



UNIT PLAN OF OPERATIONS AMENDMENT APPLICATION

State of Alaska
Department of Natural Resources, Division of Oil & Gas
550 W. 7th Ave, Suite 1100, Anchorage, AK 99501-3563
Phone: 907-269-8800 Fax: 907-269-8943
Permitting Email: dog.permitting@alaska.gov



SECTION I: APPLICANT INFORMATION	
1. Applicant:	2. Applicant Contact:
Name: Hilcorp Alaska, LLC	First Name: Julieanna Last Name: Potter
Mailing Address: 3800 Centerpoint Drive Ste. 1400	Title: Sr. Environmental Specialist
City: Anchorage	Mailing Address: Same
State: Alaska Zip Code: 99503	City: Enter City.
Phone: 907-777-8300 Fax: Enter Fax.	State: Enter State. Zip Code: Enter Zip Code.
Email: Enter Email.	Phone: 907-777-8444 Fax: Enter Fax.
Email: jupotter@hilcorp.com	
3. Unit Name Ninilchik Unit	
4. Unit Operator Contact:	
First Name: Enter First Name. Last Name: Enter Last Name. Title: Enter Title.	
Mailing Address: Enter Mailing Address.	
City: Enter City. State: Enter State. Zip Code: Enter Zip Code.	
Phone: Enter Phone. Fax: Enter Fax. Email: Enter Email.	
Describe the relationship between the Unit Operator and the Applicant:	
Hilcorp Alaska, LLC is the applicant and Unit Operator	
SECTION II: 3RD PARTY INFORMATION (Fill out this section only if you are applying for the Applicant)	SECTION III: APPLICATION DATE AND NUMBER
3rd Party Company Name: Enter Name.	Application Date (Office Use Only):
First Name: Enter First Name. Last Name: Enter Last Name.	
Title: Enter Title.	
Mailing Address: Enter Mailing Address.	
City: Enter City.	
State: Enter State. Zip Code: Enter Zip Code.	
Phone: Enter Phone. Fax: Enter Fax.	
Email: Enter Email.	
Describe the affiliation to the Applicant:	Application Number: LO/CI 17-001 (Pearl Pad)
Describe your affiliation to the Applicant.	
SECTION IV: PROJECT INFORMATION	
1. Project Name:	Pearl Pad Expansion, Wells, and Facilities
2. Proposed Start Date:	3/1/2023
3. Project Description:	

Is activity discussed in the approved Plan of Development on file with the Division's Units Section?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Describe what and where: Hilcorp Alaska, LLC proposes to expand the existing Pearl Pad, drill two grassroots gas development wells (Pearl #10 and #11), one combination gas development and oil exploration well (Pearl #12), and install associated infrastructure including gas flowlines, electrical instrumentation, a line heater, and a separator. Pearl Pad is located outside of the Ninilchik Unit (NKU) boundary on private land however; the bottom-hole location for each gas well is proposed for within the NKU. The Pearl Pad expansion would provide the additional space necessary for production well drilling and increased gas production from the NKU. The expansion has been designed to be the smallest achievable footprint to allow for rig placement, associated well drilling activities, and facilities access.		
SECTION V: LAND STATUS		
1. State Mineral Estate:		
Are supplemental pages for land status included in Appendix C?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Affected ADL: 384372	Date Effective: 1/1/2012	Date Assigned: 12/29/2011
Oil And Gas Lessee(s): Hilcorp Alaska, LLC		
Surface Ownership: Private		
Do you have, or anticipate having an Access Agreement:		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Special Use Lands: None		
Jointly Managed Lands: None		
Other Considerations: None		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Pearl #10 and #11 BHLs	Seward Meridian, T01S, R14W, Section 14	TBD
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
2. State of Alaska Surface Lands:		
Are supplemental pages for land status included in Appendix C?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Oil And Gas Mineral Estate Owner: Click here to enter text.		
Access Authorization(s): Click here to enter text.		
Special Use Lands: Click here to enter text.		
Jointly Managed Lands: Click here to enter text.		
Other Considerations: Click here to enter text.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
3. Private Lands:		
Are supplemental pages for land status included in Appendix C?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Oil And Gas Mineral Estate Owner: Click here to enter text.		
Surface Ownership And Access Agreement(s): Click here to enter text.		
Special Use Lands: Click here to enter text.		
Jointly Managed Lands: Click here to enter text.		
Other Considerations: Click here to enter text.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
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SECTION VI: SEQUENCE AND SCHEDULE OF OPERATIONS					
Project Milestone #	Project Milestone	Proposed Start Date		Proposed End Date	
1.	Pad expansion construction	3/1/2023		4/5/2023	
2.	Drilling and Well Testing Pearl #10	4/20/2023		6/30/2023	
3.	Drilling and Well Testing Pearl #11	5/15/2023		6/30/2023	
4.	Drilling and Well Testing Pearl #12	6/30/2023		7/30/2023	
5.	Install facility piping, electrical and instrumentation lines to tie wells into existing production infrastructure	7/30/2023		8/15/2023	
6.	Gas production from Pearl #10, #11, and #12	8/15/2023		Enter Date.	
7.	*** Note that all proposed project milestone dates are subject to change based on permit authorizations, project constraints, scheduling, weather, and other factors.	Enter Date.		Enter Date.	
8.	Enter Milestone.	Enter Date.		Enter Date.	
9.	Enter Milestone.	Enter Date.		Enter Date.	
10.	Enter Milestone.	Enter Date.		Enter Date.	
SECTION VII: PROJECTED USE REQUIREMENTS					
1. Describe the proposed operations, including the location and design, of Well Sites:					
<p>Hilcorp proposes to expand the existing Pearl Pad and drill two grassroots gas production wells (Pearl #10 & Pearl #11), and one combination gas production and oil exploration well (Pearl #12). All wells will be located on private surface lands and will produce from ANDR subsurface leases. Well cellars, conductors, on-pad flowlines, and associated tie-in infrastructure will be installed to bring each well onto production.</p>					
2. Describe the proposed operations, including the location and design, of Buildings:					
<p>Hilcorp will tie the new wells into future gas production facility infrastructure located on Pearl Pad. No new buildings are proposed as part of this application.</p>					
3. Describe the proposed operations, including the location and design, of Fuel and Hazardous Substances:					
<p>1. During drilling, diesel fuel for refueling equipment will be stored in an approximately 5,000-gallon tank. 2. Ethylene glycol for the line heater. Glycol is already used on site for gas production. 3. Methanol may be stored in a 450-gallon tote for freeze protection. Methanol is already periodically used on site for gas production. 4. Existing SPCC plan will be used to guide appropriate secondary containment usage.</p>					
4. Describe the proposed operations, including the location and design, of Solid Waste Sites:					
<p>Waste will be handled consistent with Hilcorp waste management practices. Waste will be properly segregated and containers labeled to ensure proper disposal. Closed-top dumpsters will be onsite for food trash and household waste and will be hauled away from the site regularly to prevent overfilling. Household waste/paper trash will be sent to the Kenai Peninsula Borough Landfill for disposal. Oily waste will be segregated and sent to a specialty waste contractor for offsite disposal. Waste drilling mud and cuttings will be hauled via vacuum truck or supersucker directly from the rig process tank to and offsite, permitted underground injection disposal facility. The only anticipated storage of drilling waste on location would be in the event of an issue at the disposal facility that prevented immediate shipment, in which case Hilcorp would obtain Alaska Department of Environmental Conservation (ADEC) Temporary Drilling Waste Storage plan approval.</p>					
5. Describe the proposed operations, including the location and design, of Water Supplies:					

Approximately 100 barrels (bbls) per day of freshwater will be used for drilling this well. Hilcorp intends to utilize an existing permitted water well (TWUA A2017-124) adjacent to Pearl Pad, or other nearby Hilcorp operated locations.

6. Describe the proposed operations, including the location and design, of Utilities:

No installation of utilities are proposed as a component of this authorization.

7. Describe the proposed operations, including the location and design, of Material Sites:

Fill/gravel will be supplied from a Kenai Peninsula-permitted material site selected prior to construction by Hilcorp or the construction contractor.

8. Describe the proposed operations, including the location and design, of Roads:

Existing roads and natural gas producing pad will be used. No additional roads will be built.

9. Describe the proposed operations, including the location and design, of Airstrips:

Existing commercial airstrips will be used. No new airstrips are proposed as part of this project.

10. Describe the proposed operations, including the location and design, of All Other Facilities and Equipment:

Drilling activities will be conducted by Hilcorp Drilling under the direction of Monty Myers, Hilcorp's Drilling Manager (907-777-8431). The attached figures show typical layouts for the Hilcorp Rig 169 and associated equipment. Major components include the following: Equipment, including the drilling rig and pipe, the completion rig, mud tanks and mud pumps, boilers, drilling foreman/toolpusher trailer, light plants, generators, cement silo(s), and other miscellaneous equipment will be onsite temporarily to support drilling efforts. Well testing will be conducted following AOGCC guidelines and approvals. The temporary testing equipment will include a line heater, liquids/gas separator, flare, and 400-bbl water storage tank. Industry Best Management Practices (BMPs) will be implemented to minimize noise from the drilling program, for example all equipment will be maintained to minimize exhaust emissions and noise. Drilling and well testing work is temporary. Sound impacts will be temporary and will occur primarily during construction and drilling. Except where safety concerns dictate otherwise, lights on the drill rig and mobile light plants will be pointed down toward activities occurring on the pad. The typical use of loudspeakers to communicate during drilling will be replaced by the use of handheld radios. Additionally, drilling vehicles and heavy equipment will use broadband "white noise" backup alarms, instead of the typical louder and more annoying single-tone backup alarms. Sight impacts will be mitigated by leaving the existing trees and vegetation surrounding the pad area.

11. If another permit(s) is required for the above described Projected Use Requirements, provide the following information:

Agency	Permit Type	Permit Number	Application Status	Projected Use Requirement(s)
See Appendix C - Other	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).

SECTION VIII: REHABILITATION PLAN

1. Proposed Level of Infrastructure, Facilities and Equipment Removal:

Project infrastructure removal and site rehabilitation efforts will be to the satisfaction of the landowner and in coordination with all applicable agencies. Hilcorp owns the project parcel.

2. Description of Restoration and Rehabilitation Activities for Vegetation, Habitat, Impacted Wildlife, and Other Applicable Resources:

Project infrastructure removal and site rehabilitation efforts will be to the satisfaction of the landowner and in coordination with all applicable agencies. Hilcorp owns the project parcel.

SECTION IX: OPERATING PROCEDURES DESIGNED TO MINIMIZE ADVERSE EFFECTS

Describe operating procedures designed to prevent or minimize adverse effects on other natural resources and other uses of the Unit area and adjacent areas including:

Fish and Wildlife Habitats: The pad expansion will be located on uplands and wetlands adjacent to the existing pad. A non-fish bearing, intermittent stream on the parcel will be rerouted via a drainage corridor along the north end of the proposed expansion pad. Hilcorp does not anticipate any impact to fish and wildlife habitat as a result of the pad expansion.

Historic and Archeological Sites: Charles M. Mobley & Associate performed a cultural resource reconnaissance of the parcel in October 2016. Two potentially culturally significant sites are located near the proposed project area, the Hatton cabin and the old Sterling Highway alignment. Neither site will be impacted by proposed project activities.

Public Use Areas: Public use areas will not be impacted by the proposed project, as this project occurs on private lands. Industry Best Management Practices (BMPs) will be implemented to minimize noise from the drilling program, for example all equipment will be maintained to minimize exhaust emissions and noise. Drilling and well testing work is temporary. Sound impacts will be temporary and will occur primarily during construction and drilling. Except where safety concerns dictate otherwise, lights on the drill rig and mobile light plants will be pointed down toward activities occurring on the pad. The typical use of loudspeakers to communicate during drilling will be replaced by the use of handheld radios. Additionally, drilling vehicles and heavy equipment will use broadband "white noise" backup alarms, instead of the typical louder and more annoying single-tone backup alarms. Sight impacts will be mitigated by leaving the existing trees and vegetation surrounding the pad area.

Other Uses: None

SECTION X: GLOSSARY OF TERMS

Term #	Term	Term Definition
1.	Enter Term.	Enter Term Definition.
2.	Enter Term.	Enter Term Definition.
3.	Enter Term.	Enter Term Definition.
4.	Enter Term.	Enter Term Definition.
5.	Enter Term.	Enter Term Definition.

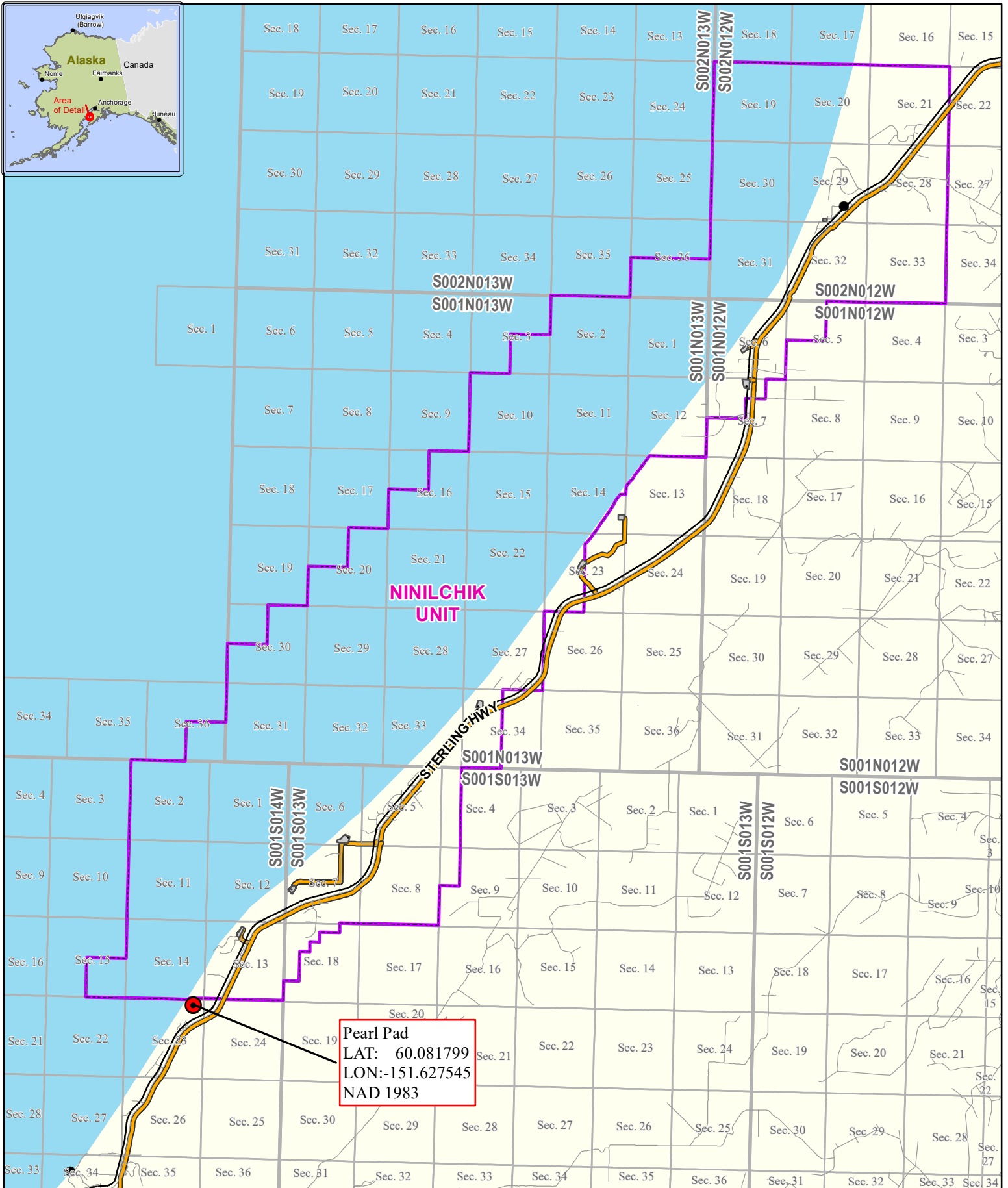
SECTION XI: CONFIDENTIALITY

The undersigned hereby requests that each page/section of this application marked confidential be held confidential under AS 38.05.035(a)(8).

APPLICANT CONTACT:

	Julieanna Potter	Permitting Project Manager	1/6/2023
Signature	Name	Title	Date

Attached.



Hilcorp Alaska, LLC
 3800 Centerpoint Drive
 Suite 1400
 Anchorage, AK 99503

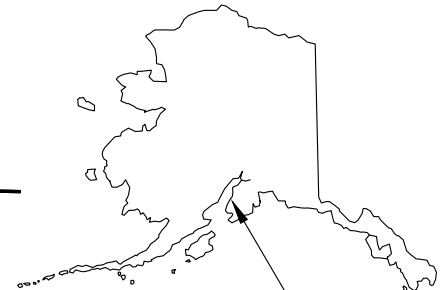
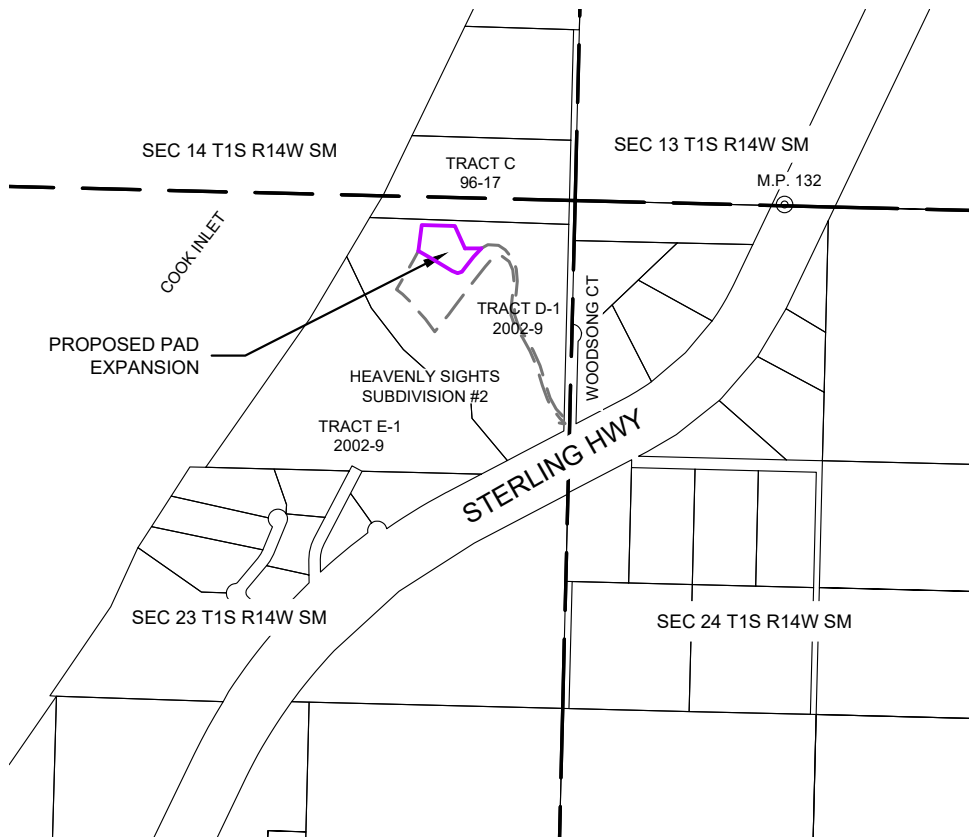
- Pipelines
- Well Pads
- Oil and Gas Unit Boundaries

Pearl Pad
Proposed Facilities and Pipeline
Figure 1 - Vicinity

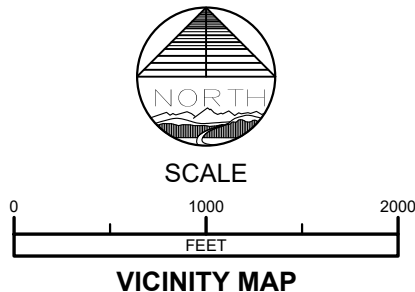
0 1 2
 Miles
 Alaska State Plane Zone 4, NAD83
 Map Date: 5/20/2022



HILCORP ALASKA, LLC PEARL PAD EXPANSION



PROJECT LOCATION
NINILCHIK, ALASKA



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER
2	IMPACT SUMMARY
3	EXISTING CONDITIONS / DEMO
4	PLAN VIEW
5	TYPICAL SECTIONS



Consulting Inc

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SURVEYING - MAPPING
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WWW.MCLANECG.COM

LOCATION

SECTION 23, T1S, R14W, S.M., AK

PROJECT

PEARL PAD EXPANSION

APPLICANTS

HILCORP ALASKA

3800 CENTERPOINT DRIVE, STE. 100, ANCHORAGE, AK 99503



Hilcorp Alaska, LLC

REVISION: -

DATE: 9/29/2022

DRAWN BY: BGB

SCALE: 1" = 1000'

PROJECT NO. 227023

SHEET

1 OF 5

PROJECT IMPACT SUMMARY:












IMPACT AREAS

TOTAL PROJECT FOOTPRINT:	70,483 SF
USEABLE PAD EXPANSION AREA:	50,112 SF
CLEARING AREA:	70,483 SF
WETLAND FILL IMPACT AREA:	20,917 SF (0.4802 ACRES)
INTERMITTENT STREAM FILL IMPACT:	120 LF

FILL VOLUMES

TOTAL PROJECT GRAVEL FILL VOLUME:	13,120 CY
TOTAL WETLANDS GRAVEL FILL VOLUME:	5,129 CY
INTERMITTENT STREAM GRAVEL FILL VOLUME:	3 CY
(BASED ON MEAN 12" CHANNEL WIDTH & 6" DEPTH)	
WETLANDS MEAN FILL DEPTH:	6.6 FT ±

LEGEND

	PROPOSED INNER PAD EDGE
	EXISTING EDGE OF GRAVEL
	PROPERTY LINE
	GEOTEXTILE FABRIC
	LIMITS OF FILL
	EXISTING TREELINE
	CLEARING LIMITS
	CONTOUR LINE (EXISTING GROUND)
	STREAM (WESTON SOLUTIONS WETLAND DELINEATION 2016)
	IMPACTED WETLAND (WESTON SOLUTIONS WETLAND DELINEATION 2016)
	NON-IMPACTED WETLAND (WESTON SOLUTIONS WETLAND DELINEATION 2016)



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3800 CENTERPOINT DRIVE, STE. 100, ANCHORAGE, AK 99503



REVISION: 2

DATE: 11/10/2022

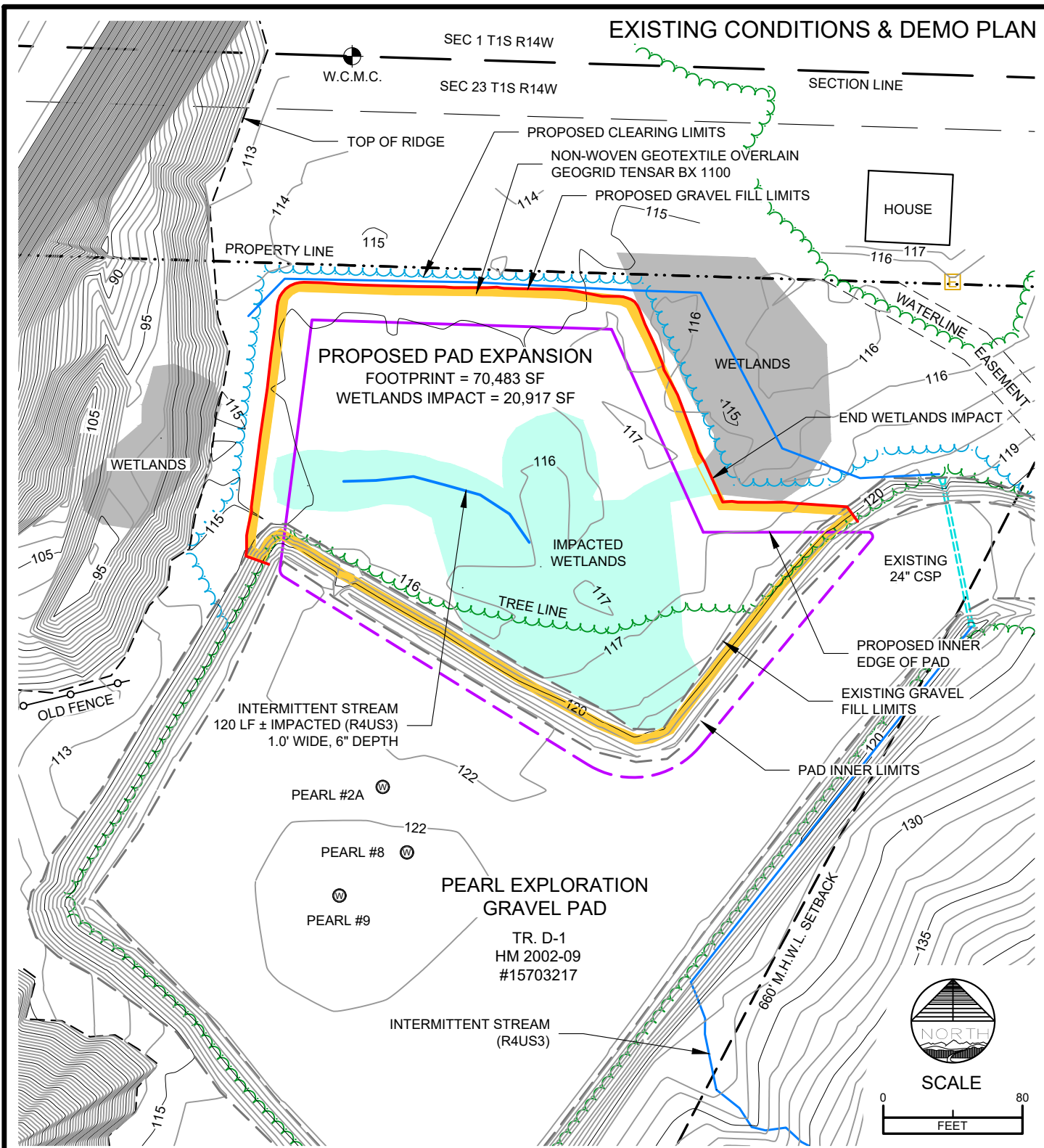
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PROJECT NO. 227023

SHEET

2 OF 5



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LOCATION

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3800 CENTERPOINT DRIVE, STE. 100, ANCHORAGE, AK 99503



Hilcorp Alaska, LLC

REVISION: 1

DATE: 11/10/2022

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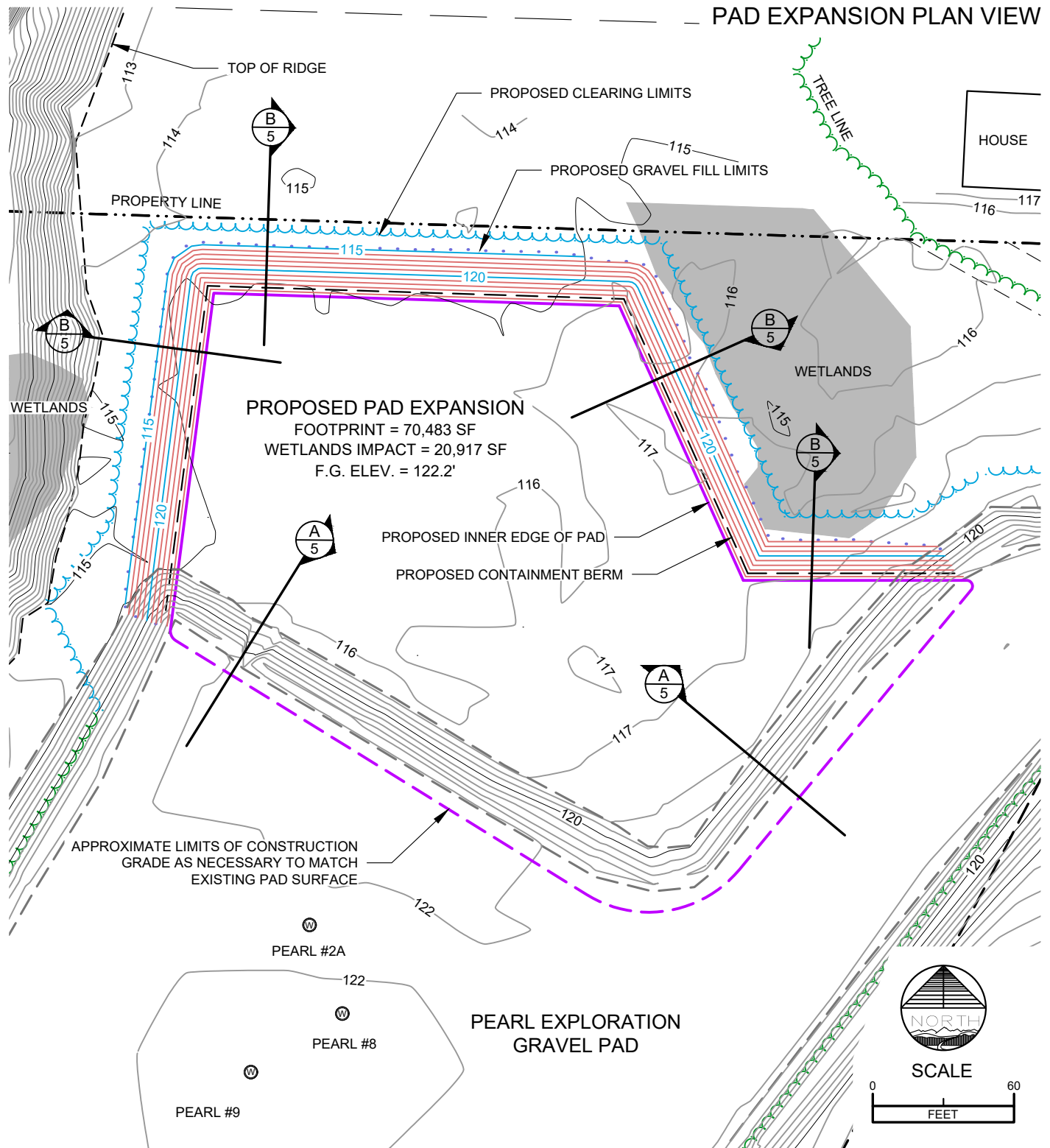
SCALE: 1" = 80'

PROJECT NO. 227023

SHEET

3 OF 5

PAD EXPANSION PLAN VIEW



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LOCATION

SECTION 23, T1S, R14W, S.M., AK

PROJECT

PEARL PAD EXPANSION

APPLICANTS

HILCORP ALASKA

3800 CENTERPOINT DRIVE, STE. 100, ANCHORAGE, AK 99503



Hilcorp Alaska, LLC

REVISION: -

DATE: 9/29/2022

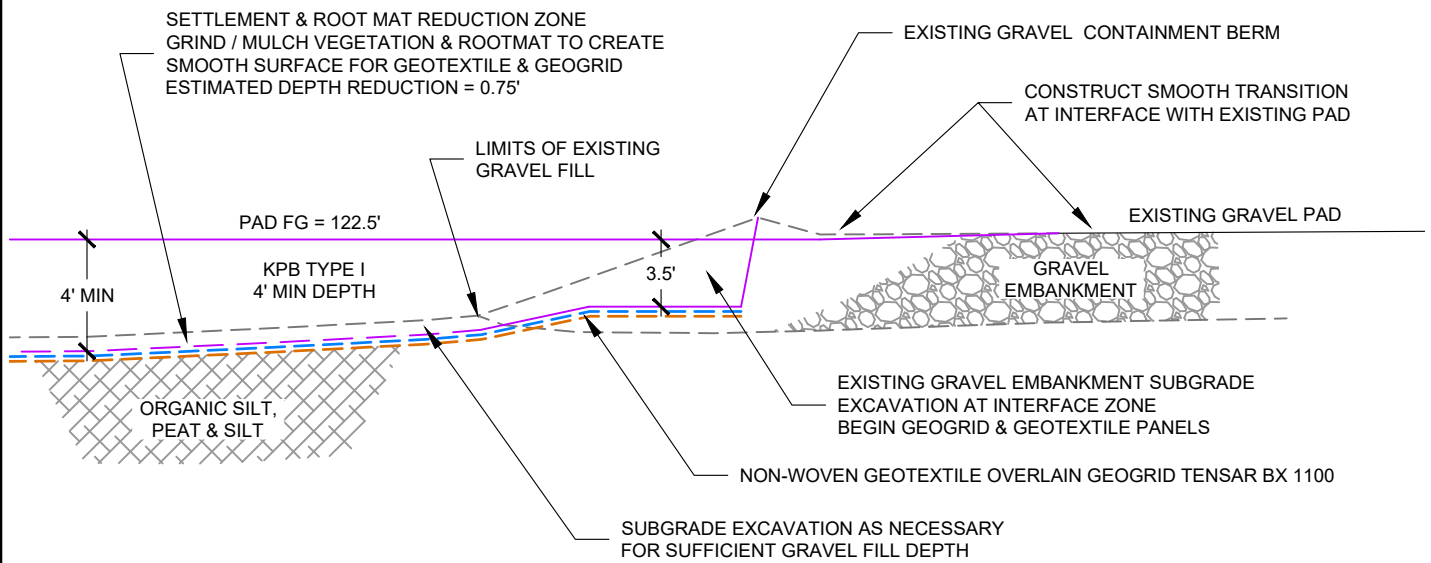
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PROJECT NO. 227023

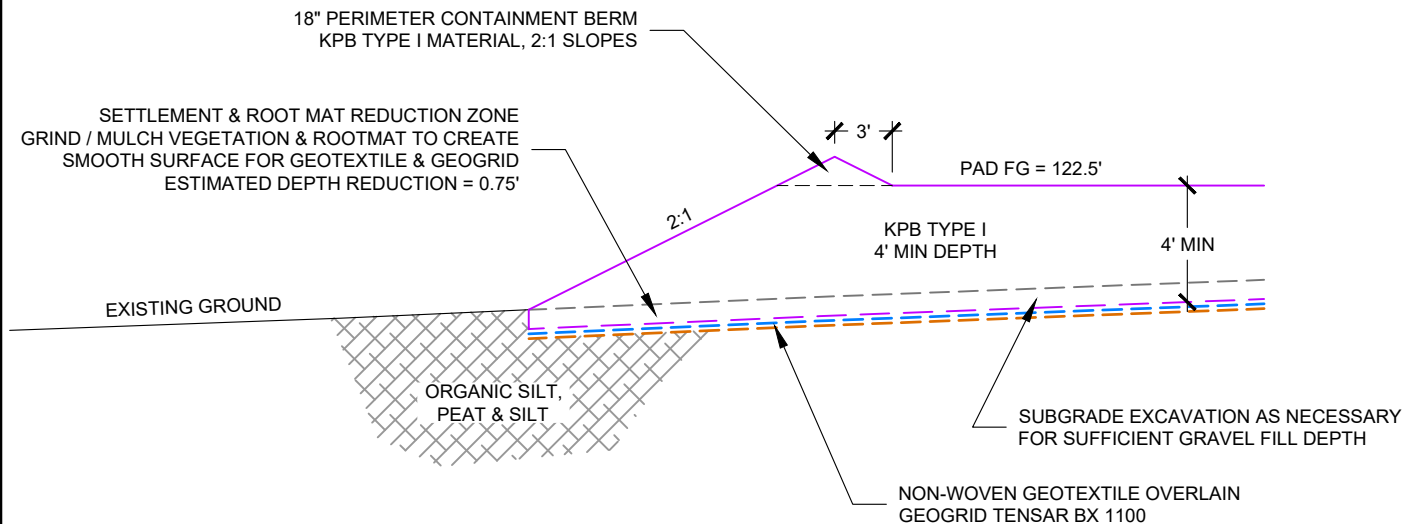
SHEET

4 OF 5



A PAD INTERFACE SECTION

SCALE: 1" = 10'



B PAD FILL SECTION

SCALE: 1" = 10'



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LOCATION

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PROJECT

PEARL PAD EXPANSION

APPLICANTS

HILCORP ALASKA

3800 CENTERPOINT DRIVE, STE. 100, ANCHORAGE, AK 99503



REVISION: -

DATE: 9/29/2022

DRAWN BY: BGB

SCALE: 1" = 10'

PROJECT NO. 227023

SHEET

5 OF 5

Attached.

MITIGATION MEASURE ANALYSIS: COOK INLET

The following instructions are provided for guidance to adequately complete the Mitigation Measure Analysis form.

1. The applicant shall respond to each Mitigation Measure, and all subsets of mitigation measures; i.e. A.2.d.i should be addressed and A.2.d.ii, and so forth.
2. The applicant's response shall begin by clearly indicating if the **mitigation measure is satisfied**, a **waiver is requested**, or if the mitigation measure is **not applicable**.
3. The applicants' response shall then address how the proposed project clearly satisfies the mitigation measure, meets the intent of the mitigation measure, is not practicable, or is not applicable.
4. The applicant shall verify working 'in consultation with' parties other than Department of Natural Resources (DNR), Division of Oil and Gas (DO&G) by reporting meeting dates and parties present for Mitigation Measures which require consultation with parties other than DNR, DO&G; i.e. Mitigation Measure 1.b.

Please note that this form, along with the Plan of Operations Application form and the Plan of Operations, must be adequately completed before DNR DO&G will review an application for potential approval.

Revised: March 2013

Cook Inlet	Company Response
A. Mitigation Measures	
1. Facilities and Operations	
<p>a. A plan of operations must be submitted and approved before conducting exploration, development or production activities, and must describe the lessee's efforts to minimize impacts on residential, commercial, and recreational areas, Native allotments and subsistence use areas, and adjacent private lands. At the time of application, lessee must submit a copy of the proposed plan of operations to all surface owners whose property will be entered.</p>	<p>A.1.a. Mitigation measure satisfied: The project will occur on Hilcorp-owned land. Pearl Pad is located outside of the Ninilchik Unit (NKU) boundary on private land; however, the bottom-hole location for each gas well is proposed for within the NKU. The Pearl Pad expansion would provide the additional space necessary for production well drilling and increased gas production from the NKU. The expansion has been designed to be the smallest achievable footprint to allow for rig placement, associated well drilling activities, and facilities access. No native allotments, designated recreation/subsistence use areas, or adjacent private surface lands will be entered for this project.</p>
<p>b. Facilities must be designed and operated to minimize sight and sound impacts in areas of high residential, commercial, recreational, and subsistence use and important wildlife habitat. Methods may include providing natural buffers and screening to conceal facilities, sound insulation of facilities, or by using alternative means approved by the director, in consultation with ADF&G.</p>	<p>A.1.b. Mitigation measure satisfied: The gravel drill pad will be constructed as close to the western extent of the parcel as is practicable to minimize visual and sound impacts to landowners along Woodsong Court. To the north, pad design gravel fill limits have been maintained to at least 10-ft from the property line and clearing limits have been limited to 5-ft to allow drainage around the pad without conveyance across the neighboring parcel. Pad construction will last approximately 4 weeks, as will drilling each well. Construction will occur on a daytime 12-hour shift, likely between 7AM and 7PM, to minimize noise during evening and nighttime hours. It is not practicable to operate the drilling rig on a schedule other than around the clock; however, steps will be taken to minimize visual and sound impacts during operation. Except where safety concerns dictate otherwise, lights on the drill rig and mobile light plants will be pointed down toward activities occurring on the pad. The typical use of loudspeakers to communicate during drilling will be replaced by the use of handheld radios. Additionally, drilling vehicles and heavy equipment will use broadband "white noise" backup alarms, instead of the typical louder and more annoying single-tone backup alarms.</p>
<p>c. The siting of onshore facilities, other than roads, docks, utility or pipeline corridors, or terminal facilities will be prohibited within one-half mile of the mean high water of Cook Inlet, except where land use plans classify an area for</p>	<p>A.1.c. Mitigation measure waiver is requested: The proposed Pearl Pad will be located within one-half mile of the mean high water of Cook Inlet. The coastline near Ninilchik, Alaska has multiple active gas production facilities. Pearl Pad is sited approximately one mile from Paxton Pad, the nearest active gas</p>

development, or established usage and use history show development. The siting of facilities other than docks, roads, utility, and pipeline crossings will also be prohibited within 500 feet of all fish bearing streams and waterbodies and 1,500 feet of all current surface drinking water sources. Additionally, to the extent practicable, the siting of facilities will be prohibited within one-half mile of the banks of the main channel of the Harriet, Alexander, Lake, Deep, and Stariski creeks, and the Drift, Big, Kustatan, McArthur, Chuitna, Lewis, Theodore, Beluga, Susitna, Little Susitna, Kenai, Kasilof, Ninilchik, and Anchor rivers. Facilities may be sited within these buffers if the lessee demonstrates to the satisfaction of the director, in consultation with ADF&G, that site locations outside these buffers are not practicable or that a location inside the buffer is environmentally preferred. Road, utility, and pipeline crossings must be consolidated and aligned perpendicular or near perpendicular to watercourses.

production facility. Gas exploration and production is an established land usage in the Ninilchik area.

The intent of this mitigation measure is to protect important fisheries from liquid hydrocarbon releases, which Hilcorp feels it can successfully do within the ½ mile buffer from the mean high-water line of Cook Inlet due to the proposed sequence of exploration activities, and by utilizing current well control technology and proven best management practices while drilling. The Primary target of the Pearl #12 well is Gas and the only identified target for the Pearl #12 well is gas. The Pearl #12 well will ultimately extend beyond anticipated gas zones to explore for oil. While drilling, Hilcorp will maintain multiple barriers of protection against well control events including, but not limited to, hydrostatic overbalance of estimated reservoir pressure, and Blow-Out Prevention Equipment (BOPE). Additionally, an intermediate casing string will be set and cemented in-place between the gas zones and potential oil-bearing zones, providing the ability to shut in the well at depth without any potential for liquid hydrocarbons to return to surface. Well control and well safety related aspects of the drilling program are permitted with the Alaska Oil and Gas Conservation Commission (AOGCC) to ensure operations follow all safety controls and regulatory measures that have been developed to mitigate the risks of an uncontrolled well event.

During drilling, temporary fuel tanks and produced water storage tanks will be placed within lined, bermed secondary containment areas to reduce risk of an off-pad release. In addition, the pad will be constructed with a 2-foot berm around the entire pad perimeter to further reduce risk of hydrocarbon-impacted runoff. Only stormwater will be discharged from Pearl Pad and all such discharges will adhere to stormwater pollution prevention regulations under the Clean Water Act. No point source or direct discharges to the drainage bordering the south end of the parcel will occur and no hydrocarbon or chemical discharges are authorized or planned. Hilcorp adheres to state and federal regulations governing pollution prevention and has a robust integrity management program dedicated to preventing releases. Should an unplanned release occur, Hilcorp follows internal and local, state, and federal agency protocols for spill reporting and response to ensure potential impacts are minimized. Hilcorp also maintains a contract and close working relationship with Cook Inlet Spill Prevention & Response, Inc. (CISPRI) to ensure Hilcorp's internal spill response capabilities can be augmented timely and efficiently for the protection of people, the environment, and property. Proposed activities at

Revised: March 2013

	<p>Pearl Pad will not affect Cook Inlet or access to Cook Inlet recreation areas.</p> <p>Pearl Pad is not sited within the remaining buffer areas specified in this mitigation measure.</p>
<p>d. Impacts to identified wetlands must be minimized to the satisfaction of the director, in consultation with ADF&G and ADEC. The director will consider whether facilities are sited in the least sensitive areas. Further, all activities within wetlands require permission from the U.S. Army Corps of Engineers.</p>	<p>A.1.d. Mitigation measure satisfied: A wetlands study was conducted prior to site design and the project footprint has been located to avoid and minimize impacts to wetlands and other waters of the United States identified in the study. The 1.15-acre project will fill only 0.4802 acre of wetlands and impact approximately 120 linear feet of intermittent stream. The drainage corridor along the north end of the proposed expansion pad will be maintained to connect the wetland northeast of the proposed pad and the wetland on the west side of the pad. The U.S. Corps of Engineers is currently evaluating this project (POA-2017-276).</p>
<p>e. Exploration activities must be supported by air service, an existing road system or port facility, ice roads, or by off-road vehicles that do not cause significant damage to the vegetation or ground surface. Construction of temporary drill pads, airstrips, and roads may be allowed. Construction of permanent roads may be allowed upon approval by the director. Unrestricted surface travel may be permitted by the director and DMLW, if an emergency condition exists.</p>	<p>A.1.e. Mitigation measure satisfied: The project is accessible via the Sterling Highway. The drill pad will be built on Hilcorp-owned land.</p>
<p>f. With the exception of drill pads, airstrips, and roads permitted under A1e, exploration facilities must be consolidated, temporary, and must not be constructed of gravel. Use of abandoned gravel structures may be permitted on a case-by-case basis.</p>	<p>A.1.f. Mitigation measure satisfied: The proposed drill pad will be built on Hilcorp-owned land.</p>
<p>g. Pipelines must utilize existing transportation corridors and be buried where conditions permit. Pipelines and gravel pads must be designed to facilitate the containment and cleanup of spilled fluids. Pipelines, flowlines, and gathering lines must be designed and constructed to assure integrity against climatic conditions and geologic hazards.</p> <p>In areas with above ground placement, pipelines must be designed, sited, and constructed to allow for the free movement of wildlife. Where practicable, pipelines must be located on the upslope side of roadways and construction pads, unless DMLW determines that an alternative site is environmentally</p>	<p>A.1.g. Mitigation measure not applicable: This project does not include pipeline construction. The gravel pad will have an 18-inch-high containment berm around the pad perimeter.</p>

acceptable.	
h. Pipelines that must cross marine waters will be constructed beneath the marine waters using directional drilling techniques, unless the director, in consultation with ADF&G and the local borough and Coastal Resource Service Areas, approves an alternative method based on technical, environmental, and economic justification. Offshore pipelines must be located and constructed to prevent obstruction to marine navigation and fishing operations.	A.1.h. Mitigation measure not applicable: Project does not include pipeline construction across marine waters.
i. Gravel mining sites required for exploration and development activities will be restricted to the minimum necessary to develop the field efficiently and to minimize environmental damage. Gravel mine sites required for exploration activities must not be located within an active floodplain of a watercourse unless DMLW, after consultation with ADF&G, determines that there is no practicable alternative, or that a floodplain site would be compatible with fish and wildlife habitat after mining operations are completed and the site is closed.	A.1.i. Mitigation measure not applicable: Gravel required for pad and access road construction will be obtained from offsite, commercial sources.
2. Habitat, Fish, and Wildlife	
a. Detonation of explosives will be prohibited in open water areas of fish bearing streams and lakes. Explosives must not be detonated beneath, or in close proximity to, fish-bearing streams and lakes if the detonation of the explosive produces a pressure rise in the water body of greater than 2.7 pounds per-square-inch, or unless the water body, including its substrate, is solidly frozen. Detonation of explosives within or in close proximity to a fish spawning bed during the early stages of egg incubation must not produce a peak particle velocity greater than 0.5 inches per second. Blasting criteria have been developed by ADF&G and are available from ADF&G upon request. The location of known fish bearing waters within the project area can be obtained from ADF&G.	A.2.a. Mitigation measure not applicable: Explosives will not be detonated for this project.
b. Compaction or removal of snow cover overlying fish bearing water bodies is prohibited except for approved crossings. If ice thickness is not sufficient to facilitate a crossing, ice and/or snow bridges may be required.	A.2.b. Mitigation measure not applicable: No fish-bearing water bodies are in the project area.
c. Removal of water from fishbearing rivers, streams and natural lakes shall be subject to prior written approval by DMLW and ADF&G. Water intake pipes used to remove water from fish bearing waterbodies must be surrounded by a	A.2.c. Mitigation measure not applicable: Water use will be from ADNRR-permitted wells located on the Hilcorp-owned parcel or will be trucked in from

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<p>screened enclosure to prevent fish entrainment and impingement. Screen mesh size shall be no greater than 1 mm (0.04 inches), unless another size has been approved by ADF&G. The maximum water velocity at the surface of the screen enclosure may be no greater than 0.4 feet per second, unless an alternative velocity has been approved by ADF&G. Screen material must be corrosion resistant, and must be adequately supported to prevent excessive sagging which could result in unusable intake surface. The intake structure must be designed and installed to avoid excessive fouling from floating debris, and a minimum of eight square feet of effective wetted screen surface must be provided for each multiple of a 450-gallon per minute (one cubic foot per second) pumping rate. The pump intake opening must be placed equidistant from all effective wetted screen surfaces.</p>	<p>one or more additional ADNRP-permitted sources.</p>
<p>d. Surface entry will be prohibited in parcels that are within the Kenai River Special Management Area.</p> <p>Surface entry, other than access, will be prohibited on state lands within the Kenai National Wildlife refuge.</p> <p>Lessees are prohibited from placing drilling rigs and lease-related facilities and structures within an area near the Kenai River composed of: all land within Section 36 in T6N, R11W that is located south of a line drawn from the protracted NE corner to the protracted SW corner of the section; all land within the western half of Section 31 in T6N, R10W and Section 6 in T5N, R10W; and all land within Section 1 in T5N, R11W.</p>	<p>A.2.d. Mitigation measure not applicable: The project area is not within the Kenai River Special Management Area, the Kenai National Wildlife Refuge, or near the Kenai River.</p>
<p>e. Surface entry into the critical waterfowl habitat along the Kasilof River is prohibited. Directional drilling from adjacent sites may be allowed.</p>	<p>A.2.e. Mitigation measure not applicable: The project area is not near the Kasilof River.</p>
<p>f. Surface entry will be prohibited within one-quarter mile of trumpeter swan nesting sites between April 1 and August 31. The siting of permanent facilities, including roads, material sites, storage areas, powerlines, and above ground pipelines will be prohibited within one-quarter mile of known nesting sites. Trumpeter swan nesting sites will be identified by ADF&G at the request of the lessee.</p>	<p>A.2.f. Mitigation measure satisfied: There are no known trumpeter swan nesting sites in the area.</p>
<p>g. The director, in consultation with ADF&G, shall restrict or modify lease related activities if scientific evidence documents the presence of Steller's eiders from the Alaska breeding population in the lease area and it is</p>	<p>A.2.g. Mitigation measure satisfied: Steller's eiders are known to overwinter offshore from the pad location, on Cook Inlet waters. Proposed activities are onshore, landward of the bluff, and do not have high risk of hydrocarbon</p>

determined that oil and gas exploration and development will impact them or their over-wintering habitat in the near-shore waters of Cook Inlet.	releases to the inlet. Impacts to Steller's eider or other waterfowl species or their nearshore overwintering habitats are not anticipated.
h. The director, in consultation with ADF&G, may impose seasonal restrictions on activities located in and adjacent to important waterfowl and shorebird habitat during the plan of operations approval stage.	A.2.h. Mitigation measure not applicable: The Clam Gulch Critical Habitat Area (CGCHA) runs along the coastline adjacent to the bluff on which Ninilchik Unit pads and the proposed Pearl Pad are sited. All project activities will occur landward of the bluff and will not impact the CGCHA or other important waterfowl and shorebird habitat.
<p>Bears:</p> <p>i. Lessees are required to prepare and implement a human-bear interaction plan designed to minimize conflicts between bears and humans. The plan shall include measures to:</p> <ul style="list-style-type: none"> i. minimize attraction of bears to facility sites, including garbage and food waste; ii. organize layout of buildings and work areas to minimize interactions between humans and bears such as including the use of electric fencing; iii. warn personnel of bears near or on facilities and the proper actions to take; iv. if authorized, deter bears from the drill site; v. provide contingencies in the event bears do not leave the site; vi. provide for proper storage and disposal of materials that may be toxic to bears; and vii. document and communicate the sighting of bears onsite or in the immediate area to all shift employees. 	<p>A.2.i. Mitigation measure satisfied: Hilcorp has an Interaction and Avoidance Plan in place. Hilcorp policy is to require best management practices that minimize attractants to bears and other wildlife. EH&S training conducted for site workers will include training for wildlife interactions.</p> <p>A.2.i.i. Sections 2.0 and 10.0 of the Wildlife Interaction and Avoidance Plan describe food and waste management procedures that help eliminate the potential for bears to associate humans and facilities with food.</p> <p>A.2.i.ii. Facility operators will visually scan the pad for the presence of bears before getting out of their vehicle or exiting a structure.</p> <p>A.2.iii. Sections 1.4 and 10.0 of the Wildlife Interaction and Avoidance Plan describe notification procedures for bear sighting at or near a facility.</p> <p>A.2.iv. Section 10.2.1 of the Wildlife Interaction and Avoidance Plan describes bear deterrence activities for Hilcorp.</p> <p>A.2.v. Section 10.2 of the Wildlife Interaction and Avoidance Plan describes procedures for sighting communication and bear deterrence; if a bear is encountered at the site and the bear will not leave the site, work will cease until measures are taken for work to continue safely.</p> <p>A.2.i.vi. Storage and handling of materials will be such that materials are not left exposed to bears.</p> <p>A.2.i.vii. Sections 1.4 and 10.0 of the Wildlife Interaction and Avoidance Plan describe notification and documentation procedures for bear sightings at or near a facility.</p>
j. Before commencement of any activities, lessees shall consult with ADF&G to identify the locations of known bear den sites that are occupied in the season of	A.2.j. Mitigation measure satisfied: Hilcorp will contacted ADF&G and provide the project location to request available information regarding bear dens in the

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proposed activities. Exploration and development activities started between November 15 and March 31 may not be conducted within one-half mile of known occupied brown bear dens, unless alternative mitigation measures are approved by the ADF&G. A lessee who encounters an occupied den not previously identified by ADF&G must report it to the Division of Wildlife Conservation, ADF&G, within 24 hours. Mobile activities shall avoid such discovered occupied dens by one-half mile unless alternative mitigation measures are approved by DO&G with concurrence from ADF&G. Non-mobile facilities will not be required to be relocated.	vicinity of the project. If known bear dens are identified in the project area, Hilcorp will coordinate with ADF&G prior to proceeding with project activities. If project personnel encounter an occupied den, Hilcorp will contact ADF&G.
k. Recognizing the importance of sufficient vegetative cover and access by Kenai Peninsula brown bears feeding at streams, the director, in consultation with ADF&G, may require lessees to locate exploration and development facilities beyond the 500-foot buffer along anadromous streams during the plan of operations approval stage, except as provided in A1c.	A.2.k. Mitigation measure not applicable: The facility is not located within 500 feet of an anadromous stream.
Caribou: l. Surface entry within the core calving area of the Kenai Lowlands Caribou Herd is prohibited, except that surface entry for seismic exploration will be allowed from October 16 to March 31.	A.2.l. Mitigation measure not applicable: Project area is not located within the Kenai Lowlands Caribou Herd core calving area.
m. Exploration and development activities will be restricted or prohibited between April 1 and October 15 within the core summer habitat of the Kenai Lowlands Caribou Herd, except that maintenance and operation of production wells will be allowed year-round. Permanent roads, or facilities other than production wells, will also be restricted or prohibited within this area. Facilities within the core summer habitat of the Kenai Lowlands Caribou Herd that require year-round access must be located in forested areas, where practical.	A.2.m. Mitigation measure not applicable: Project area is not located within the Kenai Lowlands Caribou Herd core calving area.
n. Pipelines must be buried within the core summer habitat of the Kenai Lowlands Caribou Herd.	A.2.n. Mitigation measure not applicable: Project area is not located within the Kenai Lowlands Caribou Herd core calving area and no pipelines are proposed as part of this project.
o. The director, in consultation with ADF&G, may impose seasonal restrictions on activities located in, or requiring travel through or overflight of, important moose or caribou calving and wintering areas during the plan of operations approval stage.	A.2.o. Mitigation measure not applicable: Project area is not located within the Kenai Lowlands Caribou Herd core calving area.

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<p>Beluga Whales:</p> <p>p. No permanent or temporary oil and gas exploration or development may occur within High Value/High Sensitivity (Type 1) beluga whale habitat areas, unless it occurs on upland areas (above Mean Higher Water datum). Type 1 habitat areas include the following tracts: 320-334, 391-409, 410, 462, 464-475, 476-481, 483, 484, 485, 486, 493, 494, 497, 498, 522, 524-537, 538, 539, 540, 541, 542, 543, 544, 547-552, 559, 575-577, 579, 581, 582, 585, 586, 590, 593, 594, 598, 616-618, 620-623, 627, 655-658, and 662.</p>	<p>A.2.p. Mitigation measure not applicable: Project is not located within and has no impact on Cook Inlet beluga whale habitat, including type 1, 2 and 3 critical habitat areas.</p>
<p>q. The director will assess oil and gas-related activities within all High Value (Type 2) beluga whale habitat areas on a case-by-case basis. No permanent surface entry or structures are allowed, and temporary activities and structures, for example exploration drilling, will only be allowed between November 1 and April 1 of each year, unless it occurs on upland areas, within the following tracts: 021, 022, 126, 127, 129-132, 161, 162, 175, 177, 211, 218, 257, 301, 302, 373, 376, 377, and 384.</p>	<p>A.2.q. Mitigation measure not applicable: Project is not located within and has no impact on Cook Inlet beluga whale habitat, including type 1, 2 and 3 critical habitat areas.</p>
<p>r. The director will assess oil and gas-related activities within the remaining tracts (Type 3 habitat areas) on a case-by-case basis.</p>	<p>A.2.r. Mitigation measure not applicable: Project is not located within and has no impact on Cook Inlet beluga whale habitat, including type 1, 2 and 3 critical habitat areas.</p>
<p>3. Subsistence, and Other Fish and Wildlife Uses</p>	
<p>a. Lease-related use will be restricted when DO&G determines it is necessary to prevent unreasonable conflicts between lease-related activities and subsistence, and commercial, sport, personal use, and educational harvest activities. In enforcing this term DO&G, during review of plans of operation, will consult with other agencies, the affected local borough(s) and the public to identify and avoid potential conflicts. In order to avoid conflicts with subsistence, commercial, sport and educational harvest activities, restrictions may include alternative site selection, requiring directional drilling, seasonal drilling restrictions, and other technologies deemed appropriate by DO&G.</p>	<p>A.3.a. Mitigation measure satisfied: Project is located on private land, near existing gas production facilities, and will have no impact to subsistence and other fish and wildlife uses. The potential for restrictions is noted.</p>
<p>4. Fuel, Hazardous Substances, and Waste</p>	
<p>a. Secondary containment (see definitions) shall be provided for the storage of</p>	<p>A.4.a. Mitigation measure satisfied: All fuel and other hazardous substances will</p>

fuel or hazardous substances.	have impermeable secondary containment.
b. Containers with an aggregate storage capacity of greater than 55 gallons which contain fuel or hazardous substances shall not be stored within 100 feet of a waterbody, or within 1,500 feet of a current surface drinking water source.	A.4.b. Mitigation measure satisfied: No fuel, hazardous substances or waste will be stored within 100 feet of a water body or 1,500 feet of a current surface drinking water source.
c. During equipment storage or maintenance, the site shall be protected from leaking or dripping fuel and hazardous substances by the placement of drip pans or other surface liners designed to catch and hold fluids under the equipment, or by creating an area for storage or maintenance using an impermeable liner or other suitable containment mechanism.	A.4.c. Mitigation measure satisfied: Limited equipment maintenance may occur on pad and will be conducted above impermeable secondary containment.
d. During fuel or hazardous substance transfer, secondary containment or a surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends. Appropriate spill response equipment, sufficient to respond to a spill of up to 5 gallons, must be on hand during any transfer or handling of fuel or hazardous substances. Trained personnel shall attend transfer operations at all times.	A.4.d. Mitigation measure satisfied: Duck ponds or bermed liners will be placed beneath connections during fuel and other fluid transfers, and fluid transfer operations will be continuously monitored. During drilling operations, a spill response connex will be staged at the pad. During any fuel or other hazardous fluid transfers, spill response equipment to clean up a minimum of a 5-gallon spill will be kept with the vehicle used for the substance transfer.
e. Vehicle refueling shall not occur within the annual floodplain, except as addressed and approved in the plan of operations. This measure does not apply to water-borne vessels.	A.4.e. Mitigation measure satisfied: No vehicle fueling will be conducted within an annual floodplain.
f. All independent fuel and hazardous substance containers shall be marked with the contents and the lessee's or contractor's name using paint or a permanent label.	A.4.f. Mitigation measure satisfied: Fuel and hazardous substance containers will be marked as required.
g. A freshwater aquifer monitoring well, and quarterly water quality monitoring, may be required down gradient of a permanent above-ground liquid hydrocarbon storage facility.	A.4.g. Mitigation measure not applicable: Facility is not an above-ground liquid hydrocarbon storage facility.
h. Waste from operations must be reduced, reused, or recycled to the maximum extent practicable. Garbage and domestic combustibles must be incinerated or disposed of at an approved site in accordance with 18 AAC 60. (See also Section B2, below.)	A.4.h. Mitigation measure satisfied: Waste will be reduced, reused, or recycled whenever practicable. During construction and drilling activities, closed top dumpsters will be on site for food trash and household waste and will be hauled away from the site regularly to prevent overfilling. Garbage will be disposed of at the Kenai Peninsula Borough landfill. Oily waste will be segregated and sent to an offsite contractor for disposal.

i. New solid waste disposal sites will not be approved or located on state property during the exploratory phase. Exceptions may be provided for drilling waste if the facility will comply with the applicable provisions of 18 AAC 60.	A.4.i. Mitigation measure not applicable: A solid waste disposal site will not be constructed for this project.
j. Wherever practicable, the preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection. Other methods of disposal shall be allowed only upon approval by the director, in consultation with ADEC and ADF&G.	A.4.j. Mitigation measure satisfied: Mud and cuttings generated by activities will be hauled via vacuum truck or supersucker directly from the rig process tank to an offsite, permitted underground injection disposal facility. Hilcorp will request an ADEC Temporary Drilling Waste Storage plan authorization in the unlikely event drilling waste cannot be delivered directly for disposal.

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5. Access	
a. Public access to, or use of, the lease area may not be restricted except within the immediate vicinity of drill sites, buildings, and other related facilities. Areas of restricted access must be identified in the plan of operations. Lease facilities and operations shall not be located so as to block access to or along navigable or public waters as defined in AS 38.05.965.	A.5.a. Mitigation measure satisfied: Pearl Pad access will be restricted. No access to public waters is blocked.
6. Prehistoric, Historic, and Archaeological Sites	
a. Before the construction or placement of any gravel, or other structure, road, or facility resulting from exploration, development, or production activities, the lessee must conduct an inventory of prehistoric, historic, and archeological sites within the area affected by an activity. The inventory must include consideration of literature provided by the affected borough and local residents; documentation of oral history regarding prehistoric and historic uses of such sites; evidence of consultation with the Alaska Heritage Resources Survey and the National Register of Historic Places; and site surveys. The inventory must also include a detailed analysis of the effects that might result from the activity.	A.6.a. Mitigation measure satisfied: Hilcorp contracted Charles M. Mobley & Associates to conduct an archaeological field study of the proposed project area in October 2016. Mr. Mobley detailed his methods, findings, and determination of project impacts in <i>Cultural Resource Investigations for Hilcorp Alaska, LLC's Pearl Pad Project, Ninilchik, Alaska, 2017</i> . A copy of the report was provided to ADN's Office of History and Archaeology.
b. The inventory of prehistoric, historic, and archeological sites must be submitted to the director, and to DPOR Office of History and Archaeology, who will coordinate with the affected borough for review and comment. If a prehistoric, historic, or archeological site or area could be adversely affected by a lease activity, the director, after consultation with DPOR Office of History and Archaeology and the affected borough, will direct the lessee as to the course of action to take to avoid or minimize adverse effects.	A.6.b. Mitigation measure satisfied: See response to A.6.a.
c. If a site, structure, or object of prehistoric, historic, or archaeological significance is discovered during lease operations, the lessee must report the discovery to the director as soon as possible. The lessee must make reasonable efforts to preserve and protect the discovered site, structure, or object from damage until the director, after consultation with DPOR Office of History and Archaeology and the affected borough, has directed the lessee as to the course of action to take for its preservation.	A.6.c. Mitigation measure satisfied: EH&S training includes instruction to site workers to stop work if any archaeological/historic sites or artifacts are discovered. Discovery of archeological/historic sites or artifacts will be reported as soon as possible, as required, to the appropriate agencies.

7. Local Hire, Communication, and Training	
<p>a. Lessees are encouraged to employ local and Alaska residents and contractors, to the extent they are available and qualified, for work performed in the lease area. Lessees shall submit, as part of the plan of operations, a proposal detailing the means by which the lessee will comply with the measure. The proposal must include a description of the operator's plans for partnering with local communities to recruit, hire, and train local and Alaska residents and contractors. The lessee is encouraged, in formulating this proposal, to coordinate with employment and training services offered by the State of Alaska and local communities to train and recruit employees from local communities.</p>	<p>A.7.a. Mitigation measure satisfied: More than 89 percent of Hilcorp's workforce is comprised of Alaskan residents. Hilcorp works with local organizations, such as the Alaska Support Industry Alliance and the Kenai Peninsula Economic Development District, and local Chambers of Commerce to encourage growth in the local service sector. While not all contracted services are awarded to local/in-state providers, Hilcorp strives to do business locally whenever possible. To the extent they are available and qualified, locally based contractors will provide construction support for this and other projects.</p>
<p>b. A plan of operations application must describe the lessee's past and prospective efforts to communicate with local communities and interested local community groups.</p>	<p>A.7.b. Mitigation measure satisfied: Hilcorp is actively engaged with regulators and stakeholders on all activities within the state. Hilcorp community outreach to date has included presentations to the Kenai Chamber of Commerce, the Alaska Support Industry Alliance, the Anchorage Chamber of Commerce, Cook Inlet Regional Citizens Advisory Council, and the Kenai Peninsula Economic Development District.</p> <p>Hilcorp's External Affairs team ensures that Hilcorp remains in open communication with stakeholders, regulators and the general public in Alaska. Hilcorp will continue to keep stakeholders informed of planned activities through a variety of channels, such as bulk mailings, posting targeted informational flyers in local information repositories (e.g., post offices), and evaluating projects on a case-by-case basis to hold public meetings.</p>
<p>c. A plan of operations application must include a training program for all personnel including contractors and subcontractors. The program must be designed to inform each person working on the project of environmental, social, and cultural concerns that relate to that person's job. The program must use methods to ensure that personnel understand and use techniques necessary to preserve geological, archeological, and biological resources. In addition, the program must be designed to help personnel increase their sensitivity and understanding of community values, customs, and lifestyles in areas where they will be operating.</p>	<p>A.7.c. Mitigation measure satisfied: Company and contract personnel will participate in project kickoff meetings that will include discussion of environmental, social, cultural, and community impacts, as well as impact mitigation practices that must be followed.</p>
8. Definitions	
<u>Facilities</u> means any structure, equipment, or improvement to the surface,	

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whether temporary or permanent, including, but not limited to, roads, pads, pits, pipelines, power lines, generators, utilities, airstrips, wells, compressors, drill rigs, camps and buildings.

Hazardous substance means: (A) an element or compound that, when it enters into or on the surface or subsurface land or water of the state, presents an imminent and substantial danger to the public health or welfare, or to fish, animals, vegetation, or any part of the natural habitat in which fish, animals, or wildlife may be found; or (B) a substance defined as a hazardous substance under 42 U.S.C. 9601 - 9657 (Comprehensive Environmental Response, Compensation, and Liability Act of 1980); "hazardous substance" does not include uncontaminated crude oil or uncontaminated refined oil; (AS 46.09.900).

Identified wetlands are those areas that have been identified as wetlands by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.¹

Minimize means to reduce adverse impacts to the smallest amount, extent, duration, size, or degree reasonable in light of the environmental, social, or economic costs of further reduction.

Plan of operations means a lease Plan of operations under 11 AAC 83.158 and a unit Plan of operations under 11 AAC 83.346.

Practicable means feasible in light of overall project purposes after considering cost, existing technology, and logistics of compliance with the standard.

Secondary containment means an impermeable diked area or portable impermeable containment structure capable of containing 110 percent of the volume of the largest independent container. Double walled tanks do not qualify as Secondary Containment unless an exception is granted for a particular tank.

Temporary means no more than 12 months.

¹ Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (40 CFR Parts 122.2, 230.3, and 232.2).

Other Agency Permits Required

Appendix C: Other Agency Permits:

Agency	Permit Type	Permit Number	Application Status	Projected Use Requirement(s)
ADEC/AIR	MG1 Minor Air Permit (POGO)	TBD	In process	Air quality, drill rig
ADNR/ADLW	Temporary Water Use Authorization	TWUA A2017-124	Received	Water withdrawal/use
AOGCC	Permit to Drill	TBD	In process	Permit to drill
USACE	Section 404/NWP 39	POA2017-00276	In process	Fill placement in waters of the U.S.
Enter Agency.	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).
Enter Agency.	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).