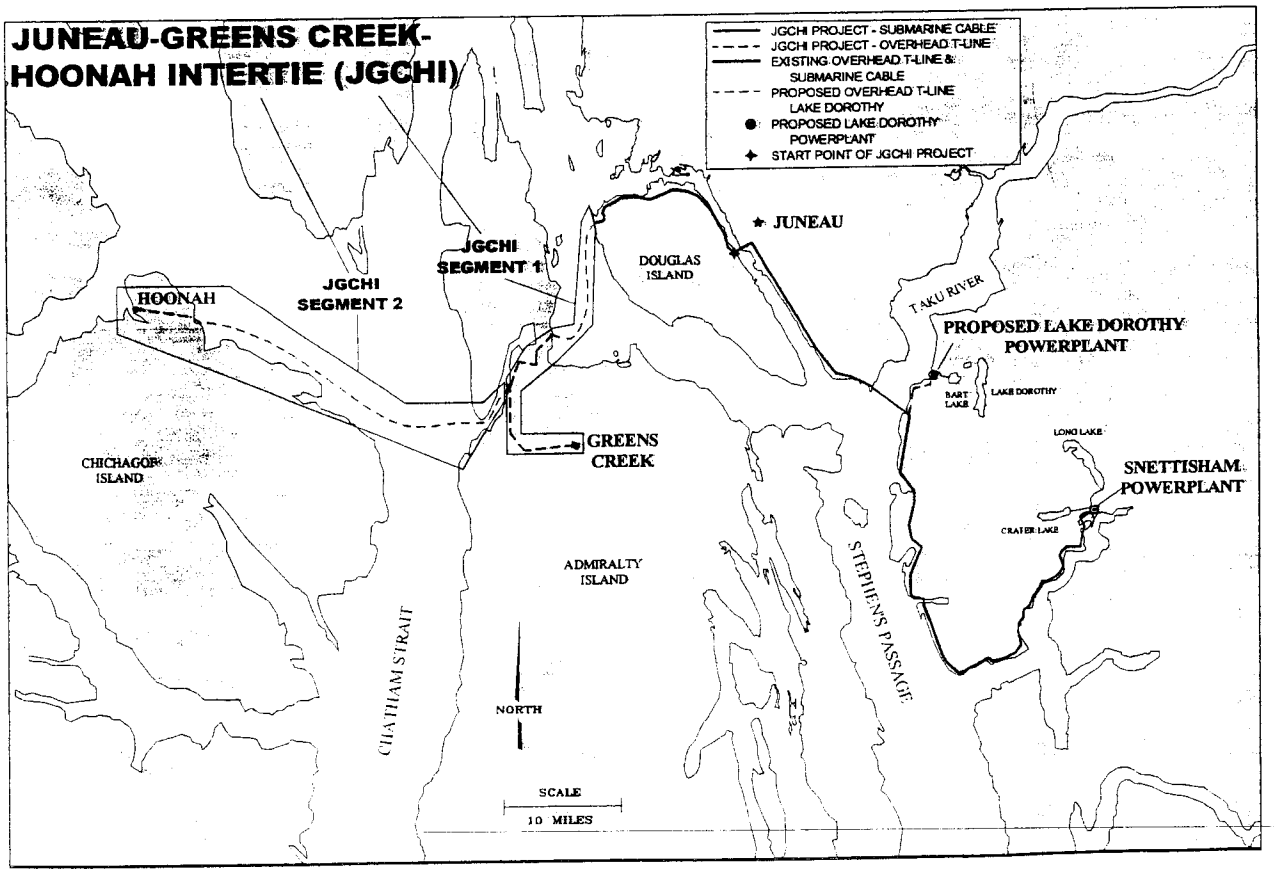
SOUTHEAST CONFERENCE /
ALASKA ELECTRIC LIGHT & POWER COMPANY

THE JUNEAU / GREENS CREEK / HOONAH INTERTIE PROJECT

SCOPING DOCUMENT

FEBRUARY 2004



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PRE-FACE

The purpose of this document is to involve the public and interested parties early on in developing the groundwork for preparing for environmental analysis under the National Environmental Policy Act (NEPA). Please consider the review of this document a NEPA public involvement process. Alaska Electric Light & Power Company (AEL&P) is the permitting agent for Southeast Conference (SEC) that applied for authorization to construct and operate a transmission line on federal lands (application dated September 5, 2003). The Forest Service has determined that an environmental assessment (EA) is required to meet the requirements of the National Environmental Policy Act. Working under the supervision and guidance of the Forest Service, AEL&P will lead NEPA scoping and prepare the EA. The Council of Environmental Quality (CEQ) regulations allow for applicant prepared EA's that may then be adopted by the Federal agency. Based on this EA, either an alternative will be selected and a Finding of No Significant Impact (FONSI) and decision signed by the Forest Service or the decision will be made to proceed with the preparation of an Environmental Impact Statement.

Please be advised that although the SEC would be the initial permit holder for the JGCHI project, it is anticipated that another existing or newly formed entity would take over ownership of this project. Once this entity is identified, all permits issued to-date would be transferred prior to construction commencing on the project.

BACKGROUND

The Juneau-Greens Creek-Hoonah Intertie (JGCHI) Project is one leg of the overall Southeast Alaska Intertie System (Figure 1), which has been authorized by Congress. As proposed, the JGCHI portion of the Intertie System would interconnect the Kennecott Greens Creek Mining Company's Greens Creek Mine (Greens Creek) on Admiralty Island and the community of Hoonah on Chichagof Island to the electric system of AEL&P on Douglas Island. The JGCHI would deliver hydroelectric power from AEL&P to Greens Creek and to Hoonah (Figure 2), offsetting fossil-fueled generation in both of these locations. The intertie connection would also include a fiber optic backbone, which would include the capacity for supervisory control and data acquisition (SCADA), telecommunications and broadband Internet access.

The JGCHI project is divided into two segments, Segment 1 from North Douglas Island to Hawk Inlet and Greens Creek on Admiralty Island and Segment 2 from Hawk Inlet to Spasski Bay and the village of Hoonah on Chichagof Island. AEL&P is proposing to construct Segment 1 of the JGCHI at this time; and Segment 2 in five to six years when federal grant funding is expected to be available for construction.

This project would consist of crossing Stephens Passage by installing a submarine cable from the end of the existing transmission lines at North Douglas Island to a submarine cable termination yard (termination yard) at Young Bay on Admiralty Island. From Young Bay, a pole supported overhead transmission line would be constructed alongside the existing Greens Creek "A" road to a Substation on private land near Hawk Inlet. Another overhead transmission line would then be installed along the Greens Creek "B" road from the Hawk Inlet Substation to a Substation near the existing Greens Creek powerhouse. Portions of this line would cross private property, and National Forest lands.

The overhead portion of the line between Young Bay and Hawk Inlet would be located entirely within the Juneau Ranger District of the Tongass National Forest to the north of the Admiralty Island National Monument boundary. The JGCHI would be located along a route identified in the Forest Plan[1] with a land use designated for transmission and utility systems. It is anticipated that this line segment would remain in service for the community of Hoonah and other Southeast communities, that may be connected as part of the overall Southeast Alaska Intertie Plan[2], after the Greens Creek mine is permanently closed down.

The Greens Creek mine tap would originate at the Hawk Inlet Substation on Admiralty Island as a tap on the 69-kV overhead line from Young Bay. The line would transmit power directly to the Greens Creek mine and would cross approximately 9.0 miles of land adjacent to the existing Greens Creek "B" road to a location near the Greens Creek mine powerhouse. About 7.5 miles of this overhead transmission line segment is located within the non-wilderness portion of Admiralty Island National Monument. The other 1.5 miles of the transmission line is located within the Juneau Ranger District. These routes have been identified in the Forest Plan for land use designated for transmission and utility systems. This line segment is expected to be dismantled and removed at the time the Greens Creek mine is permanently closed down.

PERMITTING REQUIREMENTS

Major permits expected to be required are listed below.

Federal Authority

Forest Service

- Special Use Authorization for use of National Forest System Lands

[1] USDA. *Tongass Land and Resource Management Plan.* US Department of Agriculture, Forest Service, Region 10. Publication R10-MB-338dd, 1997.

[2] D. Hittle & Associates, Inc. *Southeast Alaska Intertie Study, Phase 1 & 2.* 2003

US Army Corps of Engineers

- Clean Water Act Section 10 permit for the submarine cable
- Clean Water Act Section 404 permit to discharge fill material into waters of the United States

State Authority

Department of Natural Resources – Office of Project Management and Permitting

- Coastal Zone Consistency Determination

Department of Natural Resources – Division of Mining, Land and Water

- Land Use Easement (tidelands)

Department of Environmental Conservation

- Clean Water Act Section 401 certificate of reasonable assurance
- Storm Water Discharge Pollution Prevention Plan

Local Authority

City & Borough of Juneau

- Conditional Use Permit
- Grade & Fill Permit

PURPOSE OF SCOPING

Scoping is a process required by NEPA for federal actions that may have an affect on the human environment. It is intended to reach out to all interested and affected parties and is designed to help ensure that all significant issues are fully addressed during the course of the environmental analysis. The main objectives of this scoping process are to:

- Provide the public and regulatory agencies with a basic understanding of the proposed project.
- Explain where to find additional information about the project.
- Provide a framework for the public to ask questions, raise concerns, identify specific issues and recommend alternatives.
- Eliminate from detailed study the issues and resources that do not require detailed analysis during review of the project.
- Ensure that those concerns are addressed in the environmental assessment (EA).

To assist in reaching these objectives, this scoping document:

- Presents a brief description of the proposed federal action and describes the underlying purpose and need to which it is responding.
- Describes the Decision to be made by the Responsible Official for those portions of the project located on National Forest System lands.

- Presents a schedule for the scoping process.
- Explains how and where to comment.
- Describes how the public can participate in the environmental assessment process after scoping, and presents a tentative EA schedule.

SCOPING SCHEDULE

The scoping process is an ongoing process throughout the preparation of the EA. A more formal part of the scoping period, designed to solicit input before the analysis is started, will begin with a legal notice in the Juneau Empire newspaper, published in Juneau, Alaska. This scoping letter will be distributed at the same time and the formal comment period will end 30 days later. During this comment period interested parties can review the document and seek additional information. At the end of the comment period, all comments will be reviewed, significant issues identified and a summary provided to the public and to state and federal agencies (late March 2004).

HOW TO COMMENT

Comments on the proposed JGCHI project can be submitted to AEL&P in writing, by e-mail, or by FAX. Comments should be sent to:

Mr. Corry V. Hildenbrand, Project Manager
c/o Chad Strong, Permitting Coordinator
Alaska Electric Light & Power Company
5601 Tonsgard Court
Juneau, Alaska 99801-7201

Phone: (907) 463-6315
Fax: (907) 463-6398
E-mail: Chad.Strong@aelp.com

ACTIVITIES AFTER SCOPING

Following the scoping process and its identification of issues, AEL&P will prepare the EA under Forest Service direction. The public is welcome to participate throughout the EA process, and there are specific points at which public input is specifically sought. These are listed below with their tentative dates, though changes will likely occur.

Public participation process:

Distribution of EA for 30-day review and comment period	Approx. June 9
Close of 30-day review and comment period	Approx. July 9
Forest Service decision	

PROPOSED ACTION

The Forest Service proposes to authorize AEL&P to construct and operate a transmission line on National Forest System lands on Admiralty Island, as described below, through the issuance of either a long term easement or special use permit.

In order to display the project as a whole, the description below includes portions of the project on both National Forest System lands and other ownerships.

Juneau to Hawk Inlet, Figure 2 (25.5 miles total, 9.5 miles submarine cable, 11.5 miles existing and 4.5 miles new overhead).

This segment is 25.5 miles in total length including 9.5 miles of submarine cable, 11.5 miles of existing overhead lines and 4.5 miles of new overhead lines. Only the 4.5 miles of new overhead line and the Submarine Cable Termination Yard (Termination Yard) at Young Bay are located on National Forest System lands.

This segment starts at the West Juneau Substation on Douglas Island. An existing 11.5 mile, 69-kV overhead transmission line interconnects the existing AEL&P system with the proposed North Douglas Island termination yard (Figure 3). This termination yard would contain disconnect switches, breakers, and a 3-phase shunt reactor bank and other required electrical equipment to connect the overhead transmission system to the submarine cable. The termination yard would be placed inland from the mean high water line with a greenbelt left in place to minimize visual impacts as viewed from the near shore waters. The cable would be buried as it leaves the termination yard and offshore from the mean high water line to a water depth of -10 feet. AEL&P would retain ownership of the existing line between the West Juneau substation and the North Douglas Island termination yard.

The submarine cable would then cross Stephens Passage for about 9.5 miles where it would land at a termination yard at Young Bay on Admiralty Island near, but south of the existing Greens Creek ferry dock (Figure 4). This area is located on National Forest System lands that would be newly disturbed. The termination yard at Young Bay would include a cable riser, a ground switch, lightning arrestors, a 3-phase shunt reactor bank, disconnects, a station service transformer, other required electrical equipment and the connection point to the overhead transmission line on Admiralty Island from Young Bay to the proposed Hawk Inlet substation. Clearing of 0.28 acres (see Figure 4) would be required and is the minimum amount of land needed to locate the necessary equipment. The termination yard would be placed inland from the mean high water line with a greenbelt left in place to minimize visual impacts as viewed from the near shore waters. The cable would be buried as it leaves the termination yard and offshore from the mean high water line. The area to be cleared would be allowed to naturally revegetate with minor upkeep of landscaping as needed.

The overhead transmission line would follow the existing Greens Creek "A" road system for about 4.5 miles to a point at Hawk Inlet on private land near the existing ore loading facility. It is planned to construct the overhead line using wood, single-pole structures. Another termination yard at Hawk Inlet would provide the interface between the overhead line and the future submarine cable heading to Hoonah (Figure 6). The Hawk Inlet termination yard would include breakers, disconnects, lightning arrestors, a 3-phase shunt reactor bank and other required electrical equipment. Final ownership of the overhead transmission line on Admiralty Island has not yet been determined. It is anticipated that another existing or newly formed entity would take over ownership of this line.

A small 16-kV substation would be constructed at Hawk Inlet to provide electrical service to the Hawk Inlet ore loading dock facility and other near by facilities owned and operated by the Greens Creek. It is anticipated that Greens Creek would engineer, design, construct and own the substations located on their properties.

The overhead portion of the line between Young Bay and Hawk Inlet would be located entirely within the Juneau Ranger District of Tongass National Forest to the north of the Admiralty Island National Monument boundary along a route identified in the Forest Plan as a transmission and utility corridor. It is assumed that this line segment would remain in service for the community of Hoonah and other Southeast communities, that may be connected as part of the overall Southeast Alaska Intertie Plan, after the Greens Creek mine is permanently closed down.

Hawk Inlet - Greens Creek Mine Tap (9.0 miles new overhead transmission line). The Greens Creek mine tap would originate at the Hawk Inlet substation on Admiralty Island as a tap on the 69-kV overhead line from Juneau and would be protected by a circuit breaker at the Hawk Inlet Substation (Figure 5). The line would transmit power directly to the Greens Creek mine through a switchyard (Figure 5) and would cross approximately 9.0 miles of land following the Greens Creek "B" road alignment to a location near the Greens Creek mine powerhouse. It is planned to construct the overhead line using wood, single-pole structures. A substation would be needed at this point to provide power for delivery to the mine's local distribution system at 4.16-kV. In addition to a 16-kV transformer, the substation would also include breakers voltage regulators and a capacitor bank to serve the Greens Creek mine electrical systems and maintain adequate delivery voltage at the mine. The mine's generating units would be interconnected with the AEL&P system but would not generally be used at the same time power is being delivered from Juneau. It is assumed that Greens Creek would engineer, design, construct and own the substations located on their properties.

About 7.5 miles of this overhead transmission line segment is located within the non-wilderness portion of Admiralty Island National Monument. The other 1.5 miles of the transmission line is located within the Juneau Ranger District. These routes have been identified in the Forest Plan for land use designated for transmission and utility systems. This line segment is expected to be dismantled and removed at the time the Greens Creek mine is permanently closed down.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAIL STUDY

During the conceptual development stage of this project AELP considered a number of alternative methods to provide electrical power to the Greens Creek Mine and the community of Hoonah. The following alternatives were considered.

Construct an underground transmission line from Young Bay to Hawk Inlet and an underground transmission line from Hawk Inlet to the Greens Creek mine

Construction costs to install an underground line are estimated to cost at least twice or more the cost of an overhead line. Extensive blasting requirements were anticipated. Additionally, an underground line along this alignment adds undesirable electrical characteristics to the transmission line. This alternative is prohibitive to the economic feasibility of the project and to best engineering design practices.

Construct a submarine cable termination yard near Young Bay and build an overhead or underground transmission line through virgin country to Hawk Inlet. At the head of Hawk Inlet install a submarine cable to the Greens Creek mine ore loading dock to provide power to Greens Creek facilities and to provide an interface connection point for the Hoonah submarine cable.

The alternative was not pursued because of the environmental impacts to an undisturbed area and because the construction costs associated with clearing and tree removal to install either an overhead or underground transmission line through virgin country were cost prohibitive to the economic feasibility of the project. It would likely cost three times as much as an overhead line along the existing road between Young Bay and Hawk Inlet. This alternative would require a submarine cable to be installed in the shallow head of Hawk Inlet to the Hawk Inlet ore loading dock and two additional submarine cable landings, one at the head of Hawk Inlet and the other at the Greens Creek mine ore loading dock in Hawk Inlet. The installation of submarine cable in the shallow head of Hawk Inlet would be difficult and expensive. In addition the required submarine cable landings at the head of Hawk Inlet and at the ore loading dock would be expensive and add to the congestion of the cable-landing zone for the Hoonah

submarine cable-landing site. Also prohibitive were the study costs associated with evaluating project impacts of constructing this portion of the transmission line through undeveloped property. This alternative would also impact portions of Admiralty Island that had no previous impacts from human use or development.

TIMING OF THE PROJECT

Construction timing for the project is dependent on Federal Grant funding. It is estimated that the total intertie project from North Douglas Island to Hoonah would cost about $35 million. The grant funding would likely come in relatively small increments of $5 to $15 million per year. Segments would be incrementally constructed based on available funding. It is anticipated that the funding for the complete intertie may be received in about four years, starting in 2004. The build out of the JGCHI would start from North Douglas Island to Hawk Inlet and Greens Creek and then on to Hoonah.

Below is the estimated project construction schedule for Segment 1 of the JGCHI **(based on obtaining the grant money appropriations from the Federal Government)**:

2004

- Overhead line construction and installation from Young Bay to Hawk Inlet.
- Ground preparation of North Douglas Island (Outer Point) and Young Bay submarine cable termination yards.

2005

- Submarine cable installation from North Douglas Island (Outer Point) to Young Bay.
- Installations of North Douglas Island (Outer Point) and Young Bay submarine cable termination yards.
- Installation of privately-owned Hawk Inlet substation

2006

- Overhead line construction and installation from Hawk Inlet to the Greens Creek Mine.
- Installation of privately-owned Greens Creek mine substation

ISSUES AND STUDIES

Several general areas of concern have already been identified and will be considered during the environmental assessment process. We are seeking public input to identify other important issues or specific aspects of those below. All substantive issues identified will be considered in formulating the scope of analysis for the EA.

- Geology and soils

- Wetlands
- Terrestrial and Wildlife resources
- Fisheries resources
- Marine resources
- Threatened, endangered and sensitive species
- Cultural resources
- Recreation and land use resources
- Visual resources
- Socioeconomic resources

RELATED INFORMATION SOURCES

Following is a list of reports and documents related to the proposed action. These documents can be reviewed at AEL&P's operation center (2nd floor Engineering Dept.) located at 5601 Tonsgard Court, Juneau, Alaska. Please contact Chad Strong at 907-463-6315 for information.

Acres International. *Southeast Alaska Electrical Intertie System Plan.* January 1998.

D. Hittle & Associates, Inc. *Southeast Alaska Intertie Study, Phase 1 & 2. 2003.*

Harza Engineering Company. *Southeast Alaska Transmission Intertie Study.* July 1988.

R.W. Beck and Associates, Inc. *Greens Creek Transmission Line Planning Capital Cost Estimate,* prepared for the Alaska Energy Authority. December 1992.

R.W. Beck and Associates, Inc. *Power Supply Availability Assessment Greens Creek Transmission Line,* prepared for the Alaska Energy Authority. January 1993.

Southeast Conference/Alaska Electric Light & Power Company. *First Stage Consultation. Initial Pre-NEPA Consultation Package.* November 2003.

Southeast Conference/Alaska Electric Light & Power Company. *Application for Transportation and Utility Systems on Federal Lands.* September 5, 2003.

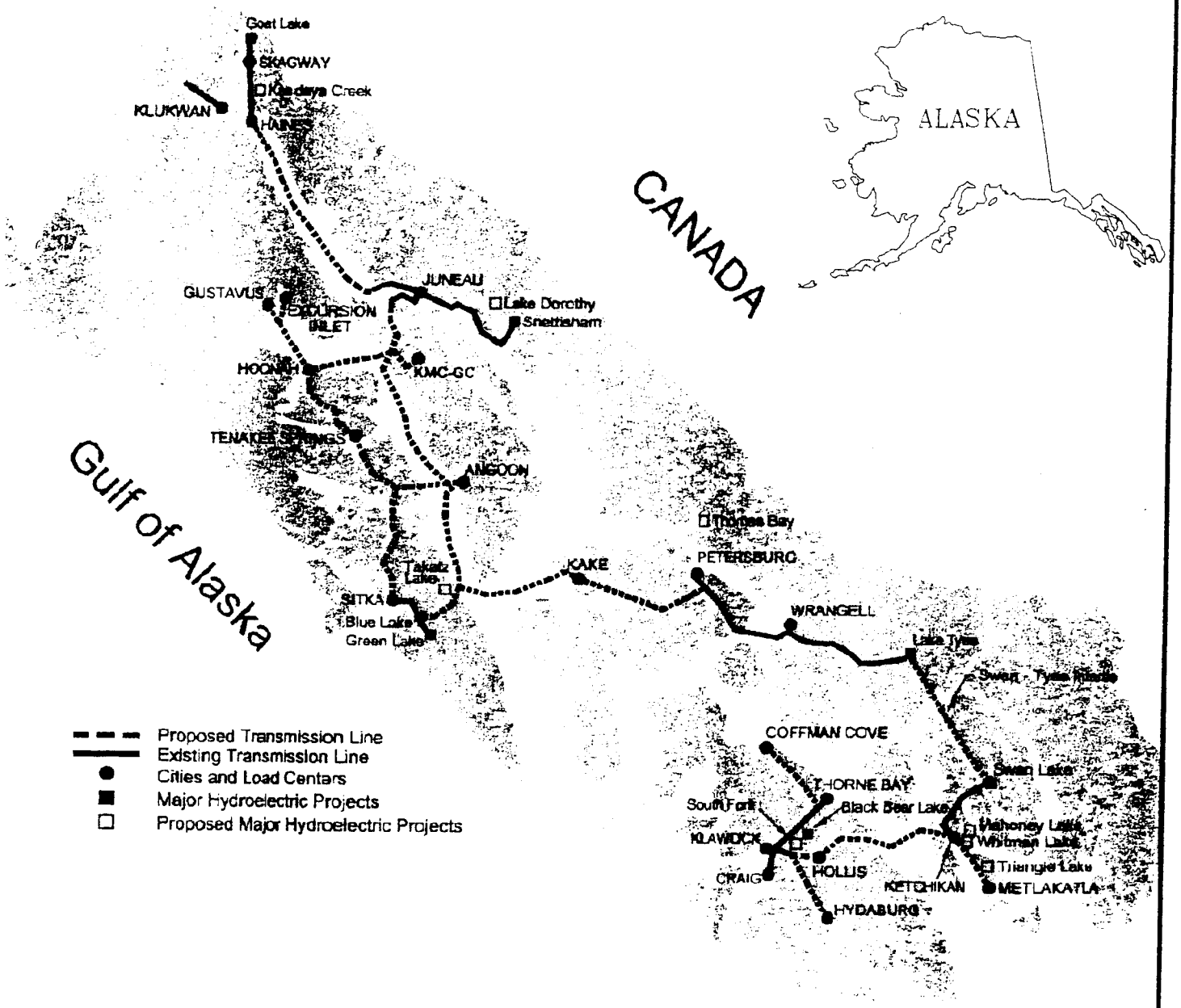
Southeast Conference/Alaska Electric Light & Power Company. *Application for Department of Army Permit.* February 10, 2004.

Southeast Conference/Alaska Electric Light & Power Company. *Coastal Project Questionnaire.* February 10, 2004.

USDA. *Greens Creek Final Environmental Impact Statement.* US Department of Agriculture, Forest Service, Alaska Region. Admin. Doc. Number 115, January 1983.

USDA. *Tongass Land and Resource Management Plan.* US Department of Agriculture, Forest Service, Region 10. Publication R10-MB-338dd, 1997.

USDA. *Record of Decision, Tongass Land and Resource Management Plan, Alaska.* US Department of Agriculture, Forest Service, Alaska Region Publication R10-MB-338a, May 1997.



PROJECT MAP

SOUTHEAST ALASKA
EXISTING AND
PROPOSED
TRANSMISSION LINES

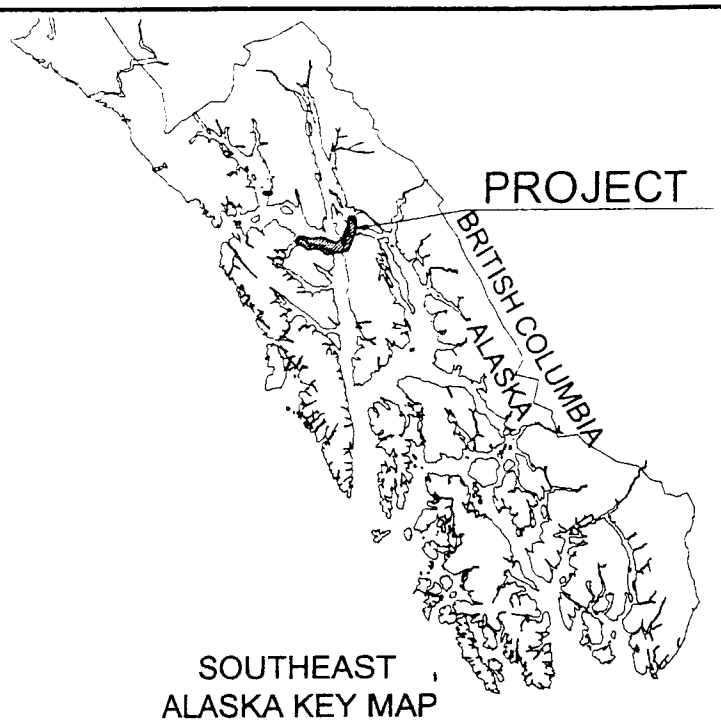
STATE: ALASKA

AGENT: ALASKA ELECTRIC LIGHT AND POWER
5601 TONSGARD COURT
JUNEAU, AK 99801

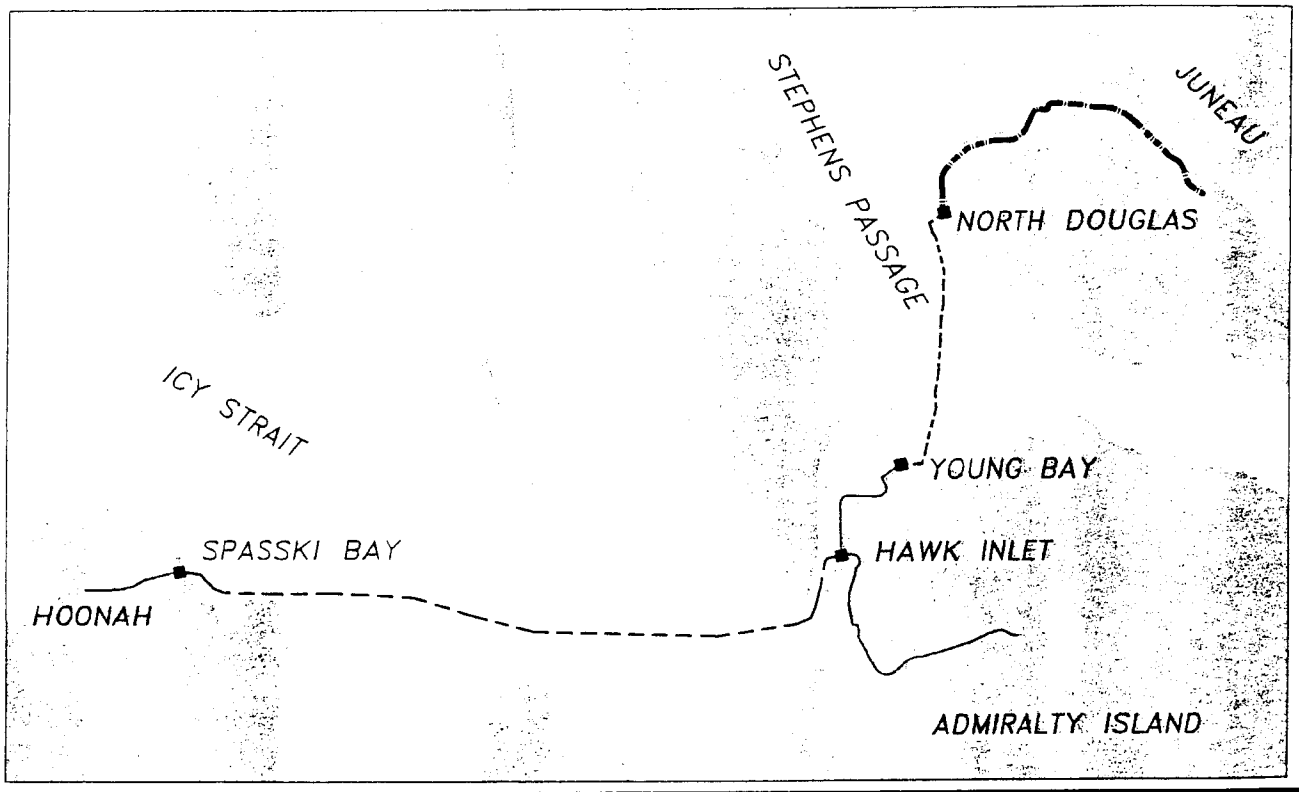
DATE: DEC., 2003 FIGURE 1

R&M PROJ.: 031836

\\2003\031836\AELAP Drawings\YOUNG BAY LANDINGS12.dwg PLOT: February 04, 2004 at: 9:30am



SOUTHEAST ALASKA KEY MAP



- - - - - - PROPOSED SUBMARINE CABLE

——— PROPOSED TRANSMISSION LINE

▬ ▬ ▬ EXISTING TRANSMISSION LINE

■ TRANSMISSION TERMINATION YARD

VICINITY MAP

PROPOSED JUNEAU/ GREENS CREEK/HOONAH, ALASKA INTERTIE PROJECT

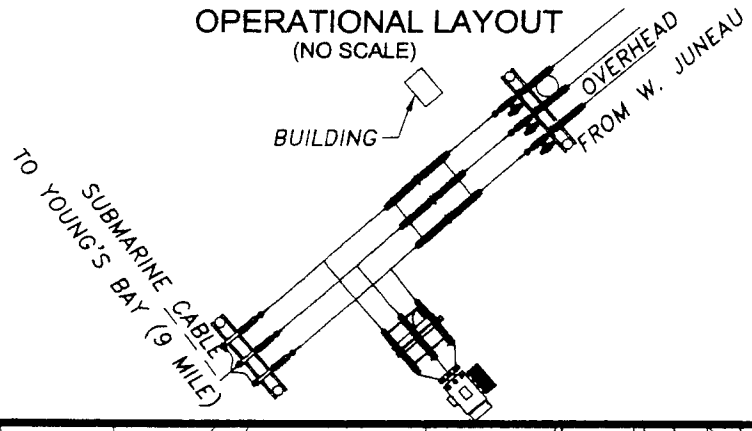
STATE: ALASKA

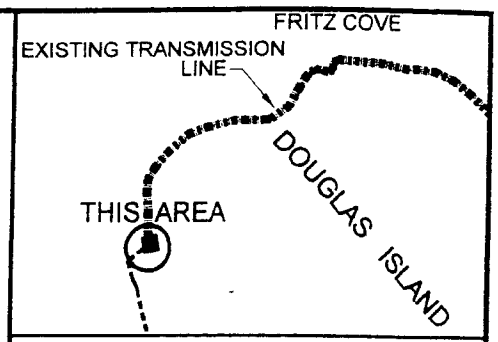
AGENT: ALASKA ELECTRIC LIGHT AND POWER
5601 TONSGARD COURT
JUNEAU, AK 99801

DATE: DEC., 2003 FIGURE 2

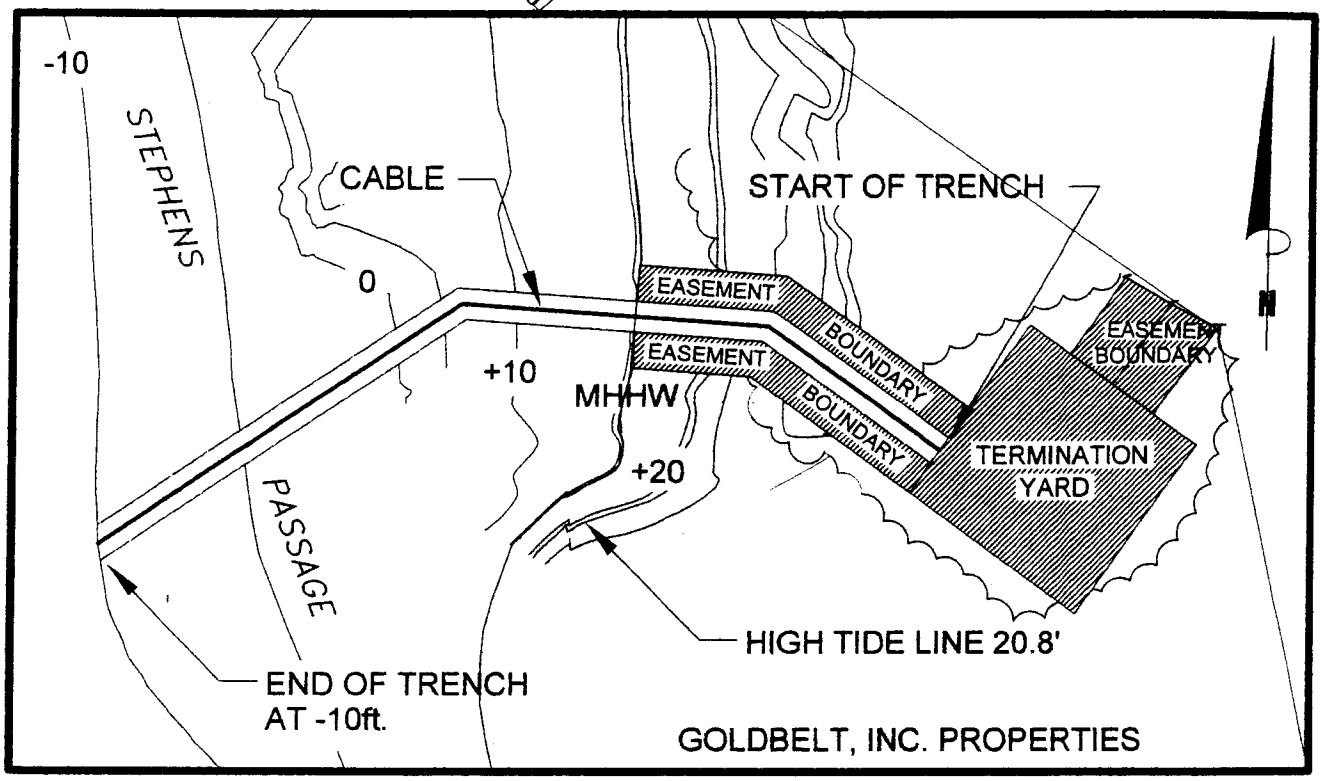
R&M PROJ.: 031836

I:\2003\031-36\AEL&P Drawings\YOUNG BAY LANDING.dwg PLOT: February 04, 2004 at: 9:30am





LOCATION MAP



TIDAL DATUM:

JUNEAU, GASTINEAU CHANNEL, STEPHENS PASSAGE
PUBLISHED 4/21/2003

HIGHEST OBSERVED WATER LEVEL (11-02-1948)	24.37'
MEAN HIGHER HIGH WATER (MHHW)	16.31'
MEAN HIGH WATER (MHW)	15.34'
MEAN TIDE LEVEL (MTL)	8.47'
MEAN LOW WATER (MLW)	1.60'
MEAN LOWER LOW WATER (MLLW)	0.00'
LOWEST OBSERVED WATER LEVEL (01/01/1991)	-5.35'

NOTES:

1. TRENCH DETAILS:
   VOLUME: 1980ft^3
   LENGTH: 330ft. FROM -10ft. TO +20.8ft.
   WIDTH: 2ft.
2. THE CABLE TRENCH WILL BE BACKFILLED TO HISTORIC ELEVATIONS.
3. CLEARING AREA FOR THIS SITE IS 0.31 ACRES
4. CONTOURS GIVEN IN FEET

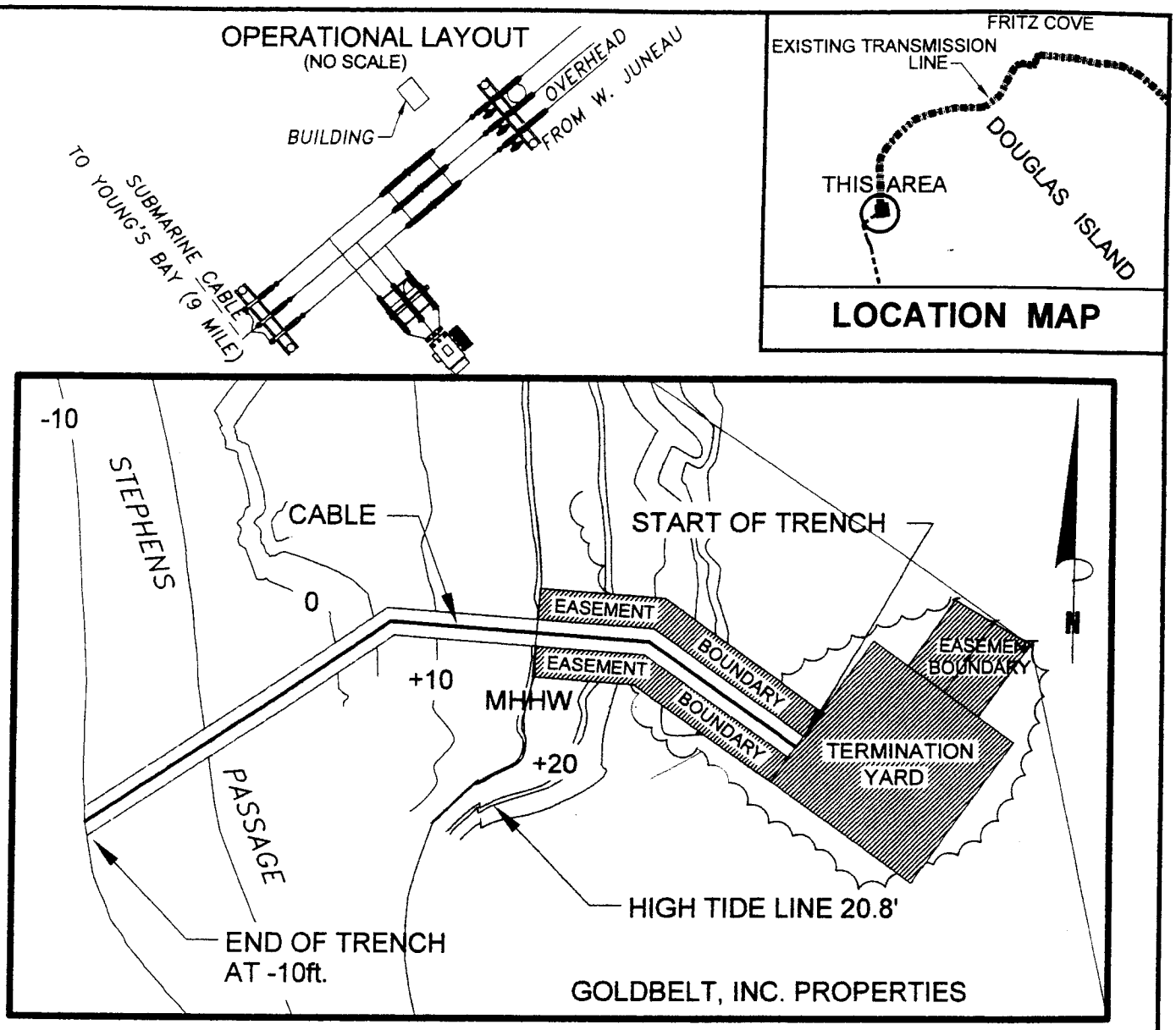
NORTH DOUGLAS CABLE LANDING SITE

PROPOSED JUNEAU/ GREENS CREEK/HOONAH, ALASKA INTERTIE PROJECT

STATE: ALASKA

AGENT: ALASKA ELECTRIC LIGHT AND POWER
5601 TONSGARD COURT
JUNEAU, AK 99801

DATE: FEB., 2004 FIGURE 3



TIDAL DATUM:
JUNEAU, GASTINEAU CHANNEL, STEPHENS PASSAGE
PUBLISHED 4/21/2003

HIGHEST OBSERVED WATER LEVEL (11-02-1948)	24.37'
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MEAN LOW WATER (MLW)	1.60'
MEAN LOWER LOW WATER (MLLW)	0.00'
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3. CLEARING AREA FOR THIS SITE IS 0.31 ACRES
4. CONTOURS GIVEN IN FEET

NORTH DOUGLAS CABLE LANDING SITE

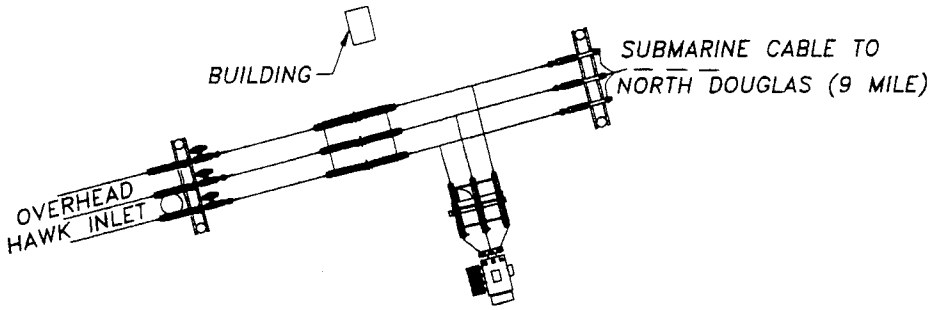
PROPOSED JUNEAU/ GREENS CREEK/HOONAH, ALASKA INTERTIE PROJECT

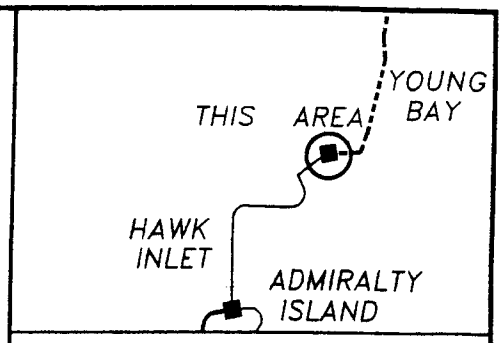
STATE: ALASKA

AGENT: ALASKA ELECTRIC LIGHT AND POWER
5601 TONSGARD COURT
JUNEAU, AK 99801

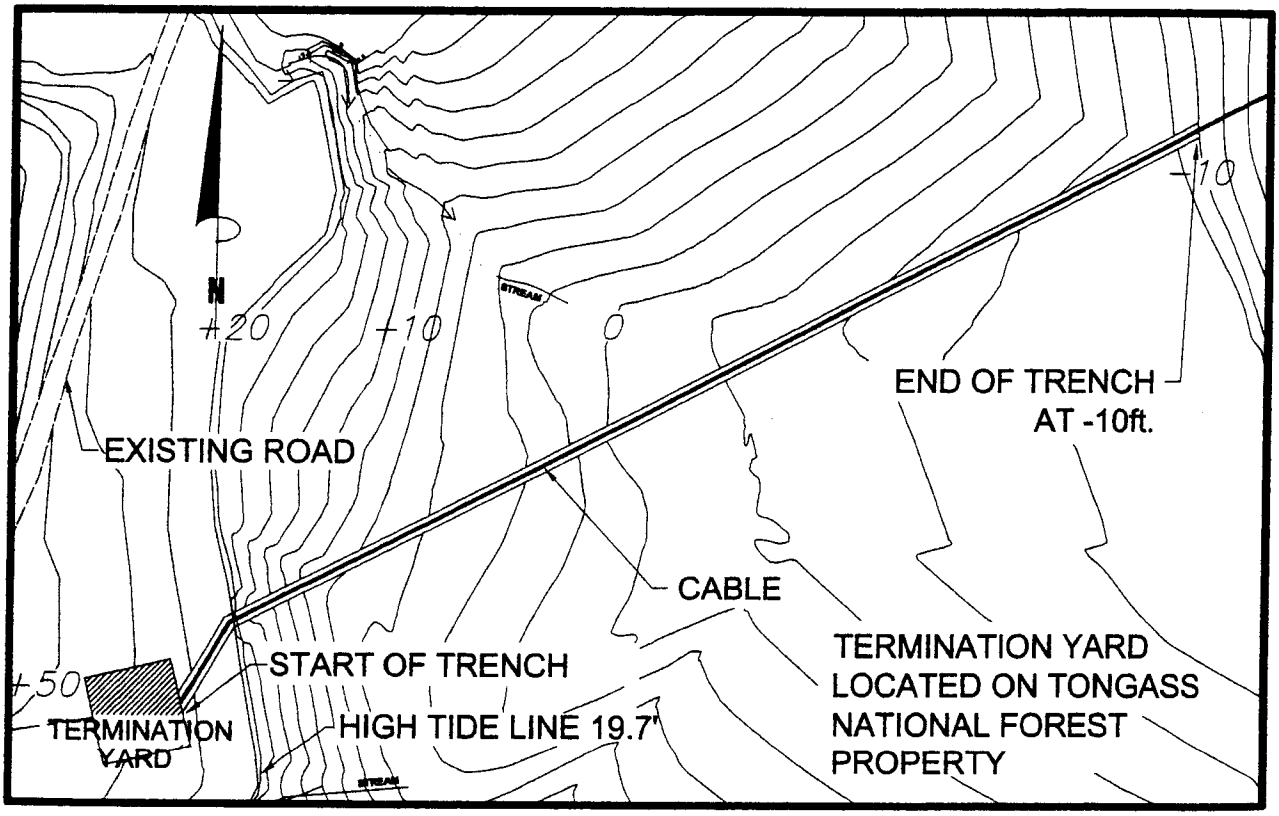
DATE: FEB., 2004 FIGURE 3

OPERATIONAL LAYOUT
(NO SCALE)





LOCATION MAP



TIDAL DATUM: YOUNG BAY, ALASKA

HIGHEST OBSERVED WATER LEVEL (04-08-1997)	19.26'
MEAN HIGHER HIGH WATER (MHHW)	16.39'
MEAN HIGH WATER (MHW)	15.39'
MEAN TIDE LEVEL (MTL)	8.49'
MEAN LOW WATER (MLW)	1.59'
MEAN LOWER LOW WATER (MLLW)	0.00'
LOWEST OBSERVED WATER LEVEL (04-08-1997)	-4.29'

PUBLISHED 4/21/2003

NOTES:

1. TRENCH DETAILS:
   VOLUME: 7260ft^3
   LENGTH: 1210ft. FROM -10ft. TO +20.8ft.
   WIDTH: 2ft.
2. THE CABLE TRENCH WILL BE BACKFILLED TO HISTORIC ELEVATIONS.
3. CLEARING AREA FOR THIS SITE IS 0.28 ACRES
4. CONTOURS GIVEN IN FEET

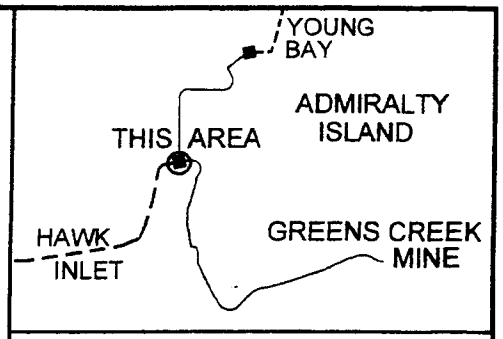
YOUNG BAY CABLE LANDING SITE

PROPOSED JUNEAU/ GREENS CREEK/HOONAH, ALASKA INTERTIE PROJECT

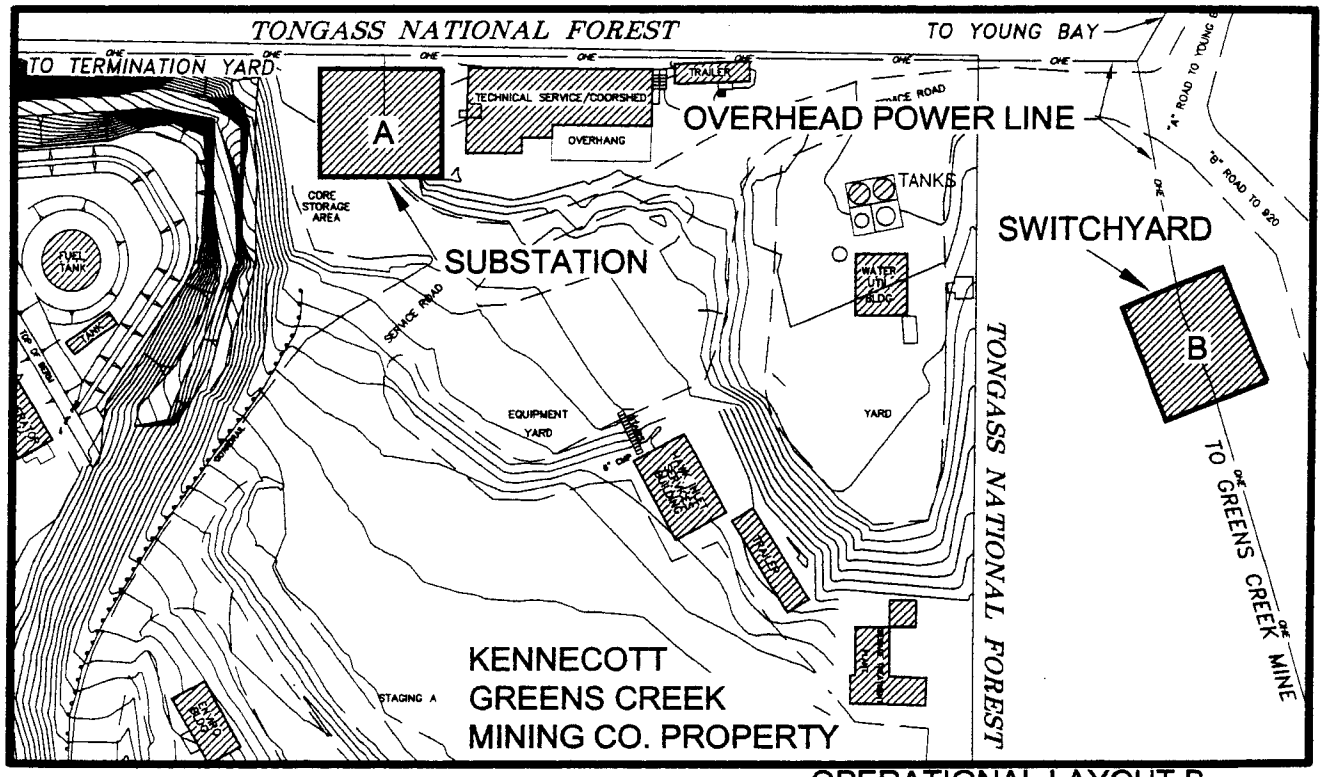
STATE: ALASKA

AGENT: ALASKA ELECTRIC LIGHT AND POWER
5601 TONSGARD COURT
JUNEAU, AK 99801

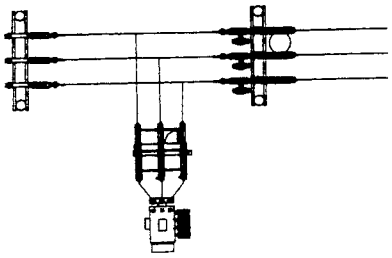
DATE: FEB., 2004 FIGURE 4



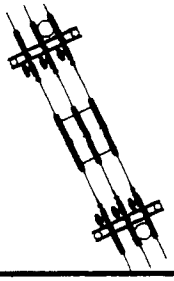
LOCATION MAP



OPERATIONAL LAYOUT A
(NO SCALE)
HAWK INLET SUBSTATION



OPERATIONAL LAYOUT B
(NO SCALE)
HAWK INLET SWITCH YARD



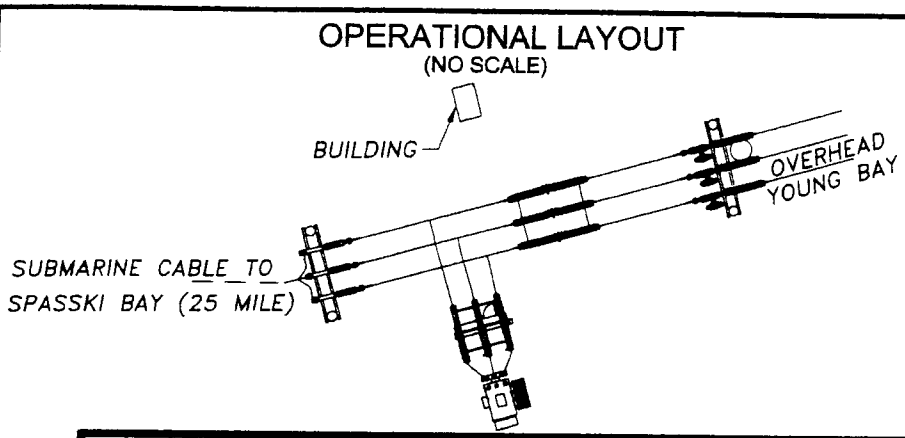
HAWK INLET SUBSTATION FACILITIES

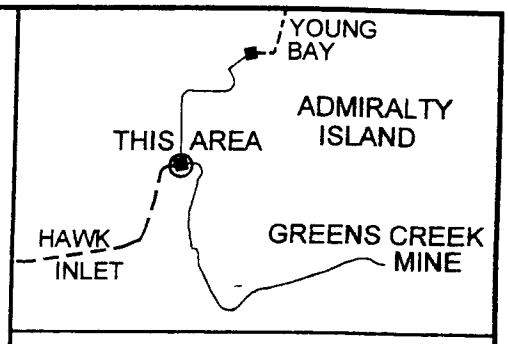
PROPOSED JUNEAU/GREENS CREEK/HOONAH, ALASKA INTERTIE PROJECT

STATE: ALASKA

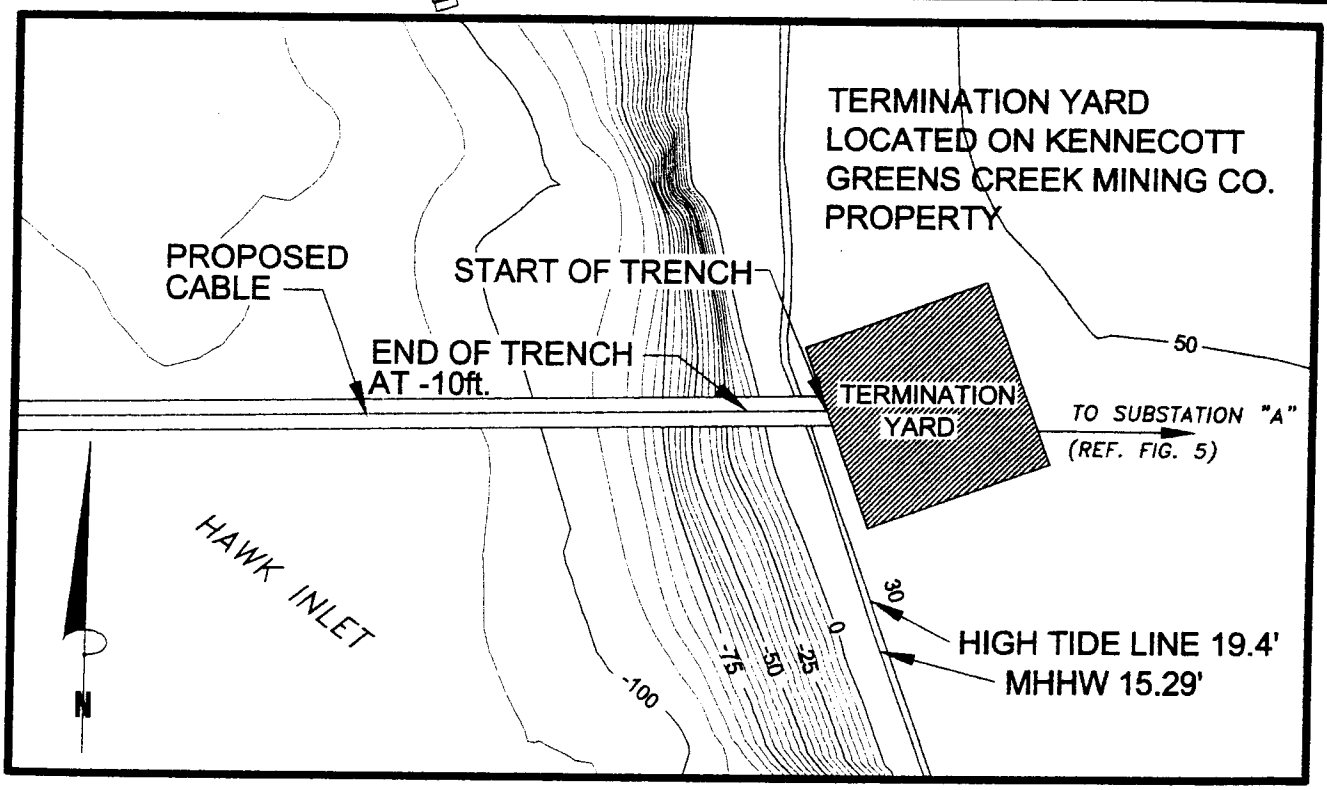
AGENT: ALASKA ELECTRIC LIGHT AND POWER
5601 TONSGARD COURT
JUNEAU, AK 99801

DATE: FEB., 2004 FIGURE 5





LOCATION MAP



TIDAL DATUM:

HAWK INLET ENTRANCE
PUBLISHED 4/21/2003

MEAN HIGHER HIGH WATER (MHHW)	15.29'
MEAN HIGH WATER (MHW)	14.40'
MEAN TIDE LEVEL (MTL)	7.98'
MEAN LOW WATER (MLW)	1.56'
MEAN LOWER LOW WATER (MLLW)	0.00'

NOTES:

1. TRENCH DETAILS:
   VOLUME: 400ft^3
   LENGTH: 50ft. FROM −10ft. TO +20.8ft.
   WIDTH: 2ft.
2. THE CABLE TRENCH WILL BE BACKFILLED TO HISTORIC ELEVATIONS.
3. CLEARING AREA FOR THIS SITE IS 0.25 ACRES
4. CONTOURS GIVEN IN FEET

PRELIMINARY CONCEPTUAL DESIGN (SUBMARINE ROUTING STUDY TO BE COMPLETED BEFORE FINALIZING DESIGN)

PROPOSED HAWK INLET CABLE LANDING SITE

PROPOSED JUNEAU/ GREENS CREEK/HOONAH, ALASKA INTERTIE PROJECT

STATE: ALASKA

AGENT: ALASKA ELECTRIC LIGHT AND POWER
5601 TONSGARD COURT
JUNEAU, AK 99801

DATE: FEB., 2004 FIGURE 6