Agency: Commerce, Community and Economic Development

Grants to Municipalities (AS 37.05.315)

Grant Recipient: Dillingham **Federal Tax ID:** 92-0030674

Project Title: **Project Type:** Remodel, Reconstruction and Upgrades

Dillingham - Wastewater Treatment Plant Upgrades

State Funding Requested: $2,280,000 **House District:** 37 / S

One-Time Need

Brief Project Description:

Upgrade the Dillingham wastewater treatment plant to bring it back into compliance with state standards for its effluent discharge.

Funding Plan:

Total Project Cost:	$13,200,000
Funding Already Secured:	($0)
FY2013 State Funding Request:	($2,280,000)
Project Deficit:	$10,920,000

Funding Details:

We will be seeking additional funding from ADEC, AIDEA, and AEA for construction and the green components of this overall renovation and upgrade. If we are able to secure the amount of funding needed to bring the system into compliance we do not anticipate requesting more funding.

Detailed Project Description and Justification:

DESCRIPTION:

The reason the City of Dillingham has a large capital request for infrastructure is in part due to its own funding base. The City's operating budget is about 7 million dollars. The city currently manages about 35 grants, plus taxes from real and personal property (13 mills each), gaming (10%), alcohol (10%), sales (6%) and overnight stays (10%). However, the taxable land base in the City of Dillingham consists of 13% of the 21,232 acres, or a total of 4.45 square miles of taxable land out of 33 sq. mi. presently within City boundaries.

The project is to complete design and construction of the following upgrades to the City of DIllingham wastewater treatment facility: improvements to the influent debris removal, sludge removal, lagoon wastewater temperature, and additional high efficiency aeration blowers; as well as improvements for lagoon heat retention, including a cover for the lagoon, secondary sludge removal, de-nitrification process, disinfection system, SCADA Controls, and energy extraction.

The proposed improvements will provide a complete automated biological treatment process, with energy recovery (green renewable energy source). The energy recovery process will consist of bio-digesters that use the sludge and local biomass (fish processing and other biomass waste) to create enough heat and electricity through the co-generation process to power and heat the treatment plant operations.

Justification: For years wastewater and ADEC inspections have documented overages in the total amount of effluent as well as higher than permitted levels of fecal coliforme, total suspended solids and increase levels of biochemical oxygen

Contact Name: Patricia Walker
Contact Number: 465-4453

For use by Co-chair Staff Only:

$2,280,000 Approved

3:15 PM 5/2/2012

demand. This is likely due to 3 factors:

1) inadequate size for the population demand that occurs during peak summer season; 2) no cover over the lagoon to help retain heat and keep the system working; and 3) lack of septage handling facilities to dilute the septage and remove garbage from the system.

1) The current treatment lagoon was constructed and permitted in 1987 for 273,000 gallons per day. As such it is completely inadequate to handle the amount of sewage that occurs during peak summer season when Dillingham's population triples, producing approximately 700-900,000 gallons per day.

2) During winter, sewage and sludge settle to the bottom of the lagoon until temperatures are warm enough to reactivate the lagoons' biological processes during late spring. The increase in temperatures creates a temperature inversion, foul odors and severe operational issues occur. Health and safety risk during this period of time, are at a peak, especially with the added population that occurs during this time.

The effluent leaves the outfall just beyond the beach at Snag Point, where residents set nets to catch salmon for home use. There has been no sludge removal over the last 20 years and there is no disinfection of the sewage in the lagoon, thus the effluent frequently exceeds permitted levels of toxins at volumes that also exceed permitted levels and is a health risk for humans and animals.

3) Most of the population growth in Dillingham has and will likely occur off of the exisitng sewage system. The high water table and poor soils mean that septic systems in certain areas fail regularly and must be pumped. The septage is deposited in the lagoon where it overwhelms the aeration system with sludge and garbage.

The ADEC drafted a Compliance Order in 2008 but never executed it. The City has had numerous inspections showing fecal coliforme counts and total suspended solids exceeding permitted levels in the effluent discharge. In December 2009 ADEC inspected the Dillingham Wastwater Treatment Facility and made a number of recommendations to achieve compliance.

The system can not be permitted until the facility and its discharge meet state standards.

Project Timeline:

RFP July 1 - August1, 2012
Award Contract August 2, 2012
Design and Permitting by December 31, 2012
Bid Documents by January 31, 2013
Additional Funding secured by February 2013
Award Contract by June 1, 2013
Construction Complete by September 30, 2013
Operation Initiation by October 1, 2013

Construct
sludge dewatering pad August 2011
construct

Contact Name: Patricia Walker
Contact Number: 465-4453

For use by Co-chair Staff Only:

3:15 PM 5/2/2012

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

City of Dillingham, Public Works Department, Direcotr Carter Cole

Grant Recipient Contact Information:

Name:	Jody Seitz
Title:	Planning Director
Address:	Box 889
	Dillingham, Alaska 99576
Phone Number:	(907)842-3785
Email:	planner@dillinghamak.us

Has this project been through a public review process at the local level and is it a community priority? [X] Yes [ ] No

Contact Name: Patricia Walker
Contact Number: 465-4453

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FINAL WASTEWATER TREATMENT PLANT STUDY

CITY OF DILLINGHAM

Dillingham, Alaska

Bristol Project No. 210081

MAY 2010

Prepared for:

CITY OF DILLINGHAM ALASKA

Bristol ENVIRONMENTAL & ENGINEERING SERVICES CORPORATION

111 W. 16th Avenue, Third Floor
Anchorage, Alaska 99501-5109
Phone (907) 563-0013
Fax (907) 563-6713

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ACRONYMS AND ABBREVIATIONS

°	degrees
ADEC	Alaska Department of Environmental Conservation
APDES	Alaska Pollutant Discharge Elimination System
BOD	biochemical oxygen demand
Bristol	Bristol Environmental & Engineering Services Corporation
COBC	Compliance Order by Consent
City	City of Dillingham
DAR	Design Analysis Report
EPA	U.S. Environmental Protection Agency
FC	fecal coliform
O&M	operations and maintenance
TSS	total suspended solids
USACE`	US Army Corps of Engineers
WWTP	wastewater treatment plant

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EXECUTIVE SUMMARY

This plan and recommendations were prepared by Bristol Environmental & Engineering Services Corporation (Bristol) for the City of Dillingham (City) to address needed maintenance and capital upgrades to the community wastewater treatment infrastructure. The plan addresses upgrades to the wastewater treatment plant (WWTP), maintenance of the sewage cells and the addition of a septage monofill at the City landfill. The existing WWTP and sewage cells, were constructed in 1987.

In 2008, the City was notified that it was under a "Compliance Order by Consent" by the Alaska Department of Environmental Conservation (ADEC) for the WWTP effluent discharge. In November 2008, ADEC notified the City that the Compliance Order was "not in effect", as the wastewater discharge permit renewal had not been finalized (which could impact future treatment levels). In December 2009, ADEC performed an Alaska Pollutant Discharge Elimination System inspection of the WWTP (copy attached as Appendix A). This inspection directed the City to prepare a plan and to work with ADEC to:

- Undertake a baseline parameter sampling program (biochemical oxygen demand total suspended solids, fecal coliform, flow and pH) with regular monitoring and reporting;
- Prepare a Quality Assurance Plan for monitoring and operations; and
- Start a review of the current WWTP operations, and develop a plan to "reduce the chronic nature of ongoing water quality violations. This plan could include 1) moving the septic dumping site, 2) aerating dead spots, 3) installing baffles, 4) removing sludge/solids, 5) adding disinfection, and 6) any other appropriate measures the City sees fit."

Currently, the two existing sewage cells are overloaded with solids from over 22 years of use without removal. The former operator, Mr. Gary Sharrett, did a series of sludge depth measurements in September 2009 (refer to Section 4.2 for more details). A planned sludge disposal pond was never constructed. As a first and immediate step, the sludge should be removed from the cells, dewatered through using "geotubes", and then transported to the landfill for permanent disposal.

The next step after sludge removal is to eliminate the direct discharge of septic pumping trucks into the lagoon. Bristol recommends that a septage monofill be constructed at the City landfill for year-round access by septic pumping trucks.

The system should be allowed to operate for a minimum of six-months after solids removal and the elimination of the septic discharge from pumping trucks. After the six-month period, a full evaluation of the system should occur, including a very specific sampling and testing program of the treatment processes and systems.

1.0 INTRODUCTION

This report and recommendations were prepared by Bristol Environmental & Engineering Services Corporation (Bristol) for the City of Dillingham (City) to address existing problems, and recommended improvements of the wastewater treatment plant (WWTP). The City retained Bristol in February 2010 to prepare the report. The report specifically addresses possible upgrades to the WWTP, solids removal and disposal from the sewage cells, and the options for septage disposal from pumper trucks. Future improvements to the headworks, plant piping, the aeration system, possible baffling, and potential disinfection facilities, should be addressed after the solids have been removed and septic disposal has been stopped at the WWTP.

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2.0 BACKGROUND

In 2008, the City was notified by the Alaska Department of Environmental Conservation (ADEC) that it was under a "Compliance Order by Consent" (COCB) for the effluent discharge of the WWTP. In November, ADEC notified the City that the COCB was "not in effect" as the wastewater discharge permit renewal has not been finalized (which could impact future treatment levels). Although the COCB was not put in force immediately, the City was directed to do a better job of sampling, testing, and reporting, and to start a review of the current facilities. The results of the recent ADEC APDES inspection in December 2009 specifically directed the City to work with ADEC to:

- Undertake a baseline parameter sampling program (biochemical oxygen demand [BOD]/ total suspended solids [TSS], fecal coliform [FC], flow and pH) with regular monitoring and reporting;
- Provide required permit and operations and maintenance (O&M) information at the WWTP;
- Prepare a Quality Assurance Plan for the sampling and operations;
- Review the WWTP operations, and prepare a Plan and Recommendations to address:
  - Headworks
  - Plant piping
  - Solids removal – from the cells
  - Stop direct septic disposal at the WWTP cells
  - Adequacy of the aeration system – and correct any zones with solids deposition
  - Possibly provide baffles to prevent short-circuiting
  - Potential need for disinfection (chlorination – dechlorination) to meet discharge FC limits.

In order to fund the necessary improvements, the City will need to work with ADEC municipal grants and loans, Alaska Native Tribal Health Consortium (under the Sanitation Deficiency System program) and other agencies. The cycle of grant applications is coming up soon (June 2010 for ADEC). This report is also intended to provide needed background for funding.

2.1 LOCATION

Dillingham is located at the extreme northern end of Nushagak Bay, in northern Bristol Bay, at the confluence of the Wood and Nushagak rivers. It lies at approximately 59.04 degrees (°)

north latitude and -158.46° west longitude (Section 21, Township 013 South, Range 055 West, Seward Meridian), 300 miles southwest of Anchorage (Figure 1). Dillingham is the economic, transportation, and public service center for western Bristol Bay. Commercial fishing, fish processing, cold storage, and support of the fishing industry are the primary private sector activities. During late spring and summer, the population can double due to fishing. The City's role as the regional center for government and services helps to stabilize seasonal employment (Alaska Department of Community, Commerce, and Economic Development, 2010).

2.2 COMMUNITY INVOLVEMENT

The WWTP issue has been addressed at several recent City Council meetings.

2.3 EXISTING CONDITIONS

Information about the existing conditions at the WWTP, sewage cells, and community landfill are based on previous work performed by Bristol, in the general vicinity, and as-built drawings (1986) for the WWTP proper. No additional geotechnical or survey data was provided for this report.

3.0 DESIGN REQUIREMENTS AND CONSIDERATIONS

The following sections provide a discussion for the proposed upgrades to the WWTP, solids removal and disposal from the sewage cells, and the disposal of septage from local pumper trucks.

3.1 REGULATORY

Anticipated regulatory requirements include:

- Meeting the intent of a Plan and Recommendations per the December 2009 ADEC APDES Inspection report;
- Compliance with ADEC wastewater regulations: Plan review and approval will be required for the improvements to the WWTP, solids removal program, and the construction of the septage monofill;
- Compliance with ADEC solid waste regulations: Approval will be required for the disposal of solids at the landfill and the construction of the septage monofill;
- Other permits listed in Section 4.4.

3.2 GEOTECHNICAL

Prior to the design and construction of the septage monofill at the landfill, a geotechnical investigation will be required to determine the depth of groundwater and nature of the soils. No geotechnical work will be required for most of the potential upgrades to the WWTP or the sludge removal from the lagoons. However, if a major disinfection facility is required in the future, site-specific soils investigations will be needed.

3.3 SITE CIVIL

Civil site design and construction will be required for both the sludge removal from the lagoons and the establishment of a septage monofill at the landfill. Future actions (based on WWTP operations following solids removal) may require significant civil design.

3.4 SURVEY

Prior to the design of the septage monofill at the landfill, a design survey will need to be completed. No survey is anticipated for the future potential WWTP improvements.

3.5 MECHANICAL / ELECTRICAL

The upgrades to the WWTP may require mechanical and electrical controls design, and associated construction activities.

4.0 WASTEWATER SYSTEM IMPROVEMENTS

4.1 WASTEWATER TREATMENT PLANT UPGRADES

Refer to Figures 2 through 6 for details of the WWTP. Currently the two existing sewage cells are overloaded with solids from over 22 years of use without removal. Because of the current excess sludge conditions and direct septic discharge (in Cell #1), a full evaluation of the system cannot occur. A planned sludge disposal pond was never constructed. The primary concern that the City is now dealing with is the level of Fecal Coliform (FC) bacteria that are being discharged in the effluent. The BOD and TSS levels are generally in compliance, but there have been violations. The volume of sludge buildup in the first lagoon, Cell 1 (currently aerated), appears to be a major problem and could be directly affecting the FC levels. Cell 2 currently serves as the polishing pond – but it also has major sludge buildup (refer to Section 4.2.2).

As a first and immediate step, the sludge should be removed from the cells, dewatered using geotubes, and then transported to the landfill for permanent disposal after at least one freeze-thaw cycle. The next step after sludge removal is to eliminate the direct discharge of septic pumping trucks into the lagoon. Bristol recommends that a septage monofill be constructed at the City landfill for septic pumping trucks.

The system should be allowed to operate for a minimum of six-months after solids removal and the elimination of the septic discharge from pumping trucks. After the six-month period, a full evaluation of the system can occur. At the end of the six-month “initial operations period”, a full program of sampling and testing should be undertaken to determine the adequacy of the WWTP systems components. The existing WWTP contains six distinct systems that will be evaluated to determine if they are functioning efficiently, which are;

- Headworks
- Plant piping
- Aeration system – including piping, diffusers, and blower capacity
- Flow paths (are baffles needed)
- Disinfection
- Influent system
- Effluent discharge system.

4.1.1 Influent System

4.1.1.1 Existing System

The main influent system originates at the City dock lift station, which feeds a 10-inch ductile iron force main. The force main discharges through a magnetic flow meter to an inlet diversion box. A second source of influent is the Snag Point force main, which feeds the headworks via a connection to the old septic dump lift station next to the blower building. The inlet diversion box allows for the isolation of flow into Cell 1, Cell 2, or both. Since the WWTP has not operated in any other mode than what is currently in use, the ability to redirect flow is unknown, and several of the control valves are reportedly inoperable. Sewage was intended to be moved from the diversion box to the cells via a 10-inch ductile iron gravity system.

During a site visit by the US Army Corps of Engineers, which were inspecting the Snag Point Bulkhead, it was discovered that the 10-inch force main from the City dock lift station was exposed in two areas (Appendix C). The length of pipe exposed is 19-feet in one area and approximately 63 feet in the other area. These measurements were recorded at the time of the site visit (September 21, 2009). The original construction plans for the force main required a minimum cover of 10-feet.

4.1.1.2 Potential Upgrades

The WWTP operator previously indicated that there was an overflow problem with the influent system due to high solids buildup in Cell 1. To ensure that the system continues to operate correctly, the City may consider inspecting and possibly replacing the existing gate valves and the magnetic flow meter. The need for a possible future screen and/or grit chamber could be addressed after the solids have been removed from the cells.

The City should address the exposed force main. Possible solutions would be to engineer a protective cover, which would limit the erosion of cover material. Another option would be to excavate and relocate the force main into a deeper trench to provide the 10-feet of cover required by the construction plans.

4.1.2 Air Supply

4.1.2.1 Existing System

Four (4) Sutorbuilt (7MVF) rotary positive blowers powered by 25-horsepower electric motors provide the air supply for the aeration system. Manufacturer's literature indicates that the blowers are capable of producing 700 to 1300 cubic feet per minute of air volume. The manufacturer's representative indicated the existing blowers have a useful life of 30 years if properly maintained. One of the blowers was off-line at the time of the history report prepared by Mr. Gary Sharrett.

4.1.2.2 Potential Upgrades

As an interim measure, the drive belts on the blowers should be replaced. Due to the age of the existing blowers, the City should plan to replace all the blowers with new, high-efficiency models as part of the future WWTP modifications.

4.1.3 Aeration System

4.1.3.1 Existing System

Air is fed through 8-inch ductile iron headers into 4-inch polyethylene lines, and then into the diffuser tubes. Butterfly valves are used to adjust the airflow to each run. Each cell contains 31 static diffusers arranged in a grid pattern. The WWTP operator indicates that air is injected into Cell 1 only, and Cell 2 is a polishing pond. Refer to Figures 4 and 5 for details of the existing aeration system.

4.1.3.2 Potential Upgrades

The WWTP operator recommends that 10 air line valves be replaced. The majority of the valves have not been properly exercised and maintained. If it is determined that the aeration system was not operating properly following the sludge removal, the following may be considered for improving the system: resize and replace the header and aeration piping (based on new blower configurations), replace the static diffusers with new technology, and replace the header control valves. If any "dead zones" are identified after solids removal, either an expansion of the diffusers systems or installation of submersible mixers is recommended.

4.1.4 Flow Paths

4.1.4.1 Existing System

The sewage enters the lagoon through the inlet diversion box. For the past 22 years, the sewage flow enters in Cell 1 and flows to Cell 2 before being discharged. No direct sewage is discharged into Cell 2. It is unclear how much retention time is associated with each lagoon before effluent waste is discharged.

4.1.4.2 Potential Upgrades

If the flow paths within the system appear to "short-circuit", or were determined to be inadequate after the solids have been removed, the following could be considered to improve the flow of the system: install baffles, resize piping, or install submersible mixers (refer to 4.1.3.2 above). The baffles would prevent short-circuiting of the system and maximize oxygen transfer. The submersible mixers would increase solids suspension, prevent dead spots, and increase treatment efficiency.

4.1.5 Disinfection System

4.1.5.1 Existing System

No disinfection is currently provided.

4.1.5.2 Potential Upgrades

The issue of needing disinfection of the effluent (most likely chlorination followed by de-chlorination to tie up the free chlorine products, to reduce the impacts to the anadromous fishery) will be decided after the sludge is removed and alternative septic dumping is provided, along with making other operational changes to better manage the WWTP process. If disinfection is ultimately determined to be needed, it will be an expensive and labor-intensive requirement added to the WWTP operations. Available records should be reviewed from the 1980s and 1990s to determine what the effluent characteristics were prior to the excessive sludge buildup.

4.1.6 Effluent System

4.1.6.1 Existing System

Effluent is directed from either Cell 1 or Cell 2 via a 10-inch ductile iron pipe that terminates in overflow control sumps. The WWTP has always operated with the effluent discharging from Cell 2. A 12-inch ductile iron gravity system discharges from the sumps into Nushagak Bay (via a 12-inch HDPE anchored outfall).

During a site visit by the US Army Corps of Engineers, which were inspecting the Snag Point Bulkhead, it was discovered that the 12-inch gravity discharge from the WWTP was exposed. The exposed length of pipe at the time of the site visit (September 21, 2009) was approximately 37 feet. The original construction plans required a minimum cover of 10 feet.

4.1.6.2 Potential Upgrades

Existing gate valves and 8-inch plug valves within the overflow sumps probably need to be replaced.

The City should address the exposed discharge. Possible solutions would be to engineer a protective cover, which would limit the erosion of cover material. Another option would be to excavate and relocate the force main into a deeper trench to provide the 10 feet of cover required by the construction plans.

4.2 EXISTING SEWAGE CELL MAINTENANCE

4.2.1 Background

A sludge blanket (solids) survey of the sewage cells was performed by the City in September of 2009. The sludge depth in Cells 1 and 2 vary from 1.5 feet to 6.0 feet deep. Bristol performed calculations based on the City's data and determined that Cell 1 contains 5,000 cubic yards (1.01 million gallons) and Cell 2 contains approximately 5,500 cubic yards (1.11 million gallons) of sludge. It is Bristol's opinion that the most pressing issue is to remove this sludge from the cells. Once the sludge is removed from the cells, it is anticipated that the volume will increase by as much as 50%, resulting in a total hydraulic volume for Cell 1 and 2 of 3.18 million gallons. Bristol is proposing an on-site, freeze-thaw dewatering process to decrease the total volume of material to be transported and hauled to the City landfill due to the large volume of sludge.

4.2.2 Sludge Dewatering

To accomplish the sludge dewatering, a 263-foot by 253-foot pad would be constructed near the existing cells (see Figures 6 and 7). The pad would be designed and constructed for continual use throughout the remaining life of the WWTP. Sludge would be pumped from the cells into 15-foot by 100-foot geotubes, which would be allowed to go through at least one complete freeze-thaw cycle before the solids are transported to the landfill for disposal. The geotubes would be destroyed after one use. The dewatering pad will be sized so that it can accommodate up to 24 geotubes. Based on a recent conversation with one potential sludge removal contractor, sludge removal for both ponds would take two summers of work.

4.2.3 Solids Disposal

Once the sludge is dewatered, the sludge can be hauled and disposed of at the City landfill. Special containment will not be required if the sludge passes a Paint Filter Liquids Test (U.S. Environmental Protection Agency [EPA] Method 9095) and is free from pathogens as defined by EPA part 503. It is assumed that the dewatering method above will allow the sludge to pass the Paint Filter Test. Common methods used for ensuring the sludge is free of pathogens are to incinerate the waste or to apply lime until the waste has a high pH (greater than pH11). The sludge disposed of at the landfill should be covered daily to isolate the sludge from environmental factors. Disposal of the solids requires coordination with the ADEC Solid Waste Group and the City landfill operator.

4.3 SEPTAGE SLUDGE DISPOSAL FROM PUMPER TRUCKS

4.3.1 Background

Cell 1 is currently the septage sludge disposal point for local septage pumper trucks. The trucks discharge directly into the northwest corner of Cell 1. The direct insertion of solids into the cell is attributing to an increase in the amount of solids within the system; therefore, causing the solids content to increase faster than it would otherwise. It is estimated that approximately 1,100 cubic yards (222,000 gallons) of septage solids from pumper trucks are disposed of in the cell each year. Bristol looked at two possible solutions for septage disposal, either a disposal system at the WWTP or a new septage monofill at the City landfill.

4.3.2 Disposal Facility at Current Location

In order to regulate the rate and location at which septage is placed in the cell, a possible solution would be to construct a septage holding tank with a variable speed macerator pump. The proposed system should be placed to allow easy and safe access for disposal trucks. A possible location would be to utilize an area on the dewatering pad once the dewatering is completed. Based on preliminary engineering, the system would require a 5,000-gallon tank, 3-horsepower macerator pump (3-inch outlet), and associated valves and piping to reach the cells. This system should be designed and constructed to provide year round use.

4.3.3 Septage Monofill

Another disposal option for septage pumper trucks would be to construct a year-round access septage monofill at the City landfill. The monofill should be constructed where surface run-off will not be directed to the active landfill cell. A possible location for the monofill is shown on Figure 9. This location was chosen due to its distance from the current open cell and the possibility of a lower groundwater table when compared to the current open cell's groundwater level.

Typical layout details for the monofill are shown on Figure 10. Based on preliminary engineering estimates, approximately 450 lineal feet of trench would be required per year to accommodate the septage disposal of pumper trucks. The area shown on Figure 9 would have approximately seven years of useful life, assuming the septage disposal rate does not increase. After the monofill has been backfilled and the septage stabilized, the area could potentially be used for a new solid waste cell or inert waste disposal.

4.4 PERMIT AND APPROVAL REQUIREMENTS

Detailed plans and specifications will need to be developed for any modifications to the current WWTP system. The ADEC will need to issue both an approval to construct and approval to operate. The following permits and agency coordination will be required at a minimum:

- An ADEC Storm Water Pollution and Prevention Plan for the construction of the dewatering pad;
- U.S. Army Corps of Engineers Section 404 placement of fill in wetlands;

- Coastal project questionnaire;
- City of Dillingham land use permit;
- ADEC Wastewater division plan approval;
  - Sludge dewatering pad
  - Septage monofill
  - Approval for WWTP upgrades or modifications
  - Interim APDES permit allowances during solids removal and future WWTP upgrades
- ADEC Solid waste division;
  - Approval for solids disposal
  - Landfills general permit modification for monofill.

4.5 COSTS

4.5.1 Capital Costs

The estimated capital costs for the proposed improvements are shown below. Detailed cost estimates are provided as Appendix B.

- Upgrades to the WWTP **(To be determined)**
- Sludge Dewatering Pad **$550,000**
- Removal of sludge Cells 1 and 2 **$ 600,000**
- Septage Disposal Station at WWTP **$210,000**
- Septage Monofill **$370,000**

These estimates assume that all equipment and labor will be provided locally.

4.5.2 Operation and Maintenance Costs

The annual O&M costs for the proposed improvements are estimated below.

- Upgrades to the WWTP **(To be determined)**
- Sludge Dewatering Pad **(N/A)**
- Septage Disposal Station at WWTP **$20,000**
- Septage Monofill **$18,000**

4.6 CONCLUSIONS AND RECOMMENDATIONS

Based on Bristol's evaluation of the WWTP system, the following should be implemented in order.

1. Evaluate repair options for exposed force main and outfall.
2. Construct the dewatering pad.
3. Construct the septage monofill at the landfill.
   a. This is a better long-term solution than septage disposal at the WWTP.
4. Disallow septage disposal from pumper trucks directly into the system.
5. Remove sludge from Cells 1 and 2. This process will take over two years.
6. Dispose of solids at the landfill.
7. Evaluate the effectiveness of the WWTP system after the removal of the sludge and system has been allowed to operate for three months. Provide for a thorough sampling and testing program to determine actual WWTP operations.
8. Design upgrades to the WWTP based on the evaluation to operate within ADEC guidelines.
9. Construct upgrades to the WWTP system.

5.0 REFERENCES

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U.S. Environmental Protection Agency. *Process Design Manual – Surface Disposal of Sewage Sludge and Domestic Sludge. EPA/625/K-95/002.* September 1995.

CEPOA-EN-HH (1105-2-10b), Memorandum Thru CEPOA-EN-CH-HH (Eisses) For the Record, Subject: Inspection of Completed Works, Dillingham Bank Stabilization, Snag Point Bulkhead, Dillingham, Alaska 21 September 2009; Issued 2/18/2010.

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FIGURES

PRELIMINARY DESIGN

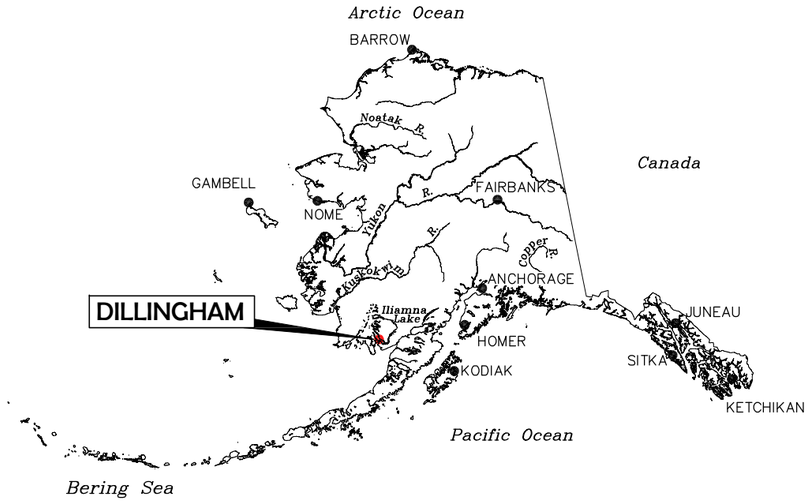
FIGURE 1
DILLINGHAM, ALASKA
WASTE WATER TREATMENT PLANT STUDY
LOCATION AND VICINITY MAP

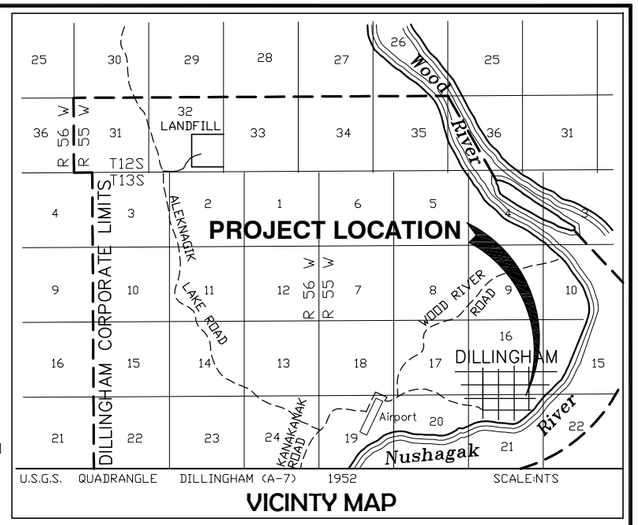
Bristol
ENVIRONMENTAL & ENGINEERING SERVICES CORPORATION
Phone (907) 563-0013 Fax (907) 563-6713

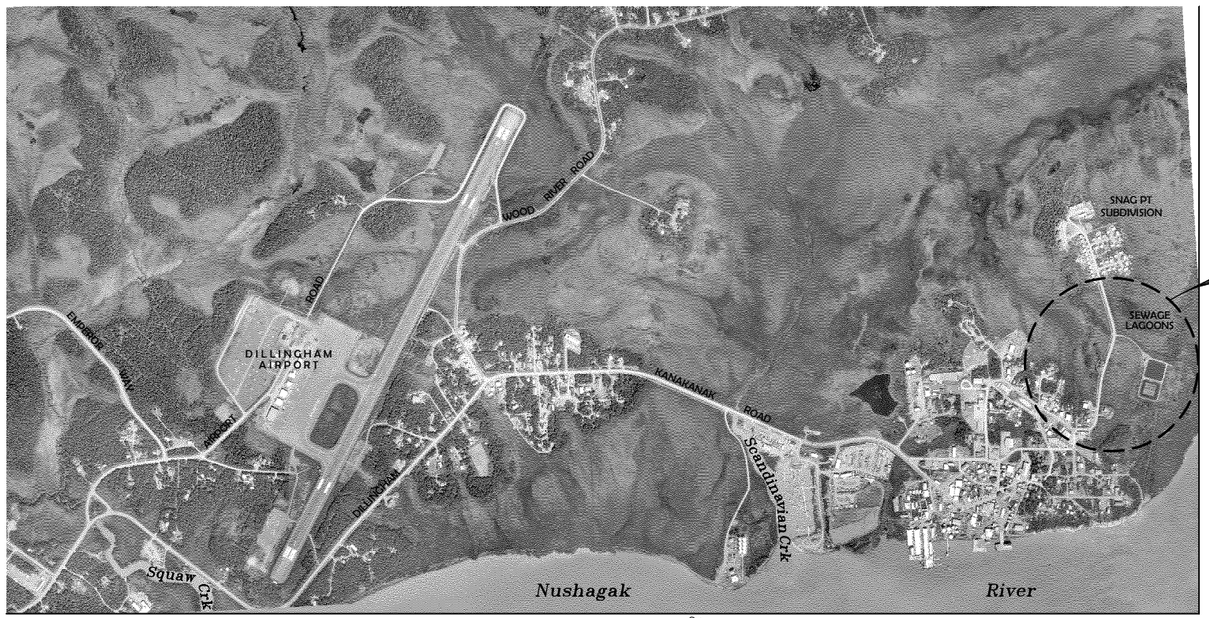
DATUM: N/A	DATE APRIL 2010	SHEET 1
PROJECTION: NONE	DWN. IPP	of
	SCALE SHOWN	10
	APPRVD. TMW	

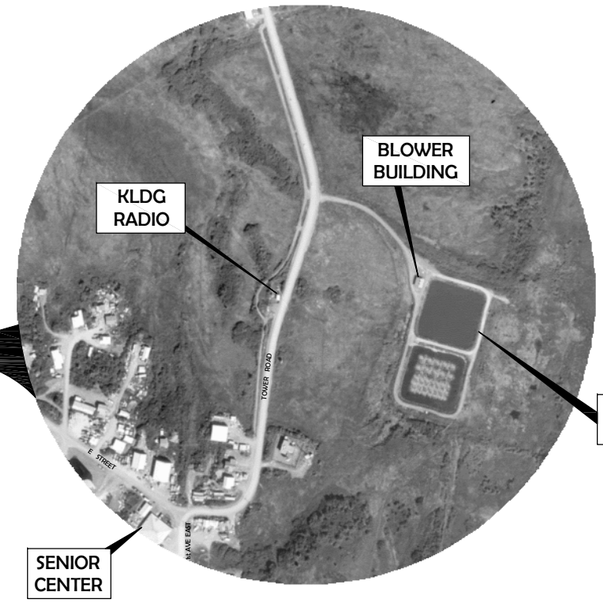
CITY OF DILLINGHAM
ALASKA

SEWAGE TREATMENT FACILITY IMPROVEMENTS









PROJECT LOCATION

300 0 150 300
HORIZONTAL SCALE IN FEET

CITY OF DILLINGHAM

1000 0 500 1000
HORIZONTAL SCALE IN FEET

PELIMINARY
APRIL 2010

SHEET INDEX

CIVIL

Bristol
ENVIRONMENTAL & ENGINEERING SERVICES CORPORATION
Phone (907) 563-0013 Fax (907) 563-6713
CIVIL

FIGURE 2
DILLINGHAM, ALASKA
WASTE WATER TREATMENT PLANT STUDY
SEWAGE TREATMENT FACILITY IMPROVEMENTS
COVER SHEET

SHEET 2 OF 10

MAPPING NOTES

MAPPING IS BASED ON PHOTOGRAPHY ACQUIRED BY AERO-METRIC INC. ON 7-11-2000 AT A NOMINAL SCALE OF 1"=1000'. MAP PROJECTION IS BASED UPON ALASKA STATE PLANE COORDINATE SYSTEM 1983, ZONE 6.

1 — **FACILITY SITE PLAN**
SCALE: SHOWN

50 0 25 50
HORIZONTAL SCALE IN FEET

PRELIMINARY DESIGN

REVISIONS				REVISIONS			
NO.	DATE	BY	DESCRIPTION	NO.	DATE	BY	DESCRIPTION

Bristol
ENVIRONMENTAL & ENGINEERING SERVICES CORPORATION

Project No. 210018

CITY OF DILLINGHAM ALASKA

STATE OF ALASKA 49TH — REGISTERED PROFESSIONAL ENGINEER

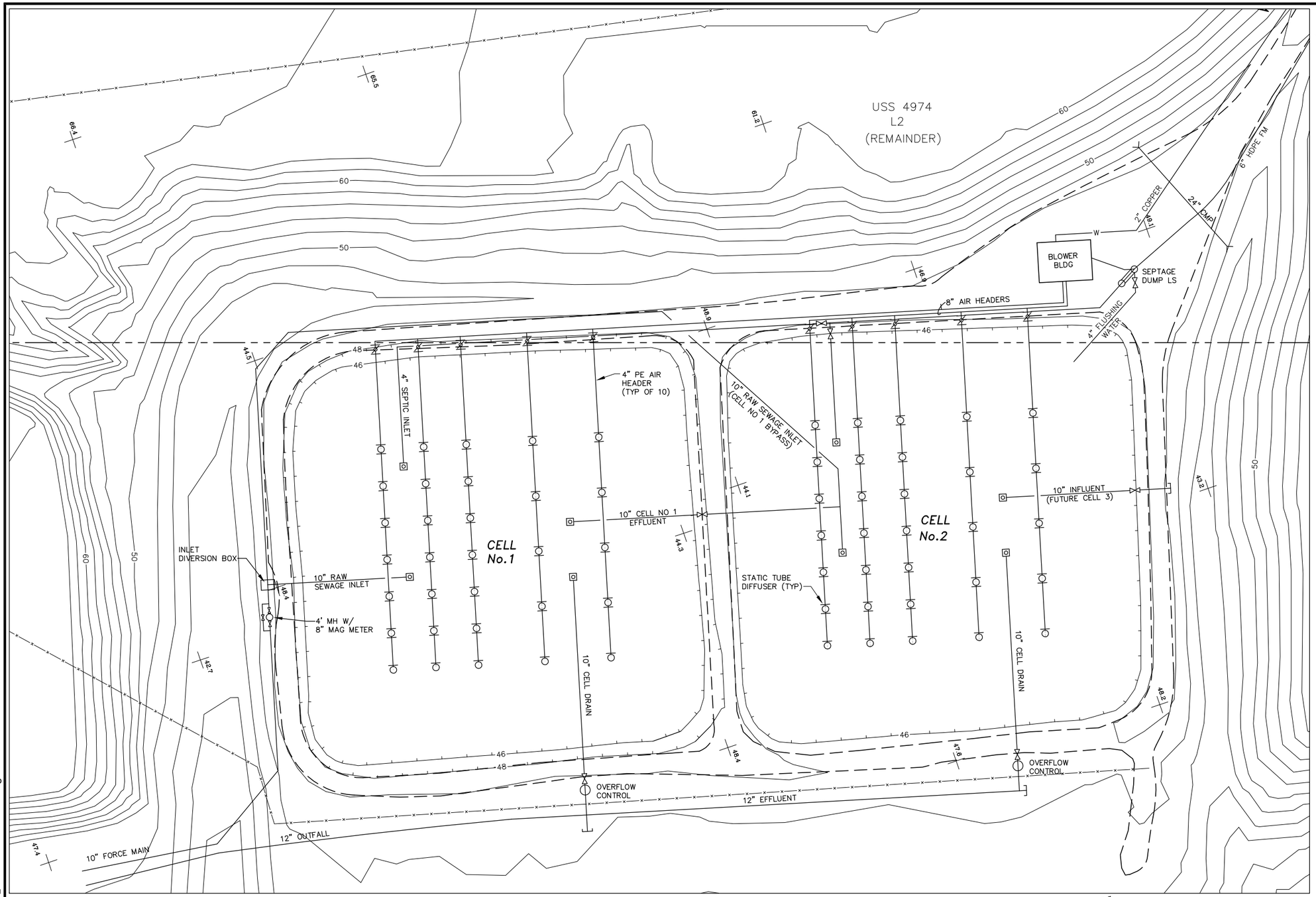
DILLINGHAM, ALASKA
SEWAGE TREATMENT FACILITY IMPROVEMENTS

FACILITY SITE PLAN

SHEET NO.
FIG 3

SCALE:SHOWN	DESIGNED: FJV	CHECKED: FJV	DRAWN:SJW	DATE: 01/25/10	SHEET 3 OF 10

User: MHIMLER May 06, 2010 - 8:37am
Drawing: K:\JOBS\210081 WWTP STUDY\ACAD-DESIGN\FEASIBILITY\210081_FIG_3.DWG - Layout: LAYOUT2
Xrefs: BR22X34REV.DWG 20053_BASE-STL.DWG - Images: (DIESEL evaluation failed)



MAPPING NOTES

TOPOGRAPHY IS BASED ON PHOTOGRAPHY ACQUIRED BY AERO-METRIC INC. ON 7-11-2000 AT A NOMINAL SCALE OF 1"=1000'. MAP PROJECTION IS BASED UPON ALASKA STATE PLANE COORDINATE SYSTEM 1983, ZONE 6.

1 — **LAGOON PIPING PLAN**
SCALE: SHOWN

30 0 15 30
HORIZONTAL SCALE IN FEET

PRELIMINARY DESIGN

REVISIONS				REVISIONS			
NO.	DATE	BY	DESCRIPTION	NO.	DATE	BY	DESCRIPTION

Bristol
ENVIRONMENTAL & ENGINEERING SERVICES CORPORATION
Project No. 210018

CITY OF DILLINGHAM ALASKA

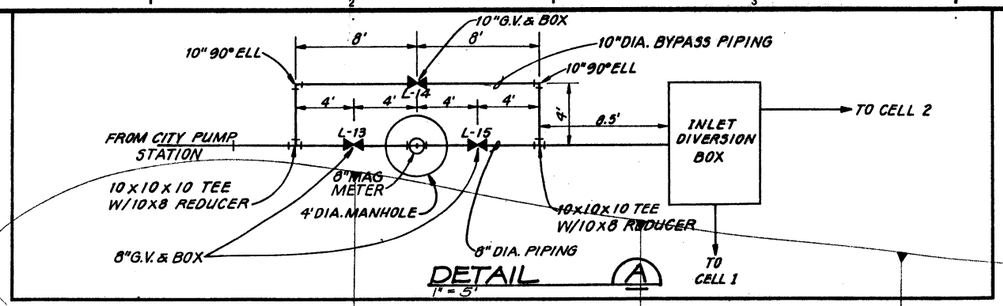
STATE OF ALASKA — 49TH — REGISTERED PROFESSIONAL ENGINEER

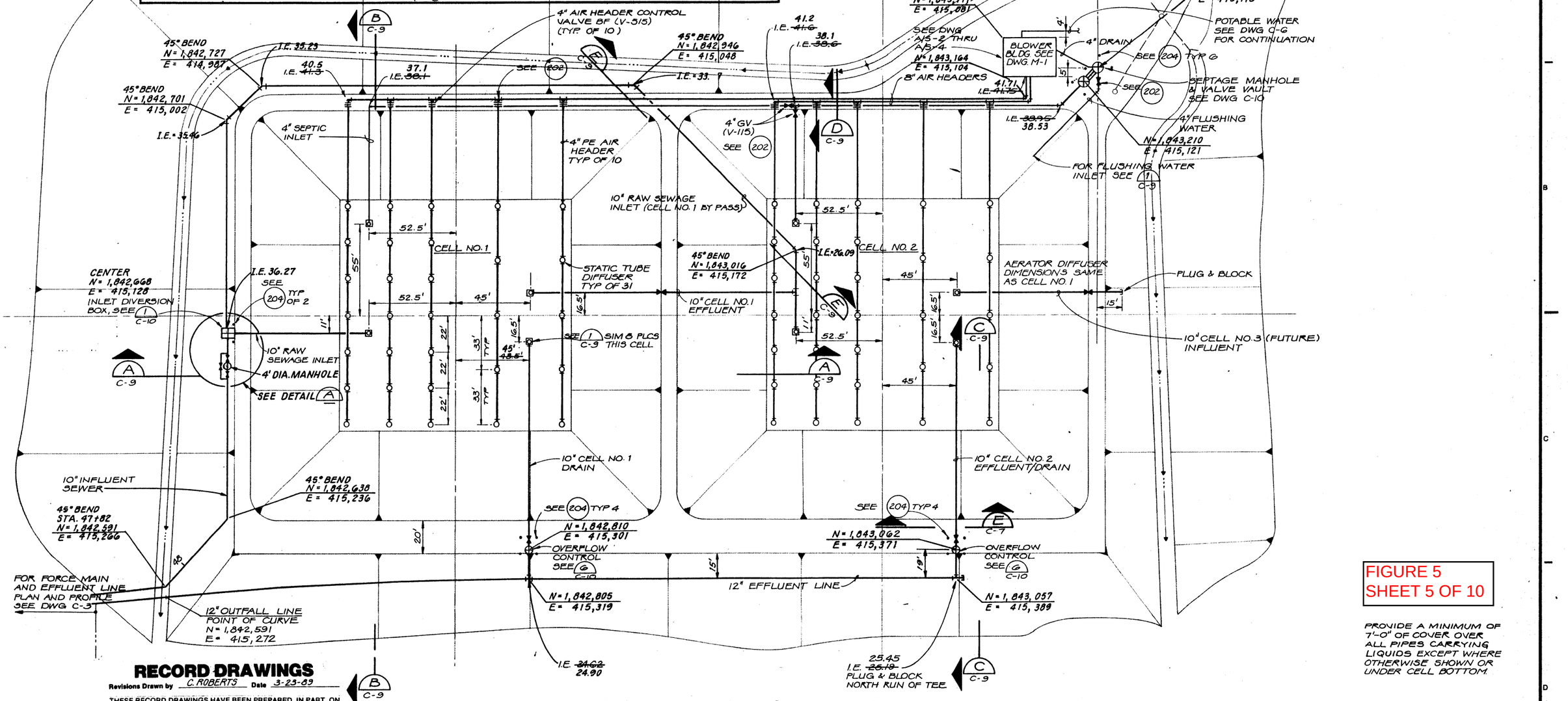
DILLINGHAM, ALASKA
SEWAGE TREATMENT FACILITY IMPROVEMENTS

LAGOON PIPING PLAN

SHEET NO.
FIG 4

SCALE:SHOWN	DESIGNED: FJV	CHECKED: FJV	DRAWN:SJW	DATE: 01/25/10	SHEET 4 OF 10





LAGOON YARD PIPING PLAN

1"=30'

RECORD DRAWINGS

Revisions Drawn by C. ROBERTS Date 3-23-89

THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED BY OTHERS. THEY ARE NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION, TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

STATE OF ALASKA — 49TH — Max A. Schmiege — No. 4265-E — REGISTERED PROFESSIONAL ENGINEER

CH2M HILL

DSGN D. WRIGHT
DR G. GRIEVE
CHK M.A. Schmiege
APVD

NO.	DATE	REVISION	BY	APVD
	3-23-89	RECORD DRAWING-INFORMATION PROVIDED BY CONTRACTOR.	CR	MAS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

CITY OF DILLINGHAM
DILLINGHAM, ALASKA

SEWERAGE SYSTEM IMPROVEMENTS

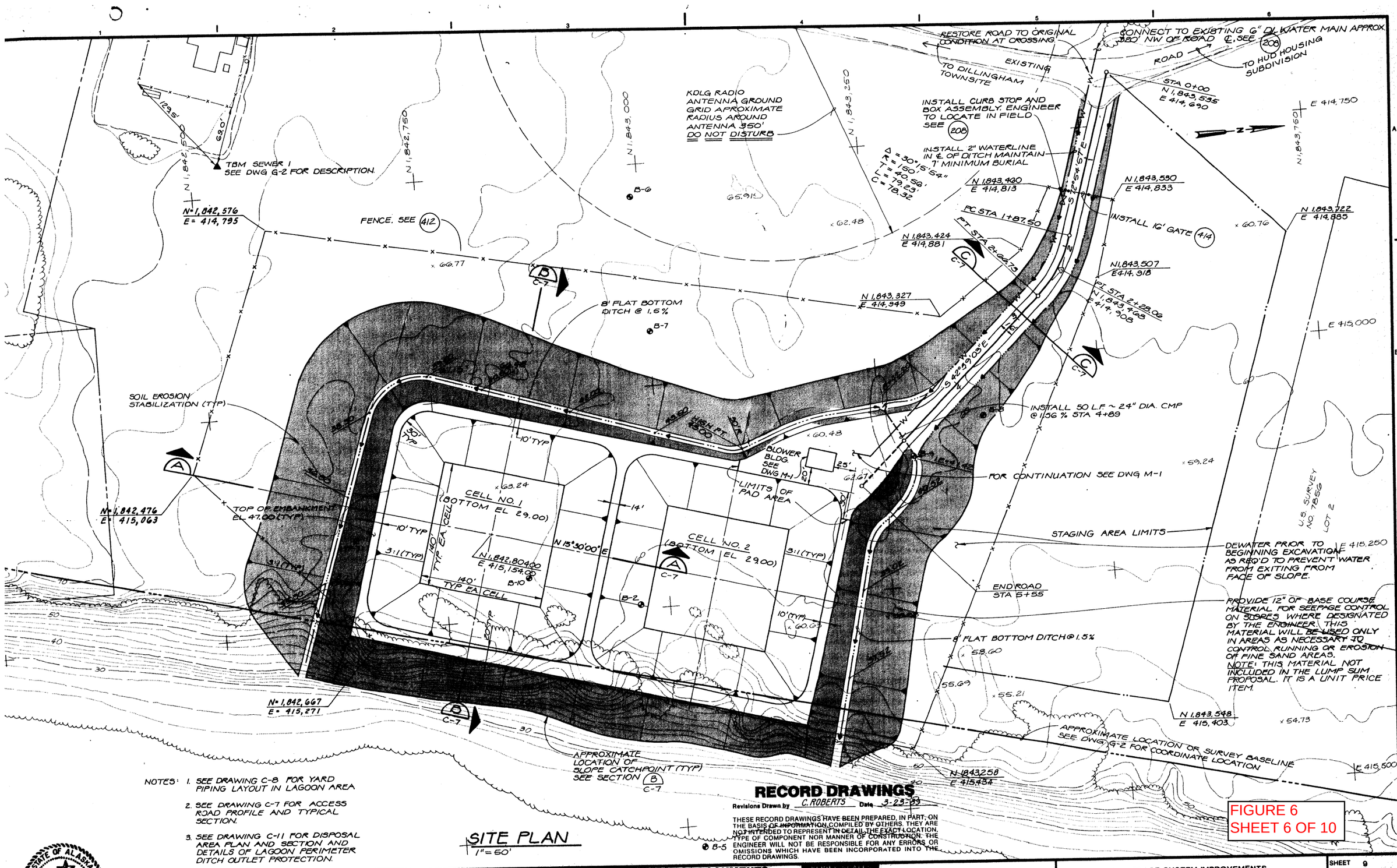
LAGOON YARD PIPING PLAN

SHEET 11
DWG NO. C-8
DATE JUNE 1986
PROJ NO. K20297.A1

FIGURE 5
SHEET 5 OF 10

PROVIDE A MINIMUM OF 7'-0" OF COVER OVER ALL PIPES CARRYING LIQUIDS EXCEPT WHERE OTHERWISE SHOWN OR UNDER CELL BOTTOM.

G11



NOTES:

1. SEE DRAWING C-8 FOR YARD PIPING LAYOUT IN LAGOON AREA
2. SEE DRAWING C-7 FOR ACCESS ROAD PROFILE AND TYPICAL SECTION.
3. SEE DRAWING C-11 FOR DISPOSAL AREA PLAN AND SECTION AND DETAILS OF LAGOON PERIMETER DITCH OUTLET PROTECTION.

SITE PLAN
1" = 60'

RECORD DRAWINGS

Revisions Drawn by C. ROBERTS Date 3-23-89

THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED BY OTHERS. THEY ARE NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION, TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

FIGURE 6
SHEET 6 OF 10

STATE OF ALASKA 49TH — Mark A. Schmiege No. 4265-E — REGISTERED PROFESSIONAL ENGINEER

CH2M HILL

DSGN	K.B. HEPPE
DR	C.D. FILER
CHK	M.A. Schmiege
APVD	

NO.	DATE	REVISION	BY	APVD
	3-23-89	RECORD DRAWING-INFORMATION PROVIDED BY CONTRACTOR	CR	MAS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

CITY OF DILLINGHAM
DILLINGHAM, ALASKA

SEWERAGE SYSTEM IMPROVEMENTS

LAGOON AND ACCESS ROAD SITE PLAN

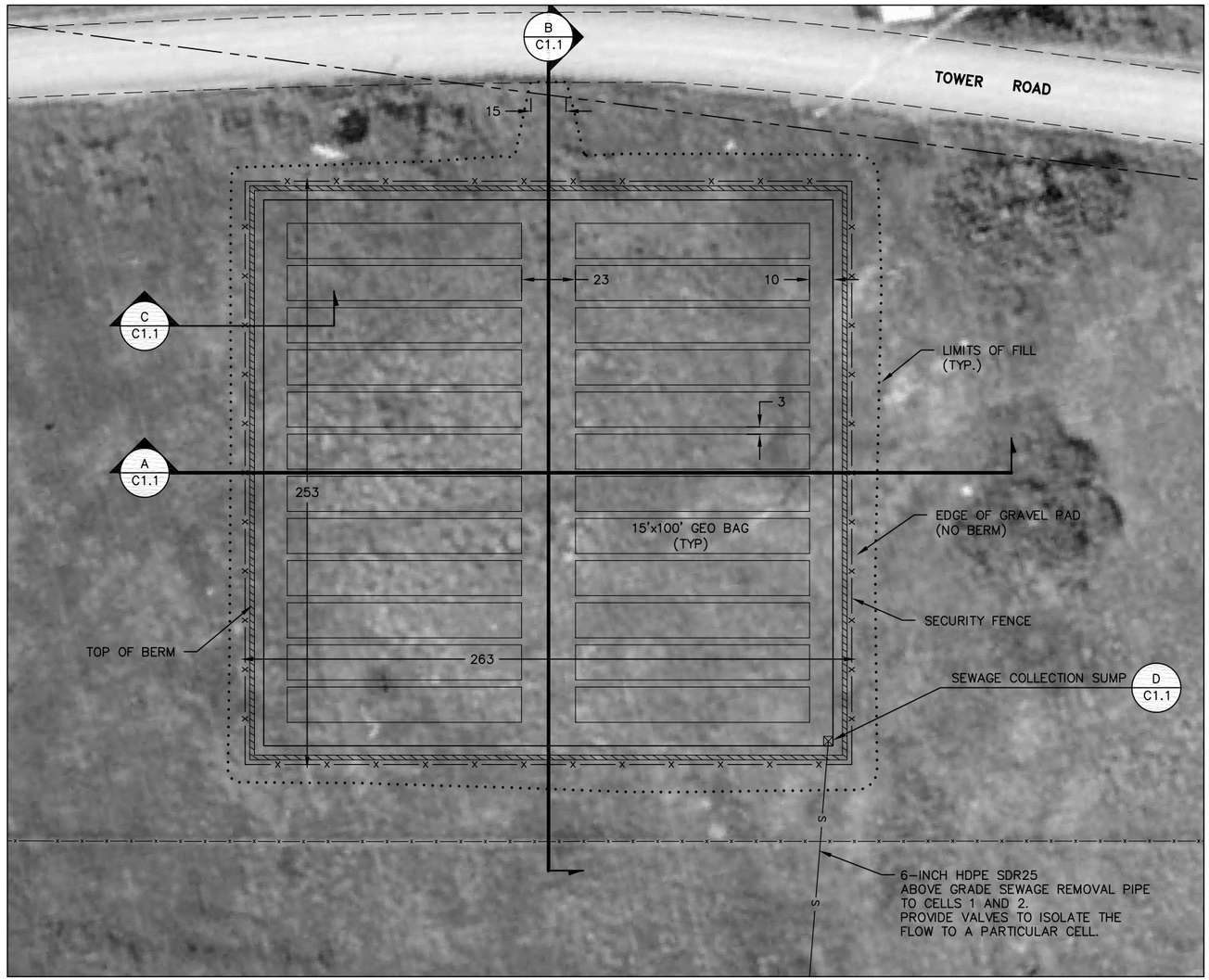
SHEET	9
DWG NO.	C-6
DATE	JUNE 1988
PROJ NO.	K20297.A1

69

1 / – **SLUDGE DEWATERING PAD LOCATION**
SCALE: NTS

MAPPING NOTES

MAPPING IS BASED ON PHOTOGRAPHY ACQUIRED BY AERO-METRIC INC. ON 7-11-2000 AT A NOMINAL SCALE OF 1"=1000'. MAP PROJECTION IS BASED UPON ALASKA STATE PLANE COORDINATE SYSTEM 1983, ZONE 6.



2 / – **SLUDGE DEWATERING PAD**
SCALE: SHOWN

30 0 15 30
HORIZONTAL SCALE IN FEET

SUMMARY OF QUANTITIES			
ITEM NO.	ITEM	UNIT	TOTAL
–	GEOTEXTILE SEPARATION	SQUARE YARD	7,400
–	EMBANKMENT	CUBIC YARD	9,850
–	IMPERMEABLE LINER	SQUARE YARD	7,400
–	GEO-TUBES	EACH	24
–	6' SECURITY FENCE	LINEAR FEET	1,020
–	COLLECTION SUMP	EACH	1
–	6-INCH SEWER PIPE	LINEAR FEET	330

PRELIMINARY DESIGN

FIGURE 7
DILLINGHAM, ALASKA
WASTE WATER TREATMENT PLANT STUDY
SLUDGE DEWATERING PAD LAYOUT

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ENVIRONMENTAL & ENGINEERING SERVICES CORPORATION
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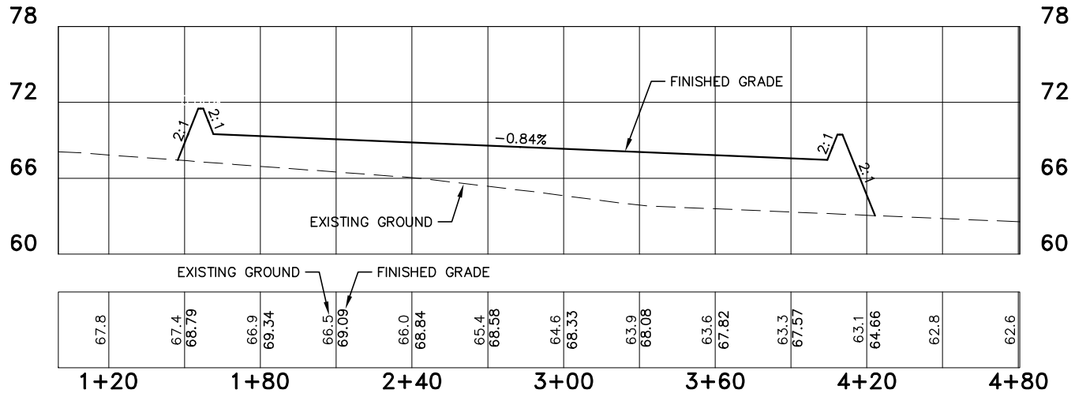
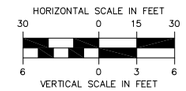
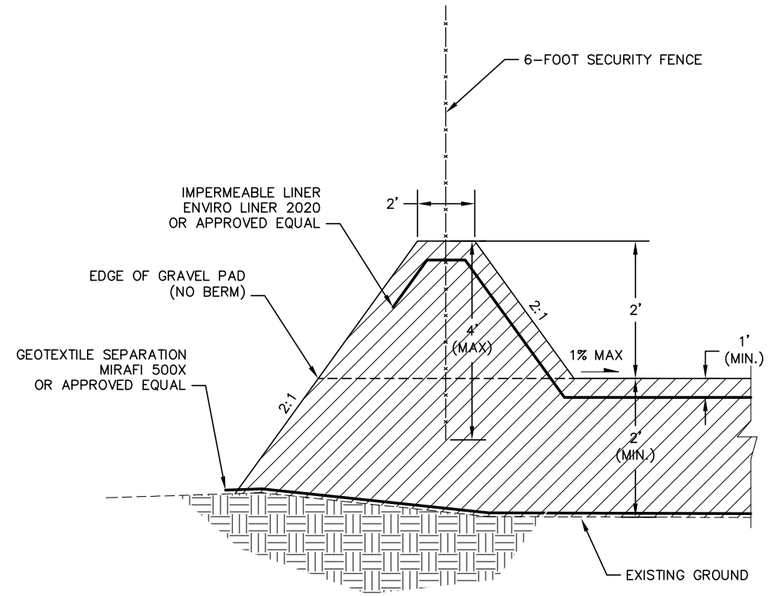
Project No. 210081

DATUM: N/A
PROJECTION: NONE
DATE APRIL 2010
DWN. IPP
SCALE SHOWN
APPRVD. TMW
SHEET 7 of 10

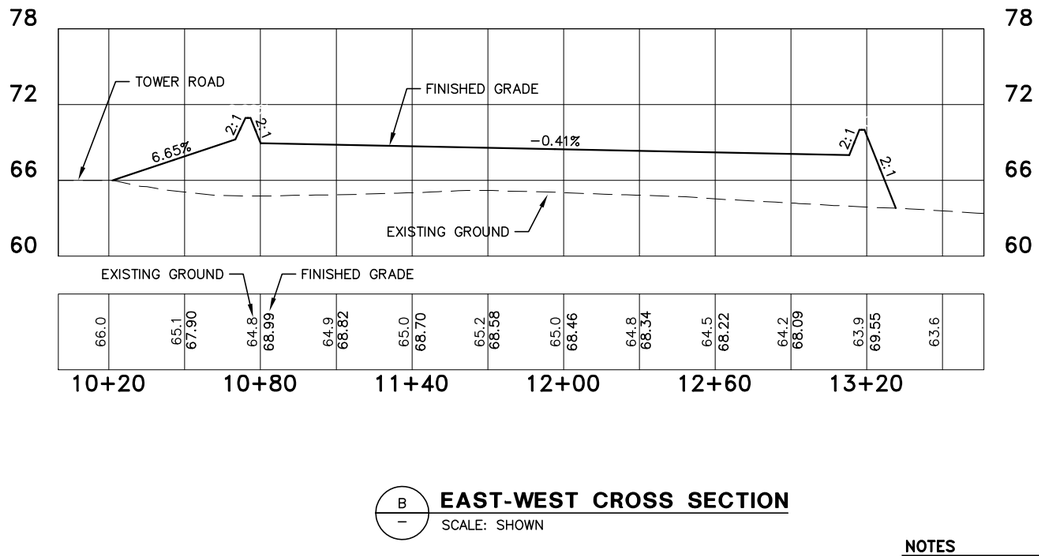




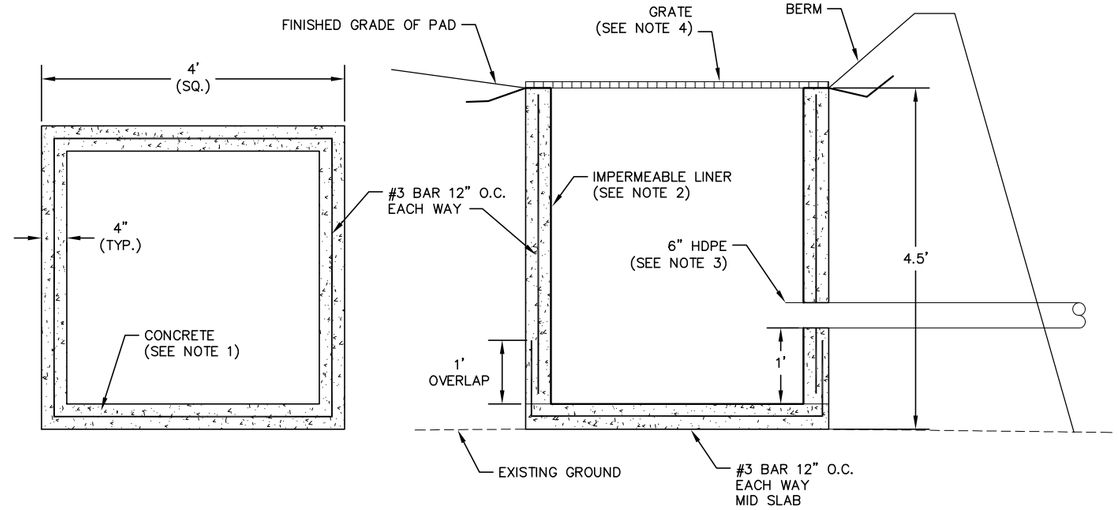
A
–
NORTH-SOUTH CROSS SECTION
SCALE: SHOWN



C
–
TYPICAL PAD SECTION
SCALE: NTS



B
–
EAST-WEST CROSS SECTION
SCALE: SHOWN



D
–
SUMP DETAIL
SCALE: NTS

NOTES

1. THE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS.
2. THE IMPERMEABLE LINER SHALL EXTEND FROM THE PAD TO THE INTERIOR OF THE SUMP TO ENSURE NO SEEPAGE OCCURS FROM THE SUMP.
3. THE 4-INCH HDPE SHALL BE GROUTED IN PLACE TO ENSURE A WATER TIGHT SEAL.
4. A GALVANIZED METAL GRATE SHALL BE SECURED TO THE TOP OF THE SUMP. THE GRATE SHALL BE CAPABLE OF SUPPORTING 400 POUNDS AND SHALL HAVE A MAXIMUM THROUGH SPACING OF 3-INCH
5. A 4-FOOT DIAMETER PRECAST STORM DRAIN MANHOLE MAY BE USED IN LIEU OF THE DESIGN SHOWN. THE SEEPAGE AND GRATING REQUIREMENTS SHALL BE MAINTAINED AS INDICATED ABOVE.

PRELIMINARY DESIGN

FIGURE 8
DILLINGHAM, ALASKA
WASTE WATER TREATMENT PLANT STUDY
SLUDGE DEWATERING PAD DETAILS

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Project No. 210081

DATUM: N/A
PROJECTION: NONE
DATE APRIL 2010
DWN. IPP
SCALE SHOWN
APPRVD. TMW
SHEET 8 of 10

AREA - NIC

PROPOSED SEPTAGE MONOFILL LOCATION

PROPERTY BOUNDARY

MW-2

MW-3

EXISTING MONITOR AND GAS WELLS

AREA D

AREA C

AREA B

AREA F

AREA G

AREA H

AREA A

ACTIVE LANDFILL CELL

MW-1

ALASKA STATE LAND SURVEY 97-68
380 ACRES ±

BUILDING "B"
ADDITIVE ALTERNATE
SEE DRAWING SERIES 6.0

MW-4

EXISTING BARRIER GATE

BUILDING "A"
SEE DRAWING SERIES 6.0

EXISTING BURN FACILITY

EXISTING MAINTENANCE PAD

EXISTING LANDFILL ACCESS ROAD

SURFACE DRAINAGE
(TYPICAL)

0 250 500
SCALE IN FEET

PRELIMINARY DESIGN

SOURCE:
DRAWING TAKEN FROM HDR ALASKA, INC.
HDR CADD FILE: P:\07076.008\ACAD14\CIVIL\DSWC1-4.DWG
CITY OF DILLINGHAM SECTION 33 SOLID WASTE FACILITIES TRANSFER STATION
& EQUIPMENT BUILDINGS PROJECT. (PROJECT LAYOUT)

LEGEND

DIRECTION OF SURFACE WATER FLOW

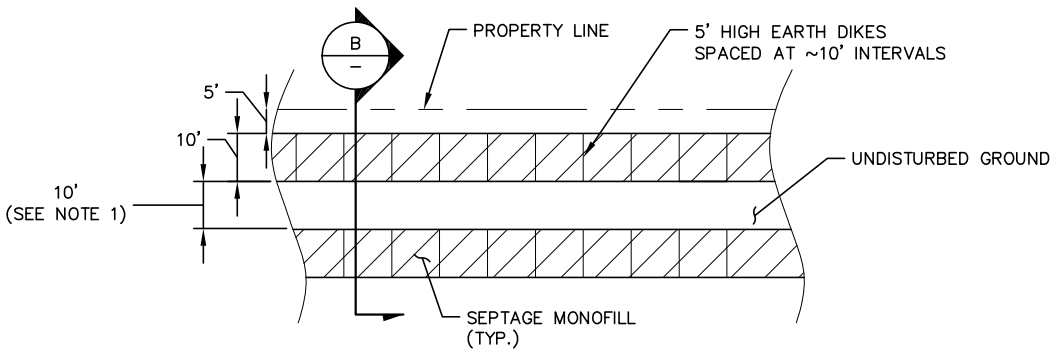
(W) MONITORING WELLS

FIGURE 9
DILLINGHAM, ALASKA
WASTE WATER TREATMENT PLANT STUDY
PROPOSED SEPTAGE MONOFILL LOCATION

Bristol
ENVIRONMENTAL & ENGINEERING SERVICES CORPORATION
Phone (907) 563-0013 Fax (907) 563-6713
Project No. 210081

DATUM:	N/A
PROJECTION:	NONE
DATE	APRIL 2010
DWN.	IPP
SCALE	SHOWN
APPRVD.	TMW
SHEET	9 of 10

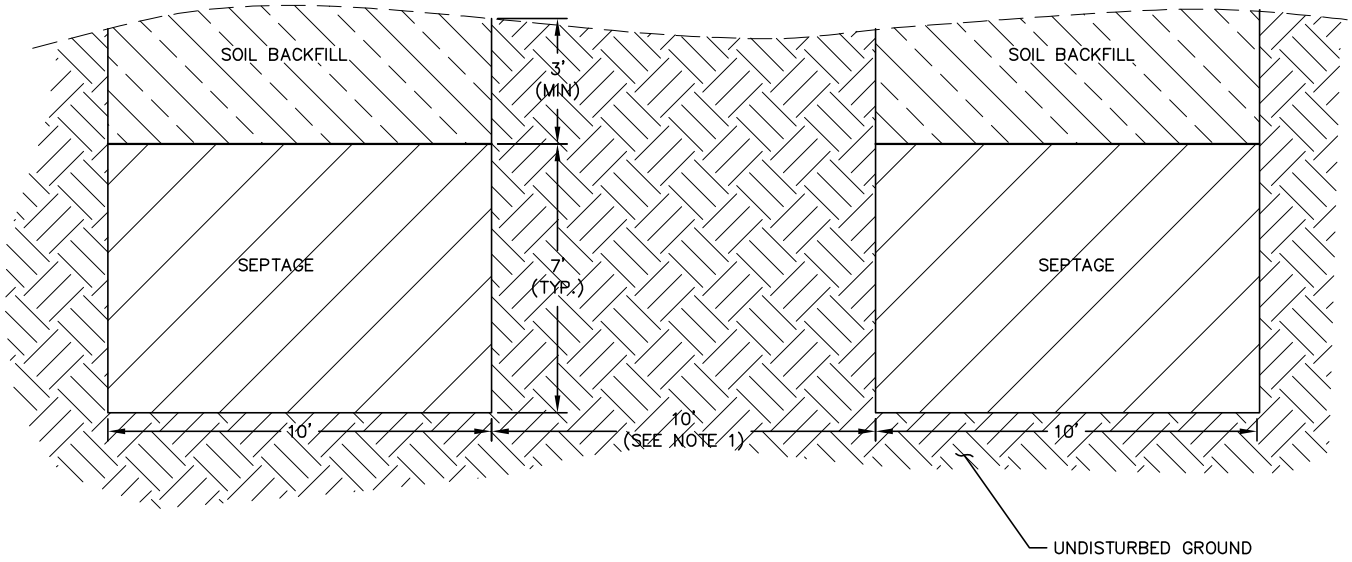
Drawing: K:\JOBS\210081 WWTP STUDY\ACAD-DESIGN\FEASIBILITY\210081_FIG_9-10.DWG - Layout: FIG 4
User: MHMILER May 06, 2010 - 8:40am Xrefs: BR_11X17L.DWG BR_85X11P.DWG - Images: DILLINGHAM LANDFILL.JPG



A
–
SEPTAGE MONOFILL PLAN VIEW
SCALE: NTS

NOTES:

1. THE SPACE BETWEEN THE MONOFILL CELLS MAY BE DECREASED AS LONG AS THE SEPTAGE DOES NOT FLOW FROM ONE CELL TO ANOTHER.



B
–
SEPTAGE MONOFILL PROFILE VIEW
SCALE: NTS

PRELIMINARY DESIGN

FIGURE 10
DILLINGHAM, ALASKA
WASTE WATER TREATMENT PLANT STUDY
PROPOSED SEPTAGE MONOFILL DETAILS

Bristol
ENVIRONMENTAL & ENGINEERING
SERVICES CORPORATION
Phone (907) 563-0013 Fax (907) 563-6713

DATUM: N/A
PROJECTION: NONE
DATE APRIL 2010
DWN. IPP
SCALE SHOWN
APPRVD. TMW
SHEET 10 of 10

APPENDIX A

ADEC Inspection Report (December 2009)

DIVISION OF WATER
WATER QUALITY COMPLIANCE

555 Cordova Street
Anchorage, AK 99501
Phone: (907)269-7560
Fax: (907)334-2415
brent.andrews@alaska.gov
http://www.dec.state.ak.us/water

January 5, 2010
Certified Mail 7008 1830 0003 5208 1895

Mr. Gary Sharrett
City Of Dillingham
P.O. Box 889
Dillingham, AK 99576

SUBJECT: Recent inspection of Dillingham Wastewater Treatment Facility

Dear Mr. Sharrett:

On December 7, 2009 the Alaska Department of Environmental Conservation conducted an inspection of Dillingham WWTF for which we greatly appreciated the facility's cooperation and assistance. Please review the enclosed inspection report and if you have any questions or comments feel free to contact me.

Thank you and sincerely,

Brent J. Andrews

Brent Andrews
Water Quality Compliance Program

Enclosure: APDES Inspection Report

APDES Inspection Report

Alaska Department of Environmental Conservation
Division of Water
555 Cordova St. – Anchorage, AK 99501

ADEC APDES
Inspection Form
Last Updated (4/08)

Phone: (907)269-7560
Fax: (907)334-2415

Section 1: General Data

Inspection Date	Permit Number	Facility Type	Receiving Waters	Weather	Borough
December 7, 2009	AKG570018	Wastewater Treatment/ Category 3	Nushagak River	Conditions: Partly ~ 35° F Last Rainfall: Unknown	Bristol Bay Borough

ANNOUNCED | **SURFACE WATER**

Section 2: Facility Data

Name of Site/Facility	Location	Entry Time:	Permit Effective:
Dillingham Sewage Treatment Facility	Lat: N 59°02'19" Long: W 158°27'06"	11:00 AM	7/21/2004
		Exit Time: 3:15 PM	Permit Expiration: Administratively Extended

Address

City Of Dillingham
P.O. Box 889
Dillingham, AK 99576

Inspection Participants

Brent Andrews / ADEC
Gary Sharrett / City Of Dillingham

On-Site Representative

Gary Sharrett

Responsible Official(s)

Gary Sharrett / Janice Shilanski

CONTACTED PHONE

(907)842-5048

	Yes:	No:
Samples Taken:	X	
Photos Taken:	X	
Analytical Results:		X

Section 3: Findings

Background

The Dillingham Sewage Treatment Facility (Wastewater Treatment Plant / WWTF) was built in July of 1988 as a two-cell aerated lagoon system. According to Mr. Sharrett, the plant operator, there haven't been any major improvements or upgrades since then. The City Of Dillingham's public works department manages the plant and employs Mr. Sharrett full-time with one assistant who are both on-call around the clock. The facility serves a population of 2800, while some in Dillingham are on a septic system that is pumped to trucks and then into the main lagoon. The facility has an authorized continuous discharge of .273 million gallons a day (mgd) into the Nushagak River – one of the most important fishing resources in the state.

Regulatory Status/Compliance History

While there are no current enforcement actions against the City of Dillingham, previously a Compliance Order By Consent (COBC) was drafted by the Department (the Alaska Department of Environmental Conservation / ADEC / DEC) due to numerous and ongoing water quality violations; however, this pending COBC is now dependent on the inspection described here. Municipal Grants and Loans in this Department has also recently focused on improving drinking water and wastewater systems in Dillingham.

Previous to the inspection, Mr. Sharrett and I had been in contact several times about non-compliant discharge monitoring reports (DMR's) that included violations of the fecal coliform count, as well as several violations of the required percentage removal of total suspended solids (TSS), and biochemical oxygen demand (BOD_5). The field inspection conducted on December 7th, 2009 would point to many of these same problems.

Field Inspection

Mr. Sharrett escorted me to the City's Public Works Department (Appendix A) on December 7th, where we arrived at 11:00 AM. An interview was conducted, followed by a facility tour, and a detailed review of 2009's DMRs. The inspection took about four and a half hours.

First, initial basic questions were asked about the above background and compliance history. After this, permit, management questions, and treatment system questions were asked. With regard to the permit, the facility did not have a printed copy of it on hand. They did however, have a copy of the authorization. And the Department also received a new notice of intent (NOI) to discharge from Dillingham on March 17, 2009. This NOI was for extended coverage under a new permit, should one be issued, especially since the permit that Dillingham is currently operating under expired July 20, 2009. DEC has granted continued administrative coverage though. At the same time, the facility should have a letter stating this, but DEC never issued such a letter. If, or as soon as one is issued, it ought to be kept on-site with the permit, the authorization, and/or the original acknowledgement of coverage.

Mr. Sharrett is listed as the operator and on-site contact on the NOI. He has been with the City and in his current role for 13 months. The NOI lists, "[no significant changes] to the quantity or quality of wastewater discharged;" however, Mr. Sharrett expressed concern to me over fecal coliform violations, the age of the system, contributions from septic vendors, sludge removal, infiltration into the lift stations, and infiltration of sewage and wastewater into soils surrounding the lift stations. The treatment system includes seven lifts, all with locks and alarms (Appendix E). The main "dock" lift station has a grinder pump in it that transports waste to the lagoon where one cell is being used as a polishing pond. The City also maintains two other grinder pumps in the system. Wastewater, once treated, is continually discharged through 1700 feet of 12 inch pipe. The outfall terminates into the Nushagak River at a depth of -9 ft. MLLW (mean low low water) where a mixing zone has been authorized.

While it may be easier to comply with water quality standards (WQS) enforced at the edge of the

mixing zone, those of 18 AAC 70, these standards do not supersede those of 40 CFR 133 – so both regulations must be met.[1] Alaska water quality standards are actually slightly more stringent than the federal standards; Alaska thus often authorizes a mixing zone (based on use analysis) whose size is either calculated by a dilution factor or a flow model. Effluent which is compliant with the federal standards is then supposedly "automatically" compliant with Alaska WQS at the edge of the mixing zone.[2] While greater dilution in the mixing zone is not only possible but often occurs, ADEC still requires facilities to sample along the mixing zone to ensure their compliance. After discussing it with Mr. Sharrett, I discovered that the facility was not doing the required mixing zone sampling. Next, Part II.D. of the Permit specifies that the facility must have a Quality Assurance Project Plan (QAP) in place to make certain that data is properly collected and analyzed, valid and verifiable. Dillingham WWTF did not have a QAP in place during the inspection. At the same time however, the facility takes a variety of grab and composite samples that they will want to confirm are collected according to a plan. If the facility would like, the State provides a generic plan that can be used; details are in the permit. Dillingham WWTP also has some specific practices that they may want to write into their own QAP. For instance, I noted that 24-hour composite samples are usually collected at 9 AM, 5 PM, 1 AM, and again at 9AM so that they make the morning Alaska Airlines/PenAir flight out of Dillingham and are thus within required holding times when they get to Analytica, a DEC certified laboratory. The chain-of-custody procedures will also want to go in the QAP.

Holding times for fecal coliform counts should be 6 hours according to 40 CFR 136.3 but must be less than 36. Mr. Sharrett reports that often sample analysis extends into the 36 hour window and that he had to resample once when the couriers took too long. He also stated that after working with Analytica for a while, holding times are getting better. In addition to checking for the QAP, I looked to make sure *Standard Methods* were being used. The facility should have a copy of this text on hand. An MSDS book is also a good idea, and several MSDS sheets were observed during the inspection walk-around (Picture 19). An operations and maintenance (O&M) manual was also found. Mr. Sharrett performs routine maintenance and fixes anything in the system that needs specialized knowledge. The City's crew, together with Mr. Sharrett, perform good housekeeping, clean-up, and janitorial measures throughout the system. If the City was to have a power outage, blowers would have to be reset, and lift stations would have to be checked, especially the dock lift. While there are alarms on the lift stations for high levels, if levels get too high, the City can also contract a pumper to help.

After leaving the Public Works building, Mr. Sharrett and I went to look at the lagoon and outfall. Upon approaching the facility, it was evident that there was fence up and a lockable gate (Picture 1). However, the sign at the entrance merely said "No Trespassing" and did not identify the plant as the City Of Dillingham Sewage Treatment Facility. Snow piled up high next to the gate also made some fence appear if it was falling down (Picture 2). We drove past the blower room and lab (Picture 3) and to the side of the lagoon (Picture 4). This is where one of the sewage inlets can be seen (as in Picture 5 and Appendix D). Also immediately to the right, a ditch containing stormwater was observed (Picture 6). This ditch, according to Mr. Sharrett, is not connected to or part of the treatment system. At the same time, due to the ditches close proximity to wastewater (Picture 7) and the fact that the lagoon is not lined, potentially serious water quality impairments may be

[1] See 18 AAC 70.020(b), and 40 CFR 133.102/40 CFR 133.105 specifically.

[2] And vice versa. If you're non-compliant with the effluent treatment requirements you're theoretically non-compliant with the mixing zone WQS authorized limits.

present in the ditch via runoff or percolation. Testing stormwater in the ditch would be the only way to know. Nearby, less than 25 feet from the ditch, raw sewage from a septic vendor had been recently dumped (Picture 8). Dumped sewage is intended to be treated in the lagoon; however, it was noticed that the most direct distance to Cell 2, along the side of the lagoon, was not aerated (Picture 9). After this, Mr. Sharrett opened the inlet diversion box, where influent flows from. I estimated that influent entering the lagoon normally must pass through about 200 feet of aeration, whereas pumped sewage receives only about 100 feet of primary treatment passing alongside the basin. We also briefly observed the overflow control manholes, aka Cell 1's bypass system.

Next, we entered the blower building. Blower motors appeared well maintained and in good condition (Picture 12). In the blower room some safety equipment was noticed (Picture 13), a first aid kit as well, and a lab area. Near the lab area, Mr. Sharrett's Wastewater Treament 2 certificate from the State of Alaska was photographed (Picture 14). Passing through fairly quickly, and just outside again, the "HUD" lift was looked at. Mr. Sharrett discussed the possibility of using this lift as an alternate dumping area for the pump truck.[3] If this is a viable option, the capacity of the station would have to be carefully assessed. Mr. Sharrett also talked about doing some pretreatment nearby with the use of an 8000 gallon storage tank, grit chamber, and pre-aeration.

At the effluent Mr. Sharrett took a grab sample (Pictures 15/16) which then D.O. and pH were measured off of (Picture 17). pH measured 7.5 and the measurement was not duplicated. The D.O. meter was not calibrated before, but the membrane was O.K., and the sample was actively stirred. A stable reading of 5.4 mg/L was found. Despite that this is above the permit authorization minimum of 2.0 mg/l for D.O., the Alaska Water Quality Standard specifies that, "D.O. must be greater than 7 mg/l in waters used by anadromous fish... In no case may D.O. be greater than 17 mg/l." Because of the Nushagak's status as a fish bearing water body, a D.O. reading of 5.4 mg/l may be a potential violation of WQS's. When I next asked how the facility measured flow, Mr. Sharrett stated that a letter from DEC allowed them to report a daily quantity of .273 million gallons, and that the facility did not actually monitor or know how flow fluxuated. Unfortunately this number is used in some effluent calculations such as pounds per day removed, and by using such an assumed flow rate the facility could be overestimating some of the numbers it reports. I discussed this possibility briefly with Mr. Sharrett.

As we were leaving the facility to view the outfall I jotted some additional notes on the lagoons. First, it looked like there was plenty of freeboard; the lagoon averages 14 ft. deep, and freeboard was 4 ft., so therefore it might hold 1/3rd more. Also, there was no erosion or seepage evident, and no floating material; there were however a few dead spots near the edges and some grass and vegetation even though Mr. Sharrett stated that a backhoe had dug most of it up in the summer. We also talked about the need to dredge sludge since it has never been done. This is probably pressing.[4]

We found the outfall more than 1/4 mile away. I hiked down a hillside and found a sign pointed toward an icy access road (Picture 20/21). Ice was also flowing in the Nushagak River at a fairly decent speed, probably helping to disperse pollutants at that point in the tide. No foams, grease, sheen, colors, or other wastewater remnants were observed.

[3] Because the lift pumps to the inlet in Picture 5.

[4] See 40 CFR 503 for specific regulations regarding sludge removal.

To conclude the inspection, evaluation of 2009's DMRs was conducted by hand. My tally illuminates some problems with effluent sampling and treatment effectiveness. 4 D.O. violations were found, 4 fecal coliform mixing zone violations, 1 BOD_5 concentration and 3 BOD_5 percent removal and 3 TSS percent removal violations were discovered; moreover, the facility reported 20 violations for 20 sampling results for fecal coliform concentrations – all in 2009. There were no violations for pH or TSS concentrations.

Sampling Activities

While DEC did not sample, the facility did and the sample results are described above.

Records Review

All records reported here were reviewed on-site.

Summary

In 2009 the facility recognized that ongoing problems were present. Effluent limitations were not being met, especially for fecal coliform counts, but also for removal of TSS and BOD_5. Possibly adding to these problems, the facility's choice not to monitor flow could skew pounds per day removed as it's calculated on DMR's. Mixing zone sampling was also not conducted in 2009. Other problems like sludge removal, the lagoon not being lined, and possible infiltration from the lifts to stormwater flows and soils also plague the City.

Paperwork items are of some concern too. First, the required copy of the permit was not on-hand. Next, the facility was missing a QAP, required by section II.D of the permit.

Section 4. Compliance Recommendations

Administrative Violations

35 violations were found during the inspection. Once again those were:

- 20 fecal coliform concentration violations,
- 6 percent removal violations,
- 4 mixing zone violations,
- 4 D.O. concentration violations, and
- 1 BOD_5 concentration violation.

Potential Water Quality Violations

D.O. above the minimum permit authorized limit but below the minimum limit allowed for the growth and propagation of aquatic life may be an additional violation; also several pH measurements on Dillingham's DMRs were above 8.5, which is pH's limit for anadromous waterbodies; however, the City again has an authorized permit limit of 9.0 and no readings were recorded this high in 2009. Mixing zone sampling will be needed to verify and determine the extent of the D.O. and pH problems described here, if any exist. Also, while the permit specifies that "a copy of [the] general permit must be kept at the site where discharges occur," and there wasn't one on site, the permit can easily be obtained from the internet. Still, having a printed copy is

sometimes necessary, and not having one is a potential violation. The same is true for the QAP, it can be easily obtained online, but the facility should have one immediately available. Additionally, any correspondence that backs up the facilities authorization to discharge needs to be kept with the permit. The facility should also have a copy of *Standard Methods* on hand. Lastly, signage for the entrance of the treatment works should properly identify the facility.

Action Items

To alleviate ongoing or potential water quality violations the following recommendations are made:

1. Collect the permit, authorization, and any similar correspondence in a location that can be accessed at a moment's notice.
2. Generate a QAP that describes sampling procedures in line with *Standard Methods* and has facility specific practices described as well. Include with the QAP, the normal chain-of-custody procedure and the normal DEC certified laboratory used for sample analysis.
    a. Keep chain-of-custody records in a file as specified by Section III.F of the Permit.
3. With DMR's keep non-compliance reports.[5]
4. Keep MSDS and O&M books both in the lab and in the public works building (see Sections IV.H and IV.E for more),
5. Within 30 days, develop a plan to reduce the chronic nature of ongoing water quality violations. This may include moving the septic dumping site, aerating dead spots, installing curtains, removing sludge, adding disinfection, or any other measures the City sees fit. It is up to the City to determine what is needed, but remember that ongoing violations have potentially serious implications, including monetary and criminal penalties. If desired an engineer's assistance is available through the Alaska Native Tribal Health Consortium (ANTHC) and DEC can put you in touch with that engineer if you require their contact information.
6. Please also include within the plan, future mixing zone sampling activities.
    a. Plan on sampling the edge of the mixing zone for D.O. and pH as well.
7. Hang a sign identifying the lagoon as a treatment works, although keep the trespassing notices up as well.
8. Sample the stormwater ditch next to the lagoon for fecals and other pollutants. You may want to sample in the ditch and at the ditches outfall.

Please remember that these are only recommendations; they do not bear the force of formal enforcement action.

Signatures

Thank You

Thank you for having me at your facility.

Inspector Date: January 6, 2010	Date:
Brent J. Andrews - Environmental Program Specialist II	

[5] See III.G of the Permit... although it's not specific to records retention.

Alaska Dept. of Environmental Conservation Division of Water – Compliance Program 555 Cordova St. – Anchorage, AK 99501 P: (907)269-7560 C: (907)723-6822 brent.andrews@alaska.gov	

Photo Addendum

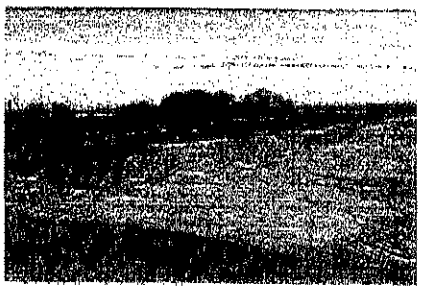
Photo 001	Photo 002	Photo 003
		
Gate (Facility Unidentified)	Additional Fencing (Some Below Snow Height)	Blower Room / Lab

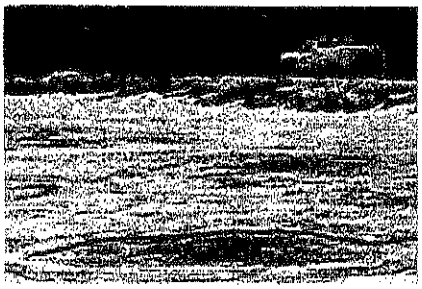
Photo 004	Photo 005	Photo 006
		
Aeration / (Inflow Next to Truck)	(Inflow Next to Truck in Picture 4)	Ditch (Next To Lagoon)

Photo Addendum

Photo 007	Photo 008	Photo 009
		
Ditch Proximity to Treatment Facility	Recently Dumped Sewage	Proximity of Septic Dump to Lagoon Outfall

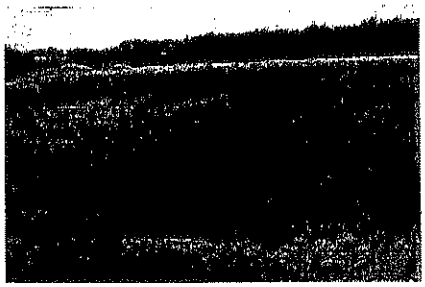
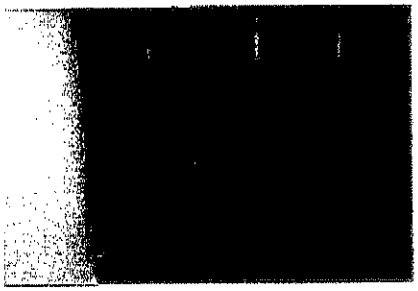
Photo 010	Photo 011	Photo 012
		
Facility Panorama	Polishing / Sedimentation Lagoon	Blowers

Photo Addendum

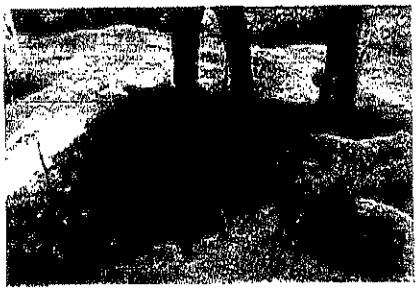
Photo 013	Photo 014	Photo 015
		
Safety Equipment (in Blower Room)	Mr. Sharrett's WT2	Effluent / Sampling Point

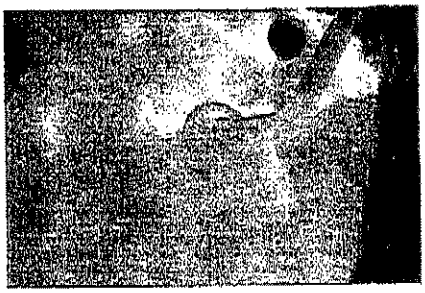
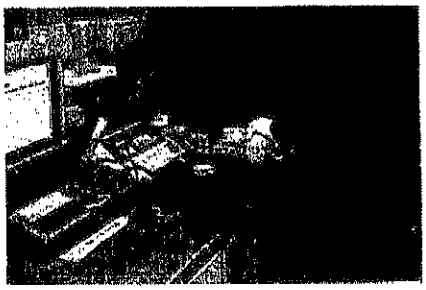
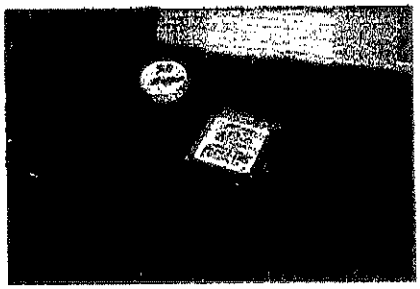
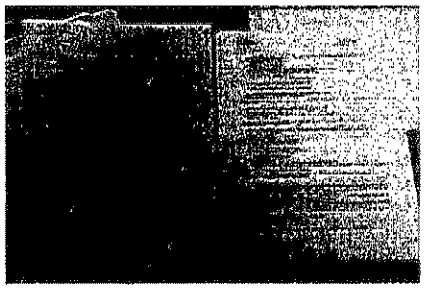
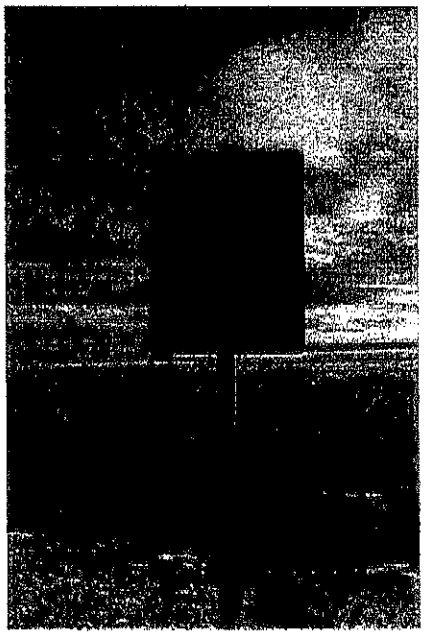
Photo 016	Photo 017	Photo 018
		
Sample Taken	Testing for pH and D.O.	pH Calibration (7.0 Buffer Expiration Unknown)

Photo Addendum

Photo 019	Photo 020	Photo 021
		
Some MSDS Sheets	Outfall Sign (GPS Coordinates Section 2)	Outfall / Nushagak River

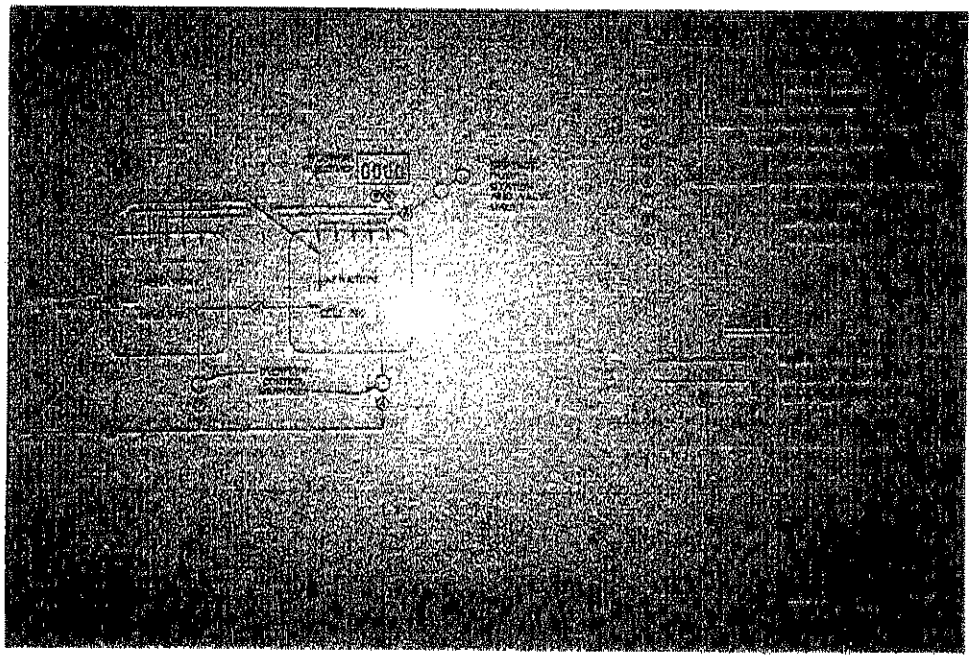
Appendixes

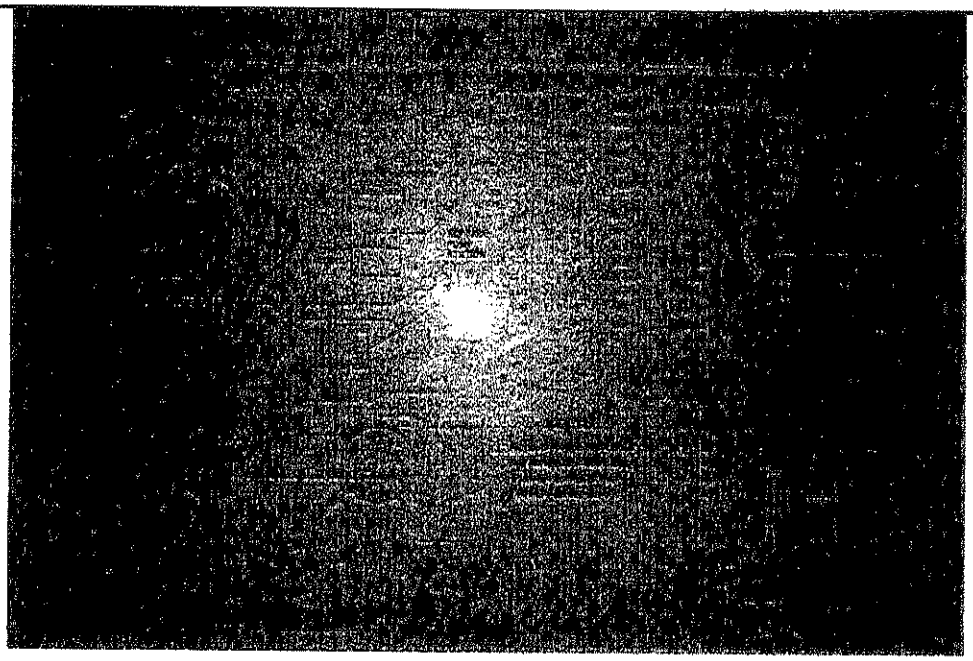
Appendix A: Public Works Building

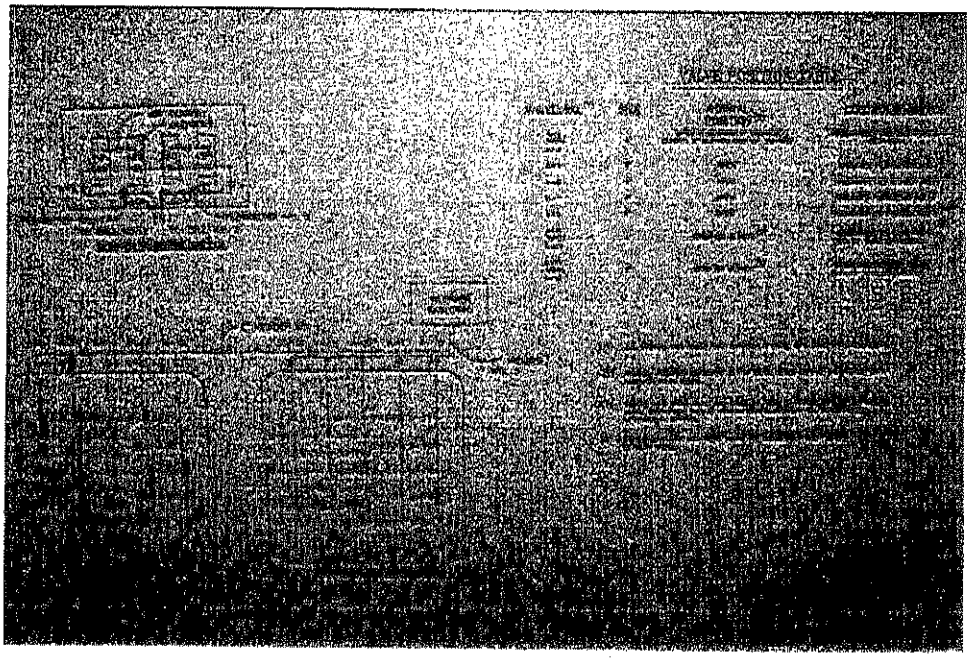
Appendix B: Aerial Photo

Appendix C: Topographic Map of Area

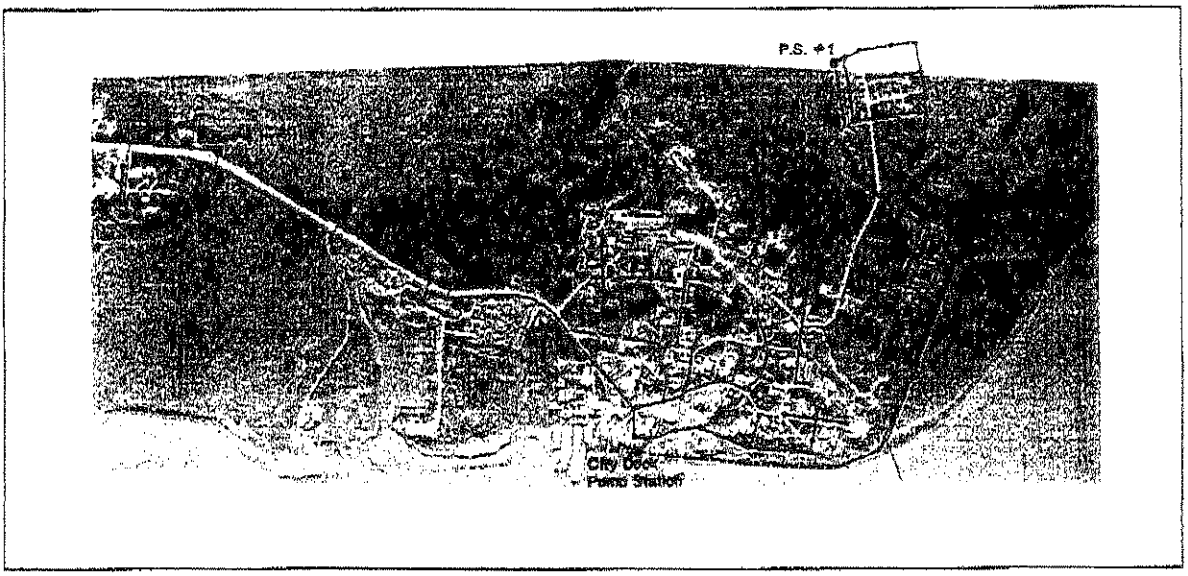
Appendix D: Facility Diagram







Appendix E: Lift Stations Locations


P.S. #1
City Dock
Pump Station

APPENDIX B

Preliminary Engineers Estimates

PRELIMINARY ENGINEER'S ESTIMATE

Sludge Dewatering Pad

Item	Estimated Quantity	Unit of Measure	Unit Bid Price	Total
Mobilization/Demobilization	1	Lump Sum	$ 5,000.00	$ 5,000.00
Construction Surveying	1	Lump Sum	$ 5,000.00	$ 5,000.00
Embankment	9850	Cubic Yard	$ 30.00	$ 295,500.00
Impermeable Liner	7400	Square Yard	$ 4.00	$ 29,600.00
Geotextile	7400	Square Yard	$ 2.00	$ 14,800.00
Culvert (18")	20	Linear Foot	$ 95.00	$ 1,900.00
Sump	1	Each	$ 5,000.00	$ 5,000.00
6" HDPE Pipe	330	Linear Foot	$ 50.00	$ 16,500.00
Fence	1020	Linear Foot	$ 100.00	$ 102,000.00

Subtotal		$ 475,300.00
Contingency	15%	$ 71,300.00
Total Construction Costs		**$ 550,000.00**

Assumptions:

1. Local contractor will perform the construction.
2. Geotubes and associated pumps for filling are not included.

PRELIMINARY ENGINEER'S ESTIMATE
Septage Disposal Station @ WWTP

Item	Estimated Quantity	Unit of Measure	Unit Bid Price	Total
Mobilization/Demobilization	1	Lump Sum	$ 15,000.00	$ 15,000.00
Site Preparation	1	Lump Sum	$ 10,000.00	$ 10,000.00
Site Electrical	1	Lump Sum	$ 22,000.00	$ 22,000.00
Collection System	1	Lump Sum	$ 12,000.00	$ 12,000.00
5000 gal Tank	1	Lump Sum	$ 35,000.00	$ 35,000.00
Macerator Pump system	1	Lump Sum	$ 18,000.00	$ 18,000.00
Discharge Piping	350	Linear Foot	$ 200.00	$ 70,000.00

Subtotal		$ 182,000.00
Contingency	15%	$ 27,300.00
Total Construction Costs		**$ 210,000.00**

Assumptions:
1. Local contractor will perform the construction.
2. Disposal Site will Utilize a portion of the Sludge dewatering pad.
3. Assumes year round use.
4. Allow for $20,000 annual O&M.

PRELIMINARY ENGINEER'S ESTIMATE
Septage Monofill

Item	Estimated Quantity	Unit of Measure	Unit Bid Price	Total
Mobilization/Demobilization	1	Lump Sum	$ 5,000.00	$ 5,000.00
Construction Surveying	1	Lump Sum	$ 10,000.00	$ 10,000.00
Clearing and Grubbing	2.5	Acre	$ 10,000.00	$ 25,000.00
Embankment (Road)	2500	Cubic Yard	$ 30.00	$ 75,000.00
Geotextile (Road)	3800	Square Yard	$ 2.00	$ 7,600.00
Excavation	1600	Cubic Yard	$ 7.50	$ 12,000.00
Cover Ditch w/ Excavation	500	Cubic Yard	$ 7.50	$ 3,750.00
Fence	1800	Linear Foot	$ 100.00	$ 180,000.00

Subtotal		$ 318,350.00
Contingency	15%	$ 47,760.00
Total Construction Costs		**$ 370,000.00**

Assumptions:
1. Local contractor will perform the construction.
2. The construction costs indicated reflect the first year start-up cost.
3. The anticipated annual cost for excavating and covering the monofill is $18,000.
4. Construction costs would be eligible under existing ADEC solid waste grant.

APPENDIX C

USACE Memorandum of Snag Point Bank Stabilization Inspection

CEPOA-EN-CW-HH (1105-2-10b)

MEMORANDUM THRU CEPOA-EN-CW-HH (Eisses), FOR THE RECORD

SUBJECT: Inspection of Completed Works, Dillingham Bank Stabilization, Snag Point Bulkhead, Dillingham, Alaska 21 September 2009.

1. GENERAL: On September 21, 2009 Mary Azelton (CEPOA-EN-CW-HH) and Robert Tedrick (CEPOA-EN-CW-HH) traveled to Dillingham, Alaska. The purpose of this visit was to inspect the erosion protection project placed by the Corps of Engineers on the shoreline at Dillingham, Alaska in 1999. The location of the bulkhead is directly adjacent to the city dock.
2. BACKGROUND: Dillingham is located at the extreme northern end of Nushagak Bay in northern Bristol Bay, at the confluence of the Wood and Nushagak Rivers. It is approximately 327 miles southwest of Anchorage and is a 6 hour flight from Seattle. Dillingham is located in the Bristol Bay recording district.
3. OBSERVATIONS:
    a. We began the inspection at 1030 and finished at approximately 1230. The weather during the inspection was lightly overcast with a few light rain showers, and clearing as the morning progressed. The temperature was approximately 50ºF.
    b. The tide was going out during the inspection with the low tide occurring at 1300 and the high tide at approximately 1915 that day. The tide at Dillingham can see fluctuations in the 20 foot range.
    c. We inspected the revetment from west to east following the toe of the bulkhead and then walked from east to west along the top of the bulkhead. The project appears to be in overall good condition with no visual signs of distress.
    d. This inspection is a follow up to a September 25, 2008 inspection that we conducted to evaluate scour at the bulkhead toe.
    e. Scour measurements were taken from mud-line to top of lower wale channel using a fiberglass rod. The rod was held vertically at the base of the wall, resting on the mud-line. Readings were taken by eye from near the river's edge. Design Wale elevation taken from design drawings was 22.5' with a 2.5" spacing between wale channels. Design survey mud-line elevations (see Figure 1.) have been estimated from the contract drawing site plan.
    f. Scour at toe in some locations exceeds design scour allowance, see Figure 1.
    g. Our comparison of the design drawings and the as-built information revealed a conflict in the design drawings that was apparently not resolved in a conservative manner. Tie rod spacing is typically 16' with 12'-6" spacing used in areas where the original mud-line elevation was below 17' MLLW. Site plan drawing C-2 shows the smaller spacing from STA 20+60 to STA 23+30. Typical Section A on drawing C-3 indicates the tighter spacing to be from STA 20+60 to STA 22+30. The as-built drawings for the project indicate that the layout indicated on drawing C-3 was followed. Thus, approximately 100' of the bulkhead was built with 16' tie rod spacing where 12'-6" spacing was intended by the designer.
    h. Access ladders were noted at the following stations: 13+26, 15+79, 16+81, 19+68 and 23+00. Ladders are extensively damaged (possibly from ice) and are non-functional.

i. Exposed force main was visible at station 21+00 for approximately 19' and then again at station 22+50 for 63'. This line is identified as a 10" ductile iron force main on the project drawings.
j. Approximately 37' of sewer pipe (HDPE with concrete anchor blocks) was exposed near the east end of the bulkhead. This line is identified as a 12" sewer outfall on the project drawings. The anchor blocks are visible a photo taken during the 2008 inspection.
k. At station 23+93 there is a slight bulge in the waler. This was not noticed on the previous year's inspection and will be monitored on future inspections.
l. Drainage at bulkhead appears to be functioning well.
m. See Figure 1. for a table of scour measurements.
n. Photographs from inspection follow.

4. Recommendations:
   a. Continue annual monitoring of scour at the base of the bulkhead.
   b. Ladders need to be repaired, extended to near the mud-line, and maintained.
   c. Provide protective cover for the 10" ductile iron force main to prevent this line from damage that could cause an uncontrolled discharge of sewage. The cover for this line should be monitored, especially after storms.
   d. Monitor the exposure of the sewage outfall, especially after storms.
   e. Annually monitor the small bulge noted in the waler near STA 23+93.
5. For additional information please contact Mary Azelton (phone 907-753-5706, email Mary.T.Azelton@usace.army.mil) or Robert Tedrick (phone 907-753-5745, email Robert.C.Tedrick@usace.army.mil).

Mary T. Azelton 2/18/2010

MARY AZELTON
Hydraulic Engineer
Hydraulics/Hydrology Section

Robert C. Tedrick 2/18/10

ROBERT TEDRICK, P.E.
Structural Engineer
Hydraulics/Hydrology Section

Enclosure: 1 Figure
13 Photos

STATION	DESCRIPTION	Approximate Design Survey Toe Elevation (ft)	Minimum Design Toe Elevation with 5' Scour (ft)	Approximate Measured Toe Elevation Sept 25 2008 (ft)	Approximate Measured Toe Elevation Sept 21 2009 (ft)	CHANGE (2009 minus 2008) Positive is increased scour (ft)
10+00	Begin Bulkhead	25	12	N/A	N/A	
10+90	Angle Point 1	18.5	12	18.3	17.7	0.6
11+00		18.5	12	17.8	17.5	0.3
12+00		18.5	12	16.6	15.8	0.9
13+00		18.5	12	15.7	15.7	0.0
13+10	Angle Point 2	18.5	12	15.7	15.5	0.2
14+00		18.25	12	15.0	14.1	0.9
15+00		17	12	14.1	13.8	0.3
15+30	Angle Point 3	17	12	13.9	14.0	0.0
15+85 -	End Low Wall	17.25	12	13.1	12.9	0.2
15+85 +	Begin High wall	17.25	10	13.0	13.0	0.0
16+00		16.5	10	12.6	12.8	-0.1
16+40	Angle Point 4	14.5	10	11.3	11.4	-0.1
17+00		16.5	10	13.2	12.7	0.5
17+20 -	End High Wall	17	10	13.7	12.8	0.9
17+20 +	Begin Low Wall	17	12	13.6	12.9	0.7
18+00		18	12	13.9	13.4	0.5
19+00		18.25	12	13.2	12.5	0.7
19+04	Storm Drain Conn	17.5	12	13.2	12.7	0.5
19+68	Angle Point 5	20	12	13.2	12.2	1.0
20+00		19	12	11.8	11.3	0.5
20+75 -	End Low Wall	16.5	12	9.5	9.6	-0.1
20+75 +	Begin High wall	16.5	10	9.4	9.6	-0.2
21+00		15.5	10	8.6	8.7	-0.1
21+10	Angle Point 6	15	10	9.2	8.5	0.7
22+00		15.75	10	9.8	10.2	-0.4
22+50	Angle Point 7	15.5	12	9.6	9.1	0.5
22+80 -	End high wall	17	12	10.6	9.4	1.2
22+80 +	Begin Low Wall	17	12	10.7	9.5	1.3
23+00		17.75	12	11.0	10.3	0.7
24+00		17	12	12.0	11.7	0.3
25+00		17.75	12	12.1	11.7	0.4
25+39	Angle Point 8	17.5	12	12.2	11.7	0.6
25+58	@ flat rock	N/A	12	N/A	N/A	N/A
26+00		22	12	N/A	N/A	N/A
26+02	Angle Point 9	22	12	N/A	N/A	N/A
26+25	End Bulkhead	30	12	N/A	N/A	N/A

Red toe elevations are below the minimum design scour elevation.

Light gray shading indicates areas built for scour to +10' MLLW

Darker gray shading indicates area were there was a conflict in anchor rod spacing on the design drawings. Anchor rod spacing in this area is @ 16', should have been 12'-6".

Figure1. Measurements taken from 2008 and 2009 inspections

Photo 1 Beginning of sheet pile bulkhead – Angle Pt. #1 @ STA 10+90

Photo 2 Damaged access ladder near angle Pt. #5 @ STA 19+68

Photo 3 Sheet pile bulkhead – Small bulge in wale @ tie rod @ STA 23+93

Photo 4 End of sheet pile bulkhead – Angle Pt. #8 @ STA 25+39

Photo 5 Exposed section of HDPE sewage outfall pipe

Photo 6 Exposed section of sewage outfall – Approx. 37’ between outermost blocks

Photo 7 Erosion adjacent to project @ upstream/up-station end

Photo 8 Top of wall looking down station

Photo 9 Top of wall looking up station

Photo 10 Exposed force main parallel to bulkhead – Approx. 63’ near STA 22+50

Photo 11 Top of bulkhead looking down station

Photo 12 Drainage near weep hole at top of bulkhead

Photo 13 Top of bulkhead looking down station

Meeting Date: October 19, 2010

CITY OF DILLINGHAM, ALASKA

RESOLUTION NO. 2010-89

A RESOLUTION OF THE DILLINGHAM CITY COUNCIL APPROVING THE FY2012 CAPITAL IMPROVEMENT PROJECTS PLAN

WHEREAS, Dillingham Municipal Code 2.68.160 requires that the Dillingham Planning Commission prepare and recommend to the City Council an annual update of a Capital Improvement Plan; and,

WHEREAS, staff and the public prepared proposals from August 3 to September 13, 2010; and,

WHEREAS, the Planning Department reviewed 41 nominations from staff and the public; and,

WHEREAS, a Project Review Committee, comprising of the Finance Director, the City Manager, the Public Works Director, and the Planning Director reviewed the projects at public workshops September 14 and 16; and,

WHEREAS, the PRC ranked the projects for feasibility, compliance issues, and other pertinent criteria September 20th; and,

WHEREAS, the Planning Commission held public hearings on September 21 and October 5; and,

WHEREAS, the Planning Commission ranked each of the projects based on the community values of impact on community quality of life, health and safety, sustainability, and economic development; and,

WHEREAS, on October 5th the Planning Commission passed Resolution 2010-09, recommending a FY2012 Capital Projects list to the City Council; and,

NOW, THEREFORE, BE IT RESOLVED that the Dillingham City Council approve and adopt the attached FY2012 Capital Improvement Projects Plan.

PASSED and ADOPTED by the Dillingham City Council on October 19, 2010.

SEAL:

Alice Ruby, Mayor

ATTEST:

Janice Shilanski, City Clerk

City of Dillingham Information Memorandum No. R2010-89

Subject: A Resolution of the Dillingham City Council supporting adoption of the FY2012 Capital Improvements Projects Plan

Agenda of: October 19, 2010

City Council Action:

Manager: Recommend approval.

City Manager: Donald Moore

Route To:	Department / Individual	Initials	Remarks
	Finance Director		
X	Planning Director		
X	City Clerk		

Attachment (s). Capital Improvement Projects Plan.

Fiscal Note: Yes ___ No __X__ Funds Available: Federal and state funding request

Summary Statement.

The FY2012 Capital Improvement Projects List was submitted by the Dillingham Planning Commission. This Resolution supports adoption of the FY2012 CIP Plan.

Meeting Date: October 19, 2010

FY12 Capital Improvement Projects List

1. Wastewater Treatment Plant Upgrades
2. Emergency Bank Stabilization at Harbor
3. Snag Point Sewer Line and Force Main
4. Lift Stations
5. Water System Improvements
6. Water Loop Downtown
7. Update 2003 Water and Sewer Master Plan
8. Downtown Streets Rehabilitation
9. D Street.Road Repair and Pedestrian Path
10. Fire Station and Public Safety Building Planning
11. Tanker Truck
12. Equipment Replacement – Public Works, Public Safety
13. Erosion - Squaw Creek to Kanakanak Beach
14. Kanakanak Road and Multi-Use Path
15. Library Roof
16. Senior Center Renovation
17. Harbor East and South Bulkhead
18. Dry Hydrant Reservoir System
19. Fire Control for Landfill
20. Nerka Roads
21. Swimming Pool
22. Landfill Incinerator
23. Greenhouse
24. Hockey Rink Roof
25. Ball Field/Park
26. City Cemetery
27. Live Fire Training Structure
28. Skateboard Park
29. H Harvey Samuelsen Community Cultural Center
30. Lupine Culvert
31. Storage Building
32. Custom Fish Processing Plant

PASSED and ADOPTED this 19th day of October, 2010.

Alice Ruby, Mayor

Janice Shilanski, City Clerk

CITY OF DILLINGHAM, ALASKA

RESOLUTION NO. 2010-56

A RESOLUTION OF THE DILLINGHAM CITY COUNCIL DESIGNATING STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (AkDEC) GRANT FUNDS FOR THE PROJECT ENTITLED WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1 AS THE NUMBER ONE LOCAL STATE FUNDING PRIORITY FOR FISCAL YEAR 2012.

WHEREAS, the City of Dillingham, through the State of Alaska, Department of Environmental Conservation, will request grant funding for the Wastewater Treatment Plant Improvements Phase 1; and,

WHEREAS, the State of Alaska, Department of Environmental Conservation has requested that the City of Dillingham identify if this project is the community's number one local state funding priority for fiscal year 2012; and,

WHEREAS, water and sewer system improvements were identified as a health and safety priority in the 2003 Dillingham Water and Sewer Master Plan, prepared by Bristol Environmental and Engineering Services Corporation ("BEESC"); and,

WHEREAS, the sewage lagoon is in urgent need of desludging due to lack of sludge removal since it was installed over 22 years ago; and,

WHEREAS, improvements must be made to the Wastewater Treatment Plant and the landfill before sludge removal can occur; and,

WHEREAS, Phase I of the Wastewater Treatment Plant Improvements will design, permit, and construct a sludge disposal station, sludge dewatering pad, and begin removing sludge from the sewage lagoon;

NOW, THEREFORE, BE IT RESOLVED that the Dillingham City Council designates the Wastewater Treatment Plant Phase I Improvements as the number one local state funding priority for fiscal year 2012.

APPROVED AND ADOPTED this 5th day of August, 2010.

SEAL:

Alice Ruby, Mayor

ATTEST:

Jayne Bennett RECORDER
City Clerk

CITY OF DILLINGHAM, ALASKA

RESOLUTION NO. 2011-85

A RESOLUTION OF THE DILLINGHAM CITY COUNCIL ACCEPTING THE FY 2013 CAPITAL IMPROVEMENTS PROGRAM

WHEREAS, Dillingham Municipal Code 2.68.160 requires that the Dillingham Planning Commission prepare and recommend to the City Council an annual update of a Capital Improvements Program; and

WHEREAS, staff and the public prepared proposals from August 1 to 31, 2011; and

WHEREAS, the Planning Department received 37 nominations from staff and the public; and

WHEREAS, a Project Review Committee, comprising the Finance Director, the City Manager, the Public Works Director, the Planning Commission Chair, and the Planning Director reviewed the projects at staff and public workshops on September 6, 2011; and

WHEREAS, the PRC ranked the projects for feasibility, compliance issues, and other pertinent criteria on September 7, 2011; and

WHEREAS, September 8 through September 14, 2011, members of the Planning Commission ranked each of the projects based on the community values of impact on quality of life, health and safety, sustainability, and economic development; and

WHEREAS, the individual rankings were combined into one list for which the Planning Commission held a public hearing on September 20, 2011; and

WHEREAS, on September 20, 2011 the Planning Commission passed Resolution 2011-10, recommending a FY 2013 Capital Improvements Program to the City Council; and

NOW, THEREFORE, BE IT RESOLVED that the Dillingham City Council accepts the attached FY 2013 Capital Improvements Program.

PASSED and ADOPTED by the Dillingham City Council on December 1, 2011.

SEAL:

Alice Ruby, Mayor

ATTEST:

Janice Williams, City Clerk

FY13 Capital Improvement Program

1. Snag Point Force Main Relocation
2. Library Roof
3. Water System Improvements 1.3 and 1.4
4. Snag Point Bulkhead Restoration
5. E 911 Critical System Replacement/upgrade
6. Emergency Bank Stabilization at Harbor
7. Wastewater Treatment Lagoon Outfall Relocation
8. South and East Harbor Bulkhead
9. Fire Station and Public Safety Building *
10. Wastewater Lift Stations
11. Old Airport Sewer
12. Seward and D Street Rehabilitation
13. Senior Center Renovation
14. Wasterwater Treatment Plant Upgrades
15. Harbor Float Replacement
16. Territorial School Renovation
17. Utilities and Storm Sewer Upgrades
18. Evergreen Cemetery - build interior road, survey and lay out plots
19. Nerka Road Rehabilitation
20. New Hyster 1050 Fork Lift
21. Construct or Purchase Animal Shelter
22. Harvey Samuelsen Community Cultural Center
23. Warm Equipment Storage Addition
24. Roller Compactor
25. 950 H Cat Loader
26. Brush Cutter, Sweeper, Snow blower
27. Fence around Public Works Storage Yard
28. Renovate City Hall
29. Hockey Rink Pavilion Planning and Design
30. Live Fire Training Facility
31. Case 580 M Extendahoe Backhoe

* Note this list combines #9 and #11 Fire Station and Public Safety Building as item #9 from the original list adopted by the Planning Commission September 20, 2011
Attach to PRC Resolution 2011-10

THE CITY OF DILLINGHAM PLANNING COMMISSION

RESOLUTION NO. 2011-10

A RESOLUTION OF THE DILLINGHAM PLANNING COMMISSION APPROVING THE FY13 CAPITAL IMPROVEMENTS PLAN

WHEREAS, Dillingham Municipal Code 2.68.160 requires the Dillingham Planning Commission to prepare and recommend to the City Council an annual update of the Capital Improvements Plan (CIP); and

WHEREAS, staff and the public prepared proposals during the month of August; and

WHEREAS, the Planning Department reviewed 37 nominations from staff and the public; and

WHEREAS, a Project Review Committee consisting of the Finance Director, the City Manager, the Public Works Director, the Planning Commission Chairman, and the Planning Director, reviewed the projects at public workshops September 6 and 7; and

WHEREAS, the Planning Commission and PRC ranked the projects for urgency, as well as impact on quality of life, health and safety, sustainability, and economic development; and

WHEREAS, the Dillingham Planning Commission held a public hearing on the FY13 proposed CIP list at its regular meeting September 20;

THEREFORE, BE IT RESOLVED that the Dillingham Planning Commission recommends to the Dillingham City Council the "Fiscal Year 2013 Capital Improvements Plan."

FY13 Capital Improvement Projects List

1. Snag Point Force Main Relocation
2. Library Roof
3. Water System Improvements 1.3 and 1.4
4. Snag Point Bulkhead Restoration
5. E 911 Critical System Replacement/upgrade
6. Emergency Bank Stabilization at Harbor
7. Wastewater Treatment Lagoon Outfall Relocation
8. South and East Harbor Bulkhead
9. Fire Station
10. Wastewater Lift Stations
11. New Public Safety Building
12. Old Airport Sewer
13. Seward and D Street Rehabilitation

14. Senior Center Renovation
15. Wasterwater Treatment Plant Upgrades
16. Harbor Float Replacement
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19. Evergreen Cemetery - build interior road, survey and lay out plots
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21. New Hyster 1050 Fork Lift
22. Construct or Purchase Animal Shelter
23. Harvey Samuelsen Community Cultural Center
24. Warm Equipment Storage Addition
25. Roller Compactor
26. 950 H Cat Loader
27. Brush Cutter, Sweeper, Snow blower
28. Fence around Public Works Storage Yard
29. Renovate City Hall
30. Hockey Rink Pavilion Planning and Design
31. Live Fire Training Facility
32. Case 580 M Extendahoe Backhoe

APPROVED AND ADOPTED THIS 20th DAY OF September, 2011.

Paul Liedberg, Commission Chair

Acting Commission Clerk