**US Army Corps
of Engineers
Alaska District**

Regulatory Division (1145)
CEPOA-RD
Post Office Box 6898
JBER, Alaska 99506-0898

Public Notice of Application for Permit

PUBLIC NOTICE DATE:	**April 17, 2025**
EXPIRATION DATE:	**May 19, 2025**
REFERENCE NUMBER:	**POA-2008-00618**
WATERWAY:	**Noatak River (wetlands)**

Interested parties are hereby notified that a Department of the Army permit application has been received for work in waters of the United States as described below and shown on the enclosed project drawings.

All comments regarding this public notice should be sent to the address noted above. If you desire to submit your comments by email, you should send it to the project manager's email as listed below or to regpagemaster@usace.army.mil. All comments should include the public notice reference number listed above.

All comments should reach this office no later than the expiration date of this public notice to become part of the record and be considered in the decision. Please contact Tyler Marye at (907) 753-5778, toll free from within Alaska at (800) 478-2712, or by email at Tyler.J.Marye@usace.army.mil if further information is desired concerning this public notice.

APPLICANT: Toby Drake, Drake Construction, Incorporated, P.O. Box 338, Kotzebue, Alaska 99752.

AGENT: Alina Rice, MLP & Associates, LLC, 721 Depot Drive, Anchorage, Alaska 99501.

LOCATION: The project site is located at Section 2, T. 20 N., R. 17 W., Kateel River Meridian; Latitude 67.158º N., Longitude 162.330º W.; 18 miles northeast of Kotzebue, Alaska.

SPECIAL AREA DESIGNATION: The project is located within the Cape Krusenstern Archeological District National Historic Landmark.

PURPOSE: The applicant's stated purpose is to extract sand and gravel materials for use in support of Alaska Department of Transportation & Public Facilities (Alaska DOT&PF) roadway projects in Kotzebue, Alaska and other entities and communities.

PROPOSED WORK: The applicant is requesting authorization to continue sand and gravel extraction activities at the Noatak River Gravel Pit Project. Continuation of extraction activities would require the mechanized land clearing of 7.5 acres of previously undisturbed wetlands. Total impacts from this proposal and previous activities of the Noatak River Gravel Pit Project would total approximately 25 acres. The estimated life of the project is five (5) years, providing an estimated 300,000 cubic yards of material. Work is scheduled to occur seasonally between May and October each year. All work would be performed in accordance with the enclosed plan (sheets 1-8), dated April 2, 2025.

The applicant has proposed to follow a 111-page reclamation plan document submitted for review; If you would like to review the full reclamation plan document, please contact us for a copy. In this document, the applicant proposes initial site reclamation would occur starting Summer 2025 when the wall on the east side of the project area will be reclaimed by grading the area three (3) horizontal to one (1) vertical (3:1). Topsoil and overburden would be placed on the slope with an excavator and bulldozer. The area would then be revegetated with willows and other native plants and seeded. This process would provide even coverage, facilitate vegetation growth, and minimize erosion until native vegetation is established.

The applicant proposes that the final reclamation would commence when all material is exhausted of usable material within the footprint of the Allotment 15983. Reclamation would include constructing two pond/wetlands, a bioswale, and vegetated swale spillways. The mined area would be revegetated. The airstrip, the access roads, and the barge landing area would remain as is.

The full width of the pit floor will be covered with a two (2) to four (4) inch-thick layer of organic-rich soil material to maximize natural revegetation. The area would be revegetated with the seed mix described in the condensed reclamation plan enclosed.

Two (2) ponds would be created: The upper pond/wetland is approximately 10,000 square feet by 3.5 feet deep lined with silt/clay. The lower pond/wetland is approximately 3,500 square feet by 3.5 feet deep. Each pond would include two benches, 10 feet wide at one (1) foot and two (2) feet below the design water level for vegetation. The ponds would fill primarily with snow melt. The ponds were designed to maximize capture and retention of snowmelt and precipitation runoff. Refer to Sheet 7 and pond design cross section on Sheet 8.

The upper pond/wetland area would capture runoff from the hillside via a bioswale at the toe of the gravel pit cut slope. A vegetated swale spillway would be constructed to collect overflow and convey it to the lower pond/wetland. The lower pond would be used to collect runoff from the reclaimed gravel pit site and the upper pond/wetland. Overflow from the lower pond to the river would pass through a vegetated swale spillway.

Each of the two ponds would include two benches 10 feet wide at one (1)-feet and two (2) feet below the design water level for vegetation. Shallow littoral areas will be formed by shaping the surface of the overburden material. The edge of the littoral shelf will be contoured irregularly and sloped at a 10 horizontal to one (1) vertical (10:1) slope. Terraces and slopes would provide varying habitats. The ponds would be allowed to recharge naturally. Natural recharge allows the perimeter mine site features to come to thermal equilibrium each year as the water rises.

ADDITIONAL INFORMATION: The original Department of the Army (DA) permit was issued in 2009 and authorized the permanent filling of two (2.0) acres of wetlands for the development of a haul road and a stockpile area near the Noatak River. The applicant has stated they have Title 9 approval from the Northwest Arctic Borough (Permit Number: 109-03-22) and would operate under the Multi Sector Stormwater Pollution Prevention Plan (AKR06GA40).

APPLICANT PROPOSED MITIGATION: The applicant proposes the following mitigation measures to avoid, minimize, and compensate for impacts to waters of the United States from activities involving discharges of dredged or fill material.

a. Avoidance: The applicant states complete avoidance of wetlands is not practicable to accomplish the purpose and needs of this project. No in-water work is expected to take place during the extraction of materials. Temporary stockpiles will be placed at least 100 feet away from the waters of the U.S.

b. Minimization: The applicant states that the limits of extraction would be clearly identified in the field prior to extraction to ensure the permitted project footprint is not exceeded during development. Likewise, movement of construction equipment would be restricted to within the identified project boundaries to minimize disturbance to native vegetation. Best management practices (BMPs) such as vegetated buffers implemented to minimize the introduction of additional suspended sediment into adjacent wetlands. Additionally, all refuse, garbage, or debris created during activities will be removed and disposed of at an approved facility. The applicant also states some stockpiles would be placed in the existing disturbed footprint to reduce additional wetland impacts. The applicant has proposed to follow a 111 page reclamation plan document submitted for review; If you would like to review the full reclamation plan document, please contact us for a copy.

c. Compensatory Mitigation: The applicant states there are no credits available for mitigation bank or in-lieu fee programs. Additionally, the applicant stated that compensatory mitigation should not be required for the Noatak River Gravel Mine project because they believe all practicable steps have been taken to avoid and minimize adverse impacts to the wetland ecosystem.

WATER QUALITY CERTIFICATION: A permit for the described work will not be issued until a certification or waiver of certification, as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the Alaska Department of Environmental Conservation.

CULTURAL RESOURCES: The latest published version of the Alaska Heritage Resources Survey (AHRS) has been consulted for the presence or absence of historic properties, including those listed in or eligible for inclusion in the National Register of Historic Places. The project occurs within the Cape Krusenstern Archeological District National Historic Landmark. Consultation of the AHRS and the original permit files constitutes the extent of cultural resource investigations by the U.S. Army Corps of Engineers (Corps) at this time. The Corps has made a No Adverse Effect determination for the proposed project. This application will be coordinated with the State Historic Preservation Office (SHPO), Federally recognized Tribes, and other consulting parties. Any comments SHPO, Federally recognized Tribes, other consulting parties, and ACHP may have concerning presently unknown archeological or historic data that may be lost or destroyed by work under the requested permit will be considered in our final assessment of the described work.

ENDANGERED SPECIES: The project area is within the known or historic range of the spectacled eider (*Somateria fischerii*), Steller's eider (*Polistica stellari*).

We are currently gathering information regarding these species and have yet to make a determination of effect. Should we find that the described activity may affect the species listed above, we will follow the appropriate consultation procedures under Section 7 of the Endangered Species Act of 1973 (87 Stat. 844). Any comments the U.S. Fish and Wildlife Service or the National Marine Fisheries Service may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH).

The project area is not within mapped EFH.

We have determined the described activity would not adversely affect EFH in the project area.

TRIBAL CONSULTATION: The Corps fully supports tribal self-governance and government-to-government relations between Federally recognized Tribes and the Federal government. Tribes with protected rights or resources that could be significantly affected by a proposed Federal action (e.g., a permit decision) have the right to consult with the Corps, Alaska District, on a government-to-government basis. Views of each Tribe regarding protected rights and resources will be accorded due consideration in this process. This public notice serves as notification to the Tribes within the area potentially affected by the proposed work and invites their participation in the Federal decision-making process regarding the protected Tribal rights or resources. Consultation may be initiated by the affected Tribe upon written request to the District Commander. This application is being coordinated with federally recognized tribes and other consulting parties. Any comments federal recognized tribes and other consulting parties may have concerning presently unknown archeological or historic data that may be lost or

destroyed by the work under the requested permit will be considered in the Corps final assessment of the described work.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, reasons for holding a public hearing.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts, which the proposed activity may have on the public interest, requires a careful weighing of all the factors that become relevant in each particular case. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. The outcome of the general balancing process would determine whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur. The decision should reflect the national concern for both protection and utilization of important resources. All factors, which may be relevant to the proposal, must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria (see Sections 320.2 and 320.3), a permit will be granted unless the District Commander determines that it would be contrary to the public interest.

The Corps is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

AUTHORITY: This permit will be issued or denied under the following authority:

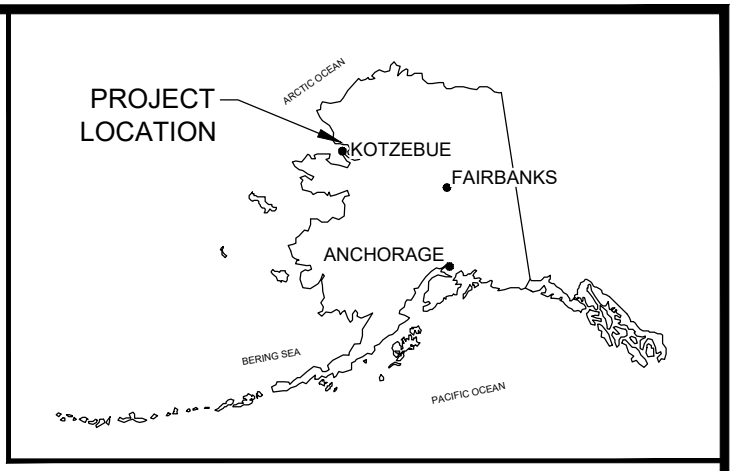
(X) Discharge dredged or fill material into waters of the United States – Section 404 Clean Water Act (33 U.S.C. 1344). Therefore, our public interest review will consider the guidelines

set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

Project drawings are enclosed with this public notice.

District Commander
U.S. Army, Corps of Engineers

Enclosures



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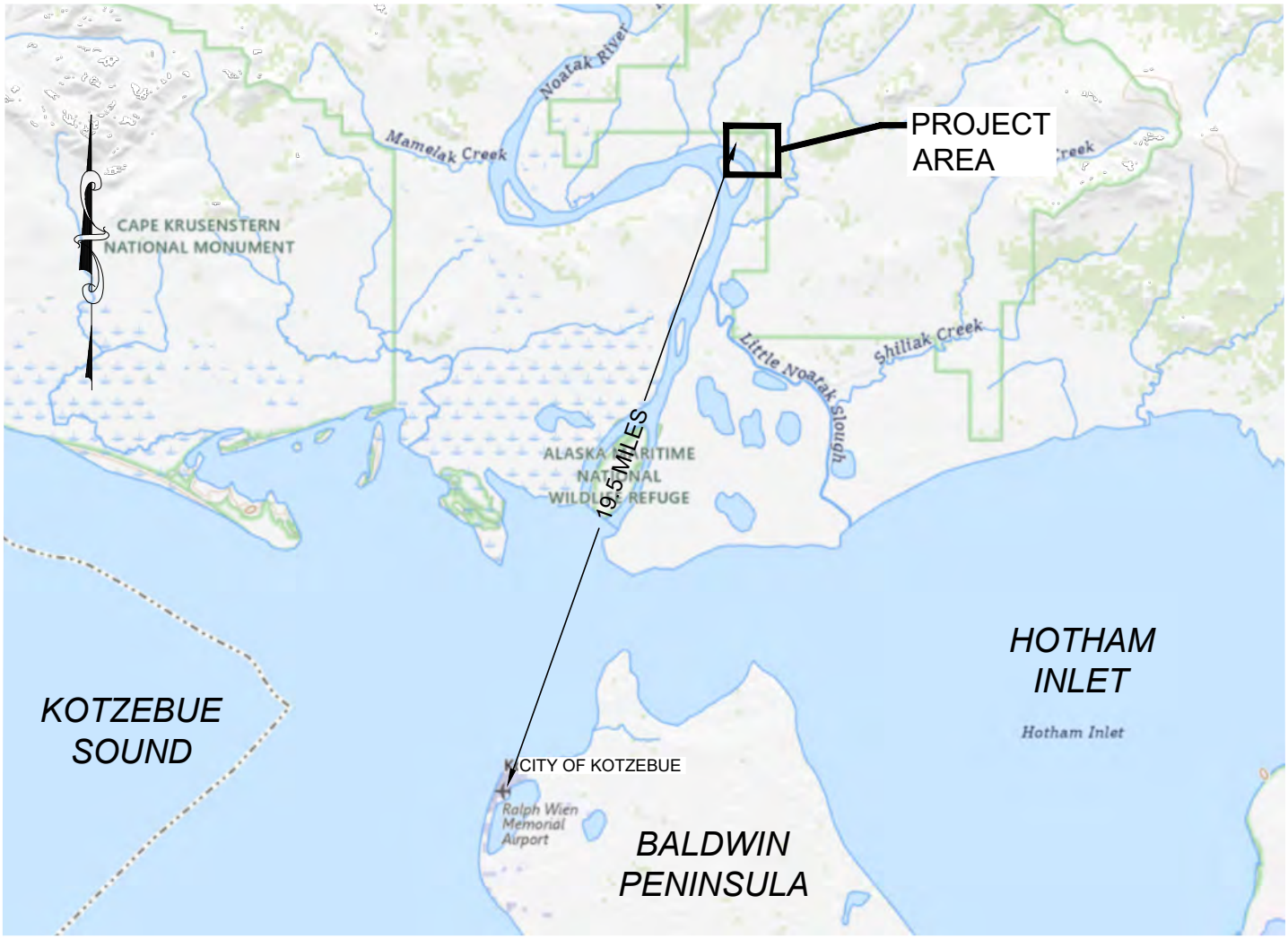
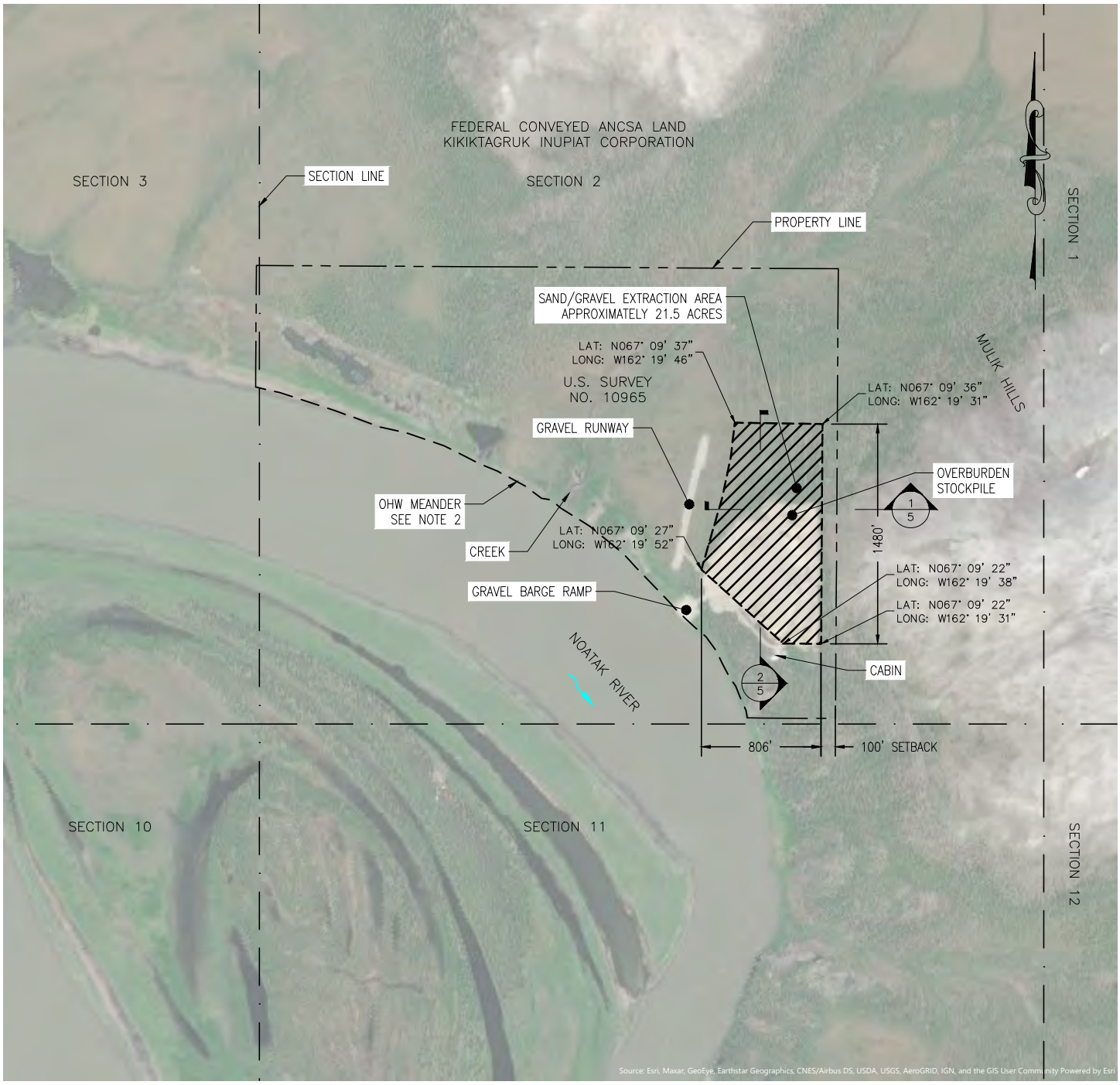


VICINITY MAP

0 5 10

SCALE IN MILES

NOATAK RIVER GRAVEL MINE
GRAVEL EXTRACTION KOTZEBUE, ALASKA
WATERBODY: HOTHAM INLET
SECT. 2; T020N; R017W MERIDIAN: KATEEL RIVER USGS QUADRANGLE NOATAK A-1 LAT: 67.15810° LONG: -162.32760°
LOCATION AND VICINITY MAP 4/2/2025 SHEET 1 OF 8



PROJECT SITE

NOTES:

1. AERIAL IMAGE OBTAINED FROM NEARMAPS.
2. ORDINARY HIGH WATERMARK FROM U.S. SURVEY NO. 10965.
3. TOPOGRAPHIC SURVEY HAS BEEN PERFORMED FOR THE PROJECT AREA.
4. EXTRACTED MATERIALS WILL BE STOCKPILED WITHIN EXTRACTION AREA.
5. CONTRACTOR STAGING OF EQUIPMENT AND MATERIALS WITHIN EXTRACTION AREA.

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SCALE IN FEET

NOATAK RIVER GRAVEL MINE

GRAVEL EXTRACTION
KOTZEBUE, ALASKA

WATERBODY: HOTHAM INLET

SECT. 2; T020N; R017W
MERIDIAN: KATEEL RIVER
USGS QUADRANGLE NOATAK A-1
LAT: 67.15810° LONG: -162.32760°

PROJECT SITE

4/2/2025 SHEET 2 OF 8

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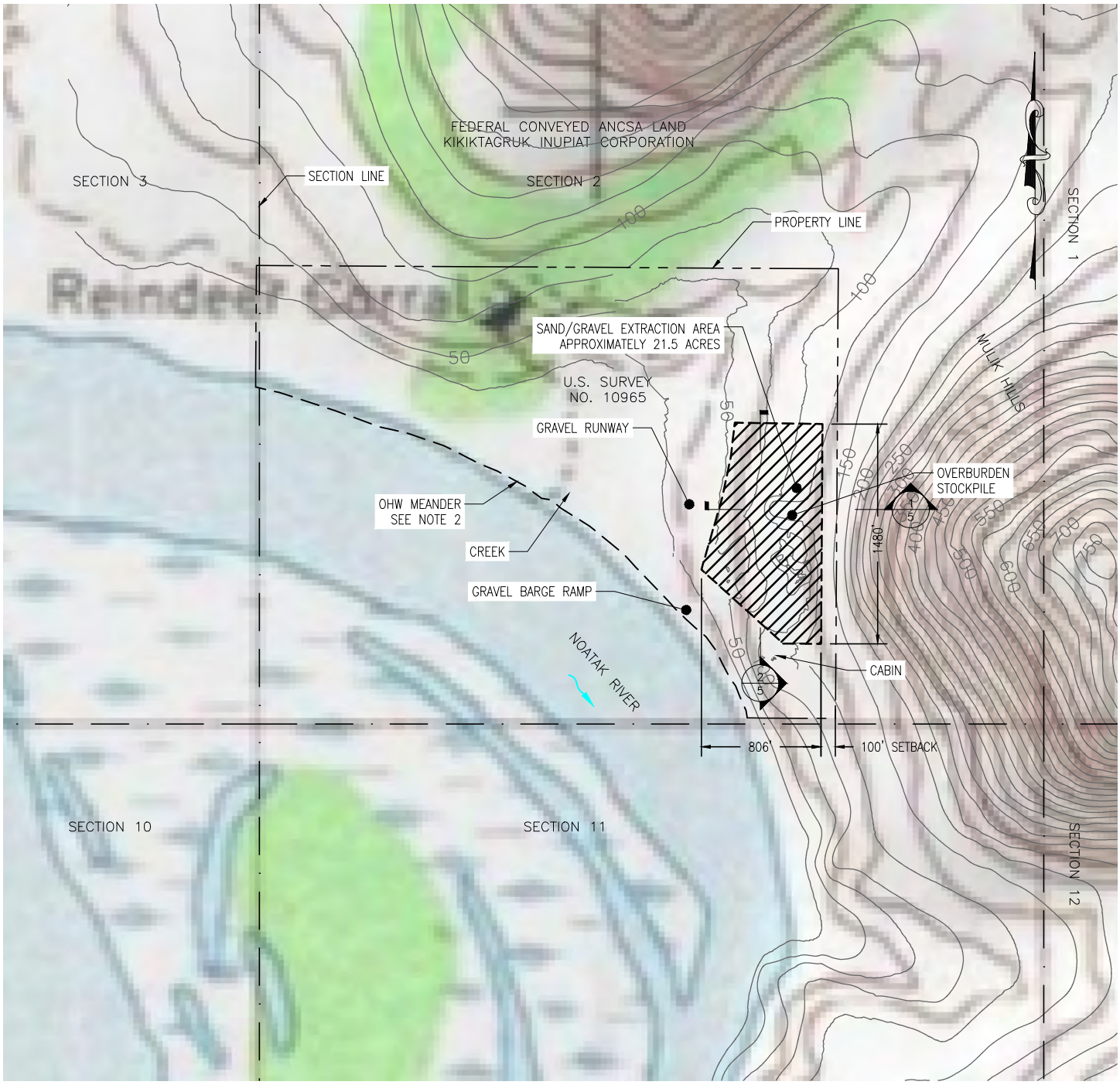

PROJECT SITE TOPOGRAPHIC

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3. TOPOGRAPHIC SURVEY HAS BEEN PERFORMED FOR THE PROJECT AREA.
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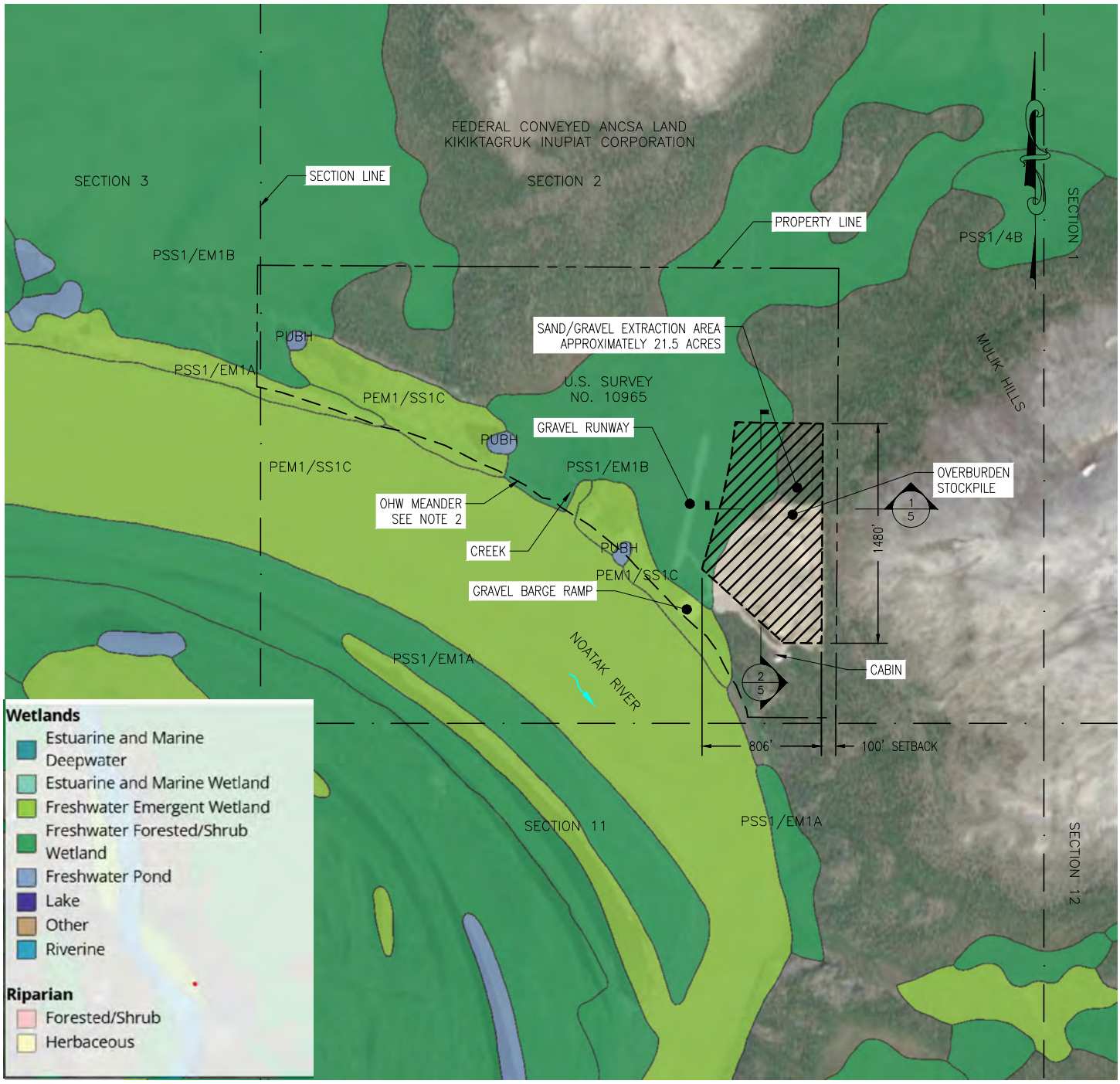
PROJECT SITE TOPO

4/2/2025 SHEET 3 OF 8



WETLANDS

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2. ORDINARY HIGH WATERMARK FROM U.S. SURVEY NO. 10965.
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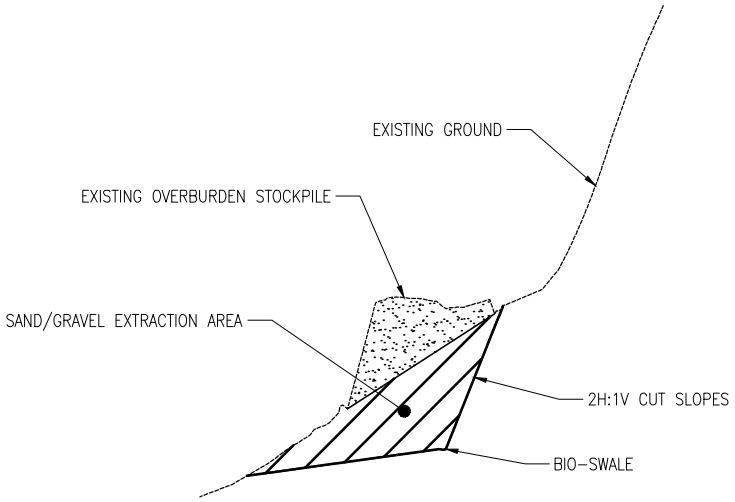
WETLANDS

4/2/2025



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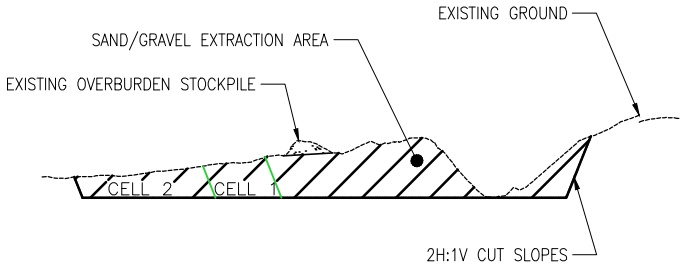

2 SITE SECTION

NOTES:

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2. EXTRACTED MATERIALS WILL BE STOCKPILED WITHIN EXTRACTION AREA.
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NOATAK RIVER GRAVEL MINE

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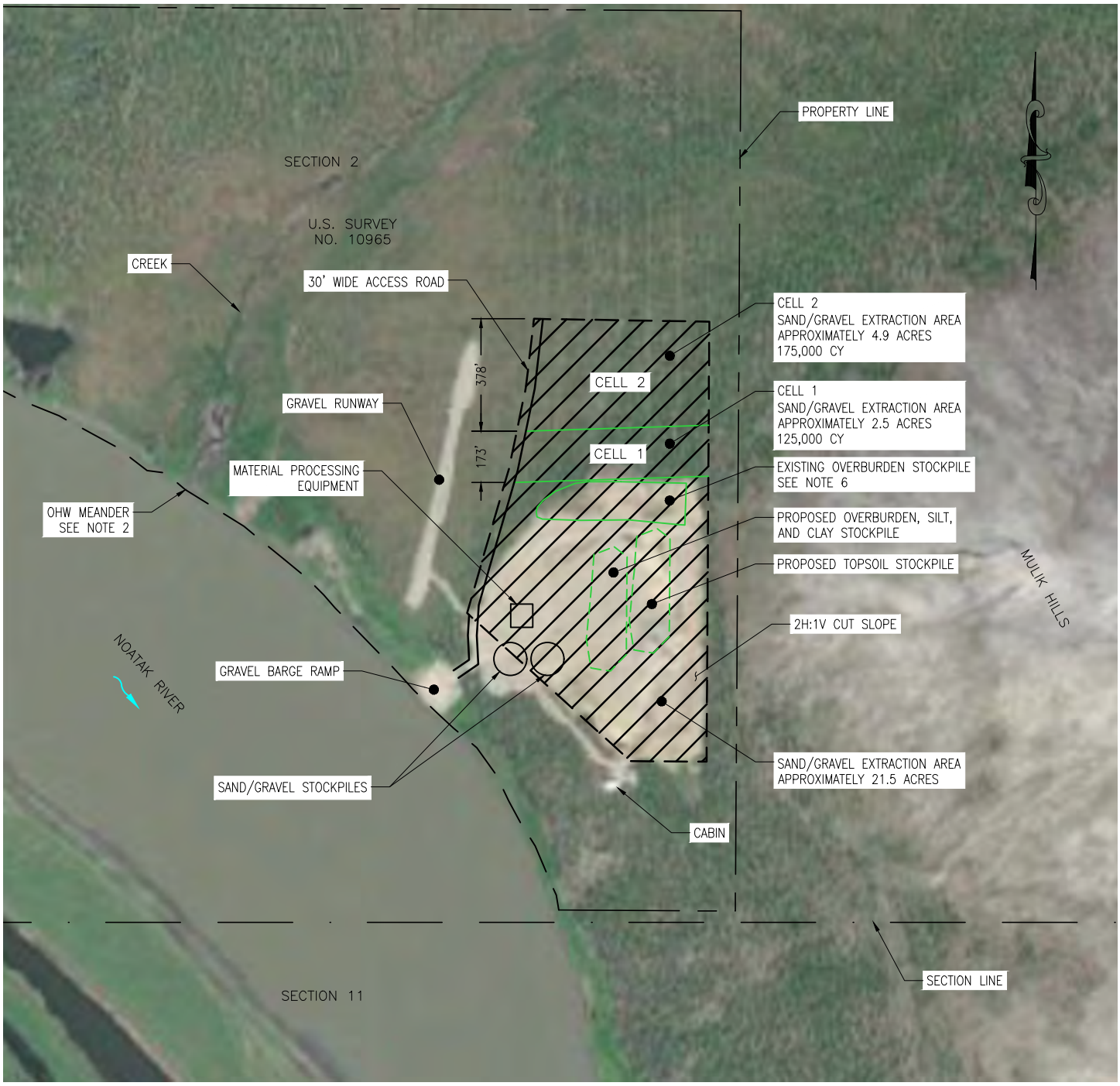
SITE SECTIONS

4/2/2025 SHEET 5 OF 8



DEVELOPMENT PLAN

NOTES:

1. AERIAL IMAGE OBTAINED FROM NEARMAPS.
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4. EXTRACTED MATERIALS WILL BE STOCKPILED WITHIN EXTRACTION AREA.
5. CONTRACTOR STAGING OF EQUIPMENT AND MATERIALS WITHIN EXTRACTION AREA.
6. TOPSOIL AND OVERBURDEN TO BE SEPARATED AS GRAVEL EXTRACTION PROGRESSES.

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SCALE IN FEET

NOATAK RIVER GRAVEL MINE

GRAVEL EXTRACTION
KOTZEBUE, ALASKA

WATERBODY: HOTHAM INLET

SECT. 2; T020N; R017W
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LAT: 67.15810° LONG: -162.32760°

DEVELOPMENT PLAN

4/2/2025 SHEET 6 OF 8

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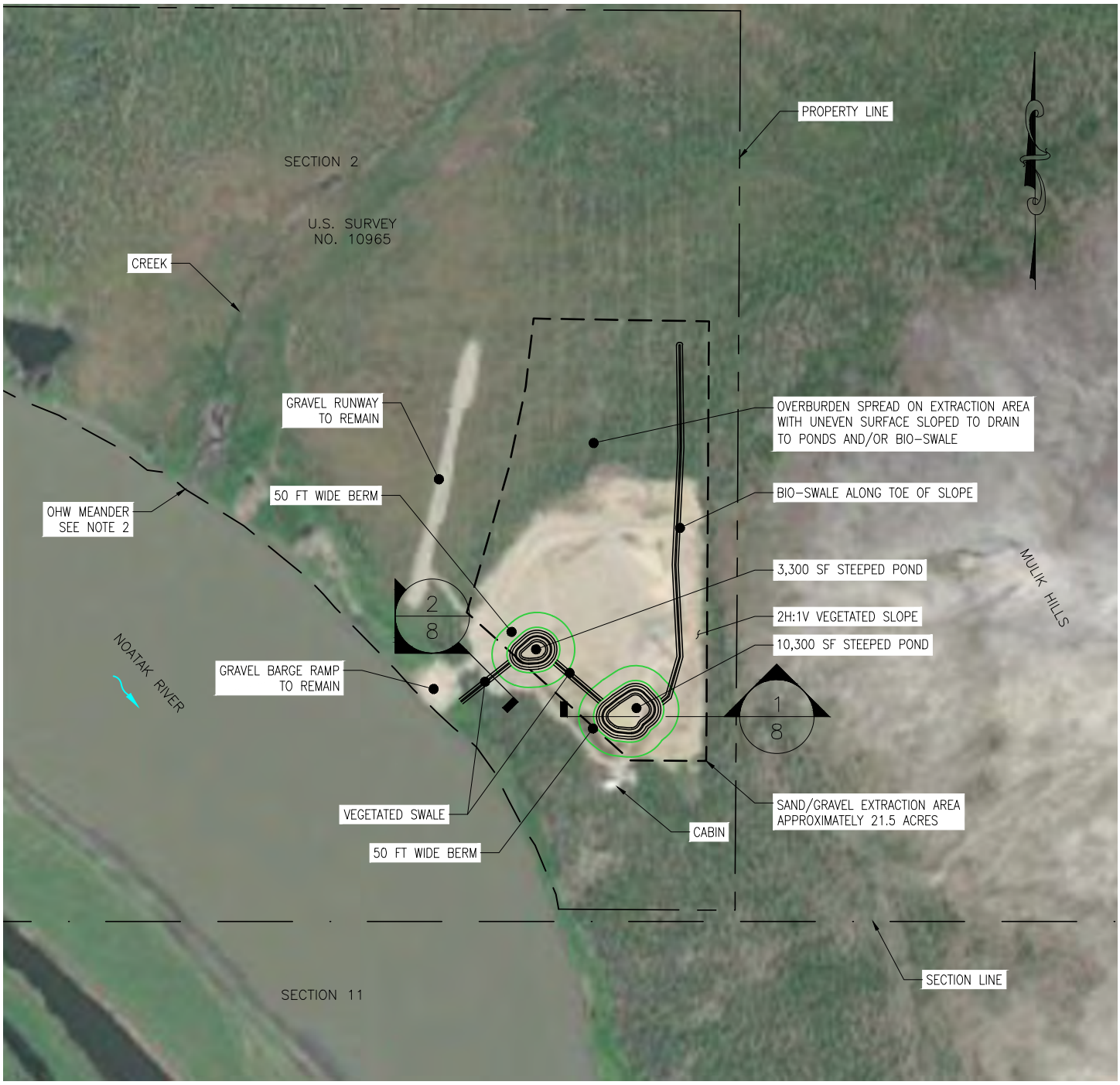

RECLAMATION PLAN

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SCALE IN FEET

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RECLAMATION PLAN

4/2/2025 SHEET 7 OF 8

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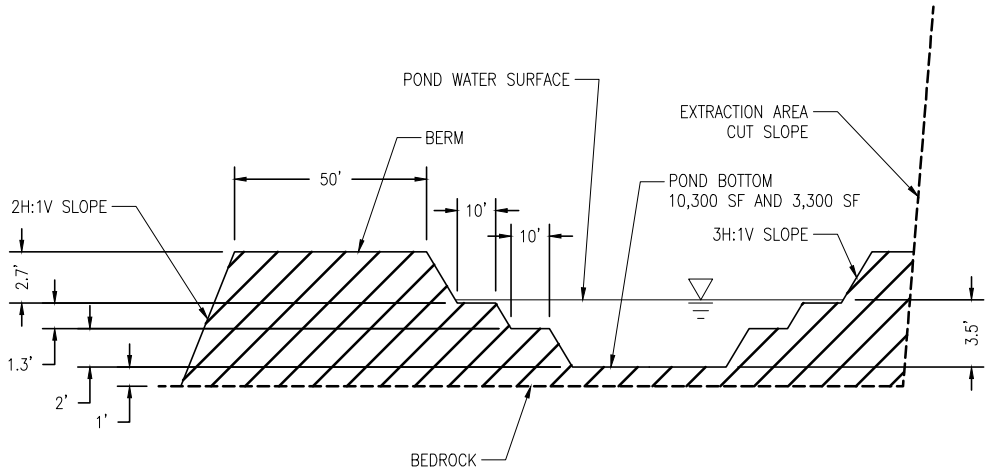

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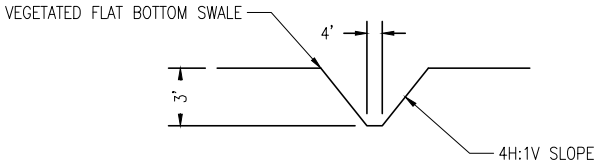

2 DITCH SECTION

NOTES:

1. POND AND BERM TO BE CONSTRUCTED FROM OVERBURDEN, SILT, AND CLAYEY SOILS FROM EXTRACTION AREA.
2. EXPOSED EXTRACTION AREA SURFACES TO BE COVERED WITH TOPSOIL AND SEEDED WITH REGIONAL SEED MIX.

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NOATAK RIVER GRAVEL MINE

GRAVEL EXTRACTION
KOTZEBUE, ALASKA

WATERBODY: HOTHAM INLET

SECT. 2; T020N; R017W
MERIDIAN: KATEEL RIVER
USGS QUADRANGLE NOATAK A-1
LAT: 67.15810° LONG: -162.32760°

POND SECTION

4/2/2025 SHEET 8 OF 8

Noatak River Gravel Mine

Material Site Reclamation Plan

Drake Construction, Inc
April, 2025

mlp & associates

2025 Material Site Reclamation Plan for Noatak River Gravel Mine

Kotzebue, Alaska

April 2025

Prepared For:

Drake Construction, Inc.
PO Box 338
Kotzebue, Alaska 99752

Prepared By:

MLP & Associates, LLC
721 Depot Drive
Anchorage, Alaska 99501

Table of Contents

Appendix

Appendix A: Drawings
Appendix B: BMP Sheets
Appendix C: Revegetation Manual for Alaska

1. Introduction

1.1. Purpose and Scope

Drake Construction, Inc. (DCI) is proposing to continue development of an aggregate material source in western Alaska, about 560 miles northwest of Anchorage and about 19 miles north of Kotzebue along the northeastern bank of the Noatak River (see Sheet 1). This document was prepared in accordance with state regulations governing the reclamation of mined lands and describes reclamation goals and techniques for the mine site and ancillary facilities.

The purpose of this Reclamation Plan (Plan) is to provide guidelines for implementing stabilization and reclamation procedures for the material source. These guidelines are based on the best available reclamation technologies. As DCI is committed to concurrent reclamation of portions of the site during operations, these guidelines may be modified as actual reclamation data is gathered during field reclamation of individual facilities or reclamation test plots. Revisions to this Plan would be made to address changes in the design, construction, operations, and concurrent stabilization and reclamation of the facility.

This approach will:

- Allow the incorporation of new design information as subsequent phases of the project are developed
- reflect changes in the operating plans and mining schedule
- account for the stabilization and reclamation of previous phases or specific components of the facility
- incorporate information and actual operating experience developed during the initial phases of the project
- allow for the utilization of new, reasonable and practical reclamation techniques as they are developed.

The following table provides a record of changes to this Plan.

Record of changes and amendments.

Date	Section(s) Revised or Amended

The document is submitted in accordance with Alaska Statute 27.19, reclamation is required of all mining operations, including sand and gravel extraction.

Gravel mining operations were initially permitted on March 10, 2009 and placed into use on August 1, 2011. The total aggregate mined since 2011 is approximately 150,000 cubic yards. The current excavation site is approximately 21.5 acres.

2. Applicant Information [11 AAC 97.310(b)(1)]

2.1. Corporate Officer Completing Application

Name:	Toby Drake
Title:	President
Address:	P.O. Box 338 Kotzebue, Alaska 99752
Telephone:	(907) 442-3512

2.2. Designated Contact Person (Agent)

Name:	Kirstie Gray
Title:	Permit Compliance Officer
Address:	3340 Arctic Blvd Unit 203 Anchorage, Alaska 99503
Telephone:	(907) 947-7395

2.3. Corporate Information

Business Name:	Drake Construction, Inc.
Address:	P.O. Box 338 Kotzebue, Alaska 99752
Telephone:	(907) 258-2777
General Manager:	TBD

3. Project Description

The current phase of aggregate mining at this site is projected to last approximately five years. The mine operates seasonally during the summer months, employing a conventional "truck and shovel" operation that utilizes both bulk and selective mining methods. Currently, there is no road or rail access to the site, and all personnel and supplies are transported by tug and barge. The project remains completely isolated from existing power and other services infrastructure.

The project site encompasses a total of 21.5 acres of extractable material along with additional portions of the property managed by DCI. Currently, about 14 acres of the site are under excavation, while 7.5 acres will involve new excavation across two separate cells. Cell 1 covers approximately 2.5 acres, and Cell 2 spans about 5 acres.

3.1. Properties and Legal Description [11 AAC 97.310(b)(2)]

The legal description of the above property is Native Allotment F-15983, surveyed USS 10965, 50-96-0179, Township 20 North, Range 17 West of the Kateel River Meridian. The allotment is located approximately 19 miles north of Kotzebue, on the northeastern bank of the Noatak River.

Access to the material site is by river barge along the Noatak River below the highwater mark, ADL 418490.

3.2. Vicinity Map [11 AAC 97.310(b)(3)]

A Vicinity Map is included as Sheet 1.

3.3. Map of the Subject Property Including Boundaries and Topographic Details of the Land [11 AAC 97.310(b)(4)]

A United States Geological Survey topographic map is included as Sheet 3. The map shows the general vicinity of the mining operation and the specific property to be worked.

The map also shows the general description and diagram of the mining operation and shows and states the number of acres to be mined.

Diagrams of the mined area and the mining operation are included as Sheets 5 and 6.

4. Environmental Setting

4.1. Vegetation Types and Condition

The Kotzebue Sound Lowlands consist primarily of flat poorly drained coastal plains dominated by terraces, low hills, stabilized and active dune fields. There are many lakes and sinks which are connected by a maze of waterways.

Lakes and ponds make up 15 to 20 percent of the area. Soils underlain by permafrost are nearly always saturated in the summer. Permafrost is deep or absent and soils are well drained in natural levees and sand dunes. Spring flooding along rivers and tidal inundation along the coasts are common. (USDA, 2001)

Since standing water is almost always present, wet tundra communities consisting of sedge mats predominate. In areas of better drainage, woody plants such as white spruce, willows, alder, and paper birch occur. Black spruce forests are present along area rivers, whereas grasses grow along the coast's dunes (USDA, 2001).

4.2. Soil Types and Condition

The surface of the site is wooded with no silty overburden observed. In addition, no permafrost was present at the site and the depth of frost penetration was less than two feet. Underlying the forest surface, the soils consist of well graded and poorly graded gravels with silt and sand (GW-GM, GP-GM), poorly graded and well graded sands with silt and gravel (SW-SM, SP-SM), silty gravels with sands (GM), and silty sands with gravels (SM). (NANA Geotechnical Report, 1999)

4.3. Groundwater Elevation

Groundwater levels are relatively deep, averaging approximately 70 meters below ground surface. (NANA Geotechnical Report, 1999)

4.4. Surface Water Characteristics

The Noatak River, located along the project site's western boundary, is the area's predominant surface water feature. Two unnamed streams are also on the allotment (see Sheet 9), but they do not fall within the proposed excavation area. No modifications to the river or streams are planned.

4.5. Sensitive Species

The U.S. Fish and Wildlife Service (USFWS) IPAC resource list, not for consultation, was accessed on December 9, 2024, to determine if this project potentially impacts resources managed or regulated by the USFWS.

There are two threatened species, Spectacled Eider, (*Somateria fischeri*) and Steller's Eider (*Polysticta stelleri*)

There are no birds of particular conservation concern that are protected by the Migratory Bird Treaty Act in the project area.

5. Implementation Plan [11 AAC 97.310(b)(6)]

The following includes a description of the reclamation measures to comply with AS 27.19.020 and 11 AAC 97.200 - 11 AAC 97.250. Reclamation goals are to recontour, revegetate, or otherwise stabilize all areas impacted by exploration activities so lands are left in a stable condition that supports the reestablishment of vegetation and creation of wetland resources. Rehabilitation measures include: placement and shaping of overburden, slope stabilization, creation of shallow littoral zones, seeding, and fertilizing. These activities will provide wildlife habitat values; improve aesthetics, stability, and function at the site. This section describes the reclamation activities that will be completed. In this section, reclamation is divided into four phases:

- Initial Reclamation: Begin initial reclamation by reclaiming areas where mining is complete.
- Intermediate Reclamation: Extract and reclaim the project area.
- Final Reclamation: Remove temporary facilities, equipment, and refuse and reclaim the remaining main pit processing areas.
- Monitoring reclaimed areas.

5.1. Initial Reclamation

Summer 2025:

The wall on the east side of the project area will be reclaimed by grading the area 3 horizontal to 1 vertical (3:1). Topsoil and overburden will be placed on the slope with an excavator and bulldozer. The area will then be revegetated with willows and other native plants and seeded. This process will provide even coverage, facilitate vegetation growth, and minimize erosion until vegetation is established.

Slope stabilization with native plants is critical to effective site reclamation. Woody shrubs on the slopes will be helpful in protecting the soil from erosion. Table 5-1 highlights several species that are ideal for slope stabilization. Depending on availability, feltleaf willow *Salix alaxensis* and shrub birch *Betula gladulosa* are native species ideal for planting along all sloped areas, especially the top. Alder *Alnus spp.* are often found in poorer soils on the lower edges of slopes near water. These may be planted along the bottom of the slope (ADFG 2015).

Table 5-1. Woody Shrubs for slope stabilization

Scientific Name	Common Name
Salix alaxensis	Feltleaf willow
Betula gladulosa	Shrub birch
Alnus spp	Alder

The areas of the slope not planted in woody shrubs can be hydroseeded with a simple mix of several species. Table 5-2 identifies the ideal species to include in a hydroseed mix for the Noatak area. These species are valuable for pollinators and will readily reseed.

Table 5-2. Non-woody vegetation for slope stabilization (Wright 2008)

Scientific Name	Common Name
Deschampsia beringensis 'Norcoast'	Bering hairgrass
Deschampsia caeptiosa 'Nortran'	Tufted hairgrass
Festuca rubra	Red fescue
Arctagrostis latifolia 'Alyeska' or 'Kenai'	Polargrass
Chamerion latifolium	Dwarf fireweed
Achillea millefolium var borealis	Boreal yarrow
Heysarum alpinum	Alpine sweetvetch

The plantings' success depends on regular watering and monitoring for the first two years while the plants establish root systems, particularly woody vegetation. Hydroseeded plants likely will not need care after application. Once established, the plantings will reseed and regenerate on their own.

The species listed in this recommendation may or may not be commercially available. Native substitutions may be made that meet the habitat requirements.

5.2. Intermediate Reclamation

The remaining extraction of Cell 1 and 2 will be mined one cell at a time. When the borrow source in a cell has been exhausted, that cell will be reclaimed by grading and revegetation as per section 5.2.1.

5.2.1. Measures for Topsoil Removal, Storage, Protection, and Replacement

Topsoil and overburden removed from areas to be excavated will be stockpiled separately onsite for reuse. If possible, stockpiles will be located away from areas of concentrated runoff flow and a minimum of 100-feet from any wetland or waters of the U.S. in accordance with Best Management Practice (BMP) 44 Stockpile Management and BMP 40.00 Cold Weather Stabilization (Appendix B).

When the borrow source has been exhausted, the slopes will be graded and stockpiled topsoil and overburden placed on the slopes. Topsoil and overburden will be placed on the slopes with an excavator and bulldozer. This process will provide even coverage, facilitate vegetation growth, and minimize erosion until vegetation is established.

Natural vegetation and seed will be placed on the reclaimed slopes using the shrubs and seed mixes outlined in Table 5-1 and Table 5-2. If seed is used, careful consideration will be taken not to introduce non-native seed to the area. Refer to *A Revegetation Manual for Alaska* in Appendix C.

During clearing and grubbing operations, stockpiled organic-rich soil will be managed by use of BMP 44 Stockpile Management. During reclamation and/or post-mining stockpiled organic-rich soil will be placed and graded per the plan. BMP 52.00 & 53.00 Permanent Seeding and Soil Amendments and/or BMP 57.00.

5.3. Final Reclamation

Final reclamation will commence when all material is exhausted of usable material within the footprint of the Allotment 15983. Reclamation will include constructing two pond/wetlands, a bioswale, and vegetated swale spillways. The mined area will be revegetated. The airstrip, the access roads, and the barge landing area will remain as is.

The full width of the pit floor will be covered with a 2- to 4-inch-thick layer of organic-rich soil material to maximize natural revegetation. The area will be revegetated with the seed mix described in Table 5-2.

Two ponds will be created: The upper pond/wetland is approximately 10,000 sf x 3.5 ft deep lined with silt/clay. The lower pond/wetland is approximately 3,500 sf x 3.5 ft deep. Each pond will include two benches, 10 feet wide at 1 ft and 2 ft below the design water level for vegetation. The ponds will fill primarily with snow melt. Due to low annual precipitation around 9 inches, the ponds are unlikely to fill with runoff. The ponds were designed to maximize capture and retention of snowmelt and precipitation runoff. See Sheet 7 and pond design cross section, Sheet 8.

The upper pond/wetland area will capture runoff from the hillside via a bioswale at the toe of the gravel pit cut slope. A vegetated swale spillway will be constructed to collect overflow and convey it to the lower pond/wetland. The lower pond will be used to collect runoff from the reclaimed gravel pit site and the upper pond/wetland. Overflow from the lower pond to the river will pass through a vegetated swale spillway.

Each of the two ponds will include two benches 10 feet wide at 1 ft and 2 ft below the design water level for vegetation. Shallow littoral areas will be formed by shaping the surface of the overburden material. The edge of the littoral shelf will be contoured irregularly and sloped at a 10 horizontal to 1 vertical (10:1) slope. Terraces and slopes will provide varying habitats.

The ponds will be allowed to recharge naturally. Natural recharge allows the perimeter mine site features to come to thermal equilibrium each year as the water rises. The water catchment areas should be planted with species that can thrive in both wet and dry conditions. Table 5-3 shows plantings for each bench and the bowl of the catchment area.

Table 5-3. Plantings for benches and bowls of ponds (Wright 2008).

Scientific Name	Common Name	Location
Alnus spp	Alder	Top bench
Beckmannia syzigachne	American sloughgrass	Top bench, Low bench

Elymus villosus	Downy wildrye	Low bench
Carex macrochaeta	Longawn sedge	bowl

A bioswale will be added at the toe of the wall slope. See Sheet 7. Bioswales are grass lined ditches that remove sediment through filtration and reduction of runoff velocities. The bioswale BMP is appropriate for project sites where concentrated runoff needs to be handled to prevent erosion or encourage infiltration. A healthy grass cover and moderate ditch slopes are needed.

5.4. Monitoring Reclaimed Areas

Monitoring at the site will take place for three years. Seeded areas will be watered as needed to ensure vegetation is established and growing well.

Vegetation growth around the ponds and the wall will be watered and monitored to ensure the establishment of the plantings.

The bioswale and vegetated swale spillways will be repaired and grass re-established as necessary. The bioswale should be checked for scour and repairs should be made immediately. All flow impediments should be removed to maintain the ditch hydraulics.

Project area will also be monitored for invasive species for three years.

5.5. Measures for Stream Placement and Reclamation

Not Applicable – No excavation work will occur in or near streams. In addition, all work will occur above the high water mark and annual flood range.

5.6. Reclamation or Post-Mining Conversion of Access Roads

The gravel access roads will not be reclaimed and will remain for the property owner to access the property and river access.

5.7. Reclamation Activities and Schedule for Completion

A typical reclamation cross section is included as Sheet 8.

Reclamation activities and scheduling are depicted in the table below. Reclamation facilitates consistent, efficient and effective management of the revegetation and habitat restoration effort.

Table 5-4. Schedule of Reclamation Activities

Date	Activity
Summer 2025	Topsoil and organic overburden will be moved from the current location to east wall to be used for grading and topsoil placement. The wall on the east side of the project area will be reclaimed with grading the wall area 3:1 and vegetating it with willows and hydroseeding with other native plants. The remainder of the area will be vegetated with native plants.
Summer 2026 and on ongoing	Reclamation of Cells 1 and 2 will occur after extraction of those areas is complete. All slopes of the worked section will be stabilized and maintained at a 3:1 slope.
Final	Two ponds will be created: The upper pond/wetland is approximately 10,000 sf x 3.5 ft deep lined with silt/clay. The lower pond/wetland is approximately 3,500 sf x 3.5 ft deep. Each pond will include two benches 10 feet wide at 1 ft and 2 ft below the design water level for vegetation. The upper pond/wetland area will capture runoff from the hillside via a flat bottom ditch at the toe of the gravel pit cut slope. A vegetated swale spillway will be constructed to collect overflow and convey it to the lower pond/wetland. The lower pond will be used to collect runoff from the reclaimed gravel pit site and the upper pond/wetland. Overflow from the lower pond to the river will pass through a vegetated swale spillway. The entire mined area will re-contoured and/or terraced for reclamation. Final reclamation will be completed after entire Allotment 15983 has been exhausted of material.
Monitoring	For three years after final extraction or until the vegetation is 70% established. Vegetated areas will be watered, and invasive species will be monitored.

5.8. Equipment List

- Excavators
- Grader
- Loaders
- Haul Trucks, Screening Plant
- Articulated Dump Truck
- Fuel trucks
- Service Truck
- Other vehicles