

Proposed by:	Manager Ryan
Attorney Review:	04/14/2021
Planning & Zoning:	01/14/2021
Public Works Committee:	03/19/2021
Vote:	<input type="checkbox"/> Aye <input type="checkbox"/> Nay <input type="checkbox"/> Absent

## MUNICIPALITY OF SKAGWAY, ALASKA

### RESOLUTION NO. 21-10R

#### **A RESOLUTION OF THE MUNICIPALITY OF SKAGWAY, ALASKA, APPROVING AN EASEMENT FOR A PORTION OF USS 1499 KNOWN AS SMUGGLER'S COVE.**

**WHEREAS**, Alaska Power and Telephone Co. (AP&T or applicant) has requested permission to install a power vault, replace a power transmission cable, and add extra conduit to allow for future expansion at Smuggler's Cove; and

**WHEREAS**, AP&T proposes to place the power vault to the front of the current fiber vault at Smuggler's Cove and anticipates extending part of the parking lot 7 to 8 feet towards the water in an area that has already been disturbed; and

**WHEREAS**, the Municipality finds it is in the public interest to relocate this power line, which in its present location is subject to damage from underwater landslides and may be an obstruction to future dredging and improvement operations in the port; and

**WHEREAS**, the Municipality finds that relocating the power cable to Smuggler's Cove at Yakutania Point Park will help protect power transmission in the region; and

**WHEREAS**, the Municipality finds that the proposed project is a public utility use; and

**WHEREAS**, the Public Works Committee reviewed and discussed AP&T's request for a power transmission cable easement at Smuggler's Cove at meetings on May 6, 2019, August 3, 2020, December 8, 2020, December 16, 2020, and March 19, 2021, and voted unanimously in favor of authorizing the manager to negotiate the easement; and

**WHEREAS**, at its meeting of January 14, 2021, the Planning and Zoning Commission reviewed AP&T's request for a power transmission cable easement at Smuggler's Cove and voted unanimously to recommend to the Assembly that it grant the easement request; and

**WHEREAS**, the Municipality has considered the Skagway Coastal Management Plan, and particularly § 5.1, the Yakutania Point Park Area Meriting Special Attention (AMSA); and

**WHEREAS**, the Municipality finds that there would be very little, if any, ongoing impact from the proposed project on the area or on the characteristics of Yakutania Point Park that the Skagway Coastal Management Plan is intended to protect; and

**WHEREAS**, the Municipality finds that the proposed project is not the type of commercial activity that Policy Y-2 of § 5.1.5 of the Skagway Coastal Management Plan is intended to prohibit; and

**WHEREAS**, the Borough Manager may convey an easement in municipally owned land after review and approval by the planning and zoning commission and upon approval by the Borough Assembly by resolution, per SMC 16.06.010(A), and such easement shall be subject to the regulations set forth in SMC 16.06.010 Easements and SMC 19.06.020 Residential Conservation Zone, including the need for a new easement survey and appraisal;

**NOW, THEREFORE, BE IT RESOLVED** by the Borough Assembly of the Municipality of Skagway that the attached easement agreement is approved.

**PASSED AND APPROVED** this \_\_\_ day of \_\_\_\_\_, 2021, by the Assembly of the Municipality of Skagway, Alaska.

\_\_\_\_\_  
Andrew Cremata, Mayor

ATTEST:

\_\_\_\_\_  
Emily Deach  
Municipal Clerk

(SEAL)



# Municipality of Skagway

GATEWAY TO THE KLONDIKE

P.O. BOX 415 SKAGWAY, ALASKA 99840

(PHONE) 907-983-2297 – Fax 907-983-2151

[WWW.SKAGWAY.ORG](http://WWW.SKAGWAY.ORG)

## **AN EASEMENT BETWEEN ALASKA POWER AND TELEPHONE COMPANY AND THE MUNICIPALITY OF SKAGWAY**

This easement is granted and conveyed by the Municipality of Skagway, a first-class borough whose mailing address is P.O. Box 415, Skagway, Alaska 99840 (Grantor) to Alaska Power and Telephone Company whose mailing address is P.O. Box 459, Skagway, Alaska 99840 (Grantee).

WHEREAS, the Grantee desires the use of certain property of the Grantor for use as an easement for the purpose of installing a power vault, replacing power transmission cable and adding extra conduit to allow for future expansion for utility purposes; and

WHEREAS, the Assembly of the Municipality of Skagway has adopted Resolution No. 21-XXR approving this easement;

NOW, THEREFORE, the Grantor conveys an easement to the Grantee as follows:

### **1. Grant of Easement and Price**

Grantor, for and in consideration of \$\_\_\_\_\_, (Dollar Amount Written Out) the price established by the appraisal dated \_\_\_\_\_, (Attachment B) of the easement area, conveys and grants to Grantee, its successors and assignees, an easement along, over, and across the following-described tract of land located in the State of Alaska: A portion of USS 1499, Skagway Recording District, First Judicial District, State of Alaska. This land is known as Smuggler's Cove.

Easement area is shown on the plats and legal description attached hereto and made a part hereof this instrument (Attachment A). Said parcel contains 18,408 square feet, more or less. Grantor has good title to the above-described tract of land.

### **2. Terms and Conditions**

#### **A. Term.**

The easement shall be for a term of thirty-five (35) years, at which time Grantee may request a new easement, subject to Borough Assembly approval by resolution.

#### **B. Use.**

The easement is limited to use for the purpose of installing a power vault to the front of the current fiber vault. Grantee shall have the authority to replace power transmission cable alongside the fiber cable 36" below the ground under Smuggler's Cove Road. Grantee shall have the authority to extend the parking lot 7 to 8 feet towards the water. Grantee shall have

the authority to place a spare 6" conduit for future cables to come up the road to the pole line. Grantee shall have the authority to build a double circuit line to upgrade the power pole.

**C. Non-Exclusivity.**

The easement shall be non-exclusive. Grantee does not have the authority to block access on Smuggler's Cove Road or within Yakutania park except for limited times as construction, maintenance, or public safety requires. Grantor reserves the right to use the easement area in any manner and for any purposes not inconsistent with the purposes of this easement, and to convey overlapping easements not inconsistent with the purposes of this easement.

**D. Easement Value.**

Grantee shall pay to Grantor the appraised value for the easement as set out in Section 1 above. Grantee shall pay Grantor the first yearly payment prior to using the easement. Grantee shall pay Grantor the second and subsequent yearly payments by January 31 of each year. Payments should be made by mailing a check to the Municipality of Skagway, P.O. Box 415, Skagway, AK 99840.

**E. Abandonment and Termination.**

Grantee has to remove all infrastructure when the life of the cable is exceeded or it stops using the cable. The easement may be terminated if unused for a period of more than five years.

**F. Construction and Maintenance.**

1. Grantee shall improve Smuggler's Cove Road by supplying additional gravel to the site and by placing said gravel on Smuggler's Cove Road after installation of the underground fiber optics cable to obtain a gravel surface 3 inches thick.
2. Grantee shall review all installation, work, and improvements at a minimum of once each year to ensure there is no degradation of the area due to the installation or maintenance of the cable and that the area retains its character as an unspoiled recreation area; any degradation due to installation or maintenance of the cable shall be repaired.
3. Grantee shall consult Skagway Traditional Council on the construction and maintenance of the easement consistent with any agency requirements.
4. Grantee shall ensure the subsea terminal vault and the fiber optics lines are fully buried.
5. Grantee shall not dump any fill or refuse in the easement area, other than using trenched native material to backfill over the fiber optics cable.
6. If Grantee needs to trench in the easement for maintenance of the cable line after construction, Grantee shall ensure 3 inches of gravel remains on Smuggler's Cove Road after maintenance of the cable line by placing gravel and re-grading the road as needed. Grantee shall also maintain 3 inches of backfill over the installed culvert during the time of the easement by placing material as needed after maintenance of the fiber optics line.
7. Grantee shall utilize its vault and spare conduit for future power and communications projects (such as Burro Creek), providing such projects have received all required financial, commercial, and regulatory approvals necessary for construction.

**G. As-Built Survey.**

Grantee shall provide an as-built survey of the easement area showing all improvements constructed and installed, in accordance with Municipality's surveying standards.

**H. Defend, Indemnify and Hold Harmless.**

Grantee shall indemnify, defend, and hold the Municipality harmless from any claim or liability for environmental damages, damages to property, or injury to person of any kind and any nature, including death, arising out of Grantee's construction, installation, maintenance, repair, or use of the easement. Grantee shall be defined to include its employees, subcontractors, agents, independent contractors, guests and invitees.

**I. Insurance.**

Grantee shall provide the Municipality with a Certificate of Insurance demonstrating that Grantee has general liability insurance in at least the amount of \$2,000,000 per occurrence and showing the Municipality listed as an additional insured before Grantee shall use the easement.

**J. Permits.**

Grantee shall obtain all local, State, and Federal regulatory approvals and permits for all work in the easement to install, maintain, and repair the fiber optics cable and also for the construction and maintenance of the road listed in Section

**K. Vegetation.**

It is understood by Grantor that Grantee should not need to clear trees or vegetation within Yakutania park to install or maintain the underground fiber optics line. Should clearing become necessary, it must be pre-approved by the Grantor through the Grantee submitting a written request to the Borough Clerk's office. Any clearing must be conducted in compliance with all required regulatory approvals and permits obtained by Grantee. Grantee shall stabilize any non-vegetated areas cleared by Grantee with grass mixes approved for erosion control in this region, or alternative vegetation as required under any permits or regulatory approvals obtained by Grantee, including but not limited to, the requirements under Alaska's Pollution Discharge Elimination System.

**L. Historical or Archeological Resources.**

If Grantee uncovers artifacts of historic, prehistoric, or archeological nature during construction or maintenance in the easement, the Grantee shall notify the Grantor immediately and stop work at the location.

**IN WITNESS WHEREOF**, the parties hereto have executed this lease as of the date first written above.

\_\_\_\_\_  
Andrew Cremata, Mayor  
For the Municipality of Skagway

\_\_\_\_\_  
Signer  
For Alaska Power & Telephone

Date\_\_\_\_\_

Date\_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Emily Deach, Borough Clerk  
(SEAL)

# ATTACHMENT A

RECEIVED +  
\$50.00 fee paid  
APR 09 2021 1169  
MUNICIPALITY  
OF SKAGWAY

**Municipality of Skagway  
Application for Easement  
SMC 16.06.010**

Submit this completed application and all necessary attachments to:  
The Planning and Zoning Commission, Municipality of Skagway,  
P.O. Box 415, Skagway, Alaska 99840

**Non-refundable application fee of \$50.00\***

<u>Alaska Power and Telephone</u>	<u>Utility</u>
Applicant's Name	Doing business as:
<u>PO Box 459</u>	
Mailing Address	
<u>Skagway Alaska 99840</u>	
City/State/Zip	
<u>(907) 983-2202</u>	<u>(907) 983-2202</u>
Message Phone	Work Phone

Applicant proposes to:

Alaska Power and Telephone is proposing to add a submarine power cable landing along side of the existing fiber landing currently in the area. This cable will replace the cable that is currently on the waterfront.

Location of activity/Legal Description: Municipality Parcel # USS 1499  
(attach extra sheets as needed) Street # \_\_\_\_\_ Street Name \_\_\_\_\_  
Block \_\_\_\_\_ Lot Smugglers cove

Total length of applied-for easement (feet): 1840 Total width of applied-for easement (feet): 10 Acres encompassed by easement: .42 (43,560 square feet = 1 acre)

Specific purpose of easement (e.g. electric utility, fiber-optic conduit or cable, telecommunications tower, road, bridge, airstrip/airport, driveway, trail, drainage), and type of anticipated traffic (e.g. plane, truck, heavy equipment): Explain

The need for this easement is to bring underground power from a submarine cable to a vault located at the turn around area of Smugglers Cove traveling 36" under the access road with 2-6" conduits. (one spare for future use) to transition to the overhead lines on the Dyea road.

State briefly the standards and methods of construction: e.g. regulated standards, winter trail, dirt trail, gravel road, paved road, etc.; clearing by hand, clearing/construction by

# ATTACHMENT A

mechanical equipment (state type of equipment to be used, e.g. J.D. 350, 944 F.E. loader, hydro-axe, D-8), or establishment by use only.

Equipment to be used will be a local contractor with a small backhoe and loader

Is this an existing use? ☐ yes ☒ no. If yes, provide documentation verifying existing use, such as easement atlas, affidavits attesting to use and existence, pictures, etc.

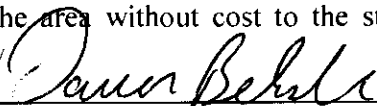
Construction to begin: Fall 2022

Construction to be completed by: Fall 2022

Other permits or authorizations applied for in conjunction with this proposed project:

various state agencies as required.

I certify that I am familiar with Skagway Municipal Code (SMC) pertaining to public lands (Title 16) and planning and zoning (Title 19) as they apply to this application and proposed land use. I also certify that I am qualified as defined in SMC section 16.06.010 to apply for easements of municipal lands. If this authorization is granted, I agree to construct and maintain the improvements authorized in a workmanlike manner, and to keep the area in a neat and sanitary condition; to comply with all the laws, rules, and regulations pertaining thereto; and provided further that upon termination of the easement for which application is being made, I agree to remove or relocate the improvements and restore the area without cost to the state and to the satisfaction of the Municipality of Skagway.

  
(Applicants Signature)

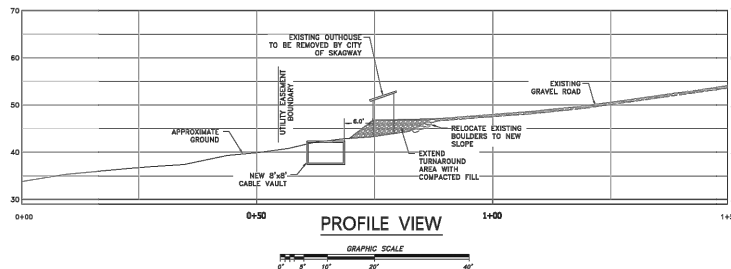
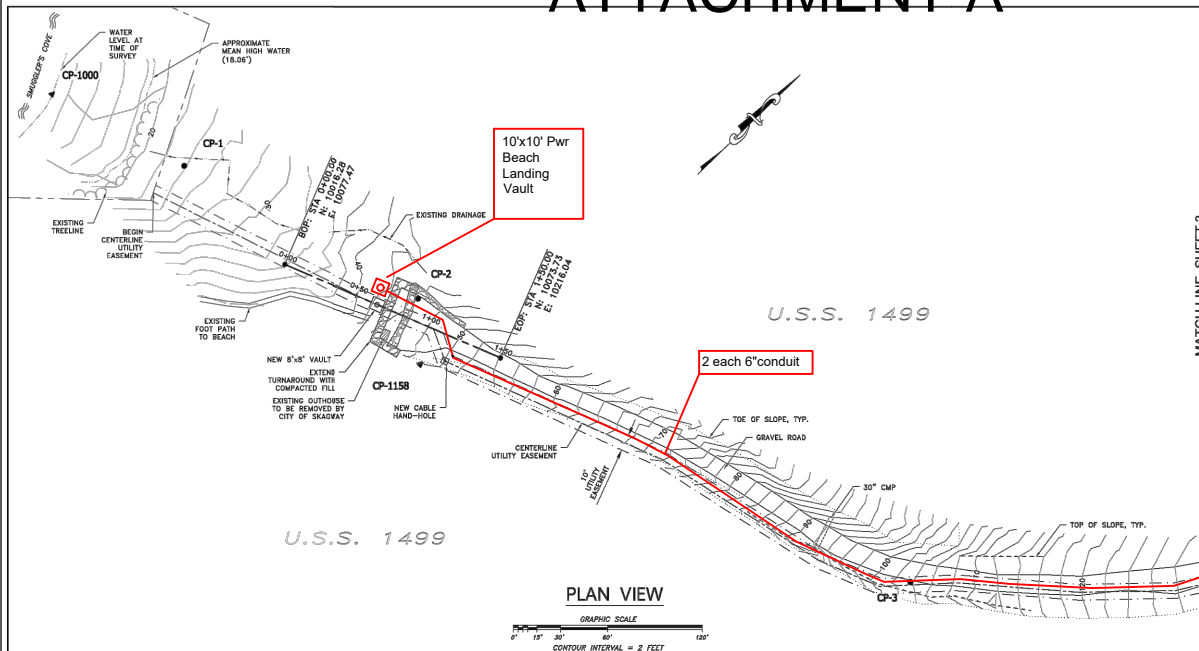
4/9/2021

(Date)

Manager AP&T  
Skagway AK

# ATTACHMENT A

R&M



MATCH LINE, SHEET 3

A LIMITED TOPOGRAPHIC SURVEY AND  
EASEMENT PLAT OF  
U.S.S. 1499  
AND A PORTION OF  
DYEA ROAD RIGHT-OF-WAY  
SAGINAW, ALASKA  
SAGINAW RECORDING DISTRICT

CLIENT:  
ALASKA POWER AND TELEPHONE  
P.O. BOX 24104  
JUNEAU, ALASKA 99803

DATE: AUGUST 2, 2015  
SCALE: 1"=50'

SURVEYOR:  
R&M ENGINEERING, INC.  
2553 CLARK STREET  
JUNEAU, ALASKA 99801

RAW PROJ. No. 181770

SHEET 2 OF 4

R&M

R & M ENGINEERING, INC.  
ENGINEERS SURVEYORS



MATCH LINE SHEET 4

GRAPHIC SCALE  
0' 10' 20' 40' 100'  
CONTOUR INTERVAL = 2 FEET

SEASIDE, ALABAMA  
SEASIDE RECORDING DISTRICT

**SUPPLIER:**  
DAM ENGINEERING, INC.  
6100 GLADES HIGHWAY  
JUNEAU, ALASKA 99801

NEW FROM No. 121770

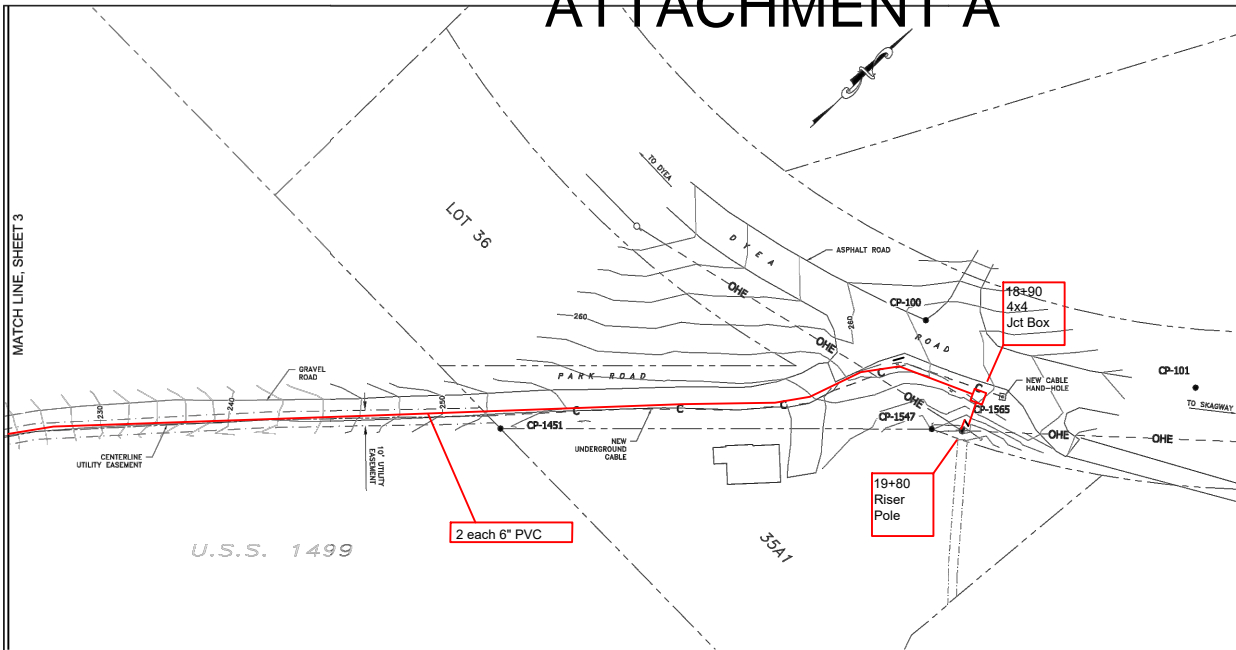
PAGE 3 of 4


**R & M ENGINEERING, INC.**

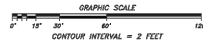
# ATTACHMENT A

R&M

MATCH LINE, SHEET 3



PLAN VIEW



A LIMITED TOPOGRAPHIC SURVEY AND  
EASEMENT PLAT OF  
U.S.S. 1499  
AND A PORTION OF  
DYE A ROAD RIGHT-OF-WAY  
SKAGWAY, ALASKA  
SKAGWAY RECORDING DISTRICT

CLIENT: ALASKA POWER AND TELEPHONE P.O. BOX 34160 JUNEAU, ALASKA 99803	SUPERVISOR: RAM ENGINEERING, INC. 2025 GLACIER HIGHWAY JUNEAU, ALASKA 99801
DATE: AUGUST 7, 2010	RAM PROJ. No. 191770
SCALE: 1"=30'	SHEET 4 OF 4

R&M

R & M ENGINEERING, INC.  
ENGINEERS GEOLOGISTS SURVEYORS

# ATTACHMENT A

## **Smugglers Cove Sub Cable Transition and Cable Placement to DOT State ROW**

### **Sub Sea Transition at Landing**

A trench will be dug to mean low tide from a vault above the mean high tide level approximately 3-4 feet in front of and slightly west of the current vault. A conduit will be placed in the trench that is within 3 feet of the existing fiber cable and backfilled with all native soil. The sub cable will be laid and placed through the new conduit to the vault above high tide level.

The cable will be opened, separated and the steel protections will be used to anchor the sub cable to the landing site. A certain amount of cable will be placed in the vault and coiled, then terminated

### **Power Placement in Easement through Skagway Borough Property**

Contractors will dig a 36" deep trench starting at the subsea termination vault (approximately 2200'), within 3 feet of the existing fiber to stay within our current easement, to the power pole line at the intersection of Dyea Road. Two 6" HDPE poly pipes (one for future Burro Creek needs) will be placed in the trench with a 48" x 48" splice vaults at approximately the 700-foot mark and the 1400-foot mark. These will be completely sub surface and will not be in view of anyone using the area. These splice vaults will be used to make splices in the cable as the distance is too far to pull at one time. There should be no reason to access this vault or splice vaults once the construction and splicing is completed other than for periodic inspections or catastrophic events.

Alaska Power & Telephone and our employees take great pride in our work. Our goal is to restore the area impacted during construction to as good or better condition than when we started.

Darren Belisle

Manager of Power Operations Skagway, Gustavus

Alaska Power & Telephone



# ATTACHMENT A

ALASKA POWER & TELEPHONE COMPANY

136 MISTY MARIE LANE

KETCHIKAN, ALASKA 99901

PHONE: (907) 225-1950 | FAX: (907) 225-4169

March 15<sup>th</sup>, 2021

Skagway Public Works Committee and Assembly Members.

**The purpose of this letter is to request timely approval of Alaska Power & Telephone's (AP&T's) request for an expanded utility easement at Smuggler's Cove, to accommodate installation of a new Skagway-Haines power cable project.**

AP&T has faithfully provided utility service in Skagway since 1957, under the 2<sup>nd</sup> ever utility Certificate of Public Convenience and Necessity (CPCN) issued in the State of Alaska. Replacement of the Skagway-Kasidaya power cable segment will be the latest of many significant, long-term investments our company has made in Skagway to provide reliable and affordable service in a challenging rural location.

The cable replacement project will benefit Skagway residents in a number of ways.

- Ensures ongoing connectivity between Skagway and the Kasidaya hydropower project.
- Improves reliability / redundancy. AP&T uses Haines diesel generation resources to back-up Skagway during times of low water, maintenance, and other outages.
- Helps improve energy affordability in Haines and Skagway. Without the project, energy costs will be higher for both communities.
- Moving the cable to Smuggler's Cove will allow the Municipality of Skagway to more freely develop and manage its waterfront. Risks – to both the Municipality and to AP&T – will be significantly less when the cable is no longer in proximity to docks and marine vessels.
- The new vault will include a second conduit which can be used for future development.

Time is of the essence. AP&T hopes to order the cable Q3 2021 and undertake construction in 2022. Equipment lead times are long, and increasing. Due to seasonal weather, the months during which construction can occur are limited. Material costs have been increasing, and are likely to continue to rise with inflation. Because the cost of the project is ultimately recovered through customer charges, avoiding delays helps to avoid unnecessary costs to ratepayers. Already AP&T has waited on the easement for nearly 2 years since the time of its initial request to the Municipality of Skagway on April 3<sup>rd</sup>, 2019. AP&T needs to obtain the easement in order to have the certainty necessary to proceed with additional project activities.

We recognize there have been requests to provide special accommodations for the proposed Burro Creek hydropower project. We respectfully note that the Alaska Energy Authority (AEA) recently performed a third-party assessment of the Burro Creek project, which was unfavorable, and resulted in a decision against providing grant funding. The AEA's observations – which you can read in the attached document - are consistent with AP&T's internal assessment of the project.

AP&T makes the following observations:

- AP&T agrees with the AEA that total development costs at Burro Creek are likely to be at least 50% higher than the developer indicates. A construction contractor with recent, comparable hydropower construction experience in southeast Alaska would need to provide a bottom-up cost estimate.

# ATTACHMENT A

- AP&T believes O&M expense is significantly understated. We note that while the Burro Creek project suggests an operating expense of \$250,000 per year, the operating expense for the project the AEA uses as a point of comparison (Hiilangaay) is \$739,000 per year – nearly 3 times as high. Insurance expense alone is \$159,000 at Hiilangaay.
- Notably, the developer of the Burro Creek project does not have a CPCN, which is issued by the Regulatory Commission of Alaska, and is an essential prerequisite for a utility.

Even if you disagree with these assessments, the Burro Creek project's economic case seemingly depends upon an interconnection to Haines and Klukwan – which depends upon AP&T's cable replacement project.

AP&T would be remiss if it did not clarify it currently has adequate energy generation resources. While we are hopeful that the load in Skagway and Haines will continue to grow over time with responsible economic development – a scenario we very much hope for - we cannot make future plans and regulated investments until that growth occurs. (Recently, Skagway's load and economic activity have decreased significantly due to COVID-19 impacts.)

Please be advised, when the time comes to consider developing a new renewable energy resource, AP&T will take an approach which is agnostic to ownership, location or technology type, and will seek to develop the resource that is most economically and technically feasible, for the benefit of all ratepayers. This may or may not be the Burro Creek project. We are aware of numerous other development possibilities which have been studied for the region (by AP&T and others), many of which are discussed in the State of Alaska Southeast Integrated Resource Plan (SEIRP). We note the Burro Creek project did not pass initial screening criteria to be included on the SEIRP's "Refined Screened Hydro Project" list as a resource for future consideration.

While AP&T recognizes that this may be unwelcome news to some, we do not wish to inadvertently mislead through silence on the topic of future energy resources, or by omitting information like the recent AEA review.

Debate about future resources aside, there is a need for a new power Skagway-Kasidaya submarine power cable today. AP&T's proposed development in Smuggler's Cove would include a spare conduit for future use, which we believe is consistent with the goals of other developers. Cable crossings are also allowable, and very common; entities cannot blockade areas with submarine cables. (Even without the relocated cable, Burro Creek would need to cross AP&T's Lynn Canal Fiber cable.)

We hope you recognize the importance of this project, and the cost and risk reduction benefits to the ratepayers of Skagway of landing the power cable at Smuggler's Cove.

Sincerely,

---

**Jason Custer, CMA, PMP**  
Vice President, Business Development  
Alaska Power & Telephone Company  
[Jason.c@aptalaska.com](mailto:Jason.c@aptalaska.com)  
907-617-3773

# ATTACHMENT A

## Attachment A

### **AP&T Response to Requests by Borough Clerk**

*Prepared by Darren Belisle, March 12<sup>th</sup>, 2021*

#### **Q1: Size and location of the expanded parking pad, and the specifications and location of the vault.**

A1: As per the 10% engineering drawing we will be placing the power vault to the front of the current fiber vault. We are anticipating extending part of the parking lot 7-8 feet towards the water in an area that has already been disturbed

#### **Q2: Accessibility for future Burro Creek hydro tie-in.**

A2: We agree that we do not want to have to disturb the area again, for Burro Creek or other projects. The vault will have accessibility for future cables. We are also placing a spare 6" conduit for future cables to come up the road to the pole line. Jason Custer's letter to the Municipality addresses the matter of future energy resources. Any additional project seeking to interconnect with AP&T's facilities would need to have all the equipment necessary to bring their power into our vault and on our transmission lines at the correct voltage and frequency

#### **Q3: Depth of ditch and location of ditch.**

A3: We have to follow the NESC Codes and the top of conduit has to be a minimum of 36" below grade. As stated in the previous 10% drawings we will be placing the cable within the current easement on the west side of the current fiber optic cable.

#### **Q4: Backfill material.**

A4: When doing the work on the fiber cable we found that the material in the area is just about 100% sand, so we plan on using the native material to backfill the trench. If needed, we will add D-1 to the material to bed the conduit. It is also our plan to follow the agreement for the fiber install to cap the road to its original condition

#### **Q5: Specifications on the upgraded power pole with infrastructure equipment (voltage, frequency, etc., i.e. electrical engineering specs)**

A5: AP&T will not invest in developing detailed specifications unless and until its request to the Municipality of Skagway for use of the Smuggler's Cove location is approved. The plan is to build a double circuit line that will look like the line coming down state street. We will have the 34.5/19.9 circuit on top and the 2400 delta circuit built underneath. The transition from the sub cable to the powerline will just be a riser on the first pole of the Dyea Road as the power coming from Kasidaya and Haines is already transformed to the 34.5/19.9, which eliminates the need for any transformers in the area. We are planning on having all our equipment needed along the Klondike highway. We must follow the NESC code and this will be built to RUS specs.

# ATTACHMENT A

## Attachment B

**Alaska Energy Authority 2021 Review of Burro Creek project**

## ATTACHMENT A

## Renewable Energy Fund: Round 13 Application Summaries



## Burro Creek Hydro Project

App #13015

Standard Application

**Project Type:** Hydro**Energy Region:** Southeast**Applicant:** Burro Creek Holdings, LLC**Proposed Phase(s):** Feasibility, Design**Applicant Type:** IPP**Recommended Phase(s):** Feasibility, Design**Project Description**

Develop a 2 MW run-of-river hydro project on private property at Burro Creek, south of Skagway. Transmit electricity to markets in Skagway (and possibly Haines) via a submarine cable.

**DNR/DMLW Feasibility Comments**

A water use application is on file (LAS 29573). Please be sure final design water use requirements are consistent with filed application. Burro Creek Holdings LLC, Lands have been selected by the State under GS-5450. We have no objection to any feasibility analysis proposed and would need more information (likely derived from the feasibility and other planning analysis) to determine how public access afforded by RS 2477 ROWs and 17(b) easements could be affected by such projects as they move towards maturity. DNR - PAAD Unit

**DNR/DGGS Feasibility Comments**

The DMLW Mining section reviewed the AEA projects from a mining stand point and did not note any issues that would affect mining, since the majority of the projects are not on state owned land and did not note any mining locations in the vicinity of the projects.

**DNR/DGGS Geohazards Comments**

See general DGGS comment on hazards. The closest seismic source to the proposed project is the Dalton section of the Denali fault (see Quaternary fault & fold digital database: <http://maps.dggs.alaska.gov/qff/>, <http://doi.org/10.14509/qff>, and <https://doi.org/10.14509/24956>). This fault has been active in the last 15,000 years. The coastal area in this region is subject to potential tsunami hazard, see <https://doi.org/10.14509/30029> and <https://earthquake.alaska.edu/sites/all/tsuMap/html/tsunami.html>. All projects proposing the development of permanent structures should conduct a geotechnical site survey to determine the potential detrimental effects from natural hazards such as flooding, earthquakes, active faults, tsunamis, landslides, volcanoes, liquefaction, subsidence, storm surges, ice movement, snow avalanches, and erosion, and incorporate appropriate measures to mitigate the risks. Projects may be required to perform a geohazards site survey as a condition of receiving construction permits, depending on location of proposed site. Additional information on active faults is available in the Quaternary fault & fold digital database: <http://maps.dggs.alaska.gov/qff/>, <http://doi.org/10.14509/qff>, and <https://doi.org/10.14509/24956>.

## ATTACHMENT A

## Renewable Energy Fund: Round 13 Application Summaries



## Burro Creek Hydro Project

App #13015

Standard Application

## Stage 3 Scoring Summary

Criterion (Max Score)	Score	Feasibility Analysis
1. Cost of Energy (35)		Stage 2 Tech & Econ Score (100) 53.17
2. Matching Resources (15)		Benefit/Cost Ratio 1.56
3. Stage 2 Feasibility (20)		
4. Project Readiness (5)		<b>Project Rank</b>
5. Benefits (15)		Statewide (of 19 Standard applications)
6. Local Support (5)		Regional (of all applications)
7. Sustainability (5)		Stage 3 Ranking Score (100)
Total Stage 3 Score (100)		

Funding & Cost	Requested	Recommended		
Total Cost Through Construction	\$19,172,000	\$19,172,000	Cost of Electricity	\$/kWh
REF9 Grant Funds	\$586,000	\$0	Price of Fuel	\$/Gal
Matching Funds	\$26,000	\$0	Household Energy Cost	\$4,885

## AEA Review Comments &amp; Recommendation

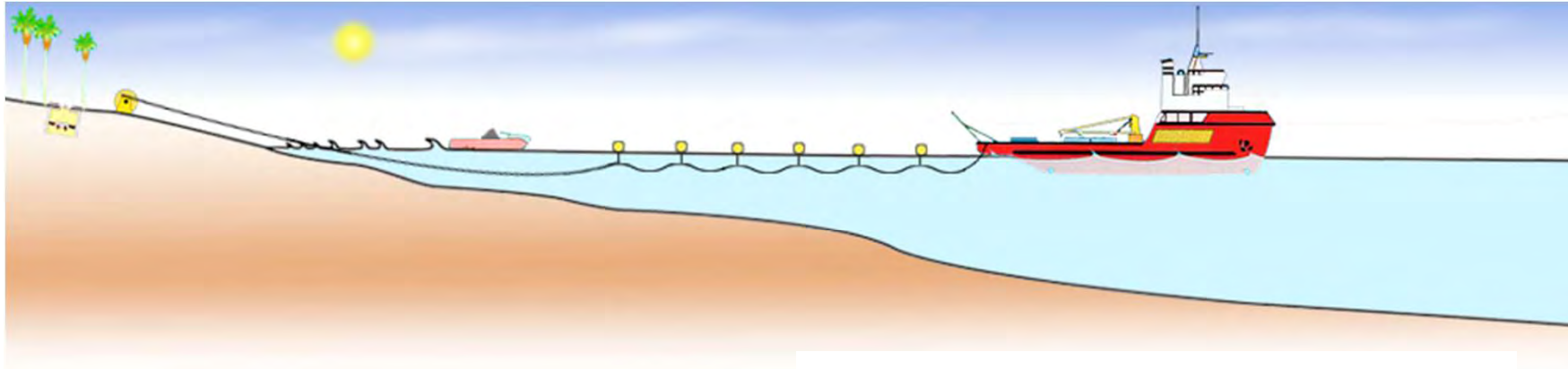
## Did Not Pass Stage 2

Items of concern: A similar 5MW project in Southeast Alaska (Hiilangaay), being developed by a utility (AP&T), has a final project cost of \$31M. Given the high fixed costs for hydro projects, project components being sized for a 7M hydro site, and the submersible transmission cable the total project costs for the proposed are likely to be \$25-30M at a minimum. The demand factors for this project are uncertain. Local power demand appears stable and AP&T, the local utility, has not pursued the development of other studied hydro sites due to lack of demand, such as Schubee and Connolly lakes. Applicant project would have to be significantly below the cost to develop these alternate sites, if it were to be a viable economic option. Additionally, West Creek, with road access to the north was studied for a 25MW hydro project. Owing to lack of power demand, however, this project has also not been pursued. Electrification of the municipal dock is unlikely due to the load required by the cruise ships. The load which the cruise ships would require is greater than that existing community as a whole (10-25MW per ship). There are also significant technical problems concerning the receipt of the shore power by the cruise ships, such as placement of power hook-ups and issues concerning load ramping to prevent local grid blackouts. Cruise ship diesel generation would not be able to be 100% offset due to high load requirements. Hydro power via AP&T assets provides the majority (99%) of power generation within the Skagway area. It is unlikely this project would displace any existing diesel generation if at all. Displacement of diesel consumption by cruise ships, if possible, would only occur in the summer months and is temporal in nature. Inability of project to store energy would not allow it to assist in the small diesel generation by the local utility. AP&T only fires their diesel plant during limited periods of high demand during the winter months when the run-of-river hydro sites are experiencing low flow rates.

Election District: Q-33 Downtown Juneau/Douglas/Haines/Skagway

## Shallow Water Operations

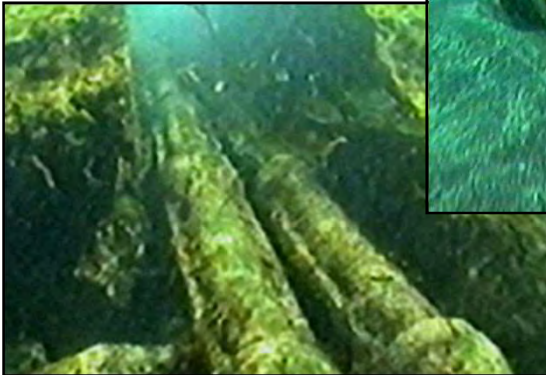
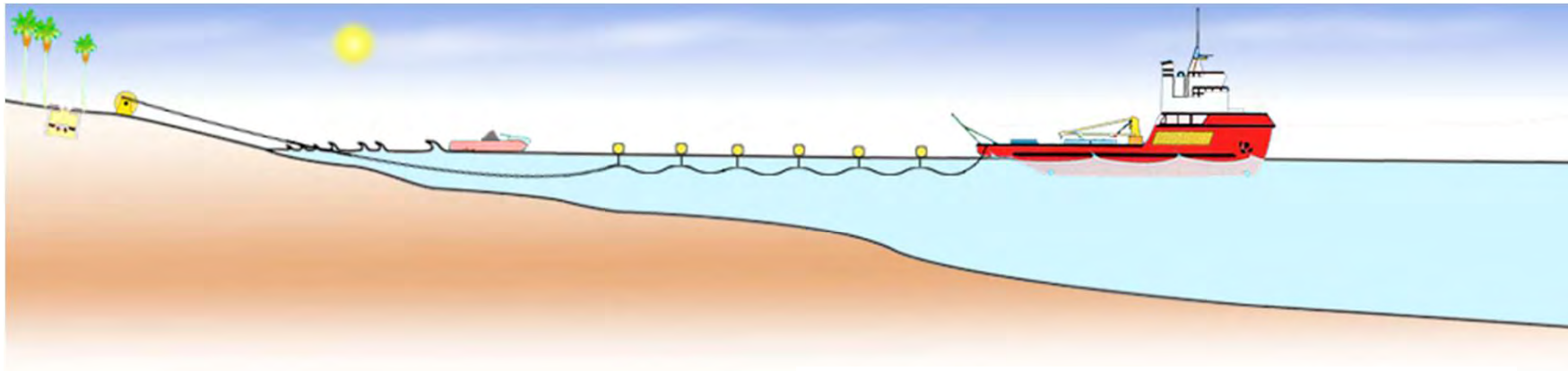
### *Cable Landing : Standard Method*



- Pilot line from ship to beach
- Cable is paid out with buoys to beach
- Small work boats control the bight during the cable landing

## Shallow Water Operations

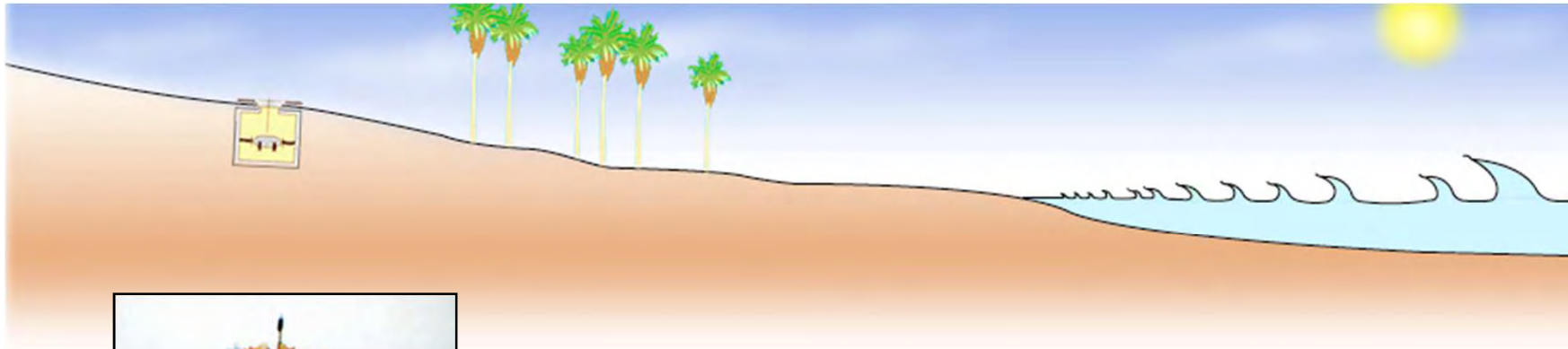
### *Cable Landing: Dedicated Methods*



- Cable is protected with articulated pipes in rocky area
- Cable is protected with articulated pipes in a thin layer of sand area

## Landing Operations

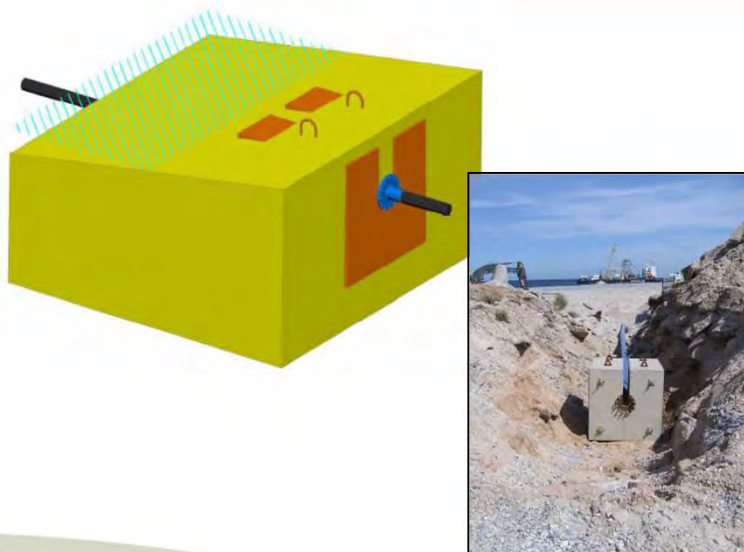
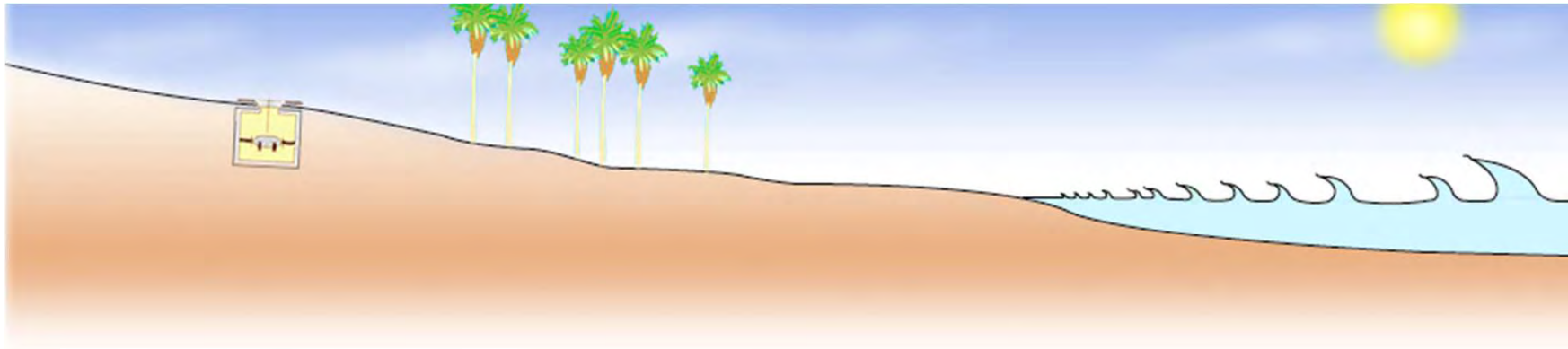
### *Shore End Preparation: Trenching & Pipes*



- Opening up trench with excavator, caterpillar truck and/or manually
  - Depending on site conditions/ landing design
    - Installation of HDPE pipes
    - Installation of steel pipes
- up to the water line

## Landing Operations

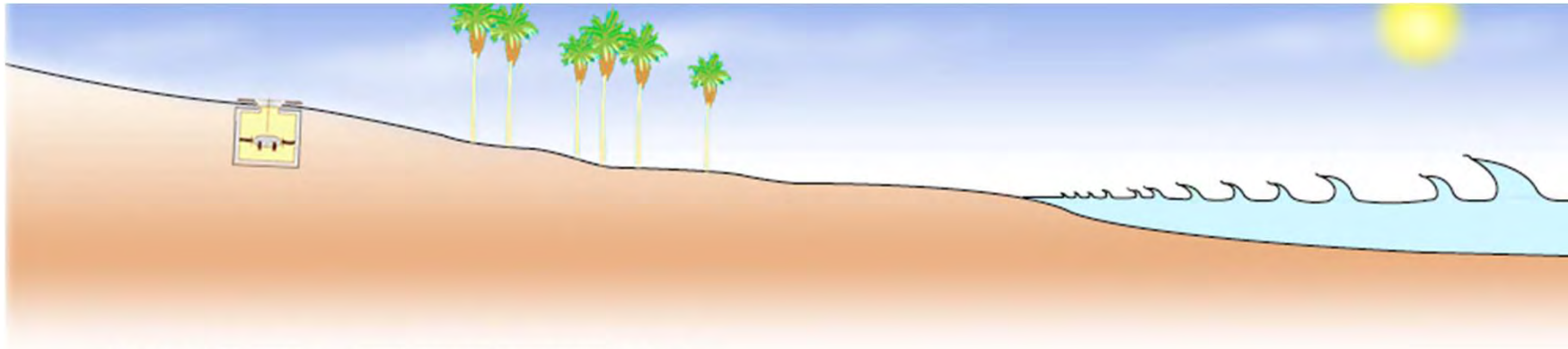
### *Shore End Preparation: Concrete Anchor Block*



- For anchoring the cable, a concrete anchor block or beach manhole is placed at the beach

## Landing Operations

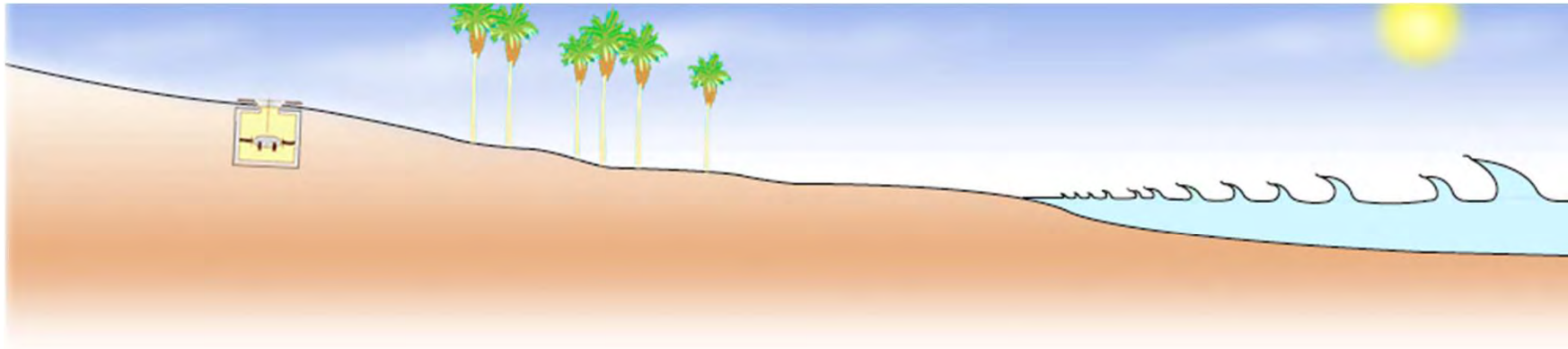
### *Shore End Preparation: Concrete Anchor Block*



- Cable is passing the anchor block or beach manhole
- Hang-off head is installed in the anchor block or beach manhole
- Cable is anchored in the anchoring device/tension release

## Landing Operations

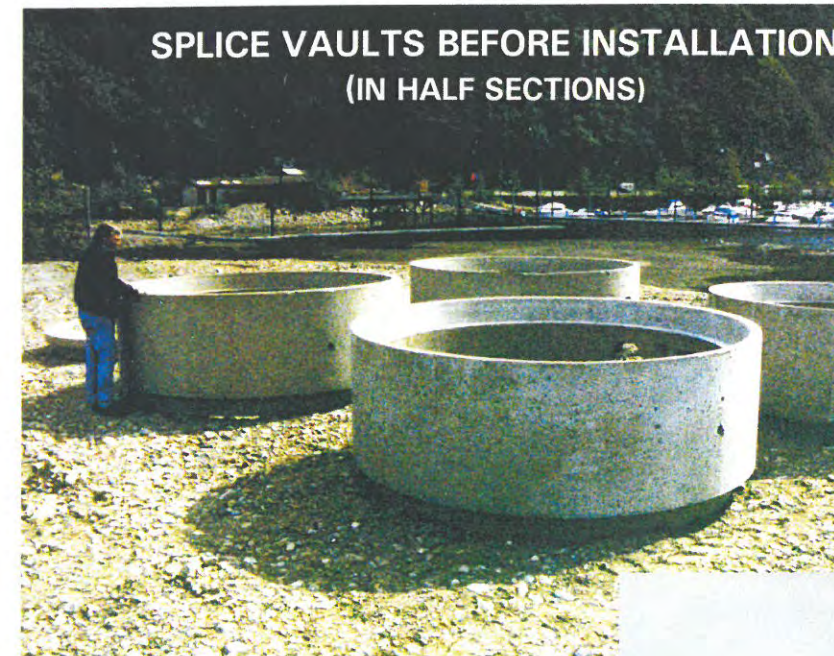
*Shore End: Finalisation*



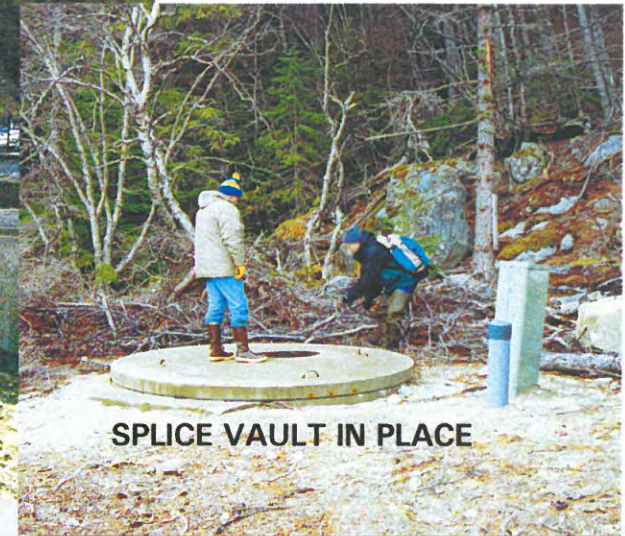
- After the cable has been secured in the anchor block/beach manhole and the necessary slack has been ensured
  - The cable is placed inside trench
  - The trench is refilled
  - Maps & the as-laid documentation are prepared

# ATTACHMENT A TYPICAL SPLICE VAULT FOR FIBER OPTIC CABLE LANDING

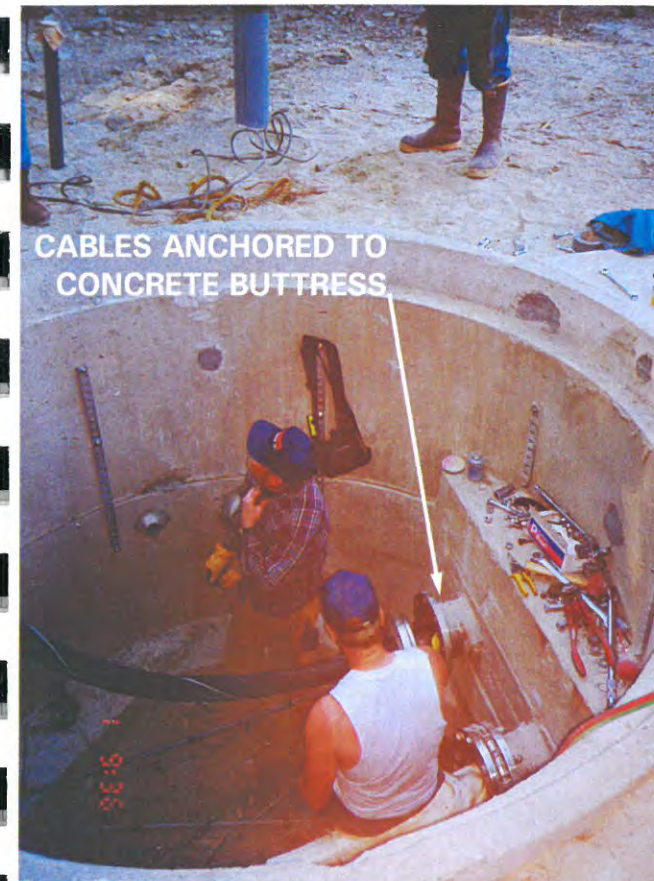
SPLICE VAULTS BEFORE INSTALLATION  
(IN HALF SECTIONS)



SPLICE VAULT IN PLACE



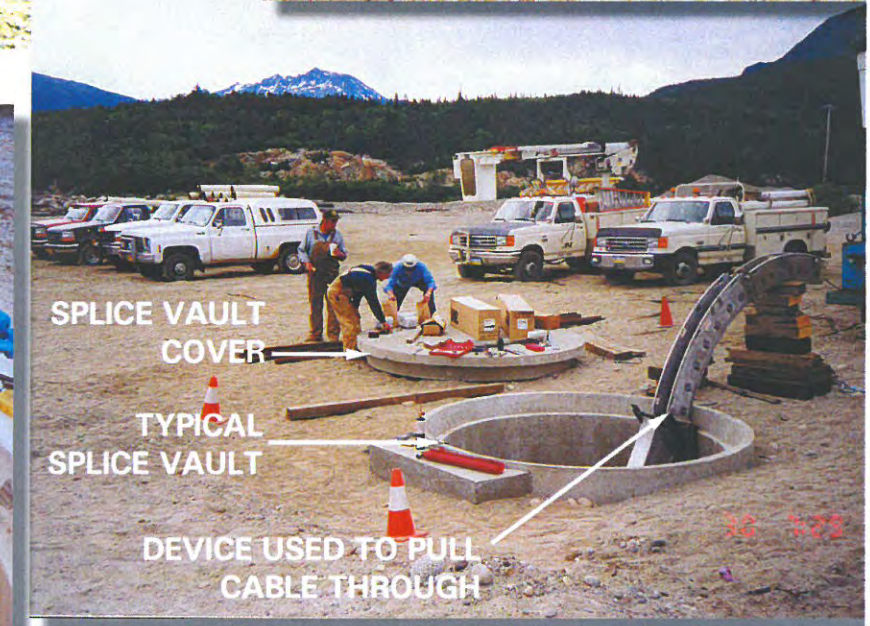
CABLES ANCHORED TO  
CONCRETE BUTTRESS



SPLICE VAULT  
COVER

TYPICAL  
SPLICE VAULT

DEVICE USED TO PULL  
CABLE THROUGH



DEVICE USED  
FOR PULLING  
CABLE THROUGH

THIS CABLE IS MUCH  
THICKER THAN  
WHAT WILL BE USED  
ON THIS PROJECT

TYPICAL SPLICE VAULT

