November 12, 2014

Bill Butler
Director of City Services
125 Snowman Lane
North Pole, AK 99705

Project: City of North Pole Wastewater Effluent Discharge Alternatives Study
Subject: Professional Services Fee Proposal

Dear Mr. Butler:

Stantec Inc (Formerly USKH Inc) is familiar with the condition of the existing wastewater treatment plant (WWTP) effluent discharge to the Tanana River, and the periodic loss of the river flow and mixing zone. This has resulted in violations of the Alaska Department of Environmental Conservation (ADEC) discharge permit. From our discussions, we understand that the City of North Pole (CONP) wishes to proceed with an engineering analysis to examine alternatives for modifying the WWTP discharge for ADEC compliance. The study is to consider feasibility of several alternatives, tentatively discussed with ADEC at meetings held last April:

1. Extend the effluent discharge to a deeper braid of the Tanana River. This may require as much as 6000 to 7000 feet of new pipe construction and an access road. We believe this alternative will require plan review from ADEC, habitat and land use permitting from Department of Natural Resources (DNR), US Fish and Wildlife, the Army Corps of Engineers (USACE), and other agencies, in addition to modification to the ADEC discharge permit.

2. Provide a treated effluent infiltration pond, similar to that used by Eielson Airforce Base. The pond would be constructed on City land immediately south of the existing WWTP. This alternative will need to consider flood plain issues, habitat permits, hydrogeology, and potential impacts to the Flint Hills sulfalane plume. It may also require treatment process changes. Permitting associated with this alternative is expected to include ADEC plan review, negotiation of ground water impact limits / compliance requirements with ADEC, and FEMA and USACE flood plain permitting.

3. Obtain / modify existing ADEC discharge permits for the existing discharge, in the existing location, as a variable discharge to land/discharge to water, varying with the river level. This alternative generally maintains the discharge in the existing location, but could include construction such as pipe extension or a river bottom infiltration bed to help isolate the wastewater from public access. The alternative will need to consider and mitigate environmental impacts to groundwater, public safety issues, and DNR land use concerns. This option may require improvements to the treatment process. Permitting associated with this alternative includes ADEC plan review and discharge permitting; DNR land use, and potentially US Fish and Wildlife and USACE permits for in-river construction.

4. Consider potential improvements to the existing river channel. We believe that investigation of the existing river channel and determination of whether or not flow can be practically improved or not, needs to be part of this study. While complete dredging of

Reference: City of North Pole Wastewater Effluent Discharge Alternatives Study

the 2+\- mile long channel would be impractical and a temporary solution at best, localized removal of obstacles or improvements at the channel inlet may be viable. Restoration of flow would mitigate the need (and associated impacts) of all the other alternatives. Likewise, if it is determined that flow cannot be restored, this alternative can be conclusively ruled out, helping to "prove" that one of the other alternatives is indeed necessary, regardless of the new impacts.

We are proposing to provide the study at a "concept level", approximately 10-20% level of design. This level of design will be sufficient to prepare cost estimates and identify project impacts and considerations.

The four alternatives will be developed and examined using existing, available records and data to the extent possible, supplemented with limited field investigation. Our intent is to perform a "paper study" or "bench analysis", but some field work is still necessary to obtain information on the river elevations and profile of the channel and effluent corridor (LIDAR is not accurate enough for this). Geotechnical investigation is also needed for 1) background contaminate levels at the existing discharge and 2) percolation tests at the site of the infiltration pond alternative.

We are collecting only enough data to perform the study and rule out the unfeasible alternatives. Full survey and geotechnical investigation is not included here. Once the recommended alternative has been accepted by the City and ADEC, the subsequent design project may need to obtain additional survey and information for completion of the design. The concept report will identify the remaining investigation and engineering costs associated with each alternative.

This discharge alternatives study includes the following tasks and scope of work:

Task 1 - Investigations

Task 1A – Wetlands and Habitat Delineation. Stantec will delineate wetlands and critical habitat from USACE and wildlife agency maps and resources. A wetlands report will be produced sufficient for the alternative investigation, and for agency scoping / permit negotiation tasks.

Task 1B – Topographic Survey. For the most part Fairbanks Northstar Borough (FNSB) mapping and LiDAR topography will be sufficient. However, this isn't always accurate in the dense brush and vegetation, and cannot get river bed elevations. For that reason, we have survey effort to collect river bed and river elevations. The survey task also produces the background maps that will be used for preparation of the concept plans.

Task 1C – Geotechnical Investigation. Shannon & Wilson will provide geotechnical investigation for the alternatives. Much of this will come from S&Ws inventory of existing data and soil test holes in the North Pole area, but some specific information is still needed:

Reference: City of North Pole Wastewater Effluent Discharge Alternatives Study

- For the infiltration pond, S&W will conduct borings at the site of the pond, and perform percolation testing to determine how fast / how much effluent can be applied to the soil and groundwater table. This will determine how big a pond is needed, or if it will work at all.

- For the existing effluent discharge, S&W will perform a series of borings upstream and downstream of the existing discharge, testing for nitrates and coliform contamination. This will show the degree to which the existing discharge may or may not be impacting the groundwater and soils in the area. Determining and establishing the background levels and limits of contamination will be an important consideration in attempting to permit a land discharge of any sort.

S&W's work includes a total of 9 borings, groundwater testing, a geotechnical report, and mob / demob of a track mounted drill rig.

Task 2 – Hydrologic Analysis and Groundwater Study

This task includes analysis of the percolation testing and recommendations for the infiltration pond; examination of impacts to the sulfolane plume; characterization of the Tanana river bottom for infiltration capacity; and overall geotechnical recommendations. This task is performed by a combination of S&W and Stantec resources.

Task 3 – Wastewater Treatment Engineering

This task includes engineering development of the four alternates to a 10-20% level of completion, and evaluation of the advantages / disadvantages of each. The task includes development of schematic drawings. We have included time for Mike Pollen, NTL Inc., assistance with this task. Mike Pollen is also included in the effluent study, report writing, and environmental tasks.

Task 4 – Effluent Study and Testing (T&M).

While the WWTP has good historic data, some additional testing is expected to be required to support a discharge to the river area without a mixing zone. This will include nutrient load assessment (nitrate, nitrite, other nitrogen forms, and phosphorus), and whole effluent toxicity (WET). The WET test shows whether the effluent is compatible with aquatic life and microorganisms. We believe the WET test results will be beneficial to permitting a discharge to the shallow river or "dry" river bottom without a mixing zone.

The full extent of the analytical tests required will be determined after review of existing data and preliminary investigations and may change as alternates are developed. Therefore, we will provide the effluent study and testing as a time and materials (T&M) task.

Reference: City of North Pole Wastewater Effluent Discharge Alternatives Study

Task 5 – Feasibility Study/Report

While the background work is completed in other tasks, this task provides a completed report for distribution and discussion with ADEC, DNR and other agencies. This task includes preparation of the alternative cost estimates, and supporting figures and diagrams. We anticipate preparing a draft and final report, with review conferences at each submittal with CONP, ADEC and / or other agencies as may be desired. An agency scoping meeting, described below, will be completed prior to the final report.

Task 6 – Environmental Activities

Task 6A – Environmental Review. The USKH environmental group will identify any critical issues, such as eagle nests, cultural or historic resources, and habitat issues early in the project, so these can be mitigated as the alternatives are developed. Information gathered in this effort will be used in agency scoping letters.

Task 6B – Agency Scoping. During the preparation of the draft report, a scoping letter will be sent to relevant regulatory agencies, including ADEC, USACE, DNR, and USFWS. The letter outlines the project, the potential known impacts, the alternatives and the anticipated benefits. During a 30 day comment period, we invite the agencies to a scoping meeting to present the project and answer agency concerns. The meeting gathers all concerned agencies together to gauge response to the alternatives, and "tests the waters" to gauge how difficult permitting will be. This is an expedient and effective way to identify issues to be addressed or mitigated during subsequent design, and provide an opportunity for agencies to help shape alternate development. The agencies are less likely to have objections during actual permitting if they were allowed to participate in the concept development. Agency input from the comment period and scoping meeting is incorporated in the final report, showing how we intent to address the agency concerns.

We believe the agency scoping component of this project will be key to the ultimate success, as permits will be required from multiple agencies, not just an ADEC discharge permit, for any alternative constructed in the river flood plain.

Task 6C – Permit Negotiation. While the present scope of work does not include design for the recommended alternative, we do want to lay the groundwork for the eventual permitting of the recommended alternative. For that reason, we have included time and effort in the project for preliminary negotiation of permit requirements. The expectations of ADEC, DNR, and others will then be understood and documented in the feasibility study.

Reference: City of North Pole Wastewater Effluent Discharge Alternatives Study

Task 6D – Environmental Documents. It is our understanding that federal money is not currently being used on the project and that environmental documents (e.g. EA, CatEx) are not required. Should these be required at a later date, much of the necessary information will already be in place from the environmental review and agency scoping tasks.

Fee Proposal

The total fee for all services is $232,704. A worksheet showing the costs and assumptions associated with each task is attached. We understand this project will be addressed as an amendment to our current Wastewater Treatment Plant Contract; the fee will be invoiced monthly, on a percent completed basis for each task. As explained above, the effluent study and testing (included in the total), will be invoiced as time and materials.

Schedule

The overall schedule will be somewhat dependent on weather and conditions for the survey and geotechnical investigation (including DNR permits for the soil test holes). Allowing approximately 4 weeks for field work, 4 weeks for engineering and preparation of the draft report, and considering the holidays, the draft report will be complete in late January.

The scoping letter, including a summary of the alternatives being considered will be prepared and mailed to the agencies during the investigations. That can readily be complete and in the mail prior to December 15, 2014. This will show ADEC progress on the project, returns initial agency comments back before end of January, and sets the date for the in-person scoping meeting in February.

Following the draft report, we continue with the report review conference, ADEC meetings, and the scoping meeting. The review, scoping, and preparation of the final report will take approximately 5 to 8 weeks depending on the date of the scoping meeting. The final report will be complete in late March or early April of 2015.

In the ADEC notice of violation letter CONP received November 3, 2014, ADEC is requesting a detailed evaluation of the alternatives by December 15th. We do not believe an adequate study can be completed in that time. It is our recommendation that CONP advise ADEC that the City has retained engineering assistance to prepare the evaluation, and request the time line for a draft report be extended to January 30, 2015, and for a final report until April 31st. This proposal to CONP, and completion of the agency scoping letter by December 15th may suffice to show ADEC that the City has begun progress on addressing the violations.

Reference: City of North Pole Wastewater Effluent Discharge Alternatives Study

Closure

We are ready to begin immediately upon approval and your notice to proceed. If you have any questions, or would like to discuss the scope of work, please contact me or Stephanie Gould at (907) 276-4245.

Sincerely,

Dean E. Syta, P.E.
Project Manager

Attachment: Fee worksheet

c: File

Work Order: 204700163

DES\sdg U:\204700163\Proposal\NP Effluent Fee Proposal.Doc

NORTH POLE WASTEWATER EFFLUENT DISCHARGE STUDY

Work Plan Item	Estimated Fee	Basis
The following Engineering Services estimate is to support examination of alternatives for replacement of the existing City of North Pole wastewater effluent discharge system. Scope and assumptions are as specfied in the notes below, please refer to the complete proposal letter dated November 10th for complete details.		
Investigations		
Project Kickoff / Site Visits	$9,008.00	Kickoff meetings, site visits, overall project coordination and management, walking project areas.
Wetlands and Habitat	$8,028.00	Review and documenation of wetlands, habitat and environmental considerations that may impact design and permitting.
Topographic Survey	$16,374.00	Collection of survey data at existing and proposed outfall locations, river and channel elevations existing channel, integration with aerial and lidar data. Approx 3-4 days effort in winter, plus office time for mapping.
Geotechnical	$38,016.00	Includes total of 9 25 foot borings, plus percolation tests on WWTP property for infiltration pond option, groundwater monitoring and testing for background nitrates and coliforms at existing outfall, mob /demob of a track rig to complete the drilling work.
Hydraulic And Groundwater Analysis, Geotechnical Recommenations and Report.	$28,348.00	Includes analysis of percolation testing, examination of impacts to sulfolane plume, characterization of existing soils and sites, river bottom for infiltration feasibiilty, general geotechnical recommendations
Wastewater Treatment Engineering	$35,120.00	Development of the four alternatives, and preliminary engineering to the 10-20% level of completion, as needed to evaluate construction cost and feasibility.
Effluent Study and Testing	$14,856.00	Effluent sampling and testing beyound WWTP routine sampling, for nutrient load assessment (3 sets ntirate, nitrite, nitrogen, phosphorous) and whole effluent toxicity (WET) testing for impact to aquatic organisms and health hazards. (2 sets WET). WWTP may have some of this data already, so this item will be performed T&M not to exceed specified budget.
Feasibilty Study / Report		
Draft Report Preparation	$22,144.00	Report narrative summary of existing conditions, alternatives, analysis, findings and recommendations.
Figures	$5,718.00	Supporting graphics.
Cost Estimates	$5,260.00	Supporting construction costs estimates for each alternative.
Final Report Preparation	$19,184.00	Completion of report after review conference.
Review Meetings	$7,296.00	Assumes two in person review meetings during development of project.
Environmental Activities		
ADEC Meetings	$3,854.00	Assuming two or three teleconferences or meetings with ADEC APDES and discharge program staff and City of North Pole during progress of project.
Environmental Review	$3,858.00	Identification of critical issues including eagles nests, cultural resources, critical habitat, contaiminated sites.
Agency Scoping Meeting	$10,540.00	Scoping letter sent to relevant agencies, including ADEC, USACE, USFWS, DNR outlining proejct scope and impacts. Followed by a 30 day comment period, and a sit down meeting with interested agencies in Fairbanks to discuss impacts and mitgations.
Preliminary Permit Negotiations	$5,100.00	Following scoping meeting, Stantec negotiates initial conditions of approval with the concerned agencies.
Environmental Document (CATEX, EIS)	$0.00	Not included at this time, as federal money is not currently being used on the project.
Printing and Misc Materials	Included in above items.	Assumes total of two submitals, 5 hard copies each, color figures, dwgs, etc. Will also be provided as electronic PDF. Includes allowance for misc office supplies, phone, etc.
Total Estimated Fee	**$232,704.00**	

Preliminary Wastewater Effluent Discharge Study and Environmental Summary Report

City of North Pole

Prepared for:
City of North Pole

Prepared by:
Stantec Consulting Ltd.

3/6/2015

This document entitled *City of North Pole Preliminary Wastewater Effluent Discharge Study and Environmental Summary Report* was prepared by Stantec Consulting Ltd. ("Stantec") for the account of City of North Pole (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by _____
(signature)

Stephanie A.D. Gould, PE, Civil Engineer

Reviewed by _____
(signature)

Dean E. Syta, PE, Principal, Senior Civil Engineer

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Acronyms and Abbreviations

µg	microgram
ACGP	APDES Construction General Permit
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
APDES	Alaska Pollutant Discharge Elimination System
BMP	best management practice
CONP	City of North Pole
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FNSB	Fairbanks North Star Borough
gpm	gallons per minute
GPS	global positioning system
hp	horsepower
L	liters
lbs.	pounds
LOMR-F	Letter of Map Revision Based on Fill
mg	milligrams
MS4	municipal separate storm sewer system
NMFS	National Marine Fisheries Service
NOV	notice-of-violation
PER	preliminary engineering report
sf	square foot
Stantec	Stantec Consulting Ltd.
UPC	Uniform Plumbing Code
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WET	whole effluent toxicity
WWTP	wastewater treatment plant

1.0 INTRODUCTION

The City of North Pole (CONP) has retained Stantec Consulting Ltd. (Stantec) to investigate potential means of correcting a non-compliant wastewater discharge to the Tanana River. While the CONP has a valid discharge permit, recent and seasonal variations in river flows result in periodic loss of the discharge mixing zone. This in turn results in violations of the Alaska Department of Environmental Conservation (ADEC) discharge permit.

The focus of this report is the preliminary evaluation of alternatives – examining their potential feasibility, study needs, permitting requirements and potential construction costs for each alternative. It is not intended to be an exhaustive evaluation of all elements of the alternatives. Rather, this report is intended to identify the most practical or feasible alternatives for investigation and evaluation in a full engineering feasibility study. The final feasibility study will determine the means for the CONP to address non-compliant effluent discharges.

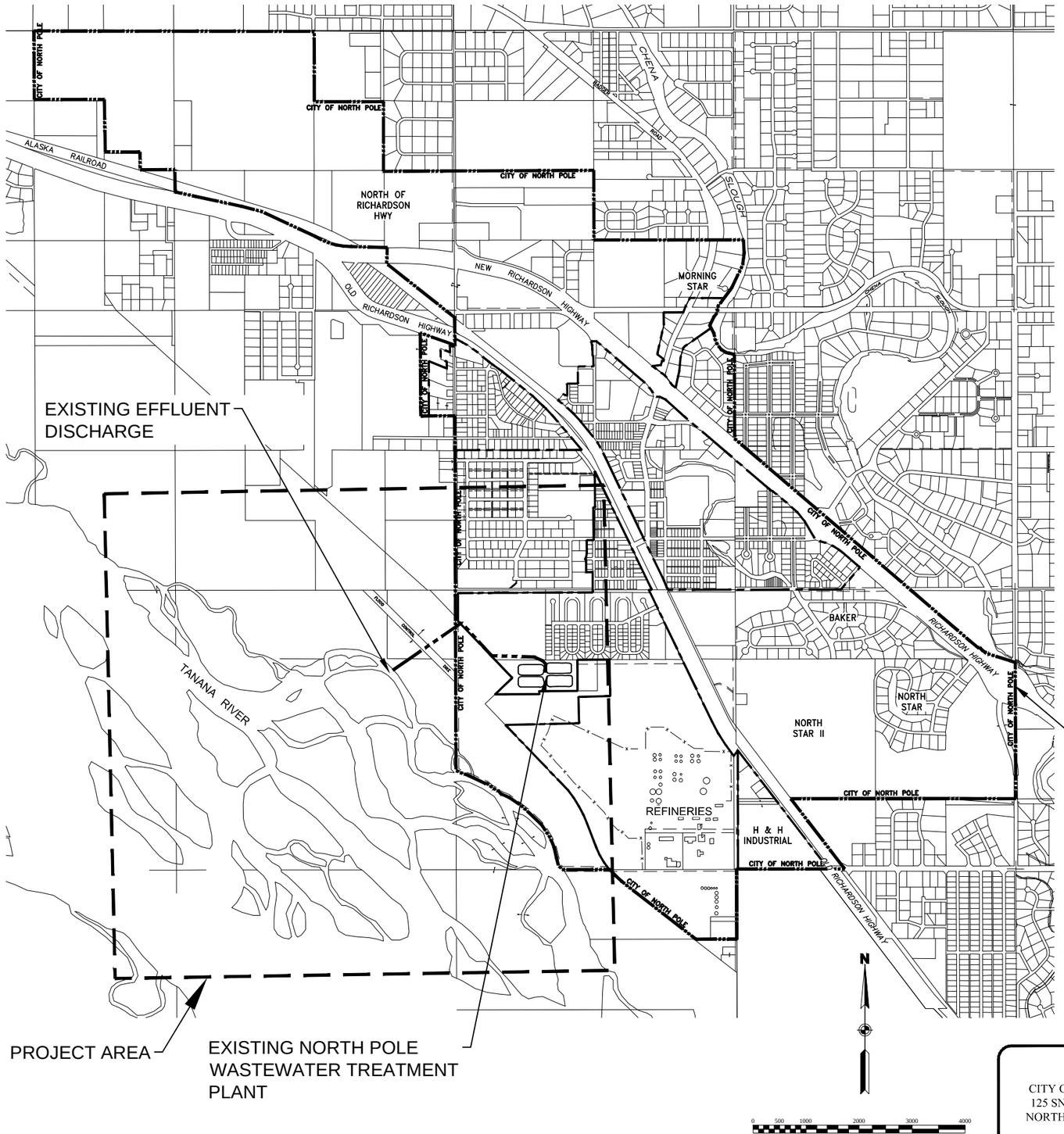
1.1 PROJECT BACKGROUND

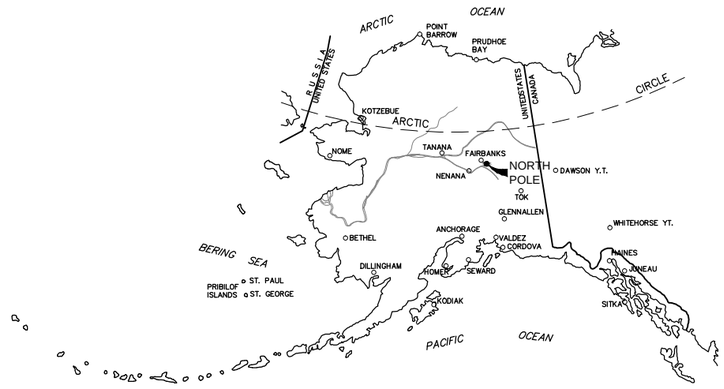
The CONP operates a wastewater treatment plant (WWTP) with four, partially mixed, aerated lagoons for treatment, and with a chlorination and dechlorination disinfection system as shown in Figure 1. The ADEC Alaska Pollutant Discharge Elimination System (APDES) discharge permit for the CONP WWTP allows the utility to discharge treated wastewater to a channel of the Tanana River with a mixing zone. Naturally changing geomorphic conditions upstream and elsewhere in the river appear to have caused the side channel to experience periodic reduction and / or loss of flow on multiple occasions since May 2012. It is not clear if this is a permanent condition or not. However, during these low flow periods, the mixing zone is compromised, and the predominant flow in the channel is treated effluent from the WWTP. Following a series of meetings and other discussions, the ADEC issued a notice of violation (NOV) in October 2014. The NOV requires the CONP to submit "a detailed evaluation of the alternative design upgrades that would be necessary. The evaluation must include a consideration of the permits and approvals necessary for each alternative.[1]" This report is intended to comply with the NOV's evaluation requirement.

1.2 PROJECT PLANNING AREA

CONP is a Home Rule Charter city within the Fairbanks North Star Borough (FNSB) incorporated in 1953. It is governed by a strong mayor and six City council members as the place "where the spirit of Christmas lives year round." CONP provides residents with street maintenance, police, fire, and emergency medical services. In limited areas of the community, primarily south of the Richardson Highway, municipal water and wastewater services are also available. The City has an annual operating budget of approximately $5 million funded largely by a 4 percent sales tax and 3.0 mil property tax, with the utility funded separately by water and sewer service rates.

[1] Larson, Tiffany. Notice of Violation, Enforcement Tracking No 14-0154-50-0001, File. No. 100.45.012. Dated 30 October 2014.





2/1 LOCATION MAP

CITY OF NORTH POLE 125 SNOWMAN LANE NORTH POLE, AK 99705	Stantec 544 4th Avenue, Suite 102 Fairbanks, Alaska 99701 (907) 452-2128 www.STANTEC.com	CITY OF NORTH POLE PRELIMINARY WASTEWATER EFFLUENT DISCHARGE STUDY LOCATION AND VICINITY MAP	DATE 03/06/2015 WO# 204700163 FIGURE 1

FILE: \\US1308-F01\SHARED_PROJECTS\204700163\REPORTS\PRELIMINARY_FS_AND_SCOPING\SUMMARY_REPORT\REPORT_FIGURES\204700163-FIG1.DWG PLOTTED: Mar 6, 2015 - 9:58:07 AM (Gould, Stephanie) PROJECT CAD VERSION:

1.2.1 Existing Wastewater Facilities

The existing WWTP includes four partially mixed facultative wastewater lagoons and a treatment building where monitoring, chlorination, and dechlorination occur. The facility was constructed in approximately 1985 and sits on a 19.8-acre parcel within a fenced enclosure of approximately 15 acres. Working with USKH Inc. (now Stantec) the CONP conducted a thorough system review of the WWTP in 2012 with the aim of proposing rehabilitation needs for an additional 20-year lifespan. The resulting *City of North Pole Wastewater Treatment Plant Rehabilitation Preliminary Engineering Report* (PER, June 2012) included limited consideration of the existing outfall. Initial phases of the recommended work from the PER were constructed in 2014/15 in the first major WWTP rehabilitation project for the CONP. The project consisted of the addition of an emergency power generator, rehabilitation of the effluent liftstation; replacing the aeration piping supply lines, aeration blowers, and Cell 2 supply piping; replacing building heating and ventilation systems; rehabilitation of the disinfection system; upgrading the telecommunications, security and fire alarm systems, along with associated and ancillary structural repairs and other improvements.

In its current configuration, treated effluent flows from the WWTP by gravity down approximately 3,600 LF of effluent main to the Tanana River. The effluent then discharges at the river in a subsurface structure that is beneath rocks in the riverbed. This system was constructed prior to 1985, and no design or construction drawings are available after the tie-in point for the 1985 construction just north of the midline of Cell 2. The 1985 drawings suggest the effluent main is 6-inch pipe. When the current WWTP was expanded, construction included the addition of an effluent lift station within the WWTP building, to convert the gravity discharge into a forcemain discharge capable of handling the increased plant flows. In practice, the lift station is not used very much, and treated effluent flows via gravity to the river.

The WWTP discharge is permitted under APDES Permit AK0021393, which is scheduled to expire May 31, 2013, but has been administratively continued. Under the permit, the CONP has a mixing zone of 9 meters (30 feet) long in the summer to 267 meters (875 feet) in the winter located in a small side channel of the Tanana River. The permit requires the CONP to conduct surface water monitoring at the outside edge of the zone during summer conditions (June 1 through September 30) and winter conditions (October 1 through May 31). In May 2012 the CONP notified the ADEC that it could not conduct the request monitoring due to lack of river flow. In October 2013, the CONP again found that the discharge was not in compliance because of loss of river flow. Following a series of meetings and other discussions, the ADEC issued a notice-of-violation in October 2014.

1.2.2 Environmental Resources

An overview of potential resources in the project area was conducted as a preliminary step in determining alternatives so that impacts could be considered and minimized as the alternatives were outlined. The following sections outline the results of the area resource review.

Wetlands and Waters of the U.S.

A review of the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory show wetlands within the proposed project study area, which will be avoided to the extent practicable by routing were feasible in previously disturbed corridors. Complete avoidance of wetlands and Waters of the U.S. for construction alternatives is likely not to be feasible. Where impacts may occur to wetlands or within ordinary high water of Waters of the U.S. (Tanana River), a United States Army Corps of Engineers Clean Water Act Section 404 permit will be required.

Fish and Wildlife:

A variety of wildlife can be expected within the City limits and near the WWTP including moose, squirrels, beaver, and hares and the occasional fox and black bear. A variety of waterbirds, hawks, and passerines can also be found in this area, including the bald eagle and some state species of concern (Townsend's Warbler, Olive-sided Flycatcher, Blackpoll Warbler, and Gray-cheeked Thrush). No threatened or endangered species are recorded in the area. An aerial eagle nest survey has not been completed for the proposed project study area at this time.

Local fish include arctic char, chum, chinook and coho salmon, rainbow trout, and northern pike. The Alaska Department of Fish and Game (ADF&G) Fish Resource Monitor identifies the Tanana River as an anadromous water body due to the presence of Chum, Coho, and Chinook salmon and a Fish Habitat Permit will be required for work in the river. However, no Essential Fish Habitat exists for any protected species under the Magnuson-Stevens Fishery Conservation and Management Act within the proposed project area vicinity. There is a potential that a new outfall location will be in spawning habitat, which will preclude the use of a mixing zone. The reach of the Tanana being considered for a new discharge is designated only for the presence of salmon and the specific location in question will need to be evaluated for spawning habitat potential to avoid impacts.

Land Use:

A review of the Fairbanks North Star Borough (FNSB) Geographical Information System and Property Database indicates the State of Alaska owns the bed of the Tanana River with management responsibility under the Alaska Department of Natural Resources (ADNR); therefore, a ADNR Land Use Permit or permanent easement may be required. Other lands in the project vicinity are owned by the FNSB, which may require a Condition Use Permit, and the City of North Pole, which may request a Building Permit. The North Pole Land Use Plan indicates that a nearby area on the other side of the Tanana River Levee is being considered for an off highway vehicle use (recreational) area. Construction alternatives will need to comply with all FNSB and CONP zoning, permits, and best management practices.

Floodplains:

North Pole is adjacent to the Tanana River, but is protected from flooding by a long levee that parallels the river all the way to the City of Fairbanks and the Moose Creek Dam to its southeast. The dam and levee, along with a floodway, were constructed in the 1970s for the Chena River Flood Control Project. North Pole's surrounding sloughs (Chena, Beaver Springs, Piledriver, and Twenty-three Mile) are now primarily fed by groundwater[2].

The current discharge channel is part of the braid-plain of the Tanana River. A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps identified both Special Flood Hazard Areas and Floodway Areas within the project study area, including at the point of discharge. It should be noted that if the new facilities must be located in the floodplain, adequate documentation will be required to support the need for impacting a designated floodplain for a critical facility. A Flood Plain Permit will be required from the FNSB and if a construction alternative requiring extensive fill within the floodplain is selected, a FEMA Letter of Map Revision Based on Fill (LOMR-F) may be necessary. A LOMR-F has been previously completed for the WWTP and lagoons, based on their elevations.

Contaminated Sites, Spills, Underground Storage Tanks, and Hazardous Materials:

A review of the ADEC Contaminated Sites Program Database found several active contaminated sites within the overall vicinity. No contaminated sites are in the direct vicinity of the WWTP or current outfall location. There are two identified sites of interest. The Golden Valley Electric Association North Pole Power Plant (Hazard ID 2318) is listed as an active contaminated site for diesel range organics. The nearby, inactive Flint Hills Refinery south of the WWTP (Hazard ID 539) is listed as an active contaminated site and includes a sulfolane plume that has affected much of the CONP.

[2] Ihlenfeldt, Nancy. 2006. Restoration of Sloughs in the Fairbanks North Star Borough (Tanana River Watershed). Alaska Department of Natural Resources.

ALTERNATIVE 3:
CONSTRUCT NEW DISCHARGE TO TANANA RIVER

INTERIOR DRAINAGE CHANNEL B

EXISTING EFFLUENT LINE

END OF DISCHARGE CHANNEL

CURRENT MIXING ZONE

ALTERNATIVE 2:
MODIFY AND/OR RE-PERMIT EXISTING OUTFALL

EXISTING DISCHARGE LOCATION

ALTERNATIVE 1:
REESTABLISH CHANNEL FLOW

NORTH POLE HIGH SCHOOL

EXISTING WASTEWATER TREATMENT PLANT

ALTERNATIVE 5:
MODIFY WWTP TO MEET WATER QUALITY STANDARDS AT POINT OF DISCHARGE

ALTERNATIVE 4:
CONSTRUCT EFFLUENT INFILTRATION POND

TANANA RIVER FLOOD CONTROL LEVEE

RICHARDSON HIGHWAY

FLINT HILLS RESOURCES REFINERY

OLD RICHARDSON HIGHWAY

PETRO STAR REFINERY

GVEA POWER PLANT

TANANA RIVER

EXISTING DISCHARGE CHANNEL

START OF EXISTING DISCHARGE CHANNEL

N

0 500 1000 1500 2000
SCALE IN FEET

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125 SNOWMAN LANE
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CITY OF NORTH POLE
PRELIMINARY WASTEWATER EFFLUENT DISCHARGE STUDY

PROPOSED ALTERNATIVES

DATE	WO#	FIGURE
03/06/2015	204700163	2

INTERIOR DRAINAGE CHANNEL B

HOMESTEAD DRIVE

NORTH POLE HIGH SCHOOL BLVD

NORTH POLE HIGH SCHOOL

PATRIOT DRIVE

CURRENT MIXING ZONE, LENGTH VARIES SEASONALLY

END OF DISCHARGE CHANNEL

CELL 2

CELL 3

CELL 1

CELL 4

EXISTING WASTEWATER TREATMENT PLANT

ALTERNATIVE 5:
MODIFY WWTP TO MEET WATER QUALITY STANDARDS AT POINT OF DISCHARGE

ALTERNATIVE 4:
CONSTRUCT EFFLUENT INFILTRATION POND

RECENTLY PURCHASED CONP PROPERTY

EXISTING EFFLUENT LINE

EXISTING DISCHARGE LOCATION

ALTERNATIVE 2:
MODIFY AND/OR RE-PERMIT EXISTING OUTFALL

TANANA RIVER

TANANA RIVER FLOOD CONTROL LEVEE

N

0 100 200 400 600 800
SCALE IN FEET

CITY OF NORTH POLE
125 SNOWMAN LANE
NORTH POLE, AK 99705

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CITY OF NORTH POLE
PRELIMINARY WASTEWATER EFFLUENT DISCHARGE STUDY

EFFLUENT INFILTRATION AND RE-PERMIT ALTERNATIVES

DATE	WO#	FIGURE
03/06/2015	204700163	3

2.0 PROPOSED ALTERNATIVES

Initially four alternatives were identified for evaluation and scoping with agencies and stakeholders. These alternatives are:

1. Reestablishing Channel Flow
2. Modify and/or Re-permit Existing Outfall
3. Construct New Discharge to Tanana River
4. Construct Effluent Infiltration Pond

Each of these alternatives is discussed further in the following sections, particularly with respect to the scope of the proposed development, the regulatory requirements, the challenges, and the information needed for further evaluations. A preliminary cost estimate is also provided to aid in consideration. Section 3.0 specifically discusses the agency and stakeholder scoping efforts that were conducted in the development of this report. During the scoping effort only one additional alternative was identified for consideration as a modification of Alternative 2 - Modify and/or Re-permit Existing Outfall, and that is

5. Modify WWTP to Meet Water Quality Standards at Discharge

2.1 GENERAL REQUIREMENTS

To develop reasonable alternatives to address WWTP discharge with minimal redundancy, and to meet the project objectives of developing a fundable, sustainable rehabilitation project that can be permitted, the following should be considered typical requirement for most, if not all, projects:

- The design of all wastewater facilities must comply with ADEC Wastewater Disposal regulations (18 AAC 72). Designs must be submitted to the ADEC for plan review prior to construction.
- The CONP has adopted Utility Standards that require compliance with state regulations and current Uniform Plumbing Code (UPC). The Utility Standards generally address the design of the wastewater collection system and the water distribution system, but do not speak to wastewater treatment or sludge disposal facilities.
- As noted in the 2012 PER the CONP would like to develop the capacity for eventual flows of 1.0 MGD.

- The WWTP is permitted through the ADEC as discussed in Section 1.2.1. Modifications to processes and equipment may require updates to facility operations plans, as well as ADEC plan review for potential permit revisions and Approval to Construct and Operate the rehabilitated facility.

- Under Executive Order 11988, Floodplain Management, Federal agencies funding and/or permitting critical facilities are required to avoid the 0.2% (500-year) floodplain or protect the facilities to the 0.2% chance flood level. Wastewater treatment facilities are critical facilities. As noted in Section 1.2.2, the CONP WWTP, while excluded from a flood plain by its elevation, is surrounded by a federally designated flood hazard area, Zone A. A FEMA LOMR-F may be required and all construction activities in the floodplain will require a floodplain development permit from the FNSB.

- Work outside the previously disturbed area should be assumed to require a U.S. Army Corps of Engineers (USACE) Section 404 wetlands permit for unavoidable impacts to wetlands and waters of the U.S.

- All in water work will require both USACE 404 permits and an ADF&G Fish Habitat Permit.

- Because there is always the potential for construction sediments to reach area waterbodies, contractors will be required to implement best management practices (BMPs) for sedimentation control on all projects. This requirement will be part of construction contracts regardless of project area and coverage under APDES Construction General Permit (ACGP). ACGP coverage is required for both the contractor and the CONP when the project involves an acre or more of disturbed area. ACGP coverage involves the creation of a storm water pollution prevention plan (SWPPP). As a community with a permitted municipal separate storm sewer system (MS4), the CONP may establish additional requirements as part of their MS4 program.

2.2 ALTERNATIVE 1 - REESTABLISH CHANNEL FLOW

The flow path for the existing discharge channel (Tanana River braid) is approximately 18,700 linear feet long as shown on Figure 2. As noted in Section 1.2.1, the flow along this route has been interrupted at least twice since May 2012. River flows are highly variable from year to year, and concrete conclusions cannot be made at this time, but possible causes for the variation in flow are: general shifting of the Tanana River flow in this area to the south; obstructions (e.g. beaver dams, deadfall) and general siltation of the river bed; deposits of alluvium from river flood events. The width of the river channel varies, but is nominally 60 +\- feet.

Reestablishing channel flow initially seems like an obvious, immediate solution – the channel is blocked and not receiving flow, remove the blockage and the problem is solved. Deepening the channel via excavation or dredging would also possibly increase flow. While intuitively simple, the actual practice may be complicated. Reestablishing channel flow will require the following steps:

1. Determine cause of blockage: Field observations of the full channel length (approximately 3.5 miles) to determine the cause or causes of the flow loss or diversion will be necessary. Observations will need to include visual inspection and measurement of channel depths.

2. Develop an Action Plan: Once a cause for the flow loss in the discharge is determined, means of flow improvement can be considered including:

    a. Removal of dams is the simplest improvement option and could involve manual removal of trees and other obstructions. If beavers are involved, trapping of the animals might be considered to prevent reconstruction of the offending dams.

    b. Channel dredging to remove accumulated sediments from the river channel upstream of the WWTP outfall. If siltation has changed channel routing or is the cause of flow bypass this may be a solution, at least temporarily.

    c. Channel improvements could include a number of constructed means of reestablishing flow including armoring the channel, creating a new feed to the discharge location, etc.

3. Maintain the channel and associated flow: As a minor braid of the Tanana River, flow in the channel receiving discharge cannot be expected to remain constant. Generally, this alternative is seen as a temporary measure that, while meeting the immediate needs, is expected to require periodic repetition or some form of ongoing maintenance program.

2.2.1 Permits and Approvals

Implementing this alternative will depend on the final project, but is expected to include the following permits and authorizations in addition to those required of all alternatives:

- If dredging is required, a Land Use Permit may be required from ADNR. A Section 404 permit from the USACE, and a ADF&G Fish Habitat Permit will be required for the work within a Waters of the US.

- ADNR authorization will be required for any actions that fall outside of the Generally Allowed Uses on State Land, including clearing trails more than 5 feet wide and use of vehicles over 10,000 pounds where they may contribute to water quality degradation. ADNR easements will also be required for construction of structures on state land.

- Any channel improvements will not be allowed to block the public's access to State land in the area as regulated by ADNR.

- As the ADEC APDES discharge permit is based on a mixing zone, the associated model will need to be reviewed if there are changes in expected flow.

2.2.2 Information Needs

As noted in the description of this alternative, the additional information needed for a full evaluation of this alternative includes:

- Field observations of the full channel length (approximately 3.5 miles), including visual inspection and measurement of channel depths. Initial evaluation can rely on handheld global positioning system (GPS) units for location and mapping. A new aerial should be sought as the aerial used in the figures is from 2012.

- Upon determination of proposed channel improvements, detailed topographic survey of the channel and its cross section may be required.

2.2.3 Costs

Estimating costs for the Re-Establish Channel Flow alternative are not straight forward, and are heavily dependent upon the degree of existing obstruction, and the depth / elevation of the final riverbed required to re-establish flow. This alternative cannot be estimated with any accuracy until investigations are completed to better define the required work.

For discussion purposes, a dredging width of 30 feet wide by 3 feet deep (about half the width of the existing channel) will require the removal of 3.3 cubic yards of river sediments for every foot of channel. Dredging the entire 18,700 channel will require removal of approximately 60,000 cubic yards. Access to the site is not good, and this will increase dredging costs. At $35 per cubic yard to remove and dispose of the sediments, dredging costs alone will be approximately $2.1 million; allowing for contractors overhead, survey control, and associated construction tasks, construction could be as much as $2.5 million to dredge the 3 mile channel. In addition to these construction costs, an additional $200,000 or 8% should be expected for permitting and bid document preparation, and $300,000 or 12% for construction administration. This brings total estimated cost of the alternate to approximately $3.0 million.

Again, costs for this alternative will be more or less with the degree of work actually required.

The work will likely need to be repeated at periodic intervals. Frequency can only be determined from experience, but perhaps at 10 to 20 year intervals. This will be determined in part by the depth of initial dredging or clearing performed.

2.3 ALTERNATIVE 2 - MODIFY AND/OR RE-PERMIT EXISTING OUTFALL

Under the current system and permit, the CONP WWTP discharges through a 6-inch pipe of unknown material to a point beneath riprap in a minor braid of the Tanana River. The existing discharge permit assumes treated effluent discharges to a mixing zone in a moving water body with an assumed dilution of 91:1. The allowable mixing zone is 9 meters downstream from the outfall in the summer (June through September) a maximum of 2 meters in width. In the winter, the mixing zone dimensions increase to 267 meters downstream and a maximum of 4 meters in width. The use of a mixing zone addresses the difficulty of consistent treatment for certain contaminants. The mixing zone is designated by ADEC specifically for fecal coliform bacteria, dissolved oxygen, pH, total chlorine residual, metals, temperature and whole effluent toxicity (WET). Monitoring once each season (summer and winter) is required to indicate compliance with fecal coliform bacteria, total residual chlorine, and pH.

Discharge compliance has become an issue when the mixing zone is lost during low or no flow periods in the channel. During these periods, treated effluent fills a portion of the river channel, but then infiltrates into the hyporheic zone, which is the region beneath the streambed where there is mixing of shallow groundwater (subsurface river base flow) and surface water.

This alternative considers the use of infiltration and water in the hyporheic zone (surface and groundwater) for a mixing zone. However, ADEC has determined that current mixing zone regulations do not support the authorization of subsurface mixing zones (Appendix C, B. Doyle, 2/10/15). For this reason, options that include a hyporheic mixing zone in the existing channel will be removed from consideration in the final feasibility study.

To continue discharge to the existing location as a surface discharge will require modifications to the WWTP and is further discussed as Alternative 5 - Modify WWTP to Meet Water Quality Standards at Point of Discharge.

2.3.1 Permits and Approvals

ADEC has determined that this option cannot presently be permitted as it would require two mixing zones – one with channel flow as currently permitted and one with at least partial subsurface flow which regulations do not support. ADNR has also expressed reservations about the alternative and the means that could be implemented to reduce public exposure to wastewater without limiting public access and use in the area.

2.3.2 Information Needs

As this alternative is not permittable, no further information will need to be gathered in support of the alternative. However, if the alternative was permittable, survey, geotechnical investigations, groundwater and background testing, and hydrogeologic modeling would all be required.

2.3.3 Costs

This alternative is not presently permittable. For that reason, construction, design, and permitting costs have not been developed. If ADEC is willing to consider hyporheic discharge, the next step should be investigations and schematic design, including hydrogeologic study. This would require approximately $100,000 in engineering costs.

2.4 ALTERNATIVE 3 - CONSTRUCT NEW DISCHARGE TO TANANA RIVER

This alternative considers the extension of the existing discharge to a point where mixing zone compliance can be expected for the foreseeable future. As shown on Figure 2, the alternative considers construction of a new discharge pipe to a deeper, persistent braid of the Tanana River, 8,000 to 9,000 feet from the WWTP, on a direct route. This length may differ from earlier estimates, but is based on most recently available photography.

An alternative of this nature was considered in the 2012 PER[3], although at that time the route extended from the existing outfall, across other river braids to the main channel. The routing on Figure 2 provides better access and less difficult construction as the pipe is extended in such a way that crossing channels is avoided. Ideally, the pipe would operate under gravity flow and remove the need for the effluent pumps at the WWTP, simplifying operations. This will require further evaluation, but with the additional length, it will probably need to be pumped.

Freeze protection requirements will need to be considered. The existing sewer effluent main operating at current typical flows of about 200,000 gpm in the winter, residence time in the existing effluent pipe is only about 38 minutes. The longer, larger pipe discussed below will have a residence time of almost 7 hours; a definite risk for freezing. Solutions include providing heat trace, or using a smaller diameter pipe and pumping. Either solution will increase operational costs.

The alternative can be expected to involve:

- Construction of 9,000 to 10,000 LF of 8 to12-inch, SDR 17 HDPE piping from the WWTP to the Tanana River. Although previously shown in a direct route, the new pipe will likely be routed initially parallel to the existing discharge pipe, at least to the point where the new pipe can run along the road parallel the flood control levee and interior drainage channel B. This will allow for WWTP operations to continue without interruption except for final cutover. This also allows the new line to run in part through the existing sewer outfall or section line easement. The line can be expected to intersect the sulfolane plume, and while final pipe material selection will be made during design, HDPE is not contraindicated and has been assumed for estimating.

[3] Stantec, 2012. *City of North Pole Wastewater Treatment Plant Rehabilitation Preliminary Engineering Report.*

  - The new pipe will be buried at a minimum depth of 5 feet. The pipe will include 2 to 4 inches of urethane insulation inside of an aluminum jacket for freeze protection.
  - Need for heat trace must be evaluated, but for planning purposes would be 6 watts per foot, self-regulating, in conduit, along the entire length of the pipe.
  - Construction of the pipe is expected to require clearing of trees and brush for a width of at least 35 feet for a length of at least 4200 feet from the existing road to the discharge location. The clearing width is needed not only for the pipe trench, but for construction access, stockpile of excavation, and subsequent maintenance access.
  - Alignment will need to cross the existing flood control levy and Interior Drainage Channel B. This will need to be constructed via a tunneled casing and require special USACE authorization and permitting related to the levy.

- Construction of cleanout manholes every 500 feet. These will consist of a 6-foot diameter manhole housing a "tee," with a blind flange, 4-inch gate valve, and a 4-inch camlock fitting for draining and flushing of the pipe.
- Construction of an 18-foot wide, single lane access road approximately 4200 LF along the final length of pipe. The existing effluent main access road and Tanana River Flood Control Levee will be sufficient to access the new pipe in some areas, so additional road construction will be limited to access pads at the cleanout manholes along existing road, and where the route is across forested and undisturbed floodplain.
- Construction of a new discharge point in the Tanana River. This is expected to consist of a graded rock bed/ diffuser constructed from approximately 25 to 40 CY of 8- to 16-inch stone.
- Upgrade of the existing effluent discharge pumps and electrical controls at the WWTP.
- Abandoning in place the existing effluent discharge by filling it with sand/cement slurry after the new system is functional.

2.4.1 Permits and Approvals

This alternative will require ADEC plan review and a new discharge permit for the WWTP, including a mixing zone. This has been assumed to the same as the existing permit. In addition to the permits and approvals generally required, the following are expected:

- The access road and pipe across State land will require a public easement.
- USACE authorization and permitting will be required for impacts to flood control structures.
- If fish-spawning habitat is identified at the new outfall will discharge, a mixing zone will not be allowed.

2.4.2 Information Needs

It may be possible to operate this alternative via gravity, resulting in reduced operational costs. While this needs to be verified by ground survey, available mapping from the FNSB and river flow modeling from the USACE suggests there is about 13 to 18 feet of fall from the WWTP to the river at the existing outfall during average annual low to average annual high river flows. During the 100-year flood event, the river rises as much as 8 feet above the average annual low flow elevation, and available head from the WWTP to the river is reduced to 11 feet at the current outfall. With these elevations differences, a 12-inch diameter effluent main would be capable of accommodating a flow of at least 1,000 gpm from WWTP to the river under gravity flow conditions for all expected river elevations, including the 100-year flood. This is at least twice the historic peak flow at the WWTP, and sufficient for a daily plant flow of more than 1 MGD. While the main will not require pumps, it will operate in a surcharged, pressurized condition due to the elevation and profile of the pipe (as does the existing pipe).

A thermal analysis will be required to determine freeze protection requirements, degree of insulation required, heat trace or heat addition requirements. The need for heat addition may have significate operational cost impacts.

Along with topographic survey of the riverbank and the selected alignment, field reconnaissance will be required to determine a proposed route and impacted wetlands and other resources. An eagle nest survey will be needed to assist in routing determination. Geotechnical investigations along the pipe routing will also be needed to support evaluation and develop preliminary costs.

A route study and examination of potential river discharge locations will be part of any future evaluation of this alternative.

2.4.3 Costs

Major items of work and associated construction costs for this alternative are summarized in Table 1. Costs are intended solely for comparison with the other alternatives. The costs are approximate and will require investigation and design work to refine. As such, a contingency has been added to the total.

Table 1: Alternate 3 Cost Summary

Item	Quantity	Unit	Total Cost
Clearing	3.5	acre	$140,000
Insulated Arctic Pipe	10,000	Linear foot	$1,500,000
Trench and Backfill	10,000	Linear foot	$300,000
Cleanout Manholes	22	Each	$220,000
Heat Trace	10,000	Linear foot	$220,000
Electrical Services	1	Lump sum	$60,000
Access Road	4200	Linear foot	$400,000
Seeding and Erosion Control	2	Acre	$60,000
Pumping and Control Improvements	1	Lump Sum	$150,000
Tunneled Casing at Levy	1	Lump Sump	$60,000
Misc and Associated Items at approximate 20% overall cost	1	Lump Sum	$480,000
		Subtotal	$3,590,000
		25% Contingency	$897,500
		Total Construction Cost	**$4,487,500**
		8% Design and Permitting Allowance	$359,000
		8% Construction Administration Allowance	$359,000
		Alternate 3 Total Project Cost	**$5,205,500**

This estimate covers just project development costs. It does not consider any additional operations costs or associated power costs. The new effluent main should not require substantial maintenance or operational costs, with the exception of heat tracing or pumping systems. A thorough analysis will be required to refine costs, but operation of 7000 feet of heat trace at 6 watts / foot will require up to 1000 kw-hour per day; at 0.16 / kw-hr, this is $160 per day, or about $25,000 for 5 months of operation. Actual energy need will vary with temperatures, and may be less, but will still be a significant increase over current WWTP energy consumption.

2.5 ALTERNATIVE 4 - CONSTRUCT EFFLUENT INFILTRATION POND

Much of the soils in North Pole are moderately free draining sands and gravels that allow surface waters to infiltrate into the ground water. If the soils are sufficiently free draining, it may be possible to use a pond to infiltrate the treated effluent into the ground, eliminating the need for the existing river discharge altogether. This is the approach presently used at Eielson Air Force Base. The Eielson system uses a roughly 10-acre pond constructed in a gravel quarry site to dispose of about 800,000 gallons per day of treated effluent to subsurface waters (although the plant is permitted for 2.0 MGD).

Roughly 14 acres of land immediately south of the WWTP, adjacent the Tanana River Flood Control Levee was purchased in 2014 by the CONP. This alternative considers developing the property for an effluent infiltration pond or ponds as a new effluent disposal site.

While this alternative will require a geotechnical investigation, in concept, the alternative can be expected to include:

- Clearing and grubbing of the new lot (14 acres);
- Excavation and disposal of surface soils to expose strata suitable for infiltration;
- Construction of earthen berms or dikes to form the containment for the new infiltration ponds. Due to location in the floodplain, initial understanding is that the ponds will need to be located above ground, similar to the four wastewater lagoons currently located on the WWTP site. It may be possible to quarry material from the bottom of the pond, in the ground water table, and use the excavated material to build a part of the berms. Even so, imported fill materials will be required. Liner or low permeability material will likely be required for the cores of the berms.
- Size of pond will need to be determined based upon available infiltration rate and acceptable effluent application rate. Application rates of 2 to 4 gallons of effluent per day are typical for treated effluent disposal ponds, if the ground will accept the flow. For the CONP WWTP, it is estimated a pond of 3 to 6 acres will be necessary to dispose of the currently permitted 500,000 gallon per day effluent flow.
- The pond has a considerable footprint. A 6-acre pond has bottom dimensions of about 300 feet x 900 feet. Allowing for the 14 to 16 foot high containment berms and slopes, overall footprint required is approximately 500 x 1100 feet, or 12.5 acres. This will occupy nearly all of the land south of the WWTP, but appears to fit. Note that actual pond depth will likely only be one or 2 feet, but the higher berms are necessary as the ponds will be located within a designated floodplain.

- Berms will be 14 to 16 feet tall, have a 30-foot wide top surface for stability and maintenance driveways, and 2:1 side slopes. A berm of this configuration will require about 30 cy of fill per each foot of berm, or about 100,000 cy of fill for an overall 6 acre pond. About half of this will need to be low permeability material for the core of the berms to prevent water flow through the berms.

- About 500 feet of 8 to 12 inch treated effluent main will extend from the existing WWTP building to the new pond. It should be possible to direct flow by gravity to the new pond.

- A number of monitoring wells will likely be required for periodic examination of groundwater impacts.

- The existing discharge point to the Tanana River could be maintained for emergency or seasonal use, or abandoned.

2.5.1 Permits and Approvals

This alternative will require ADEC plan review and modification of the discharge permit, along with the other permits resulting from work in a floodplain as specified in Section 2.1.

Permit parameters, contaminate limits, and points of compliance must be considered. In general, WWTP disposing of effluent to the ground water have been required to meet nitrate limits at their property line. Since the proposed CONP effluent disposal pond will potentially occupy all the available land, there will be very little buffer between the disposal pond and the property line, leading to difficultly meeting nitrate in groundwater limits. All of the properties down gradient of the proposed pond are on public water systems, and wells are not expected to be impacted. However, the pond will still impact at least some of the groundwater in the area.

2.5.2 Information Needs

The viability of this alternative cannot be determined with existing information. This alternative will need to consider and mitigate impacts to flood plains, habitat, hydrogeology, and the Flint Hills sulfolane plume. It may require treatment process changes. At a minimum, the final feasibility study will need:

- Topographic survey of the area.

- An eagle nest survey.

- Complete geotechnical investigations, including infiltration testing and hydrogeologic modeling the size of the basin, to determine infiltration and disposal rates, and to examine impacts to the area groundwater including sulfolane plume.

- Winter operations need to be examined in detail. If infiltration rates are too high, pond depths will be shallow, and the pond will freeze and not function. It will be desirable to separate the pond into multiple cells so that pond levels can be increased in the fall if necessary by directing all flow to a smaller cell. Another possibility will be to excavate deeply into the ground water below the site, such that the bottom of the pond is 12 or more feet below the water surface. A pond of this depth will resist freezing solid, but applies the effluent directly to the groundwater without any filtering by the soil.

The need for and degree of flood protection required for a new infiltration pond facility will need to be considered, and potentially negotiated. Since the WWTP is discharging only treated effluent and since the effluent is disinfected, in a flood event, the effluent will not pose a significant hazard should it leave the site mingled with floodwater.

If a temporary release of treated effluent to floodwater is acceptable, this will allow for the elimination or reduction of the infiltration pond berms. This reduces the project construction costs by at least $1 to $2 million dollars.

Another consideration to be evaluated is the final depth of the pond required for freeze protection. As part of this consideration, not currently included in the cost estimate below, the quarried material will likely be suitable for use in the containment berms; however, in the event the berms are not needed for flood protection, it may be possible for CONP to sell the quarried material for use elsewhere, offsetting the project cost.

2.5.3 Costs

Based upon a 6-acre pond as described here, major items of work and associated construction costs for this alternative are summarized in Table 2. Costs are intended solely for comparison with the other alternatives. The costs are approximate and will require investigation and design work to refine. As such, a contingency has been added to the total.

Table 2: Alternate 4 Cost Summary

Item	Quantity	Unit	Total Cost
Clearing	12	acre	$360,000
Excavation of Surface Soils	30,000	cubic yard	$600,000
Berm construction	50,000	cubic yard	$1,500,000
Liner or Low Permeability Berm Core Fill	50,000	cubic yard	$1,500,000
Topsoil, Seeding, and Erosion Control	6	Acre	$180,000
Insulated Arctic Pipe	500	linear foot	$75,000
Trench and Backfill	500	linear foot	$15,000
Valves, Control Structures	1	linear foot	$50,000
Monitoring Wells	6	Each	$72,000
Misc and Associated Items at approximate 20% overall cost	1	lump sum	$870,000
		Subtotal	$5,222,000
		25% Contingency	$1,305,500
		Total Construction Cost	**$6,527,500**
		8% Design and Permitting Allowance	$522,200
		6% Construction Administration Allowance	$391,650
		Alternate 4 Total Project Cost	**$7,441,350**

This estimate covers just project development costs. It does not consider any additional operations costs. The 8% allowance for design also covers the cost of the geotechnical investigation and groundwater hydrology study.

As previously stated, if flood protection is not necessary the berms can be greatly reduced, with associated construction cost savings of $1 to $2 million. Likewise, if existing gravels are of sufficient quality, it may be possible for CONP to quarry and sell this material to offset project costs. Combined, these reductions may bring total project cost into the $4 to $5 million range.

2.6 ALTERNATIVE 5 - MODIFY WWTP TO MEET WATER QUALITY STANDARDS AT POINT OF DISCHARGE

Alternate 5 arose from conversions with ADEC staff on February 5, 2015, meeting minutes are included in Appendix C. During the meeting, the idea of maintaining the existing discharge as a surface application arose. For this to be feasible, the treatment processes would have to change to meet surface discharge requirements and be protective of the public recreating in the discharge area.

The existing mixing zone addresses the difficulty of consistent treatment for certain contaminants as previously discussed. Under this alternative, the WWTP will be upgraded to comply with water quality standards for contact recreation without a mixing zone. The standards of Table 3 would apply, along with a large number of additional requirements for parameters not currently regulated. Development of the new treatment scheme is beyond the scope of this report and will require a focused feasibility study that evaluates and further characterizes existing influent and effluent, and then evaluates treatment options. Once a treatment scheme was developed a bench study would likely be warranted to determine the effectiveness.

For consideration in this study, meeting water quality standards at the discharge point would require upgrading the CONP as a minimum to tertiary treatment. This would likely involve filtration of lagoon effluent; this in turn requires sludge handling and dewatering systems. As both fecal coliforms and chlorine levels must be quite low, maintaining chlorine residual in the discharge pipe will likely be required to minimize fecal coliform growth. Dechlorination would be provided only in the last few hundred feet to remove the chlorine. Nutrient (ammonia, and nitrate) removal criteria would need to be determined. In the February 5th meeting, Marie Klingman noted that future permits are likely to include ammonia limits. Since the aerated lagoons and their associated bacteria tend to nitrify (form nitrates from ammonia and organics in the wastewater), a denitrification process is needed to convert the nitrates to nitrogen gas. The denitrification reaction is typically controlled in a separate treatment process, where anoxic conditions are maintained so that bacteria use the nitrate nitrogen for respiration. At present, the denitrification processes most applicable to cold regions are proprietary reactors using specialized biology. For these processes, generally, a carbon source chemical must be added to the reactor, such as sugar or methanol, to maintain the biological reaction. The need for additional chemicals and the complexity of the process add operational cost.

Table 3: Sample Contact Recreation Water Quality Standards

Pollutant, for fresh water uses	Contact Recreation Water Quality Standards Criteria	Current Effluent Permit Conditions with Mixing Zone
Fecal Coliform Bacteria	100 FC/100 ml, average month 200 FC/100 ml maximum	200 / 100 ml average monthly3 400/ 100 ml average weekly 800/100 ml maximum daily
Dissolved Oxygen	4 mg/l minimum	2.0 mg/l minimum daily
pH	6.5 to 8.5 standard unit as all times	6.0 to 9.0 standard unit at all times
Toxic and Other Deleterious Organic and Inorganic Substances	May not exceed the numeric criteria for drinking water shown in the *Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances,* dated December 12, 2008	
Total Residual Chlorine	19 µg/L (one hour average) 11 µg/L (four-day average)	0.5 mg/l and 2.1 lbs/day average monthly [2] 0.75 mg/l and 3.1 lbs/day average weekly [2] 1.00 mg/L and 4.2 lbs/day maximum daily [2]

Notes:
1. Based on value in Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances.
2. Loading (in lbs/day) = concentration (in mg/L:) * concurrent flow (in MGD) * 8.34.
3. The monthly value is calculated as a geometric mean, i.e. the nth root of the product of the individual data points.

The 2012 PER for the CONP WWTP examined treatment capacity upgrades for the WWTP. While not targeted to a contact recreation standard, that report provides some indication of the construction and equipment required for a tertiary WWTP process. Based on the 2012 PER, the alternative can be expected to involve:

- Construction of a post lagoon treatment system consisting of:
    - Additional WWTP building space, approximately 4,800-square feet (sf) for the new process equipment. The WWTP can be expanded or a new structure placed onsite, ideally on the effluent discharge from Cell 4. Due to location in the floodplain, the structure will need to be located at approximately the same elevation as the existing WWTP on earthen berms.
    - Rerouting of the discharge piping to the new treatment process with potential changes to placement or sizing of the existing effluent discharge pumps.
    - Pumping systems to feed the filters, assumed to be two variable speed centrifugal effluent pumps, each suitable for 750 gpm, and 15 feet of head (5.0 hp).

  - Associated controls and monitoring equipment, including flow metering of effluent and influent, SCADA system connection.

- Provide a denitrification / nutrient removal treatment process. This element was not addressed in the 2012 PER, and requires considerable engineering, but will likely incorporate:

  - Biologically active trickling sand filter or comparable filtering process, with associated recycle systems.
  - Carbon source storage and feed system, frequently methanol based.
  - Associated pumps and control systems.
  - This equipment is located within the building described above.

- As filtration systems generate a concentrated waste stream of wastewater solids and sludge, a system of disposal would be required. The 2012 PER[4] recommended the use of a sludge filter press and dredge for handling lagoon sludge. This includes:

  - A building addition of approximately 400-sf to house the equipment, along with associated electrical supply, potable water plumbing for rinse-down purposes, and floor drains and drain piping to either the headworks or one of the lagoons.

  - Construction of a sludge filter press and appropriate slurry storage and feed systems.

  - Storage and removal of dewatered sludge to a permitted disposal location.

- Construction of a dechlorination system. The WWTP presently uses calcium thiosulfate solutions batched on site and injects this into a discharge weir at the end of the chlorine contact chambers. Moving this to the end of the discharge piping will involve:

  - Construction of a small building (approximately 200-sf) within 200 feet of the existing discharge to house new dechlorination system. The building can be placed along the existing access road but will require additional ADNR property. The building will need to be heated and have power to run pumps.

  - Interception of the existing 6-inch pipe and construction of a manhole for sampling and calcium thiosulfate injection.

[4] Stantec, 2012. *City of North Pole Wastewater Treatment Plant Rehabilitation Preliminary Engineering Report.*

Operator training and operational requirements are expected to increase with the complexity of the process in this alternative. While operations costs for this alternative have not yet been developed, they are also expected to be substantially higher. The 2012 PER estimated operational costs for a filtration and sludge processing system similar to that described here would be approximately $300,000 per year.

2.6.1 Permits and Approvals

This alternative will require ADEC plan review for the new WWTP system and a new discharge permit for the WWTP, without a mixing zone.

Building permits will be required for the renovation and construction of structures. An ADNR easement will be needed for the new facilities at the discharge point.

The complexity of the process will require additional operator with a higher certification than existing staff.

2.6.2 Information Needs

Process selection under this alternative will require a substantial feasibility study to consider the variety of options available, their associated space and operational requirements. Additional analysis of the constituents of the existing effluent may also be required. At the conclusion of the process selection, a bench test will likely be warranted to confirm selection and finalize construction design. This would be followed by engineering design of the system.

In addition to the process selection, topographic survey of the dechlorination system site and field reconnaissance will be required to determine impacted wetlands and other resources. Geotechnical investigations may also be required to support foundation system determination.

2.6.3 Costs

Based upon the construction described above and previous estimating done for the 2012 PER, major items of work and associated construction costs for this alternative are summarized in Table 4. Costs are intended solely for comparison with the other alternatives. The costs are approximate and will require investigation and design work to refine. As such, a contingency has been added to the total.

Table 4: Alternative 5 Cost Summary

Item	Quantity	Unit	Total Cost
Clearing	0.5	Acre	$20,000
WWTP building (all)	5,200	sf	$1,820,000
Earthwork and fill pads	13,000	CY	$390,000
Denitrification Process	1	Lump Sump	$2,500,000
Pumping and Control Improvements	1	Lump sum	$250,000
Sludge Filter Press	1	Each	$250,000
Electrical services and upgrades	1	Lump Sump	$200,000
Additional standby generator	1	Lump Sump	$350,000
Dechlorination System	1	Lump Sump	$60,000
Dechlorination Building	200	sf	$70,000
Manhole	3	Each	$30,000
Misc. and Associated Items at approximate 20% overall cost	1	lump sum	$1,188,000
		Subtotal	$7,128,000
		25% Contingency	$1,782,000
		Total Construction Cost	**$8,910,000**
		8% Design and Permitting Allowance	$712,800
		8% Construction Administration Allowance	$712,800
		Alternate 5 Total Project Cost	**$10,335,600**

3.0 AGENCY AND STAKEHOLDER SCOPING

3.1 SCOPING ACTIVITY

In gathering information for the project, Stantec completed an agency coordination and environmental "scoping" process. The intent of the scoping process is to involve interested agencies, at the earliest opportunity, in identifying the potential social, economic, or environmental impacts of the proposed actions. This process contributes to refining alternatives and mitigation measures, and identifying any required permits.

The scoping activities for the CONP Wastewater Effluent Discharge Study included solicitation for comments from applicable federal, state, and local agencies and additional stakeholders. Appendix A contains the full list of scoping letter recipients. The scoping letter and its attachments are in Appendix B. The scoping letter provides background on the project, alternatives being considered with anticipated impacts, and preliminary research results of publically available environmental information. Follow up calls and emails were also made to non-responsive recipients. Agency and stakeholder responses and correspondence related to the scoping process are provided in Appendix C.

3.1.1 ADEC Teleconference

As ADEC is the primary agency for permitting wastewater facilities and is the issuer of the NOV being addressed, a teleconference was scheduled with representatives of the Wastewater Discharge Program following the compilation of previous scoping responses. The meeting was to discuss ADEC permitting requirements for the proposed alternatives and was held on February 5, 2015, with ADEC staff calling in from Fairbanks and Juneau.

During the meeting, it was confirmed that re-establishing channel flow is considered a temporary measure and likely requires remodeling of the mixing zone. Potential modification of the outfall and the use of riverbed flow as an optional mixing zone when stream flow was absence was discussed and in later discussions internal to ADEC determined to not be allowable under current regulations. The use of the existing outfall with plant modifications was also discussed as an interesting option leading to its inclusion as a separate alternative. Full minutes from the meeting are included in Appendix C.

3.2 RESPONSES

Responses that are summarized in Section 3.3 were received from the following agencies:

ADEC Division of Water, Wastewater Discharge
ADEC Contaminated Sites Program
ADF&G Division of Habitat
ADNR Division of Mining, Land & Water
FNSB Department of Community Planning
FNSB Department of Public Works
USACE Chena River Lakes Flood Control
USACE Fairbanks Field Office

Agencies and stakeholders contacted, who had no comments at this time:

USFWS Fisheries
USFWS Conservation Planning
USFWS Endangered Species
Fort Wainright
ADNR Water Resources Program
ADNR Historic Division
ADEC Division of Water
NMFS
US Environmental Protection Agency

Agencies and stakeholders contacted who did not respond:

ADNR Division of Forestry
Alaska Railroad
Flint Hills Refinery
Petrostar Refinery
North Pole High School
Golden Valley Electric Association
Doyon Limited

3.3 ISSUES IDENTIFIED

The following issues were raised either through correspondence or during phone conversations with agency representatives. Full copies of agency and stakeholder correspondence are provided in Appendix D.

- Construction activities in floodplain will require further consultation with the FNSB Floodplain Administrator and a Floodplain Permit will likely be necessary.

- A Fish Habitat Permit from ADF&G will be required for any in-water work.

- If dredging is required, a Land Use Permit may be required from ADNR. It will also require a Section 404 permit from USACE.

- ADNR authorization is required for any actions that fall outside of the Generally Allowed Uses on State Land, so authorization may be required depending on selected improvements for re-establish channel flow. There are also a number of alternatives that may require ADNR easements.

- Any channel improvements will not be allowed to block the public's access to State land in the area as regulated by ADNR.

- Modifying or re-permitting the existing outfall may expose the public to wastewater and will require a new easement if a new discharge is constructed. ADNR notes that this location has regular use by the general public for a variety of activities.

- Construction activities in the vicinity of the Tanana River Levee and Interior Drainage Channel B will require coordination with FNSB Department of Public Works and USACE.

- A USACE Department of the Army permit under Section 404 of the Clean Water Act will be necessary for most alternatives.

- Current ADEC mixing zone regulations do not support the authorization of subsurface mixing zones.

- ADEC Contaminated Sites Program does not have any major concerns regarding construction of a wastewater effluent infiltration pond in the proposed location. Sulfolane concentrations north of the refinery along the south western portion of the groundwater contaminant plume have been declining due to remediation efforts from the Refinery's groundwater treatment system. The aquifer in the project area is large with high transmissivity and no discernable impact from contaminated sites is foreseen. If the effluent infiltration pond alternative is pursued, assessment of pond volume and infiltration rates will need to be evaluated.

4.0 DISCUSSION AND RECOMMENDATIONS

Of the five alternatives presented in this report, one is not feasible for regulatory reasons. Alternative 2 - - Modify and/or Re-Permit Existing Outfall has been removed from consideration as ADEC has indicated the proposed discharge of the effluent (at current treatment levels) to the river bed surface is not permissible under current ADEC regulations.

Some of the considerations for the remaining alternatives are summarized in Table 5.

Table 5: Alternative Comparison

Item	Alternative 1 - Reestablishing Channel Flow	Alternative 3 - Construct New Discharge to Tanana River	Alternative 4 - Construct Effluent Infiltration Pond	Alternative 5 - Modify WWTP to Meet Water Quality Standards at Discharge
Long-term solution	No	Yes	Yes	Yes
Increases treatment complexity	No	No	No – minor at most.	Yes Multiple new process elements
Increases operational complexity or cost	No	Yes Heat trace	No	Yes New process, chemicals, staff.
Cost	$3.0 million, reoccurring	$5,205,500	$7,441,350	$10,335,600
Mixing Zone	Yes	Yes	No	No
Discharge permitting requirements	No change, keep mixing zone	No change, keep mixing zone	Individual state permit	Meet Water Quality Standards, no mixing zone
Requires access through ADNR land	Yes	Yes	No	Yes

Alternative 1 - Reestablishing Channel Flow is feasible for temporary compliance, but, as noted by both the ADNR and ADEC, its long-term suitability is highly questionable. However, due to the relatively low cost of the effort, it is recommended an investigation be performed to determine if an "easy" (e.g. dam or blockage removal), albeit temporary fix may be possible to bring the CONP back into compliance while a long-term solution is sought. As the likelihood of a viable long-term solution to maintain flow in the braid for the mixing zone is considered low, it is not recommended that additional funds be expended for the survey, engineering, etc., otherwise needed to advance this alternative in the final feasibility study.

The remaining three alternatives are very different in terms of their impact the overall WWTP operations.

- Alternative 3 - Construct New Discharge to Tanana River would reestablish compliant operations in a manner similar to the existing; however, it is expected to increase operational costs related to heat trace and/or pumping. Operators will continue to maintain an outfall, which will be at the end of a new, longer road. Security of the existing outfall has been an issue that will not be resolved with this solution. Operator training requirements are not expected increase. There does not appear to be any reason this alternative would not work, aside from potential freezing issues that can be addressed via heat trace.

- Alternative 4 - Construct Effluent Infiltration Pond potentially has a high initial capital cost; however, there is good potential to reduce the required berm construction and thus the project cost to about the same as Alternative 3, with the advantage that there are no operational costs for pumping or heat trace. This alternative removes the requirements for a mixing zone and puts all WWTP operations on CONP property, with no outfall required. Operator training requirements are not expected to increase. This alternative does however rely upon the infiltrative capacity of the existing soils beneath the pond, which must be investigated by geotechnical exploration and field testing to determine if this alternative will work.

- Alternative 5 - Modify WWTP to Meet Water Quality Standards at Discharge has both the highest capital and operational cost being the most complex system. Operator training will need to be increased significantly to operate the new systems. We do not believe this alternative is worth considering given the relative simplicity and much lower costs of the other alternatives.

For the reasons stated, both Alternatives 3 and 4 appear to be viable and achieve the compliance goals. When both operational and construction costs are considered, these two Alternatives are roughly comparable in cost, and neither alternative is clearly superior to the other. At this point, additional information is required to select the better alternative, confirm viability, and refine project costs. Two potential courses of action are recommended:

1. Complete geotechnical investigation of Alternative 4, including infiltration pilot testing to verify feasibility of design concept. Investigate and refine flood mitigation requirements for the alternative; if flood protection berms may be eliminated, refine project cost estimate. If resulting project is more economical that Alternate 3, continue forward with feasibility study, design, and construction of this alternative. In the event infiltration testing does not support the design concept, or cost remains high, proceed with Alternate 3. This approach saves engineering costs, but may not deliver the best alternative, and wastes time if the infiltration testing is not successful.

Alternatively:

2. Proceed with full evaluation of both Alternative 3 and 4, completing investigations, preliminary design and feasibility study to better define, and ultimately chose between alternatives, the move to design and construction. This approach will arrive at the best alternative, but has additional engineering costs as it requires both options be evaluated.

We will work with the CONP to determine which course of action to pursue once the City and ADEC has had opportunity to review and comment on the findings of this preliminary report.

Because of its complexity and cost, Alternative 5 is not recommended for further development, unless both Alternatives 3 and 4 are found to be impractical.

THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation

DIVISION OF WATER
COMPLIANCE AND ENFORCEMENT PROGRAM

610 University Avenue
Fairbanks, AK 99709
Main: 907.451.2298
Fax: 907.451.2187
www.dec.alaska.gov

April 7, 2015

SENT VIA USPS
Enforcement Tracking No. 14-0154-50-0001
ADEC File Number: 100.45.012

Mr. William Butler
Director of City Services
City of North Pole
125 Snowman Lane
North Pole, AK 99705

Subject: City of North Pole (CONP) Response to the Notice of Violation Enforcement Tracking No. 14-0154-50-0001

Dear Mr. Butler,

The Department received the CONP response on March 6, 2015 to the Notice of Violation (NOV) issued on October 30, 2014. The response included five courses of action to mitigate the concerns of the NOV, of those five, two (alternatives 3 and 4) were believed viable and achievable by CONP. Alternative 3 details the construction of a new discharge to the Tanana River. Alternative 4 details the construction of an effluent infiltration pond on CONP property. After review, the Department believes alternatives 3 and 4 to be approvable options contingent upon final plan review and approval.

To continue addressing the violations described in the October 30, 2014 NOV, the Department requires that CONP do the following:

a. Complete the evaluations necessary to select a final course of action between alternatives 3 and 4;
b. Provide a project timeline for executing the chosen course of action, to include all phases of construction, agency approvals, and other limiting factors as outlined in the March 6, 2015 response;
c. Provide a projected project completion date.

Please respond to this request by no later than **7/31/2015. Deliverables can be submitted via mail, email, or fax:**

Attention:
Tiffany Larson
610 University Ave.
Fairbanks, AK 99709
Tiffany.Larson@Alaska.gov
Fax: 907. 451.2187

If you have any questions, please do not hesitate to contact me at email: Tiffany.Larson@alaska.gov or phone: 907-451-2298.

Sincerely,

Tiffany Larson
ADEC Enforcement Officer
R-0186

cc: Amber Bennett, ADEC Fairbanks
Danielle Pensley, LAW Fairbanks
Kimberley Maher, DNR Fairbanks

125 Snowman Ln
North Pole, Alaska
99705
907-888-4444
907-488-8584

City of North Pole
Office of the Mayor

Memo

To: North Pole City Council

From: Mayor Ward

cc:

Date: May 12, 2015

Re: Sale of City Assets Ordinance

Councilmembers,

In an effort to increase efficiency and receive more value for our surplus items I am introducing an ordinance to change our code in regards to the sale of our surplus assets. This ordinance is designed to allow the City to retain the services of an auction house to sell our surplus assets through a competitive quote process.

The "Request for Quote" (RFQ) was written with influence from the University of Alaska Fairbanks procurement office. The University of Alaska Fairbanks has found this process to be quite beneficial and easy to use.

The change in the code would allow us to bring our surplus items to an auction house after the council has approved them for sale. At that time the council may also establish a minimum bid for any item. The changes in code would apply to all departments and all surplus items would be sold through the auction house. A report of the sale price of each item will be presented to the council at the next council meeting following the auction date.

Sponsored by: Mayor Bryce J. Ward
Introduced & Advanced: May 18, 2015
Possible Adoption: June 1, 2015

CITY OF NORTH POLE

ORDINANCE 15-06

AN ORDINANCE OF THE CITY OF NORTH POLE, ALASKA TO AMEND TITLE 4, CHAPTER 20, SECTION .010, SALE OF CITY PROPERTY

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

WHEREAS, The City of North Pole desires to dispose of surplus items of value; and

WHEREAS, contracting with an auction house is an appropriate way to dispose of surplus city assets; and

WHEREAS, auctions held by local auction experts are more likely to garner more participants than the traditional auction process of the City; and

WHEREAS, auction houses have multiple auctions through the year that the city may be able to take advantage of for sale of surplus equipment; and

WHEREAS, acquisition of an auction contractor shall be done per procurement processes in code; and

NOW, THEREFORE, BE IT ORDAINED by the Council of the City of North Pole:

Section 1. This ordinance is of a general and permanent nature and shall be codified.

Section 2. Title 4 Revenue and Finance, Chapter 20.010 Sale of City Assets is amended in the North Pole Code of Ordinances as by inserting the text italicized, underlined and in red:

4.20.010 Sale of real and personal property.

A. The City may sell, dispose or donate any City-owned real or personal property except where restricted by Section 13.4 of the Home Rule Charter, when in the judgment of the City Council it is no longer required for public use.
B. Any item of City-owned property, determined by the City Council to be of value and no longer required for public use, shall be disposed of in accordance with the procedures outlined in this chapter.
C. The City may acquire the services of an auction company to advertise and sell at auction items for disposal as approved by the City Council in accordance with the procedures outlined in this chapter.
D. Public Sale, Lease or Disposition Procedure for City-Owned Property.

Sponsored by: Mayor Bryce J. Ward
Introduced & Advanced: May 18, 2015
Possible Adoption: June 1, 2015

1. The administration shall prepare a list of items determined to be surplus to the needs of the City and present it to Council for determination of status and disposition procedures. ~~The disposition procedures include time and date of sale, type of sale, minimum price if any and terms.~~
2. *The North Pole City Council may establish minimum bids for any item to be disposed of.*
3. The ~~City Clerk~~ *auction contractor shall notify the City of any auction including City assets* and advertise the sale in a newspaper of general circulation in the City at least fifteen days in advance of the date of the sale and post in at least three public places in the City.
4. The administration shall present to Council a list of all items sold and the proceeds from the sale at the regularly scheduled meeting following the sale *and remove any item from the City asset management list*.
5. The City Council may determine if it is in the best interest of the City to donate City property to other parties. Donation of City property shall be made by ordinance setting forth the items or real property, the terms and the party accepting the donation. (Ord. 94-7 § 2, 1994; Ord. 84-3 § 2-13, 1984)

Section 3. **Effective Date**. This ordinance shall be effective at 5:00 pm on the first City business day following its adoption.

PASSED AND APPROVED by a duly constituted quorum of the North Pole City Council this 1st day of June, 2015.

_____
Bryce J. Ward, Mayor

ATTEST:

_____
Kathryn M. Weber, MMC
North Pole City Clerk

PASSED/FAILED
Yes:
No:
Absent:

125 Snowman Ln
North Pole, Alaska
99705
907-888-4444
907-488-8584

City of North Pole
Office of the Mayor

Memo

To: North Pole City Council

From: Mayor Ward

cc:

Date: May 12, 2015

Re: Sale of City Assets Ordinance

Councilmembers,

In an effort to increase efficiency and receive more value for our surplus items I am introducing an ordinance to change our code in regards to the sale of our surplus assets. This ordinance is designed to allow the City to retain the services of an auction house to sell our surplus assets through a competitive quote process.

The "Request for Quote" (RFQ) was written with influence from the University of Alaska Fairbanks procurement office. The University of Alaska Fairbanks has found this process to be quite beneficial and easy to use.

The change in the code would allow us to bring our surplus items to an auction house after the council has approved them for sale. At that time the council may also establish a minimum bid for any item. The changes in code would apply to all departments and all surplus items would be sold through the auction house. A report of the sale price of each item will be presented to the council at the next council meeting following the auction date.

Sponsored by: Mayor Bryce Ward
Introduced and Adopted: May 18, 2015

CITY OF NORTH POLE

RESOLUTION 15-11

A RESOLUTION SUPPORTING THE PURCHASE OF PENTEX CORPORATION AS A CRITICAL STEP TO THE TIMELY ADVANCEMENT OF THE INTERIOR ENERGY PROJECT

WHEREAS, Alaska Industrial Development and Export Authority ("the Authority") proposes to purchase in the amount in excess of $53,000,000 to provide the funds to and acquire Pentex Corporation and assets to advance the Interior Energy Project, (IEP), for the development, acquisition, and operation of various facilities that supply natural gas from the Cook Inlet area to residents of the Fairbanks North Star Borough and other existing supply contracts (the "Project"); and

WHEREAS, under the Alaska Industrial Development and Export Authority Act, the Authority must solicit the review and advice of the local governing body; and

WHEREAS, it is appropriate and desirable to adopt this resolution supporting this Project:

NOW THEREFORE BE IT RESOLVED, that the North Pole City Council supports the Alaska Industrial Development and Export Authority (AIDEA) in the development and operation of the Project within and for the economic benefit of the City of North Pole and Fairbanks North Star Borough residents.

PASSED AND APPROVED by a duly constituted quorum of the North Pole City Council this 18th day of May, 2015.

_____
Bryce J. Ward, Mayor

ATTEST:

_____
Kathryn M. Weber, MMC
North Pole City Clerk

PASSED/FAILED
Yes:
No:
Absent

Interior Energy Project

IEP: GOALS UNDER SB23

- **Supply natural gas to Interior Alaska:**
  - At the lowest cost possible
  - As many Alaska customers as possible
  - As soon as possible
- **IEP investments compliment eventual sources of gas supply from a natural gas pipe line**
- **Lower PM2.5 in nonattainment areas of Interior**

- **Achieving the Goals leads to:**
  - Clean Air + ~$200 million annually in fuel savings

LEGISLATIVE ACTIONS

Interior Energy Project

- **HB105 – the IEP portion of this bill**
  - Expanded the geographic flexibility for the use of AIDEA financing tools to allow for options other than the North Slope
  - Expanded the options allowed for use of the financing tools to include propane and small diameter gas lines
  - Provided intent language that the financing tools only be used for the advancement of IEP goals and that AIDEA use an open and competitive process to select its private partner(s)
    - Set restrictions on AIDEA ability to enter into gas contracts and hold interests in gas leases or reserves
    - Required AIDEA Board approval, by resolution, of an IEP plan prior to further use of the financing tools authorized in SB23
    - Provided for reporting requirements to the Legislature

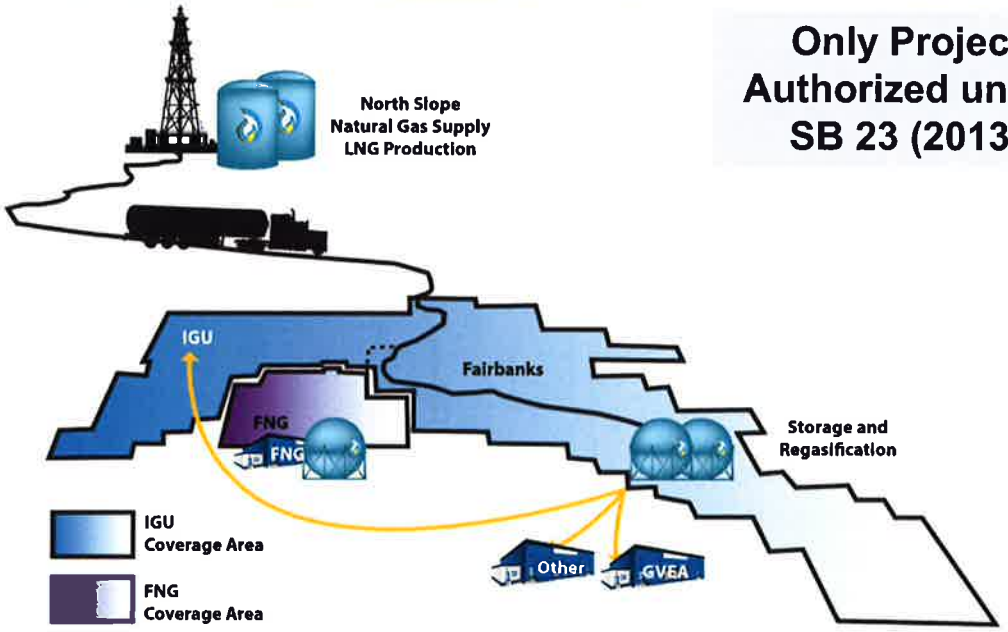
LEGISLATIVE RESULTS

Interior Energy Project

- Considerable Review and Questioning by Legislators
- Approach was to respond as completely and fully as possible to all questions and concerns.
- Time consuming and, on occasion, frustrating. (being held to the end)
- In the end – the bill resulting provides AIDEA the tools to advance the IEP and assurance to the legislature that due consideration was given to the concerns raised
- HB105
  - Passed the House 37-2
  - Passed the Senate 20-0
  - Concurrence by the House 38-0-2
- Capital Reappropriation – Included in final capital budget

RECAP - NORTH SLOPE PROJECT MAP

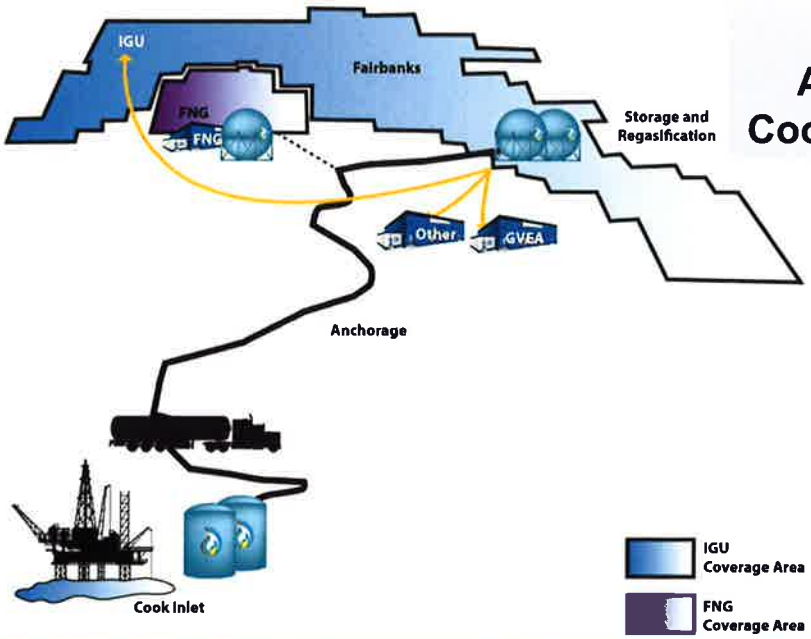
Interior Energy Project



Only Project Authorized under SB 23 (2013)

COOK INLET PROJECT MAP

Interior Energy Project



HB 105 Authorizes a Cook Inlet Project

NEXT STEPS

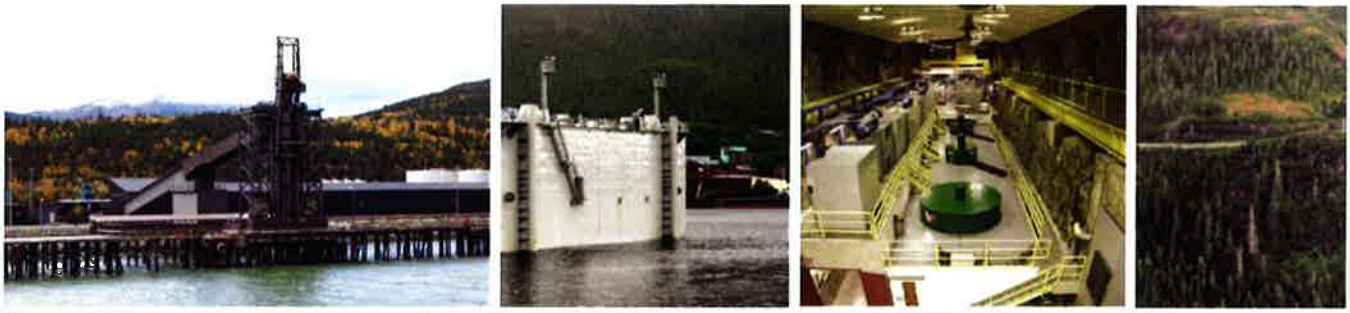
Interior Energy Project

- Conclude Due Diligence on Pentex, including input from the Community
- Issue the RFP for private partners as discussed with the Board at the March meeting. Timeline is
  - Pre-solicitation meetings with potential vendors 5/18-5/19.
  - Issue the solicitation after 5/20– with a 30 day response timeline.
  - Based on proposal evaluations, select 2-4 private parties enter into negotiations
  - Status report to AIDEA Board at June meeting
  - Bring recommendation to AIDEA Board for selected partner July/August 2015
- DCCED/DNR/DOR/AIDEA to issue solicitation for gas supply
  - Expression of interest to gas supply companies working in Cook Inlet.
  - Negotiate directly with suppliers on behalf of Interior Utilities
  - Timeline on this is not totally within AIDEA control, but expect it will parallel, but lag slightly behind the RFP timeline.
  - Full report at June meeting; with updates to Board as the solicitation process proceeds
- Transportation; Storage/Regas; and Distribution optimization
- Pending Pentex Acquisition – Begin efforts on LDC consolidation and financing
- Distribution build-out Summer 2015 – FNG ~30mi; IGU ~70mi.

SUMMARY

Interior Energy Project

- **Financing tools authorized by Legislature**
  - **~$45 million capital appropriation** from 57
  - **$72.2 million in SB23 SETS financing**
  - **$150 million in AIDEA bonds**
- **Competitive solicitations for LNG capacity and gas supply to be issued in mid-May, finalists in June/July**
- **Private Partner Selection in July/August**



Alaska Industrial Development and Export Authority

Draft Financial Plan

Pentex Alaska Natural Gas Company, LLC Acquisition

May 12, 2015 – Town Hall Meeting

AIDEA

Project Overview

- Strategic acquisition of Pentex, promoting an integrated natural gas distribution system in FNSB
- Benefits all Interior residents & businesses
- Plan for transition to "Local Control Entity" within 2 years.
- Immediate rate reductions - ~14% - and progress toward Interior Energy Project goals
- Long term lower capital & operating costs, enabling more economic & rapid system expansion

Common Questions

- Why is AIDEA buying a private company?
- Is the amount negotiated a fair deal?
- Why not just buy it with grant money?
- Who will run it and what will prevent it from becoming a state/community liability?
- What about propane, pipelines, North Slope, AKRR, and other options?
- How does the deal with Hilcorp plant purchase work – and won't the LNG supply contract that goes with it prevent the IEP from achieving its $15/mcf goal?
- How does spending money on existing system advance the provision of low cost gas to the rest of the community?

Business Case & Financing

- $54 million investment ($52.5mm + working capital
- Expected sale of Titan/AET for $15.15mm, Q3 2015
- Continued operation by current team under AIDEA ownership while negotiating transition to Local Control Entity by end 2016
- Structure "exit" through SETS, State Appropriation, bonds
- $2.91mm estimated AIDEA return (5.06%)

Structure

- 100% of membership interests of Pentex Alaska Natural Gas Company, LLC ("Pentex")
  - Fairbanks Natural Gas Company, LLC ("FNG")
  - Titan Alaska LNG, LLC ("Titan")
  - Arctic Energy Transportation, LLC ("AET")
  - Polar LNG, LLC "(Polar")
  - Cassini LNG Storage, LLC ("Cassini")
- Sellers
  - Harrington Partners, L.P. (85%), Pentex Alaska Natural Gas Company (10%), Dan Britton (5%)

Structure (cont.)

- Harvest Alaska Contracts
  - Sale of Titan and AET assets to Harvest Alaska for $15.15 million
  - Harvest Alaska 10-year LNG supply agreement to FNG
    - $15/Mcf, adjusted
    - Price opener after year 5
  - AIDEA can negotiate re cost, supply with Harvest after PSA signed
  - Expected to close by 9/30/15
  - Subject to RCA + AG review/approval

Prior to Nov 2014	Nov 2014	Jan 2015 – July 2015	July 2015 - Sept 2015	After Sept 2015
Pentex owns FNG & Titan	**Harvest/Pentex Agreements**	**AIDEA/Pentex Impact**	**AG Review of Titan Sale**	
Existing gas purchase agreement between FNG and Hilcorp	1) Titan plant sale to Harvest -requested AG approval -pending execution of LNG sale agreement	1) Titan plant sale to Harvest -AIDEA deal will not impact sale -AG approval requirement remains	A) AG approves Titan sale	1) Harvest owns and operates Titan 2) FNG purchases LNG from Harvest
	2) Harvest LNG sale agreement -pending RCA approval -pending execution of Titan sale agreement	2) Harvest LNG sale agreement -RCA approval no longer required -pending execution of Titan sale agreement -AIDEA able to renegotiate LNG sales terms	B) AG rejects Titan sale	1) Pentex(AIDEA) owns and operates Titan 2) Titan purchases gas from Hilcorp

Project Funding

11.42 MCF Enstar

Town Gas

- Economic Development Account (AS 44.88.172)

$000	Jul-15	Sep-15	Q1 '17
AIDEA Pentex Acquisition Cash Flows			
Initial Purchase	$(54.00)	$ -	$ -
Titan / AET Sale	$ -	$ 15.15	$ -
AIDEA return on investment	$ -	$ -	$ 2.91
AIDEA FNG sale to Local Control Entity	$ -	$ -	$38.85
AIDEA Investment Balance	$(54.00)	$(38.85)	$
Estimated return rate (as of 4/21/15)	*5.06%*		

3,616,000

166,000

2,004,000

40,354,000 41,620,000

6.00 Distribution

4.00 Trucking?

Project / Investment Schedule

MILESTONE	APPROXIMATE DATE(S)
AIDEA Board Approval	May 2015
Signed Purchase Agreement	5/31/15
RCA change of control approval	June / July 2015
Closing of Pentex purchase	7/31/15
Closing of Titan / AET sale to Harvest	9/30/15
Agreement for FNSB utility consolidation completed	12/31/15
Consolidated utility financing structured	6/30/16
Consolidated utility implementation completed / AIDEA sale of Pentex	12/31/16

Business Plan

- Acquire Pentex
- Sell Titan / AET
- Operate (as-is) FNG
- Eliminate "corporate" costs:
  - Taxes
  - Return on equity
  - Investor management fees & overhead
  - Regulatory affairs expenses
- Reduce rates to existing rate-payers

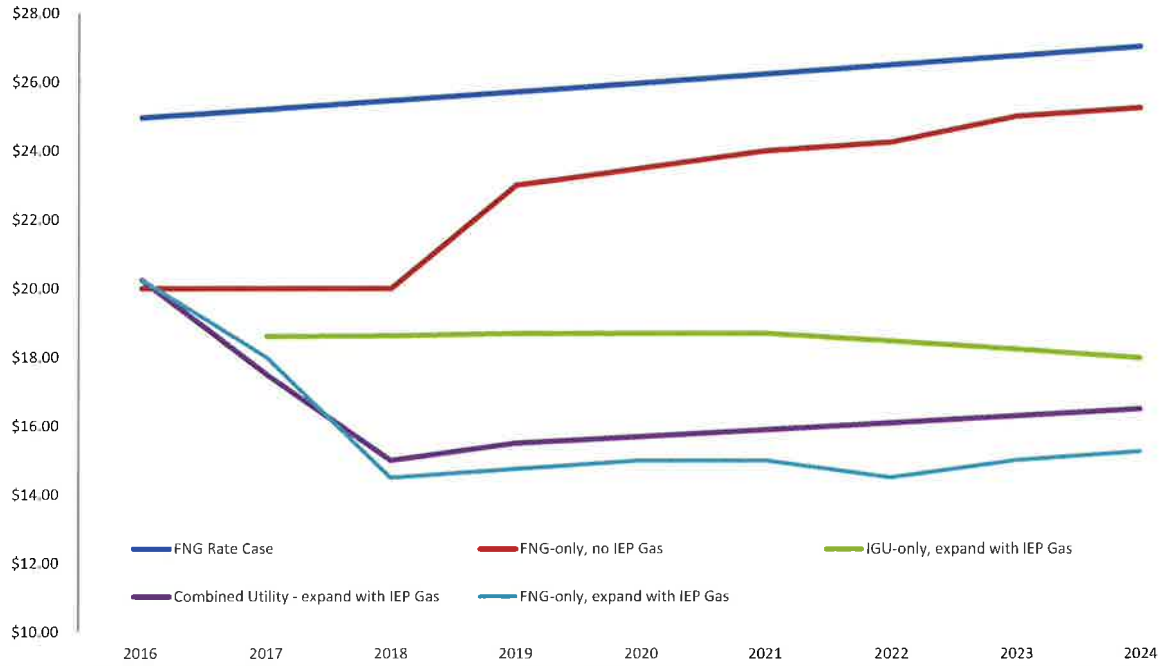
Business Plan

- Plan for integrated/consolidated system
  - Operations
  - Capital
- Implement long-term FNSB gas utility financing
- Transition to LCE control and operation

Utility Consolidation Savings

- Operational savings estimated $1.5 million to $2.0 million annually
- Reductions in equity return, taxes, cost of capital, and non-operational expenses
- Reductions in capital expenditures for combined system estimated between $5 million and $11 million
- Storage optimization will lead to efficiencies in supply chain economics between liquefaction, transportation, and storage

System Modeled Costs "At the Meter" Under 5 Scenarios



Valuation Due Diligence

- The Brattle Group
- Experts in utility economics and valuation
- Comparables
  - Traded
  - Transactions
- Valuation ratios
  - EV / BV (Enterprise Value / Book Value)
  - EV / EBITDA (Enterprise Value / Earnings Before Income Taxes and Depreciation Allowance)

http://www.aidea.org/Portals/0/PDF%20Files/Pentex-BrattleGroupValuationReport.pdf

Valuation Due Diligence

Pentex Compared to the Brattle Group Market Valuation Ratios	EV/BV	EV/EBITDA	Converted to $ for Comparison to PENTEX Price (in $millions) Based on EV/BV (2014)	Based on EV/EBITDA (5 yr. avg.)	Comparable Pentex Price Based on Market Value Debt
Based on mkt. value debt	1.49	-			
Based on 5-year average		13.79			
Brattle Group Trading Multiples					
Max	1.75	18.59	$ 71.4	$ 90.6	
Median	1.42	11.29	$ 57.9	$ 55.0	$ 57.78
Min	1.19	7.41	$ 48.6	$ 36.1	
Brattle Group Transaction Multiples					
Max	2.33	11.82	$ 95.1	$ 57.6	$ 57.78
Mean	1.54	9.19	$ 62.8	$ 44.8	
Median	1.47	9.57	$ 60.0	$ 46.6	
Min	1.01	6.17	$ 41.2	$ 30.1	

FNG-only Compared to The Brattle Group Market Valuation Ratios	EV/BV	EV/EBITDA	Converted to $ for Comparison to FNG Price (in $millions) Based on EV/BV (2014)	Based on EV/EBITDA (3 yr. avg.)	Comparable FNG Price Based on Market Value Debt
Based on mkt. value debt	1.44	-			
Based on 3-year average		10.36			
Brattle Group Trading Multiples					
Max	1.71	19.08	$ 54.4	$ 73.5	
Median	1.44	9.95	$ 45.8	$ 38.3	$ 42.63
Min	1.20	7.80	$ 38.2	$ 30.0	
Brattle Group Transaction Multiples					
Max	2.33	11.82	$ 74.1	$ 45.5	
2014 transactions only Median	1.92	11.49	$ 61.1	$ 44.2	
	1.47	9.57	$ 46.8	$ 36.9	$ 42.63
Min	1.01	6.17	$ 32.1	$ 23.8	

Common Questions

- Why is AIDEA buying a private company?
- Is the amount negotiated a fair deal?
- Why not just buy it with grant money?
- Who will run it and what will prevent it from becoming a state/community liability?
- What about propane, pipelines, North Slope, AKRR, and other options?
- How does the deal with Hilcorp plant purchase work – and won't the LNG supply contract that goes with it prevent the IEP from achieving its $15/mcf goal?
- How does spending money on existing system advance the provision of low cost gas to the rest of the community?

Alaska Industrial Development and Export Authority

Questions?

Interior Energy Project

APRIL 30, 2015
IEP UPDATE
PRESENTATION TO AIDEA BOARD

AK LEGISLATIVE ACTIONS

Interior Energy Project

- **Activity in the recently concluded legislative session focused on**

- **HB105 – the IEP portion of this bill**
  - Expanded the geographic flexibility for the use of AIDEA financing tools to allow for options other than the North Slope
  - Expanded the options allowed for use of the financing tools to include propane and small diameter gas lines
  - Provided intent language that the financing tools only be used for the advancement of IEP goals and that AIDEA use an open and competitive process to select its private partner(s)
  - Set restrictions on AIDEA ability to enter into gas contracts and hold interests in gas leases or reserves
  - Required AIDEA Board approval, by resolution, of an IEP plan prior to further use of the financing tools authorized in SB23
  - Provided for reporting requirements to the Legislature

ADDITIONAL ACTIONS

Interior Energy Project

- Updated Bond and Loan authorization amounts to keep up with inflation; to match the cost of projects being submitted for considerations; and to bring consistency between program authorizations

- Removed authorization for a number of "stale" bond authorizations that were on AIDEA's books

LEGISLATIVE SESSION

Interior Energy Project

- Considerable Review and Questioning by Legislators
- Approach was to respond as completely and fully as possible to all questions and concerns
- Time consuming and, on occasion, frustrating (particularly being held to the end)
- In the end – the bill passed provides AIDEA the tools to advance the IEP and assurance to the legislature that due consideration was given to the concerns raised
- Passed the House 37-2
- Passed the Senate 20-0
- Concurrence by the House 38-0-2

2013 LEGISLATIVE APPROPRIATION

Interior Energy Project

- Capital budget included removal of North Slope restriction on use of 2013 appropriation.

- Pending transmittal to and signature from the Governor; AIDEA has been granted the authority to proceed on the IEP as outlined in February and March – soliciting alternatives for LNG and supply within the State.

FINANCING TOOLS AVAILABLE TO IEP

Interior Energy Project

- ~$45 million capital appropriation
- $72.2 million in SB23 SETS financing
- $150 million in AIDEA bonds

SUMMARY

Interior Energy Project

- Financing tools authorized by Legislature
- Competitive solicitations for LNG capacity and gas supply to be issued in mid-May, finalists in June/July
- Private Partner Selection in July/August
- Distribution build-out continues in Fairbanks and North Pole this summer

PENTEX PRESENTATION




Alaska Industrial Development and Export Authority

Draft Financial Plan

Pentex Alaska Natural Gas Company, LLC Acquisition

April 30, 2015

Project Overview

- Strategic acquisition of Pentex, promoting an integrated natural gas distribution system in FNSB
- Benefits all Interior residents & businesses
- Plan for transition to "Local Control Entity" within 2 years.
- Immediate rate reductions - ~14% - and progress toward Interior Energy Project goals
- Long term lower capital & operating costs, enabling more economic & rapid system expansion

Business Case & Financing

- $54 million investment ($52.5mm + working capital
- Expected sale of Titan/AET for $15.15mm, Q3 2015
- Continued operation by current team under AIDEA ownership while negotiating transition to Local Control Entity by end 2016
- Structure “exit” through SETS, State Appropriation, bonds
- $2.91mm estimated AIDEA return (5.06%)

Structure

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  - Polar LNG, LLC "(Polar")
  - Cassini LNG Storage, LLC ("Cassini")
- Sellers
  - Harrington Partners, L.P. (85%), Pentex Alaska Natural Gas Company (10%), Dan Britton (5%)

Structure (cont.)

- $2.675mm deposit
- Converts to "Holdback Amount" closing
- Remainder of purchase price paid at closing
- Planned closing by 7/31/15
- Typical reps & warranties
- Pre-closing business
  - Ordinary business
  - AIDEA to seek expedited RCA approvals
  - AIDEA approval of certain changes to disclosures

Structure (cont.)

- Harvest Alaska Contracts
  - Sale of Titan and AET assets to Harvest Alaska for $15.15 million
  - Harvest Alaska 10-year LNG supply agreement to FNG
    - $15/Mcf, adjusted
    - Price opener after year 5
  - AIDEA can negotiate re cost, supply with Harvest after PSA signed
  - Expected to close by 9/30/15
  - Subject to RCA + AG review/approval

Structure (cont.)

- Conditions precedent
  - Standard conditions +
  - RCA approval of FNG change of control
  - Satisfactory results of environmental assessments
  - No unapproved changes
- Sellers Indemnity Obligations
  - Recovery any losses due to:
    - breach, pre-closing environmental liability, tax liability or pre-closing liability under Harvest agreements

Structure (cont.)

- AIDEA recovery from:
  - Holdback Amount (for 1 year)
  - Indemnity from Harrington Partners (for 3 years)
    - Capped at $12mm
  - Certain matters for the time allowed under the statute of limitations
- AIDEA indemnity
  - 3 years for breach
  - subject to appropriation
  - capped at $12mm

Termination

- Conditions precedent not satisfied by 7/31/15
- AIDEA
  - Material adverse effect
  - Amended disclosures
  - Environmental assessment satisfaction
- Deposit
  - Retained by Sellers if AIDEA breaches
  - Returned to AIDEA otherwise

Project Funding

- Economic Development Account (AS 44.88.172)

$000	Jul-15	Sep-15	Q1 '17
AIDEA Pentex Acquisition Cash Flows			
Initial Purchase	$(54.00)	$ -	$ -
Titan / AET Sale	$ -	$ 15.15	$ -
AIDEA return on investment	$ -	$ -	$ 2.91
AIDEA FNG sale to Local Control Entity	$ -	$ -	$38.85
AIDEA Investment Balance	$(54.00)	$(38.85)	$ -
Estimated return rate (as of 4/21/15)	*5.06%*		

Project / Investment Schedule

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Business Plan

- Acquire Pentex
- Sell Titan / AET
- Operate (as-is) FNG
- Eliminate "corporate" costs:
  - Taxes
  - Return on equity
  - Investor management fees & overhead
  - Regulatory affairs expenses
- Reduce rates to existing rate-payers

Business Plan

- Plan for integrated/consolidated system
  - Operations
  - Capital
- Implement long-term FNSB gas utility financing
- Transition to LCE control and operation

Projected Financials - FNG

FNG Rates

	Pentex / FNG		AIDEA then LCE	
	Current	**Rate Case**	**2016**	**2020**
Rate per Mcf	$ 23.35	$ 24.96	$ 20.00	$ 16.80
$ Reduction from Current			$ 3.35	$ 6.55
% Reduction from Current			**14.3%**	**28.1%**
$ Reduction from Rate Case			$ 4.96	$ 8.16
% Reduction from Rate Case			**19.9%**	**32.7%**

FNG CAPITAL FINANCING

SOURCES OF FUNDS (000)		
Accumulated Revenues	$	3,000
Bond Financing		68,848
SETS Financing		30,000
State Appropriation		-
Total - Sources	**$**	**101,848**
USES OF FUNDS (000)		
FNG System Acquisition	$	41,848
Storage		30,000
Distribution System		30,000
Total - Uses	**$**	**101,848**

Transition to LCE

- AIDEA and FNSB parties plan for integrated / consolidated natural gas utility
  - Capital plans
  - Operating utility
- AIDEA assists LCE(s) with financing structure
- LCE buys (or leases) FNG from AIDEA

Utility Consolidation Savings

	AIDEA/FNG Operations FTE	AIDEA/FNG Operations Cost	IGU Operations* Cost	Total Separate Cost Cost	Combined Operations FTE	Combined Operations Cost	Total Savings
Personnel Expenses	12	$1,458,000			20	$2,170,125	
Other Operating Exp.		922,000				1,372,329	
Total Operating Expenses		$2,380,000	$2,959,970	$5,339,970		$3,542,454	$1,797,516

*Breakdown for IGU operation expenses not available.

Utility Consolidation Savings

Consolidated Utility Rates

	Pentex / FNG		AIDEA then LCE	
	Current	**Rate Case**	**2016**	**2020**
Rate per Mcf	$ 23.35	$ 24.96	$ 20.00	$ 15.89
$ Reduction from Current			$ 3.35	$ 7.46
% Reduction from Current			**14.3%**	**31.9%**
$ Reduction from Rate Case			$ 4.96	$ 9.07
% Reduction from Rate Case			**19.9%**	**36.3%**

CONSOLIDATED SYSTEM CAPITAL FINANCING		
SOURCES OF FUNDS (000)		
Accumulated Revenues	$	4,300
Bond Financing		131,058
SETS Financing		72,778
State Appropriation		15,000
Total - Sources	**$**	**223,136**
USES OF FUNDS (000)		
FNG System Acquisition	$	41,848
Storage		50,000
FNG Distribution System		30,000
IGU Distribution System		101,288
Total - Uses	**$**	**223,136**

Economic Development & AIDEA Suitability

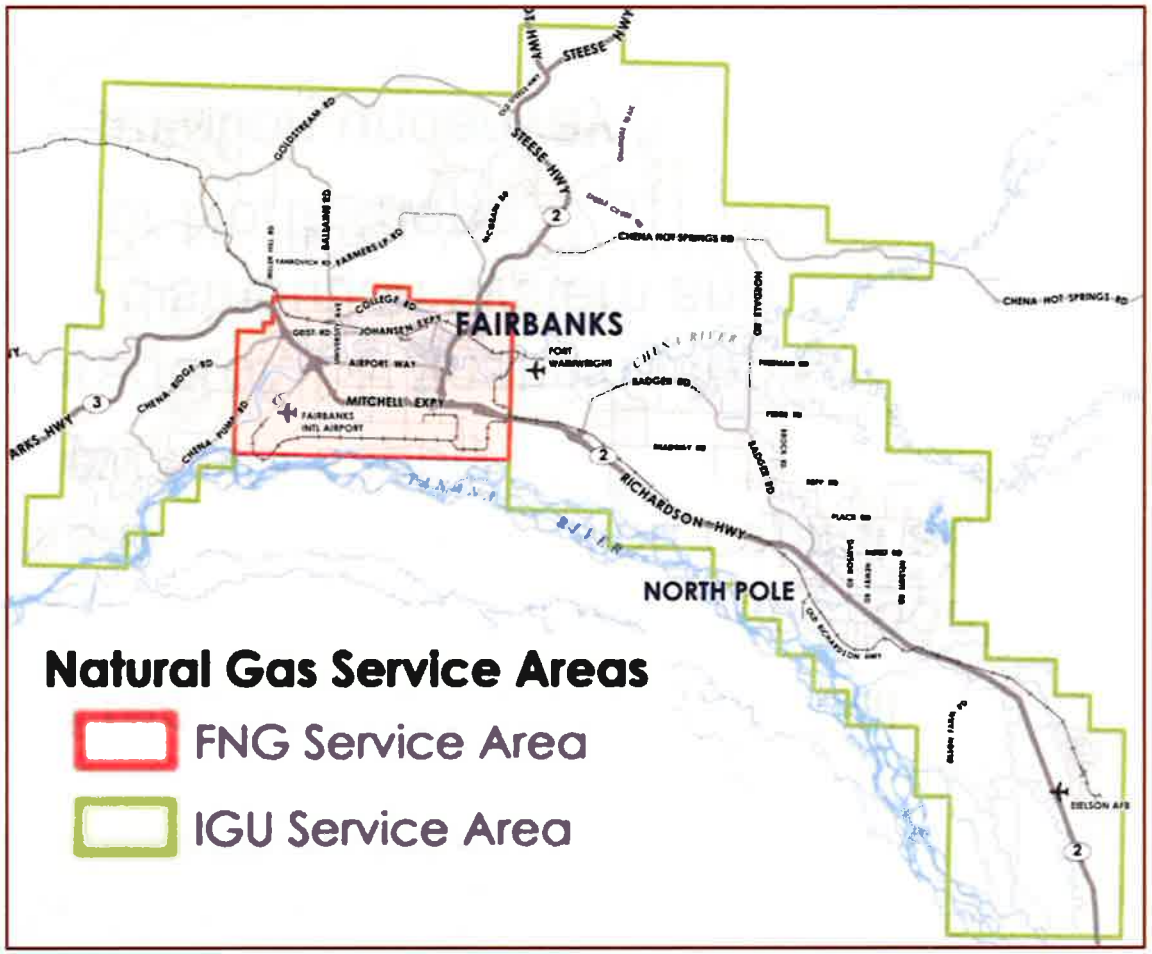
- Provides the opportunity for immediate and long term rate relief for FNSB customers
  - AIDEA's cost of capital is lower than Pentex's
  - An AIDEA (or local publicly owned) utility is not subject to Federal income tax
  - Certain non-cash expenses (e.g. depreciation) can be eliminated from the rate structure
- AIDEA's preliminary financial plan indicates that FNG rates could be reduced
  - 2015 rates could be reduced by ~8% from current rates or ~14% from proposed rates in pending rate case
  - Estimated FNG 2019 rates could be 15-20% lower

Support of IEP Goals

- Increases likelihood of reaching IEP's $15/Mcf goal
- Even with first .95 Bcf at the higher Harvest price, goal can be achieved with savings on expansion capital and operating costs and new LNG supply
- Ensures effective leverage of IEP financing tools – support both the FNSB distribution system and expanded supply from Cook Inlet or North Slope
- Local government consultation underway

Economic Development & AIDEA Suitability

- Reduce construction cost
- Reduce O&M and overhead costs
- Restart FNG's efforts to build storage
- Unified effort to purchase LNG
- Faster expansion of service to customers through coordinated build out of system



Due Diligence Review of the Proposed Purchase of Pentex

- Full due diligence has been conducted and will be completed before the financing is approved
  - Full financial, technical, and legal review
  - Ensure proposed purchase price reflective of fair market value
  - Examine the existing agreements with Hilcorp
  - Complete finance plan that shows AIDEA will recover its investment with rate of return under AS: 44.88.172
  - Ensure purchase will advances the Interior Energy Project goals and promotes economic development
  - Solicit review and advice of local governments

Valuation Due Diligence

- The Brattle Group
- Experts in utility economics and valuation
- Comparables
  - Traded
  - Transactions
- Valuation ratios
  - EV / BV
  - EV / EBITDA

Risks & Risk Mitigation

Risks	Issues	Mitigation
Environmental	• Limited environmental risk • Known spill @ Port MacKenzie	• Phase I / Phase II assessments • Conditions precedent • Indemnification
Regulatory	• RCA approval of FNG change of control • RCA and AG approval of Harvest Agreements	• Conditions precedent • Contingency plans re gas supply / IES
Economic / Financial	• Ordinary business risks • Political pressure on rates . Financials • Oil prices	• AIDEA-planned reduction in costs improves on already cash-flow-positive business • Financial plan restrictions • Base-case operating plan
LNG / Natural Gas Supply	• Harvest agreements dis-approved	• IES alternative sources • Current contract thru March '18

Next Steps

- Final technical and environmental due diligence
- Meeting with community groups – with input back to board
- Finalize financial plan
- Board tours of Pentex facilities
- Present to Board for decision in May




Alaska Industrial Development and Export Authority

Questions?

HB105 FINAL SUMMARY

HB105

HB105 PASSED HOUSE 37-2
SENATE 20-0
CONCURRENCE 38-0, 2 EX

ORIG HOUSE BILL PROVIDED FOR

- ALLOWING AIDEA THE FLEXIBILITY TO CONSIDER OPTIONS OTHER THAN THE NORTH SLOPE OF ALASKA AND TRUCKED LNG (PROPANE AND SMALL DIAMETER PIPE);
- INTENT AND STATUTE LANGUAGE ENSURING THAT THE PROJECT SELECTED HAS DIRECTION AND OVERSIGHT SUFFICIENT TO MEET THE INTENT AND WILL OF THE LEGISLATURE;
- ADJUSTING AIDEA STATUTORY BONDING AND LOAN LIMITS TO ADJUST FOR INFLATION, THE COST OF PROJECTS, AND TO PROVIDE CONSISTENCY IN LIMITS BETWEEN PROGRAMS;
- REPEALING/REDUCING PAST BOND AUTHORIZATIONS ; AND
- ADDING NEW BOND/LOAN AUTHORIZATIONS

THE SENATE CS ACCOMPLISHES 4 OF THOSE 5 ITEMS.

- IT ACCEPTS THE FLEXIBILITY AS MODIFIED BY THE HOUSE;
- IT INCLUDES MODIFIED INTENT LANGUAGE AND STATUTORY "SIDEBOARDS" ADDED BY THE HOUSE;
- IT ADJUSTS AIDEA BOND/LOAN LIMITATIONS USING THE LANGUAGE APPROVED BY THE HOUSE;
- IT ACCEPTS THE REPEALS AND REDUCTIONS OF PAST BOND AUTHORITY AS APPROVED BY THE HOUSE;
- IT DOES NOT, HOWEVER, CONTAIN THE BOND/LOAN AUTHORIZATIONS ADDED BY HOUSE FINANCE

SENATE CS FOR CS FOR HOUSE BILL NO. 105(FIN) am S

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-NINTH LEGISLATURE - FIRST SESSION

BY THE SENATE FINANCE COMMITTEE

Amended: 4/26/15
Offered: 4/18/15

Sponsor(s): HOUSE RULES COMMITTEE BY REQUEST OF THE GOVERNOR

A BILL

FOR AN ACT ENTITLED

"An Act relating to the programs and bonds of the Alaska Industrial Development and Export Authority; relating to the Alaska Industrial Development and Export Authority sustainable energy transmission and supply development fund; repealing bond authorizations granted to the Alaska Industrial Development and Export Authority; amending the definition of 'qualified energy development'; relating to the financing authorization through the Alaska Industrial Development and Export Authority of a liquefied natural gas production plant and natural gas energy projects and distribution systems in the state; requiring the Alaska Industrial Development and Export Authority to deliver to the legislature reports relating to the Interior energy project; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section

to read:

LEGISLATIVE INTENT. It is the intent of the legislature that

(1) the increased geographic flexibility provided in sec. 9 of this Act solely advance the Interior energy project, a project first authorized by the legislature in ch. 26, SLA 2013. The goals of the Interior energy project are to bring affordable natural gas to as many residents of Interior Alaska communities as possible as quickly as possible. This Act does not expand the scope of the project nor authorize any other activity beyond accomplishing those stated goals;

(2) the Alaska Industrial Development and Export Authority use an open and competitive solicitation process to select private entities to participate in developing the liquefied natural gas production plant capacity and affiliated infrastructure described in this Act.

*** Sec. 2.** AS 44.88.095(c) is amended to read:

(c) Before entering into a lease or other agreement under AS 44.88.090(e) regarding a project for which the authority agrees to issue bonds in an amount in excess of **$10,000,000** [$6,000,000], there must be filed with the authority a certified copy of a resolution of the governing body of the political subdivision of the state, if any, in which the project is to be located, consenting to the location of the project. The consent need only refer to the general nature of the project ultimately to be acquired **or financed**, as set out in a request of the proposed project applicant. Before entering into a lease or other agreement under AS 44.88.090(e) regarding a project, the authority shall find, on the basis of all information reasonably available to it, that

(1) the project and its development under this chapter will be economically advantageous to the state and the general public welfare and will contribute to the economic growth of the state;

(2) the project applicant is financially responsible;

(3) provision to meet increased demand **on** [UPON] public facilities that might result from the project is reasonably assured; and

(4) the project will provide, or retain, employment reasonably related to the amount of the financing by the authority, considering the amount of investment **for each** [PER] employee for comparable facilities and other relevant factors.

* **Sec. 3.** AS 44.88.095(g) is amended to read:

(g) The authority may issue bonds in an amount greater than **$25,000,000** [$10,000,000] to assist in the financing of a development project under AS 44.88.172 - 44.88.177 only if approved by **the legislature** [LAW], excluding refunding bonds. Refunding bonds may be issued without further approval by **the legislature** [LAW] in a principal amount sufficient to provide funds for the payment of all bonds to be refunded by them and, in addition, for the payment of all other amounts that the authority considers appropriate in connection with the refunding, including expenses incident to the redeeming, calling, retiring, or paying of the outstanding bonds, the funding of reserves, and the issuance of the refunding bonds.

* **Sec. 4.** AS 44.88.155(d) is amended to read:

(d) A loan participation purchased by the authority with assets of the enterprise development account or with proceeds of bonds secured by assets of the enterprise development account

(1) may not exceed **$25,000,000** [$20,000,000]; however, in the case of a loan participation for qualified energy development, the loan participation may exceed **$25,000,000** [$20,000,000] with legislative approval;

(2) may not be purchased unless

(A) the project applicant is not, or, if the applicant is not a single proprietorship, all members of the business enterprise or enterprises constituting the project applicant are not, in default on another loan made by the state or by a public corporation of the state; and

(B) at least 10 percent of the principal amount of the loan is retained by the loan originator, or the loan is for financing improvements in energy efficiency;

(3) may not be purchased if the loan to be purchased exceeds 75 percent of the appraised value of the collateral offered as security for the loan unless the amount of the loan in excess of this limit is federally insured or guaranteed or is insured by a qualified mortgage insurance company, except that the loan to be purchased under this paragraph may not exceed the total of loan proceeds used to refinance an existing debt plus the cost of new construction, expansion, or acquisition

unless the proceeds from the additional amounts of the loan to be purchased are restricted to uses approved by the authority to finance commercial activity in the state by a business enterprise;

(4) may not be purchased if the participation in the loan to be purchased is for a term longer than the following, except that a loan under (A) or (C) of this paragraph may not have a term longer than three-quarters of the authority's estimate of the life of the collateral offered as security for the loan:

(A) 40 years from the date the loan is made in the case of a loan participation for a project described in AS 44.88.900(11)(E);

(B) 50 years from the date the loan is made in the case of a loan participation for qualified energy development;

(C) 25 years from the date the loan is made in the case of a loan participation for other projects;

(5) may be made only if the participation in the loan to be purchased contains amortization provisions; the amortization provisions

(A) must be complete and satisfactory to the authority and require periodic payments by the borrower;

(B) may allow the loan originator to amortize the portion of the loan retained by the loan originator using a shorter amortization schedule than the amortization schedule for the portion of the loan held by the authority if

(i) in the authority's opinion, the project financed can support the increased debt service; and

(ii) the accelerated amortization schedule is required to induce the originator to make the loan;

(6) may be made only if the participation in the loan to be purchased is in the form and contains the terms and provisions with respect to insurance, repairs, alterations, payment of taxes and assessments, default reserves, delinquency charges, default remedies, acceleration of maturity, secondary liens, and other matters the authority prescribes; and

(7) may be made only if the participation in the loan to be purchased is secured as to repayment by a mortgage or other security instrument in the manner the

authority determines is feasible to assure timely repayment under the loan documents entered into with the borrower.

*** Sec. 5.** AS 44.88.170(a) is amended to read:

(a) **Except as provided in (c) of this section, nothing** [NOTHING] in this chapter prevents the inclusion in a lease or other agreement relating to a project of a provision granting the right to purchase the project, or to renew or extend the lease or agreement, upon the terms and conditions **that** [WHICH] may be provided for in the lease or agreement.

*** Sec. 6.** AS 44.88.170 is amended by adding a new subsection to read:

(c) The authority, without first obtaining legislative approval, may not enter into a gas supply contract with a natural gas producer to provide natural gas to Interior Alaska as a primary market unless the contract is for the benefit of a natural gas liquefaction or distribution utility that is owned by the authority or a subsidiary of the authority and the contract is for the natural gas producer to provide the utility, and only the utility, with a natural gas supply that the utility uses to serve customers in Interior Alaska.

*** Sec. 7.** AS 44.88.690(a) is amended to read:

(a) Unless the authority has obtained legislative approval by law, the authority may not use the Alaska Industrial Development and Export Authority sustainable energy transmission and supply development fund established in AS 44.88.660 to [MAKE]

(1) **make** a loan for more than one-third of the capital cost of qualified energy development; [OR]

(2) **make** a loan guarantee if the amount of the guarantee exceeds $20,000,000**; or**

(3) purchase or acquire gas reserves or a gas lease or become a working interest owner of a natural gas lease.

*** Sec. 8.** AS 44.88.900(16) is amended to read:

(16) "qualified energy development" means a development in the state that involves

(A) transmission, generation, conservation, storage, or

distribution of heat or electricity;

(B) liquefaction, regasification, distribution, storage, or use of natural gas**; in this subparagraph,**

(i) "distribution" does not include [EXCEPT] a natural gas pipeline project for transporting natural gas from the North Slope or Cook Inlet to market **unless the pipeline has a diameter of 12 inches or less and transports the natural gas to Interior Alaska**;

(ii) "natural gas" includes propane or propane and air mixture;

(C) distribution or storage of refined petroleum products;

*** Sec. 9.** The uncodified law of the State of Alaska enacted by sec. 11(a), ch. 26, SLA 2013, is amended to read:

(a) The Alaska Industrial Development and Export Authority, through the Alaska Industrial Development and Export Authority sustainable energy transmission and supply development fund (AS 44.88.660), may provide financing up to a principal amount of $275,000,000 for the development, construction, and installation of, and the start-up costs of operation and maintenance for, a liquefied natural gas production plant and system and affiliated infrastructure **in the state that will provide natural gas to Interior Alaska as a primary market** [ON THE NORTH SLOPE] and [A] natural gas **delivery and** distribution **systems** [SYSTEM] and affiliated infrastructure **that will provide natural gas to** [IN] Interior Alaska**, if the members of the Alaska Industrial Development and Export Authority approve by resolution a project plan. The project plan must**

(1) identify the source of the natural gas;

(2) include the estimated cost of the project; and

(3) include the estimated price of natural gas supplied to natural gas utilities in Interior Alaska before distribution to consumers.

*** Sec. 10.** The uncodified law of the State of Alaska enacted by sec. 11(g), ch. 26, SLA 2013, is amended by adding a new paragraph to read:

(3) "natural gas" includes

(A) propane; and

(B) propane and air mixture.

*** Sec. 11.** The uncodified law of the State of Alaska enacted by sec. 25, ch. 123, SLA 1990, as repealed and reenacted by sec. 1, ch. 3, FSSLA 1992, is amended to read:

Sec. 25. The Alaska Industrial Development and Export Authority may issue bonds to finance the acquisition, design, and construction of aircraft maintenance air cargo/air transport support facilities located at Anchorage International Airport, to be owned by the Authority. The principal amount of the bonds may not exceed **$28,000,000** [$85,000,000]. This section grants the legislative approval required by AS 44.88.095.

*** Sec. 12.** Section 2, ch. 27, SLA 1993, as amended by sec. 19, ch. 111, SLA 1996; sec. 3, ch. 27, SLA 1993; sec. 7, ch. 76, SLA 1995; sec. 24, ch. 111, SLA 1996; secs. 24(a) and 24(b), ch. 109, SLA 1998; sec. 24(d), ch. 109, SLA 1998, as amended by sec. 1, ch. 93, SLA 2006; and sec. 1, ch. 37, SLA 2004, are repealed.

*** Sec. 13.** The uncodified law of the State of Alaska is amended by adding a new section to read:

REPORT. (a) The Alaska Industrial Development and Export Authority shall submit quarterly to the legislature a written report on the Interior energy project. The authority shall deliver the report to the senate secretary and the chief clerk of the house of representatives and notify the legislature that the report is available. The report must include

(1) a description of project progress on all components;

(2) an update on the status of local distribution infrastructure buildout;

(3) to-date and anticipated conversions; and

(4) a financial accounting of funds expended and funds anticipated to be spent, including loans, grants, and bonds.

(b) If requested, the Alaska Industrial Development and Export Authority shall provide a project briefing on the Interior energy project to the Legislative Budget and Audit Committee.

*** Sec. 14.** Section 13 of this Act is repealed June 30, 2025.

*** Sec. 15.** This Act takes effect immediately under AS 01.10.070(c).

HB105 SECTIONAL ANALYSIS

CS House Bill 105 H/FIN version I
AIDEA: Bonds; Programs; Loans; LNG Project
Sectional Analysis

Section 1: adds intent language to clarify that the financial tools discussed in Section 10 are only for the benefit of the Interior Energy Project described in Section 10.

Section 2: increases the limit under AS 44.88.095(c) from $6 million to $10 million. AS 44.88.095(c) requires AIDEA to receive a certified copy of a resolution of the municipality or from the Regional Resource Advisory Council (in the Unorganized Borough) consenting to the location of a project if AIDEA is to issue bonds exceeding $6,000,000. AIDEA recommends that this cap be increased to $10,000,000 to better reflect the true costs of projects in 2015.

Section 3: increases the limit under AS 44.88.095(g) from $10 million to $25 million. AS 44.88.095(g) requires that AIDEA receive legislative approval to issue bonds in amounts over $10 million to finance a development project. The current bond limitations have lessened AIDEA's ability to utilize bonding as a tool in funding small to mid-size projects due to the time it takes to get authorization from the Legislature and to go through the community authorization process. Additionally, AIDEA is recommending the dollar amount of bond limitations be the same as the dollar amount limit on loan participations AS 44.88.155(d)(1) since loan participations may be funded through bond issuances.

Section 4: changes the loan participation limit under AS 44.88.155(d)(1) to $25 million (current limit - $20 million), and $25 million (current limit - $20 million) for a loan participation for a qualified energy project without the necessity of obtaining prior legislative approval. Increasing the limits would allow AIDEA to provide more of the financing for a large commercial project and a qualified energy project and provide better financing terms for those projects.

Section 5: adds an exception to AIDEA's ability to enter into projects that involve a lease.

Section 6: requires legislative approval before AIDEA may enter into a gas supply contract with a natural gas producer in order to supply natural gas to Interior utilities unless the gas contract is for a natural gas liquefaction plant or distribution system that is owned by the Authority or a subsidiary of the Authority.

Section 7: prohibits AIDEA from using the SETS fund to purchase natural gas reserves or a gas lease or a working interest owner of a natural gas lease.

Section 8: amends the definition of "qualified energy development" that qualifies for SETS financing to include consideration of propane and possible delivery of natural gas to Interior Alaska via pipeline no larger than 12 inches in diameter.

Section 9: refreshes a previous AIDEA bond authorization for a bulk commodity handling facility in Cook Inlet. The language requires the facility to be located at Point MacKenzie.

Section 10: changes the uncodified law [11(a), ch. 26, SLA 2013] that deals with the Interior Energy Project (IEP). Deletes the phrase "on the North Slope" and changes it to "in the state that will provide natural gas to Interior Alaska" so that natural gas can be sourced anywhere in the state. The section also clarifies that existing IEP financing can be used to support more than one natural gas distribution system in Interior Alaska. Requires the AIDEA Board to approve a project plan by resolution that includes the following items before SETS financing tools can continue to be used for the IEP.

1. An identified source of natural gas or propane
2. An estimated cost of the project
3. An estimated price for the resource delivered to Interior Alaska utilities

Sections 11: reduces a previous AIDEA bond authorization at the Anchorage International Airport from $85,000,000 to $28,000,000.

Section 12: repeals legislative bond authorizations (1994 through 2006) under 44.88.095(g) for potential projects that were determined not to be feasible or did not move forward for other reasons. The repeal of these authorizations would be beneficial to AIDEA's bond rating as AIDEA moves forward to utilize its bonding capacity for future projects. Authorizations to be repealed include:

1. $50,000,000 for construction of processing facility for seafood (ASI) - 1993 authorization.
2. $20,000,000 to assist in construction of Kodiak launch complex facilities 1995 authorization.
3. $80,000,000 to fund expansion at Red Dog port – 1998 authorization.
4. $30,000,000 to finance improvement at Nome port facility – 1998 authorization.
5. $25,000,000 to finance development at Hatcher Pass located in Matanuska-Susitna Borough – amended 2006 authorization.
6. $20,000,000 to finance construction of port facilities on Lynn Canal – 2004 authorization

Section 13: places a sunset of June 30, 2019 on the bulk commodity handling facility bonding authorization contained in Section 9.

Section 14: authorizes AIDEA to issue bonds to finance infrastructure and construction cost of the Sweetheart Lake hydroelectric project not to exceed $120,000,000 if a project financing application is submitted that meets the Authorities due diligence standards and investment criteria.

Section 15: authorizes AIDEA to issue bonds to finance Railbelt electric transmission upgrades between Hope substation and Portage, between Powerline Pass and Indian and to the Eklutna hydroelectric system. The total bonding authorization for the Hope/Portage and Powerline Pass/Indian improvements may not exceed $107,100,000. The total authorization for the Eklutna system may not exceed $20,400,000.

Section 16: authorizes the Alaska Energy Authority to enter into a loan from the Power Project Fund for up to $3,000,000 for the King Cove Waterfall Creek hydroelectric project if a project financing application is submitted that meets AEA's due diligence standards and investment criteria.

Section 17: requires AIDEA to submit a quarterly report on the status of the Interior Energy Project. Also instructs AIDEA to provide briefings to the Legislative Budget and Audit Committee when requested.

Section 18: places a sunset of June 30, 2019 on the Sweetheart Lake, Railbelt transmission and Waterfall Creek bond authorizations contained in Sections 14, 15 and 16.

Section 19: places a sunset of June 30, 2020 on the reporting requirements contained in Section 17.

Section 20: provides an immediate effective date on the legislation.

SUMMARY OF PENTEX PURCHASE AND SALE

Summary of
LLC Membership Purchase and Sale Agreement

Nature of Transaction:

- AIDEA is to buy 100% of the membership interests in Pentex Alaska Natural Gas Company, LLC, a Delaware limited liability company.

- The transaction is structured as a "stock purchase," not as an "asset purchase." AIDEA will acquire the entire Pentex *entity*. After Closing, Pentex and its Subsidiaries under AIDEA's ownership will continue to hold their existing assets and liabilities, including: (1) all gas purchase contracts; (2) the contract to sell the Titan LNG plant to Harvest Alaska; (3) service contracts under which FNG supplies gas to business and residential customers; and (4) any liabilities, such as an existing remediated spill site.

- There are three Sellers:

  (1) Harrington Partners, L.P., a Delaware limited partnership (85% owner);

  (2) Pentex Alaska Natural Gas Company, a Texas corporation (10% owner);

  (3) Daniel Britton (5% owner).

- Pentex's assets include anything that it owns or controls through its Subsidiaries, which together with Pentex constitute the Acquired Companies under the terms of the Purchase Agreement:

  (1) Fairbanks Natural Gas Company, LLC (Fairbanks gas distribution utility);

  (2) Titan Alaska LNG, LLC (LNG plant and trucking operator);

  (3) Arctic Energy Transportation, LLC (LNG fueling station operator);

  (4) Polar LNG, LLC (North Slope LNG plant developer – inactive);

  (5) Cassini LNG Storage, LLC (Fairbank storage facility developer – inactive).

Basic Purchase Terms:

- Purchase Price is $52.5 million *plus* Net Working Capital of the Acquired Companies as of the Closing Date.

- Net Working Capital is the amount by which current assets exceed current liabilities, but it cannot be more than $1.5 million.

- AIDEA is to pay the Deposit of $2,675,000 upon signing Purchase and Sale Agreement. The Deposit will be held by U.S. Bank as Escrow Agent.

- The Deposit converts into the Holdback Amount at Closing. AIDEA can make claims against the Holdback Amount for one year after Closing. At the one year anniversary, the remaining Holdback Amount is to be disbursed to Sellers.

- Remainder of the Purchase Price is to be paid in cash at the Closing, including an estimated amount for Net Working Capital. After Closing, the CPAs will "true up" the Net Working Capital to match finalized numbers.

- Closing is to occur as soon as all conditions are satisfied, but in no event later than July 31, 2015.

Sellers' Representations and Warranties

- Article 3 of the Agreement contains extensive representations and warranties Sellers are making for AIDEA's benefit. These representations and warranties are standard for this type of transaction.

- Sellers' representations and warranties extend to matters such as:

  (1) Sellers have clear title and the necessary authority to transfer ownership of Pentex to AIDEA;

  (2) The financial statements of the Acquired Companies provided to AIDEA are accurate;

  (3) The Acquired Companies have good title to all the real and personal property listed, and all the property is in good condition and repair and sufficient to continue the existing businesses;

  (4) Accounts receivable are valid and collectible, subject to the bad debt reserve on the accounting books;

  (5) The Acquired Companies have all the Permits and Licenses needed to conduct the businesses;

  (6) There are no legal proceedings against the Acquired Companies and no undisclosed liabilities;

  (7) The Acquired Companies are in compliance with all Environmental, Health and Safety Laws, with no releases of hazardous substances;

  (8) The Acquired Companies have no tax liabilities.

- Any exceptions to the Sellers' representations and warranties must be listed in the Disclosure Schedules to the Agreement.

- If Sellers breach any of the representations and warranties, AIDEA may seek to collect for losses out of the Holdback Amount, or AIDEA may seek indemnity under Article 9.

AIDEA's Representations and Warranties

- AIDEA is making a few representations and warranties to Sellers that are standard for this type of transaction, focused principally on AIDEA's authority to enter into and perform the Agreement.

- AIDEA is also representing that it has sufficient funds to complete the transaction and this is to be supported by a certificate from AIDEA's Chief Financial Officer.

Conduct of Business Prior to Closing

- The Acquired Companies are to operate their businesses in the ordinary course prior to Closing, preserving their assets and businesses.

- AIDEA is to seek expedited approval of the Regulatory Commission of Alaska (RCA) for the change in control of Fairbanks Natural Gas, and Sellers are to cooperate with AIDEA in doing so. The RCA must determine that AIDEA can operate an utility.

- Sellers are to give AIDEA access to the businesses and records of the Acquired Companies pending Closing. This includes allowing AIDEA to complete environmental assessments of real property at AIDEA's expense.

- Sellers are to update the Disclosure Schedules as necessary prior Closing, with AIDEA having the right to approve of any changes made (other than the addition of the second quarter 2015 financial reports).

Harvest Alaska Contracts

- AIDEA's purchase of Pentex will leave the two Harvest Alaska contracts in place:

  (1) The contract for Titan Alaska LNG to sell the Point Mackenzie LNG plant and the trucking equipment, and for Arctic Energy Transportation (AET) to sell the two LNG fueling facilities, for total of $15,150,000; and

  (2) Harvest Alaska's 10-year contract to supply LNG to Fairbanks Natural Gas for its existing customer base at $15 per Mcf delivered to Fairbanks, subject to price adjustments over time.

- The two Harvest Alaska contracts are subject to the approval of the RCA and require the consent of the Alaska Attorney General under antitrust laws. AIDEA is committed under

the Agreement to not challenge the validity the Harvest Alaska contracts or to delay their approvals.

- The Harvest Alaska contracts are expected to close after AIDEA's purchase of Pentex is completed. Pentex under AIDEA's ownership would therefore receive the purchase price to be paid for the Titan Alaska LNG and AET assets ($15,150,000).

- If the Harvest Alaska contracts close first, Sellers are entitled to disburse to themselves the purchase price paid for the Titan Alaska LNG and AET assets, and AIDEA's purchase price for Pentex will be reduced by the same amount.

- Pending the Closing, AIDEA is entitled to discuss contract amendments or new gas supply contracts with Harvest Alaska and Hilcorp so long as no amendment or new contract goes into effect until AIDEA's purchase of Pentex is completed.

Conditions to Closing

- Closing is subject to fulfillment of certain conditions, most of which are standard for this type of Agreement (e.g., no adverse events; no litigation against the transaction; no breach of any representation or warranty).

- Approval of the RCA for AIDEA assuming control over Fairbanks Natural Gas is a condition to Closing.

- AIDEA's obligation to close is conditioned on its satisfaction with the results of the environmental assessments it is conducting.

- AIDEA's obligation to close is conditioned on it approving any amendments to Sellers' Disclosure Schedules (other than the addition of the second quarter 2015 financial reports).

Sellers' Indemnity Obligations

- AIDEA can recover for any losses it incurs because of a breach in Sellers' obligations under the Agreement, a breach in Sellers' representations and warranties, a Pre-Closing Environmental Liability, a tax liability of Sellers, or a pre-Closing liability under the Harvest Alaska contracts.

- AIDEA can recover for such matters in various ways:

  (1) For one year after the Closing, AIDEA can proceed against the Holdback Amount;

  (2) For a period of three years after Closing, AIDEA can seek indemnity from Harrington Partners, L.P. for such matters; the indemnity obligation is "capped" at an aggregate amount of $12 million, except for fraud, intentional misconduct, or breach of Sellers' Fundamental Representations.

- For the period of time allowed by the statute of limitations, AIDEA can also seek to recover from Harrington Partners, L.P. for certain specified matters (a breach of the Fundamental Representations; government fines for Pre-Closing Environmental Liabilities; an indemnity obligation to Harvest Alaska related to the pre-Closing period).

AIDEA's Indemnity Obligations

- For a period of three years after Closing, AIDEA is obligated to indemnify Sellers from any losses they suffer as a result of AIDEA's breach of its obligations under the Agreement, or its representations and warranties, or its ownership of the Acquired Companies after Closing.

- AIDEA's indemnity obligation is subject to legislative appropriation, if necessary, to make payment from AIDEA funds, and AIDEA is committed to seek an appropriation if one is needed to satisfy an indemnity obligation.

- AIDEA's indemnity obligation is "capped" at an aggregate amount of $12 million, except for fraud or intentional misconduct.

Termination

- Either party can terminate the Agreement if the conditions to Closing are not satisfied by July 31, 2015.

- AIDEA can terminate the Agreement if there is Material Adverse Effect on the Acquired Companies that is not remedied.

- AIDEA can terminate the Agreement if Sellers amend the Disclosure Schedules and AIDEA does not approve the amendment.

- AIDEA can terminate the Agreement if AIDEA is not reasonably satisfied with the results of the environmental assessments it conducts.

- Upon termination, Sellers can retain the Deposit if the termination occurs because AIDEA breached the Agreement. Otherwise, the Deposit is to be refunded to AIDEA.

PENTEX – AIDEA TERM SHEET

PENTEX TERM SHEET	
Sellers	Harrington Partners, L.P., (Delaware limited partnership 85%); Dan Britton (5% owner); and Pentex Alaska Natural Gas Company, a Texas Company (10%). Article 2.01 LLC Membership Purchase and Sale Agreement [hereinafter cited as "Purchase Agreement"]. These three sellers control Pentex Alaska Natural Gas Company, LLC, [hereinafter cited as "Pentex"]. Pentex is a Delaware LLC that is a holding entity for three active LLCs involved in LNG production and gas distribution in Alaska: (1) Fairbanks Natural Gas, LLC (certificated Fairbanks utility, Alaska LLC); (2) Titian Alaska LNG, LLC (Pt. Mackenzie LNG facility, Delaware LLC); and (3) Arctic Energy Transportation, LLC (operator of two LNG fueling stations, Delaware LLC) Pentex also holds two inactive Delaware LLCs: (1) Polar LNG, LLC (inactive North Slope LNG plant developer, Delaware LLC); and (2) Cassini LNG Storage (non-active Delaware LLC formed to build LNG storage that was not built).
Buyer	Alaska Industrial Development and Export Authority ("AIDEA") is a public corporation and a political subdivision of the State of Alaska.
Acquisition Type	LLC membership purchase of Pentex, which will include its five LLC subsidiaries through a membership acquisition under the terms of the Purchase Agreement.
Purchase Terms	AIDEA will make an initial payment of $2,675,000 upon signing of the Purchase Agreement, with an agreed to total purchase price due as Closing of: (1) $52.5 million; and (2) an amount equal to Pentex's net working capital at the time of closing (set for July 2015). Net working capital by agreement is capped at no more than $1.5 million. The term "net working capital" is defined in Section 1.28 as the amount by which the current assets of the acquired companies exceed current liabilities. Under Section 2.04 the accountants for Pentex within 60 days of the Closing date determine the amount of net working capital. Within 10 days of an agreement on that figure, AIDEA shall pay Sellers any shortfall up to a maximum of $1.5 million or Sellers shall remit to AIDEA any excess amount. There also is a hold back of funds equal to the initial payment of $2,675,000 for one year from closing to cover AIDEA's potential expenses for unforeseen liabilities under Section 9.01.
Closing Date	Under Section 8.1 Closing is to occur after all conditions precedent are met, but not later than July 31, 2015.
Permits	Sellers in Disclosure Schedules have listed all permits held by Pentex or its subsidiaries and warranted that these permits are sufficient to allow AIDEA as owner to operate each Pentex business including FNG and the Titian LNG Plant.
Sources and Uses of Funds	AIDEA Revolving Fund
Due Diligence	Sellers have responded to an extensive due diligence document request matrix developed by AIDEA and provided copies of these documents to AIDEA electronically. These documents cover such matters as permits, insurance, description of any environmental liabilities and employment issues. Additionally, Sellers have provided AIDEA with detailed Disclosure Schedules that are part of the Purchase Agreement as well as providing AIDEA with warranties as to corporate governance matters and operational issues. For example, Sellers will provide an Opinion letter from counsel that all acquired LLCs are in good standing. Pentex has provided its financials that have been analyzed by Western Financial.
Escrow and Holdback Funds	Under Section 2.03(b), the Deposit upon Closing is converted to a Holdback Amount to be held by the Escrow Agent. Pursuant to Article 9 AIDEA can use the funds in the Holdback Amount for any damages it suffers for a one year period after closing. These funds, for example, could be used to pay for any pre-closing environmental liabilities, or any tax liability of the Sellers that has not been paid.
Real Estate Issues	AIDEA ordered and received ALTA extended title insurance from First American on all FNG and Titan properties. Pentex ordered title reports from Yukon Title and First American. AIDEA then compared the title reports and received an amended report that is correct. There are no material encumbrances except for a lien by AIDEA based on its loan to FNG.

Events of Default; Remedies	Article 9 provides for several remedies in the event of a default or damage to AIDEA. First, AIDEA has access for a year to the Holdback Amount of $2,675,000 for one year after closing. Secondly (9.02) Seller Harrington Partners, L.P. is indemnifying AIDEA for three years after closing for any damages attributable to Third Party Claims or direct damages that arise out of four areas: (1) a failure by Sellers to fulfill an agreement or covenant; (2) a breach of Sellers' representations and warranties made in Article 3; (3) any of the excluded liabilities that Sellers agreed to be responsible for as defined in Section 1.15; and (4) a pre-closing environmental liability. This indemnification is limited to a not to exceed aggregate claim amount of $12 million under Section 9.04, with no limit on fraud or willful misconduct claims.
Conditions Precedent to Closing	There are conditions precedent for both AIDEA and the Sellers. Conditions Precedent for AIDEA: For this matter to close the Sellers' representations and covenants to AIDEA must be accurate; AIDEA must have all permits and agreements needed to operate the businesses; there must be no ongoing litigation regarding the acquired companies; the condition of the companies must be the materially the same at closing as during due diligence; and Sellers must deliver all necessary documents to AIDEA. Additionally AIDEA has until July 1, 2015 to complete and be satisfied with its own environmental assessments of the acquired properties. Conditions Precedent for Sellers: All AIDEA representations accurate and have made all required payments and executed all necessary documentation at closing.
Change of Control	At Closing, AIDEA will acquire the membership interests in Pentex, which will then become a single member Delaware LLC with AIDEA as the sole member. Delaware law allows a sole member LLC.
Laws and Jurisdiction	The AIDEA Purchase Documents will be governed by Alaska law and all disputes thereunder shall be resolved exclusively by the Superior Court for the State of Alaska, Third Judicial District at Anchorage, Alaska.

Gas, the Port Mackenzie LNG plant and the associated LNG trucking operation that currently delivers LNG to Fairbanks. However, prior to the deal with AIDEA, Pentex had announced the proposed sale of the LNG plant and trucking operation to Harvest Alaska, a subsidiary of Hilcorp Alaska, a major Cook Inlet natural gas producer.

AIDEA has said that it expects the deal with Harvest to complete, regardless of the state agency's purchase of Pentex, and that AIDEA's interest in Pentex is the acquisition of Fairbanks Natural Gas as a means of furthering the objectives of the Interior Energy Project.

Ted Leonard, the recently retired AIDEA executive director who is working with the Interior Energy Project team, told the board that the due diligence for the Pentex deal should be completed soon.

"We believe that we will be tying up the due diligence in the next one to two weeks, and be able to have a plan to the board in mid-May, for the board to be able to make a decision," Leonard said.

Gas pricing

In conjunction with the sale of the Pentex LNG assets to Harvest, Fairbanks Natural Gas has formed a 10-year natural gas supply agreement with Hilcorp, an agreement that AIDEA says will remain in place after AIDEA's Pentex takeover. Gardiner told the AIDEA board that this supply agreement involves an initial city gate price of $15 per thousand cubic feet, with a price escalator after two years but with the possibility of negotiating a lower price after the fifth year. The gas supplied under this agreement would only amount to 0.85 billion to 0.95 billion cubic feet per year, the volume required to meet the demand of Fairbanks Natural Gas' existing customers, Gardiner said.

The Interior Energy Project concept involves a significantly larger gas demand than this, with the Fairbanks gas utilities making major expansions to their distribution networks and electric utility Golden Valley Electric Association also planning to use gas for power generation. The AIDEA project team anticipates this additional gas being purchased at a lower price than that in the existing Hilcorp deal with Fairbanks Natural Gas. The blending of the prices between a relatively small volume of gas at the higher price with a much larger volume of lower-priced gas will ultimately enable the Fairbanks gas price goal to be met, Gardiner said.

Part of the economic equation involves AIDEA's intent to merge the two existing Fairbanks gas utilities, Fairbanks Natural Gas and the Interior Gas Utility, into a single entity, once the agency has ownership of Fairbanks Natural Gas. The consolidated utility could achieve cost savings through unified management and the efficient integration of the gas storage and distribution infrastructure, AIDEA thinks. In addition, following the purchase of Fairbanks Natural Gas, consumer gas rates should drop by about 14 percent, Leonard said - AIDEA, as owner of the gas utility, would have a lower business expense profile than that of a privately owned utility.

Anticipated schedule

Gardiner said that the target closing date for AIDEA's Pentex purchase is July 31, with the sale of the Pentex LNG assets to Harvest expected to complete in September. The Interior Energy Project team then hopes to agree with stakeholders by the end of this year on a plan for Fairbanks utility consolidation. The intent is to complete that consolidation by December 2016 - AIDEA's preferred option is to sell the consolidated utility to a third party, although leasing the utility to a third-party operator is also a possibility.

The July purchase of Pentex would cost $54 million, but with $15.15 million of that coming back later from the sale of the LNG assets. AIDEA anticipates then recovering the resulting total cost of $38.85 million for Fairbanks Natural Gas from the sale of the consolidated utilities in 2017, while also making a roughly $2.9 million return on the investment, Gardiner said.

A projection of the financing of this plan indicates the gas rate for Fairbanks Natural Gas's existing customers dropping from some $24 per thousand cubic feet at present to $20 in 2016, Gardiner said. Then, as the Fairbanks distribution system expands and demand increases, with cheaper gas supply contracts kicking in, that rate should drop to $15.89, he said.

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Moving for resolution for Interior gas

AIDEA project for Fairbanks energy supply is progressing on multiple fronts towards decision point over potential solution

Alan Bailey
Petroleum News

The Interior Energy Project, an Alaska Industrial Development and Export Authority initiative to bring affordable natural gas to Fairbanks and the Alaska Interior, is moving forward on multiple fronts, the AIDEA board heard during its monthly meeting on April 30. Members of the project team described progress in three distinct but related areas: the establishment of a suitable gas supply; the identification of private entities for the transportation of natural gas to Fairbanks; and the due diligence required for a final decision over the AIDEA purchase of Pentex Alaska Natural Gas Co. LLC, the company that currently supplies some natural gas to Fairbanks.

Meantime, work is moving ahead on the buildout of the gas distribution pipeline network in Fairbanks, on the assumption that an expanded gas supply for the city will be forthcoming.

Gas price target

Mark Gardiner from the Western Financial Group said that projected financials for the project indicate an eventual consumer gas price of $15.89 per thousand cubic feet, assuming that an appropriate new gas supply can be established, and also assuming that the Fairbanks utility gas business expands, with Fairbanks consumers converting to the use of gas for heating their homes and businesses. A target "burner tip" price for Fairbanks gas has previously been set at $15 per thousand cubic feet.

The Interior Energy Project originally planned on obtaining gas for Fairbanks via a to-be-constructed liquefied natural gas plant on the North Slope, with the LNG being carried by tanker truck down the Dalton Highway to the city. In early January, following months of investigation AIDEA terminated the project. The estimated cost of gas at the city gate for this project turned out to be around $13.50. Factoring in the additional costs of Fairbanks LNG storage, LNG gasification and gas distribution around the city would have resulted in a burner tip price that would have been too high.

Now, while the option of obtaining natural gas from the North Slope has not been entirely dismissed, the AIDEA team is particularly focusing on obtaining gas for Fairbanks from the Cook Inlet basin, especially given the recent revival of the Cook Inlet gas industry. Fairbanks Natural Gas already supplies a relatively small volume of Cook Inlet natural gas to a few consumers in Fairbanks, using an LNG plant near Point Mackenzie on the inlet. But the price of this gas in Fairbanks is far above that $15 target.

Fairbanks, with a heavy dependence on expensive fuel oil and diesel for its energy supplies, is hurting from high energy costs. And the widespread use of wood burning stoves to alleviate those costs is causing severe air pollution during the winter.

Seeking a gas supply

The Alaska Department of Commerce, Community and Economic Development, AIDEA's parent agency, is taking a lead role in trying to establish a reliable and affordable natural gas supply from one or more Cook Inlet gas producers. Robert Shefchik, AIDEA's team leader for the Interior Energy Project, told the AIDEA board that the department will issue a solicitation for gas supplies and enter into negotiations to the point of near commercial terms, with the ultimate objective of the Fairbanks utilities signing up for supply contracts.

In parallel, the AIDEA team is preparing a request for proposal for one or more private businesses for delivering the gas to Fairbanks. The RFP should go out during the week of May 15 and will remain open for 30 days, Shefchik said. The team will consider any workable option for gas delivery, including the shipment of LNG, the construction of a gas pipeline, or even the delivery of propane rather than natural gas, he said. A two-step process will then winnow down some 18 entities that have expressed an interest in the project to perhaps two or three contenders who have the capacity and interest for more comprehensive negotiations - the idea is to delineate the entire supply chain to Fairbanks, using either a single company or perhaps with different businesses handling different components of the operation, Shefchik said.

During AIDEA's June board meeting the team should be able to tell the board how many entities have responded to the RFP, what options the team is evaluating and what the timeline looks like for a decision, he said.

Pentex due diligence

Following an agreement in late January for the potential purchase of Pentex, AIDEA has been conducting its due diligence for the proposed deal. Pentex owns gas utility Fairbanks Natural

Comment Sheet

May 12, 2015

Interior Energy Project

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