UNIT PLAN OF OPERATIONS 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:

Name: Hilcorp Alaska, LLC

Mailing Address: 3800 Centerpoint Drive, Suite 1400

City: Anchorage

State: Alaska Zip Code: 99503

Phone: 907-564-4665 Fax: N/A

Email: stetson.sannes@hilcorp.com

2. Applicant Contact:

First Name: Stetson Last Name: Sannes

Title: Environmental Specialist, Alaska Permitting

Is the Mailing Address the same as Applicant's Mailing Address? If "No", please provide information below: ☒ Yes

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.

3. Unit Name Pretty Creek Unit

4. Unit Operator Contact:

Is The Unit Operator Contact the same as the Applicant Contact? If "No", please provide information below: ☒ Yes

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:

Click here to enter text.

SECTION II: THIRD PARTY INFORMATION

(Fill out this section only if you are applying for the Applicant)

Third Party Company Name: Enter 3rd Party Company Name.

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:

Describe your affiliation to the Applicant.

SECTION III: APPLICATION DATE AND NUMBER

(FOR OFFICE USE ONLY)

Application Date:

Application Number:

SECTION IV: PROJECT INFORMATION

1. Project Name:	Diamond Pad Project
2. Proposed Start Date:	4/1/2025

3. Project Description:

Is activity discussed in the approved Plan of Development on file with the Division's Units Section? ☒ Yes ☐ No

Describe what and where:

Hilcorp Alaska, LLC (Hilcorp) is proposing to construct a new gravel pad, road, pipeline, pig launching pad, and operational facilities on state owned land approximately 9 miles west of Beluga, Alaska within the Matanuska-Susitna Borough. This project is called the Diamond Pad Project. It will include a new 425 x 400-foot gravel pad, a 40 x 832-foot-long access drive connecting to the local Beluga Road, an overburden materials berm, and a 40 x 60-foot pig launching pad. Additionally, Hilcorp would also install a 1,232-feet long 6-inch buried pipeline adjacent to the pad that ties into existing infrastructure, and drill up to 5 wells starting in September 2025. This project will support existing natural gas development happening in the area.

SECTION V: LAND STATUS

1. State Mineral Estate:

Are supplemental pages for land status included in Appendix C? ☐ Yes ☒ No

Affected ADL: 58810 Date Effective: 12/1/1972 Date Assigned: 1/1/2012

Oil And Gas Lessee(s): Hilcorp Alaska, LLC

Surface Ownership: State of Alaska

Do you have, or anticipate having an Access Agreement: ☒ Yes ☐ No

Special Use Lands: Susitna Flats Game Refuge

Jointly Managed Lands: Alaska Department of Fish and Game

Other Considerations: N/A

Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Vegetation Clearing and Grubbing	14N 9W 27, Seward Meridian	61.27808N, -150.87938W
Gravel, Facilities, and Pipeline Install	14N 9W 27, Seward Meridian	61.27808N, -150.87938W
Drilling Activities	14N 9W 27, Seward Meridian	61.27808N, -150.87938W

Affected ADL: Enter ADL. Date Effective: Enter Date. Date Assigned: Enter Date.

Oil And Gas Lessee(s): Click here to enter text.

Surface Ownership: Click here to enter text.

Do you have, or anticipate having an Access Agreement: ☐ Yes ☐ No

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.

Affected ADL: Enter ADL. Date Effective: Enter Date. Date Assigned: Enter Date.

Oil And Gas Lessee(s): Click here to enter text.

Surface Ownership: Click here to enter text.

Do you have, or anticipate having an Access Agreement: ☐ Yes ☐ No

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.
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Click here to enter text.	Click here to enter text.	Click here to enter text.

Affected ADL: Enter ADL. Date Effective: Enter Date. Date Assigned: Enter Date.

Oil And Gas Lessee(s): Click here to enter text.

Surface Ownership: Click here to enter text.

Do you have, or anticipate having an Access Agreement: ☐ Yes ☐ No

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.
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Click here to enter text.	Click here to enter text.	Click here to enter text.

Affected ADL: Enter ADL. Date Effective: Enter Date. Date Assigned: Enter Date.

Oil And Gas Lessee(s): Click here to enter text.

Surface Ownership: Click here to enter text.

Do you have, or anticipate having an Access Agreement: ☐ Yes ☐ No

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.

2. State of Alaska Surface Lands:

Are supplemental pages for land status included in Appendix C? ☐ Yes ☒ 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
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Click here to enter text.	Click here to enter text.	Click here to enter text.

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
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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? ☐ Yes ☒ 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
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.

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
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.

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
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.

SECTION VI: BOND INFORMATION

Bonded Company: Hilcorp Alaska, LLC
Type: Enter Bond Type. Number: Enter Bond Number. Amount: Enter Bond Amount.

Bonding Company: The bonding requirement is satisfied through Hilcorp's existing Financial Assurance Agreement with ADNR

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.

SECTION VII: SEQUENCE AND SCHEDULE OF OPERATIONS

Project Milestone #	Project Milestone	Proposed Start Date	Proposed End Date
1.	Vegetation clearing and grubbing of Project Area	4/1/2025	4/30/2025
2.	Install pad and road	5/1/2025	5/31/2025
3.	Install pipeline and operationals facilities	6/1/2025	8/31/2025
4.	Install cellars and conductors, mobilize drilling equipment, begin drilling	9/1/2025	9/1/2025
5.	Drilling operations complete	12/31/2025	12/31/2025
6.	Enter Milestone.	Enter Date.	Enter Date.
7.	Enter Milestone.	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 VIII: PROJECTED USE REQUIREMENTS

1. Describe the proposed operations, including the location and design, of **Well Sites**:

A 400 x 425- foot wide gravel pad will be constructed at the end of the gravel access road discussed above to support the drilling of up to 5 natural gas wells. Additionally, Hilcorp would like to install a 40 x 60-foot pigging area, create an overburden material berm, trench a 6-inch pipeline adjacent to the pad and road, and drill 1 freshwater well. The pipeline would tie into existing infrastructure The purpose of this pad is to support the ongoing development of natural gas resources in the area. See attached figures for more information.

2. Describe the proposed operations, including the location and design, of **Buildings**:

A generator building and electrical building are scheduled for construction in the summer of 2025 once gravel placement is complete. Installation for these buildings will occur on the Diamond Pad.

3. Describe the proposed operations, including the location and design, of **Fuel and Hazardous Substances**:

Fuel storage and other hazardous material storage containers will have secondary containment in accordance with applicable regulatory requirements. Vehicles will refuel offsite to the greatest extent possible. Any fueling needs onsite will be limited and temporary, with ADEC standard refueling practices followed. Onsite fueling will occur from a slip tank located on the back of a crew cab truck. Appropriate spill response equipment will be available within the project area.

4. Describe the proposed operations, including the location and design, of **Solid Waste Sites**:

This project does not include installing a solid waste facility. Waste will be handled consistent with Hilcorp waste management practices as follows: 1) Waste will be properly segregated and containers labeled to ensure proper disposal. 2) Closed top dumpsters will be onsite for household-type wastes; these will be emptied regularly and trash will be taken to the Kenai Peninsula Borough Landfill for disposal. 3) Oily waste will be segregated and sent to a specialty waste contractor for offsite disposal.

5. Describe the proposed operations, including the location and design, of **Water Supplies**:

Water used at this location will be withdrawn from a nearby water source authorized by the Alaska Department of Natural Resources.

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

Electrical cables will be trenched with the natural gas pipeline to provide power for outlets and lights. Transformers, switches, panels and communication devices will be stored in the Electrical Building.

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

Materials required for project construction will be brought to the Project Area from a previously permitted source using existing roads.

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

A 40 x 832-foot long gravel access road will be constructed as a part of this project to connect the gravel pad to the existing gravel road infrastructure of the area. The road will have a top width of 24 feet and 2:1 side slopes. The road will also have geofabric laid down prior to gravel placement to support local hydrology.

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

N/A

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

An air compressor, air dryer, pad dehydration skid, compressor skids, produced water tank, and communications tower will be installed on the Diamond Pad during the summer of 2025.

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

Are supplemental pages for land status included in Appendix C? ☐ Yes ☒ No

Agency	Permit Type	Permit Number	Application Status	Projected Use Requirement(s)
USACE	Nationwide Permit #12	N/A	N/A	1, 10
USACE	Nationwide Permit #14	TBD	Submitted	1,8
ADNR-OHA	Cultural Resource Coordination	2024-94	Approved	1, 2, 3, 4, 5, 6, 7, 8, 10
ADF&G	Special Area Use Permit	TBD	Submitted	1, 2, 3, 4, 5, 6, 7, 8, 10
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).
Enter Agency.	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).
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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).

SECTION IX: REHABILITATION PLAN

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

The proposed project includes a gravel pad and road to support existing natural gas development in the area. At the end of field life, Hilcorp would fully dismantle, remove, and restore all temporary and permanent facilities and equipment unless the State of Alaska determines that such removal and rehabilitation is not in the State's interest.

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

No restoration or rehabilitation activities are planned for this project beyond the removal of project facilities. Once the project is complete, natural revegetation of the area is expected.

SECTION X: 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:	It is not anticipated that this project will result in any barriers to wildlife access or movement other than the physical presence of project infrastructure.There are no known fish bearing waters in the project area. A desktop analysis for endangered species was performed; no species are believed to be present in the project area.
Historic and Archeological Sites:	There are no known historical sites or properties that fall within the proposed project area; after a full pedestrian survey of the area, an outcome of No Historic Properties Affected is recommended.
Public Use Areas:	N/A
Other Uses:	N/A

SECTION XI: GLOSSARY OF TERMS

Term #	Term	Term Definition
1	ADEC	Alaska Department of Environmental Conservation
2	ADF&G	Alaska Department of Fish and Game
3	ADNR-OHA	Alaska Department of Natural Resources – Office of History and Archaeology
4	TBD	To Be Determined
5	USACE	United States Army Corps of Engineers
6	N/A	Not Applicable
7	Enter Term.	Enter Term Definition.
8	Enter Term.	Enter Term Definition.
9	Enter Term.	Enter Term Definition.
10	Enter Term.	Enter Term Definition.

SECTION XII: CONFIDENTIALITY

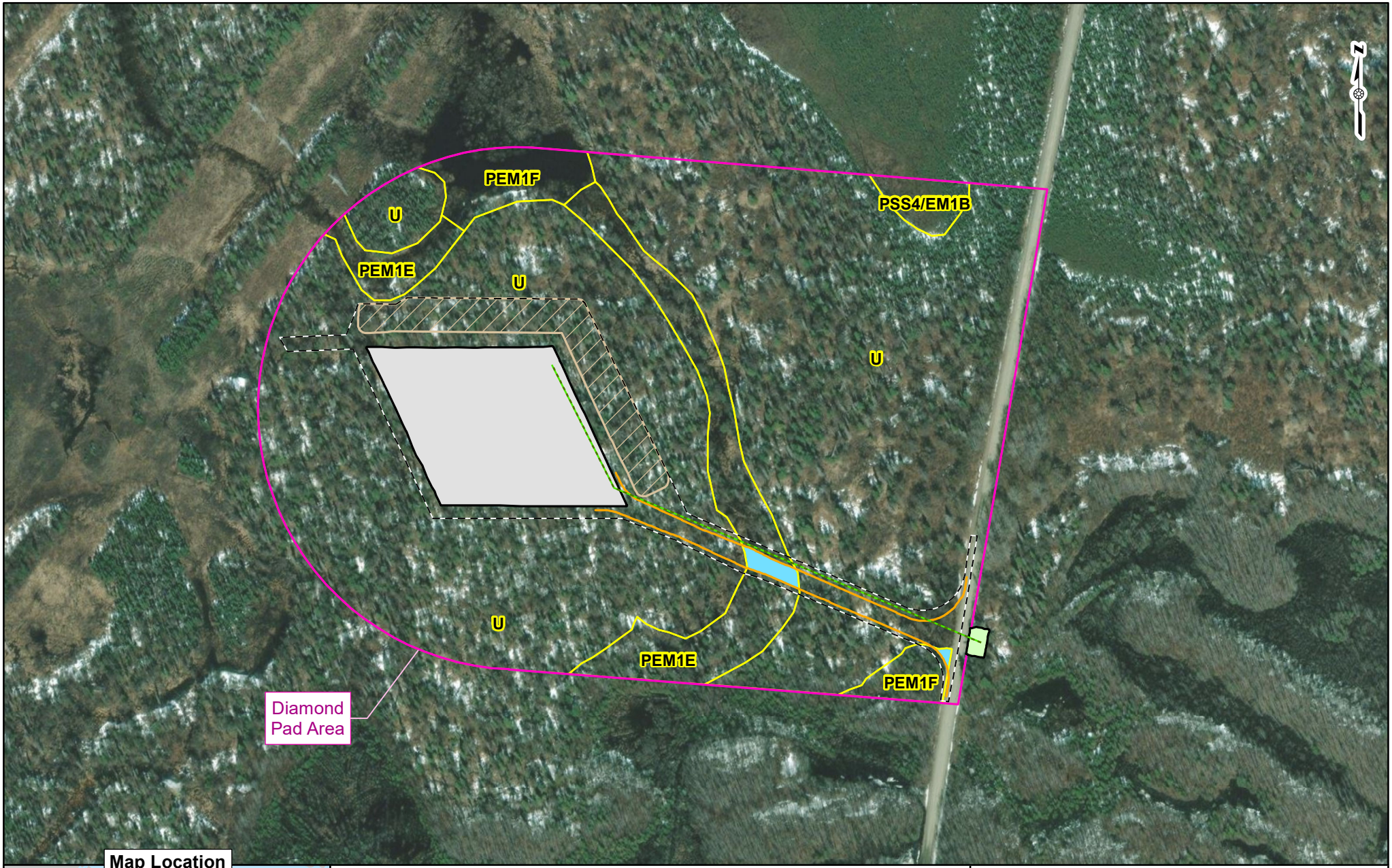
The undersigned hereby requests that each page/section of this application marked confidential be held confidential under AS 38.05.035(a)(8).

APPLICANT CONTACT:

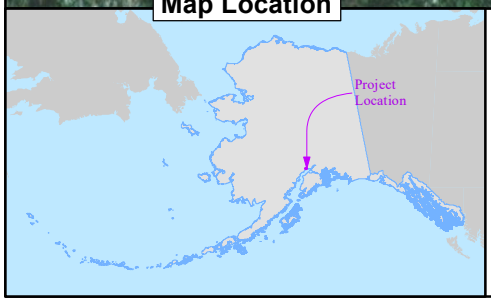
Sign here:	Stetson Sannes	Environmental Specialist, Alaska Permitting	3/10/2025
Signature	Name	Title	Date

APPENDIX A: MAPS

See attached



Map Location



- Project Area
- Wetland
- Impacted Wetland
- Disturbance Area
- Proposed Pipeline
- Proposed Pad (425' x 400')
- Pig Launcher (40' x 60')
- Overburden Stack
- Access Road (40' wide)

ASRC CONSULTING & ENVIRONMENTAL
AN ASRC ENERGY COMPANY

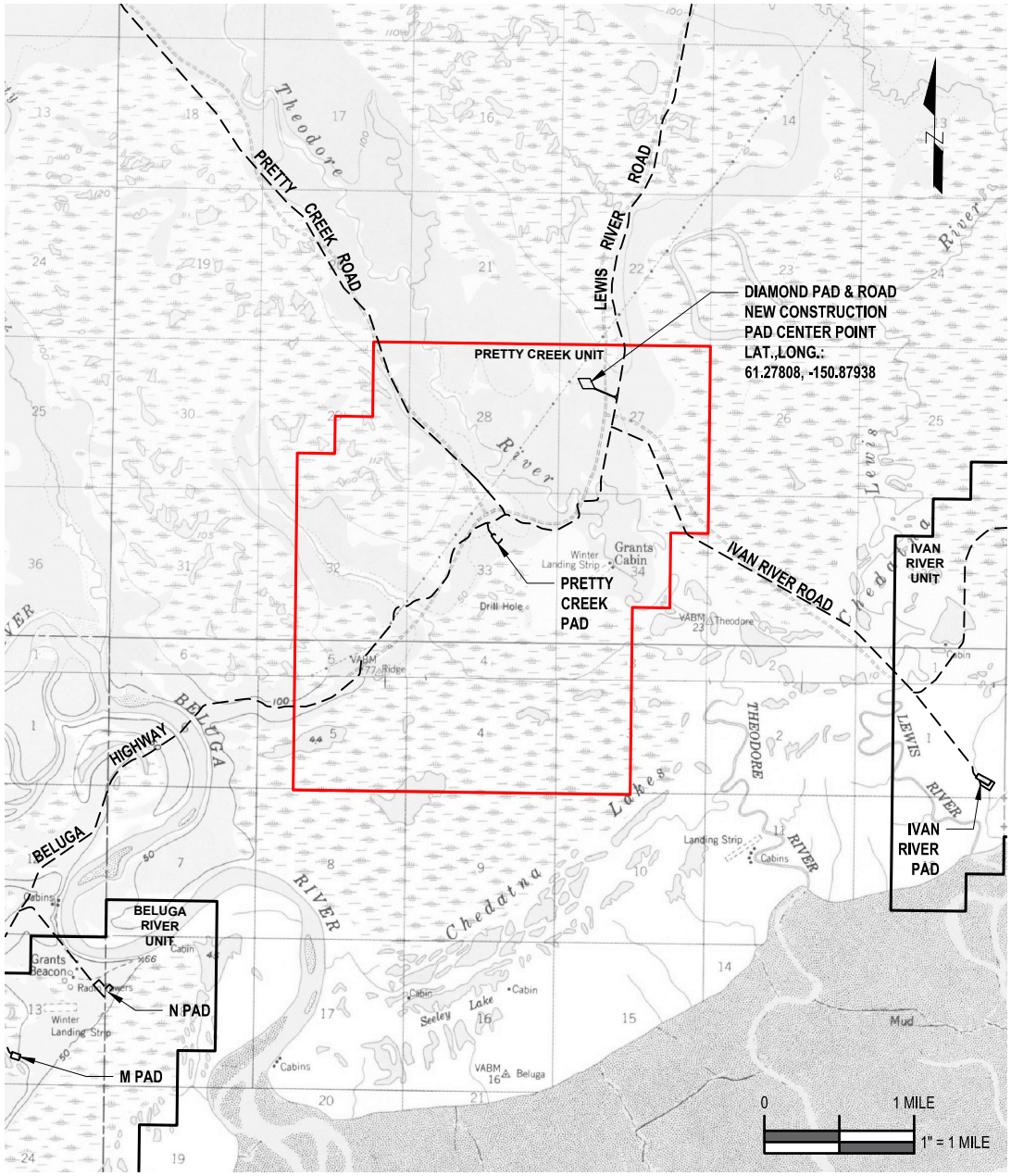
SITE OVERVIEW
Hilcorp Pretty Creek Regulatory Support
Nationwide Permit 14 Application

SCALE: 0 100 200 300 Feet

FIGURE: 1

Coordinate System: NAD 1983 StatePlane Alaska 4 FIPS 5004 Feet

AES-RTS: 24-252-002, 3/5/2025



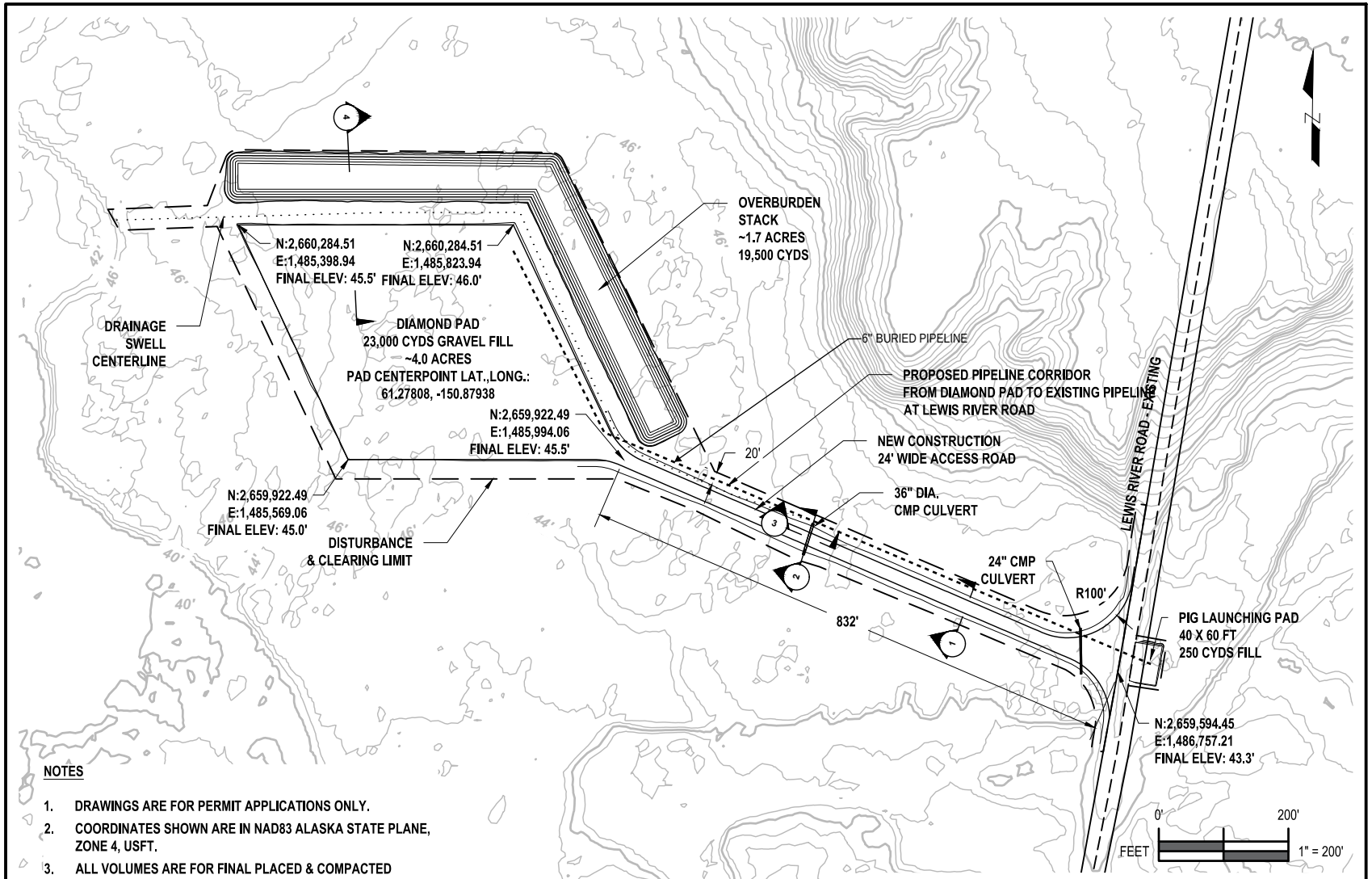
PRETTY CREEK UNIT DIAMOND PAD & ACCESS ROAD PERMIT FIGURES

SHEET INDEX:

PRETTY CREEK UNIT
DIAMOND PAD & ROAD
PERMIT FIGURES
LOCATION MAP

APPLICANT:
HILCORP ALASKA, LLC
ANCHORAGE, AK 99503
3800 CENTERPOINT DR., STE. 1400

DATE 02/17/25
PLOT SIZE 8.5" x 11"
PERMIT NO.
SHEET 1 OF 6



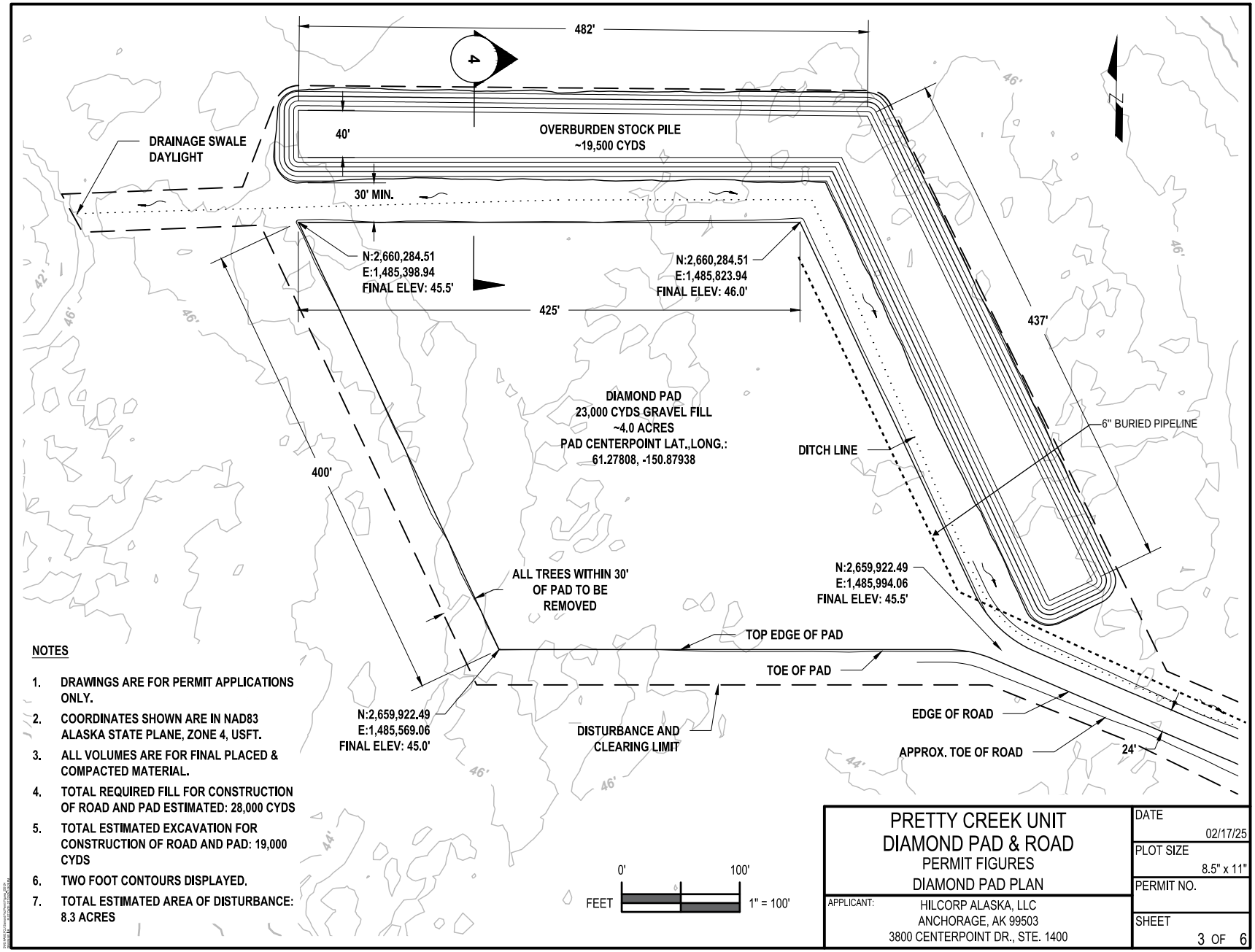
NOTES

1. DRAWINGS ARE FOR PERMIT APPLICATIONS ONLY.
2. COORDINATES SHOWN ARE IN NAD83 ALASKA STATE PLANE, ZONE 4, USFT.
3. ALL VOLUMES ARE FOR FINAL PLACED & COMPACTED MATERIAL.
4. TOTAL REQUIRED FILL FOR CONSTRUCTION OF ROAD AND PAD ESTIMATED: 28,000 CYDS
5. TOTAL ESTIMATED EXCAVATION FOR CONSTRUCTION OF ROAD AND PAD: 19,000 CYDS
6. TWO FOOT CONTOURS DISPLAYED.
7. TOTAL ESTIMATED AREA OF DISTURBANCE: 8.3 ACRES

PRETTY CREEK UNIT
DIAMOND PAD & ROAD
PERMIT FIGURES
A PAD & ROAD PLAN

APPLICANT: HILCORP ALASKA, LLC
ANCHORAGE, AK 99503
3800 CENTERPOINT DR., STE. 1400

DATE	02/17/25
PLOT SIZE	8.5" x 11"
PERMIT NO.	
SHEET	2 OF 6



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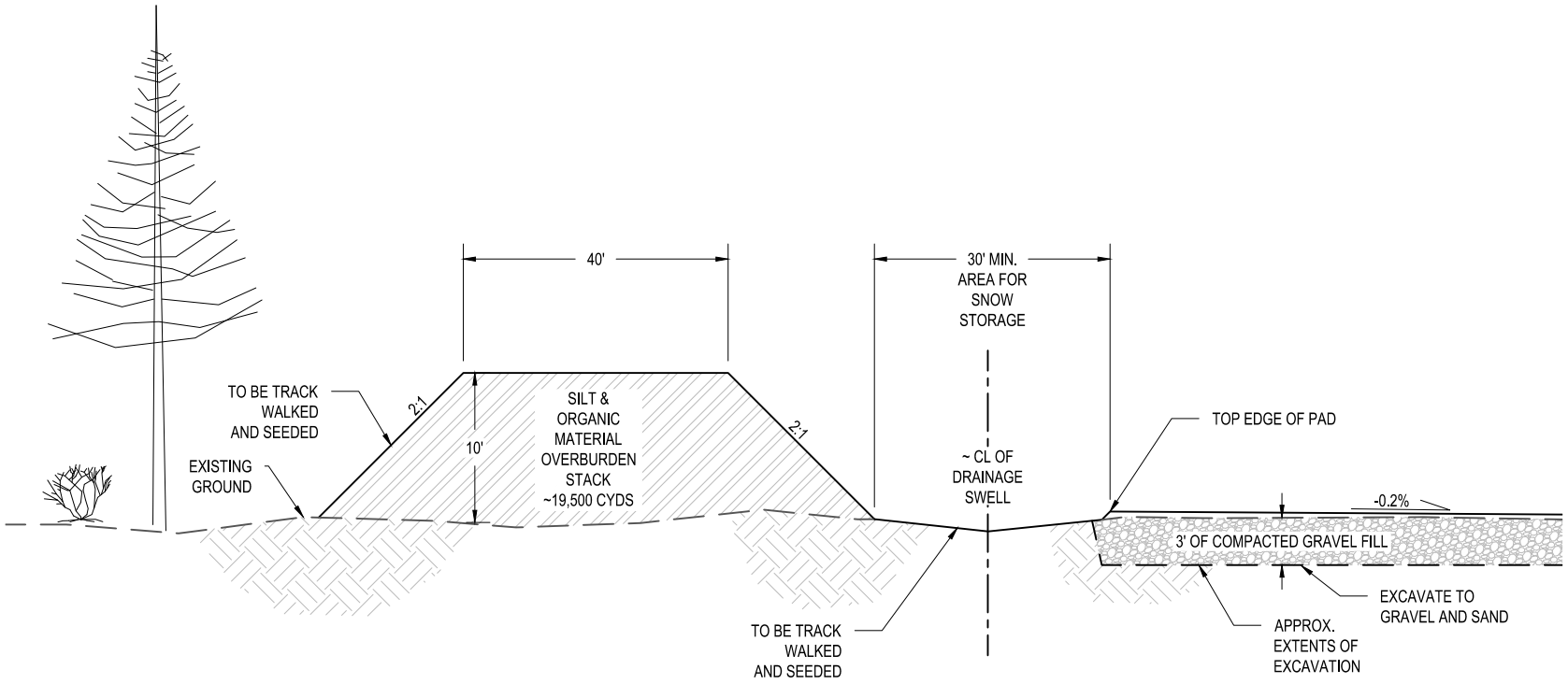
6. TWO FOOT CONTOURS DISPLAYED.
7. TOTAL ESTIMATED AREA OF DISTURBANCE: 8.3 ACRES

PRETTY CREEK UNIT
DIAMOND PAD & ROAD
PERMIT FIGURES
DIAMOND PAD PLAN

APPLICANT: HILCORP ALASKA, LLC
ANCHORAGE, AK 99503
3800 CENTERPOINT DR., STE. 1400

DATE	02/17/25
PLOT SIZE	8.5" x 11"
PERMIT NO.	
SHEET	3 OF 6

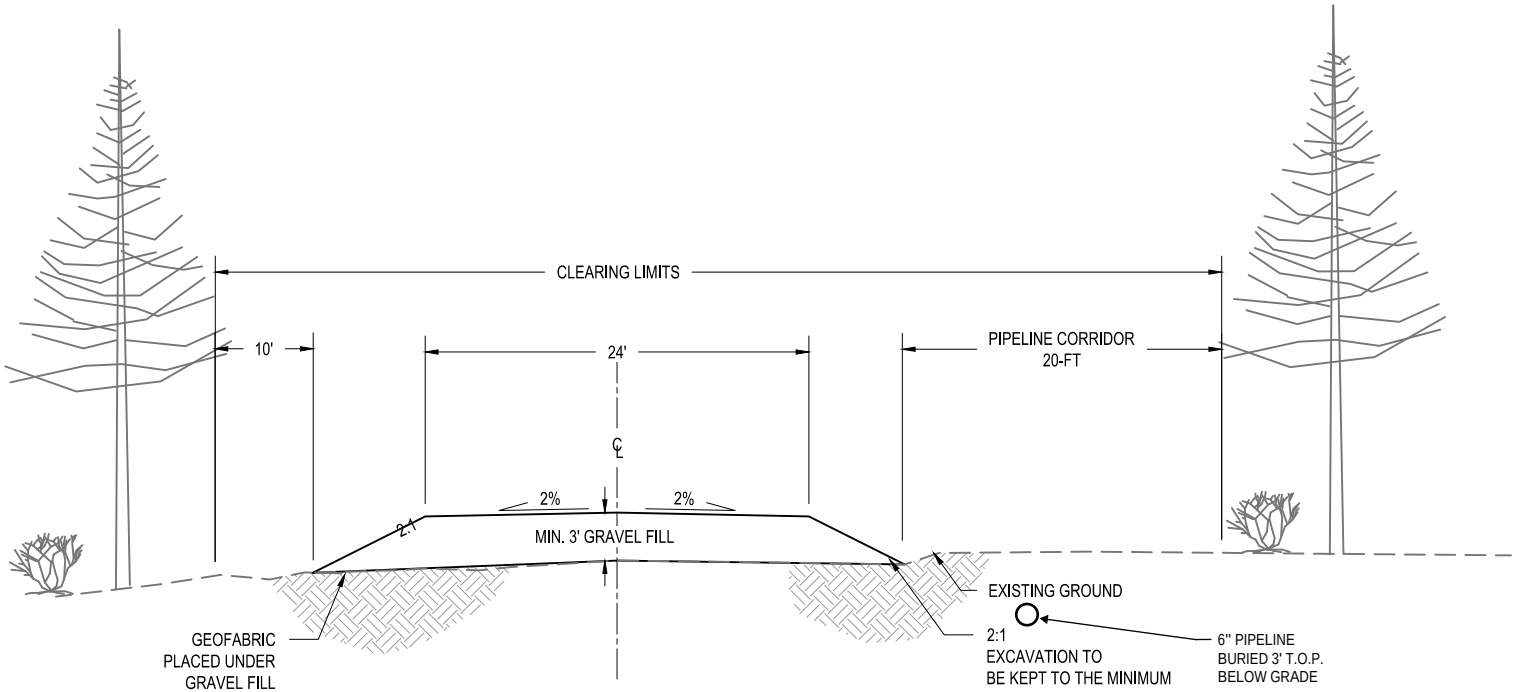


4 PAD & OVERBURDEN STACK FOR FURTURE SITE RECLAIMATION
NTS

NOTES

1. DRAWINGS ARE FOR PERMIT APPLICATIONS ONLY.

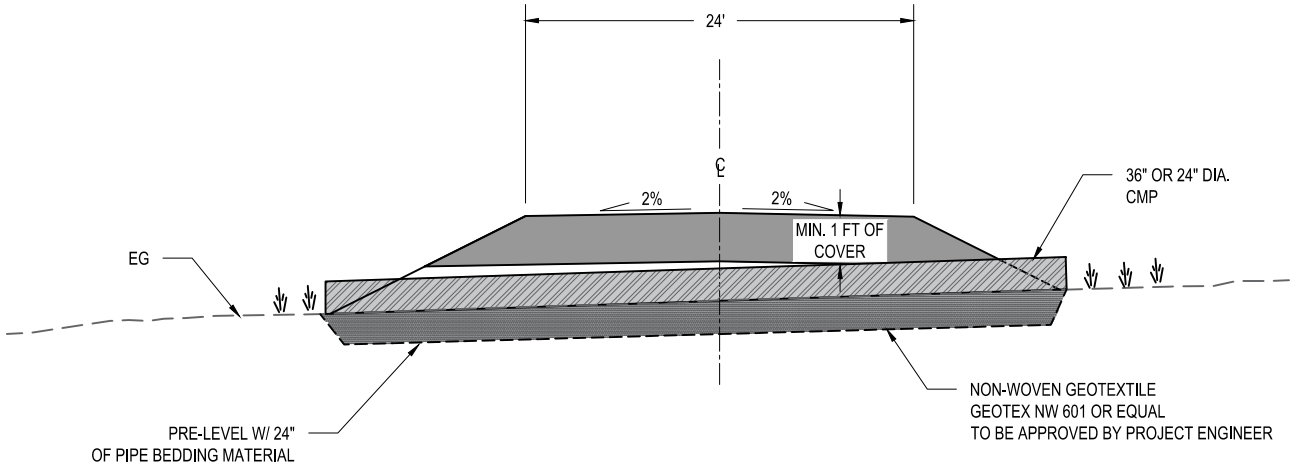
PRETTY CREEK UNIT DIAMOND PAD & ROAD PERMIT FIGURES PAD TYPICAL	DATE 02/17/25 PLOT SIZE 8.5" x 11" PERMIT NO.
APPLICANT: HILCORP ALASKA, LLC ANCHORAGE, AK 99503 3800 CENTERPOINT DR., STE. 1400	SHEET 4 OF 6



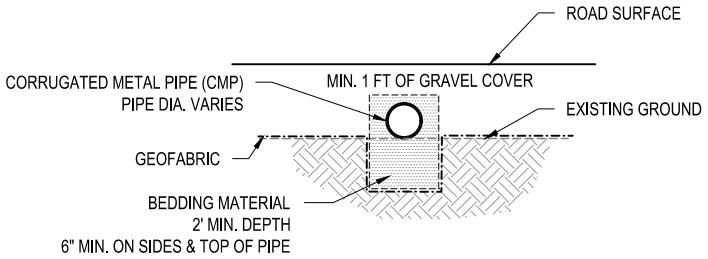
1 ROAD TYPICAL
NTS

NOTES

PRETTY CREEK UNIT DIAMOND PAD & ROAD PERMIT FIGURES ROAD TYPICALS	DATE 02/17/25 PLOT SIZE 8.5" x 11" PERMIT NO.
APPLICANT: HILCORP ALASKA, LLC ANCHORAGE, AK 99503 3800 CENTERPOINT DR., STE. 1400	SHEET 5 OF 6



2 CULVERT TYPICAL
NTS



3 TYPICAL CROSS SECTION CULVERT
NTS

NOTES

1. DRAWINGS ARE FOR PERMIT APPLICATIONS ONLY.

PRETTY CREEK UNIT
DIAMOND PAD & ROAD
PERMIT FIGURES
CULVERT TYPICALS

APPLICANT: HILCORP ALASKA, LLC
ANCHORAGE, AK 99503
3800 CENTERPOINT DR., STE. 1400

DATE 02/17/25
PLOT SIZE 8.5" x 11"
PERMIT NO.
SHEET 6 OF 6

APPENDIX B: MITIGATION MEASURES

See attached

Alaska Department of Natural Resources
Division of Oil & Gas
550 W 7th Ave. Suite 1100
Anchorage, Alaska 99501

Revised: November 2018

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**, an **exception 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.

Cook Inlet **A. Mitigation Measures**	**Company Response**
1. Facilities and Operations	
a. Oil and gas facilities, including pipelines, will be designed using industry-accepted engineering codes and standards. Technical submittals to the Division of Oil and Gas (DOG) that reflect the "practice of engineering," as defined by AS 08.48.341, must be sealed by a professional engineer registered in the State of Alaska.	A.1.a. Satisfied. The proposed project will be designed using industry-accepted engineering codes and standards.
b. A plan of operations will be submitted and approved before conducting exploration, development, or production activities in accordance with 11 AAC 83.	A.1.b. Satisfied A Unit Plan of Operations approval will be obtained prior to construction.
c. Facilities will be designed and operated to minimize sight and sound impacts in areas of high residential, recreational, and subsistence use and important wildlife habitat.	A.1.c. Satisfied The proposed project is not in an area of high residential or recreational use. There will be an increase in noise during construction and drilling activities, but this will be temporary. The project is expected to have minimum to no impact to wildlife habitat.
d. The siting of facilities, including roads, airstrips, and pipelines, is prohibited within one-half mile of the coast as measured from the mean high water mark and 500 feet of all fish bearing water bodies.	A.1.d. Satisfied, no proposed work will occur within 1/2 mile of the coast nor within 500 feet of fish bearing waters.
e. Notwithstanding (d) above, the siting of facilities is prohibited within one-half mile of the banks 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 as measured from the ordinary high water mark. Facilities may be sited, on a case-by-case	A.1.e. Satisfied, the closest water body, the Theodore River is approximately 0.75 miles from the Project Area.

basis, within the one-half mile buffer for the creeks and rivers identified here in A.1.e. if the lessee demonstrates that siting of such facilities outside this buffer zone is not feasible or prudent, or that a location within the buffer is environmentally preferable.	
f. Impacts to important wetlands will be minimized to the satisfaction of the director, in consultation with Alaska Department of Fish and Game (ADF&G) and Alaska Department of Environmental Conservation (ADEC). The director will consider whether facilities are sited in the least sensitive areas.	A.1.f. Satisfied,a desktop analysis of area wetlands was performed and found the area to have a mix of palustrine emergent and scrub-shrub wetlands. A Nationwide Permit from the Army Corps of Engineers will be submitted and approved before the project will begin. The project was designed to minimize impacts to wetlands to the best extent practicable. See Appendix C for more information
g. Exploration roads, pads, and airstrips will be temporary. Use of gravel roads, pads, and airstrips may be permitted on a case-by-case basis by the director, in consultation with Division of Mining, Land, and Water (DMLW) and ADF&G.	A.1.g. Exception Requested. The proposed project includes a gravel pad and road to support existing natural gas development in the area. At the end of field life, in accordance with stipulations included in Hilcorp's existing O&G leases/land use permits, Hilcorp would fully dismantle, remove, and restore all temporary and permanent facilities unless the State of Alaska determines that such removal and rehabilitation is not in the State's interest.
h. Road and pipeline crossings will be aligned perpendicular or near perpendicular to watercourses.	A.1.h. Satisfied The proposed project is aligned perpendicular to wetland drainages
i. Pipelines i. Will use existing transportation corridors and be buried where soil and geophysical conditions permit. ii. In areas with above ground placement, pipelines must be designed, sited, and constructed to allowfor the free movement of wildlife and to avoid significant alteration of large ungulate movement and migration patterns. iii. Where practicable, pipelines must be located on the upslope side of roadways and construction pads, unless it is determined that an alternative site is environmentally acceptable. iv. Pipelines and gravel pads will facilitate the containment and cleanup of spilled fluids.	A.1.i. Satisfied, see below text A.1.i.i. Satisfied, pipelines will be buried alongside transportation corridors A.1.i.ii. Not Applicable, pipelines will be buried underground A.1.i.iii. Satisfied, the pipeline will be trenched upslope of the project infrastructure A.1.i.iv. Satisfied, all project components are designed following regulation standards

v. 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, 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.i.v. Not Applicable, pipelines will not cross marine waters nor will they run offshore
j. Causeways, docks, artificial gravel islands, and bottom founded structures will not be located in river mouths, estuaries, or active river deltas, except as provided for in (k) below.	A.1.j. Not Applicable, the proposed project does not require any causeways, docks, artificial gravel islands, or bottom founded structures
k. Each proposed structure will be reviewed on a case-by-case basis. Causeways, docks, artificial gravel islands and bottom founded structures may be permitted if the director, in consultation with ADF&G and ADEC, determines that a causeway or other structures are necessary for field development and that no practicable alternatives exist. Approved causeways will be designed, sited, and constructed to minimize significant changes to nearshore oceanographic circulation patterns and water quality characteristics (e.g., salinity, temperature, suspended sediments) that result in exceedances of water quality criteria, and must maintain free passage of marine and anadromous fish and marine mammals A monitoring program may be required to address the objectives of water quality and free passage of fish and marine mammals, and mitigation will be required where significant deviation from objectives occurs.	A.1.k. Not Applicable, the proposed project does not require any causeways, docks, artificial gravel islands, or bottom founded structures
l. Upon abandonment of material sites, drilling sites, roads, pipelines, buildings or other facilities, such facilities must be removed and the site rehabilitated to the satisfaction of the director, unless the director, in consultation with any non-state surface owner, as applicable, determines that such removal and rehabilitation is not in the state's interest.	A.1.l. Satisfied At the end of field life, in accordance with stipulations included in Hilcorp's existing O&G leases/land use permits, Hilcorp would fully dismantle, remove, and restore all temporary and permanent facilities unless the State of Alaska determines that such removal and rehabilitation is not in the State's interest.
m. Material sites required for exploration and development activities will be: i. restricted to the minimum necessary to develop the field efficiently	A.1.m. Not Applicable, The proposed project does not require new material sites. A.1.m.i. Not Applicable, The proposed project does not require new material sites.

and with minimal environmental damage, ii. where practicable, designed and constructed to function as water reservoirs for future use, and iii. located outside active floodplains of a watercourse unless the director of DMLW, after consultation with ADF&G, determines that there is no practicable alternative, or that a floodplain site would enhance fish and wildlife habitat after mining operations are completed and the site is closed.	A.1.m.ii. Not Applicable, The proposed project does not require new material sites. A.1.m.iii. Not Applicable, The proposed project does not require new material sites.
n. The director may include plan stipulations if necessary to reduce or eliminate adverse impacts to fish and wildlife or to protect the environment.	A.1.n. Satisfied, no adverse impacts to fish and wildlife are expected beyond the physical presence of the project infrastructure.
2. Habitat, Fish, and Wildlife	
a. Detonation of explosives is prohibited in open water areas of fish bearing water bodies and in fish bearing water bodies that are not solidly frozen, including the substrate unless otherwise approved. Blasting criteria have been established 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. Not Applicable, explosives are not a part of this project and the project area does not contain known fish bearing waters.
b. Any water intake structures in fish bearing water bodies will be designed, operated, and maintained to minimize fish entrapment, entrainment, or injury. All water withdrawal equipment must use fish screening devices approved by ADF&G.	A.2.b. Not Applicable, the project area does not contain known fish bearing waters.
c. Removal of snow from fish-bearing rivers, streams, and natural lakes is subject to prior written approval by ADF&G. Compaction of snow cover overlying fish-bearing water bodies is prohibited except for approved crossings. If ice thickness is not sufficient to facilitate a crossing, then ice or snow bridges	A.2.c. Not Applicable, the project area does not contain known fish bearing waters.

may be required.	
d. Surface entry is prohibited in parcels that are within the Kenai River Special Management Area.	A.2.d.Not Applicable, the project does not take place in the Kenai River Special Management Area
e. Surface entry, other than access, is prohibited on state lands within the Kenai National Wildlife refuge.	A.2.e. Not Applicable, the project does not take place in the Kenai River Special Management Area
f. The lessee is 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.	A.2.f. Not Applicable, the project area does not occur in any of these spaces.
g. Surface entry into the critical waterfowl habitat along the Kasilof River is prohibited. Directional drilling from adjacent sites may be allowed.	A.2.g. Not Applicable, the project area does not occur in this critical habitat.
h. Surface entry is 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 is 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.	A.2.h. Satisfied, based on data requested from ADF&G, there are no known Trumpeter swan nests in the Project Area. If one is encountered, Hilcorp will contact ADF&G.
i. The director, in consultation with ADF&G, will 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 determined that oil and gas exploration and development will impact them or their over-wintering habitat in the near-shore waters of Cook Inlet.	A.2.i. 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 releases to the inlet. Impacts to Steller's eider or other waterfowl species or their nearshore overwintering habitats are not anticipated.

j. 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.j Not applicable, there are no known important waterfowl or shorebird critical habitats found in or adjacent to the project area.
k. A lessee must consult with ADF&G before commencing any activities to identify the locations of known brown bear den sites that are occupied in the season of proposed activities.	A.2.k. Satisfied Hilcorp will consult with ADF&G prior to the start of activities to identify any known brown bear den sites that are occupied during the proposed activity season. All brown bear dens encountered by project personnel will be reported to ADF&G within 24 hours. If deviation from the requirement is necessary, ADF&G personnel will be contacted for approval.
l. Exploration and production activities will not be conducted within one-half mile of occupied brown bear dens unless alternative mitigation measures are approved by ADF&G.	A.2.l. Satisfied, there are no known occupied brown bear dens in or within one-half mile of the project area. Hilcorp has requested current denning information and will work with ADF&G if den locations are identified prior to proceeding with project activities.
m. A lessee who encounters an occupied brown bear den not previously identified by ADF&G shall report it to the Division of Wildlife Conservation, ADF&G, within 24 hours. The lessee will avoid conducting mobile activities one-half mile from discovered occupied dens unless alternative mitigation measures are approved by the director, with concurrence from ADF&G. Non-mobile facilities will not be required to relocate.	A.2.m. Satisfied. All brown bear dens encountered by project personnel will be reported to ADF&G within 24 hours.
n. For projects in proximity to areas frequented by bears, the lessee is required to prepare and implement a human-bear interaction plan designed to minimize conflicts between bears and humans. The plan will include measures to: i. minimize attraction of bears to facility sites; ii. organize layout of buildings and work areas to minimize interactions between humans and bears; iii. warn personnel of bears near or on facilities and the proper actions to take;	A.2.n. Satisfied, Hilcorp Alaska, LLC has a Wildlife Interaction Plan that discusses proper procedures for working in an area frequented by bears. A.2.n.i. Satisfied, Hilcorp Alaska, LLC's Wildlife Interaction Plan includes this information A.2.n.ii. Satisfied, Hilcorp Alaska, LLC's Wildlife Interaction Plan includes this information A.2.n.iii. Satisfied, Hilcorp Alaska, LLC's Wildlife Interaction Plan includes this information

iv. if authorized, deter bears from the drill site; v. provide contingencies in the event bears do not leave the site; vi. discuss proper storage and disposal of materials that may be toxic to bears; and vii. provide a systematic record of bears on the site and in the immediate area.	A.2.n.iv. Satisfied, Hilcorp Alaska, LLC's Wildlife Interaction Plan includes this information A.2.n.v. Satisfied, Hilcorp Alaska, LLC's Wildlife Interaction Plan includes this information A.2.n.vi. Satisfied, Hilcorp Alaska, LLC's Wildlife Interaction Plan includes this information A.2.n.vii. Satisfied, Hilcorp Alaska, LLC's Wildlife Interaction Plan includes this information
o. Surface entry within the core calving area of the Kenai Lowlands Caribou Herd is prohibited, except that surface entry for seismic exploration may be allowed from October 16 to March 31.	A.2.o. Not applicable, the proposed project does not occur in the Kenai Lowlands Caribou Herd calving area.
p. Exploration and development activities may 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 may be allowed year-round. Permanent roads, or facilities other than production wells, may 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.p. Not applicable, the proposed project does not occur in the Kenai Lowlands Caribou Herd core summer habitat.
q. Pipelines must be buried within the core summer habitat of the Kenai Lowlands Caribou Herd.	A.2.q. Not applicable, the proposed project does not occur in the core summer habitat of the Kenai Lowlands Caribou Herd.
r. The director, in consultation with ADF&G, may impose additional and seasonal restrictions on activities located in, or requiring travel through or overflight of, important caribou or other large ungulate calving and wintering areas during the plan of operations approval stage.	A.2.r. Not applicable, the proposed project does not occur in the core calving and wintering habitats of the Kenai Lowlands Caribou Herd.

s. 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.	A.2.s. Not applicable, the proposed project will not occur in beluga whale habitat areas
t. 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.	A.2.t. Not applicable, the proposed project will not occur in beluga whale habitat areas
u. The director will assess oil and gas-related activities within the remaining tracts (Type 3 habitat areas)on a case-by-case basis.	A.2.u. Not applicable, the proposed project will not occur in beluga whale habitat areas
3. Subsistence, and Other Fish and Wildlife Uses	
a. Lease-related use may be restricted, if necessary, to prevent unreasonable conflicts between lease-related activities and subsistence, commercial, sport, personal use, and educational fish and wildlife harvest activities. Traditional and customary access to subsistence areas will be maintained unless reasonable alternative access is provided to subsistence users. "Reasonable access" is access using means generally available to subsistence users. The lessee will consult with nearby communities, and native organizations for assistance in identifying and contacting local subsistence users.	A.3.a. Not Applicable, due to the remote location of the proposed project area, few to no adverse impacts to subsistence users are expected.
b. Before submitting a plan of operations that has the potential to disrupt subsistence activities, the lessee will consult with the potentially affected	A.3.b. Satisfied, Hilcorp has dedicated community relation resources focused on providing project information to Beluga, the closest community to the proposed operations.

subsistence communities to discuss the siting, timing, and methods of proposed operations and safeguards or mitigating measures that could be implemented by the operator to prevent unreasonable conflicts. The parties will also discuss the reasonably foreseeable effect on subsistence activities of any other operations in the area that they know will occur during the lessee's proposed operations. Through this consultation, the lessee will make reasonable efforts to ensure that exploration, development, and production activities are compatible with subsistence hunting and fishing activities and will not result in unreasonable interference with subsistence harvests.	
4. Fuel, Hazardous Substances, and Waste	
a. The lessee will ensure that secondary containment is provided for the storage of fuel or hazardous substances and sized as appropriate to container type and according to governing regulatory requirements in 18 AAC 75 and 40 CFR 112. Containers with an aggregate storage capacity of greater than 55 gallons that contain fuel or hazardous substances will not be stored within 100 feet of a water body or within 1,500 feet of a current surface drinking water source.	A.4.a. Satisfied Fuel storage and other hazardous material storage containers will have secondary containment in accordance with applicable regulatory requirements.
b. During equipment storage or maintenance, the lessee will ensure that the site is 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.b. Satisfied Hilcorp will use drip pans or other fluid catchment system under equipment when they are not in use.
c. During fuel or hazardous substance transfer, the lessee will ensure that a secondary containment or a surface liner is 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 five gallons, must be on hand during any transfer or handling of fuel or hazardous substances.	A.4.c. Satisfied Fuel storage and other hazardous material storage containers will have secondary containment in accordance with applicable regulatory requirements. Appropriate spill response equipment will be available within the project area

d. The lessee will ensure that vehicle refueling will 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.d.Satisfied Hilcorp will not refuel vehicles within the annual floodplain.
e. The lessee will ensure that all independent fuel and hazardous substance containers are permanently marked with the contents and the lessee's or contractor's name.	A.4.e. Satisfied Fuel and other hazardous substances containers used in the project area will be owned or leased by Hilcorp operators or contractors. Independent fuel and hazardous containers will be marked with the lessee's or contractor's name.
f. The lessee will ensure that a fresh water aquifer monitoring well and quarterly water quality monitoring, is in place down gradient of a permanent storage facility, unless alternative acceptable technology is approved by ADEC.	A.4.f. Not Applicable. The proposed project does not include a fresh water aquifer monitoring well.
g. The lessee will ensure that waste from operations is reduced, reused, or recycled to the maximum extent practicable. Garbage and domestic combustibles must be incinerated whenever possible or disposed of at an approved site in accordance with 18 AAC 60.	A.4.g. Satisfied. Garbage and domestic combustibles will be hauled off site and disposed of an approved site in accordance with 18 AAC 60.
h. Proper disposal of garbage and putrescible waste is essential to minimize attraction of wildlife. The lessee must use the most appropriate and efficient method to achieve this goal. The primary method of garbage and putrescible waste is prompt, on-site incineration in compliance with State of Alaska air quality regulations. The secondary method of disposal is on-site frozen storage in animal-proof containers with backhaul to an approved waste disposal facility. The tertiary method of disposal is on-site non-frozen storage in animal proof containers with backhaul to an approved waste disposal facility. Daily backhauling of non-frozen waste is required unless safety considerations prevent it.	A.4.h. Satisfied. Garbage and putrescible waste will be hauled off site and disposed of at an approved waste disposal facility.
i. New solid waste disposal sites, other than for drilling waste, will not be approved or located on state property for exploration.	A.4.i. Not Applicable No new solid waste disposal sites will be developed as part of the proposed project.

j. The preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection. The lessee will ensure that drilling mud and cuttings will not be discharged into lakes, streams, rivers, or wetlands. On-pad temporary cuttings storage may be allowed as necessary to facilitate annular injection and backhaul operations.	A.4.j. Satisfied Any muds or cuttings from oil and gas activities produced will not be discharged into lakes, streams, rivers, or wetlands.
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 structures. Areas of restricted access must be identified in the plan of operations. Lease facilities and operations will not block access to or along navigable or public waters as defined in AS 38.05.965.	A.5.a. Satisfied The project area is not typically visited by the public due to its remote location and industry dominated development. For public safety reasons, apublic access will not be allowed
6. Prehistoric, Historic, and Archaeological Sites	
a. Before the construction or placement of any structure, road, or facility supporting exploration, development, or production activities, the lessee must conduct an inventory of prehistoric, historic, and archeological sites within the area, including a detailed analysis of the effects that might result from that construction or placement.	A.6.a. Satisfied, the proposed project area has been surveyed by a cultural resource team and cross referenced against the Alaska Heritage Resource Survey database. There are no known cultural or archaeological resources within 500 feet of the proposed project area.
b. The inventory of prehistoric, historic, and archeological sites must be submitted to the director and the Office of History and Archeology (OHA). If a prehistoric, historic, or archeological site or area could be adversely affected by a lease activity, the director, after consultation with OHA, will direct the lessee as to the course of action to take to avoid or minimize adverse effects.	A.6.b. Not applicable, see above response
c. If a site, structure, or object of prehistoric, historic, or archaeological significance is discovered during lease operations, the lessee shall report the discovery to the director as soon as possible. The lessee will make all	A.6.c. Satisfied. Should any sites or objects of prehistoric, historic, or archaeological significance be discovered, the find will be reported to the Director of State Historic Preservation Office and reasonable efforts made to preserve the site or objects.

reasonable efforts to preserve and protect the discovered site, structure, or object from damage until the director, after consultation with the State Historic Preservation Office, has directed the lessee on the course of action to take for its preservation.	
7. Local Hire, Communication, and Training	
a. The lessee is encouraged to employ local and Alaska residents and contractors, to the extent they are available and qualified, for work performed in the lease area. The lessee will submit, as part of the plan of operations, a hiring plan that will include a description of the operator's plans for partnering with local communities to recruit, hire, and train local and Alaska residents and contractors. As a part of this plan, the lessee is encouraged to coordinate with employment and training services offered by the State of Alaska and local communities to train and recruit employees from local communities.	A.7.a. Satisfied. Hilcorp Alaska, LLC is committed to continuing its partnership with local contractors and business in the construction of the proposed project through competitive bid contracting opportunities. When reasonably foreseeable to do so, Hilcorp is committed to hire and where appropriate, to provide training to local and Alaska residents.
b. In accordance with Administrative Order 278, the lessee is encouraged to employ apprentice labor to perform at least 15 percent of total work hours, to the extent they are available and qualified, for work performed in the lease area. The lessee will submit, as part of the plan of operations, a hiring plan detailing the means by which the lessee might incorporate apprentice labor.	A.7.b. Satisfied. Hilcorp Alaska, LLC is committed to continuing its partnership with local contractors and business in the construction of the proposed project through competitive bid contracting opportunities.
c. A plan of operations application must describe the lessee's past and prospective efforts to communicate with local communities and interested local community groups.	A.7.c. Satisfied. Hilcorp has a dedicated community relation resources focused on providing project information to Beluga, the closest community to the proposed project area.
d. A plan of operations application must include a training program i. for all personnel including contractors and subcontractors; ii. designed to inform each person working on the project of environmental, social, and cultural concerns that relate to that person's job;	A.7.d. Satisfied, Hilcorp Alaska, LLC requires all employees and contractors to complete site-specific training. A.7.d.i. Satisfied, see response for A.7.d A.7.d.ii. Satisfied, see response for A.7.d

iii. using methods to ensure personnel understand and use techniques necessary to preserve geological, archeological, and biological resources; and iv. designed to help personnel increase their sensitivity and understanding of community values, customs, and lifestyles in areas where they will be operating.	A.7.d.iii. Satisfied, see response for A.7.d A.7.d.iv. Satisfied, see response for A.7.d

8. Definitions	
Facilities - Any structure, equipment, or improvement to the surface, 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** - As defined under 42 USC 9601 - 9675 (Comprehensive Environmental Response, Compensation, and Liability Act of 1980). **Important wetlands** - Those wetlands that are of high value to fish, waterfowl, and shorebirds because of their unique characteristics or scarcity in the region or that have been determined to function at a high level using the hydrogeomorphic approach. **Minimize** - 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 operation** - A lease plan of operations under 11 AAC 83.158 and a unit plan of operations under 11 AAC 83.346. **Practicable** - Feasible in light of overall project purposes after considering cost, existing technology, and logistics of compliance with the mitigation measure. **Secondary containment** - An impermeable diked area, portable impermeable containment structure, or integral containment space capable of containing the volume of the largest independent container. The containment will, in the case of external containment, have enough additional capacity to allow for local precipitation. **Temporary** - No more than 12 months.	

APPENDIX C: OTHER

See Attached

Hilcorp Alaska, LLC

Pretty Creek Regulatory Support: Desktop Wetland Study Beluga, Alaska

February 2025

Prepared for

Hilcorp Alaska, LLC
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Prepared by

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ABBREVIATIONS

ACES	ASRC Consulting & Environmental Services, LLC.
AJD	Approved Jurisdictional Determination
CWA	Clean Water Act
EPA	Environmental Protection Agency
FAC	Facultative
FACW	Facultative Wetland
FACU	Facultative Upland
ft	feet
Full Point	Full Data Point
HGM	Hydrogeomorphic
Hilcorp	Hilcorp Alaska, LLC.
m	meter
NWI	National Wetland Inventory
OBL	Obligate Wetland
OHWM	Ordinary High-Water Mark
Photo Point	Photograph Point
PJD	Preliminary Jurisdictional Determination
RGL	Regulatory Guidance Letter
Study Area	Pretty Creek Unit
TNW	Traditional Navigable Water
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOTUS	Waters of the United States

1.0 Introduction

ASRC Consulting & Environmental Services, LLC (ACES) was contracted by Hilcorp Alaska, LLC, (Hilcorp) to perform a Desktop Wetlands Delineation for a proposed gravel pad (Pretty Creek New) in support of natural gas development in Southcentral Alaska. Throughout this report, this area will be referred to as the Study Area.

Waters of the United States (WOTUS) are made up of jurisdictional wetlands, deep-water habitats, and rivers and streams. For the purpose of this report, and because of their functional differences, wetlands will be discussed separately from other WOTUS (ponds, rivers, and streams).

The United States Army Corps of Engineers (USACE) defines wetlands as "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" (USACE 1987).

The USACE point of authority for wetlands is the outermost limit of the wetlands depicted by the wetlands/upland boundary. The USACE point of jurisdiction for other non-tidal WOTUS is that area below the ordinary high-water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. USACE regulations define the term "ordinary high-water mark" in USACE Regulatory Guidance Letter (RGL) 05-05 (USACE 2005), which states:

> "The term *ordinary high-water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

1.1 Project Description

This Desktop Wetland Delineation report serves to support Hilcorp with either an Approved Jurisdictional Determination (AJD) or Preliminary Jurisdictional Determination (PJD) for the Study Area, subject to jurisdiction by the USACE under authority granted by Section 404 of the Clean Water Act (CWA), and Section 10 of the Rivers and Harbors Act.

Publicly available aerial photography was used to initially map the Study Area. An ACES wetland scientist performed a pedestrian survey of the Study Area taking photos and noting site characteristics in relation to information relevant to determining the presence and boundaries of potentially jurisdictional wetlands and other WOTUS within the Study Area. The existence and location of wetlands, other WOTUS, and OHWM were determined on the basis of criteria set forth in Section 2.0 of this report.

1.2 Project Location

The project is located in Southcentral Alaska, along the west side of Cook Inlet, about 35 air miles from Anchorage. The Study Area can be found on the US Geological Survey (USGS) Tyonek A-3 Quadrangle Map (1:63,360).

The project work was based out of the census designated place of Beluga, Alaska. Fourteen data points were collected within the Study Area; specific locations are detailed below. Figure 1 in Appendix A shows the Study Area relative to existing infrastructure.

Table 1: Project Location

Point ID	LAT (WGS84)	LONG (WGS84)	MTRS
PP01	61.2776	-150.8732	14N 9W Sec 27 Seward Meridian
PP02	61.2778	-150.8739	
PP03	61.2783	-150.8763	
PP04	61.2792	-150.8774	
PP05	61.2794	-150.8795	
PP06	61.2791	-150.8808	
PP07	61.2778	-150.8739	
PP08	61.2764	-150.8737	
PP09	61.2777	-150.8734	
PP10	61.2770	-150.8733	
PP11	61.2773	-150.8814	
PP12	61.2765	-150.8741	
FP01	61.2784	-150.8739	
FP02	61.2785	-150.8749	

Note: PP: Photo Point; FP: Feature Point

1.3 Study Area Characteristics

The Study Area totals 43.61 acres (17.65 hectares) consisting of 5.94 acres (2.40 hectares) of localized palustrine wetlands, but mainly dominated by forested natural uplands. Existing development in the immediate vicinity of the Study Area includes the Beluga River Unit, gravel roads, gravel pads, and natural gas processing and support facilities owned by Hilcorp and other operators. Wetlands occupy 13 percent of land area in Southcentral Alaska (USACE 2007). The vegetation and landscape are made up of vast expanses of forest primarily composed of forest shrub and tree species. The subsurface of this region is underlain by slates and meta sandstone. Various plant species identified during the pedestrian survey, their common names, and wetland indicator status (Lichvar 2012) are provided in Table 2.

Beluga, Alaska receives an average of 3.86 inches (9.80 centimeters) of precipitation, with average high and low temperatures of 44- and 32-degrees Fahrenheit, respectively, during the month of October, when the survey was conducted (NOAA 2024).

Table 2. Vegetation in Study Area

Scientific Name	Indicator
Alnus rubra	*FAC*
Astragalus alpinus	*FAC*
Athyrium filix-femina[1]	*FAC*
Betula papyrifera	*FACU*
Calamagrostis canadensis	*FAC*
Carex aquatilis	*OBL*
Carex pluriflora	*OBL*
Chamaenerion angustifolium	*FACU*
Cicuta douglasii	*OBL*
Comarum palustre	*OBL*
Eriophorum vaginatum	*FACW*
Heracleum maximum	*FACW*
Lupinus arcticus	*FACU*
Lycopodium lagopus	*FACU*
Myrica gale	*OBL*
Oplopanax horridus	*FACU*
Picea glauca	*FACU*
Populus balsamifera	*FACU*
Ribes triste	*FAC*
Rosa acicularis	*FACU*
Rubus pedatus	*FAC*
Sorbus scopulina	*FACU*
Viburnum trilobum	*FACW*
Viola langsdorfii	*FACW*

Notes:
FAC - Facultative; species equally likely to occur in wetlands and non-wetlands.
FACU - Facultative Upland; species usually occurs in non-wetlands.
FACW - Facultative Wetlands; species usually occurs in wetlands.
OBL - Obligate; species almost always occurs in wetlands.

[1] Listed as *Athyrium filix-femina* based on United States Department of Agriculture data. Alaska National Wetlands Plant List has two varieties listed, *Athyrium americanum and Athyrium cyclosorum.* All are facultive.

2.0 Methods

ACES conducted this survey using a two-pronged approach; visual observation during the pedestrian survey and desktop analysis. This effort included:

- Preliminary Data Gathering and Analysis
- Field Investigation
- Desktop Analysis
- Post-Field Data Review
- Final Mapping
- Wetlands Classification

2.1 Preliminary Data Gathering and Analysis

Information gathered from the preliminary data review was used to develop an initial sampling plan for the field investigation and map potential habitat types within the Study Area. The data was used to generate preliminary maps and to estimate the number of data points and approximate locations. ACES referenced the following data sources that provided a basis for fieldwork planning:

- Aerial photography
- Proprietary GIS Mapping collected by Hilcorp
- US Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps (USFWS 2021), digital datasets, and hardcopy maps

2.2 Field Investigation

A pedestrian survey was completed across the Study Area and observation points were collected at pre-determined field targets that represented areas of interest based on aerial imagery. Photographs were taken at each sampling point to document the vegetation, soils, hydrology, and general area characteristics. These photographs can be found in Appendix B.

2.3 Desktop Analysis

Desktop analysis occurred after the field investigation, using the field notes and photographs taken paired with high resolution aerial imagery. This analysis ran concurrently with the Final Mapping discussed below.

2.4 Post-Field Data Review/Final Mapping

Upon completion of the visual survey, field notes were evaluated for accuracy and completeness. This data was used to update preliminary wetlands mapping with new information. This updated data was incorporated into the geodatabase containing all project wetlands data. Final wetlands mapping was completed using ArcGIS and a geo-referenced aerial photograph as a base map to digitally map wetlands and habitat boundaries and to calculate areas.

2.5 Wetlands Classification

Wetland areas were classified to the class level, according to the system guidelines outlined in the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979). Hydrologic modifiers were added to each wetlands class. The nomenclature follows NWI classification.

3.0 Results

3.1 Study Area Results

The Study Area totaled 43.61 acres (17.65 hectares), and 37.91 acres (15.34 hectares) was identified as upland (Table 3).

Table 3. Wetlands and Non-Jurisdictional Uplands by Acreage for Pretty Creek New

Type	Acres	HGM Class (hydrogeomorphic)	Associated Data and Photo Points
Wetlands			
Palustrine Emergent (PEM1F)	1.51	Flat	PP03, PP08, PP12
Palustrine Emergent (PEM1E)	3.73	Depression	PP04, PP05
Palustrine Scrub-Shrub (PSS4/EM1B)	0.46	Flat	N/A
Uplands			
Uplands	37.91	Upland	PP01, PP02, PP06, PP07, PP09, PP10, PP11, FP01, FP02

3.2 Habitat Types

3.2.1 Wetlands

Emergent wetlands totaling 5.24 acres (2.12 hectares) were found throughout the Study Area. Hydrology indicators included open standing water, and small frozen puddles at lower geomorphic positions, suggesting saturated conditions and water movement during warmer temperatures. Aerial imagery supports these findings. Vegetation cover included *Heracleum maximum, Calamagrostis canadensis, and Viburnum trilobum.*

3.2.2 Other Waters of the United States

No other Waters of the US were found in the Study Area.

3.2.3 Uplands

Uplands were documented totaling 37.91 acres (15.34 hectares). Uplands included natural uplands consisting of both sloping and flat forested areas that are slightly higher in elevation than the nearby wetland habitats. Dominant vegetation in uplands included *Betula papyrifera, Picea glauca, Rosa acicularis, Ribes triste,* and *Oplopanax horridus.* In some instances, vegetation composition in this habitat did contain FAC species; however, these areas do not possess sufficient field indictors of hydrology and/or hydric soils and so are not considered wetlands.

The quantity of wetlands, other WOTUS, and non-jurisdictional uplands for each individual pad expansion area and Study Area are presented below in Table 4.

Table 4. Wetlands, Other WOTUS, and Non-Jurisdictional Uplands by Study Area

Type	Amount in Expansion Area (acres)
	Pretty Creek New
Wetlands	PEM1F – 1.51 PEM1E – 3.73 PSS4/EM1B – 0.46
Other WOTUS	-
Uplands	37.91

3.2 Previous Wetland Determinations

ACES was not provided with any previous wetland determinations other than what was derived from reviewing USFWS NWI mapping.

3.3 Preliminary Jurisdictional Determination

ACES did not complete Jurisdictional Determination Forms, as this is the responsibility of the USACE. However, regardless of class, the wetlands documented in the Study Area do not appear to have a direct surface connection to potentially jurisdictional wetlands; therefore, these wetlands may not be jurisdictional. Uplands in the study area are not considered to be jurisdictional and do not require CWA permits for placement of fill. It is the responsibility of the USACE to make the final determination as to whether a resource is jurisdictional under Section 404 of the CWA.

4.0 References

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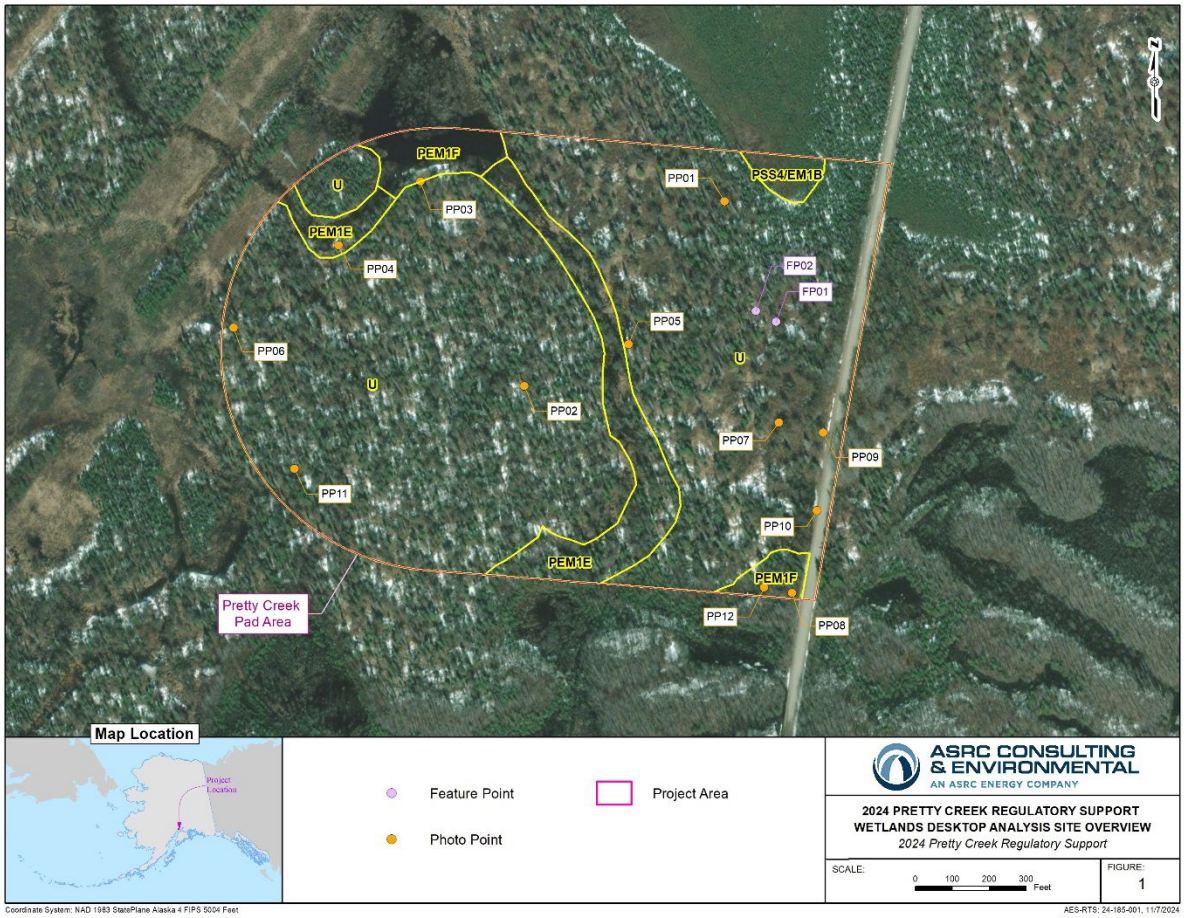
Appendix A
Figures

Figure 1. Pretty Creek Site Overview



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Appendix B
Site Photographs

Photo Point 01

Photo Point 01

Photo Point 02

Photo Point 02

Photo Point 03

Photo Point 03

Photo Point 04

Photo Point 04

Photo Point 05

Photo Point 05

Photo Point 06

Photo Point 06

Photo Point 07

Photo Point 07

Photo Point 08

Photo Point 08	
	

Photo Point 09

Photo Point 09

Photo Point 10

Photo Point 10

Photo Point 11

Photo Point 11

Photo Point 12

Photo Point 12

Feature Point 01

Feature Point 01	
	
	

Feature Point 02

Feature Point 02