US Army Corps of Engineers
Alaska District

Juneau Field Office
Regulatory Division (1145)
CEPOA-RD
Post Office Box 22270
Juneau, Alaska 99802-2270

Public Notice of Application for Permit

PUBLIC NOTICE DATE:	**November 9, 2020**
EXPIRATION DATE:	**December 9, 2020**
REFERENCE NUMBER:	**POA-1990-00592-M9**
WATERWAY:	**Berner's Bay/Lynn Canal**

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

All comments regarding this Public Notice (PN) 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 PN reference number listed above.

All comments should reach this office no later than the expiration date of this PN to become part of the record and be considered in the decision. Please contact Randal Vigil at (907) 790-4491 or by email at Randal.P.Vigil@usace.army.mil if further information is desired concerning this notice.

APPLICANT: Coeur Alaska, Inc. (Kevin Eppers), 3031 Clinton Drive, Suite 202, Juneau, AK 99801.

AGENT: Dave Casey, HDR, Inc., 2525 C Street, Suite 500, Anchorage, AK 99503.

LOCATION: The project site is located within Section 5, 10, 14, 15, 22, 23, 26, and 27, T. 35 S., R. 62 E., Copper River Meridian; USGS Quad Map Juneau D-4; Latitude 58.832934º N., Longitude 135.042555º W.; at the Kensington Mine; approximately 45 miles north-northwest of Juneau, Alaska.

SPECIAL AREA DESIGNATION: The project is located within the Tongass National Forest.

PURPOSE: The applicant's stated purpose is to implement Plan of Operations Amendment 1 (POA 1) in order to expand the tailings and waste rock storage capacity to facilitate uninterrupted economic production of ore resources past the year 2023, while continuing to protect the environment, ensure safe operations, and comply with regulatory requirements.

PROPOSED WORK: The applicant requests authorization for the proposed discharge of fill material into waters of the U.S., including wetlands, to construct the following proposed POA-1 project components: 1. Stage 4 Dam raise and Tailings Treatment Facility (TTF) Expansion, 2. Kensington waste rock stockpile (WRS) Expansion, 3. Pit #4 Expansion, 4. Comet WRS Expansion, 5. Comet Portal Topsoil Stockpile, 6. Pipeline Road WRS, and 7. Fish Habitat Mitigation. See attached DA permit application for details.

Summary of discharges and mechanized land clearing acreages in jurisdictional Waters of the United States (WOTUS) for the construction of POA 1's Stage 4 Dam raise and TTF expansion.

Project Component	**Footprint (Acres)**	**Acres in WOTUS**	**Regulated Activity**
Construct Stage 4 dam, spillway, access road, USL causeway and spillway; install three culverts, reroute stream, relocate WTP, and stockpile growth media	21.2	1.2	Discharge of Fill
Construct west diversion and access route, reroute stream	1.3	0.3	
Construct north diversion and access route	0.9	0.1	
Fill Footprint	**23.4**	**1.6**	***Total Discharge of Fill***
Ground disturbance necessary to create work areas and access during construction	53.3	4.5	***Mechanized Land Clearing*** *Beyond Discharge of Fill*
Construction footprint - Stage 4 Dam raise and TTF expansion	**76.7**	**6.1**	**Total WOTUS intersected**
		6.1	***WOTUS converted to Upland during construction (before Reclamation)***

Summary of fill discharge acreages (includes mechanized land clearing) in jurisdictional WOTUS for the construction and operation of the Expanded WRS Capacity proposed under POA 1.

Project Component	**Footprint (Acres)**	**Acres in WOTUS**	**Regulated Activity**
Expand Kensington WRS Site	1.33	0.16	Discharge of Fill (includes Mechanized Land Clearing)
Expand Pit #4 WRS Site	30.87	5.36	
Expand Comet WRS Site	28.28	6.19	
Comet Topsoil Stockpile	3.46	1.02	
Construct Pipeline Road WRS (New Site)	38.33	4.45	
WRS Expansion	102.64	17.91	**Total Discharge of Fill**
		17.91	***WOTUS converted to Upland***

Summary of discharges and mechanized land clearing acreages in jurisdictional WOTUS required to construct Fish Habitat Mitigation under POA 1.

Fish Habitat Mitigation Component	**Footprint (Acres)**	**Acres in WOTUS**	**Regulated Activity**
USL Delta	0.5	0.5	Discharge of Fill
Access route to USL Delta	2.2	1.7	
South Creek Delta	0.4	0.2	
New culvert to convey South Creek	<0.1	<0.1	
Fat Rat Creek Culvert Replacement	<0.1	<0.1	
Spectacle Creek Culvert Replacement	<0.1	<0.1	
Fat Rat Creek Diversion Access Route	1.0	0.6	
Fill Footprint	**4.1**	**3**	***Total Discharge of Fill***
Create work areas to construct deltas	5.9	4.0	**Mechanized Land Clearing** Beyond Discharge of Fill
Fat Rat Creek Diversion and Work Area	4.9	2.4	
Ground disturbance during construction	**10.8**	**6.4**	***Total Mechanized Clearing***
Construction footprint - Fish habitat mitigation	**14.9**	**9.4**	**Total WOTUS intersected**
		9.4	***WOTUS converted to Upland during construction (before Reclamation)***

Volume (cubic yards) of estimated fill by type proposed under POA 1.

	Volume (cubic yards)			
Fill Type	**Waters**	**Wetlands**	**Upland**	**Total**
Structural Rock Fill	3,000	4,000	358,000	365,000
Common Fill	781	20,059	12,075	33,015
Concrete	--	--	2,500	2,500
Tailings	5,113,000	3,000	1,374,000	6,490,000
Growth Media	--	15,000	225,000	240,000
Waste Rock	74,265	562,200	3,049,500	3,685,965
Totals	**5,191,046**	**604,259**	**5,021,175**	**10,816,480**

Throughout the Stage 4 operations period, Coeur would discharge up to 4 million tons of tailings into an area of approximately 70.4 acres of WOTUS. The Stage 4 tailings would be discharged across the top of the 51.2-acre tailings footprint authorized by Stage 3. The tailings footprint under Stage 4 would therefore be expanded by approximately 19.2 acres as compared to that currently authorized for the Stage 3 TTF. See the video at the following website for details: https://www.youtube.com/watch?v=19N8rz7N74w&feature=youtu.be

All work would be performed in accordance with the enclosed plan (sheets 1-16), dated October 12, 2020.

ADDITIONAL INFORMATION: DA permit POA-1990-592-M, was issued on June 17, 2005, to Coeur Alaska, Inc. for the discharge of fill material into 61.7 acres of WOTUS for the development of the Kensington mine, including disposal of mine tailings. The permit was subsequently modified authorizing extensions of time to complete the authorized work and operate the TTF.

The United States Forest Service (USFS), Alaska Region, Tongass National Forest is seeking public comment on the Draft Supplemental Environmental Impact Statement (DSEIS) for the Kensington Mine POA 1 on the Juneau Ranger District, Tongass National Forest. This document analyzes a No-Action Alternative and three action alternatives. The alternatives range from continuing the current mining activities and tailings disposal until 2023 when the current Tailings Treatment Facility and waste rock storage locations would reach their capacity (No Action) to three action alternatives - each offering a slightly different approach to tailings expansion and waste rock storage under various configurations and locations.

The DSEIS is available for review online at: https://www.fs.usda.gov/project/?project=55533. If you require a paper copy or electronic media or need additional information, please contact Matthew Reece, Project Manager, at 907-789-6274 or send your request to: sm.fs.kensington@usda.gov.

Federal, State, and local regulatory permits, licenses, and governmental approvals are required to operate the Mine. A complete list of past and current permits acquired for the Mine is included in Appendix B of the POA 1 (Coeur 2018). Based on previous Mine construction activities, Coeur anticipates continuing to operate under a number of existing federal, state, and local permits and authorizations and obtaining any needed modifications or new authorizations for POA 1, including, but not limited to, the following:

- A Section 402 APDES Permit for point source discharges to WOTUS is required under the CWA. The Alaska Department of Environmental Conservation (ADEC) administers the APDES permit program in Alaska.
- As part of the APDES permitting process, a SWPPP and associated BMPs are required for construction and operation of the mine.
- The ADEC regulates solid waste and addresses tailings, development rock, domestic waste, recyclable waste, and other material management and disposal. Permits for drinking water and wastewater disposal are also permitted through ADEC. A Waste Management Permit issued for the Mine is used to manage mining-related waste.
- Approval of a reclamation bond amount is required pursuant to 36 CFR 228.8(g), which necessitates obtaining a third-party reclamation cost estimate.
- A permit to construct and operate a source of potential air pollution from ADEC is required pursuant to state and federal clean air laws and regulations.
- Water use authorizations, as regulated and controlled by Alaska Department of Natural Resources (ADNR) for both surface and groundwater systems and other bodies of water, are required.

- Alaska Department of Fish and Game and ADNR issues fish habitat permits for work along or in a stream.
- A dam safety permit is required by ADNR through the Alaska Dam Safety Program.
- An allowable use permit issued by the City and Borough of Juneau (CBJ), based on a review of the mining project proposed within CBJ boundaries, is required.
- CBJ issues building permits for the administration and process facilities at the Mine.

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

a. Avoidance: The Stage 4 TTF expansion and the WRS sites were designed to limit, to the extent practicable, new impacts to WOTUS. Where feasible, POA 1 expands upon the existing footprint of the Mine. Three of the four proposed WRS sites would be expansions of existing WRS sites, which reduces the need for additional roads, reduces fragmentation of wildlife habitat, and reduces the amount of additional edge area created through the additional WRS areas. The new Pipeline Road WRS site was selected because it is adjacent to an existing road, thus eliminating the need for new roads and potential additional impacts to WOTUS.

b. Minimization: Coeur reduced the footprint at WRS sites to minimize impacts to WOUS and incorporated fish habitat improvement projects as part of POA 1 to replace habitat function that may have otherwise been reduced as a result of increasing water levels to the maximum Stage 4 TTF post-closure elevations. The six fish habitat projects incorporated into POA 1 were recommended by the ADF&G (see the TTF Environmental Monitoring Plan Appendix D of POA 1, Coeur 2018). Specific mitigation measures include harvesting gravel from existing stream beds to form deltas to provide Dolly Varden char spawning habitat; replacing culverts on South Creek, Fat Rat Creek, and Spectacle Creek to ensure adequate upstream passage and improve upstream habitat quality; and rerouting Fat Rat Creek to South Creek to create a wider and deeper channel at the new stream mouth.

Coeur currently implements mitigation measures to provide safe and efficient downstream fish passage from above the intake dam to East Fork Slate Creek. Measures are implemented to re-establish benthic and fish populations in the TTF (formerly Lower Slate Lake), and documented macroinvertebrate and Dolly Varden char seed sources around the TTF are considered sufficient to meet the reclamation goal of re-established benthic and fish populations without intervention (Wilson-Nananjo and Kanouse 2016; Kline 2001). Coeur will continue to provide downstream fish passage throughout Stage 4 operations.

The Mine is currently operating under an existing DA permit (POA-1990-592-M), which includes a number of special conditions. Where applicable, Coeur will continue to comply with all conditions of the existing permit. Additional avoidance, minimization, and monitoring activities to which Coeur has committed are described in the POA 1 (Coeur 2018) and supporting documents therein.

Coeur's commitment to implement BMPs and mitigation measures during the life of the operation, for the protection of freshwater aquatic resources, includes:

- The work limit for each mine component located in WTOUS will be clearly identified in the field prior to excavation, clearing, and/or construction;
- All project contractors and all workers on POA 1 will be advised of the terms and agreements in the DA permit;
- Provide secondary containment around all fuel storage and transfer locations;
- Provide double-walled tailings pipeline from the mill to the TTF;
- Provide oil-water separation for runoff collected from the fueling area;
- Store spill cleanup equipment at the Slate Cove Marine Terminal, the process area, and any fueling sites;
- Avoid freshwater instream construction work from May 1 through October 31;
- Limit all surface disturbance to the approved project footprint and avoid placing fill or construction materials outside of the approved footprint;
- Provide for bypass around construction, install silt fence, and minimize streambed traffic for instream bridge construction work;
- Maintain natural drainage patterns and avoid flooding or excessive drainage of adjacent wetlands by the use of a sufficient number and size of culverts under roads;
- Employ stream diversion, dam, and pump, or stream fluming techniques to avoid installation of culverts in flowing water;
- Install brush berm or equivalent down gradient of flow to contain sediment in all permitted construction areas;
- Use fill material that is clean of silt, clays, and organic materials for instream work;
- Mitigate the effects of sidecast slash within 30 feet of road shoulders by the most appropriate method: (1) end-haul slash to a central approved area or (2) pile slash in areas not visible from visual priority travel routes or use areas;
- Add a nontoxic chemical flocculent to the slurry to enhance the deposition of suspended particles in the TTF;
- Meet instream flow needs in all streams, limit intake as necessary, and use underground mine water and reclaimed tailings water as primary water supply where practicable; and, maintain sediment ponds, silt fences, and check dams throughout the Mine.

Coeur salvages and stockpiles growth media for use during revegetation and closure. All soil stockpiles are constructed with erosion control measures, including stabilization and stormwater diversion ditches, and include establishment of vegetative cover to minimize erosion. Reclamation will be performed using the stockpiled growth media and will consist of re-grading, placement of growth media, seeding, and fertilizing. Coeur will avoid disturbing steep slopes during inclement weather. Disturbance to stream banks or streambeds will be stabilized to prevent erosion. Monitoring of growth media stockpiles includes inspection of the growth media to verify that the stockpiles are intact, and that erosion is minimized. Stockpiles are periodically inspected to ensure that stormwater diversions are functioning as designed and that vegetation is established as planned. Coeur will identify and implement BMPs that allow for quick action where erosion is imminent or underway.

Mitigation measures to minimize impacts to vegetation include the use of native plants originating near the Mine during reclamation to the extent possible and maintenance of drainage patterns, water quality, and water quantity to support aquatic plant populations and habitats. Coeur is committed to the control of invasive species at the Mine. To prevent the establishment of invasive species, disturbed areas will be seeded as quickly as practical following the completion of reclamation activities. All seed mix used at the Mine will be state certified weed-free. Revegetation is discussed in more detail in Section 7.5 of POA 1.

Reclamation objectives will be met by establishing 75 percent live vegetation cover on reclaimed areas and ensuring that water quality criteria will be met. The reclamation plan also reflects that growth media will be placed at an average depth of 1 foot overall disturbed areas receiving cover soil. Coeur may request an exemption from this requirement based on site-specific conditions or to achieve diversity in the post-mining landscape. Such a request will be presented in the final reclamation plan to be submitted two years prior to closure and approved by the USFS and State of Alaska.

No USFS Alaska Region-listed sensitive plant species (USFS 2009) have been identified at the Mine to date. If a listed sensitive plant species is identified at the Mine, Coeur will notify the USFS and close the area to off-road vehicle use. Coeur will prohibit the collection of any plants or plant parts, except by permit issued by the USFS for scientific or educational purposes.

Coeur implements mitigation measures and monitoring programs to continually evaluate the potential effects of Mine operations on the surrounding environment. In general, the proposed actions under POA 1 will not affect current mitigation and monitoring activities at the Mine. Coeur will continue to implement mitigation measures and conduct monitoring activities similar to those described in the 2005 Plan of Operations (Coeur 2005). Annual photographs of stream habitat types are included in the Alaska Pollutant Discharge Elimination System (APDES) Permit AK-005057-1 Annual Water Quality submittal. Additionally, annual adult salmon escapement surveys conducted in Sherman, Slate, and Johnson creeks, and fish and minnow trapping surveys in USL are conducted and reported.

c. Compensatory Mitigation: No compensatory mitigation is proposed.

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: A Supplemental Environmental Impact Statement (SEIS) is being prepared for the proposed project. The lead Federal agency, the USFS, is responsible for compliance with the requirements of Section 106 of the National Historic Preservation Act. The Corps will review the USFS's documentation and either concur with their documentation or continue to work with them until any issues are resolved. A permit for the described work will not be issued until the Section 106 process has been completed, and the Corps concurs with the USFS's work or documentation.

ENDANGERED SPECIES: No threatened or endangered species are known to use the project area.

We have determined the described activity would have no effect on any listed or proposed threatened or endangered species and would have no effect on any designated or proposed critical habitat under the Endangered Species Act of 1973 (87 Stat. 844). Therefore, no consultation with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service (NMFS) is required. However, any comments they 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, 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 within the known range of the pink salmon (*Oncorhynchus gorbuscha)* chum salmon *(Oncorhynchus keta)*, and coho salmon (*Oncorhynchus kisutch*).

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

TRIBAL CONSULTATION: The Alaska District 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 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 PN 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 right or resource. Consultation may be initiated by the affected Tribe upon written request to the District Commander during the public comment period.

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)(l) 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

U.S. Army Corps of Engineers (USACE)

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003 Expires: 02-28-2022

The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE EMAIL.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - Kevin Middle - Last - Eppers	First - Dave Middle - Last - Casey
Company - Coeur Alaska, Inc.	Company - HDR, Inc.
E-mail Address - KEppers@coeur.com	E-mail Address - Dave.Casey@hdrinc.com
6. APPLICANT'S ADDRESS:	9. AGENT'S ADDRESS:
Address- 3031 Clinton Drive, Suite 202	Address- 2525 C Street, Suite 500
City - Juneau State - Alaska Zip - 99801 Country - USA	City - Anchorage State - AK Zip - 99503 Country - USA
7. APPLICANT'S PHONE NOs. w/AREA CODE	10. AGENTS PHONE NOs. w/AREA CODE
a. Residence b. Business 907.523.3328 c. Fax	a. Residence b. Business 907.644.2191 c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, HDR, Inc. to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

kevin eppers — Digitally signed by kevin eppers Date: 2020.10.26 15:25:39 -08'00' — SIGNATURE OF APPLICANT

2020-10-26 — DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)
Plan of Operations Amendment 1 (POA 1) for the Kensington Mine

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
Johnson, Slate, and Sherman Creeks	Address Not applicable
15. LOCATION OF PROJECT	City - State- Zip-
Latitude: ◦N See Project Description Longitude: ◦W	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

State Tax Parcel ID Municipality City and Borough of Juneau

Section - See Project Descr. Township - 35S Range - 62E

17. DIRECTIONS TO THE SITE

The Kensington Mine (Mine) is located approximately 45 miles north of Juneau, Alaska. The only access to the Mine is by float-plane, helicopter, or boat. The Mine is not currently served by the surface transportation system. See the attached Project Description for additional location information, including geographic coordinates.

18. Nature of Activity (Description of project, include all features)

Coeur Alaska, Inc. (Coeur), is proposing a life of mine extension at the Kensington Mine. Coeur has identified additional ore resources and production of that ore will result in the need for additional capacity for the tailings treatment facility (TTF) and waste rock stockpile (WRS). Coeur's POA 1 includes a Stage 4 expansion of the TTF, which will allow for the storage of an addition 4 million tons (Mt) of tailings and the expansion of three existing WRS sites, and the creation of a new WRS site to create an additional 5 Mt of storage capacity for waste rock. Please see the attached Project Description for additional details.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The purpose of the proposed POA 1 is to extend the life of the mine by a minimum of 10 years (to 2033) by increasing the storage capacity of the TTF and increasing waste rock storage capacity. Please see the attached Project Description for Coeur's complete project purpose statement.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

POA 1 requires discharging fill into waters of the U.S. to construct the expanded TTF and the additional WRS sites. During the operational stage of POA 1, fill material will be discharged into waters of the U.S. (WOUS), including wetlands, in the form of tailings (4 Mt) into the TTF and waste rock (5 Mt) at the WRS sites. Finally to support the closure of POA 1, fill material will be discharged into WOUS to construct six fish habitat mitigation projects to minimize impacts to fish habitat. The attached Project Description contains more information on these activities.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
See attached Project Description		

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres See attached Project Description

or

Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

Please see attached Project Description.

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- U.S. Forest Service, Juneau Ranger District; 8510 Mendenhall Loop Road

City - Juneau State - Alaska Zip - 99801

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
See Project Descr.					

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

kevin eppers (Digitally signed by kevin eppers Date: 2020.10.26 15:26:18 -08'00')	2020-10-26	Casey, Dave (Digitally signed by Casey, Dave Date: 2020.10.26 19:04:51 -08'00')	2020-10-26
SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

Project Description
to Support Section 404
Individual Permit Application

Plan of Operations Amendment 1

Kensington Mine

Coeur Alaska, Inc.
3031 Clinton Drive, Suite 202
Juneau, Alaska

October 26, 2020

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Table of Contents

List of Tables

List of Permit Figures (Attachment A)

List of Acronyms

ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
amsl	above mean sea level
APDES	Alaska Pollutant Discharge Elimination System
BMP	Best Management Practices
CBJ	City and Borough of Juneau
CFR	Code of Federal Regulations
CWA	Clean Water Act
DA	Department of the Army
GP	Graphitic Phyllite
HDPE	high-density polyethylene
LOM	Life of Mine
MSGP	Multi-Sector General Permit
Mt	million tons
POA 1	Plan of Operations Amendment 1
SEIS	Supplemental Environmental Impact Statement
SWPPP	Stormwater Pollution Prevention Plan
TTF	Tailings Treatment Facility
USACE	U.S. Army Corps of Engineers
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
USL	Upper Slate Lake
WOUS	Waters of the U.S.
WRS	waste rock stockpile
WTP	water treatment plant

1.0 Introduction

Coeur Alaska, Inc. (Coeur), as owner and operator of the Kensington Mine (Mine), is applying to the U.S. Army Corps of Engineers (USACE) to modify Department of the Army (DA) permit POA-1990-592-M issued on June 17, 2005, in order to support Coeur's Plan of Operations Amendment 1 (POA 1) (Coeur 2018). Implementing POA 1 will allow Coeur to extract additional ore resources within its mining claims and extend the Life of Mine (LOM). To accomplish this, the discharge of fill material into jurisdictional Waters of the U.S. (WOUS), including wetlands, is necessary. These discharges will occur during POA 1's construction, operation and closure phases.

Coeur has been mining gold underground at the Mine with access through the Kensington and Jualin portals pursuant to other agency authorizations. Since portions of the Mine are sited in the Tongass National Forest, the other key Federal authorization is from the U.S. Forest Service (USFS) when the agency approved Coeur's 2005 Plan of Operations. To evaluate POA 1, the USFS is preparing a Supplemental Environmental Impact Statement (SEIS) under the National Environmental Policy Act. USACE is a cooperating agency for the SEIS.

This document, which focuses on POA 1's activities that involve the discharge of fill material into WOUS, supports Coeur's permit application to modify DA permit POA-1990-592-M. Specifically, this document provides additional details specific to **Blocks 15-23** and **26** of ENG Form 4345. **Section 2.0** provides additional location information and **Section 3.0** identifies Coeur's Project Purpose. **Section 4.0** describes components of POA 1, some of which will require authorization from USACE. **Section 5.0** identifies the methods used to identify WOUS boundaries within and near the proposed POA 1 footprint. **Section 6.0** focuses on components of POA 1 that require the discharge of fill, and refers to supporting maps and figures in **Attachment A** to identify where POA 1 components intersect WOUS. Coeur's proposed avoidance, minimization, and compensatory mitigation measures are summarized in **Section 7.0. Section 8.0** lists other permits and authorizations required for POA 1.

2.0 Project Location Descriptions (Blocks 15 -17)

The Mine is located approximately 45 miles north-northwest of Juneau, Alaska (**Sheet 1, Attachment A**). The only access to the Mine is by floatplane, helicopter, or boat. The Mine is not currently accessible by a surface transportation system. Lands within the proposed POA 1 footprint are located on the Juneau D-4 U.S. Geological Survey (USGS) quadrangle. Table 1 identifies land ownership and section, township, and range for components included in POA 1. The areas that will require the discharge of fill, including mechanized land clearing in WOUS under POA 1, are shown on **Sheet 2, Attachment A**; Table 1 lists geographic coordinates for their approximate centers.

Table 1. Land ownership status and legal descriptions of the POA 1 components.

POA 1 Component	Land Ownership	Geographic Coordinates (Decimal Degrees, WGS 84) Range, Township, Section (Copper River Meridian)
Stage 4 Tailings Treatment Facility Expansion	USFS	N58.831, W135.042 Range 62E, Township 35S, Sections 22, 23, 26, and 27
Kensington WRS Expansion	USFS	N58.849, W135.052 Range 62E, Township 35S, Section 10
Pit #4 WRS Expansion	USFS/Private	N58.831, W135.033 Range 62E, Township 35S, Section 14
Comet WRS Expansion	USFS	N58.865, W135.102 Range 62E, Township 35S, Section 5
Comet Portal Topsoil Stockpile	USFS/Private	N58.867, W135.107 Range 62E, Township 35S, Section 5
Pipeline Road WRS	Private	N58.84, W135.049 Range 62E, Township 35S, Sections 10 and 15

Note: TTF = tailings treatment facility; USFS = U.S. Forest Service; WRS = waste rock stockpile

3.0 Project Purpose (Block 19)

Coeur's purpose for POA 1 is to expand the tailings and waste rock storage capacity to facilitate uninterrupted economic production of ore resources past the year 2023, while continuing to protect the environment, ensure safe operations, and comply with regulatory requirements. POA 1 will be a permit modification to the current DA permit (and an amendment to the current and approved USFS Plan of Operations) and will allow the Mine to continue to produce commercially viable ore concentrate from deposits using proven technologies for a minimum of ten additional years. Additional tailings and waste rock storage capacity is needed to accommodate the additional ore production from continued production. To serve this project purpose, Coeur needs to amend its current DA permit and other permit approvals, where applicable, to enable expansion of the existing tailings treatment facility (TTF), expansion and construction of waste rock storage facilities, construction of access roads, and relocation of vital infrastructure.

4.0 Proposed Project (Block 18)

4.1. Overview

4.1.1. Life of Mine Extension

Through ongoing exploration efforts, additional ore resources have been identified within Coeur's mining claims, and production of that ore will result in the need for additional capacity in the TTF and additional waste rock storage. As such, Coeur proposes to expand the disturbance area authorized under the current DA permit. POA 1 includes the following primary elements to extend the life of the Kensington Mine (Coeur 2018):

1. Increase impoundment storage by constructing a Stage 4 dam raise of the existing TTF which includes the following actions:
    - Raise the existing 88-foot high main dam by 36 feet (from 740 feet to 776 feet above mean sea level (amsl));
    - Construct a causeway between the TTF and Upper Slate Lake (USL);
    - Construct a new spillway for the Stage 4 dam;
    - Reroute a portion of Lower Slate Creek;
    - Relocate seepage collection sumps;
    - Construct a relocated access road above the Stage 4 water elevation;
    - Install two stormwater diversion pipes around the TTF (which requires constructing two temporary access routes); and
    - Relocate ancillary infrastructure including powerlines, pipelines, and water treatment plants (WTPs).
2. Expand the following three existing waste rock stockpile (WRS) facilities:
    - Kensington WRS, Pit #4 WRS, and Comet WRS
3. Construct a new WRS facility:
    - Pipeline Road WRS

Activities associated with extending the LOM (i.e., items 1 through 4 above) are summarized in **Section 4.2**. Coeur's POA 1 (2018) is the source document for the project-related information throughout this document and the attached ENG Form 4345.

4.1.2. Closure and Reclamation

After active mining operations are complete, and water quality in the TTF meets applicable standards, additional water cover will be provided. The proposed water elevation increase associated with the post-closure Stage 4 dam raise will raise the water level in USL and portions of its tributaries. To offset potential impacts to fish habitat in USL, Slate Creek, and South Creek, Coeur also proposes the fish habitat mitigation activities (i.e., bulleted items 4 through 9) listed below, as part of POA 1. All six fish habitat mitigation activities proposed as part of POA 1 were recommended by the Alaska Department of Fish and Game (ADF&G) Division of Habitat[1]:

4. Replace the existing culvert that conveys South Creek underneath the existing TTF access road with a fish passage culvert to restore fish access to habitat upstream;
5. Divert Fat Rat Creek into South Creek farther upstream of the post-flood elevation to improve fish habitat in South Creek at closure (which requires the construction of a temporary access route);
6. Replace the existing Fat Rat Creek culvert with a fish passage culvert;
7. Construct a delta near where the post-Stage 4 dam raise water level joins South Creek and Fat Rat Creek to improve fish habitat and support the Dolly Varden population after flooding and at closure;

[1] The ADF&G provided Coeur with potential mitigation opportunities after investigating aquatic resources in water bodies within and upstream of the proposed USL flood elevation, and water quality in the TTF in the fish and fish habitat investigations at Kensington Gold Mine. ADF&G Technical Report No. 17012, Douglas, AK (Albrecht 2017).

8. Replace the existing Spectacle Creek culvert along the Jualin Road with a fish passage culvert to restore access to habitat upstream; and
9. Construct a delta for spawning fish at the post-flooded mouth of USL, joining the Stage 4 water level to Upper Slate Creek and two tributary streams (which requires the construction of a temporary access route along the eastern edge of USL below the post-Stage 4 raise elevation).

Activities associated with closure and reclamation at the TTF (bulleted items 4 through 9 above) and WRS sites are summarized in **Section 4.3**. Coeur (2018) describes the proposed project in more detail and provides figures to illustrate project elements from construction of POA 1 through the reclamation phase.

4.2. Life of Mine Extension

4.2.1. Expand TTF to Increase Impoundment Storage

4.2.1.1. STAGE 4 DAM RAISE

Coeur proposes to construct a Stage 4 raise of the TTF dam in order to increase the tailings storage capacity and extend the LOM.[2] The Stage 4 dam will be designed and constructed similarly to the existing Stage 3 dam, which has been approved by the Dam Safety Division of the Alaska Department of Natural Resources (ADNR) (Coeur 2018). A plan view of the proposed Stage 4 dam is shown on Figure 4-2 of POA 1; cross sections are presented in Figure 4-3 and Figure 4-4 of POA 1.

As with the previously permitted stages, the Stage 4 dam will be a downstream-constructed Geosynthetic-Faced Rockfill Dam keyed into bedrock. The Stage 4 raise will be constructed similarly to previous stages and will include a 15-foot-wide zone of finer-grained waste rock material placed at the downstream slope of the dam. Construction material for the downstream raise will consist mostly of rock fill. A three-foot-thick layer of processed coarser filter material (drain fill) will be placed on the upstream portion of the dam overlain by three feet of filter fill material. Coeur will install a 100-mil textured high-density polyethylene (HDPE) geomembrane over the filter fill layer. The bedding material over the geomembrane will consist of an 18-inch-thick layer of processed finer-grained material. A 15-foot-wide section of finer-grained waste rock material will be placed upstream of the bedding layer.

Existing soils and weathered bedrock below the footprint of the proposed Stage 4 dam raise will be removed and disposed of prior to construction. Foundation preparation activities will be similar to what has been performed on the other stages of the dam construction with the exposure of the bedrock surface and the placement of a lean concrete foundation treatment prior to the commencement of fill placement. To accommodate the fill footprint necessary for the Stage 4 dam raise, a portion of the existing Lower Slate Creek channel will be relocated and a new spillway will be constructed, as described in the next subsection.

[2] The TTF is currently authorized to operate at Stage 3 (elevation 740 feet above mean sea level).

Dam construction activities will include removal of the graphitic phyllite (GP) material to bedrock and application of a concrete layer to seal the bedrock surface to minimize the potential for acid rock drainage. A temporary GP material storage area will be created to facilitate reclamation in this area. The GP material encountered during construction of the Stage 4 dam raise will be managed similarly to current practice. Cuts will be minimized or avoided with the majority of construction being fill or concrete channel construction, similar to the Stage 3 design (Coeur 2018).

4.2.1.2. STAGE 4 SPILLWAY

Coeur proposes to abandon the existing Stage 3 spillway and construct a new spillway along the west abutment of the proposed Stage 4 dam raise. As a result, a portion of Lower Slate Creek will be relocated, as shown on Figure 4-2 of POA 1 (Coeur 2018). The design of the proposed Stage 4 spillway will be similar to the Stage 3 spillway, which will be abandoned once the new spillway is operational. The spillway invert will be set at 768 feet amsl to provide eight feet of freeboard at closure. Trees and other vegetation will be removed to that elevation within the expanded footprint as part of Stage 4 construction.

4.2.1.3. CAUSEWAY

Coeur proposes to construct a causeway between the TTF and USL to contain the tailings impoundment within the TTF and separate it from water in USL during operations. The proposed causeway will extend 40 feet above the existing ground surface and will have a crest elevation of 765 feet amsl. The structure is designed similarly to the Stage 4 dam, as described above, and will include geomembrane and filter zones that will be located on the USL side of the dam. A grout cap and curtain will be constructed below the embankment toe on the upstream side of the embankment.

During high-flow periods when runoff has historically overtopped or bypassed the existing intake structure and entered the TTF, water in USL will instead pond against the causeway. The existing USL diversion pipeline intake will remain in place to act as a retention structure during high-flow periods, allowing the water ponded behind the causeway to drain down over time as the runoff flows decrease. This will reduce the volume of water within the TTF that requires treatment. Coeur also proposes to construct a spillway on the causeway to allow passage of water into the TTF in the event that significant runoff were to occur.[3]

4.2.1.4. RELOCATE SEEPAGE COLLECTION SUMPS

Prior to construction of the Stage 4 dam raise, the existing seepage collection sumps and seep lift station located near the downstream toe of the dam will be relocated to a new downstream location approximately 150 feet beyond the proposed Stage 4 dam toe of slope. The location of the proposed seepage collection sumps is shown on Figure 4-2 of the POA 1 (Coeur 2018).

[3] This would allow flows resulting from storms with return periods in excess of 200 years, including the probable maximum flood, to be safely routed through the spillway to the TTF.

4.2.1.5. CONSTRUCT WEST AND NORTH STORMWATER DIVERSIONS AND TEMPORARY ACCESS ROUTES

To minimize the amount of surface water runoff into the TTF, stormwater diversions are proposed along portions of the west and north perimeters of the TTF basin. Coeur proposes to install head gates and pipelines to route the stormwater from the main drainages west and north of the TTF to south and east of the TTF.

The proposed West Diversion will terminate near the Stage 4 spillway plunge pool and outlet channel. Coeur will construct an access route that includes the installation of an HDPE pipeline that will collect stormwater and divert it to an inlet structure at the end of the access route. Surface water captured in the West Diversion will be discharged to East Slate Creek (Coeur 2018).

The proposed North Diversion will be installed uphill from the existing Northwest Diversion Pipeline and will discharge to the existing USL Diversion Pipeline. The proposed locations of the West and North diversions are shown on Figure 4-2 of POA 1. The two proposed diversions will be similar to the existing Northwest Diversion Pipeline. The existing Northwest Diversion Pipeline will be removed to accommodate deposition of additional tailings during commissioning of Stage 4 (Coeur 2018).

4.2.1.6. RELOCATE ANCILLARY INFRASTRUCTURE IN THE TTF AREA

Construct Relocated Access Road above Stage 4 Maximum Water Level

Due to the expanded basin limits of the proposed TTF expansion, the existing access road to the dam crest will be relocated to the east. The relocated access road will provide access to the Stage 4 dam and the seepage collection sumps, and serve as the corridor for a powerline relocation (discussed below).

Powerline Relocation

Due to the expanded basin limits of the proposed TTF expansion, a portion of the existing Alcan powerlines will be relocated. The proposed powerlines will be located along the west side of the proposed access road and to the west along the Stage 4 relocated water reclaim line.

Water Reclamation System Relocation

While the water reclamation system design for the proposed Stage 4 TTF will not change substantially from what is currently being used, a portion of the reclamation pipeline and associated power supply will be relocated to higher ground as part of POA 1.

Upper Slate Lake Diversion Pipeline Relocation

The USL Diversion Pipeline intake will continue to operate, and flows will continue to pass through the 24-inch-diameter diversion pipeline to East Slate Creek downstream of the proposed Stage 4 Main Dam. The pipeline will remain in place except in the Stage 4 dam area, where it will be relocated to the toe of the Stage 4 dam embankment.

Water Treatment Plant Relocations

The existing TTF WTP, Seep WTP, and reclaim pump station will be removed, and new facilities will be constructed southeast of their current location. Relocation efforts for the WTPs may be

deferred until later in the operation phase, depending on the rate of water rise within USL and the TTF.

4.2.1.7. GROWTH MEDIA STOCKPILE AREAS

During construction of the Stage 4 dam raise, growth media salvaged within the construction areas will be stockpiled within the TTF disturbance area. This material will be used for reclamation at closure and will include materials that will be used for placement within areas to be reclaimed within the TTF disturbance area, as necessary.

4.2.2. Expand WRS Capacity

Additional WRS capacity is required to accommodate the waste rock material generated through the extended LOM. Coeur proposes to expand three existing WRS areas and construct a new WRS to accommodate placement of the additional volume of waste rock material from the Mine. Each proposed WRS is discussed below in the following subsections.

4.2.2.1. KENSINGTON WRS EXPANSION

The proposed Kensington WRS expansion is located east of the Kensington Portal and process mill, on National Forest land administered by the USFS (USFS land). The proposed disturbance area of the Kensington WRS expansion is shown on Figure 4-5 of POA 1 (Coeur 2018). The proposed surface elevation of the WRS expansion will be 960 feet amsl with approximately 120 feet of relief between the crest and the toe.

The proposed expansion will accommodate placement of approximately 73,000 tons of additional waste rock material. Aerial imagery shows a lack of established tree growth and associated vegetation within the proposed footprint. The proposed expansion will maintain sufficient distance from Johnson Creek; a silt fence will be installed east (downhill) of the WRS area to intercept and redirect surface runoff that has been in contact with the waste rock material. Expanding the Kensington WRS will require clearing, grubbing, and topsoil (growth media) removal.

4.2.2.2. PIT #4 WRS EXPANSION

The existing Pit #4 WRS is designed to store 0.5 million tons (Mt) of waste rock material. Coeur proposes to expand the stockpile to store an additional 1.6 Mt of waste rock material (total of 2.1 Mt stockpile capacity). The Pit #4 WRS expansion is located on a saddle south of the existing Pit #4, on previously disturbed USFS land and private land controlled by Coeur, as shown on Figure 4-6 of POA 1.

Expanding the Pit #4 WRS will require clearing, grubbing, and topsoil (growth media) removal. Coeur proposes to construct four additional sediment ponds (fine and coarse ponds) and associated stormwater outfalls to collect and treat impacted water on either side of the WRS. The existing lined pond will be decommissioned prior to placement of waste rock material, and the new ponds will be constructed in conjunction with the proposed Pit #4 WRS expansion.

A silt fence will be installed along the perimeter of the WRS to control runoff. Existing buildings located within the proposed footprint of the Pit #4 WRS expansion (i.e., cement rock fill plant,

surface maintenance shop, mechanic shop, water tank, and containers) will be removed or relocated prior to Pit #4 expansion.

4.2.2.3. COMET WRS EXPANSION

The proposed Comet WRS expansion will extend the existing WRS area to the west and provide an additional waste rock material stockpile capacity of approximately 1 Mt. The proposed Comet WRS expansion is located on USFS land (Figure 4-7 of POA 1). The overall size of the expansion is limited by the existing Comet Water Treatment Plants and Upper Sherman Creek drainage. This location is a short haul from the Comet Portal.

Expanding the Comet WRS will require relocating the current water treatment plant's access road, as well as clearing, grubbing, and removing topsoil (growth media). Growth media salvaged from the proposed Comet WRS expansion will be stockpiled south of Ophir Creek.

A five-foot-deep stormwater diversion channel will be constructed uphill from the proposed WRS to redirect meteoric water away from the stockpile. Coeur will also install a silt fence on the downhill side of the stockpile to control runoff water. A combination of coarse and fine sediment ponds will be constructed downstream of the proposed WRS to capture contact water and allow sediments to settle prior to discharge to outfall locations.

4.2.2.4. PIPELINE ROAD WRS SITE

The proposed Pipeline Road WRS is located below the existing Tailings Pipeline access road to the TTF and above the existing mine camp, as shown on Figure 4-8 of POA 1 (Coeur 2018). This WRS will be new and will not expand on an existing WRS. The tailings distribution and water reclamation pipelines beneath the road will not require relocation as part of construction of the proposed WRS. The proposed Pipeline Road WRS site will provide approximately 2.3 Mt of waste rock material stockpile and is located entirely on private land controlled by Coeur. Growth media salvaged from the construction of the proposed WRS will be stockpiled at the north end of the proposed WRS footprint as shown on Figure 4-8 of POA 1.

The WRS is located on a natural hillside. Construction of a new stormwater diversion channel (on the west and north sides of the stockpile) and silt fence (on the north, east, and south sides) will be required. A toe berm will be constructed to prevent any slope stability issues from impacting the existing facilities in the Jualin area. Coeur will also construct fine and coarse sediment ponds to capture the impacted water and allow the sediments to settle.

4.3. Closure and Reclamation

Reclamation of disturbed areas resulting from activities outlined in POA 1 will be completed in accordance with the Reclamation and Closure Plan[4] (included as Appendix E of POA 1). Closure of the TTF will include decommissioning the facility, water treatment during closure, and care and maintenance of the TTF during post-closure. A portion of the POA 1 disturbance area will ultimately be submerged; areas of the TTF and USL inundated after water treatment will be

[4] The Reclamation and Closure Plan will be updated every five years during the life of the Mine and two 3s prior to closure (Coeur 2018).

reclaimed to a self-sustaining aquatic ecosystem. After the final water level is reached in the TTF, reclamation will be dominated by natural processes.

Before increasing the water levels in the TTF, Coeur will construct six mitigation projects (recommended by ADF&G) to offset for fish habitat impacts in USL, Slate Creek, and South Creek as a result of increasing the TTF capacity. The design concepts are summarized below; final design will be completed prior to closure of the Mine.

During the reclamation phase, growth media will be placed over all disturbed areas excluding rock cuts, areas of riprap, and open water. Section 7 of POA 1 summarizes proposed reclamation activities throughout the Mine in more detail. The subsections below provide a brief summary of closure, post-closure, and reclamation activities specific to the TTF area and WRS sites.

4.3.1. Stage 4 TTF – Fish Habitat Mitigation

4.3.1.1. REPLACE SOUTH CREEK CULVERT TO RESTORE FISH PASSAGE

Coeur proposes to replace the twin smooth-wall culverts under the TTF access road with an improved structure designed to provide upstream passage for Dolly Varden, thereby restoring fish access to upstream habitat. The location of the proposed culvert replacement is shown on Figure 4-2 of POA 1.

4.3.1.2. DIVERT FAT RAT CREEK INTO SOUTH CREEK

The ADF&G reports that Fat Rat Creek is primarily a groundwater-fed tributary that flows into South Creek downstream of the existing TTF access road (Albrecht 2017). While it contributes about 41 percent of South Creek's flow, Fat Rat Creek provides marginal rearing habitat for fish (Albrecht 2017). Based on recommendations made by ADF&G, Coeur proposes to divert Fat Rat Creek into South Creek farther upstream, well above the final proposed Stage 4 TTF water level, in order to maintain a wider and deeper single channel in South Creek and improve spawning habitat for Dolly Varden.

Approximately 720 feet upstream of the existing TTF access road, flow from Fat Rat Creek will be intercepted and rerouted either directly into South Creek (about 394 feet upstream of the TTF access road), or into a tributary stream of South Creek (about 560 feet upstream of the road). The two Fat Rat Creek reroute options were recommended by the ADF&G to "create a wider and deeper channel at the new stream mouth and improve spawning habitat in the downstream 1–3% gradient reach by increasing water depth for larger spawning fish" (Albrecht 2017). Either option will require constructing a 430-foot channel to convey stream flow across the slope and through an approximately 6.5-foot-tall saddle.

Final design for the Fat Rat Creek reroute will be completed prior to closure, and submitted with the Final Reclamation and Closure Plan. Temporary stormwater best management practices (BMPs) will be used during all construction. After earthwork is completed, USFS-approved erosion control fabric will be used on all creek banks to prevent erosion until vegetation is

established. All disturbed areas not in the final flood zone will be scarified, seeded with wetland seed mix, and treated with fertilizer and mulch.

4.3.1.3. REPLACE EXISTING FAT RAT CULVERT WITH FISH PASSAGE CULVERT

Coeur proposes to replace the existing Fat Rat culvert on the TTF access road with an arched culvert designed for fish passage. A final design for the Fat Rat Creek culvert replacement will be completed prior to closure and submitted with the final reclamation plan. Temporary stormwater BMPs will be used during all construction. After earthwork is completed, USFS-approved erosion control fabric will be used on all creek banks to prevent erosion until vegetation is established. All disturbed areas not in the final flood zone will be scarified, seeded with wetland seed mix, and treated with fertilizer and mulch.

4.3.1.4. CONSTRUCT SOUTH CREEK DELTA

The proposed fish habitat mitigation at South Creek will include constructing a low-gradient bench at the new stream mouth before final flooding of the Stage 4 TTF. This delta will be constructed so that the new USL water level joins with South and Fat Rat creeks separately, creating two channels. The approximate 6,562-square-foot delta will be constructed with alluvium and gravel from the stream before flooding at a maximum fill depth of about 23 feet. The final design for the delta construction will be completed prior to closure and submitted with the final reclamation plan. After earthwork is completed, USFS-approved erosion control fabric will be used on all creek banks to prevent erosion until vegetation is established. All disturbed areas including stream banks will be hydroseeded with a wetland seed mix.

4.3.1.5. REPLACE SPECTACLE CREEK CULVERT TO RESTORE FISH PASSAGE

Coeur proposes to replace the existing Spectacle Creek culvert with a culvert designed for fish passage, which will restore access to fish habitat that was eliminated during Jualin Road construction. The existing culvert does not provide upstream fish passage. Replacement of this culvert with one that provides fish passage will restore access to more than 350 feet of fish habitat upstream, which includes 75 feet of spawning habitat (Albrecht 2017).

4.3.1.6. CONSTRUCT UPPER SLATE CREEK DELTA SPAWNING AREA

At closure, the proposed water elevation increase associated with the Stage 4 dam raise will raise the water level in USL and portions of its tributaries, including Upper Slate Creek. The existing delta at the mouth of Upper Slate Creek and gravels in the channel, which provide spawning habitat for Dolly Varden, will no longer be functional for spawning fish once they are further submerged. Coeur will construct a new delta in the Upper Slate Creek drainage that is similar to the existing delta to replace spawning habitat to mitigate potential impacts to Dolly Varden.

The proposed delta will be approximately 6,562 square feet, with a maximum fill depth of about 7.5 feet. The delta will be constructed of alluvium and gravel collected from portions of the stream that will be flooded, prior to the final flooding of the Stage 4 TTF. The delta will be constructed so that the final Stage 4 USL water level joins the main stem of Upper Slate Creek and two tributaries to maximize the area of lakeshore and creek spawning habitat created. A temporary access route approximately 12 feet wide will be constructed to facilitate construction

of the new delta and will also be flooded at final closure. Elements of the Upper Slate Creek Delta construction are shown on Figure 4-2 of POA 1.

Final design for the delta and temporary access route will be completed prior to closure and submitted with the Final Reclamation Plan. Temporary stormwater BMPs will be used during all construction. After earthwork is completed, USFS-approved erosion control fabric will be used on all stream banks to prevent erosion until vegetation is reestablished. Disturbed areas above the final flood zone will be scarified, seeded with wetland seed mix, and treated with fertilizer and mulch.

4.3.2. Stage 4 TTF – Water Quality and Reclamation

Following the end of active mining operations, Coeur will treat the working water cover in the TTF using the WTP, cycling water to/from the TTF until influent water quality meets State Water Quality Standards (18 AAC 70), as well as any additional site-specific criteria that may be in place at the time of closure. Assuming a WTP treatment rate of 1,500 gallons per minute, one volume of the TTF working water cover will require treatment for approximately 100 days. After the WTP influent meets water quality standards for four weeks, Coeur will request agency approval from the USFS and ADEC to discontinue operation of the WTP. After treatment is discontinued, the WTP will remain on operational standby for a period of 18 months. After the 18-month standby period has elapsed, Coeur will request agency approval from the USFS and ADEC to permanently remove the WTP infrastructure from the Mine.

Following agency approval to shut down the TTF WTP, additional water cover will rise and ultimately reach the Stage 4 spillway pool elevation of approximately 768 feet amsl. The additional water cover will be provided by reducing the flow of the USL Diversion Pipeline and allowing USL and the TTF to fill naturally via precipitation and direct runoff. Using average historical flow data from the USL Diversion Pipeline, it will take approximately 50 days for USL to fill from 749 feet amsl to the Stage 4 causeway crest at 765 feet amsl. At that time, USL will begin to overtop the Stage 4 causeway and the TTF will then be filled from 749 feet amsl to 765 feet amsl in approximately 160 days. When the TTF is filled to the Stage 4 causeway elevation of 765 feet amsl, USL and the TTF will functionally behave as a single water body. The combined TTF/USL will fill from 765 feet amsl to the Stage 4 main dam spillway elevation of 768 feet amsl within approximately 45 days. At final reclamation, the depth of water over the tailings will be 28 feet (Coeur 2018). After the water level reaches 768 feet amsl, the combined USL/TTF will continuously discharge into East Fork Slate Creek via the Stage 4 Main Dam Spillway. In total, the process to treat and subsequently fill the TTF and USL at closure is estimated to take more than one year. Closure and reclamation activities for the TTF are further described in Section 7.9 of POA 1.

At reclamation, Coeur will place a four-foot-thick soil cover on top of the concrete Stage 4 dam structure and promote establishment of vegetation across the site. The soil cover will consist of diorite rock and fine-grained fill that will be salvaged during removal of the GP material. Additional details are provided in Section 5 and Appendix D of POA 1.

4.3.3. WRS Sites – Closure and Reclamation

Reclamation objectives for the WRS sites include minimizing the potential for erosion and slope failures, controlling sediment transport and surface water runoff, and preventing ponding of meteoric water on the surface. Sites will be regraded to approximately 2H:1V prior to placement of growth media. Ripping will be completed in the area of the haul road and stockpile crest to reduce compaction and promote revegetation. Grading will be completed to reclaim the stormwater ponds associated with the WRS (Coeur 2018). The final surface of the WRS will be covered with one foot of growth media obtained from nearby growth media stockpiles. Reclamation seeding using approved seed mix of the reclaimed surface will be completed through hydroseeding or hand seeding. Coeur will construct sediment control consisting of silt fence along the down-gradient perimeter of the reclamation areas).

4.4. Anticipated Schedule

Construction and operation of POA 1 is expected to begin in 2023, following expiration of the current LOM. POA 1 is expected to extend the LOM through 2033. Reclamation is expected to begin in 2035 and last for approximately three years.

5.0 Jurisdictional Waters of the U.S.

Wetland scientists completed a wetland and waterbody delineation report to identify locations within the POA 1 footprint and other areas in the vicinity of the Mine that are subject to Section 404 of the Clean Water Act (Clean Water Act; 33 Code of Federal Regulations [CFR] 323) and/or Section 10 of the Rivers and Harbors Act of 1899 (33 CFR 322).

Wetlands and other WOUS within the mapping study area were coded using the National Wetlands Inventory classification mapping codes based on the U.S. Fish and Wildlife Service's *Classification of Wetlands and Deepwater Habitats of the U.S.* (Cowardin et al. 1979). Scientists assessed soil conditions, hydrology, and plant communities using methods described in the 1987 *Wetlands Delineation Manual* and the 2007 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region* (*Regional Supplement;* USACE 1987, 2007). The *Wetland and Waterbody Delineation Report for Kensington Mine POA 1,* dated September 13, 2019 (Delineation Report), was provided to USACE on September 17, 2019. Coeur received an approved jurisdictional determination letter from USACE on March 4, 2020 for the wetlands and waterbodies that are WOUS and proposed to be filled by POA 1.

6.0 Intersections with Jurisdictional Waters of the U.S. (Blocks 20–22)

Wetlands and other WOUS, including those mapped within the proposed POA 1 footprint, are subject to Section 404 of the CWA. Project components that involve discharging fill material, including mechanized land-clearing, in WOUS require authorization from USACE.

6.1. Stage 4 TTF - Construction and Operations

Coeur is currently operating the TTF dam at Stage 3 (crest elevation 740 feet amsl). Coeur received authorization from USACE to discharge a total of 4.5 million tons of tailings across an area of approximately 51.2 acres within the TTF under Stage 3 and to raise the water level to a maximum elevation of 732 feet amsl at Stage 3 closure. A plan view of the existing Stage 3 TTF and associated components is shown on **Sheet 3, Attachment A**.

Coeur is currently seeking authorization from the USACE to conduct a Stage 4 dam raise (crest elevation 776 feet amsl) in order to increase the capacity of the TTF and discharge an additional 4 million tons of fill material (tailings) into the TTF during Stage 4 operations. A plan view of the proposed Stage 4 dam and associated components, as well as intersections with WOUS during construction and operations, are shown on **Sheet 4, Attachment A**.

During construction of the Stage 4 dam and associated components, discharging fill into and mechanically clearing land within WOUS will result in the conversion of WOUS to uplands. These areas will remain as uplands throughout the Stage 4 operations period. Following TTF closure and reclamation, some of these areas will be converted back to WOUS. **Table 2** identifies the footprint of proposed project components associated with construction of the Stage 4 dam raise and TTF expansion, summarizes activities that will intersect with WOUS, and estimates the acreages of WOUS within which regulated activities will be necessary during construction.

Table 2. Summary of discharges and mechanized land clearing acreages in jurisdictional WOUS for the construction of POA 1's Stage 4 Dam raise and TTF expansion.

Project Component	Footprint (Acres)	Acres in WOUS	Regulated Activity
Construct Stage 4 dam, spillway, access road, USL causeway and spillway; install three culverts, reroute stream, relocate WTP, and stockpile growth media	21.2	1.2	Discharge of Fill
Construct west diversion and access route, reroute stream	1.3	0.3	
Construct north diversion and access route	0.9	0.1	
Fill Footprint	**23.4**	**1.6**	***Total Discharge of Fill***
Ground disturbance necessary to create work areas and access during construction	53.3	4.5	***Mechanized Land Clearing*** *Beyond Discharge of Fill*
Construction footprint - Stage 4 Dam raise and TTF expansion	**76.7**	**6.1**	**Total WOUS intersected**
		6.1	***WOUS converted to Upland during construction (before Reclamation)***

Throughout the Stage 4 operations period, Coeur will discharge up to 4 million tons of tailings across an area of approximately 70.4 acres. The Stage 4 tailings will be discharge across the top of the 51.2-acre tailings footprint authorized by Stage 3. The tailings footprint under Stage 4 will therefore be expanded by approximately 19.2 acres as compared to that currently authorized for the Stage 3 TTF. The discharge of tailings will raise the bottom elevation of WOUS (rather than convert WOUS to dry ground) because Coeur will maintain a 9-foot minimum water cover in the TTF. Throughout the operations period, the TTF water level will increase as tailings are discharged, in order to maintain a minimum water cover of 9 feet over the discharged tailings. At closure but prior to reclamation, the Stage 4 TTF will have a minimum water level of 749 feet amsl (upon discharging the 4 million tons of tailings). **Sheet 5 and Sheet 6, Attachment A** present cross-sectional views of the existing Stage 3 dam, the proposed Stage 4 dam and causeway, and associated elevations for tailings and water cover during operations and post-closure and reclamation.

After mine operations cease and water quality in the TTF meets applicable post-closure standards, the water level will be increased to a maximum elevation of 768 feet amsl. As water levels increase in the TTF, water will eventually overtop the causeway, raise the water level in USL, and convert uplands and wetlands below 768 feet amsl into WOUS. For purposes of this application, upon reclamation the single, larger water body is referred to as "Slate Lake". Of the 6.1 acres of WOUS converted to uplands during construction, approximately 1.4 acres are located below 768 feet amsl and will therefore be converted back to WOUS when the final Stage 4 post-closure water level. Regulated activities and resulting effects on WOUS proposed as part of post-closure and reclamation activities are detailed below in **Section 6.3**.

6.2. Stage 4 TTF – Post-Closure Fish Habitat Mitigation

Coeur has committed to constructing several fish habitat improvement projects to mitigate for the functional loss and modification of habitat that will result from the rise in water level in the TTF and USL. In order to replace and in some cases improve habitat function, discharging fill and/or mechanized clearing in WOUS prior to increasing water levels to final post-closure levels will be required. A plan view that highlights the locations of fish habitat mitigation projects and potentially affected WOUS is provided in **Sheet 7, Attachment A**.

Table 3 identifies the footprint of project components associated with the proposed fish habitat mitigation projects, identifies activities that will intersect with WOUS, and estimates the acreages of WOUS within which regulated activities will be necessary prior to increasing TTF water levels at final reclamation.

Table 3. Summary of discharges and mechanized land clearing acreages in jurisdictional WOUS required to construct Fish Habitat Mitigation under POA 1.

Fish Habitat Mitigation Component	Footprint (Acres)	Acres in WOUS	Regulated Activity
USL Delta	0.5	0.5	Discharge of Fill
Access route to USL Delta	2.2	1.7	
South Creek Delta	0.4	0.2	
New culvert to convey South Creek	<0.1	<0.1	
Fat Rat Creek Culvert Replacement	<0.1	<0.1	
Spectacle Creek Culvert Replacement	<0.1	<0.1	
Fat Rat Creek Diversion Access Route	1.0	0.6	
Fill Footprint	**4.1**	**3**	***Total Discharge of Fill***
Create work areas to construct deltas	5.9	4.0	**Mechanized Land Clearing** Beyond Discharge of Fill
Fat Rat Creek Diversion and Work Area	4.9	2.4	
Ground disturbance during construction	**10.8**	**6.4**	***Total Mechanized Clearing***
Construction footprint - Fish habitat mitigation	**14.9**	**9.4**	**Total WOUS intersected**
		9.4	***WOUS converted to Upland during construction (before Reclamation)***

After mine operations cease and water quality in the TTF meets applicable post-closure standards, the water level of the TTF will be increased to a maximum elevation of 768 feet amsl. Of the 9.4 acres of WOUS converted to uplands during construction of the fish habitat mitigation projects, approximately 4.9 acres is located below 768 feet amsl and will therefore be converted back to WOUS when Stage 4 post-closure water level are reached. **Sheet 7, Attachment A** includes the Stage 4 post-closure water level to demonstrate portions of affected WOUS that

will be reclaimed as "Slate Lake." Regulated activities and resulting effects on WOUS from post-closure and reclamation activities are described in more detail below.

6.3. Stage 4 TTF – Reclamation (Net Effect to WOUS)

Coeur previously received authorization from USACE to raise the water level in the TTF to a maximum elevation of 732 feet amsl at Stage 3 closure, which will increase the area of the TTF to approximately 66 acres.

At final reclamation for Stage 4, the water level in the TTF will be increased to a maximum elevation of 768 feet amsl and will flood USL, creating a single waterbody, "Slate Lake," with an area of approximately 119 acres. Habitats below 768 feet will become inundated, as shown in **Sheet 8, Attachment A.** The area that will be flooded includes the entirety of USL, mapped wetlands, and uplands (some of which had previously been WOUS prior to construction). Based on the final water elevation of 768 feet, the flooded area (renamed "Slate Lake" upon reclamation) will increase by 53 acres compared to the currently authorized maximum water level of Stage 3 closure. WOUS that had been previously converted to uplands during construction of the Stage 4 TTF expansion and fish habitat mitigation located below 768 feet amsl will be reclaimed as vegetated littoral habitat or non-vegetated deepwater habitat.

Table 4 provides a summary of habitat types that will be reclaimed as WOUS or converted to uplands when the TTF is reclaimed as Slate Lake. WOUS converted to uplands (above 768 feet amsl) may be reclaimed under the Final Reclamation and Closure Plan for the Mine.

Table 4. Habitat types and acreages that will be reclaimed as WOUS or converted to uplands when the final post-closure maximum water level of 768 feet amsl is reached during Stage 4 TTF Reclamation.

	Stage 4 TTF Reclamation – Net Effect (acres)	
Jurisdictional Status of Affected Habitat (Prior to Reclamation)	**Reclaimed as WOUS** below 768-ft elevation	**Converted to Upland** above 768-ft elevation
Upland (previously WOUS, filled during Stage 4 TTF construction)	1.4	**4.7**
Upland (previously WOUS, filled during Fish Habitat Mitigation)	4.9	**4.6**
Streams	0.4	**--**
Wetlands	9.1	
Upper Slate Lake	10.8 (no change)	**--**
Other Uplands	26.4	**--**
Totals	**53.0**	**9.3**

The conversion of 15.4 acres of forested, scrub-shrub, and emergent wetlands and perennial and intermittent streams into non-vegetated deepwater habitat will result in a change in aquatic resource functions, but the acreage of WOUS will be unchanged. The 26.4 acres of uplands between 732 and 768 feet will be converted to deepwater habitat, resulting in an increase of WOUS at the reclamation phase of POA 1. **Table 5** provides a summary of changes to habitat function that will result.

Table 5. Acres Converted to Slate Lake after proposed Stage 4 TTF closure.

Habitats Reclaimed as WOUS		
Type (Prior to Construction)	**Acres**	**Habitat Function at Reclamation**
Wetlands[1]	15.4	Areas will be converted from freshwater vegetated wetlands to vegetated littoral or non-vegetated deepwater habitat
Upper Slate Lake	10.8	No change in function
Streams	0.4	Flooded portions of streams will be converted from freshwater riverine to vegetated littoral or non-vegetated deepwater habitat
Uplands	26.4	Area converted from upland to WOUS will function as vegetated littoral or non-vegetated deepwater habitat
Total	**53.0**[1]	**Vegetated littoral or non-vegetated deepwater habitat**

[1] Includes 1.4 acres of wetlands previously converted to uplands during construction of the Stage 4 TTF Expansion and 4.9 acres of WOUS converted to uplands during construction of the post-closure Fish Habitat Mitigation.

6.4. WRS Site Expansion

Coeur proposes to construct a new WRS site and expand three existing WRS sites and ultimately discharge an estimated 5 million tons of waste rock (total) at these sites during operations. **Sheets 9-16, Attachment A** present plan and cross-sectional views of the WRS proposed under POA 1. **Table 6** identifies the footprint, including mechanized land clearing, at each site and provides a summary of WOUS that will be converted to uplands as a result of expanding WRS capacity.

Table 6. Summary of fill discharge acreages (includes mechanized land clearing) in jurisdictional WOUS for the construction and operation of the Expanded WRS Capacity proposed under POA 1.

Project Component	Footprint (Acres)	Acres in WOUS	Regulated Activity
Expand Kensington WRS Site	1.33	0.16	Discharge of Fill (includes Mechanized Land Clearing)
Expand Pit #4 WRS Site	30.87	5.36	
Expand Comet WRS Site	28.28	6.19	
Comet Topsoil Stockpile	3.46	1.02	
Construct Pipeline Road WRS (New Site)	38.33	4.45	
WRS Expansion	102.64	17.91	**Total Discharge of Fill**
		17.91	***WOUS converted to Upland***

6.5. Proposed Fill Volumes by Type for POA 1 (Block 21)

Table 7 identifies the estimated fill volume by type that will be necessary for POA 1.

Table 7. Volume (cubic yards) of estimated fill by type proposed under POA 1

	Volume (cubic yards)			
Fill Type	**Waters**	**Wetlands**	**Upland**	**Total**
Structural Rock Fill	3,000	4,000	358,000	365,000
Common Fill	781	20,059	12,075	33,015
Concrete	--	--	2,500	2,500
Tailings	5,113,000	3,000	1,374,000	6,490,000
Growth Media	--	15,000	225,000	240,000
Waste Rock	74,265	562,200	3,049,500	3,685,965
Totals	**5,191,046**	**604,259**	**5,021,175**	**10,816,480**

7.0 Mitigation Measures (Block 23)

7.1. Avoidance

The Stage 4 TTF expansion and the WRS sites were designed to limit, to the extent practicable, new impacts to WOUS. Where feasible, POA 1 expands upon the existing footprint of the Mine. Three of the four proposed WRS sites will be expansions of existing WRS sites, which reduces the need for additional roads, reduces fragmentation of wildlife habitat, and reduces the amount of additional edge area created through the additional WRS areas. The new Pipeline Road WRS site was selected because it is adjacent to an existing road, thus eliminating the need for new roads and potential additional impacts to WOUS.

7.2. Minimization

7.2.1. Project Design

Coeur reduced the footprint at WRS sites to minimize impacts to WOUS and incorporated fish habitat improvement projects as part of POA 1 to replace habitat function that may have otherwise been reduced as a result of increasing water levels to the maximum Stage 4 TTF post-closure elevations. The six fish habitat projects incorporated into POA 1 were recommended by the ADF&G (see the TTF Environmental Monitoring Plan Appendix D of POA 1, Coeur 2018). Specific mitigation measures include harvesting gravel from existing stream beds to form deltas to provide Dolly Varden char spawning habitat; replacing culverts on South Creek, Fat Rat Creek, and Spectacle Creek to ensure adequate upstream passage and improve upstream habitat quality; and rerouting Fat Rat Creek to South Creek to create a wider and deeper channel at the new stream mouth.

Coeur currently implements mitigation measures to provide safe and efficient downstream fish passage from above the intake dam to East Fork Slate Creek. Measures are implemented to re-

establish benthic and fish populations in the TTF (formerly Lower Slate Lake), and documented macroinvertebrate and Dolly Varden char seed sources around the TTF are considered sufficient to meet the reclamation goal of re-established benthic and fish populations without intervention (Wilson-Nananjo and Kanouse 2016; Kline 2001). Coeur will continue to provide downstream fish passage throughout Stage 4 operations.

7.2.2. Best Management Practices

The Mine is currently operating under an existing DA permit (POA-1990-592-M), which includes a number of special conditions. Where applicable, Coeur will continue to comply with all conditions of the existing permit. Additional avoidance, minimization, and monitoring activities to which Coeur has committed are described in the POA 1 (Coeur 2018) and supporting documents therein.

Coeur's commitment to implement BMPs and mitigation measures during the life of the operation, for the protection of freshwater aquatic resources, includes:

- The work limit for each mine component located in WOUS will be clearly identified in the field prior to excavation, clearing, and/or construction.
- All project contractors and all workers on POA 1 will be advised of the terms and agreements in the DA permit.
- Provide secondary containment around all fuel storage and transfer locations;
- Provide double-walled tailings pipeline from the mill to the TTF;
- Provide oil-water separation for runoff collected from the fueling area;
- Store spill cleanup equipment at the Slate Cove Marine Terminal, the process area, and any fueling sites;
- Avoid freshwater instream construction work from May 1 through October 31;
- Limit all surface disturbance to the approved project footprint and avoid placing fill or construction materials outside of the approved footprint;
- Provide for bypass around construction, install silt fence, and minimize streambed traffic for instream bridge construction work;
- Maintain natural drainage patterns and avoid flooding or excessive drainage of adjacent wetlands by the use of a sufficient number and size of culverts under roads;
- Employ stream diversion, dam and pump, or stream fluming techniques to avoid installation of culverts in flowing water;
- Install brush berm or equivalent down gradient of flow to contain sediment in all permitted construction areas;
- Use fill material that is clean of silt, clays, and organic materials for instream work;
- Mitigate the effects of sidecast slash within 30 feet of road shoulders by the most appropriate method: (1) end-haul slash to a central approved area or (2) pile slash in areas not visible from visual priority travel routes or use areas;
- Add a nontoxic chemical flocculent to the slurry to enhance the deposition of suspended particles in the TTF;

- Meet instream flow needs in all streams, limit intake as necessary, and use underground mine water and reclaimed tailings water as primary water supply where practicable; and, Maintain sediment ponds, silt fences, and check dams throughout the Mine.

7.2.3. Growth Media

Coeur salvages and stockpiles growth media for use during revegetation and closure. All soil stockpiles are constructed with erosion control measures, including stabilization and stormwater diversion ditches, and include establishment of vegetative cover to minimize erosion. Reclamation will be performed using the stockpiled growth media and will consist of re-grading, placement of growth media, seeding, and fertilizing. Coeur will avoid disturbing steep slopes during inclement weather. Disturbance to stream banks or streambeds will be stabilized to prevent erosion. Monitoring of growth media stockpiles includes inspection of the growth media to verify that the stockpiles are intact and that erosion is minimized. Stockpiles are periodically inspected to ensure that stormwater diversions are functioning as designed and that vegetation is established as planned. Coeur will identify and implement BMPs that allow for quick action where erosion is imminent or underway.

7.2.4. Revegetation

Mitigation measures to minimize impacts to vegetation include the use of native plants originating near the Mine during reclamation to the extent possible and maintenance of drainage patterns, water quality, and water quantity to support aquatic plant populations and habitats. Coeur is committed to the control of invasive species at the Mine. To prevent the establishment of invasive species, disturbed areas will be seeded as quickly as practical following the completion of reclamation activities. All seed mix used at the Mine will be state certified weed-free. Revegetation is discussed in more detail in Section 7.5 of POA 1.

Reclamation objectives will be met by establishing 75 percent live vegetation cover on reclaimed areas, and ensuring that water quality criteria will be met. The reclamation plan also reflects that growth media will be placed at an average depth of 1 foot over all disturbed areas receiving cover soil. Coeur may request an exemption from this requirement based on site-specific conditions or to achieve diversity in the post-mining landscape. Such a request will be presented in the final reclamation plan to be submitted two years prior to closure and approved by the USFS and State of Alaska.

No USFS Alaska Region-listed sensitive plant species (USFS 2009) have been identified at the Mine to date. If a listed sensitive plant species is identified at the Mine, Coeur will notify the USFS and close the area to off-road vehicle use. Coeur will prohibit the collection of any plants or plant parts, except by permit issued by the USFS for scientific or educational purposes.

7.2.5. Monitoring

Coeur implements mitigation measures and monitoring programs to continually evaluate the potential effects of Mine operations on the surrounding environment. In general, the proposed actions under POA 1 will not affect current mitigation and monitoring activities at the Mine. Coeur will continue to implement mitigation measures and conduct monitoring activities similar to those described in the 2005 Plan of Operations (Coeur 2005).

Annual photographs of stream habitat types are included in the Alaska Pollutant Discharge Elimination System (APDES) Permit AK-005057-1 Annual Water Quality submittal. Additionally, annual adult salmon escapement surveys conducted in Sherman, Slate, and Johnson creeks, and fish and minnow trapping surveys in USL are conducted and reported.

7.2.6. Water Quality

The existing Stormwater Pollution Prevention Plan (SWPPP) has been revised to include the proposed expansions under POA 1. Proposed changes to the TTF infrastructure were incorporated into the revised TTF Environmental Monitoring Plan (Appendix D of POA 1, Coeur 2018).

The Mine operates under Alaska Department of Environmental Conservation (ADEC) Multi-Sector General Permit (MSGP) AKR06000, which authorizes stormwater discharges from the construction and operation of metal mining operations that enter surface WOUS. Additional details and requirements of Coeur's stormwater BMPs and monitoring locations are presented in the SWPPP. If on-site monitoring indicates an increase in turbidity in excess of Alaska Water Quality Standards, all associated construction activities will be suspended until corrective action can be taken. Stormwater BMPs are dynamic, may change day by day, and are dependent on site conditions. Stormwater monitoring is conducted in accordance with Section 7 of the MSGP, as well as the sector-specific metal mining requirements as outlined in Section 11, Subpart G, Sector G of the MSGP. Stormwater inspections during construction are conducted at least once per quarter. In the event that data collected during monitoring activities show a change/trend that may cause unforeseen environmental conditions, Coeur will notify the USFS and State of Alaska. Agency notification will be performed following initial data validation and preparation of an action response plan to mitigate the environmental conditions.

Recommendations for improvements are documented and monitored for implementation by Coeur environmental staff. During operations, stormwater outfalls are routinely monitored and water quality samples collected as presented in Coeur's annual reports.

Discharges to Slate Creek from the TTF will continue to be treated prior to discharge and regulated by the existing APDES Permit AK0050571. See Section 8.0 below.

7.3. Compensatory Mitigation

After taking into account the avoidance and minimization measures listed above, the aquatic resources functions of the wetlands and other WOUS that will be lost under POA 1 through the discharge of fill material, and the net decrease of 0.8 acre of WOUS that will be lost when the Stage 4 TTF closure elevation of 768 amsl is reached, Coeur is not proposing compensatory mitigation for unavoidable discharges into WOUS.

To summarize, approximately 6.1 acres of WOUS will be converted to uplands during construction of the Stage 4 TTF. Of that 6.1 acres, approximately 1.4 acres is located below 768 feet amsl and will therefore be converted back to WOUS when the TTF reaches its final Stage 4 post-closure water level. The remaining 4.7 acres, located above 768 feet amsl, will remain upland habitat after reclamation. Similarly, of the 9.4 acres of WOUS converted to uplands

during construction of the fish habitat mitigation projects, approximately 4.9 acres will be converted back to WOUS when the TTF reaches its final Stage 4 post-closure water level. Approximately 4.6 acres is located above 768 feet and will therefore not be inundated. Expansion of the WRS capacity will convert approximately 17.9 acres of WOUS to uplands. Therefore, POA 1 will require an estimated 27.2 acres of WOUS to be filled.

At closure, when the Stage 4 water levels rise, approximately 26.4 acres of upland habitat will be converted to WOUS once water levels reach 768 feet amsl. Thus, at closure, POA 1 will have a 0.8-acre net decrease in WOUS.

8.0 Permits and Authorizations (Block 26)

A number of federal, state, and local regulatory permits, licenses, and governmental approvals are required to operate the Mine. A complete list of past and current permits acquired for the Mine is included in Appendix B of the POA 1 (Coeur 2018). Based on previous Mine construction activities, Coeur anticipates continuing to operate under a number of existing federal, state, and local permits and authorizations and obtaining any needed modifications or new authorizations for POA 1, including, but not limited to, the following:

- A Section 402 APDES Permit for point source discharges to WOUS is required under the CWA. The ADEC administers the APDES permit program in Alaska.
- As part of the APDES permitting process, a SWPPP and associated BMPs are required for construction and operation of the mine.
- The ADEC regulates solid waste and addresses tailings, development rock, domestic waste, recyclable waste, and other material management and disposal. Permits for drinking water and wastewater disposal are also permitted through ADEC. A Waste Management Permit issued for the Mine is used to manage mining-related waste.
- Approval of a reclamation bond amount is required pursuant to 36 CFR 228.8(g), which necessitates obtaining a third-party reclamation cost estimate.
- USFS compliance with the National Historic Preservation Act of 1966 and related regulations, executive orders, and polices were designed to identify and mitigate impacts to significant cultural resources. A memorandum of agreement between the USFS, Coeur, and the State Historic Preservation Officer has been established (Coeur 2005).
- A permit to construct and operate a source of potential air pollution from ADEC is required pursuant to state and federal clean air laws and regulations.
- Water use authorizations, as regulated and controlled by ADNR for both surface and groundwater systems and other bodies of water, are required.
- ADF&G and ADNR issues fish habitat permits for work along or in a stream.
- A dam safety permit is required by ADNR through the Alaska Dam Safety Program.

- An allowable use permit issued by the City and Borough of Juneau (CBJ), based on a review of the mining project proposed within CBJ boundaries, is required.
- CBJ issues building permits for the administration and process facilities at the Mine.

9.0 References

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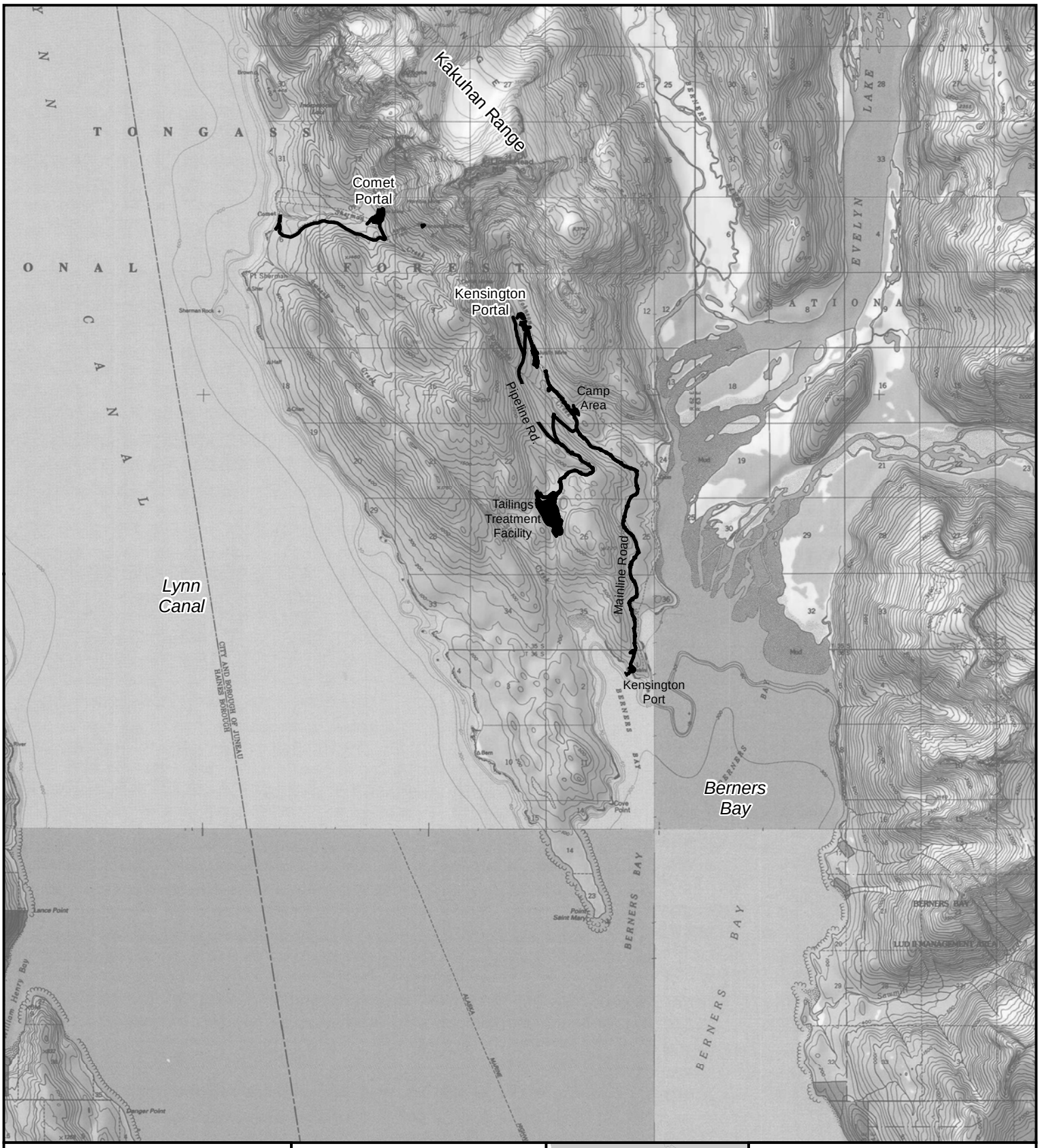
Wilson-Naranjo, G.R., and K.M. Kanouse. 2016. Kensington Gold Mine tailings treatment facility studies. Alaska Department of Fish and Game, Technical Report 16-02, Douglas, AK.

Attachment A: Permit Figures



Vicinity Map

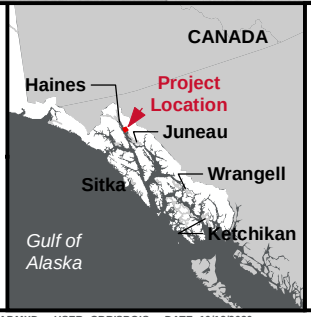
Kensington Mine
Coeur Alaska, Inc.

Proposed Plan of Operations Amendment 1

0 0.5 1 Miles

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

Existing Mine Footprint



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

WATERWAY: Johnson, Slate, and Sherman Creeks

LOCATION: Copper River Meridian: T35S, R62E, S22,23,27,26

SHEET 1

DATE: Oct 12, 2020

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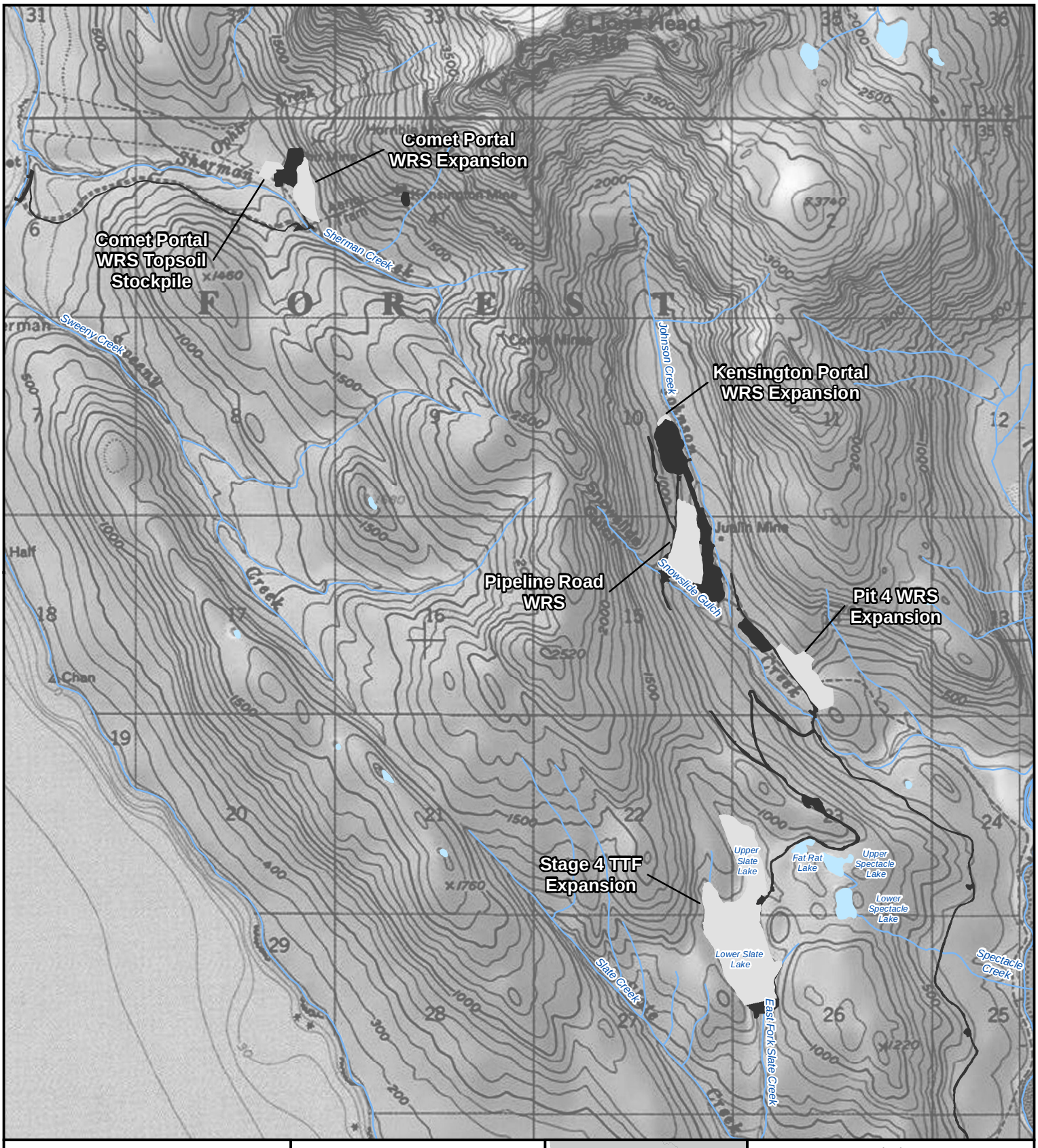

Proposed POA 1 Overview - Plan View

Kensington Mine
Coeur Alaska, Inc.

Proposed Plan of Operations Amendment 1

0 0.25 0.5 Miles

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

- Existing Mine Footprint
- POA 1 Components
- NHD Rivers/Streams
- NHD Lake

APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

WATERWAY: Johnson, Slate, and Sherman Creeks

LOCATION: Copper River Meridian: T35S, R62E, S22,23,27,26

SHEET 2

DATE: Oct 12, 2020

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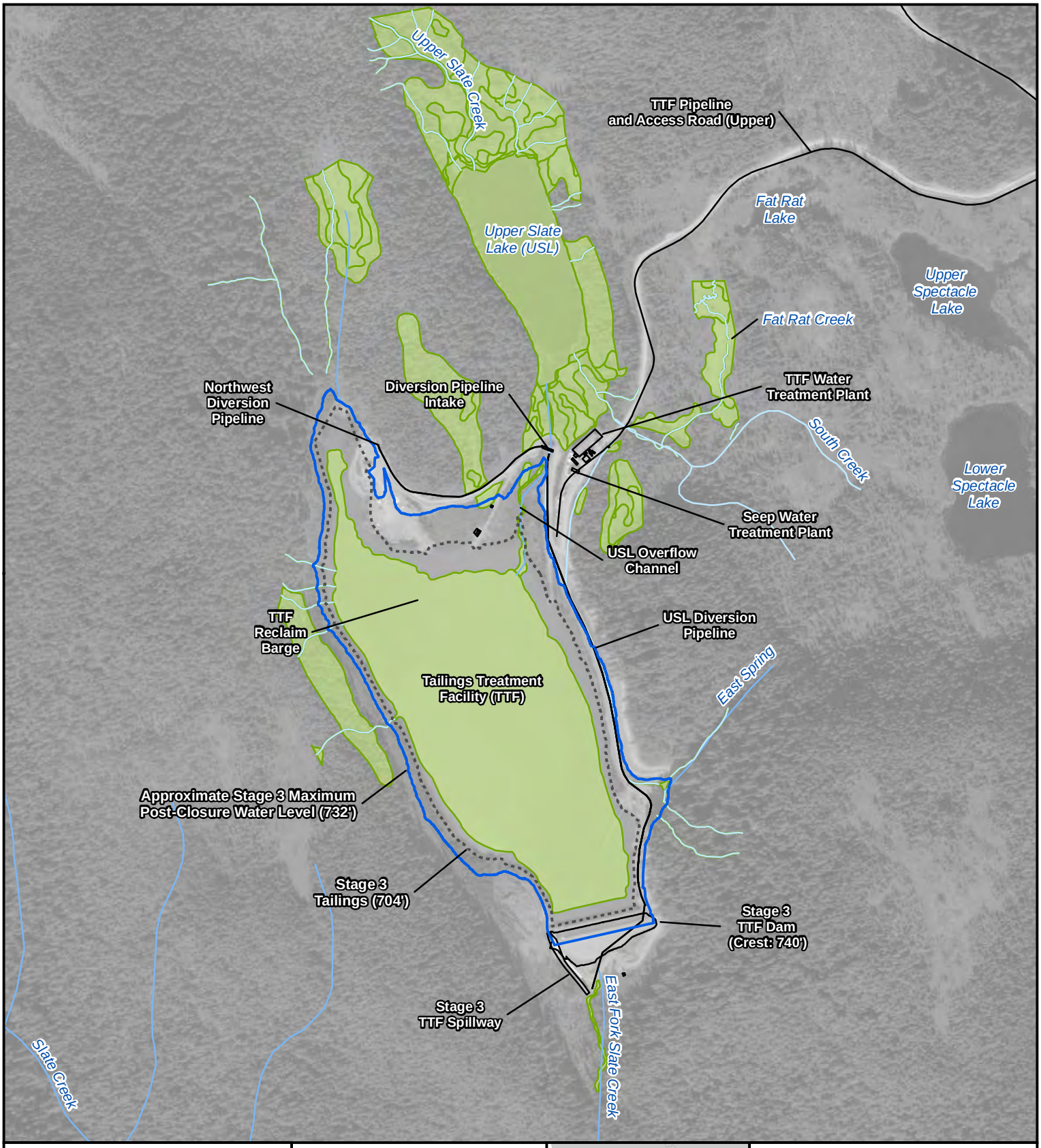


Previously Permitted Stage 3 TTF - Plan View

Kensington Mine
Coeur Alaska, Inc.

0 300 600 Feet

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

- Existing Surface Features
- Approximate Stage 3 post-closure water level
- Stage 3 Tailings Limit
- Wetlands and Waters of the US (HDR 2019)
- Mapped Streams (HDR 2019)
- NHD Streams

APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

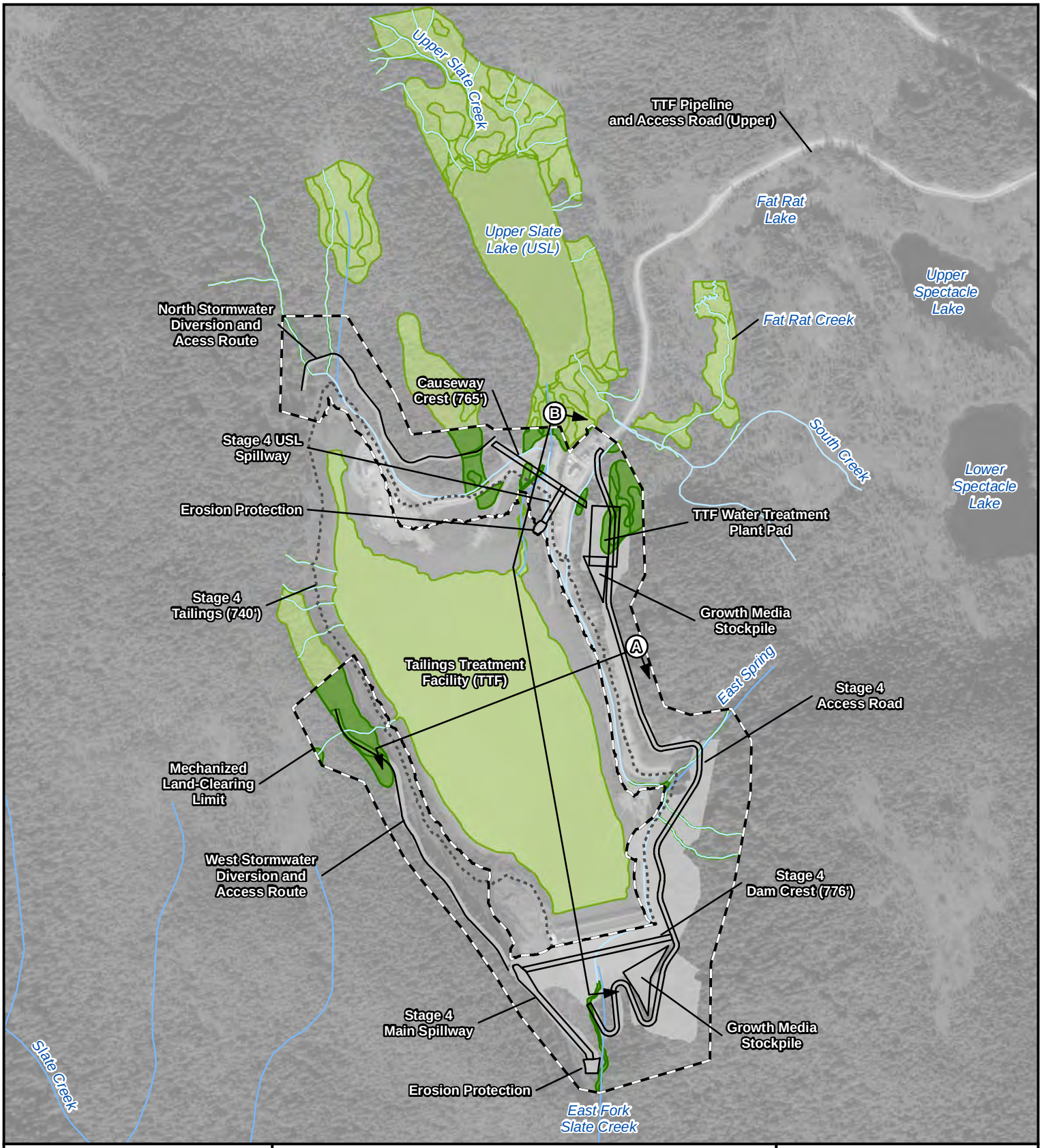
WATERWAY:Slate Creek

LOCATION: Copper River Meridian: T35S, R62E, S22,23,27,26

SHEET 3

DATE: Oct 12, 2020

PATH: \\ANC-SRV04\PROJECT_SAN\008229 COEUR ALASKA\10168581_COEUR_AK_POA1_ENVSUP\7.2_WP\MAP_DOCS\PERMIT_404\SHEET3_TTFEXISTINGSTAGE3FEATSOVERVIEW.MXD - USER: CBRISBOIS - DATE: 10/12/2020



Proposed Stage 4 TTF Expansion - Construction

Kensington Mine
Coeur Alaska, Inc.

0 300 600 Feet

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

- Stage 4 TTF Expansion Components
- Stage 4 Tailings Limit
- Stage 3 Tailings Limit
- Mechanized Land Clearing Limits
- Proposed Project Fill Areas
- Cross Sections
- Wetlands and Waters of the US (HDR 2019)
- Wetlands and Waters of the US Intersected by TTF Expansion
- Mapped Streams (HDR 2019)
- NHD Streams

APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

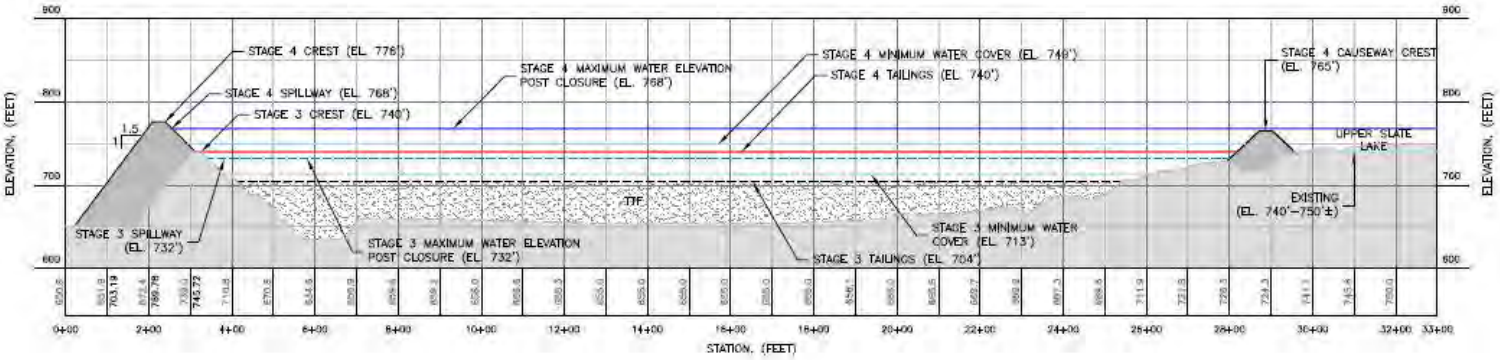
WATERWAY: Slate Creek

LOCATION: Copper River Meridian: T35S, R62E, S22,23,27,26

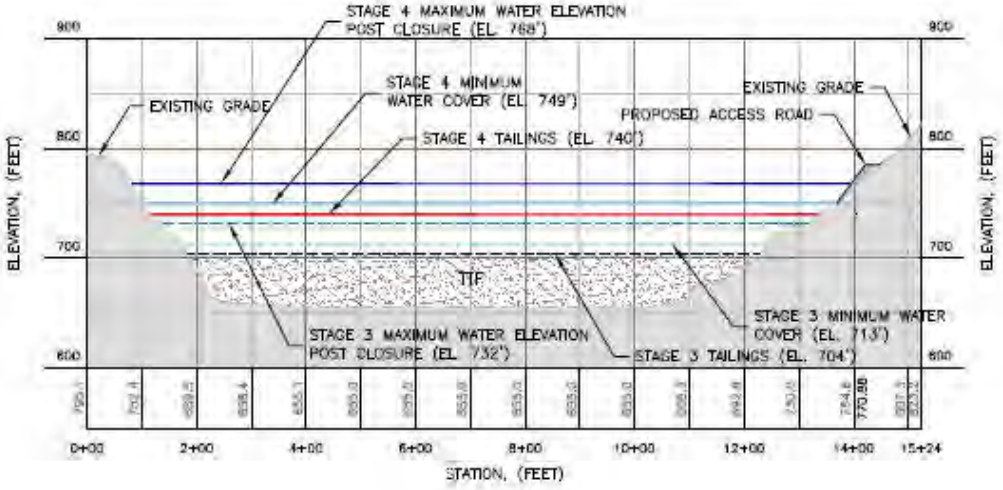
SHEET 4

DATE: Oct, 12 2020

PATH: \\ANC-SRV04\PROJECT_SAN\008229 COEUR ALASKA\10168581_COEUR_AK_POA1_ENVSUP\7.2_WP\MAP_DOCS\PERMIT_404\SHEET4_TTFSITEPLANCONST_OPS.MXD - USER: CBRISBOIS - DATE: 10/12/2020



A 4.2 - TYPICAL FACILITY LONGITUDINAL SECTION



B 4.2 - TYPICAL FACILITY CROSS SECTION

NOTES:

1. OPERATIONAL WATER DEPTH IS 9' PLUS THE 200-YR/24-HR STORM EVENT OF APPROXIMATELY 25M CUBIC FEET. AT THE END OF STAGE 4 OPERATIONS THE OPERATIONAL WATER LEVEL WILL BE AT AN ELEVATION OF 757'.
2. DURING THE POST CLOSURE PERIOD THE WATER SURFACE WILL BE 3 FEET ABOVE THE CAUSEWAY CREST.

Proposed Stage 4 TTF Expansion - Cross Sections

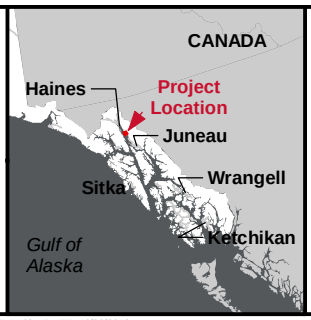
Kensington Mine
Coeur Alaska, Inc.

Proposed Plan of Operations Amendment 1

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

KEY:

- STAGE 3 TAILINGS
- STAGE 4 MAXIMUM TAILINGS LEVEL
- STAGE 4 MAXIMUM WATER LEVEL
- STAGE 4 MINIMUM WATER LEVEL
- POST STAGE 3 CONSTRUCTION
- PROPOSED TTF EXPANSION
- STAGE 3 MAXIMUM WATER ELEVATION
- STAGE 3 MINIMUM WATER ELEVATION
- STAGE 3 TAILINGS MAXIMUM ELEVATION



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

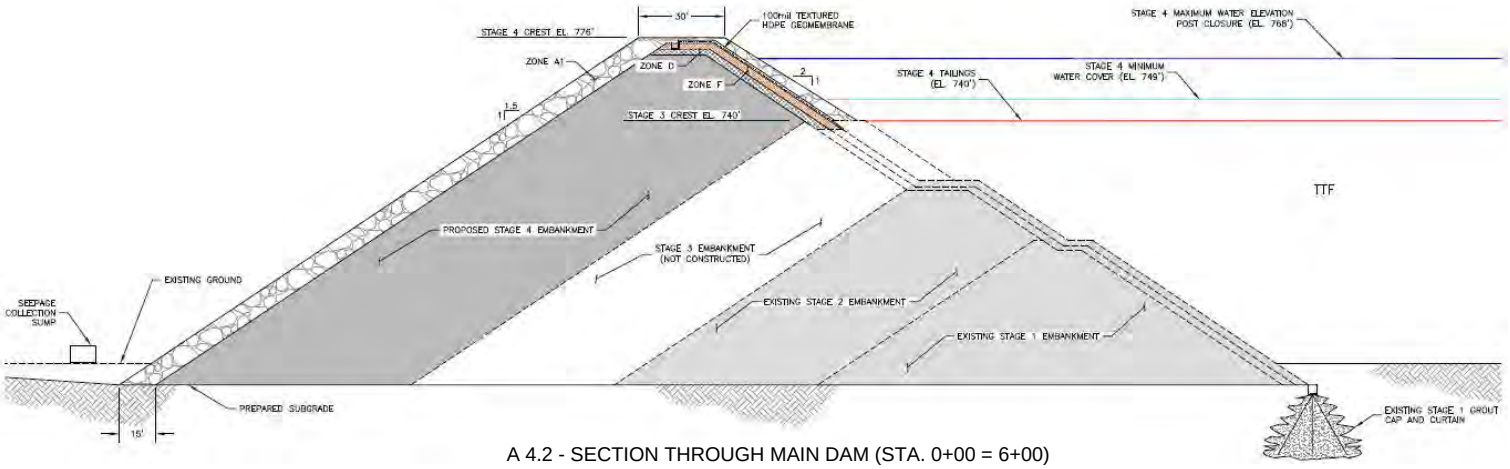
WATERWAY: Johnson, Slate, and Sherman Creeks

LOCATION: Copper River Meridian: T35S, R62E, S22,23,27,26

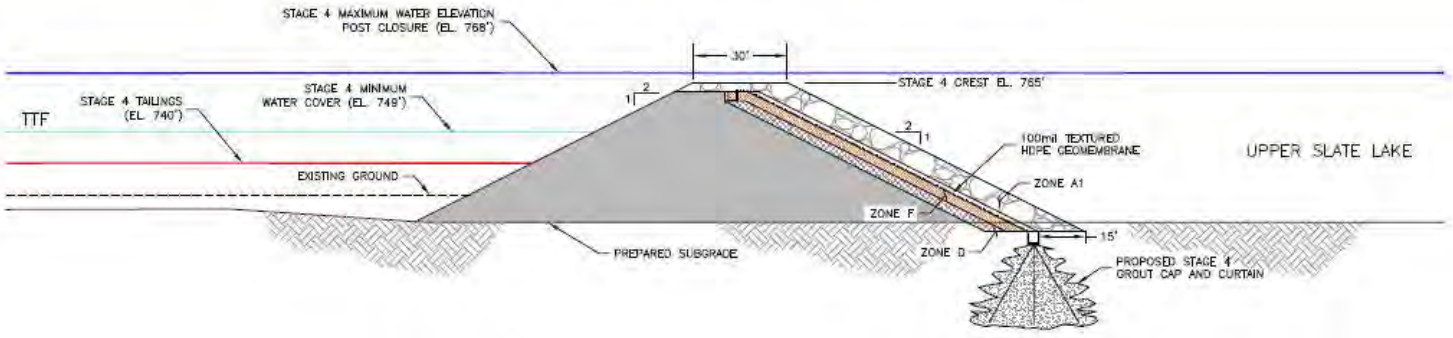
SHEET 5

DATE: Oct 12, 2020

PATH: Z:\008229 COEUR ALASKA\2017 KENSINGTON POA1 BIO_WETLANDS\GIS\MAP_DOCS\CORP404PERMIT\SHEET11_TTF_XSECTIONS.MXD - USER: TLILLY - DATE: 10/23/2018



A 4.2 - SECTION THROUGH MAIN DAM (STA. 0+00 = 6+00)



A 4.2 - SECTION THROUGH CAUSEWAY (STA. 26+50 - 31+00)

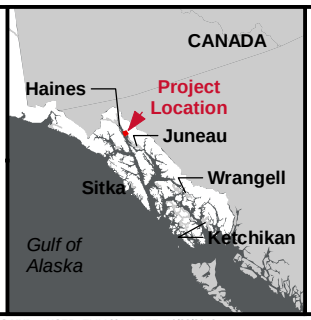
Proposed Stage 4 TTF Expansion - Dam and Causeway Cross Sections

Kensington Mine
Coeur Alaska, Inc.

Proposed Plan of Operations Amendment 1

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

KEY:
- STAGE 4 MAXIMUM TAILINGS LEVEL
- STAGE 4 MAXIMUM WATER LEVEL
- STAGE 4 MINIMUM WATER LEVEL
- EXISTING GROUND
- EXISTING EMBANKMENTS
- PROPOSED TTF EXPANSION
- PROPOSED DRAIN FILL
- PROPOSED FILTER FILL
- PROPOSED COARSE WASTE ROCK MATERIAL FILL
- GROUT



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

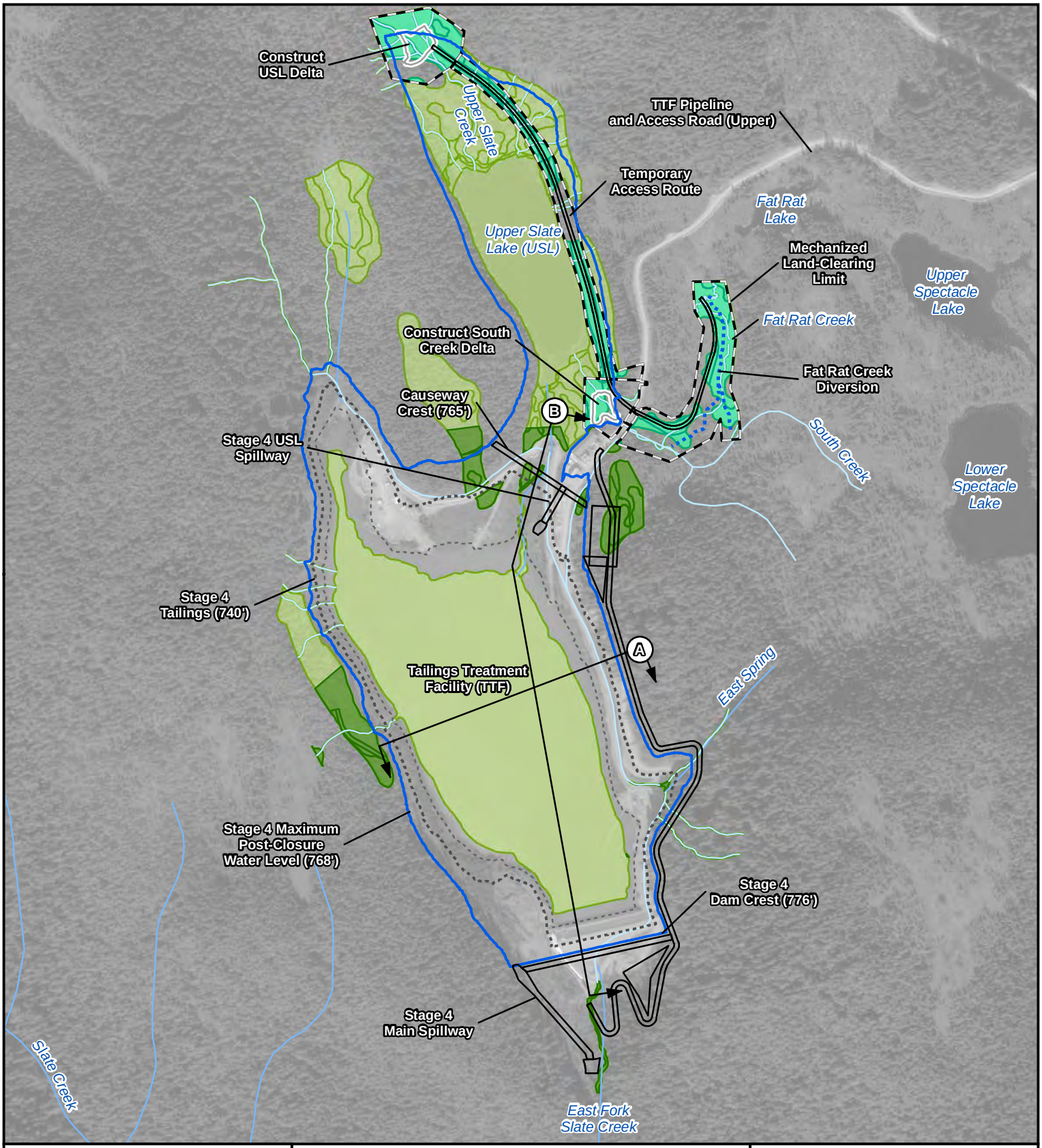
WATERWAY: Johnson, Slate, and Sherman Creeks

LOCATION: Copper River Meridian: T35S, R62E, S22,23,27,26

SHEET 6

DATE: Oct 12, 2020

PATH: Z:\008229 COEUR ALASKA\2017 KENSINGTON POA1 BIO_WETLANDS\GIS\MAP_DOCS\CORP404PERMIT\SHEET12_TTF_MAINDAMCAUSEXSECTIONS.MXD - USER: TLILLY - DATE: 10/23/2018



Proposed Stage 4 TTF - Closure & Post-Closure

Kensington Mine
Coeur Alaska, Inc.

0 300 600 Feet

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

- Stage 4 TTF Expansion Components
- Stage 4 Post-Closure Water Limit
- Stage 4 Tailings Limit
- Stage 3 Tailings Limit
- Fish Habitat Mechanized Land Clearing Limits
- Fat Rat Creek Diversion
- Cross Sections
- Wetlands and Waters of the US (HDR 2019)
- Wetlands and Waters of the US Intersected by TTF Expansion
- Wetlands and Waters of the US Intersected by Fish Habitat Mitigation
- Mapped Streams (HDR 2019)
- NHD Streams

APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

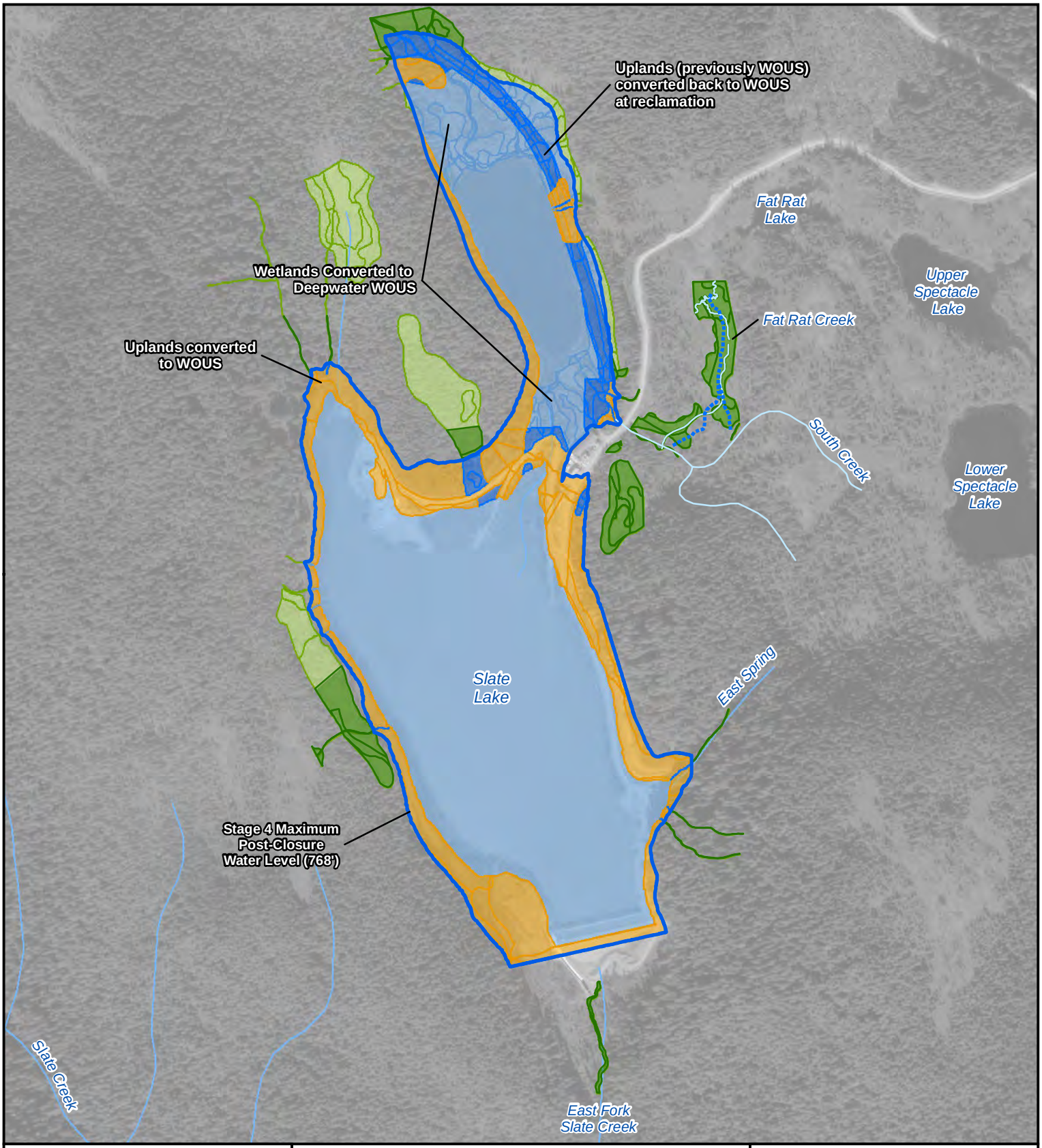
WATERWAY: Slate Creek

LOCATION: Copper River Meridian: T35S, R62E, S22,23,27,26

SHEET 7

DATE: Oct 12, 2020

PATH: \\ANC-SRV04\PROJECT_SAN\008229 COEUR ALASKA\10168581_COEUR_AK_POA1_ENVSUP\7.2_WP\MAP_DOCS\PERMIT_404\SHEET7_TTFSITEPLAN_CLOSURE_POSTCLOSURE.MXD - USER: CBRISBOIS - DATE: 10/12/2020



Proposed Stage 4 TTF - Reclamation

Kensington Mine
Coeur Alaska, Inc.

0 300 600 Feet

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

- Stage 4 Post-Closure Water Level
- Fat Rat Creek Diversion
- Mapped Streams (HDR 2019)
- NHD Streams
- Uplands to WOUS between 732 and 768'
- Uplands (previously WOUS), converted back to WOUS
- Wetlands and Waters of the US Below 768'
- Wetlands and Waters of the US Above 768' (HDR 2019)
- Wetlands and Waters of the US Intersected by TTF Expansion and Fish Mitigation Above 768'

APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

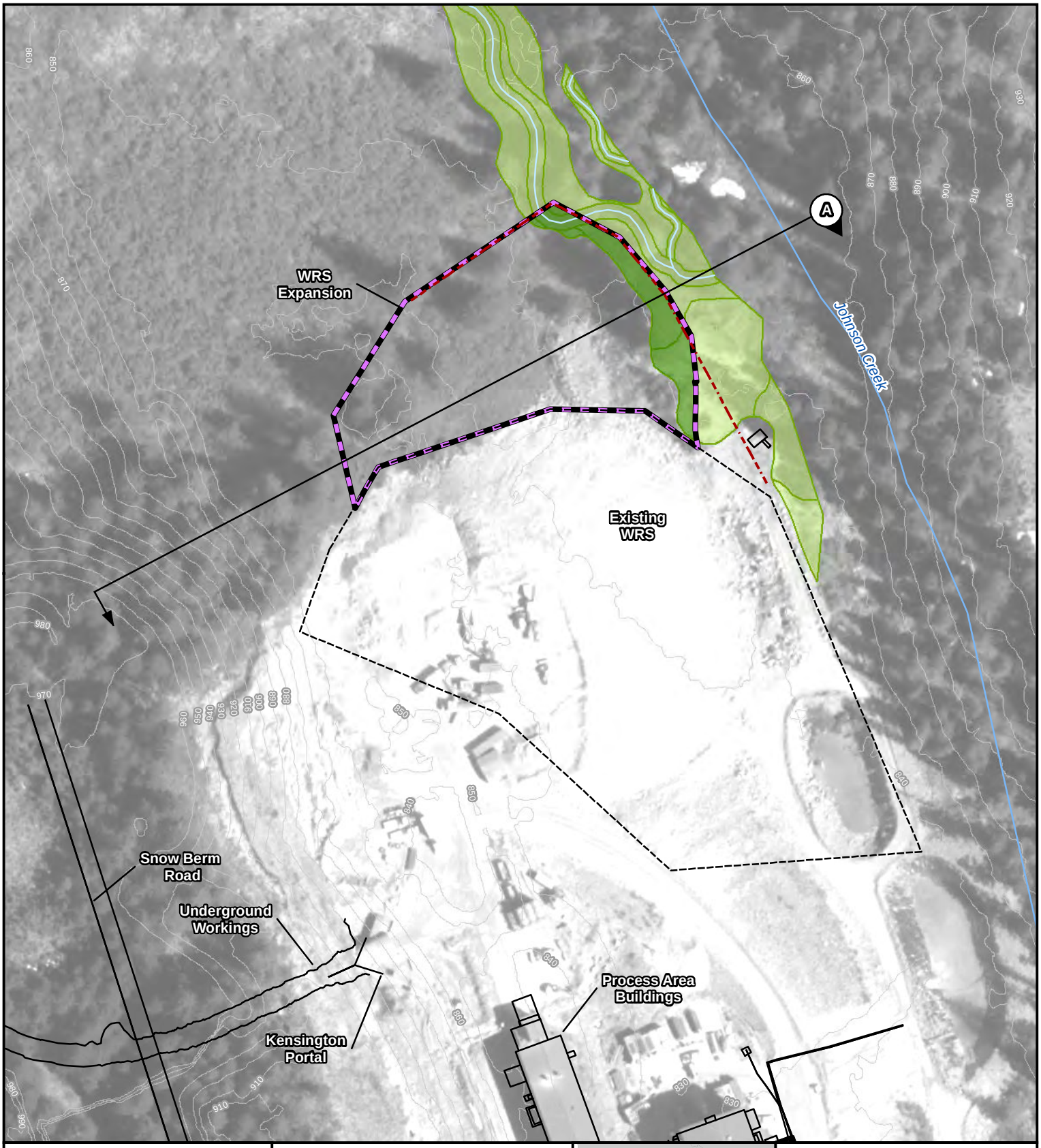
WATERWAY: Slate Creek

LOCATION: Copper River Meridian: T35S, R62E, S22,23,27,26

SHEET 8

DATE: Oct 12, 2020

PATH: Z:\008229 COEUR ALASKA\10168581_COEUR_AK_POA1_ENVSUP\7.2_WP\MAP_DOCS\PERMIT_404\SHEET8_TTFSITEPLAN_RECLAMATION.MXD - USER: TLILLY - DATE: 10/13/2020



Proposed Kensington WRS Expansion - Plan View

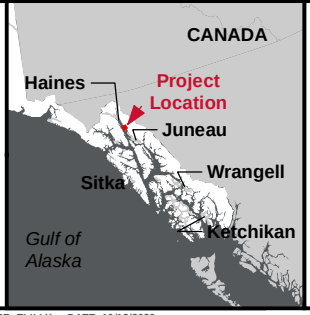
Kensington Mine
Coeur Alaska, Inc.

Proposed Plan of Operations
Amendment 1

0 50 100 Feet

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

- Kensington WRS Site Expansion
- Existing WRS Outline
- Silt Fence
- Existing Surface Features
- Cross Sections
- Wetlands and Waters of the US (HDR 2019)
- Wetlands and Waters of the US Intersected by the Project
- Mapped Streams (HDR 2019)
- NHD Streams



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

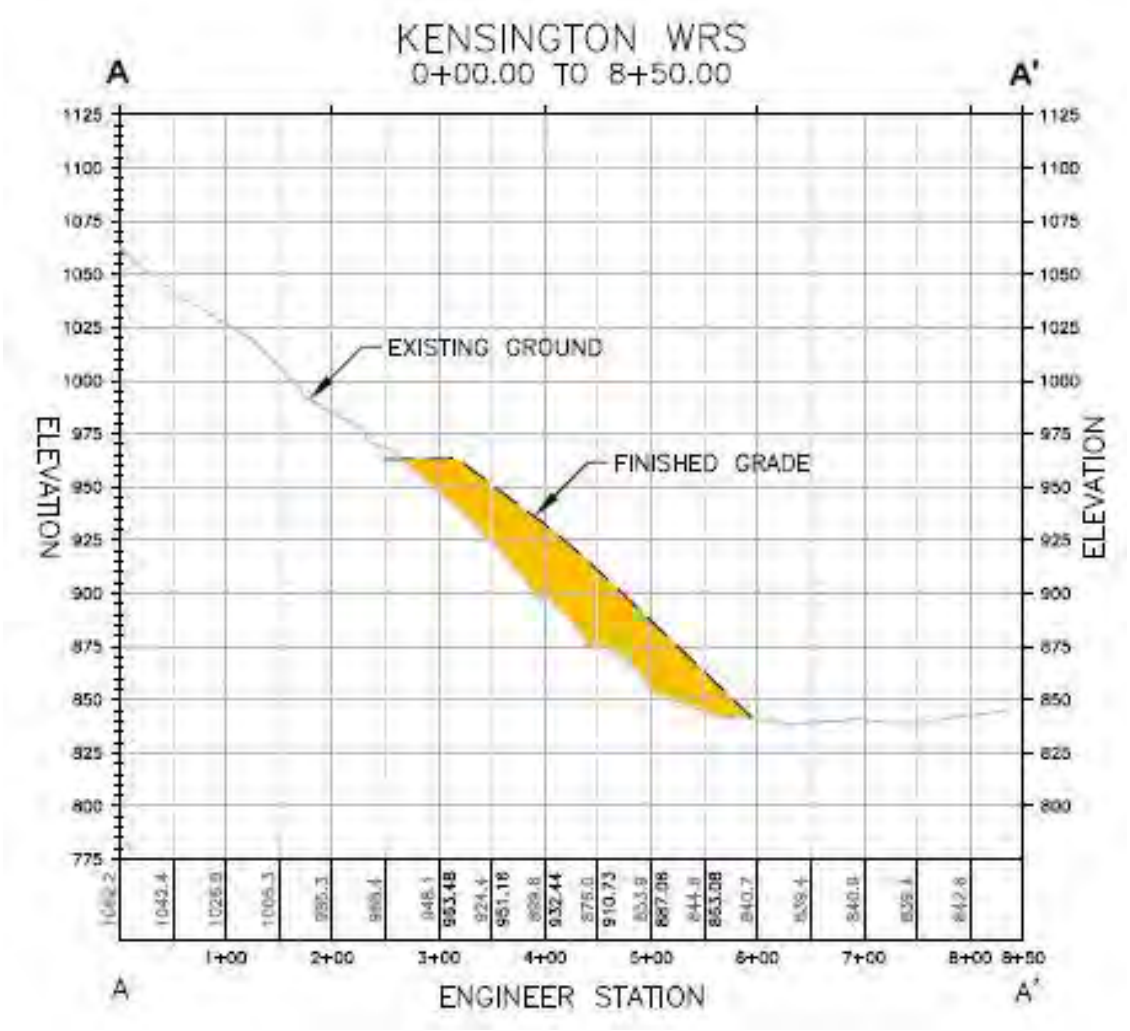
WATERWAY: Johnson Creek

LOCATION: Copper River Meridian: T35S, R62E, S10

SHEET 9

DATE: Oct 12, 2020

PATH: Z:\008229 COEUR ALASKA\10168581_COEUR_AK_POA1_ENVSUP\7.2_WP\MAP_DOCS\PERMIT_404\SHEET9_PROP_KENSINGTONWRS_PLAN.MXD - USER: TLILLY - DATE: 10/13/2020



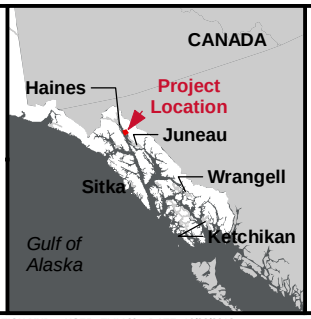
Proposed Kensington WRS Expansion - Typical Cross Section

Kensington Mine
Coeur Alaska, Inc.

Proposed Plan of Operations
Amendment 1

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

KEY:
EXISTING CONTOURS
EXISTING LAKE
EXISTING STREAM
EXISTING ROAD
PROPOSED WRS
EXISTING WRS OUTLINE
PROPOSED SILT FENCE



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

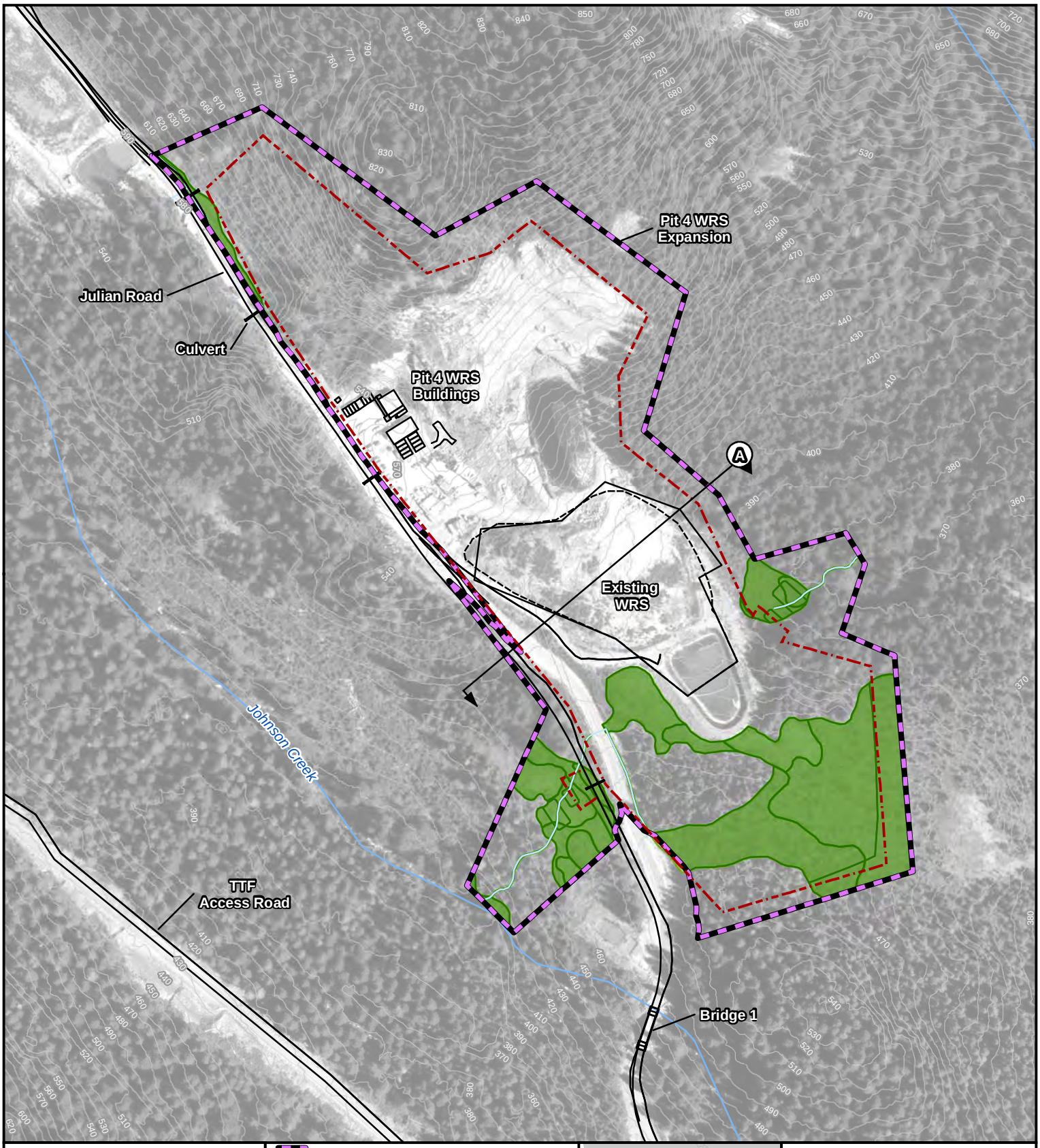
WATERWAY: Johnson Creek

LOCATION: Copper River Meridian: T35S, R62E, S10

SHEET 10

DATE: Oct 12, 2020

PATH: Z:\008229 COEUR ALASKA\2017 KENSINGTON POA1 BIO_WETLANDS\GIS\MAP_DOCS\CORP404PERMIT\SHEET14_PROP_KENSINGTONWRS_XSECTION.MXD - USER: TLILLY - DATE: 10/23/2018



Proposed Pit 4 WRS Expansion - Plan View

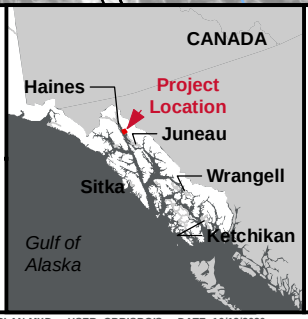
Kensington Mine
Coeur Alaska, Inc.

Proposed Plan of Operations
Amendment 1

0 100 200 Feet

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

- Pit 4 WRS Site Expansion
- Existing Pit 4 WRS
- Silt Fence
- Existing Surface Features
- Cross Sections
- Wetlands and Waters of the US (HDR 2019)
- Wetlands and Waters of the US Intersected by the Project
- Mapped Streams (HDR 2019)
- NHD Streams



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

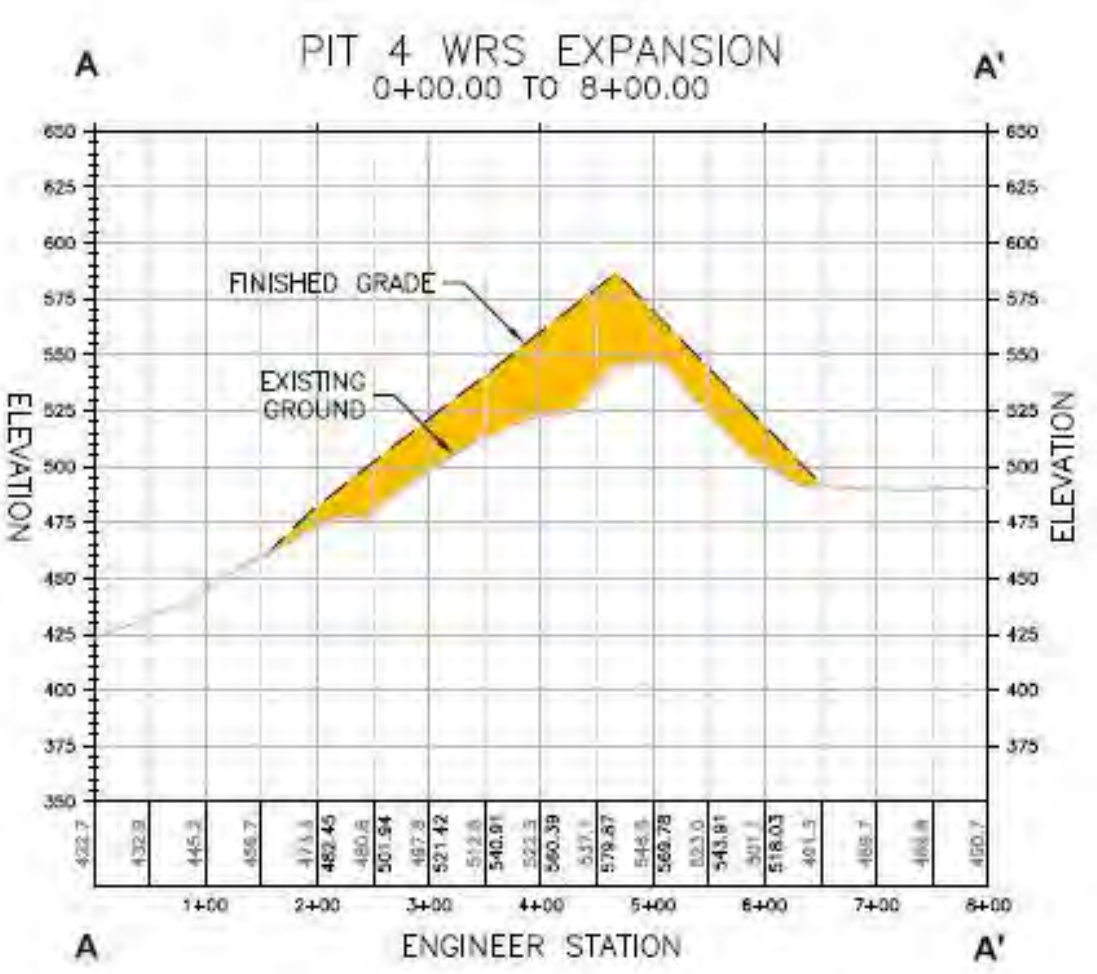
WATERWAY: Johnson Creek

LOCATION: Copper River Meridian: T35S, R62E, S10

SHEET 11

DATE: Oct 12, 2020

PATH: \\ANC-SRV04\PROJECT_SAN\008229 COEUR ALASKA\10168581_COEUR_AK_POA1_ENVSUP\7.2_WP\MAP_DOCS\PERMIT_404\SHEET11_PROP_PIT4_WRS_PLAN.MXD - USER: CBRISBOIS - DATE: 10/12/2020



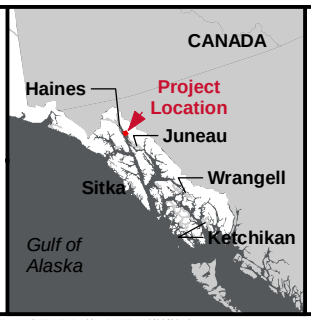
Proposed Pit 4 WRS Expansion - Typical Cross Section

Kensington Mine
Coeur Alaska, Inc.

Proposed Plan of Operations
Amendment 1

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

KEY:
EXISTING CONTOURS
EXISTING LAKE
EXISTING STREAM
EXISTING ROAD
PROPOSED WRS
PROPOSED POND
PROPOSED CHANNEL
PROPOSED SILT FENCE
EXISTING WRS



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

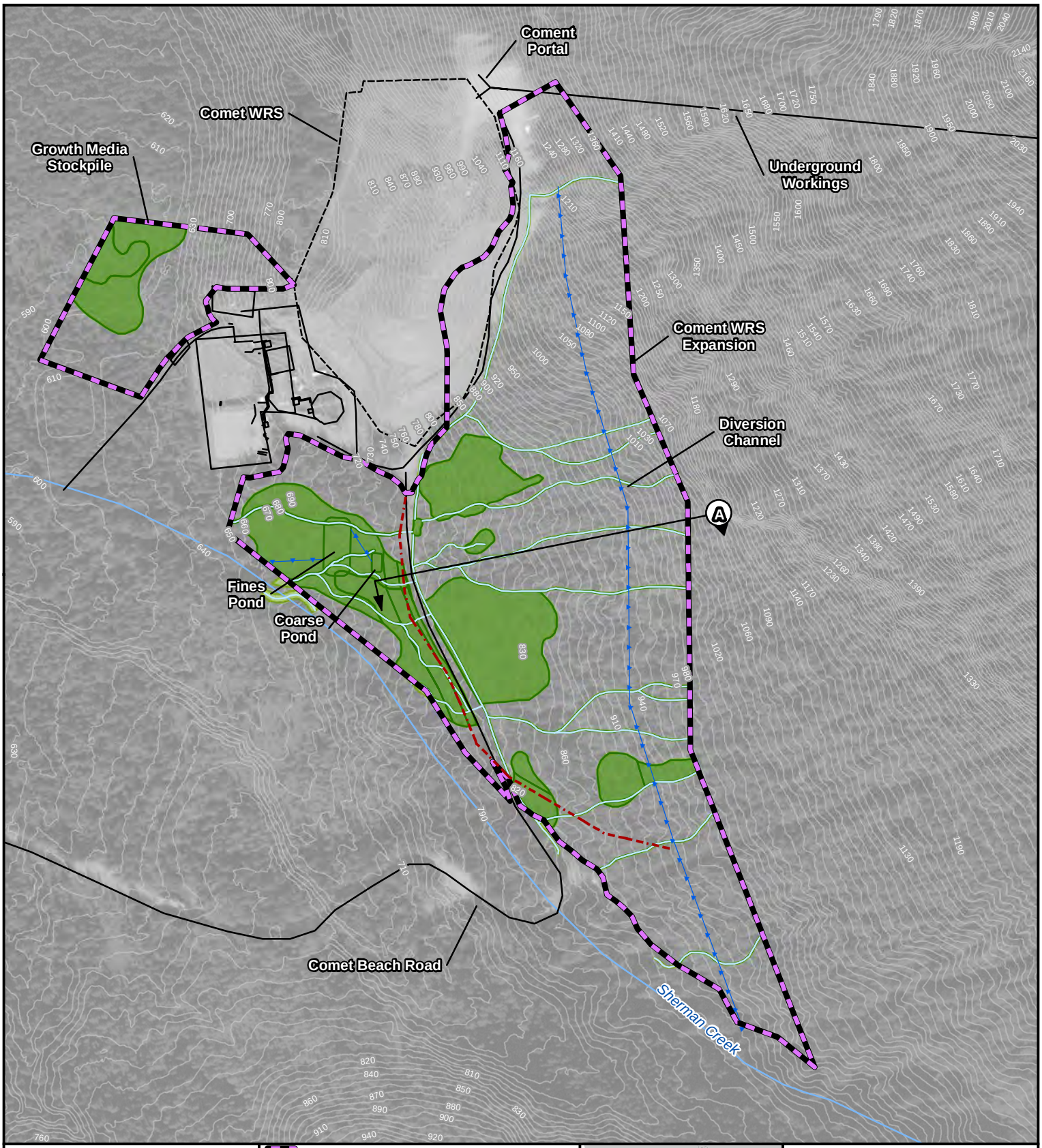
WATERWAY: Johnson Creek

LOCATION: Copper River Meridian: T35S, R62E, S10

SHEET 12

DATE: Oct 12, 2020

PATH: Z:\008229 COEUR ALASKA\2017 KENSINGTON POA1 BIO_WETLANDS\GIS\MAP_DOCS\CORP404PERMIT\SHEET16_PROP_PIT4_WRS_XSECTION.MXD - USER: TLILLY - DATE: 10/23/2018



Proposed Comet WRS Expansion - Plan View

Kensington Mine
Coeur Alaska, Inc.

Proposed Plan of Operations
Amendment 1

0 150 300 Feet

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

- Comet WRS Site Expansion
- Existing WRS Outline
- Silt Fence
- Existing Surface Features
- Proposed Channel
- Cross Sections
- Wetlands and Waters of the US (HDR 2019)
- Wetlands and Waters of the US Intersected by the Project
- Mapped Streams (HDR 2019)
- NHD Streams

APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

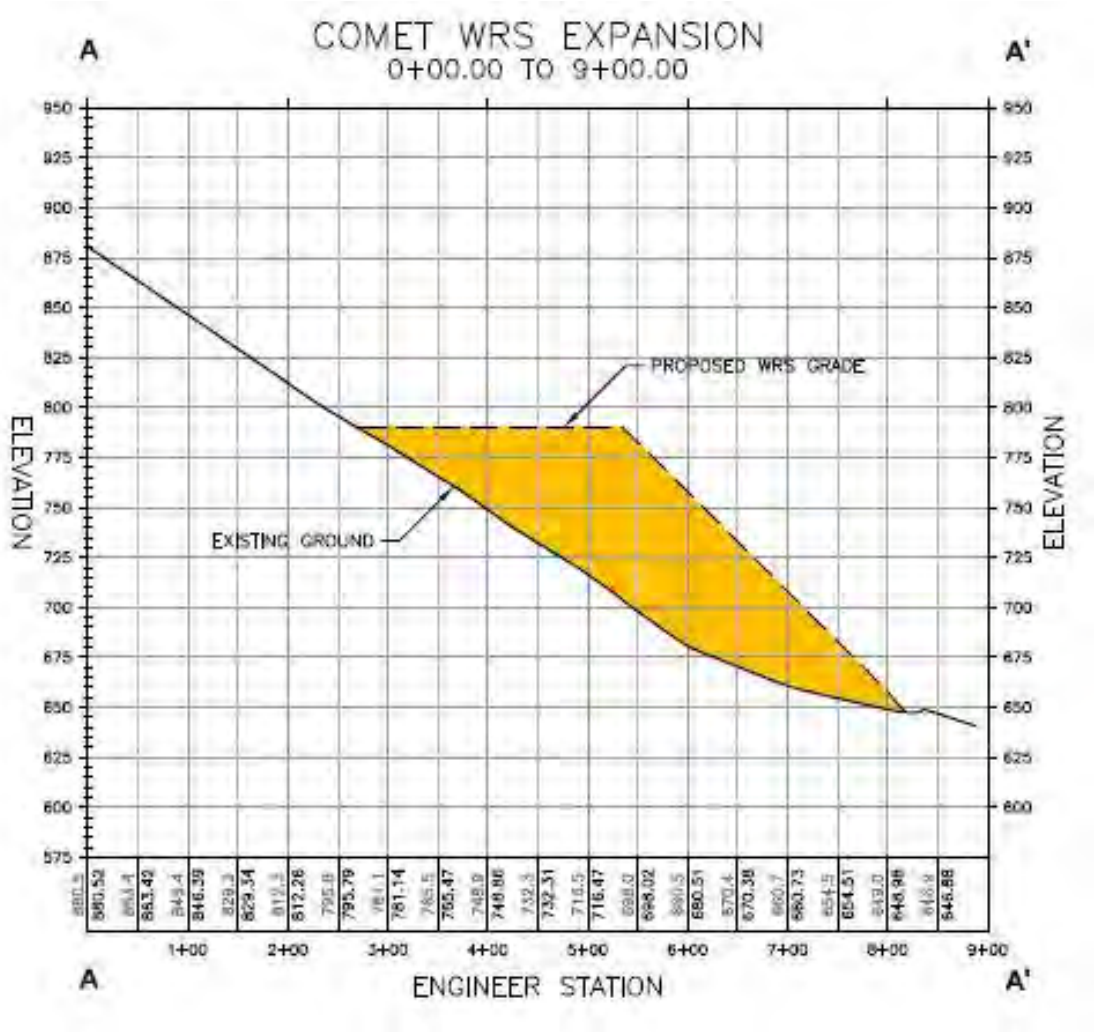
WATERWAY: Sherman Creek

LOCATION: Copper River Meridian: T35S, R62E, S4,5

SHEET 13

DATE: Oct 12, 2020

PATH: \\ANC-SRV04\PROJECT_SAN\008229 COEUR ALASKA\10168581_COEUR_AK_POA1_ENVSUP\7.2_WP\MAP_DOCS\PERMIT_404\SHEET13_PROP_COMET_WRS_PLAN.MXD - USER: CBRISBOIS - DATE: 10/12/2020



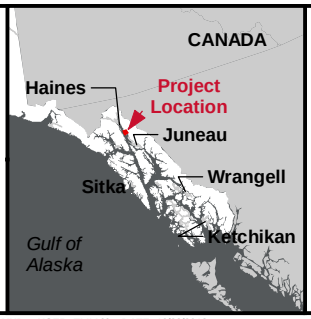
Proposed Comet WRS Expansion - Typical Cross Section

Kensington Mine
Coeur Alaska, Inc.

Proposed Plan of Operations
Amendment 1

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

KEY:
EXISTING CONTOURS
EXISTING LAKE
EXISTING STREAM
EXISTING ROAD
PROPOSED WRS
PROPOSED POND
PROPOSED CHANNEL
PROPOSED SILT FENCE
PROPOSED CENTERLINE
UNDERGROUND WORKINGS
PROPOSED GROWTH MEDIA STOCKPILE



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

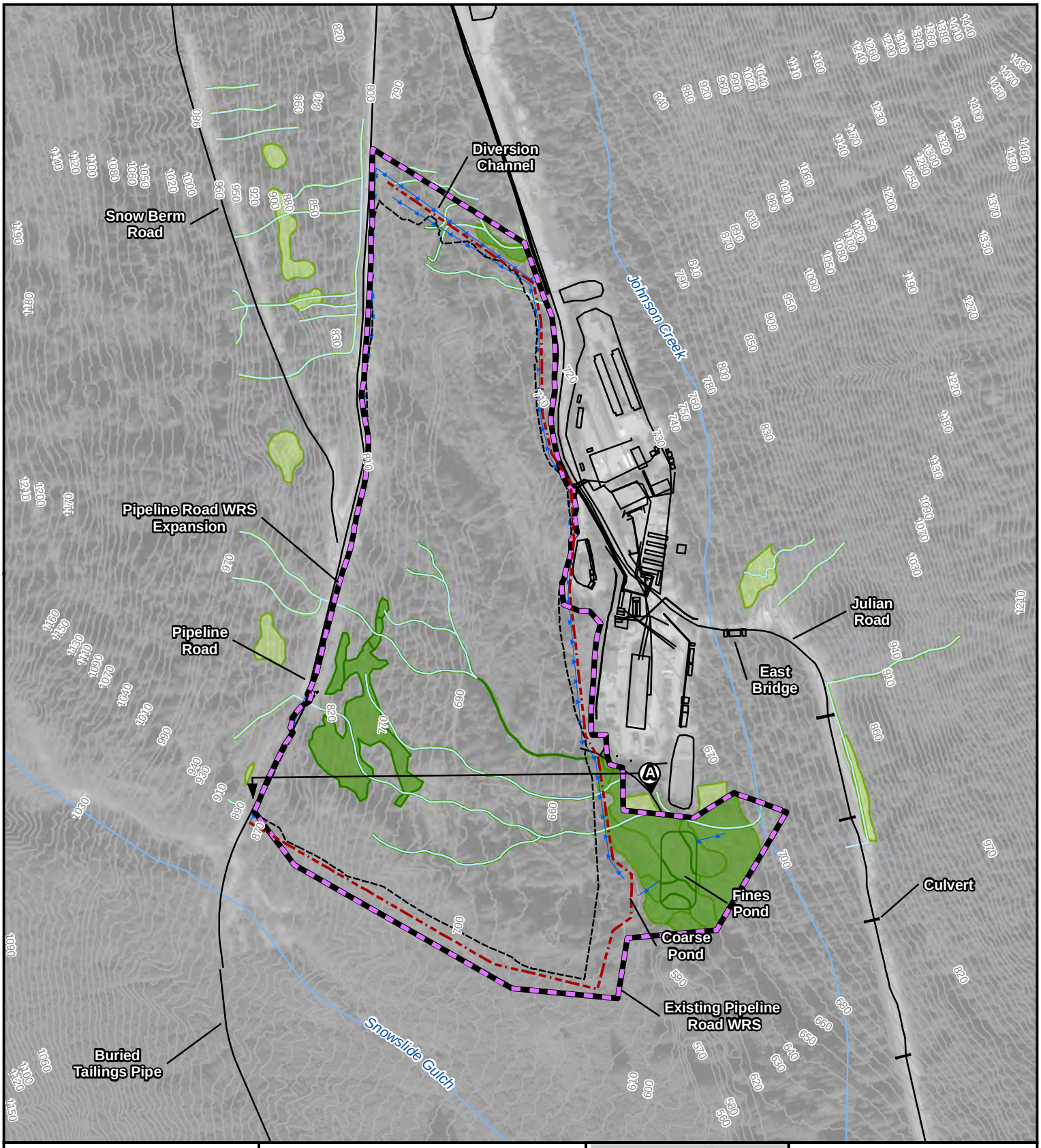
WATERWAY: Sherman Creek

LOCATION: Copper River Meridian: T35S, R62E, S4,5

SHEET 14

DATE: Oct 12, 2020

PATH: Z:\008229 COEUR ALASKA\2017 KENSINGTON POA1 BIO_WETLANDS\GIS\MAP_DOCS\CORP404PERMIT\SHEET18_PROP_COMET_WRS_XSECTION.MXD - USER: TLILLY - DATE: 10/23/2018



Proposed Pipeline Road WRS Expansion - Plan View

Kensington Mine
Coeur Alaska, Inc.

Proposed Plan of Operations
Amendment 1

0 150 300 Feet

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

- Pipeline Road WRS Site
- Silt Fence
- Existing Surface Features
- Proposed Channel
- Cross Sections
- Wetlands and Waters of the US (HDR 2019)
- Wetlands and Waters of the US Intersected by the Project
- Mapped Streams (HDR 2019)
- NHD Streams

APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

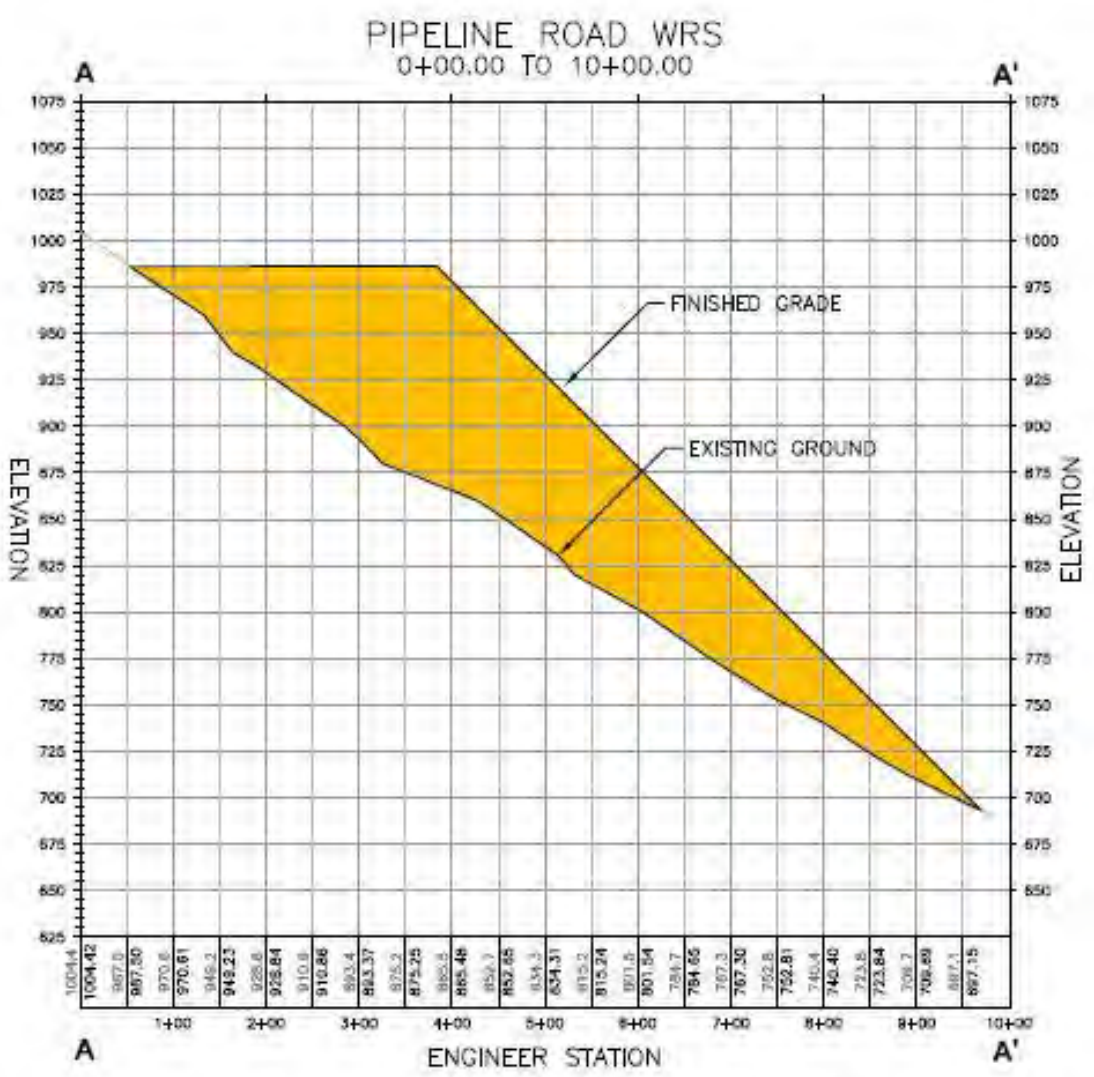
WATERWAY: Johnson Creek

LOCATION: Copper River Meridian: T35S, R62E, S10,11,14,15

SHEET 15

DATE: Oct 12, 2020

PATH: \\ANC-SRV04\PROJECT_SAN\008229 COEUR ALASKA\10168581_COEUR_AK_POA1_ENVSUP\7.2_WP\MAP_DOCS\PERMIT_404\SHEET15_PROP_PIPELINE_WRS_PLAN.MXD - USER: CBRISBOIS - DATE: 10/12/2020



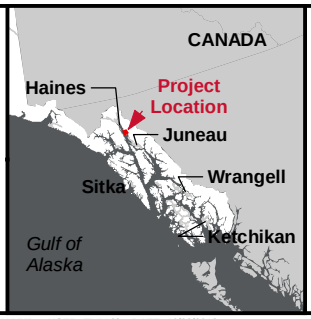
Proposed Pipeline Road WRS Expansion - Typical Cross Section

Kensington Mine
Coeur Alaska, Inc.

Proposed Plan of Operations
Amendment 1

HORIZONTAL DATUM:
NAD 1983, State Plane Zone 4

KEY:
- EXISTING CONTOURS
- EXISTING LAKE
- EXISTING STREAM
- EXISTING ROAD
- PROPOSED WRS
- PROPOSED POND
- PROPOSED CHANNEL
- PROPOSED SILT FENCE
- PROPOSED GROWTH MEDIA STOCKPILE



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M9

WATERWAY: Johnson Creek

LOCATION: Copper River Meridian: T35S, R62E, S10,11,14,15

SHEET 16

DATE: Oct 12, 2020

PATH: Z:\1008229 COEUR ALASKA\2017 KENSINGTON POA1 BIO_WETLANDS\GIS\MAP_DOCS\CORP404PERMIT\SHEET20_PROP_PIPELINE_WRS_XSECTION.MXD - USER: TLILLY - DATE: 10/23/2018