

COOK INLET POWER LINK (CIPLINK) HVDC PROJECT

Submarine Cable Supply and Installation

Prequalification and Request for Technical and Budgetary Pricing Information

Release date:
October 15, 2026

Pre-response meeting:
November 4, 2026, 10:30 AM Alaska

Deadline for questions:
November 25, 2026, 2:00 PM Alaska

Response deadline:
December 15, 2026, 2:00 PM Alaska

Prepared by:
Stantec Consulting Services

Project/File:
2073260035

Table of Contents

NOTICE TO RESPONDENTS	1
1 Introduction	2
1.1 Document Summary and Objectives	2
1.2 Confidentiality and Use of Information	5
1.3 Document Structure and Procurement Status	2
1.4 Reliance on Information	3
1.5 Solicitation Schedule and Communications.....	3
1.5.1 Solicitation Schedule	3
1.5.2 Pre-Response Conference.....	3
2 Project Information	6
2.1 CIPLink HDVC Project Overview	6
2.2 Project Schedule Overview	9
2.3 Cable System Technical and Environmental Information	9
2.3.1 Electrical System Requirements	9
2.3.2 Cable Routing Assumptions and Environmental Conditions	10
2.3.3 Preferred Cable System Type and Characteristics	13
3 PQ and RFI Response.....	14
3.1 PQ Evaluation	14
3.2 RFI Consideration	15
4 Respondent Qualifications	16
4.1 Understanding of the Work	16
4.2 Business and Technical Organization	17
4.3 Technical Experience	18
4.4 Technical Capability	18
4.4.1 Cable Manufacturing Capability	18
4.4.2 Marine Installation Capability	19
4.4.3 HDD and Landfall Capability	19
4.5 Repair and Maintenance Capability	19
5 Request for Information	20
5.1 HVDC Submarine Cable System Technical Information	20
5.2 Buy America, Build America (BABA) Compliance.....	21
5.3 Installation Concept.....	22
5.4 Budgetary Cost Estimates	23

List of Tables

Table 1: Summary Electrical Cable System Requirements	9
Table 2: Installation and Environmental Condition Assumptions.....	12
Table 3: Preliminary Crossing Information.....	12
Table 4: Submarine Power Cable Baseline Assumptions for Installation.....	13
Table 5: Summary Submarine Cable System Requirements	20
Table 6: Possible BABA Compliance.....	22
Table 7: HVDC Submarine Cable Components.....	22
Table 8: HVDC Submarine Cable System Material Supply	24



CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information

Table 9: HVDC Submarine Cable System Installation.....	24
Table 10: HVDC Submarine Cable System Other items	25

List of Figures

Figure 1: CIPLink Conceptual SLD	7
Figure 2: Cook Inlet Power Link (CIPLink) Project Overview	8
Figure 3: Submarine cable route preliminary bathymetric data (updated with crossing labels and future LNG pipeline corridor).....	11

List of Appendices

Appendix A	Preliminary Cable Route Data
------------	------------------------------



NOTICE TO RESPONDENTS

Alaska Energy Authority (AEA) invites interested parties to submit information in response to this Prequalification (PQ) and Request for Technical and Budgetary Pricing Information (RFI) for the Cook Inlet Power Link (CIPLink) High Voltage Direct Current (HVDC) Project for both submarine cable supply and installation.

This document is issued for information-gathering and procurement planning purposes, as well as to prequalify respondents for submarine cable supply and installation. It does not constitute an invitation to bid, an offer, or a commitment to proceed with procurement, nor does it create any obligation on the part of AEA. AEA reserves the right to modify, suspend, or cancel this PQ and RFI document at any time without liability.

Information submitted in response to this document may be used by AEA to assess technical feasibility and delivery risks; inform procurement strategy; evaluate potential compliance with federal funding requirements, including Build America, Buy America (BABA); and where warranted based on market capability and availability, support evaluation and preparation of BABA waiver requests for submission to the applicable federal funding agency. Nothing in this document shall be interpreted as a commitment by AEA to pursue, submit, or obtain a BABA waiver, nor as an indication that any such waiver would be approved by the federal government.



1 Introduction

1.1 Document Summary and Objectives

AEA is seeking supplier qualifications, technical information, and budgetary pricing from suppliers and installers of HVDC submarine cables for AEA's CIPLink HVDC project.

The information and pricing provided by respondents will be used to support project planning activities, including assessment of technical feasibility and alignment with available funding. Additionally, it will serve as prequalification for future requests for submarine cable procurement and installation.

The objective of this document is to obtain:

- Qualification information to determine respondent eligibility for participation in future requests for submarine cable procurement.
- Information regarding the status of technology for HVDC cable systems suitable for the AEA CIPLink HVDC Project.
- Information to support the development of a feasible project schedule.
- Information to establish electrical and mechanical parameters for a viable cable system.
- Budgetary prices for project planning purposes.
- Information to assess potential compliance with BABA requirements and to determine whether market availability may support justification for BABA waiver requests, if required for project delivery.

This document initiates an early contractor engagement process intended to assess the capabilities and experience of HVDC cable suppliers and installers in advance of a potential competitive procurement. AEA reserves the right, at its sole discretion, to determine whether to proceed with a competitive procurement or to engage in direct negotiations based on the level of market interest and respondent qualifications received.

Response to Section 4 *Respondent Qualifications* is required to participate in future competitive procurement for the submarine cable of the CIPLink project. Submission of qualification information does not guarantee inclusion in future procurement solicitations, nor does it obligate AEA to proceed with a competitive process.

1.2 Document Structure and Procurement Status

This PQ and RFI is organized to provide general project information with schedule requirements and current submarine cable assumptions, followed by two sections outlining the information requested from respondents:

- 1) **Respondent Qualifications:** outlining information requested to assess relevant experience, technical capability, and suitability for this project, and
- 2) **Request for Information:** outlining information requested to gather technical and budgetary information for project planning purposes.



**CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information**

Participation in the Respondent Qualification portion of this process is required for participation in future procurement for the submarine cable of the CIPLink project. Technical and budgetary information is also requested but is nonbinding and not required.

Nothing contained herein shall be construed as a commitment by AEA to issue a solicitation, award a contract, or limit competition in future procurement.

1.3 Reliance on Information

All project descriptions, route information, environmental data, schedules, and quantities provided in this PQ and RFI are preliminary and subject to change as the project develops. AEA makes no representation or warranty regarding the completeness or accuracy of such information.

Respondents rely on the information provided entirely at their own risk when preparing this and future submissions.

1.4 Solicitation Schedule and Communications

1.4.1 Solicitation Schedule

The schedule in Table 1 applies to this PQ/RFI. AEA reserves the right to modify the schedule through written notice or addendum.

Table 1: Solicitation Schedule

Milestone	Date / Time
PQ/RFI Release	October 15, 2026
Pre-Response Conference	November 4, 2026, 10:30 a.m.–12:00 p.m. Alaska time
Deadline for Written Questions	November 25, 2026, 2:00 p.m. Alaska time
PQ/RFI Response Deadline	December 15, 2026, 2:00 p.m. Alaska time

1.4.2 Pre-Response Conference

AEA will conduct a pre-response conference as noted in the solicitation schedule (see Section 1.4.1). The conference will be held in person at AEA's office, with virtual participation available through Microsoft Teams.

In-Person Location:

Alaska Energy Authority
813 West Northern Lights Boulevard
Anchorage, Alaska 99503



**CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information**

Virtual Participation:

Microsoft Teams meeting

Join: <https://teams.microsoft.com/meet/299059033203092?p=5MfmtVif1gjozJTodS>

Meeting ID: 299 059 033 203 092

Passcode: WU2qC25Y

Dial in by phone:

+1 469-810-0642,,37515669# United States

Phone conference ID: 375 156 69#

The conference will provide an overview of the CIPLink Project and the PQ/RFI process, with an opportunity for prospective respondents to ask questions. Attendance is encouraged but not required. Any clarification or modification resulting from the conference will be issued through a written addendum. Verbal statements made during the conference shall not modify the PQ/RFI requirements.

1.4.3 Questions and Clarifications

All questions, requests for clarification, or comments regarding the PQ/RFI must be submitted in writing to AEA Procurement at aeaprocurement@akenergyauthority.org as noted in the solicitation schedule (see Section 1.4.1).

Correspondence should reference "CIPLink Submarine Cable PQ/RFI" in the subject line. AEA may consolidate similar questions and will issue official responses through written addenda posted on AEA's procurement website.

1.4.4 Addenda

Any changes, clarifications, or supplemental information issued by AEA will be published as written addenda on AEA's procurement website.

Respondents are responsible for monitoring the website for addenda and incorporating any revisions into their submissions. Only written addenda issued by AEA shall be considered official modifications to the PQ/RFI.

1.4.5 Response Submittal

PQ/RFI responses must be received by the date as noted in the solicitation schedule (see Section 1.4.1).

Responses shall be clearly identified as "CIPLink Submarine Cable PQ/RFI" and submitted electronically to aeaprocurement@akenergyauthority.org, unless otherwise directed by AEA Procurement.

Respondents shall submit qualification information and RFI information as separate, clearly identified components to maintain the evaluation separation described in Section 3.2.



**CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information**

Late responses may not be considered. Respondents are responsible for ensuring timely delivery and receipt of their submissions.

1.4.6 Confidentiality and Use of Information

This PQ and RFI process is not a request for sealed bids or competitive price proposals. AEA may use submitted information for project planning, market analysis, stakeholder coordination, BABA/domestic content review, development of future procurement documents, and preparation or evaluation of potential BABA waiver requests. Additionally, AEA may prepare summary reports for internal and stakeholder use. Such reports will present information in aggregated or non-attributed form and will not identify individual respondents as the source of specific information.

All information submitted to AEA may be subject to disclosure under the Alaska Public Records Act (AS 40.25.100 – 40.25.295).

Respondents may designate specific portions of their responses as confidential if they contain trade secrets, proprietary or technical information, commercially sensitive pricing data, operational capacity details, or other confidential business information. Confidentiality designations must be limited to the specific information for which protection is requested. Blanket confidentiality designations will be disregarded.

Any request for confidential treatment must:

- Clearly identify the specific information claimed to be confidential; and
- Provide a written explanation of the basis for nondisclosure under AS 40.25.120, including, where applicable, a description of the commercial or competitive harm that would result from disclosure.

AEA will treat properly designated confidential information as protected to the extent permitted by law. AEA cannot guarantee that submitted information will be exempt from disclosure if required by court order or other legal process.



2 Project Information

2.1 CIPLink HDVC Project Overview

AEA is advancing the CIPLink HVDC Project, a proposed HVDC transmission system intended to improve electrical interconnection and power supply reliability of the central and southern regions of the Alaska Railbelt power grid by crossing the Cook Inlet between Beluga and Nikiski.

AEA has received federal funding for CIPLink through the U.S. Department of Energy's (DOE's) Grid Resilience and Innovation Partnerships (GRIP) Program. The GRIP Program supports investments in transmission, grid modernization, and resilience projects intended to strengthen the reliability and resilience of the electric grid. Because the project is partially federally funded, project delivery must account for applicable federal requirements, including Build America, Buy America (BABA), grant schedule requirements, and other DOE grant conditions.

In July 2025, AEA engaged Stantec Consulting Services Inc. (Stantec) to support the CIPLink Project development. Stantec has evaluated a range of HVDC system configurations, transmission ratings, converter station locations, and transmission routing options to support reliable power transfer between central and southern regions of the Alaska Railbelt. This work has resulted in this PQ and RFI.

The full CIPLink HVDC Project that has been developed includes HVDC converter stations on both sides of Cook Inlet, submarine cable across Cook Inlet, direct current (DC) transmission line and associated alternating current (AC) interconnections with the Railbelt transmission system. Figure 1 presents the conceptual single line diagram (SLD) for the project, and Figure 2 provides an overview of the CIPLink project layout.

The transmission system will consist of both terrestrial transmission lines and submarine cables. This PQ and RFI is to address only the submarine cable portions of the project including the landfall at each side of the Cook Inlet.

The submarine cable supply and installation scope of the CIPLink Project consists of a base bid and additive alternate. The base bid installation is a 100 megawatt (MW) asymmetrical monopole. The additive alternate provides a second 100 MW pole for a 200 MW bipole configuration. The submarine cable route length is approximately 40 miles (64 km), landfall to landfall.

Under a separate contract, the terrestrial DC transmission line will be constructed in a bipole configuration. The converter station DC yards will be designed to accommodate both pole conductors and one dedicated metallic return (DMR) conductor. The terrestrial line from the southern, Soldotna converter station to the submarine cable landfall location near Nikiski has a route length of approximately 28 miles (45 km). The terrestrial transmission line from the northern, Beluga converter station to the submarine cable landfall location near Beluga is expected to be less than 3 miles.



CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information

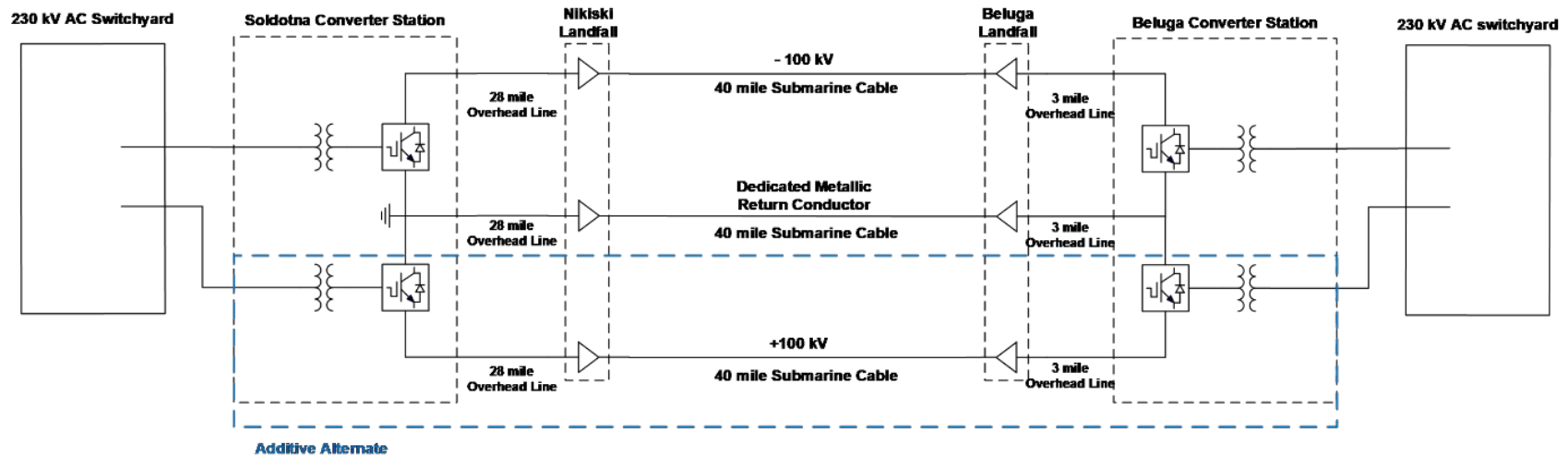


Figure 1: CIPLink Conceptual SLD



CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information

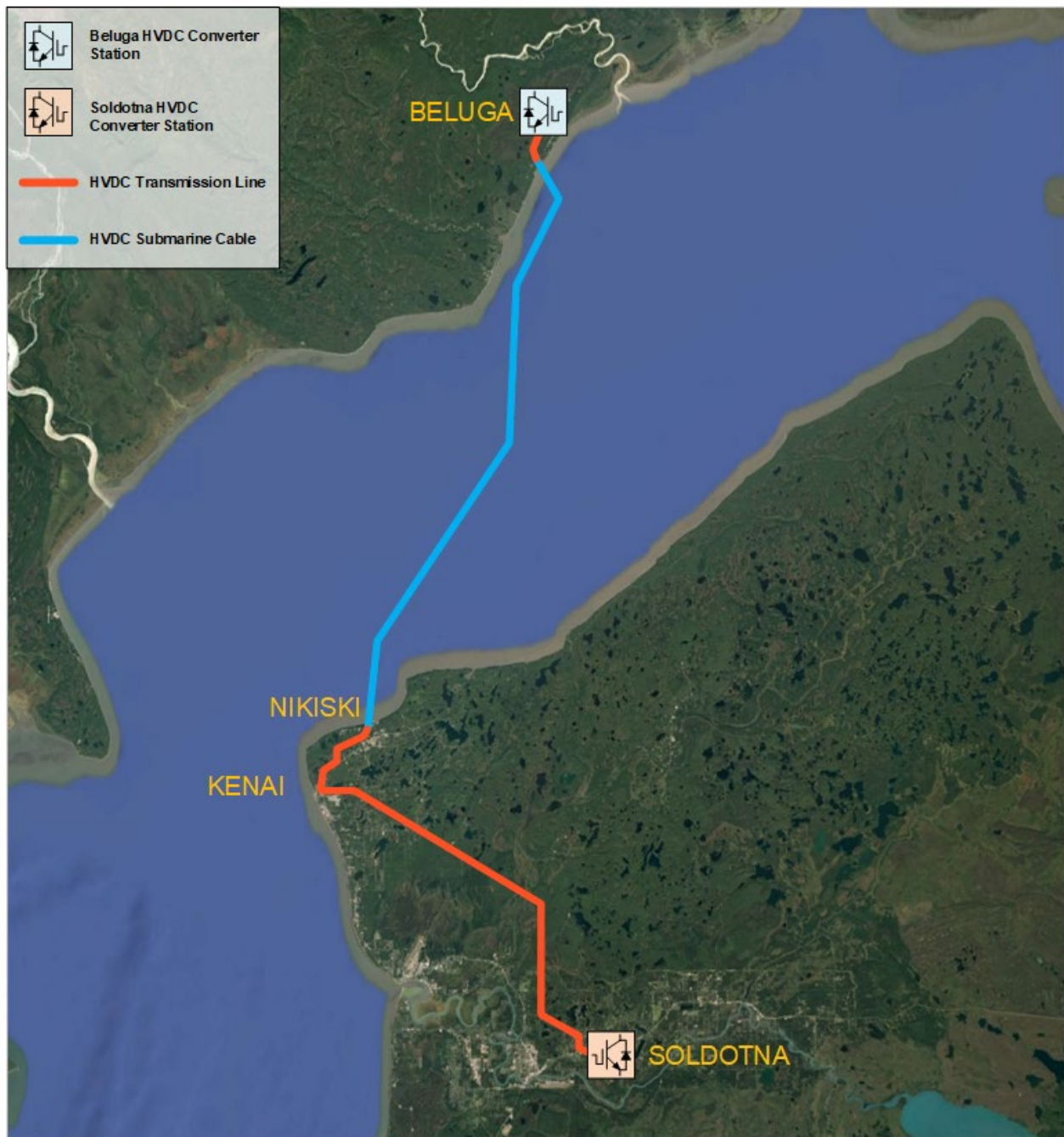


Figure 2: Cook Inlet Power Link (CIPLink) Project Overview



2.2 Project Schedule Overview

AEA is currently targeting an in-service date of December 2031 for all components of the CIPLink HVDC Project. GRIP funding requires that the CIPLink HVDC Project be fully completed by August 31, 2032.

According to the targeted in-service date, the procurement of the submarine cable system engineering, supply, and installation is expected to be issued to the market mid-2027, with contract award planned for the end of 2027. Submarine cable and accessory manufacturing are to then be completed by the end of 2029, followed by the submarine cable installation work in 2030 and 2031.

2.3 Cable System Technical and Environmental Information

2.3.1 Electrical System Requirements

As noted in Section 2.1, the submarine cable system base bid is an asymmetric monopole with one pole cable and one DMR cable. A second pole conductor is to be bid as an additive alternate. If the additive alternate is not awarded, the submarine cable sizing and spacing shall be designed to accommodate the future expansion to 200 MW.

The electrical requirements for the HVDC submarine cable system are given in Table 1.

Table 2: Summary Electrical Cable System Requirements

Parameter	Value
Rated DC voltage, U_0	± 100 kV
Rated power, P	100 MW (asymmetrical monopole configuration) 200 MW (bipolar configuration)
Rated DC current, I_0	1000 A
Lightning impulse withstand voltage	kV peak, to be proposed by the respondent
Switching surge withstand voltage	kV peak, to be proposed by the respondent
DMR	Assumed voltage of 30 kV (final value will be confirmed during converter design by others)



2.3.2 Cable Routing Assumptions and Environmental Conditions

Figure 2 shows the preliminary routing for the submarine cable considered in this PQ and RFI extending from Beluga to Nikiski across the Cook Inlet. Figure 3 provides preliminary bathymetric data for this route with crossing highlighted.

Table 2 provides assumptions for the installation and environmental conditions for the ultimate submarine cable system. Note that AEA plans to perform marine surveys within the year. The submarine cable route is subject to change as a result of the surveys which will be made available as the project progresses. Additional changes to the project including analysis of alternative routes across Cook Inlet are anticipated as the project undergoes regulatory and permitting reviews. The environmental review process and permit issuance is intended to be completed early 2029.





CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information

Table 3: Installation and Environmental Condition Assumptions

Description	Distance	Cable Type	Ambient Temperature	Thermal Resistivity	Installation
Nikiski Landfall	0.6 miles	HVDC submarine cables (bipole) and DMR	20 degrees Celsius (20 °C)	1.5 K*m/W	HDD installed air-filled conduits (1 cable per conduit) Maximum depth of 65 feet Separation distance and conduit diameter to be determined by cable supplier
Cook Inlet Crossing	40 miles	HVDC submarine cables and DMR	20 °C	1.5 K*m/W	Bundle or separate surface lay Post lay burial with a depth of 3 feet
Beluga Landfall	0.6 miles	HVDC submarine cables (bipole) and DMR	20 °C	1.5 K*m/W	HDD installed air-filled conduits (1 cable per conduit) Maximum depth of 65 feet Separation distance and conduit diameter to be determined by cable supplier

Landfall will use either open cut trench (OCT) or horizontal directional drilling (HDD). For the purposes of this RFI, HDD has been assumed as it is thermally more restrictive.

For cable sizing purposes, a bundled configuration on the seabed with 3 feet of coverage has been assumed. The final submarine cable burial requirements are subject to the results of a cable burial and risk assessment to be performed by the selected cable supplier. In the RFI portion of Respondent's response, if a bundled configuration is not the basis of the response (not considered feasible), please clearly note recommended separation distance between the pole cables.

For the submarine cable installation, a minimum of three crossings need to be considered as shown in Table 3. The preliminary routing is also adjacent (west of) the planned routing of a proposed liquified natural gas (LNG) line; coordination with the LNG project will be ongoing.

Table 4: Preliminary Crossing Information

Crossing	Asset Name	Owner	Supplier
1	Kodiak Kenai Fiber Link (KKFL)	GCI Communication Corp	ASN
2	ACS Alaska-Oregon Network (AKORN)	Alaska Communications	SubCom
3	Tyonek W10 Pipeline	Hilcorp	Harvest Alaska LLC

Respondents are encouraged to consider installation risks associated with work in the Alaska and the Cook Inlet, specifically availability of equipment, tidal currents, seabed variability, turbidity, and seasonal environmental constraints; these are expected to impact the final routing.

Please refer to Appendix A for additional route information, including preliminary bathymetric data, and nearby third-party linear infrastructure.

Additional environmental data for Cook Inlet and Kenai Peninsula is also available on the website: https://response.restoration.noaa.gov/esi_download#Alaska, under Cook Inlet and Kenai Peninsula.



2.3.3 Preferred Cable System Type and Characteristics

The HVDC submarine cables may be proposed as laminar dielectric mass impregnated (MI) type or extruded dielectric type with cross-linked polyethylene (XLPE) insulation. Table 4 provides baseline assumptions for the cable sizing. Respondents are to use their own proposed cable system parameters where appropriate, but asked to clearly note assumptions, particularly if not in alignment with Table 4. A 40-year minimum design life is required for the submarine cable system and all its components.

Table 5: Submarine Power Cable Baseline Assumptions for Installation

Cable Type	MI	XLPE	DMR
Conductor size (mm ²)	1600 Cu	1200 Cu	1200 Cu
Cable outside diameter (mm)	114	102	94
Cable weight in air (kg/m)	40	34	30
Cable weight in water (kg/m)	33	27	24
* Values are provided for installation planning purposes. Respondents may propose alternative assumptions where justified.			

The HVDC submarine cables are to include embedded fibers for the purpose of a cable monitoring system. Fiber optic cables shall include 48 single-mode glass fibers. Submarine fiber optic cables shall have a minimum of one layer of steel wire armor.



3 PQ and RFI Response

Participation in this PQ and RFI is appreciated and will support AEA in advancing the CIPLink Project, specifically the submarine cable procurement.

AEA will review responses to assess market capability and interest immediately after receipt. Acknowledgement of receipt and PQ determination will be provided when complete.

If sufficient qualified responses are received, AEA intends to proceed with a competitive procurement. If AEA chooses to proceed with a competitive procurement, prequalified respondents will be provided with the full solicitation package and bids requested. If conducted, the competitive procurement process is expected to be initiated about June 2027.

Submission of qualification information does not guarantee inclusion in future procurement solicitations, nor does it obligate AEA to proceed with a competitive process.

To allow evaluation, responses should be in two parts as further explained in Section 4 Respondent Qualifications and Section 5 Request for Information.

Respondents are asked to respond to the specific criteria noted and not provide general marketing information, although for RFI responses previous projects may be the basis of response.

3.1 PQ Evaluation

A committee representing AEA will perform an evaluation of submitted PQ responses based on the four PQ evaluation criteria established in Section 4. The committee will score each response. Respondents will be evaluated for prequalification using the following qualitative rating system for each criterion listed.

- 10 Outstanding
- 8 Excellent
- 6 Good
- 4 Fair
- 2 Poor
- 0 Unsatisfactory or not included

The criteria are equally weighted, resulting in a possible 40 points. Respondents with a score of 24 or more (an average rating of “good” or better) with no category scored less than 4 will be deemed prequalified.



3.2 RFI Consideration

RFI responses will not be evaluated or considered for PQ purposes. The committee evaluating PQ responses will not view the RFI responses until after PQ determinations are complete.

Cost information from RFI responses will be compiled by staff separate from and not involved in the PQ evaluation. Cost information will only be shared with AEA in aggregated or non-attributed form and will not identify individual respondents as the source of specific information.



4 Respondent Qualifications

Completion of the Respondent Qualification section is required for eligibility to participate in future competitive procurement solicitations for the submarine cable portion of the CIPLink Project.

This PQ and RFI solicitation does not guarantee that a contract will be awarded. Our intent, however, is to prequalify Respondents based on the following criteria:

1. Demonstrated comprehension of required services and capability to provide the manufacture and installation of submarine cable in required schedule (Scope of Work).
2. Proposed business and technical organization
3. Technical experience in delivery of submarine cable projects comparable to the proposed CIPLink Project.
4. Technical capability.

Additionally, Respondents may not have conflicts of interest with AEA and its member utilities.

Responses should be organized to address each of the criteria as further explained in the following sections.

4.1 Understanding of the Work

Provide a brief explanation of your understanding of the work required to design, manufacture, and install the required submarine cable for the CIPLink Project. Highlight perceived risk and concerns and proposed means to address these. Also note assumptions and exclusions.

Include in the description proposed HVDC submarine cable design or design options (i.e. insulation type, landfall methodology,) and high-level logistics information and schedule for completion of work within required timeframe (see Section 2.2).

Outline expectations for interactions with AEA and its consultants.

Provide a general project schedule including timelines for the following. Include current manufacturing lead times from contract award to start of manufacturing and clearly include milestones indicated in Section 2.2.

- Detailed engineering
- Prototype manufacturing and Type testing
- Submarine cable manufacturing
- Final route surveys and investigations
- Landfall construction
- Cable transportation from vessel arrival at factory to arrival on site
- Offshore installation window with route clearing/preparation, laying, jointing, burial/protection
- Commissioning and site acceptance testing



4.2 Business and Technical Organization

Provide an organizational chart illustrating the proposed project delivery structure, clearly identifying all participating organizations and their respective roles within the project (e.g., Client, Prime Contractor, Supplier, and Subcontractor). Note key point of contact at each organization. The chart and/or related narrative shall define reporting and contractual relationships and communication pathways to the AEA. It is understood that not all subcontractors may be named; however, key roles should be identified. The cable manufacturer and cable installer shall be clearly identified. Respondent shall be the prime contractor proposed to hold the AEA contract. Only the Respondent shall be prequalified to respond to future solicitations.

The organization should clearly address all elements of work required for project completion.

Respondents are also to provide the following information regarding the Respondent's organization, financial and economic standing, as well as the key subcontractors, at a minimum for cable installer and supplier. Where response includes subcontractors clearly identify where subcontractor information is included.

- A summary of company's history, organizational and ownership structure. Include years in business and years providing submarine cable services.
- Audited financial statements for the past three years.
- Company's credit rating and bonding capacity.
- Summary of any pending mergers, acquisitions, or divestitures.
- Identify any legal or regulatory investigations, violations or sanctions within the past 10 years. Where identified please describe action and its resolution. If company is publicly traded in the United States, AEA considers the Securities and Exchange Commission's Electronic Data Gathering, Analysis, and Retrieval system as an acceptable source for this information. If there have been no such actions, please include a statement to that effect.
- Provide a safety record for previous 3 complete years (2023-2025), including:
 - an event summary or Redacted OSHA 300 & 300a with corrective actions
 - total number of Fatality or Life-Altering Injury Cases
 - total number of Lost Time Cases (number of events with full days away after the injury – don't count the day of the event)
 - total number of Restricted Workday Cases (temporary reassignment)
 - total number of Medical Treatment Cases (other recordable injuries), note only count each event / case once under the most severe applicable classification
 - Total number of employee hours work (even if zero injury events)
 - Total Recordable Incident Rate
 - Listing of investigations or citations by an occupational health and safety regulator
 - For any fatalities, serious (life-altering) injuries, citations, or serious violation orders provide incident details (no names) and corrective actions.
 - Confirm that your company and operations are governed by a written safety manual with documented worker training.
- List quality certifications held by the company (i.e. ISO 9001, ISO14001, ISO45001) and provide related certificates.



CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information

- Provide a clear statement that the Respondent is legally authorized to do business or can be qualified to do business in the State of Alaska.

4.3 Technical Experience

Provide recent and relevant history of HVDC submarine cable projects. For each project include project name and a high-level scope of work description for both supply and installation, Respondent role in project, location, project size (nameplate capacity in MW, if applicable), route length, cable insulation type, voltage level, date of completion, information regarding installation and burial methods (simultaneous lay/burial, separate lay/burial, surface lay), and contract price. Note also specific environmental challenges including double armored cable designs, handling free spans, cable protection methods for surface laying and more complicated offshore jointing operations.

Experience installing submarine cables in arctic and subarctic regions (i.e. Alaska) and challenging current and mobile seabed environments (i.e. Cook Inlet) should be highlighted.

4.4 Technical Capability

Respondents shall provide the following information regarding their technical capability to manufacture and install an HVDC submarine cable system suitable for the CIPLink Project.

4.4.1 Cable Manufacturing Capability

- List all factories capable of manufacturing either MI or extruded HVDC submarine cables and their associated accessories. For each factory, provide the following:
 - Factory location.
 - Cable insulation technology type.
 - Highest successfully Type Tested voltage level.
 - Highest successfully prequalified (PQ) voltage level.
 - Associated test standard or International Council on Large Electric Systems (CIGRE) technical brochure adhered to for PQ and Type tests.
 - Annual manufacturing capacity for HVDC submarine cable expressed in cable miles.
- Provide evidence of successful completion of at least one Type Test for an HVDC submarine cable system rated ± 100 kV or greater for MI and/or extruded insulation types. Include copies of certificates issued by an independent third-party testing organization.
- Provide evidence of successful completion of at least one PQ for an HVDC submarine cable system rated ± 100 kV or greater for MI and/or extruded insulation types. Include copies of certificates issued by an independent third-party testing organization.
- Confirm if the abovementioned Type and PQ tests were successfully completed in accordance with CIGRE Technical Brochure 852 (extruded cable systems) and / or CIGRE Technical Brochure 853 (lapped cable systems).



4.4.2 Marine Installation Capability

- Identify the principal cable laying vessels available for installation of cable systems suitable for the CIPLink Project and provide their cable carrying capacity.
- Marine cable installation activities must be conducted in accordance with applicable Jones Act requirements. Please describe previous experience in compliance with applicable coastwise trade, vessel crewing requirements, vessel documentation, and U.S. Customs and Border Control and U.S. Coast Guard regulatory requirements.
- Identify the principal installation and burial equipment available for submarine cable installation and burial of cable systems suitable for the CIPLink Project.
- Confirm the Respondent's capability and experience with:
 - Bundled cable installation
 - Simultaneous lay and burial operations
 - Post-lay burial operations
- Describe previous experience installing submarine cables in high-current marine environments. Include project references and a brief description of the environmental conditions encountered and cable installation scope performed.

4.4.3 HDD and Landfall Capability

- Identify the principal HDD installation equipment available for submarine cable landfall construction suitable for the CIPLink Project and provide maximum drill length, maximum pullback force, and maximum reamed diameter.
- Provide a list of relevant project references and scope performed by respondent or subcontractor.

4.5 Repair and Maintenance Capability

- Describe the respondent's capabilities for submarine cable fault location, repair, and restoration, including the availability of repair vessels, repair joints, specialized equipment, and qualified personnel.



5 Request for Information

The information requested in this section is intended for high-level project planning and market capability assessment. Respondents are not expected to perform project specific engineering or detailed design, and may rely on indicative values, representative examples, or typical project data where appropriate. Similarly, a past project may be used as a basis for information.

Respondents are expected to limit responses to information that is readily available at the time of submission. Clearly note assumptions when needed or when not in alignment with Section 2.

5.1 HVDC Submarine Cable System Technical Information

Please complete Table 5 as a basis for proposed cable installation and procurement based on currently available understanding and generally offered for similar applications.

Table 6: Summary Submarine Cable System Requirements

Parameter	Units	Value
Cable		
MI or XLPE insulation	-	
Rated power, P	MW	
Rated DC current, I_0	A	
Lightning impulse withstand voltage	kV	
Switching surge withstand voltage	kV	
Conductor size	mm ²	
Outside conductor diameter	mm	
Outside cable diameter	mm	
Cable weight in air	kg/m	
Cable weight in water (kg/m)	kg/m	
DC conductor resistance	Ω	
Maximum. continuous operating temperature	°C	
DMR voltage level	kV	
Maximum tensile load	kN	
Maximum side wall bearing pressure (SWBP)	kN/m	
Minimum bending radius at specified maximum tensile load	m	
Minimum bending radius without cable tension	m	
Standard cable design life	years	
Standard warranty period	years	



CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information

Parameter	Units	Value
Installation		
Nominal cable shipping length	m	
Bundle or separate surface lay		
Separation distance between conduits	m	
Nominal distance between factory joints	m	
HDD conduit diameter	mm	

Please also provide, if available

- Preliminary cross section drawing of HVDC submarine cable, including principal component material descriptions (i.e., layer dimensions, and weights).
- Preliminary drawing of an HVDC submarine cable repair joint, including component material description, weights (in air and in seawater), and dimensions.
- Preliminary drawing of outdoor HVDC cable terminations transitioning to overhead lines
- Proposed commercial terms for cable supply and installation
- Typical warranty terms for cable supply and installation

5.2 Buy America, Build America (BABA) Compliance

The information requested in this section is intended to allow AEA to assess the current state of domestic manufacturing capability and supply chain availability for HVDC submarine cable systems and associated components.

Based on the information received, AEA may evaluate whether circumstances exist that could support preparation and submission of BABA waiver requests (e.g. nonavailability, unreasonable cost) to the DOE. Respondents are advised that submission of information does not imply that a waiver will be sought or granted, and any waiver request would be subject to applicable federal laws, regulations, public notice, and approval processes.

In tabular format please provide the following (see Table 6) regarding possible compliance with BABA. List proposed HVDC cable and accessories adding rows as needed. Where full BABA compliance is not achievable, please describe which components or materials would present the greatest compliance challenges and explain why (e.g. not manufactured domestically, limited domestic supply, or cost premium).



CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information

Table 7: Possible BABA Compliance

Proposed Item	BABA Compliant (yes/no)	Location of Manufacture	If not compliant, compliance challenges
HVDC submarine cables			
Submarine fiber optic cable			
Submarine cable hang offs or armor termination			
Submarine cable support structures			
Submarine cable accessories			
Fiber optic accessories			
Other:			

Please also provide the country of origin for the components or materials used in the manufacture of the HVDC submarine cable as indicated in Table 7.

Table 8: HVDC Submarine Cable Components

Component or Material	Country of origin
Copper or aluminum for conductor	
XLPE granules	
Insulating paper, for MI cable types only	
Lead for metallic sheath	
HDPE granules	
Armor wires	
Polypropylene yarn	
Other:	
Other:	

5.3 Installation Concept

Provide a brief explanation of your understanding of your current concept for installation of the submarine cable required for the CIPLink Project. This may be substantially similar to portions of PQ response but please provide again as responses will be kept separate.

Please provide high-level concepts for:

- Cable installation for the landfall sections, including concept for OCT and/or HDD feasibility
- Submarine cable laying and burial campaigns.



CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information

Please also comment on known installation constraints or sensitivities typically encountered when installing HVDC submarine cables in high current tidal arctic environments and methods of preventing damage at landfall locations from ice scouring.

- Please provide information regarding arctic seasonal and Cook Inlet tidal scheduling windows with respect to equipment limitations.
- Please provide qualitative information or representative examples, if available, regarding noise considerations associated with installation equipment, as there are noise limits in the Cook Inlet due to marine mammals.
- Please provide a high-level description of typical operation and maintenance (O&M) support services offered for HVDC submarine cable systems, including fault response and repair capabilities.
- Describe, at a high-level, the respondent's typical approach to fault location and repair for HVDC submarine cables based on prior projects and typical liability agreements and resolutions between cable suppliers and installers.

5.4 Budgetary Cost Estimates

Pricing information will be used for planning purposes only and will not be evaluated on a competitive basis.

Please provide budgetary cost estimates in US dollars for HVDC submarine cable system by completing the following tables

- 1) Material supply as outlined in Table 8
- 2) Installation as outlined in Table 9
- 3) Other items as noted in Table 10

Please provide narrative to each estimate that at minimum indicates

- 1) Any required manufacturing capacity reservation terms
- 2) Typical payment milestones
- 3) Expected accuracy of pricing (e.g., $\pm 30\%$, $\pm 20\%$, etc.)

Clearly note basis for cable costs in terms of type and insulation particularly if not in keeping with Section 2.3.



CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information

Table 9: HVDC Submarine Cable System Material Supply

Description	Quantity	Unit	Unit Cost	Total
Supply				
100kV HVDC Submarine Cable (asymmetric monopole)	40	miles		
30kV DMR submarine cable	40	miles		
Fiber optic cable offshore	40	miles		
HVDC offshore field joints	to be advised by cable supplier	each		
HVDC outdoor terminations including concrete block and supports	4	each		
Spares				
100kV HVDC submarine cable	6.2	miles		
30kV DMR submarine cable	6.2	miles		
Fiber optic cable offshore	6.2	miles		
HVDC outdoor terminations	2	each		
HVDC offshore joints	2	each		
Additive Alternate Supply Scope				
HVDC Submarine Cable (for bipole)	40	miles		
HVDC offshore field joints	to be advised by cable supplier	each		
HVDC outdoor terminations including concrete block and supports	2	each		
Subtotal Supply				

Table 10: HVDC Submarine Cable System Installation

Description	Quantity	Unit	Unit Cost	Total
Supplemental surveys and mapping	1	lump sum		
Conduit and installation of landfall conduits at Nikiski and Beluga by HDD with a conduit for each (x3) of one HVDC pole, one DMR and one fiber optic cable	2	0.6 miles each		
Conduit and installation of landfall conduits at Nikiski and Beluga by OCT with a conduit for each (x3) of one HVDC pole, one DMR and one fiber optic cable	2	0.6 miles each		
Submarine cable route preparation and clearing	1	lump sum		
Surface laying of submarine cable across Cook Inlet with one HVDC pole, one DMR and one fiber optic cable	40	miles		
Burial and protection of surface laid submarine cables	40	miles		



CIPLink HVDC Project
Submarine Cable Supply and Installation
Prequalification and Request for Technical and Budgetary Pricing Information

Description	Quantity	Unit	Unit Cost	Total
Installation of HVDC submarine cable joints	to be estimated by Respondent	each		
Installation of HVDC outdoor terminations with supports	4	each		
Site acceptance test	1	each		
Additive Alternate Installation Scope				
Installation of additional HDD conduits for second HVDC pole at both landfalls	2	0.6 miles each		
Surface laying of submarine cable crossing the Cook Inlet for second HVDC pole	40	miles		
Burial and protection of surface laid cable for second HVDC pole	40	miles		
Installation of HVDC submarine cable joints	to be estimated by Respondent	each		
Installation of HVDC outdoor terminations with supports	2	each		
Site acceptance test	1	each		
Subtotal Install				

Table 11: HVDC Submarine Cable System Other items

Description	Quantity	Unit	Unit Cost	Total
Additional allowance for contractor's engineering, project management, insurance and other overheads.	1	lump sum		
Storage of spare parts for cable system	40 years	per year		
Service level agreement for repair and maintenance	10 years	per year		
Distributed temperature / acoustic sensing supply, installation and calibration	1	lump sum		
Subtotal Other Items				



Appendix A Preliminary Cable Route Data



2012-023 Cook Inlet Crossing - Initial Study
Sheet 1 of 5

Objects from NOAA US4AK15M ENC, Issued 2011-09-14

CAUTION TYPE

- ObstructionPoint
- SeabedAreaPoint
- UnderwaterAwashRock
- WreckPoint
- CableSubmarine
- PipelineArea

FACILITY TYPE

- Building Single Point
- Landmark Point
- Mooring/Warping Facility Point

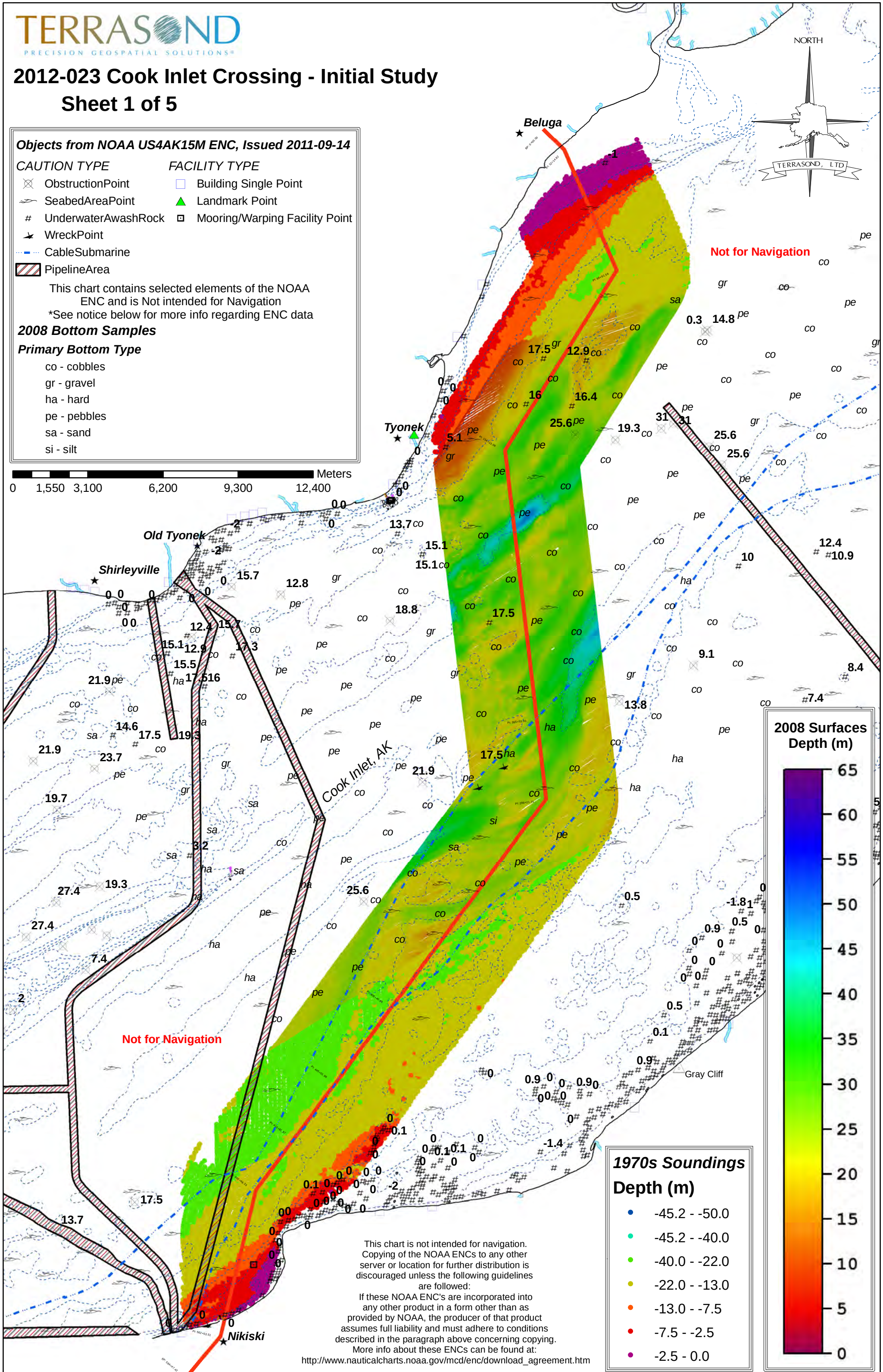
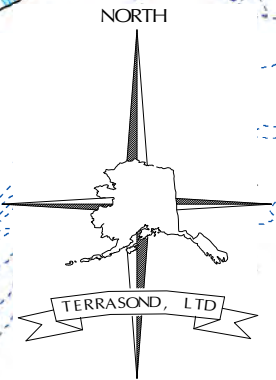
This chart contains selected elements of the NOAA ENC and is Not intended for Navigation
*See notice below for more info regarding ENC data

2008 Bottom Samples

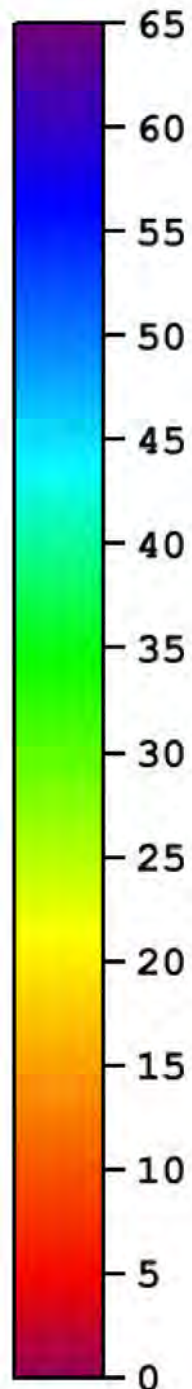
Primary Bottom Type

- co - cobbles
- gr - gravel
- ha - hard
- pe - pebbles
- sa - sand
- si - silt

0 1,550 3,100 6,200 9,300 12,400 Meters



2008 Surfaces
Depth (m)



1970s Soundings
Depth (m)

- 45.2 - -50.0
- 45.2 - -40.0
- 40.0 - -22.0
- 22.0 - -13.0
- 13.0 - -7.5
- 7.5 - -2.5
- 2.5 - 0.0

This chart is not intended for navigation.
Copying of the NOAA ENC's to any other
server or location for further distribution is
discouraged unless the following guidelines
are followed:
If these NOAA ENC's are incorporated into
any other product in a form other than as
provided by NOAA, the producer of that product
assumes full liability and must adhere to conditions
described in the paragraph above concerning copying.
More info about these ENC's can be found at:
http://www.nauticalcharts.noaa.gov/mcd/enc/download_agreement.htm

2012-023 Cook Inlet Crossing - Initial Study
Sheet 2 of 5

Objects from NOAA US4AK15M
ENC, Issued 2011-09-14

CAUTION TYPE

- ObstructionPoint
- SeabedAreaPoint
- UnderwaterAwashRock
- WreckPoint
- CableSubmarine
- PipelineArea

FACILITY TYPE

- Building Single Point

This chart contains selected elements
of the NOAA ENC and is Not intended
for Navigation
*See notice below for more info
regarding ENC data

2008 Bottom Samples

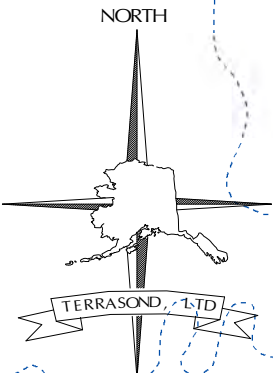
Primary Bottom Type

- co - cobbles
- gr - gravel
- ha - hard
- pe - pebbles
- sa - sand
- si - silt

0 337.5 675 1,350 2,025 2,700 Meters

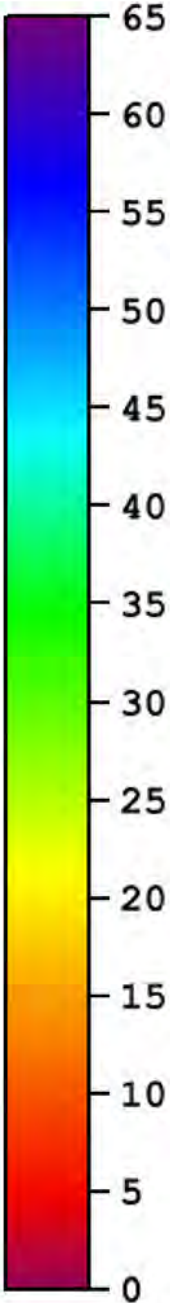
This chart is not intended for navigation.
Copying of the NOAA ENC's to any other
server or location for further distribution is
discouraged unless the following guidelines
are followed:

If these NOAA ENC's are incorporated into
any other product in a form other than as
provided by NOAA, the producer of that
product assumes full liability and must
adhere to conditions described in the
paragraph above concerning copying.
More info about these ENC's can be found at:
[http://www.nauticalcharts.noaa.gov/mcd/enc/
download_agreement.htm](http://www.nauticalcharts.noaa.gov/mcd/enc/download_agreement.htm)



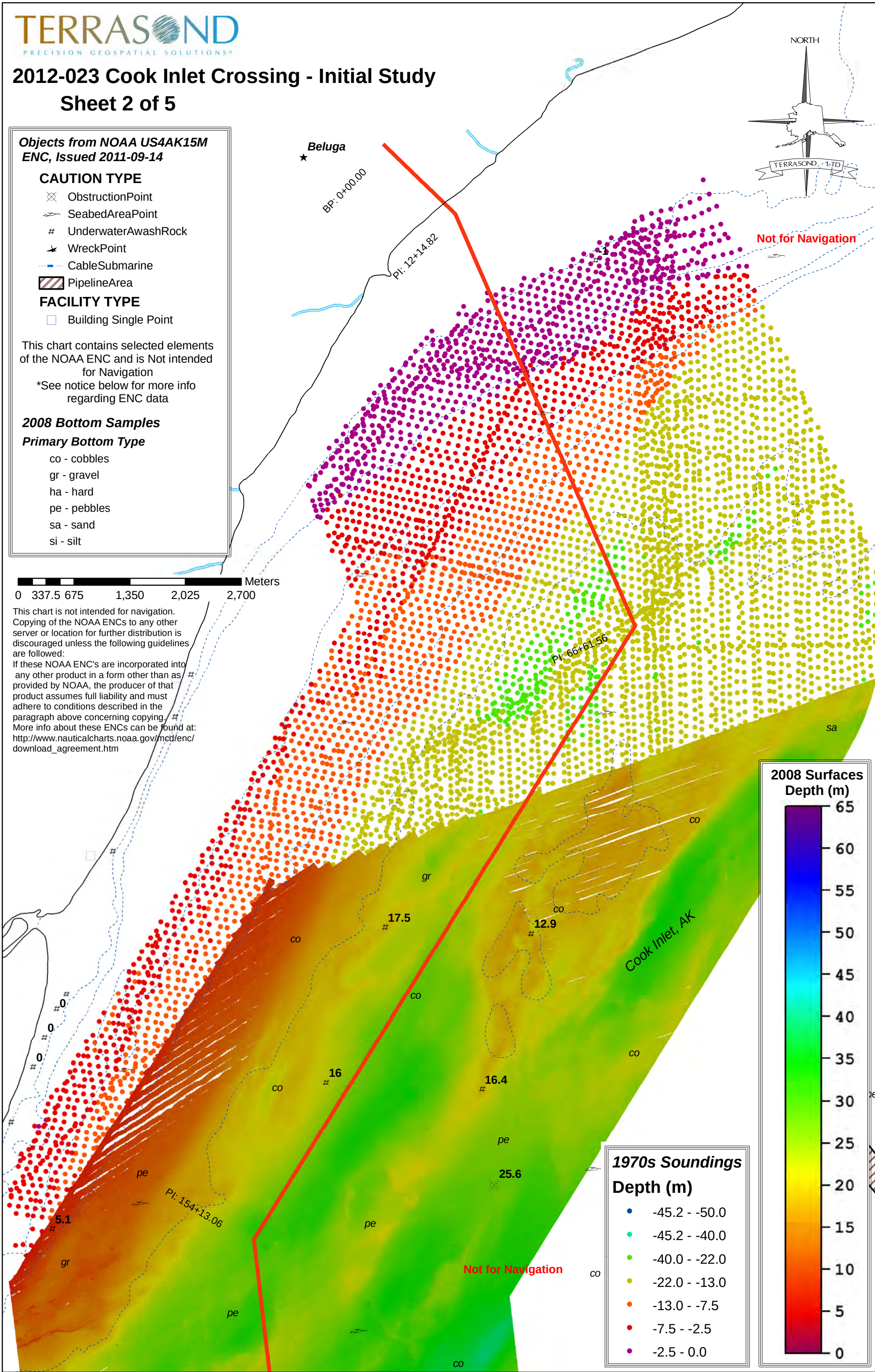
Not for Navigation

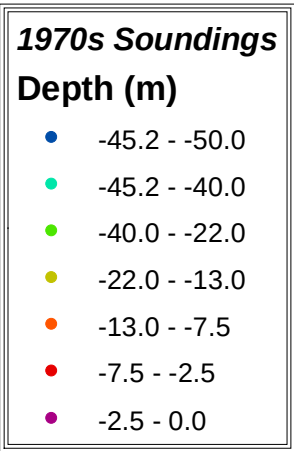
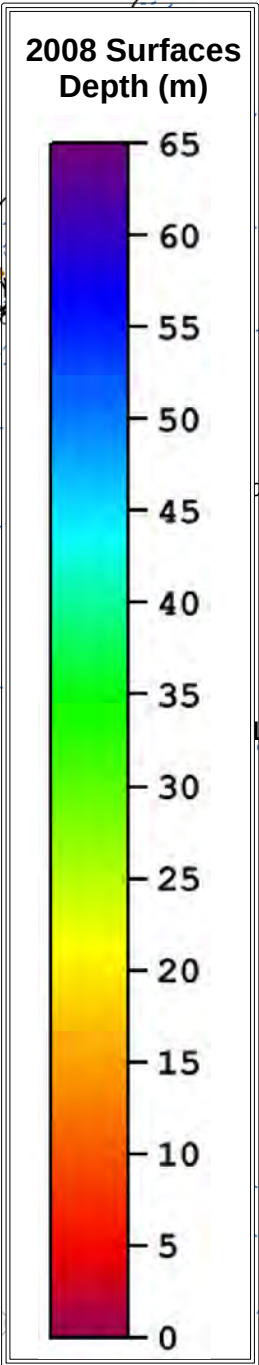
2008 Surfaces
Depth (m)



1970s Soundings
Depth (m)

- 45.2 - -50.0
- 45.2 - -40.0
- 40.0 - -22.0
- 22.0 - -13.0
- 13.0 - -7.5
- 7.5 - -2.5
- 2.5 - 0.0





**Objects from NOAA US4AK15M
ENC, Issued 2011-09-14**

CAUTION TYPE

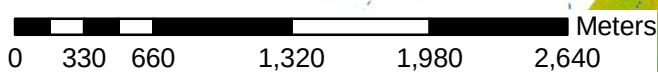
-  ObstructionPoint
-  SeabedAreaPoint
-  UnderwaterAwashRock
-  WreckPoint
-  CableSubmarine
-  PipelineArea

This chart contains selected elements
of the NOAA ENC and is Not intended
for Navigation

*See notice below for more info regarding ENC data

2008 Bottom Samples
Primary Bottom Type

- co - cobbles
gr - gravel
ha - hard
pe - pebbles
sa - sand
si - silt



2012-023 Cook Inlet Crossing - Initial Study
Sheet 4 of 5

Objects from NOAA US4AK15M
ENC, Issued 2011-09-14

CAUTION TYPE

- ObstructionPoint
- SeabedAreaPoint
- UnderwaterAwashRock
- WreckPoint
- CableSubmarine
- PipelineArea

This chart contains selected elements
of the NOAA ENC and is Not intended
for Navigation

*See notice below for more info
regarding ENC data

2008 Bottom Samples

Primary Bottom Type

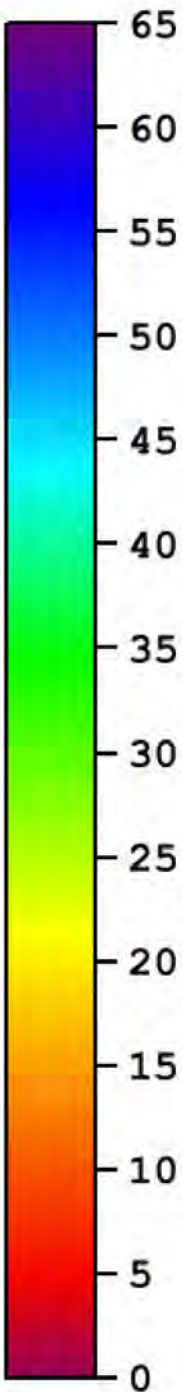
- co - cobbles
- gr - gravel
- ha - hard
- pe - pebbles
- sa - sand
- si - silt

Not for Navigation

Cook Inlet, AK

0 487.5 975 1,950 2,925 3,900 Meters

**2008 Surfaces
Depth (m)**



**1970s Soundings
Depth (m)**

- 45.2 - -50.0
- 45.2 - -40.0
- 40.0 - -22.0
- 22.0 - -13.0
- 13.0 - -7.5
- 7.5 - -2.5
- 2.5 - 0.0

This chart is not intended for navigation. Copying of the NOAA
ENCs to any other server or location for further distribution is
discouraged unless the following guidelines are followed:
If these NOAA ENC's are incorporated into any other product
in a form other than as provided by NOAA, the producer of that
product assumes full liability and must adhere to conditions
described in the paragraph above concerning copying.
More info about these ENC's can be found at:
http://www.nauticalcharts.noaa.gov/mcd/enc/download_agreement.htm

CAUTION TYPE

- ObstructionPoint
- SeabedAreaPoint
- UnderwaterAwashRock
- WreckPoint
- CableSubmarine

 PipelineArea

- ☐ BuildingSinglePoint
- ☒ MooringWarpingFacilityPoint

This chart contains selected elements
of the NOAA ENC and is Not intended
for Navigation

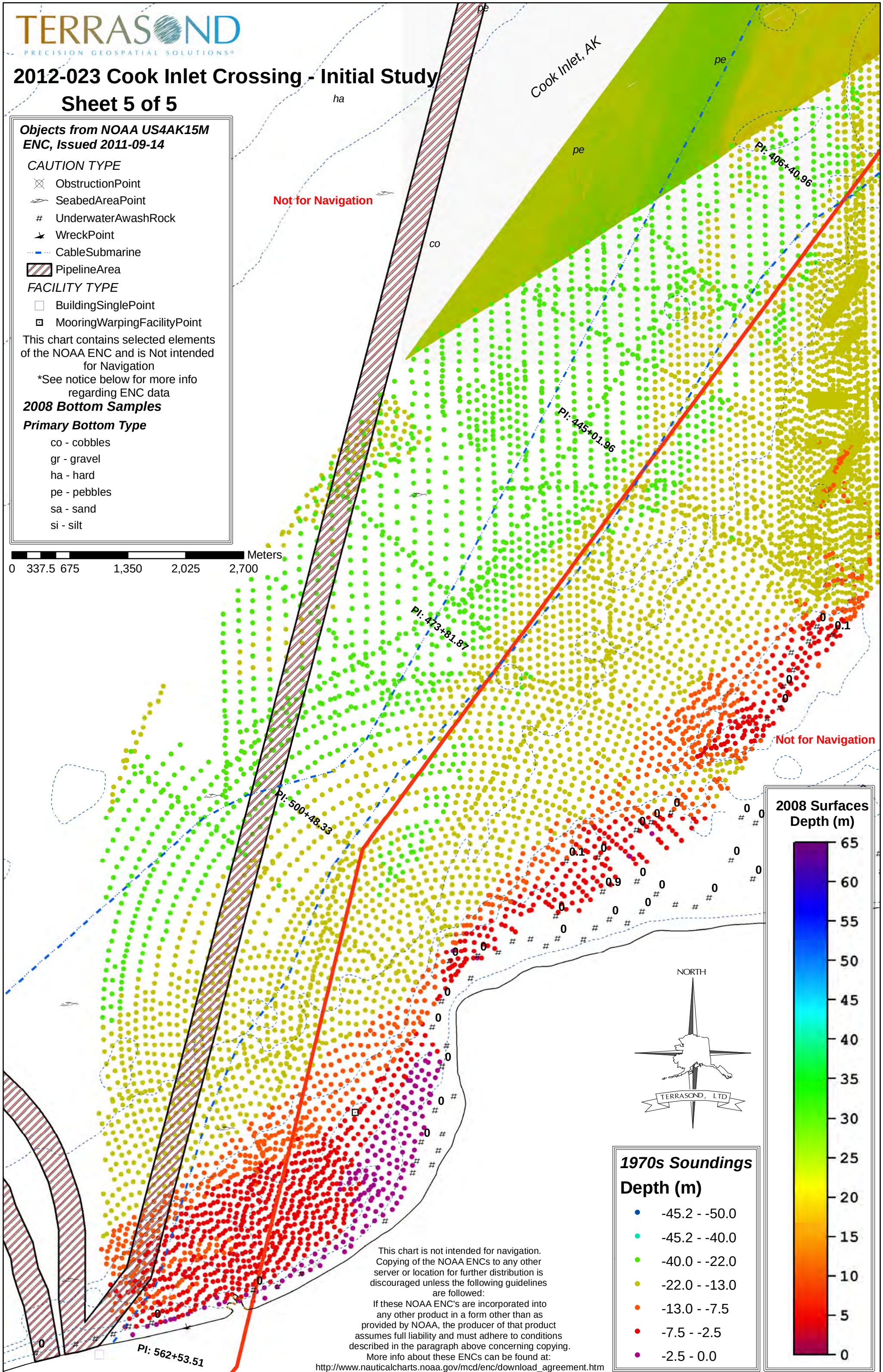
*See notice below for more info regarding ENC data

2008 Bottom Samples

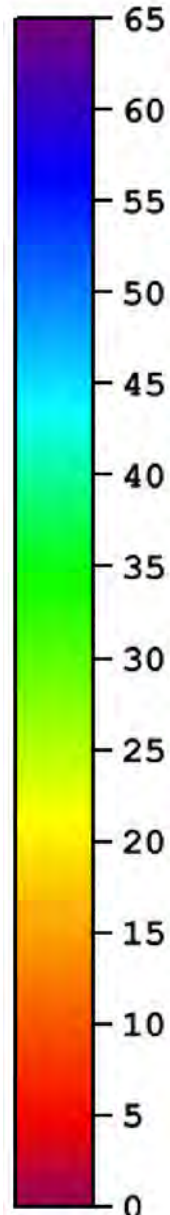
Primary Bottom Type

- co - cobbles
- gr - gravel
- ha - hard
- pe - pebbles
- sa - sand
- si - silt

0 375 750 1,500 2,025 2,700 Meters



2008 Surfaces
Depth (m)



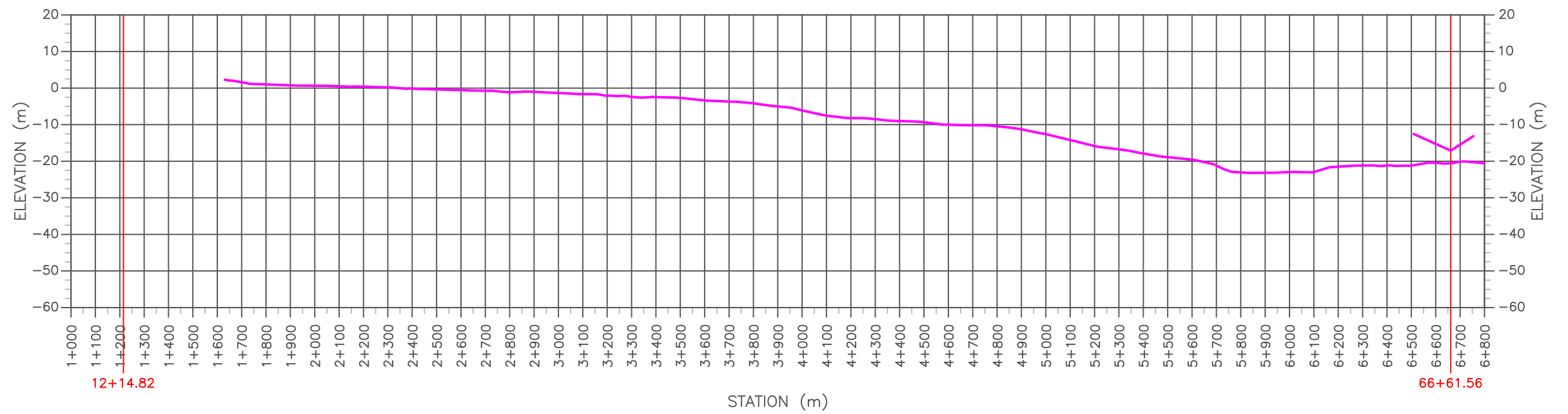
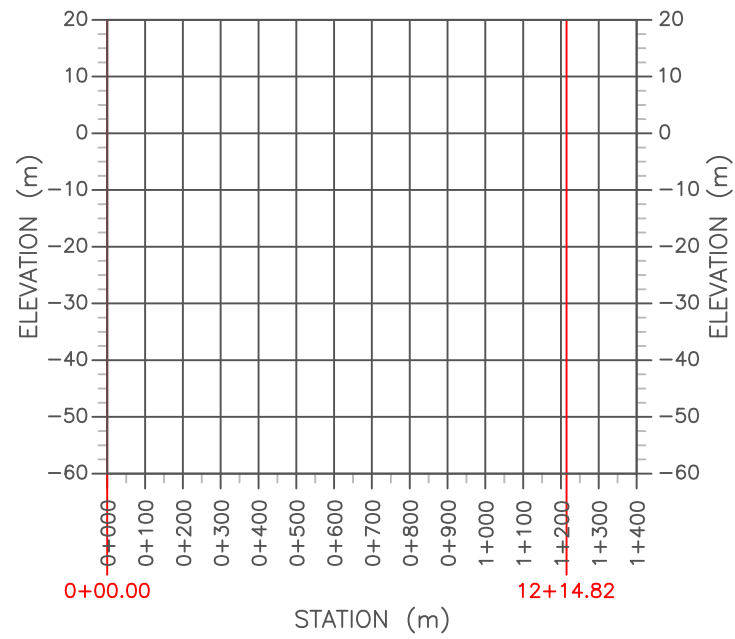
1970s Soundings
Depth (m)

- -45.2 - -50.0
- -45.2 - -40.0
- -40.0 - -22.0
- -22.0 - -13.0
- -13.0 - -7.5
- -7.5 - -2.5
- -2.5 - 0.0

This chart is not intended for navigation. Copying of the NOAA ENC's to any other server or location for further distribution is discouraged unless the following guidelines are followed:

If these NOAA ENC's are incorporated into any other product in a form other than as provided by NOAA, the producer of that product assumes full liability and must adhere to conditions described in the paragraph above concerning copying.

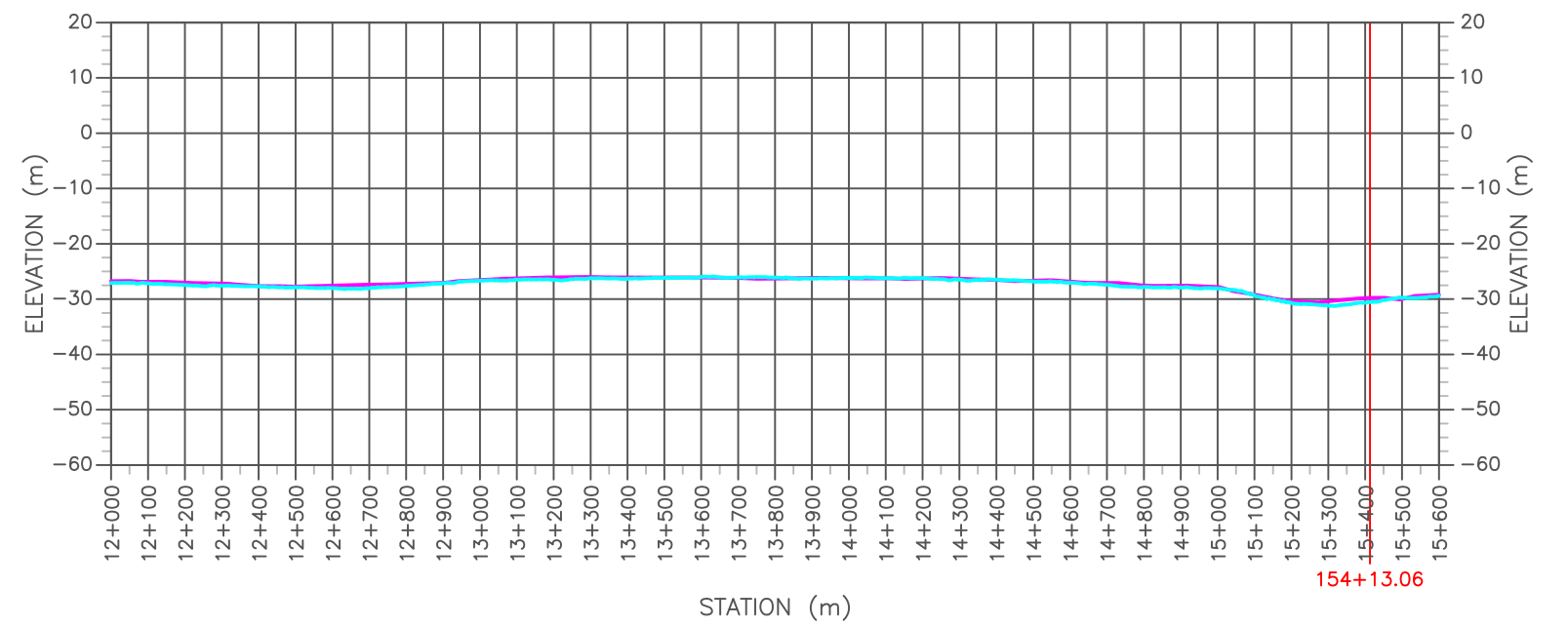
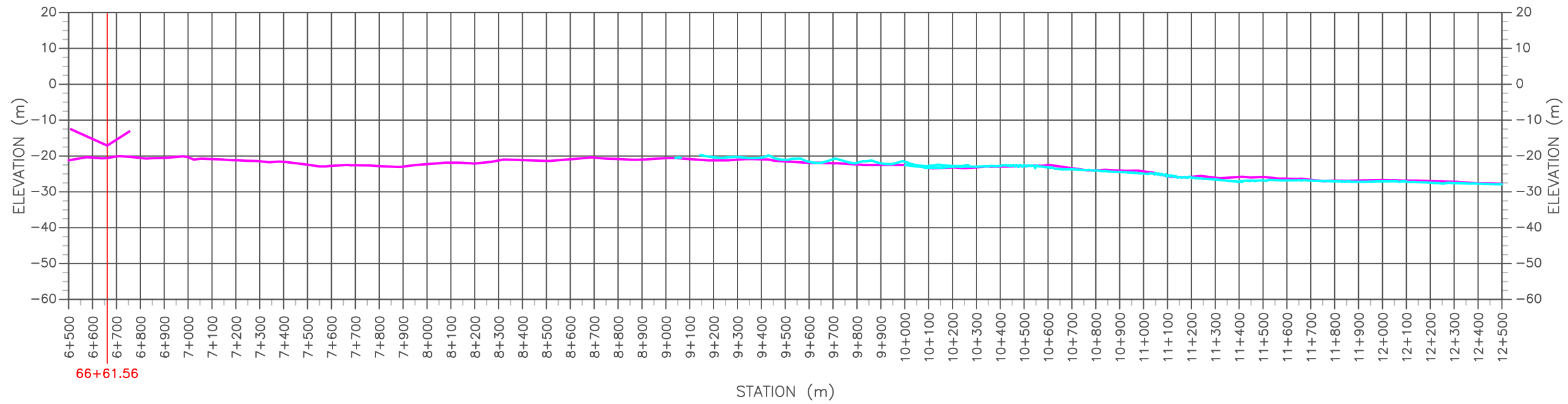
More info about these ENC's can be found at: www.nauticalcharts.noaa.gov/mcd/enc/download_agreement



PROFILE LEGEND

1976-1977 SURVEYS
2008 SURVEYS

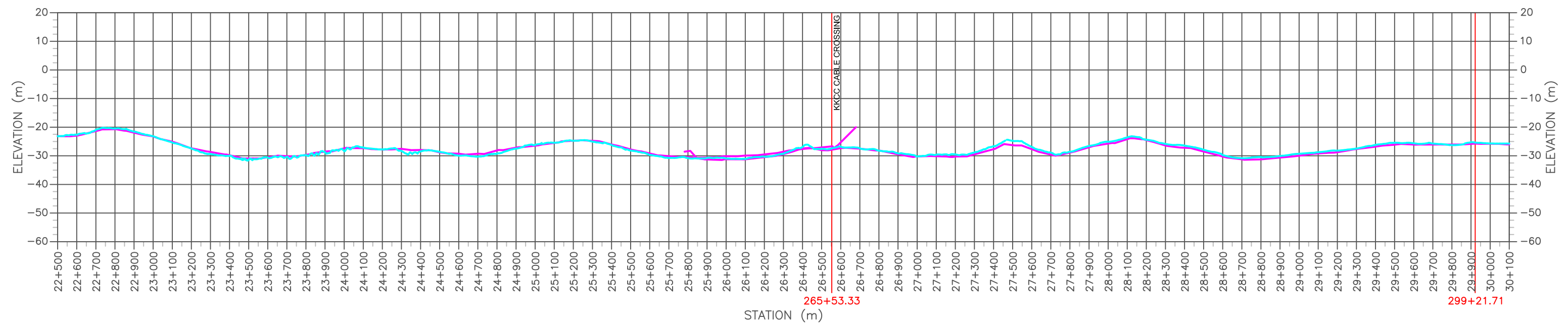
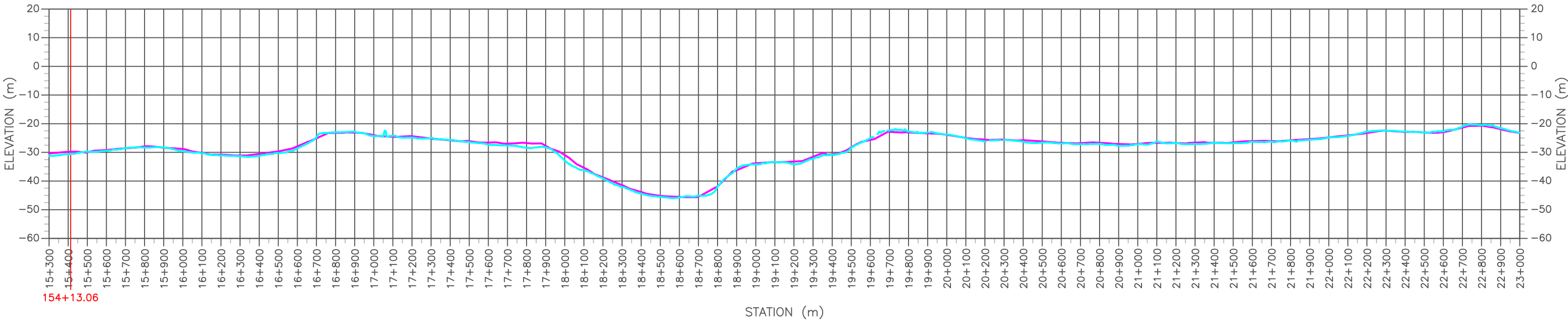




PROFILE LEGEND

1976-1977 SURVEYS
2008 SURVEYS

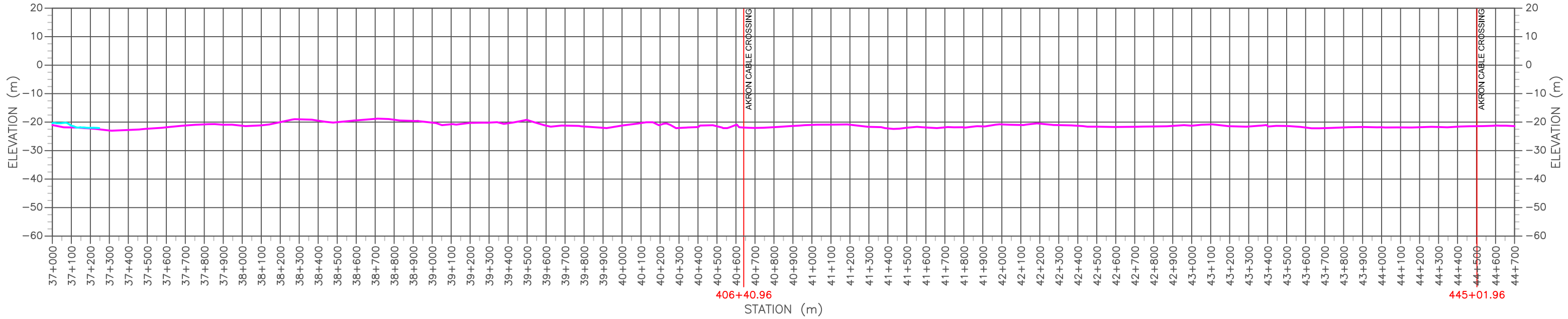
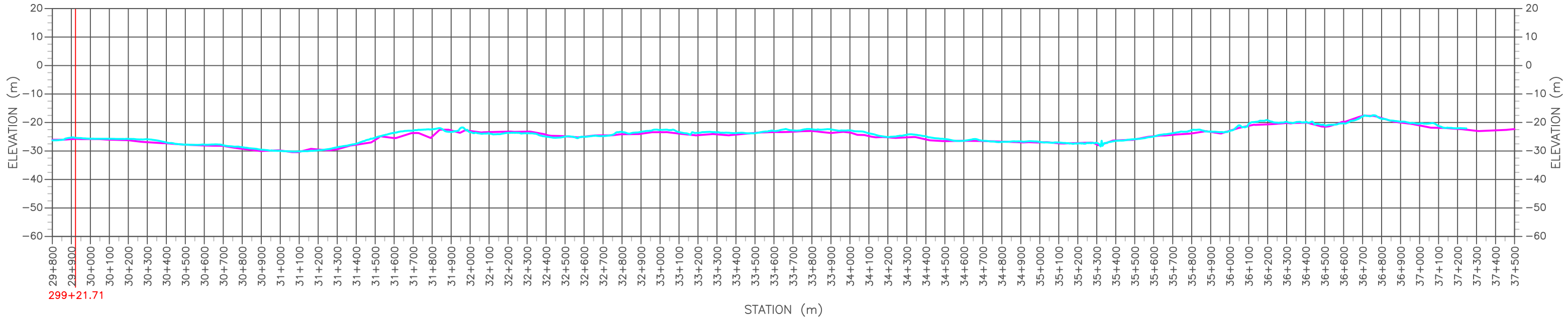




2012-023 Cook Inlet Crossing - Initial Study
Profile Sheet 3 of 5



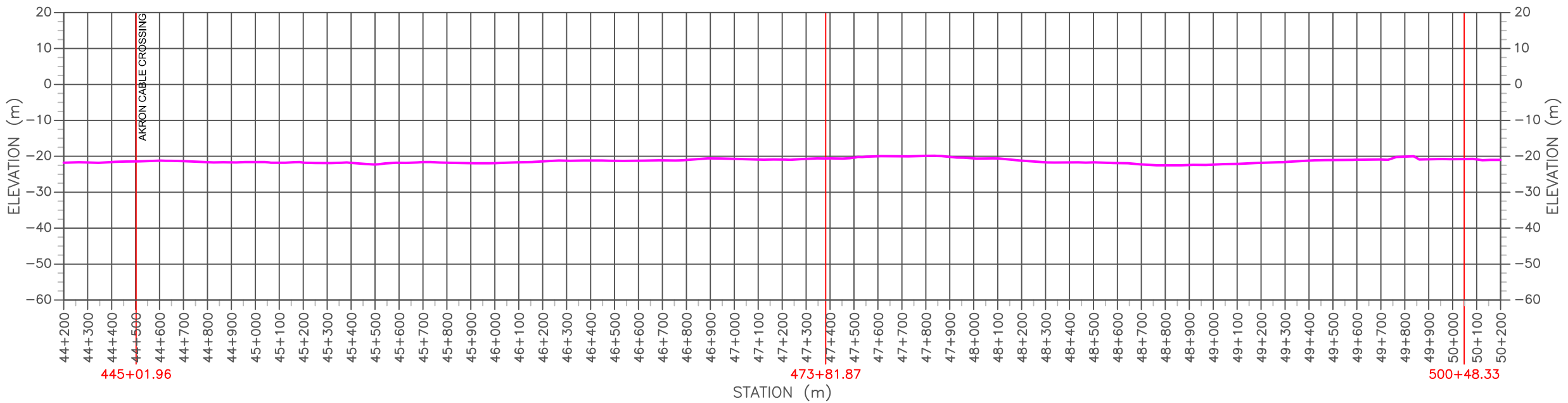
PROFILE LEGEND
1976-1977 SURVEYS
2008 SURVEYS

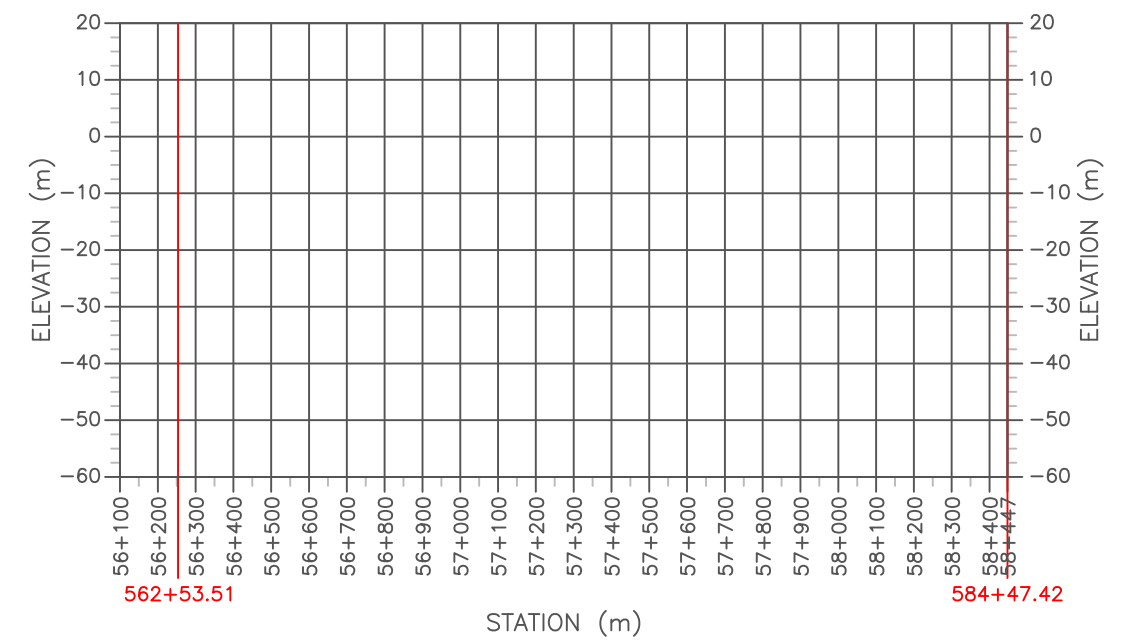
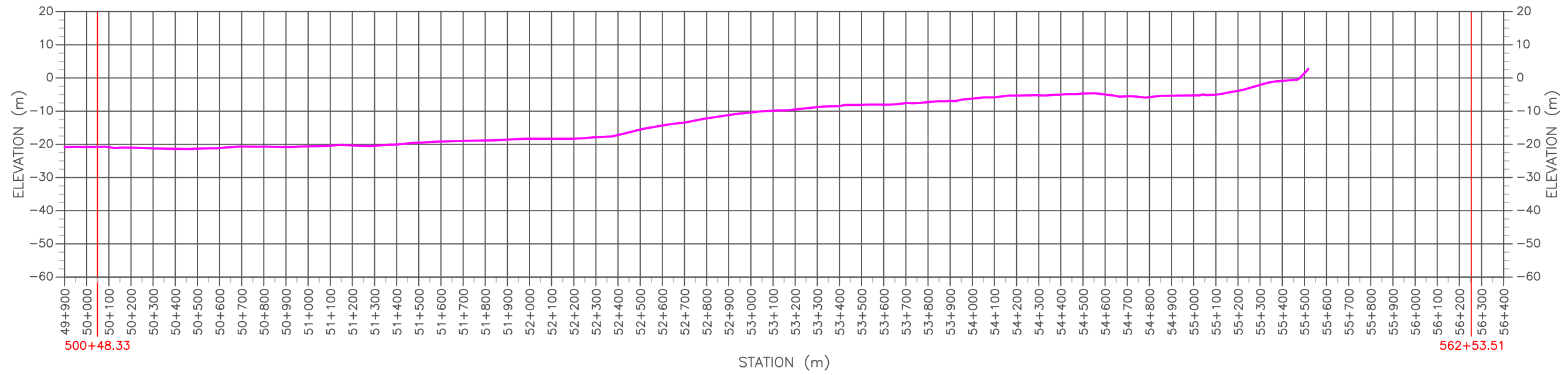


PROFILE LEGEND

1976-1977 SURVEYS
2008 SURVEYS

2012-023 Cook Inlet Crossing - Initial Study
Profile Sheet 4 of 5





PROFILE LEGEND

1976-1977 SURVEYS
2008 SURVEYS





With every community, we redefine what's possible.

Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.