CBJ DOCKS AND HARBORS BOARD
SPECIAL MEETING AGENDA
For Thursday, November 18, 2010

I. Call to Order (5:00 p.m. at the Assembly Chambers).

II. Roll (Don Etheridge, Tom Donek, Kevin Jardell, Cheryl Jebe, Bob Wostmann, Eric Kueffner, Greg Busch, Mike Williams and Jim Preston).

III. Public Participation on Non-Agenda Items (not to exceed 5 minutes per person, or twenty minutes total).

IV. Items for Action.

1. Downtown Cruise Ship Dock Improvements – Geotechnical and Geophysical Investigation Contract Approval.

Public Comment

Board Discussion/Action

MOTION: TO RECOMMEND THE ASSEMBLY APPROVE A CONTRACT IN AN AMOUNT NOT TO EXCEED $912,805.00 TO PND, INC. FOR A GEOTECHNICAL AND GEOPHYSICAL INVESTIGATION OF JUNEAU HARBOR AS NECESSARY TO SUPPORT THE DESIGN AND CONSTRUCTION OF CRUISE DOCK IMPROVEMENTS AND ASK FOR UNANIMOUS CONSENT.

V. Adjournment

MOTION: ASK UNANAMOUS CONSENT TO ADJOURN THE SPECIAL BOARD MEETING.

P | N | D

ENGINEERS, INC.

November 3, 2010

PND 102050.02

John Stone, P.E.
Port Director
CBJ Docks & Harbors Department
155 South Seward Street
Juneau, Alaska 99801

Subject: Downtown Cruise Ship Docks
Geotechnical & Geophysical Investigations

Dear Mr. Stone:

At your request, PND has prepared geotechnical and geophysical investigation plans for the proposed Downtown Cruise Ship Docks project. These investigations have several primary objectives:

1. To provide engineers with information on soil and bedrock conditions in order to develop cost effective designs suited to the site.
2. To provide contractors with information on soil and bedrock conditions at the site in order for bidders to assess appropriate means, methods and costs of construction.
3. To minimize design, construction and budget related risks to all parties – engineers, contractors and the CBJ.

The proposed scope of services is fully detailed under enclosed Exhibit A. In general, the geotechnical investigation will address the pile foundation requirements for the offshore dock infrastructure. The investigation will evaluate the suitability of soil and/or bedrock to provide the necessary pile tension, compression and lateral load requirements for the dock infrastructure; evaluate soil stability, and other geotechnical factors that are important to the success of the project. We propose to drill 19 boreholes during the winter from an anchored barge through marine sediment layers into the underlying bedrock. Water depths of up to 117 feet will be present requiring multiple casings to be used to minimize flex of the drill rod. Soil sampling will consist of sampling at 5 to 10 foot intervals depending on soil types and depths.

The purpose of the geophysical investigation is to provide information between the boreholes to locate the bedrock layer, soil layers above bedrock, find any debris on the seabed and find other sub-bottom anomalies such as boulders. We will investigate the area of a possible offshore woodchip deposit from an old lumber yard and possible historic landslide near Taku Fisheries. Investigation methods will employ multibeam sonar, side scan sonar, sub-bottom profiler (SBP), and boomer sonar along defined lines correlated to the proposed improvements and boreholes. In addition, an ROV/Diver will investigate with sonar and/or video anything of interest on the seabed. A magnetometer will be available to investigate any sub-bottom anomalies suspected to be of a ferrous material.

In preparation for these extensive offshore investigations, PND contacted several drilling, tug and barge and geophysical investigation companies to review qualifications and compare competitive pricing for this work. As a result of this inquiry, the following companies have been selected to join our team to perform the work.

Company	Role
Denali Drilling Company	Borehole drilling
Trucano Construction	Tug & barge
Williamson & Associates	Geophysical investigation
DOWL/Alaska Testlab	Lab testing
PND Engineers, Inc	Geotechnical engineering lead

Borehole drilling will be conducted in two shifts working around the clock 24 hours/day until complete. The final locations of the boreholes will coincide with the positions of the major pile structures, as currently being refined under Concept 16B. At least one 24 hour day will be required for each borehole due to the water and drilling depths anticipated. Considering equipment moves, servicing and typical offshore marine operations, we estimate the geotechnical investigation to take approximately 25 days under fair conditions. Inclement winter weather may become a factor in the overall production. We have therefore budgeted an additional 5 days for the field drilling effort in our proposed fee to account for weather delays and other contingencies.

A detailed breakdown of our proposed fee estimate is included under Exhibit A. A summary of the anticipated fees is as follows:

Item	Estimated T&M Fee
PND Labor	$ 150,505
PND Expenses	$ 30,140
Subconsultants & subcontractors	$ 624,325
Subtotal	**$ 804,970**
Contingency	$ 107,835
Total T&M Fee Estimate - Not to Exceed	**$ 912,805**

This work will be performed on a T&M basis utilizing standard billing rates for all firms. We will keep you informed of our progress on a daily basis and will not exceed the total contract amount without the CBJ's written authorization. Thank you for reviewing our proposal and please contact me with any modifications you feel are necessary to better serve your needs for this significant waterfront project. We look forward to working with you towards its successful completion.

Sincerely,
PND Engineers, Inc. | Juneau Office

Dick Somerville, P.E.
Vice President

Enclosures: Exhibit A

EXHIBIT A – SCOPE OF SERVICES

Downtown Cruise Ship Dock Reconfiguration

PROPOSED GEOTECHNICAL AND GEOPHYSICAL INVESTIGATION

Prepared for:

City and Borough of Juneau

Prepared by:

PND Engineers Incorporated

Subconsultants:

WILLIAMSON & ASSOCIATES

1.0 Introduction

The City and Borough of Juneau (CBJ) desires to reconfigure and construct two new floating docks to accommodate cruise ships up to 1,100 feet in length. The reconfiguration would result in new offshore floating docks, gangways, dolphins, and other necessary infrastructure in support of tourism activities. Several concepts have been proposed to-date and on-going discussions are being held with CBJ to finalize the proposed concept layout.

As part of the on-going project PND has performed data gathering of existing geotechnical information for existing near shore infrastructure including boreholes, pile driving logs, and other related data compiled for the project. PND has reviewed the existing geotechnical information and is providing this document describing the scope, schedule, costs to conduct an investigation to gather supplemental information for the offshore areas where dock facilities are proposed. This document presents our recommendations for work to be conducted in support of the field geotechnical and geophysical work for the project.

PND recommends the following work activities be conducted as part of this investigation:

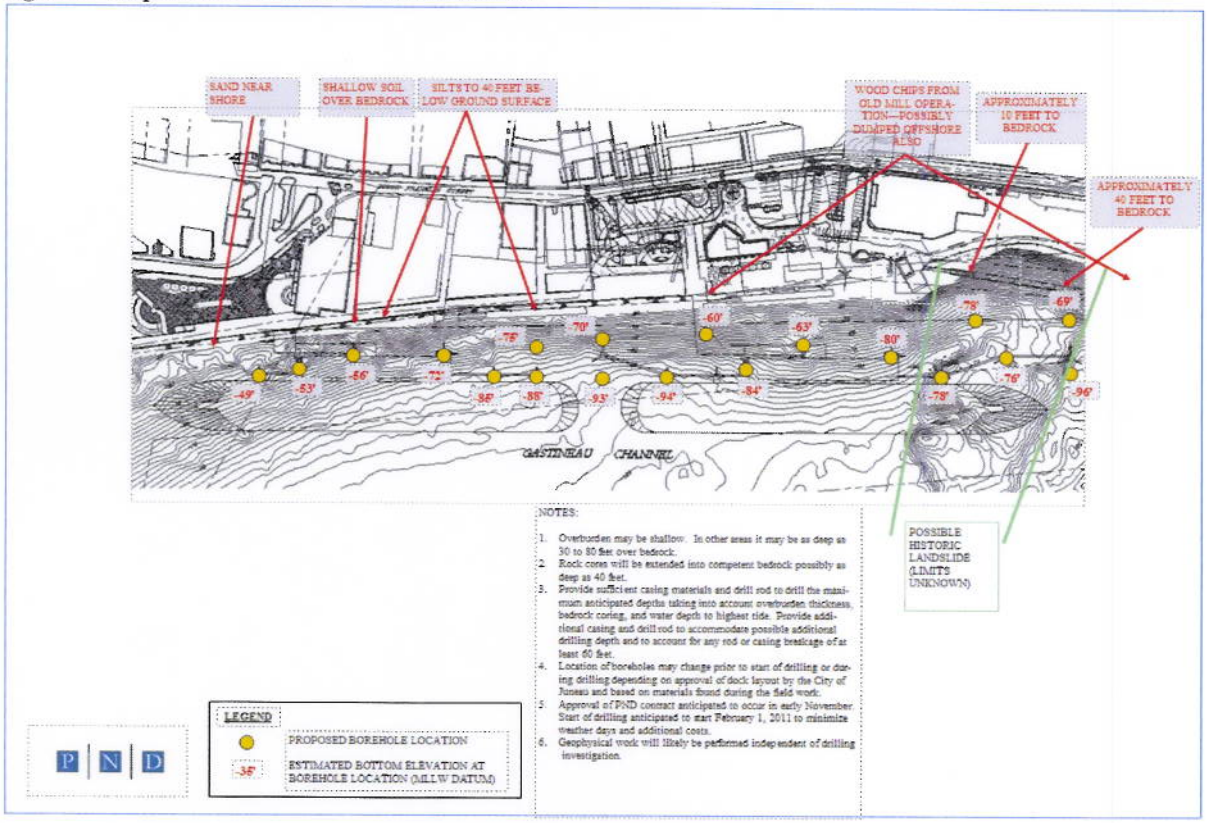
- Necessary permitting and property access approvals to allow drilling below ordinary high water and anchoring outside CBJ tideland lease limits.
- A geotechnical investigation consisting of 19 boreholes to gather information for design of pile foundations for offshore infrastructure.
- A geophysical investigation to gather information on bathymetry, surface conditions, soil and bedrock profiles, and review of possible slides and wood chips that may be present in areas of the project.
- A towed camera with possible diving support to confirm surface debris in the vicinity of pile driving offshore.

The following sections summarize the scope, schedule, and estimated costs to conduct the field geotechnical and geophysical investigations; perform necessary laboratory testing; document our findings; and present geotechnical recommendations for the design.

2.0 GEOTECHNICAL INVESTIGATION

The proposed geotechnical investigation consists of 19 boreholes. The locations are shown on Figure 1. The geotechnical investigation will be conducted by PND Engineers personnel. Drilling will be accomplished by Denali Drilling and barge and tug work required for this offshore investigation will be conducted by Trucano Construction.

Figure 1: Proposed Offshore Borehole Locations



2.0 Key Personnel

Mr. Mike Hartley, P.E. with PND, will lead the geotechnical investigation for the project. He has over 30 years of Alaskan experience performing geotechnical investigations throughout Alaska and in the marine environment. He will oversee and directly participate in the geotechnical investigation. He will be assisted by staff engineers from PND in Juneau and Anchorage accomplishing the field geotechnical work, analysis and report preparation.

3.0 Scope of Work

The scope of work for the geotechnical investigation will consist of the following:

3.1 Permits and Access Permission

PND personnel will obtain all necessary permits to perform the borehole investigation. Since work will be conducted below ordinary high water we will work with the Corps of Engineers and other agencies to obtain the necessary permits for a geotechnical investigation offshore.

The majority of work will be accomplished on a CBJ tideland lease. One borehole and some anchor positions will be outside of the lease boundary. PND personnel will obtain necessary access rights to perform the work proposed.

It is anticipated that the barge may tie to piling on the shoreward side of the investigation. PND personnel will ensure that permission to tie to piling is obtained for anchoring the barge in position for the borehole investigation.

3.2 Mobilization

Denali Drilling will mobilize a Mobil B-61 or CME-85 drill, casing, drill rod, and ancillary equipment to allow advancement of the boreholes in soil or bedrock. Denali Drilling will use Trucano Construction's barge for drilling operations and their tug for logistics to move crew back and forth to shore and assist with positioning the barge in locations required.

The drill rig that will be mobilized to the site will be capable of soil sampling using a Standard Penetration Test or a Shelby tube to obtain disturbed and relatively undisturbed samples. The drill rig will also be set up to allow NQ core drilling in bedrock. The drill rig and crew will be mobilized from Anchorage and the barge and tug from Juneau.

3.3 Field Geotechnical Investigation

The geotechnical investigation will primarily address the pile foundation requirements for the offshore dock infrastructure. The investigation will evaluate the suitability of soil and/or bedrock to provide the necessary pile tension, compression and lateral load requirements for the dock infrastructure; evaluate soil stability, and other geotechnical factors that are important to the success of the project.

As previously mentioned, we propose to drill 19 boreholes for the geotechnical investigation. Figure 1 presents the proposed locations of boreholes for the project. Weather conditions, site soil conditions or permitting restrictions may dictate the need to change the location, number and type of holes performed. Soil and rock conditions may also result in changes to the proposed sampling method and locations. Field conditions will be evaluated to determine if changes are required. In general drilling will continue into competent soil or bedrock a distance determined necessary for the foundation requirements.

Water depths of up to 117 feet will be present requiring multiple casings to be used to minimize flex of the drill rod. It is likely that one to three series of casings will be installed prior to installation of drill rod to sample soil and bedrock. Soil sampling will likely consist of sampling at 5 to 10 foot intervals depending on soil types and depths. Soils will be visually classified using ASTM visual classification procedures.

3.4 Laboratory Testing

After completion of the field geotechnical investigation, samples will be shipped to a soils laboratory where a testing program will be performed on representative soil and bedrock samples. Soil samples will be tested to determine general soil index properties. These tests may consist of gradations, Atterberg Limits, density/moisture content or other tests that will provide information on soil conditions at the site. Additional soil strength tests may be performed, if needed, such as triaxial tests to evaluate soil strength, static and seismic stability, and other factors for the project. The type of tests required will be dependent on the soil profile thickness and soil types encountered.

Representative bedrock samples will be tested to confirm unconfined compression strength. These tests are likely to be the most important tests for the design since bedrock is anticipated to be fairly shallow at the site.

3.5 Geotechnical Report

After completion of the field geotechnical investigation, geophysical work, and laboratory testing PND will perform analysis of the data. During this phase the following tasks will be performed:

- Final drafted borehole logs will be prepared;
- Geotechnical parameters for design will be prepared and analyzed;
- Results of the laboratory testing will be summarized for inclusion in the geotechnical report;
- A draft geotechnical report will be prepared outlining condensed geologic and historic geotechnical data, site seismic conditions, stability analysis, assessment of pile foundation requirements; narrative summary of conditions; and geotechnical recommendations for design.

Deliverables: It is anticipated the following deliverables will be provided as part of the geotechnical study:

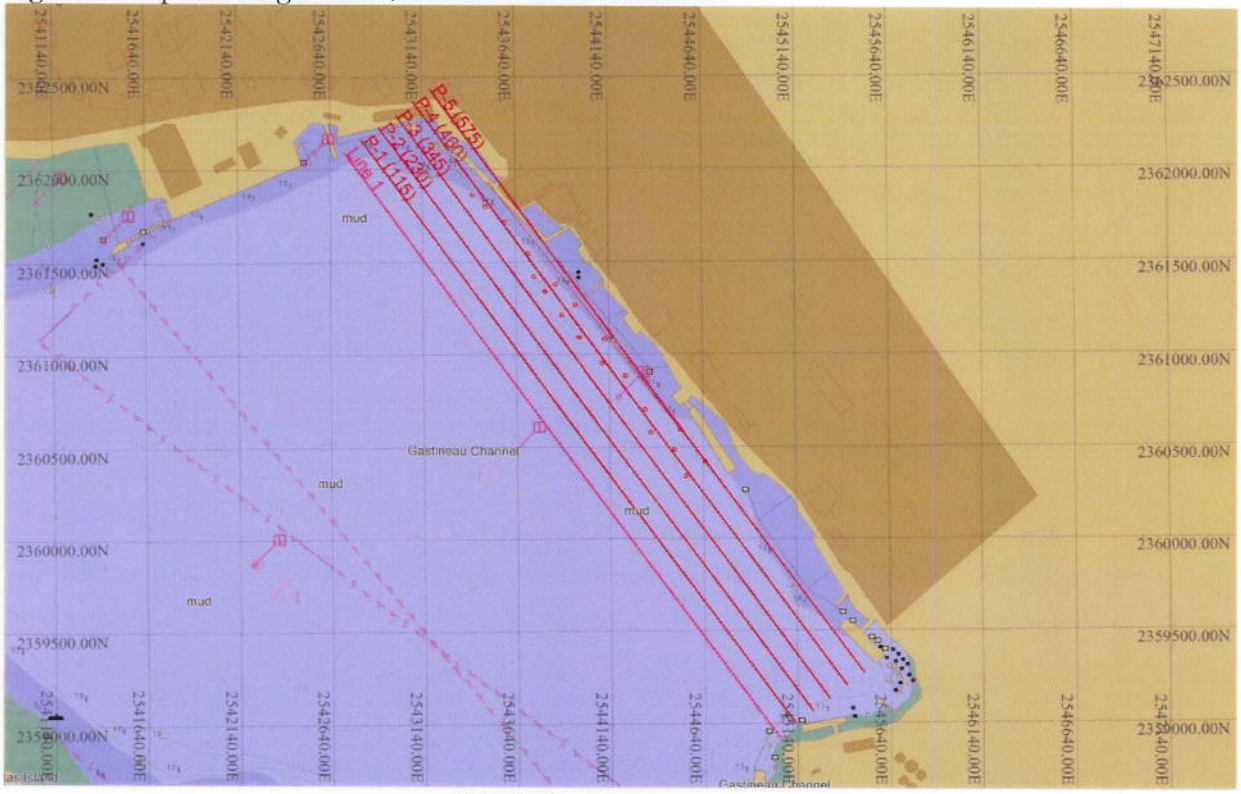
- Two printed copies of the draft and final geotechnical report
- Electronic copies, in Adobe pdf format, of the draft and final geotechnical report.
- Maps and Drawings contained in the report that detail soil conditions in AutoCAD format and pdf format.
- A combined final geotechnical and geophysical report for the project will be prepared along with Adobe PDF copies of the document for use by CBJ, Contractors during bidding, and for archival purposes.

GEOPHYSICAL INVESTIGATION

1.0 Introduction

PND Engineering, Inc. contacted Williamson and Associates, Inc. to provide a Statement of Work for a geophysical investigation of a proposed site for a cruise ship dock reconfiguration in Juneau, Alaska. Part of this request was to include electrical resistivity in the survey. After thorough discussion with our experts it has been determined that electrical resistivity is not practical for a survey area of this size. Therefore this method has not been included in this statement of work. Depths range from approximately 35 meters to 5 meters. The total area of coverage is approximately 3800 X 700 feet.

Figure 1: Proposed Magnometer/Side Scan Sonar Line Plan.

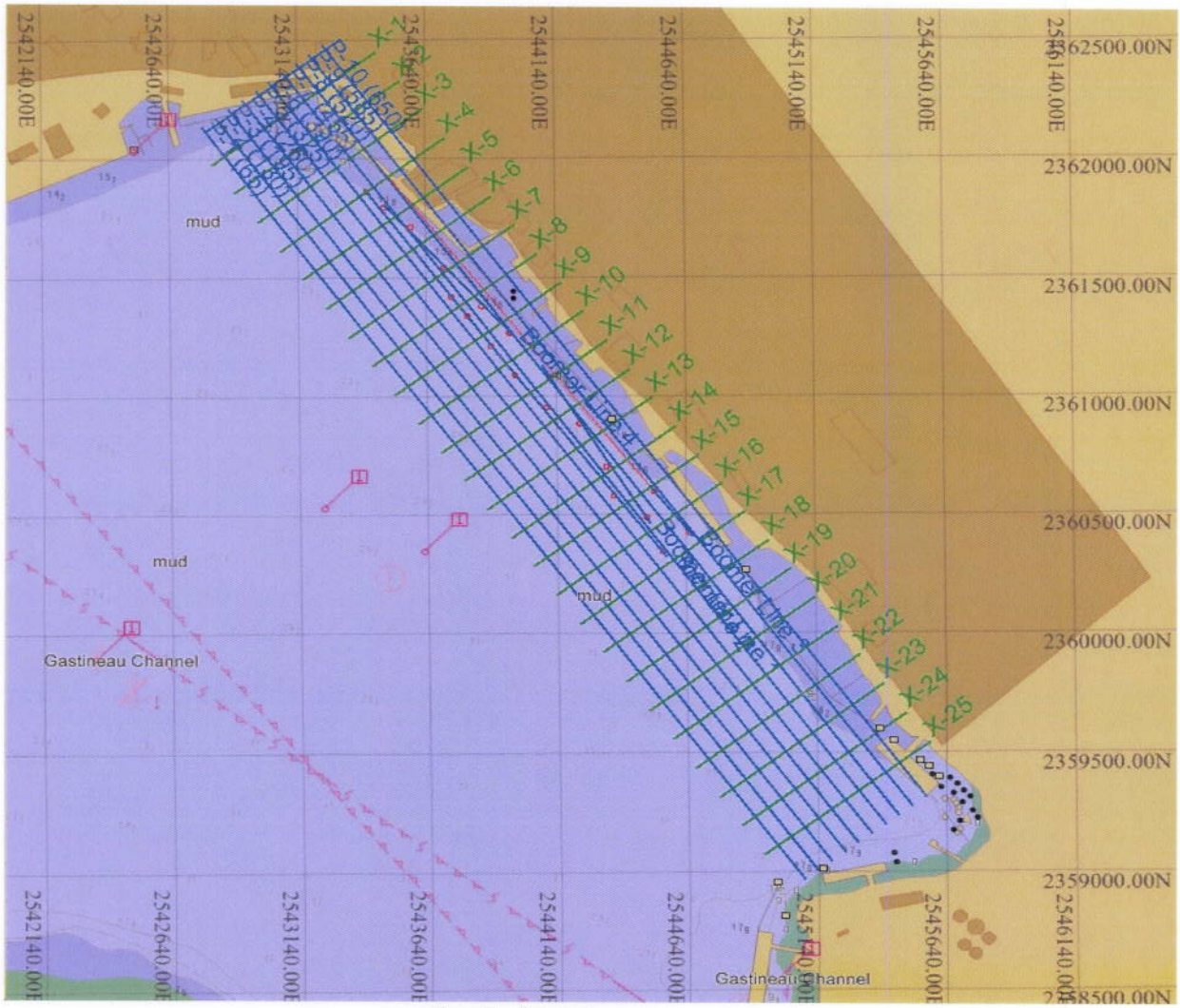


Depths in meters
Line spacing 115 feet

2.0 Purpose

The purpose of this survey is to locate the bedrock layer, soil layers above bedrock, find any debris on the seabed and find other sub-bottom anomalies i.e. gravel, boulders. We will investigate area of a possible offshore woodchip deposit from an old mill and possible historic landslide area (previously shown in Figure 1). We will use multibeam sonar, side scan sonar, sub-bottom profiler (SBP), and boomer sonar along the proposed line plans. In addition, an ROV/Diver will be available to investigate with sonar and/or video anything of interest on the seabed. A magnetometer will also be available to investigate any sub-bottom anomalies suspected to be of a ferrous material.

Figure 2: Proposed SBP/Boomer Line Plan.



Depths in meters

Line Spacing mainlines 65 feet cross lines 150 feet

3.0 General Requirements

3.1 Mobilization
Mobilize vessel / seatrials / calibrations in Seattle, transport to Juneau

We have determined that the most cost effective approach is to mobilize a small vessel that we use frequently and are familiar with here at our facility in Ballard, Seattle. Once the vessel is fully mobilized with the equipment suite, we will conduct a full day test / calibrations on all of the equipment, in Lake Union, very near our facility. Upon successful test of all equipment, and prior to commencement of the work in Juneau, we will tow the vessel and all equipment up to Bellingham to board the Alaska Ferry for transport to Juneau. The voyage takes approximately 2.5 days. Based on the schedule of the Alaska Ferry the vessel / equipment and one operator will arrive in Juneau early in the morning about 2.5 days after departure from Bellingham. The rest of the survey team will fly to Juneau from Seattle the day before the vessel and equipment arrive on the ferry.

3.2 Permits, Licenses and Permissions

It is understood by Williamson and Associates, Inc. that any permits, licenses or permissions required will be provided by PND Engineers, Inc. If Williamson and Associates, Inc. do incur additional costs, they will be passed on to PND Engineers, Inc.

3.3 Communication

Due to the proximity of this location to shore, it is assumed that cellular service will be available.

3.4 Changes to Scope of Work

Any additional survey or sampling work beyond the proposed scope of work will be charged according to the operational day rate. Additional data processing expenses will be charged for additional data interpretation work if deemed necessary due to additional work scope. Where additional requirements of survey operations are requested, Williamson will perform the duties in the most efficient, economical, and professional manner possible consistent with accepted hydrographic survey practices.

3.5 Weather Downtime

Weather downtime will be charged at the given weather standby rates. The Vessel Captain has the final authority for weather downtime in the interest of the safety of the ship and all personnel on board.

3.6 Survey and Marine Crew

Williamson will provide marine survey crew qualified by education and/or relevant experience to complete the tasks required in this document. Resumes of representative survey crew members will be provided on request.

3.7 Equipment

Williamson will provide the following major equipment (or equivalent):

Reson 7125 pole mounted multibeam echo sounder
Edgetech DSS 2000 Series towed side scan/sub-bottom profiler sonar
Applied Acoustic Engineering Ltd CSP-L Seismic Energy Source w/ AA201 Boomer Plate
Seaspy Magnetometer
IXSEA OCTANS Gyro and MRU combination
Trimble SPS851 DGPS
Trimble AG132 DGPS backup
ROV/Diver

Specifications for the above equipment can be provided as requested.

4.0 Proposed Scope of Work

4.1 Area Site Survey

The survey operations will be broken down into a line plan for the multibeam and side scan/sub-bottom sonar and a line plan for the lower frequency boomer sonar. The ROV will be used as necessary for ground truthing of any large debris found on the seafloor by the sonar. The magnetometer will also be used on an as needed basis for confirming and locating any sub-bottom anomalies suspected of being of ferrous material. There are 4 boomer lines that are arranged to accommodate towing the boomer streamer directly over all individual borehole sites. All survey operations will be conducted during daylight hours.

4.1.1 Area Survey

Survey Area	***Area***	***Data Required***	***Proposed # of Lines***	***Min. Overlap***	***Max. Speed***
Proposed Site	3800 X 700 (Feet)	Bathy, SSS, SBP	6 Mainlines	Bathy 20% SSS 100%	3 knots
Proposed Site	3800 X 700 (Feet)	Boomer (seismic)	10 Mainlines 25 cross lines	N/A	3 knots

4.1.2 Navigation and Positioning

Williamson will utilize survey equipment and systems in accordance with proper hydrographic surveying principles, and will assure that no ambiguity will occur in the

position of the vessel, fix points, or features to be surveyed and logged. Prior to commencement of operations, Williamson will perform an acceptance test on each component of the navigation system to ensure proper working order.

DGPS will be used as the primary navigation system. All navigation systems will be linked by a computer based integration system. The system will be capable of real time vessel positioning with a minimum standard DGPS accuracy.

5.0 Deliverables

5.1 General Chart Specifications

The following general parameters will be used to produce the survey charts:

Projection:	Alaska State Plane Zone 1
Spheroid:	WGS 84
Datum:	WGS 84
Depth Reduction:	Mean Lower Low Water (MLLW)
Orientation:	North Up
Size:	Standard A0
Minimum Overlap:	5 cm

Scale of Charts:

North-Up Charts:	1/5,000
Overview (North-Up Chart):	Of Appropriate Scale
Index (North-Up Chart):	Of Appropriate Scale

5.2 Final Charting and Reporting

AutoCAD files suitable for importing into design documents for use in design. Final charting will provide bedrock contour maps, bathymetry charts, plots of bedrock outcrops, marked locations of objects or boulders encountered in investigation; verification of limits of landslides and wood chips where feasible.

COST ESTIMATE

Estimated costs for performing the work are summarized in the attached spreadsheet. Work will be performed on a time and materials basis by PND personnel according to the attached rate schedule. Estimate costs and letters obtained for drill crew, drill, tug, and barge work are included in the summary cost estimate and letters received supporting their estimates of costs for mob/demob, standby and work requirements are also attached.

GEOTECHNICAL AND GEOPHYSICAL INVESTIGATION
COST PROPOSAL

PROJECT: Downtown Cruise Ship Dock Reconfiguration
CLIENT: City and Borough of Juneau 3-Nov-10

LABOR:

Task No.	Task (Scope of Work)	Senior Eng. VII 160.00	Senior Eng. III 130.00	Staff Eng. III 90.00	Tech V 105.00	Land Surveyor I 95.00	Cad Des. V 90.00	Tech IV 90.00	Total Hours	Labor Cost
1	Contract Management & Admin.	60						20	80	11,400
2	Utility Locates	1		0	8				9	1,000
3	Permit and Access Permissions	1		0	30				31	3,310
3	Background Research	10		10	0				20	2,500
4	Mob/Demob - Drilling	16		30	10				56	6,310
6	Field Drilling	60		360	360				780	79,800
7	Mob/Demob - Geophysical	16							16	2,560
8	Field Geophysical Oversight	38		0					38	6,080
9	Laboratory Coordination	1		16					17	1,600
10	Engineering Analysis	40		40	40				120	14,200
11	Geotechnical Report - Draft	40		40	40		10	2	132	15,280
12	Geotechnical Report - Final	10		5	5		1		21	2,665
13	Survey Support during Drilling					40				3,800
	Labor Subtotal	293	0	501	493	40	11	22	1320	150,505
									Subtotal	**150,505**

EXPENSES:

Item	Quantity	Unit	Cost per Unit		Expenses Cost
Travel	3	Each	$800		2,400
Vehicle Rental (none)	0	Day	$80		0
Room & Board	42	Day	$170		7,140
Misc. Drilling Expendables	1	All	$1,000		1,000
Laboratory Testing (AK Testlab)	1	All	$10,000		10,000
Sample Shipment	1	All	$9,000		9,000
Printing and General Expense	1	All	$600		600
TOTAL EXPENSES				**Subtotal**	**30,140**

SUBCONSULTANTS:

Williamson - Geophysical	1	All	$133,915		133,915
Mobilize Barge and Drill Equip	1	All	$47,180		47,180
Denali (Drilling)/Trucano(Barge)	25	Days	$16,540		413,500
Admin. OH & Insurance	1	All	$29,730		29,730
				Sub-total	**624,325**

CONTINGENCY:

Williamson - Geophysical	1	All	$20,000		20,000
Denali (Drilling)/Trucano(Barge)	5	Days	$16,540		82,700
Admin. OH & Insurance	1	All	$5,135		5,135
				Sub-total	**107,835**

Total - Labor	150,505
Total - Expenses	30,140
Total - Subconsultants	624,325
SUBTOTAL	**804,970**
CONTINGENCY	**107,835**
TOTAL (T&M Estimate)	**912,805**

Assumptions:

1. It is estimated 25 days of field drilling will be required depending on weather conditions and other factors during the investigation.
2. For budgeting purposes we have included 5 additional field days to account for weather conditions and breakdowns.
3. PND will work on a T&M basis according to the attached rate sheet and will not exceed the estimated costs without prior written authorization from CBJ.

P | N | D
ENGINEERS, INC.

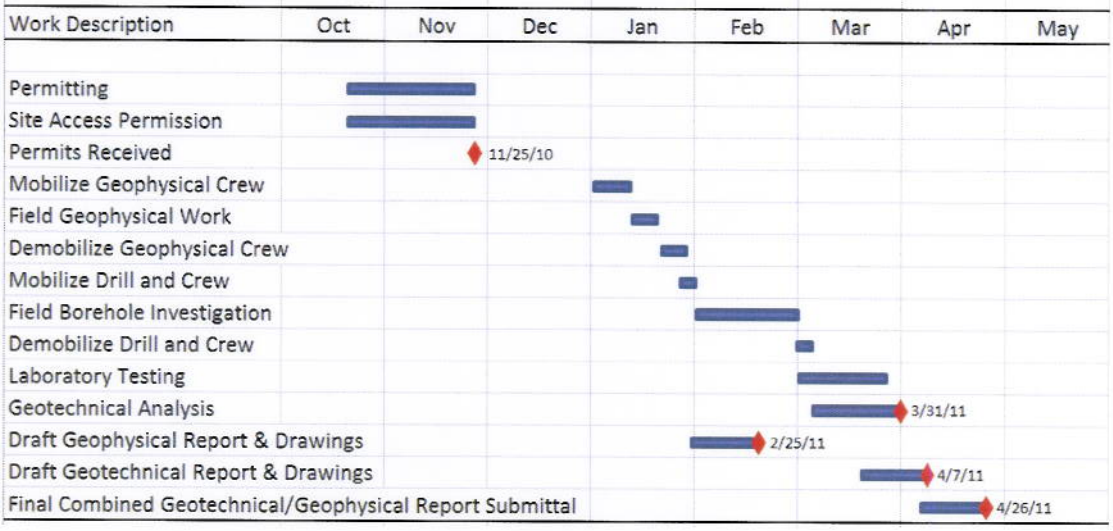
PND ENGINEERS, INC.
STANDARD RATE SCHEDULE
EFFECTIVE MAY 2010

		Regular Rate
Professional:	Senior Engineer VII	$175.00
	Senior Engineer VI	$160.00
	Senior Engineer V	$150.00
	Senior Engineer IV	$140.00
	Senior Engineer III	$130.00
	Senior Engineer II	$120.00
	Senior Engineer I	$110.00
	Staff Engineer V	$100.00
	Staff Engineer IV	$95.00
	Staff Engineer III	$90.00
	Staff Engineer II	$85.00
	Staff Engineer I	$80.00
	Senior Environmental Scientist	$100.00
	Environmental Scientist	$90.00
	GIS Specialist	$90.00
Surveyors:	Senior Land Surveyor	$105.00
	Land Surveyor I	$95.00
Technicians:	Technician VI	$125.00
	Technician V	$105.00
	Technician IV	$90.00
	Technician III	$80.00
	Technician II	$75.00
	Technician I	$70.00
	CAD Designer V	$90.00
	CAD Designer IV	$85.00
	CAD Designer III	$70.00

SCHEDULE

PND Engineering has had extensive conversations regarding schedule for the drilling and barge work on this project. It has been clear that performing the work in late November and December 2010 could result in significant standby costs due to weather issues. We believe it is advantageous to the City and Borough of Juneau to consider minimizing potential for weather standby costs for the drilling operation. Geophysical work can be scheduled earlier without significant risk as the equipment will be mobilized by ferry to the project. The recommended schedule is shown below.

SCHEDULE - JUNEAU CRUISE SHIP FACILITY RECONFIGURATION



Denali Drilling

October 27, 2010

PND Engineers, Inc.
811 First Avenue, Suite 570
Seattle, WA 98104

Attn: Mike Hartley

Ref: Cruise Ship Dock Project in Juneau – Revision No. Two

Dear Mike,

Denali Drilling, Inc. is pleased to have this opportunity to offer the following proposal to provide labor, equipment, and boat to drill and sample nineteen holes in 70' to 115' of water with 30' to 80' of overburden and core up to 40' into bedrock for the above referenced project. The drill equipment we intend to use for this project is a Mobil B61 or CME 85 drill that will be trucked down from Anchorage. We will use a 50' x 160' barge supplied by Trucano Construction with a four point winch and anchor system or a 24' x 78' boat (Poundstone) from Mikko Polley. We will try to tie off on shore whenever possible. The mob and demob costs for both barges has been listed separately from Denali's mob/demob cost so you can look over each one and we can discuss which way we want to go.

Denali Drilling Mob/Demob – Lump Sum $38,600.00

This lump sum cost includes preparation of equipment, getting materials and shipped by air or trucking, travel to/from Haines, loading and unloading ferry to Juneau, labor for travel on ferry or air, ferry costs, extra conductor pipe, extra 4" HW casing in case we lose a string to help eliminate down time waiting for another string of drill tools, set up on barge including welding on platform for drill crew, and any other miscellaneous items.

Trucano mob/demob costs for barge and tug – Lump Sum $ 8,580.00

Includes barge, tug, and crew. They will let us use their yard to set up equipment on their barge.

Poundstone mob/demob for boat– Lump Sum $ 7,340.00

Includes boat and crew.

We feel, after talking to Doug Trucano, that the 50' x 160' barge will be a lot better working in potentially bad weather. It is a heavier barge that has worked on many salvage jobs and stays stable in rough weather. Its sides are lined with concrete that helps keep it stable and has very little side to side movement.

Drilling – Per 12 Hour Shift $ 8,270.00
Drilling – Per 24 Hour Day $16,540.00

Includes three-man drill crew, drill equipment, boat and crew, expendables, support equipment, conductor pipe, HW casing, NQ coring equipment, fuel, and room & board.

We intend to use conductor pipe from the surface to mudline, drill mudline to bedrock with rotary wash sampling every 5' and coring with NQ core to bottom of the hole. We will have two strings of triple tube NQ coring tools on board as well as 200' of conductor pipe, 300' of 4" HW casing, 300' of NWML drill rod, five 2" split spoons, and four 3" split spoons to eliminate down time.

We estimate it will take a twenty-four hour day to complete each hole. The weather could be a problem this time of year. Mikko Polley with the Poundstone has concerns as to being able to hold his boat during December and January due to the winter weather. He would feel better about completing this project starting in late January or early February as the days will be getting longer and the weather will be getting better. He also said that the Trucano barge is one of the most stable barges in Juneau and that it would work better in rough water than the Poundstone.

I talked to John Gitkof about the timing of the project and he thought it could be completed in December. The days will be short but we have lights on the boat. The area is somewhat protected from the wind. We could still have some bad windy days but John thought not that many.

Client is to provide clear access to drill site, utility locates, and all permits required to complete the project. This bid is based on our in-house wage rates with no provision for Davis Bacon wages.

Any standby time encountered due to client or weather delays will be charged an hourly standby rate of $480.00 with a maximum charge of $5,760.00 for a 12-hour day or $11,520.00 for a 24-hour day. The standby rate includes our equipment, boat, and our crew for eight hours. If the weather gets bad we will send the crew off the boat until the weather changes. This could potentially be one to three days (or longer) in December. This is based on standard eight hour days with no overtime costs. We feel that we will have weather days, that is why the rate is so low. If we are on the boat, the rate will be part of the daily operating rate.

If you have any questions regarding this proposal, or if we can be of assistance in any other manner, please do not hesitate to contact our office.

Sincerely,
DENALI DRILLING, INC.

Hal Ingalls

Hal Ingalls
CEO

HI:kh

Williamson Associates Cost Estimate
Juneau Cruise Ship Dock Reconfiguration

Pre-Project Preparation / Planning	14950	
		$14,950
Mobilization		
Equip. Shipping / Vessel Transport	4950	
Personnel Transport / Airfare / Per Diem	5120	
Equipment during MOB and Shipping	12320	
Personnel During MOB	8100	
Consumables	165	
		$30,655
Demobilization		
Equip. Shipping / Vessel Transport	4565	
Personnel Transport / Airfare / Per Diem	5120	
Equipment during DEMOB and Shipping	8800	
Personnel During DEMOB	2700	
Consumables	55	
		$21,240
Total Prep / Mobilization / Demobilization:		**$66,845**
Operations - 4 Days - Juneau		**$46,760**
Data Interp. / Final Report / Final Charts		**$20,310**
Total Geophysical Site Survey Project Cost:		**$133,915**