



# PUBLIC NOTICE

Alaska Department of Environmental Conservation (DEC)  
Wastewater Discharge Authorization Program/401 Certification  
555 Cordova Street, Anchorage AK 99501-2617  
Phone: 907-269-6285 | Email: [DEC-401Cert@alaska.gov](mailto:DEC-401Cert@alaska.gov)

## Notice of Application for State Water Quality Certification

**Public Notice (PN) Date: January 7, 2021**  
**PN Expiration Date: February 8, 2021**

**PN Reference Number: POA-2020-00592-M9**  
**Waterway: Berner's Bay/Lynn Canal**

Any applicant for a federal license or permit to conduct an activity that might result in a discharge into navigable waters, in accordance with Section 401 of the Clean Water Act (CWA) of 1977 (PL95-217), also must apply for and obtain certification from the Alaska Department of Environmental Conservation (Department) that the discharge will comply with the CWA, the Alaska Water Quality Standards, and other applicable State laws.

Notice is hereby given that a request for a CWA §401 Water Quality Certification of a Department of the Army Permit application, Corps of Engineers' Reference Number POA-2020-00592-M9, Berner's Bay/Lynn Canal, has been received for the discharge of dredged and/or fill materials into waters of the United States (WOUS), including wetlands, as described below and shown on the enclosed project figures/drawings. The public notice and related project figures/drawings are also accessible from the DEC website at <http://dec.alaska.gov/water/wastewater/>.

Any person desiring to comment on the project with respect to water quality, may submit comments electronically via the DEC public notice site (**preferred method**) at <https://dec.alaska.gov/comment/> directly at <http://water.alaskadec.commentinput.com/?id=a3x28>, or written comments to the address or email listed above by the Public Notice expiration date. All comments submitted via mail or email should include the PN reference number listed above in the subject heading. Mailed comments must be postmarked on or before the expiration date of the public notice.

**Applicant:** Coeur Alaska, Inc., 3031 Clinton Drive, Suite 202, Juneau, Alaska 99801, Kevin Eppers, Environmental Manager, 907-523-3328, [KEppers@coeur.com](mailto:KEppers@coeur.com); Agent: HDR, Inc. 2525 C Street, Suite 500, Anchorage, Alaska 99503, Dave Casey, 907-644-2191, [Dave.Casey@hdrinc.com](mailto:Dave.Casey@hdrinc.com)

**Project Name:** Kensington Mine Expansion, Plan of Operations Amendment 1 (POA 1)

**Location:** The proposed activity is located within Section 5, 10, 14, 15, 22, 23, 26 and 27, T. 35 S., R. 62 E., Copper River Meridian; Latitude 58.832934° N., Longitude -135.042555° W.; at the Kensington Mine, approximately 45 miles north/northwest of Juneau, Alaska.

**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. POA 1 would extend the life of the mine by a minimum of 10 years.

**Project Description:** 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 POA 1. To evaluate POA 1, the

U.S. Forest Service is preparing a Supplemental Environmental Impact Statement (SEIS) under the National Environmental Policy Act. You can review the draft SEIS and supporting documentation 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](mailto:sm.fs.kensington@usda.gov).

The applicant requests authorization for the proposed discharge of fill material into waters of the U.S. (WOUS), including wetlands, to construct the following proposed POA 1 project components:

- Stage 4 Dam raise and Tailings Treatment Facility (TTF) Expansion (6.1 acres WOUS converted to uplands during construction, before reclamation)
- Kensington waste rock stockpile (WRS) Expansion (0.16 acres of WOUS)
- Pit #4 Expansion (5.36 acres in WOUS)
- Comet WRS Expansion (6.19 areas in WOUS)
- Comet Portal Topsoil Stockpile (1.02 acres in WOUS)
- Pipeline Road WRS (4.45 acres in WOUS), and
- Fish Habitat Mitigation (9.4 WOUS converted to uplands during construction, before reclamation)

POA I would involve the discharge of approximately 5.8 million cubic yards of fill material into 32.68 acres of WOUS, including wetlands. 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.

For additional details, you may also refer to the video at the following website:

<https://www.youtube.com/watch?v=19N8rz7N74w&feature=youtu.be>

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After reviewing the application, the Department may certify there is reasonable assurance the activity, and any discharge that might result, will comply with the CWA, the Alaska Water Quality Standards, and other applicable State laws. The Department also may deny or waive certification.

The permit application and associated documents are available for review. For inquiries or to request copies of the documents, contact [dec-401cert@alaska.gov](mailto:dec-401cert@alaska.gov), or call 907-269-6285.

### **Disability Reasonable Accommodation Notice**

The State of Alaska, Department of Environmental Conservation complies with Title II of the Americans with Disabilities Act (ADA) of 1990. If you are a person with a disability who may need special accommodation in order to participate in this public process, please contact ADA Coordinator Brian Blessington at 907-269-6272 or TDD Relay Service 1-800-770-8973/TTY or dial 711 within 5 days of the expiration date of this public notice to ensure that any necessary accommodations can be provided.



Ms. Angela Hunt  
Alaska Department of Environmental Conservation  
Division of Water – Wastewater Discharge Authorization Program  
555 Cordova Street  
Anchorage AK 99501

December 7, 2020

Subject: Clean Water Act Section 401 Water Quality Certification Request for Kensington Mine Plan of Operations Amendment 1

Dear Ms. Hunt,

On behalf of Coeur Alaska, Inc. (Coeur), I am requesting a Clean Water Act Section 401 Water Quality Certification (WQC). Coeur, as owner and operator of the Kensington Mine, has applied to the U.S. Army Corps of Engineers (USACE) to modify Department of the Army (DA) permit POA-1990-592-M, initially issued on June 17, 2005. The permit modification will support Coeur's Plan of Operations Amendment 1 (POA 1), which will extend the life of mine by a minimum of 10 years. Coeur is seeking a WQC to support POA 1.

Briefly, POA 1 is a continuation of Coeur's current mining practices and will involve construction of a Stage 4 raise of the Main Dam, discharge of 4 million tons (Mt) of tailings into the Tailings Treatment Facility (TTF), and four waste rock stockpiles that will hold a combined 5 Mt of material.

More information is included our Section 404 permit application of October 26, 2020 (attached). One matter to note is that during USACE's Public Notice comment period, a question was raised regarding a calculation on Table 6 of our application's Project Description. These matters and adjustments are documented in an email to USACE, which is also attached.

POA 1 is also currently undergoing a Supplemental Environmental Impact Statement (SEIS) review with the U.S. Forest Service (USFS). As a supporting document to our request for a WQC, POA 1 is available for download from the USFS's project website at [http://www.fs.usda.gov/nfs/11558/www/nepa/110916\\_FSPLT3\\_4667427.pdf](http://www.fs.usda.gov/nfs/11558/www/nepa/110916_FSPLT3_4667427.pdf)

If you have any questions regarding this document and the attached materials, please contact me at (907) 523-3328 or our authorized agent, Dave Casey with HDR, Inc., at (907) 644-2191.

Thank you,

*Kevin Eppers*

Kevin Eppers  
Environmental Manager

Attachments:

20201207\_POA1\_ADEC401App

20201026\_POA1\_USACE\_Application

20201027\_Coeur\_PrefilingMtngRqst\_CWA§401WQC

20201123\_Email to USACE Re Errors

Copy Furnished

Randy Vigil, U.S. Army Corps of Engineers - [Randal.P.Vigil@usace.army.mil](mailto:Randal.P.Vigil@usace.army.mil)





# Request for CWA §401 Water Quality Certification

Alaska Department of Environmental Conservation  
Division of Water – Wastewater Discharge Authorization Program  
555 Cordova Street, Anchorage AK 99501  
email: [dec-401Cert@alaska.gov](mailto:dec-401Cert@alaska.gov) Phone: 907-269-6285

## I. Identify the applicable federal license or permit

Permit License Number: POA-1990-592-M Federal Agency: ☒ USACE, ☐ FERC, or ☐ Other: \_\_\_\_\_

## II. Project Proponent and Point of Contact

Applicant Information				Point of Contact or Agent Information			
Kevin Eppers				Dave Casey			
First	Middle	Last		First	Middle	Last	
Coeur Alaska, Inc.				HDR, Inc.			
Environmental Manager				Client Development Leader			
Company				Company			
3031 Clinton Drive, Suite 202				2525 C Street, Suite 500			
City		State		City		State	
Juneau		AK		Anchorage		AK	
Mailing Address Street or PO Box		Zip		Mailing Address Street or PO Box		Zip	
K Eppers@coeur.com		907.523.3328		Dave.Casey@hdrinc.com		907.644.2191	
Email		Phone		Email		Phone	
		Fax (optional)				Fax (optional)	

## III. Name, Location, and Description of Project or Activity

Kensington Mine Plan of Operations Amendment 1 (POA 1)

Project Name or Title		State		Longitude		Latitude	
Not applicable		AK		58.845653		-135.050237	
Project Street Address (if applicable)		City		Zip		(Decimal Degrees, 6 places)	
Other Location Descriptions, if known:							
State Tax Parcel ID		City and Borough of Juneau		Section		Township	
		Municipality		35S		62E	
Primary Industrial Activity:		212221		Range		Estimated Start Date	
		NAICS Code				Estimated End Date	

### 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 Project Description included in the USACE permit application for additional location information, including geographic coordinates.

### 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 additional 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 Project Description included in the USACE permit application for additional details (Coeur 2020).

### Project Purpose (Describe the reason of the project)

The purpose of the proposed POA 1 is to extend the life of the mine by a minimum of 10 years (from 2023 to 2033) by increasing the storage capacity of the TTF and increasing waste rock storage capacity. Please see the Project Description included in the USACE permit application for Coeur's complete project purpose statement (Coeur 2020).

### Types of material being discharged and the amount of each type in cubic yards:

Type	yd <sup>3</sup>	Type	yd <sup>3</sup>	Type	yd <sup>3</sup>
See Project Description					

### Surface area in acres of wetlands or other waters filled:

Acres: 26.48 (See Project Description) Or, linear feet: \_\_\_\_\_

### Is dredging involved? ☐ Yes, ☒ No

- If yes, how much? \_\_\_\_\_ acres and volume \_\_\_\_\_ yd<sup>3</sup>.
- Proposed Placement of dredged material: ☐ Upland, ☐ In water, ☐ Other: \_\_\_\_\_
- Has a Tier analysis been conducted of the dredged prism? ☐ Yes, ☐ No; If yes, attach tier analysis and sample results.  
(for example of Tier analysis, see [EPA Inland Testing Manual](#) or [USACE Seattle District Civil Works DMMP User Manual](#))

Is any portion of the work already complete? ☐ Yes, ☒ No If yes, describe the completed work:

N/A

**IV. Identify the location and nature of any potential discharge that may result from the proposed project and the location of receiving waters;**

Name and location of receiving waters, and geographical extent potentially affected by the proposed discharge: Receiving waters for the project area include Slate Creek, Johnson Creek, and Sherman Creek. The Plan of Operations Amendment 1 includes a description of these receiving waters in Section 2.4.1 Surface Water Resources (Coeur 2018). The locations of the receiving waters are shown on Sheet 2 of the figures included in Attachment A of the Project Description (Coeur 2020).

Is the project within 1,500 feet of a known contaminated site: ☒ Yes, ☐ No (see [DEC Contaminated Sites Program](#)).

If yes, describe the identified contaminated site(s) or groundwater plume within 1,500 feet.

The Kensington Mine Generator Pad (Hazard ID 27129) is listed as an active contaminated site on the DEC Contaminated Sites Program website.

Parameter(s) of Concern: (check all that apply): ☒ Turbidity, ☒ Sediment, ☒ Petroleum Hydrocarbons, ☒ Metals, ☐ Other,

Describe:

Parameters of Concern that may be present in potential mine discharge are discussed in Section 5.3 Water Resources in the POA 1 (Coeur 2018). Proposed changes under POA 1 have been incorporated into a revised Stormwater Pollution Prevention Plan (SWPPP) and TTF Environmental Monitoring Plan, and these plans are included as appendices in POA 1 (Coeur 2018). The mine operates under ADEC Multi-Sector General Permit (MSGP) AKR06000, which authorizes stormwater discharges from the construction and operation of metal mining operations that enter surface Waters of the U.S. (WOUS). Stormwater monitoring is conducted in accordance with this MSGP and additional details and requirements can be found in the SWPPP. Discharges to Slate Creek from the TTF will continue to be treated prior to discharge and regulated by the existing APDES Permit AK0050571. Benchmark monitoring parameters for turbidity, sediment, and metals, and outfall locations are provided in Section 5.2.1 Monitoring in the SWPPP (Coeur 2018). Outfall locations are shown on Figures 2-2, 2-3, and 2-4 of POA 1. Coeur also routinely monitors the fuel management and containment systems (Section 5.3.2 in Coeur 2018).

Location of potential discharge (Decimal Degrees, 6 places), describe if necessary:

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Impaired Waters: Does a discharge of any parameter identified above occur to an impaired waterbody listed as a Category 4 [304(b)] or Category 5 [303(d)] in the current EPA approved Alaska's Integrated Water Quality Monitoring and Assessment Report? (See <http://dec.alaska.gov/water/water-quality/impaired-waters.aspx> for the most recently approved report and category listings.) ☐ Yes, ☒ No

If determined necessary and requested by the Department, submit sufficient and credible baseline water quality information for the receiving water which meets the requirements of 18 AAC 70.016(a)(6)(A-C).

**Social or Economic Importance** (18 AAC 70.016(c)(5): Provide information that demonstrates the accommodation of important social or economic development. The applicant shall complete either a social OR economic importance analysis (or both) for each affected community in the area where the receiving water for the proposed discharge is located. (if additional space is needed, attach separate sheet)

**(A) Social Importance Analysis:**

(select one or more areas, and describe below)

- ☐ community services provided;
- ☐ public health or safety improvements;
- ☐ infrastructure improvements;
- ☒ education and training;
- ☐ cultural amenities;
- ☐ recreational opportunities

**(B) Economic Importance Analysis:**

(select one or more areas, and describe below)

- ☒ employment, job availability, and salary impacts;
- ☒ tax base impacts;
- ☐ expanded leases and royalties;
- ☐ commercial activities;
- ☒ access to resources;
- ☐ access to a transportation network

Describe (checked items above or attach as separate document)

Coeur has committed to maximizing local hire policies for construction and operations of the Mine. Coeur is implementing a local native hiring policy and a local purchase policy and has developed vocational training and education programs. Coeur is a member of the Berners Bay Consortium, an alliance of the company with three native corporations. The objective of the Consortium is to promote the expertise of the corporations and utilize their local labor pool (Coeur 2018).

Coeur worked in collaboration with the Tlingit Haida Central Council, the University of Alaska Vocational Education Department, and the State of Alaska Department of Labor to design and implement a job training and education program for the Mine. Coeur is committed to local hire and local purchase within the region. This includes, primarily, the CBJ, the Haines Borough, and to a lesser extent other outlying areas (Coeur 2018). More information on education and training is provided in Section 6.3 of the SWPPP (Coeur 2018).

In 2017 Coeur employed an average of 359 people, and mine employees earned an average wage of \$96,200. Additional employment and socioeconomic details are provided in Section 2.9 of the POA 1 (Coeur 2018).

**V. Include a description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge**

(to include best management practices (BMPs) that will be implemented to minimize the environmental impacts.)

Section 7.0 of the Project Description included in the USACE permit application describes avoidance and minimization measures that Coeur would use to limit or reduce environmental impacts associated with POA 1 (Coeur 2020). These mitigation measures include BMPs listed in Section 7.2.2 of the Project Description. Additional avoidance, minimization, and monitoring activities that Coeur has committed to are described in the POA 1 and supporting appendices (Coeur 2018). The SWPPP identifies potential sources of stormwater pollution at the mine and recommends BMPs or pollution control measures to reduce the discharge of pollutants in stormwater runoff. The SWPPP is provided in Appendix C of the POA 1 (Coeur 2018). Table 3.1 in the SWPPP provides a summary of potential pollution sources at the mine, and Section 4.0 discusses stormwater controls. The measures outlined in the 401 certificate issued by DEC on May 5, 2010 have been carried forward in the POA 1.

**VI. Include a list of all other federal, interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received;**

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

Agency	Type of Approval*	Identification Number	Date Applied	Date Approved	Date Denied
See Project Description					

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

**Attachments:**

**VII. Attachments: Include documentation that a prefilming meeting request was submitted to the certifying authority at least 30 days prior to submitting the certification request;**

- ☒ Prefiling meeting request documentation is attached. (Required)
- ☒ Copy of the federal license or permit requiring certification under 33 U.S.C. 1341 (Clean Water Act, Section 401) to include all accompanying information, contemporaneous with the submission of the application to the federal licensing or permitting agency.
- ☒ Other

Coeur Alaska, Inc. (Coeur) 2018. Revised Plan of Operations Amendment 1 (POA 1) for the Kensington Gold Mine.  
Coeur 2020. POA 1 U.S. Army Corps of Engineers Permit Application and Attached Project Description.

**VIII. Certification Statement:**

The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief. The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.

Company or Organization:		Name:		Title:	
Coeur Alaska, Inc.		Kevin Eppers		Environmental Manager	
Phone:		Fax (optional):		Email:	
907.523.3328				KEppers@coeur.com	
Mailing Address:		Street (PO Box):			
<input checked="" type="checkbox"/> Check if same as Applicants Info		City:		State:	
				Zip:	

kevin eppers

Digitally signed by kevin eppers  
Date: 2020.12.08 07:33:07  
-09'00'

Signature

Date

Submit the CWA §401 Certification Request to [DEC-401Cert@alaska.gov](mailto:DEC-401Cert@alaska.gov).

Include in the subject line the following:

"CWA §401 Certification Request - <Insert Federal Agency and permit number or license number> - <insert project title>".

## **I. Identify the applicable federal license or permit**

Include the Federal Agency's permit license number and identify the corresponding agency for which you are applying for the Alaska DEC CWA §401 certification.

## **II. Project Proponent and Point of Contact**

Enter the name, contact information to include the E-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the application, please attach a sheet with the necessary information. Point of Contact or Agent Information to be completed if you choose to have an agent.

## **III. Name, Location, and Description of Project or Activity**

Project Name: Please provide name identifying the proposed project, e.g., Landmark Plaza, Burned Hills Subdivision, or Edsall Commercial Center. Include location and description of the project or activity.

Estimate Start/End Dates: What are the anticipated start and end dates for project construction?

Location: Provide Latitude and Longitude in decimal degrees with six decimal places, example: 61.216883 N Latitude / -149.878756 W Longitude. Use [www.latlong.net](http://www.latlong.net) if needed for online tool for finding lat/long. Provide street address if applicable, and other location descriptions if known. If the facility or project lacks a street address, indicate the general location of the facility (e.g., intersection of x and y).

Primary Industrial Activity: Identify the Activity Code that best represents the products produced or services rendered for which your facility is primarily engaged. For the North American Industry Classification System (NAICS) see [census.gov/eos/www/naics/](http://census.gov/eos/www/naics/).

Directions to the site: Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide description of the proposed project location, such as lot numbers, tract numbers, or you may choose to locate the proposed project site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed project site if known.

Nature of the Activity: Describe the overall activity or project. Give appropriate dimensions of structures such as wing walls, dikes (identify the materials to be used in construction, as well as the methods by which the work is to be done), or excavations (length, width, and height). Indicate whether discharge of dredged or fill material is involved. Also, identify any structure to be constructed on a fill, piles, or float-supported platforms. The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper.

Project Purpose: Describe the purpose and need for the proposed project. What will it be used for and why? Also include a brief description of any related activities to be developed as the result of the proposed project. Give the approximate dates you plan to both begin and complete all work.

Types of Material Being Discharged and the Amount of Each Type in Cubic Yards. Describe the material to be discharged and amount of each material to be discharged within Corps jurisdiction. Please be sure this description will agree with your illustrations. Discharge material includes rock, sand, clay, concrete, etc.

Surface Areas of Wetlands or Other Waters Filled. Describe the area to be filled at each location. Specifically identify the surface areas, or part thereof, to be filled. Also include the means by which the discharge is to be done (backhoe, dragline, etc.). If dredged material is to be discharged on an upland site, identify the site and the steps to be taken (if necessary) to prevent runoff from the dredged material back into a waterbody. If more space is needed, attach an extra sheet of paper.

Dredging: Identify if any dredging is involved. If so, quantify the acres and volume to be dredged. Provide an assessment of the dredge prism and sample results to support a Tier analysis. Consult the [EPA Inland Testing Manual](#) or the [USACE Seattle District Civil Works DMMP User Manual](#) for an example of a Tier analysis of the dredge prism. It is recommended to consult with DEC and Corps prior to conducting sampling during pre-application meetings to avoid delays.

Is any portion of the work already complete: Provide any background on any part of the proposed project already completed. Describe the area already developed, structures completed, any dredged or fill material already discharged, the type of material, volume in cubic yards, acres filled, if a wetland or other waterbody (in acres or square feet). If the work was done under an existing Corps or other federal/state permit, identify the authorization, if possible.

## **IV. Identify the location and nature of any potential discharge that may result from the proposed project and the location of receiving waters;**

Name and Location of potential discharge. Provide latitude and longitude coordinates (Decimal Degrees, 5-digit places) of potential discharge. Describe the location if necessary. Include the geographic extent potentially affected by the proposed discharge.

**Contaminated Sites:** Identify any known contaminated sites within 1,500 feet of the proposed project discharge, to include those known by the applicant or known DEC identified contaminated site either in “Active” or “Cleanup Complete – Institutional Controls” status. For more information, see DEC Contaminated Sites website ([dec.alaska.gov/spar/csp.aspx](http://dec.alaska.gov/spar/csp.aspx)) for ability to search via map, database, and background summaries.

**Parameters of Concern:** Identify the parameters of concern that may be present in your discharge. Consider if other parameters may be present from past activities in the area. Describe if known respective concentrations, persistence, and potential impacts to the receiving water and data on parameters that may alter the effects of the discharge to the receiving water.

**Impaired Waters:** Does a discharge of any parameter identified may occur to an impaired waterbody listed as a Category 4 [304(b)] or Category 5 [303(d)] in the current EPA approved Alaska’s Integrated Water Quality Monitoring and Assessment Report?

See <http://dec.alaska.gov/water/water-quality/impaired-waters.aspx> for the most recently approved report and category listings.

**Social or Economic Importance Analysis:** select as appropriate and provide a description per 18 AAC 70.016(c)(5).

## **V. Include a description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge**

**Nature of potential discharge and potential environmental impacts on the receiving water:** Provide a brief explanation describing how impacts to waters of the United States are being avoided and minimized on the project site. Include best management practices (BMPs) for sediment and erosion controls that will be implemented to minimize the environmental impacts.

## **VI. List of all other federal, interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received;**

You may need the approval of other federal, state, or local agencies for your project. Identify any applications you have submitted and the status, if any (approved or denied) of each application. You need not have obtained all other permits before applying for the CWA §401 certification.

## **VII. Attachments: Include documentation that a prefilming meeting request was submitted to the certifying authority at least 30 days prior to submitting the certification request;**

**Prefiling meeting request:** Include documentation (copy of email) that a prefilming meeting request was submitted to DEC. Acceptable format is an email sent to the DEC 401 Certification email address, [dec-401cert@alaska.gov](mailto:dec-401cert@alaska.gov) requesting a prefilming meeting request. Include as much information as relevant to describe the nature of your proposed activity. The certifying authority (DEC) may or may not respond depending on the information you provide in the prefilming meeting request.

**Provide a copy of the federal license or permit requiring certification** under 33 U.S.C. 1341 (Clean Water Act, Section 401) to include all accompanying information, contemporaneous with the submission of the application to the federal licensing or permitting agency. This would include all site drawings and maps and illustrations.

## **VIII. Certification Statement**

As per 18 AAC 15.030 Signing of applications, all permit or approval applications must be signed as follows:

- 1) in the case of corporations, by a principal executive officer of at least the level of vice president or his duly authorized representative, if the representative is responsible for the overall management of the project or operation;
- 2) in the case of a partnership, by a general partner;
- 3) in the case of a sole proprietorship, by the proprietor; and
- 4) in the case of a municipal, state, federal or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

For more information regarding CWA §401 Certifications, see the DEC website at <http://dec.alaska.gov/water/wastewater/wetlands>, or contact:

Alaska Department of Environmental Conservation  
Division of Water – Wastewater Discharge Authorization Program  
555 Cordova Street, Anchorage AK 99501  
email: [dec-401Cert@alaska.gov](mailto:dec-401Cert@alaska.gov) Phone: 907-269-6285

**Submit the CWA §401 Certification Request to [DEC-401Cert@alaska.gov](mailto:DEC-401Cert@alaska.gov). Include in the subject line the following:**

“CWA §401 Certification Request - <Insert Federal Agency and permit number or license number> - <insert project title>”.



Mr. Randy Vigil  
Project Manager  
U.S. Army Corps of Engineers – Alaska District  
CEPOA-RD, Juneau Field Office  
P.O. Box 22270  
Juneau, Alaska 99802-9998

October 27, 2020

Dear Mr. Vigil,

On behalf of Coeur Alaska, Inc. (Coeur), I am transmitting a Department of the Army (DA) permit application to modify DA permit POA-1990-592-M issued on June 17, 2005. As owner and operator of the Kensington Mine, Coeur is seeking this permit modification to support our Plan of Operations Amendment 1 (POA 1), which will extend the life of mine by a minimum of 10 years.

Briefly, POA 1 will involve the discharge of approximately 5.8 million cubic yards of fill material into approximately 27.2 acres of waters of the U.S. (WOUS), including wetlands. Key components of POA 1 located in WOUS include construction of a Stage 4 raise of the Main Dam, discharge of 4 million tons (Mt) of tailings into the Tailings Treatment Facility (TTF), and four waste rock stockpiles that will hold a combined 5 Mt of material. At closure, approximately 26.4 acres of upland habitat will be converted to WOUS at the TTF. Thus, at closure, POA 1 will have a 0.8-acre net decrease in WOUS. More information is included in the attached permit application.

Because the discharge of fill material into WOUS will occur during POA 1 construction, operation, and closure phases, Coeur is requesting that the permit modification be issued for a period of 20 years.

As you know, the U.S. Forest Service is developing a supplemental environmental impact statement (SEIS), and the Draft SEIS is set to begin its 45-day public comment period soon. I appreciate your agency's engagement as a cooperating agency on the SEIS.

If you have any questions regarding this document and the attached materials, please contact me at (907) 523-3328 or our authorized agent, Dave Casey with HDR, Inc., at (907) 644-2191.

Thank you,

A handwritten signature in black ink that reads "Kevin Eppers".

Kevin Eppers  
Environmental Manager

Attachment:  
20201026\_POA1\_USACE\_Application

Copy Furnished  
Ben Soiseth, U.S. Army Corps of Engineers - benjamin.n.soiseth@usace.army.mil  
Alaska Department of Environmental Conservation - dec-401Cert@alaska.gov



U.S. Army Corps of Engineers (USACE) <b>APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT</b> 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 <a href="mailto:whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil">whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil</a> . 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: <a href="http://dpcl.d.defense.gov/Privacy/SORNSIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx">http://dpcl.d.defense.gov/Privacy/SORNSIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx</a>			
(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 First - Kevin                  Middle -                  Last - Eppers Company - Coeur Alaska, Inc. E-mail Address - KEppers@coeur.com		8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - Dave                  Middle -                  Last - Casey Company - HDR, Inc. E-mail Address - Dave.Casey@hdrinc.com	
6. APPLICANT'S ADDRESS: Address- 3031 Clinton Drive, Suite 202 City - Juneau                  State - Alaska    Zip - 99801    Country -USA		9. AGENT'S ADDRESS: Address- 2525 C Street, Suite 500 City - Anchorage                  State - AK                  Zip - 99503    Country -USA	
7. APPLICANT'S PHONE NOS. w/AREA CODE a. Residence                  b. Business                  c. Fax 907.523.3328		10. AGENTS PHONE NOS. w/AREA CODE a. Residence                  b. Business                  c. Fax 907.644.2191	
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. <div style="text-align: center;"><div>kevin eppers Digitally signed by kevin eppers Date: 2020.10.26 15:25:39 -08'00'</div><div>SIGNATURE OF APPLICANT</div><div>2020-10-26 DATE</div></div>			
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) Johnson, Slate, and Sherman Creeks		14. PROJECT STREET ADDRESS (if applicable) Address Not applicable	
15. LOCATION OF PROJECT Latitude: °N See Project Description      Longitude: °W		City -                                  State-                                  Zip-	
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	Type	Type
Amount in Cubic Yards	Amount in Cubic Yards	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

SIGNATURE OF APPLICANT

DATE

Casey, Dave

Digitally signed by Casey, Dave  
Date: 2020.10.26 19:04:51 -08'00'

2020-10-26

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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## 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<sup>1</sup>:

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;

---

<sup>1</sup> 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.<sup>2</sup> 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.

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<sup>2</sup> 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.<sup>3</sup>

#### 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).

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<sup>3</sup> 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<sup>4</sup> (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

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<sup>4</sup> 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 redamation 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	
<b>Fill Footprint</b>	<b>23.4</b>	<b>1.6</b>	<b>Total Discharge of Fill</b>
Ground disturbance necessary to create work areas and access during construction	53.3	4.5	<b>Mechanized Land Clearing Beyond Discharge of Fill</b>
<b>Construction footprint - Stage 4 Dam raise and TTF expansion</b>	<b>76.7</b>	<b>6.1</b>	<b>Total WOUS intersected</b>
		<b>6.1</b>	<b>WOUS converted to Upland during construction (before Reclamation)</b>

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	
<b>Fill Footprint</b>	<b>4.1</b>	<b>3</b>	<b>Total Discharge of Fill</b>
Create work areas to construct deltas	5.9	4.0	<b>Mechanized Land Clearing</b> Beyond Discharge of Fill
Fat Rat Creek Diversion and Work Area	4.9	2.4	
Ground disturbance during construction	<b>10.8</b>	<b>6.4</b>	<b>Total Mechanized Clearing</b>
<b>Construction footprint - Fish habitat mitigation</b>	<b>14.9</b>	<b>9.4</b>	<b>Total WOUS intersected</b>
		<b>9.4</b>	<b>WOUS converted to Upland during construction (before Reclamation)</b>

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.**

Jurisdictional Status of Affected Habitat (Prior to Reclamation)	Stage 4 TTF Reclamation – Net Effect (acres)	
	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	--
<b>Totals</b>	<b>53.0</b>	<b>9.3</b>

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
<b>Wetlands<sup>1</sup></b>	15.4	Areas will be converted from freshwater vegetated wetlands to vegetated littoral or non-vegetated deepwater habitat
<b>Upper Slate Lake</b>	10.8	No change in function
<b>Streams</b>	0.4	Flooded portions of streams will be converted from freshwater riverine to vegetated littoral or non-vegetated deepwater habitat
<b>Uplands</b>	26.4	Area converted from upland to WOUS will function as vegetated littoral or non-vegetated deepwater habitat
<b>Total</b>	<b>53.0<sup>1</sup></b>	<b>Vegetated littoral or non-vegetated deepwater habitat</b>

<sup>1</sup> 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	
<b>WRS Expansion</b>	102.64	17.91	<b>Total Discharge of Fill</b>
		<b>17.91</b>	<b>WOUS converted to Upland</b>

## 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**

Fill Type	Volume (cubic yards)			
	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
<b>Totals</b>	<b>5,191,046</b>	<b>604,259</b>	<b>5,021,175</b>	<b>10,816,480</b>

## 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 policies 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.

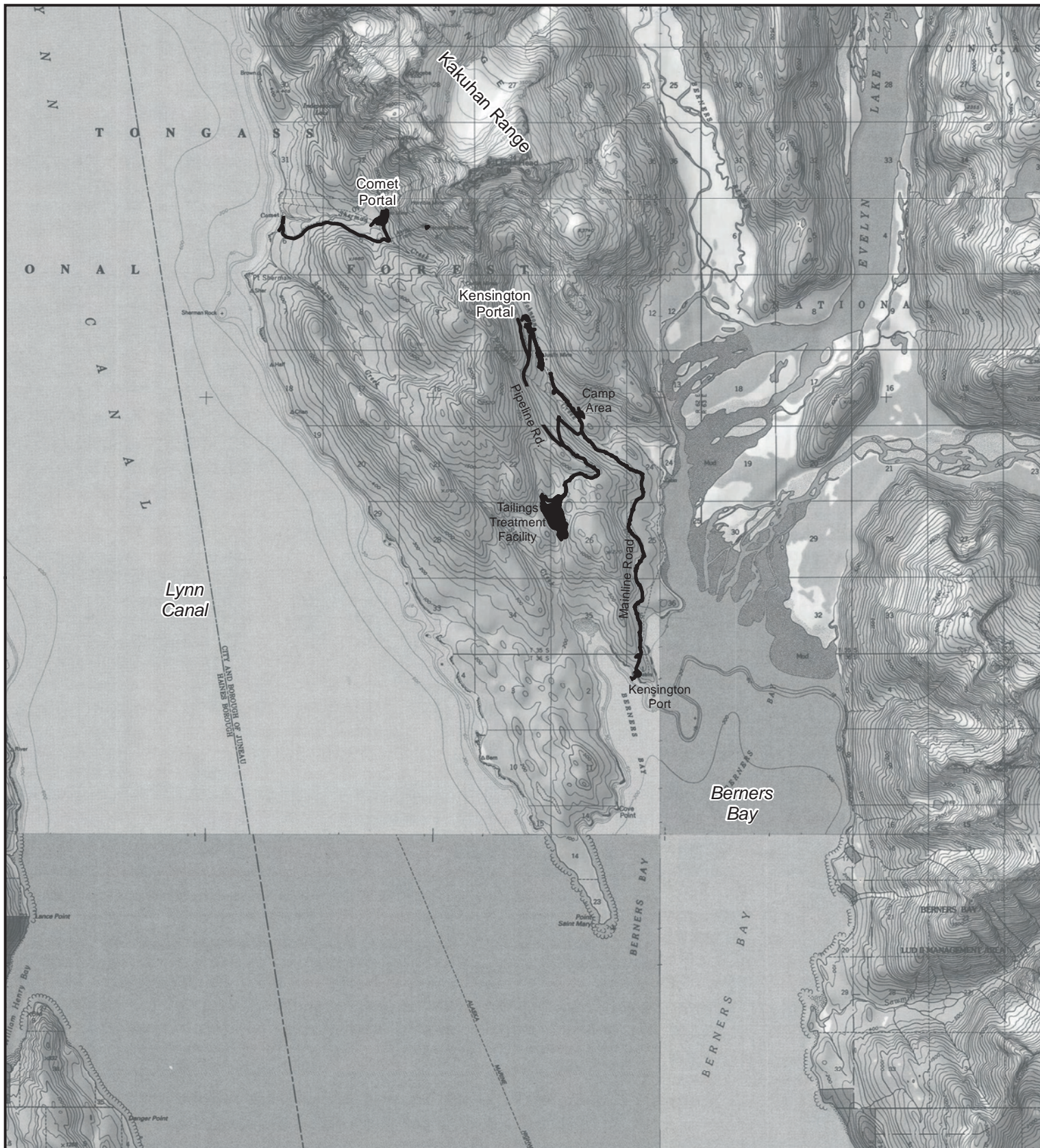
## 9.0 References

- Albrecht, G. 2017. *Fish and fish habitat investigations at Kensington Gold Mine*. Alaska Department of Fish and Game Technical Report No. 17012, Douglas, AK.
- Coeur (Coeur Alaska, Inc.). 2005. Final Plan of Operations for the Kensington Gold Project.
- Coeur. 2018. *Plan of Operations Amendment 1 (POA 1) for the Kensington Gold Mine*. Prepared by NewFields and Coeur Alaska, Inc. Prepared for U.S. Forest Service. March 2018.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. FWS/OBS-79/31. Performed for U.S. Department of the Interior, Fish and Wildlife Service, Washington, DC.
- Kline (Kline Environmental Research, LLC). 2001. Kensington Project, Slate Creek basin survey data report. Prepared for Coeur Alaska, Inc., Somerset, WI. June 2000.
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- . 2007. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region* (Version 2.0). ERDC/EL TR-07-24. September 2007.
- USFS (U.S. Forest Service). 2009. Alaska Region Sensitive Species List, Approved February 2009 (Replaces 2002 List). Available from:  
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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

 Existing Mine Footprint



0 0.5 1  
Miles

HORIZONTAL DATUM:  
NAD 1983, State Plane Zone 4



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M

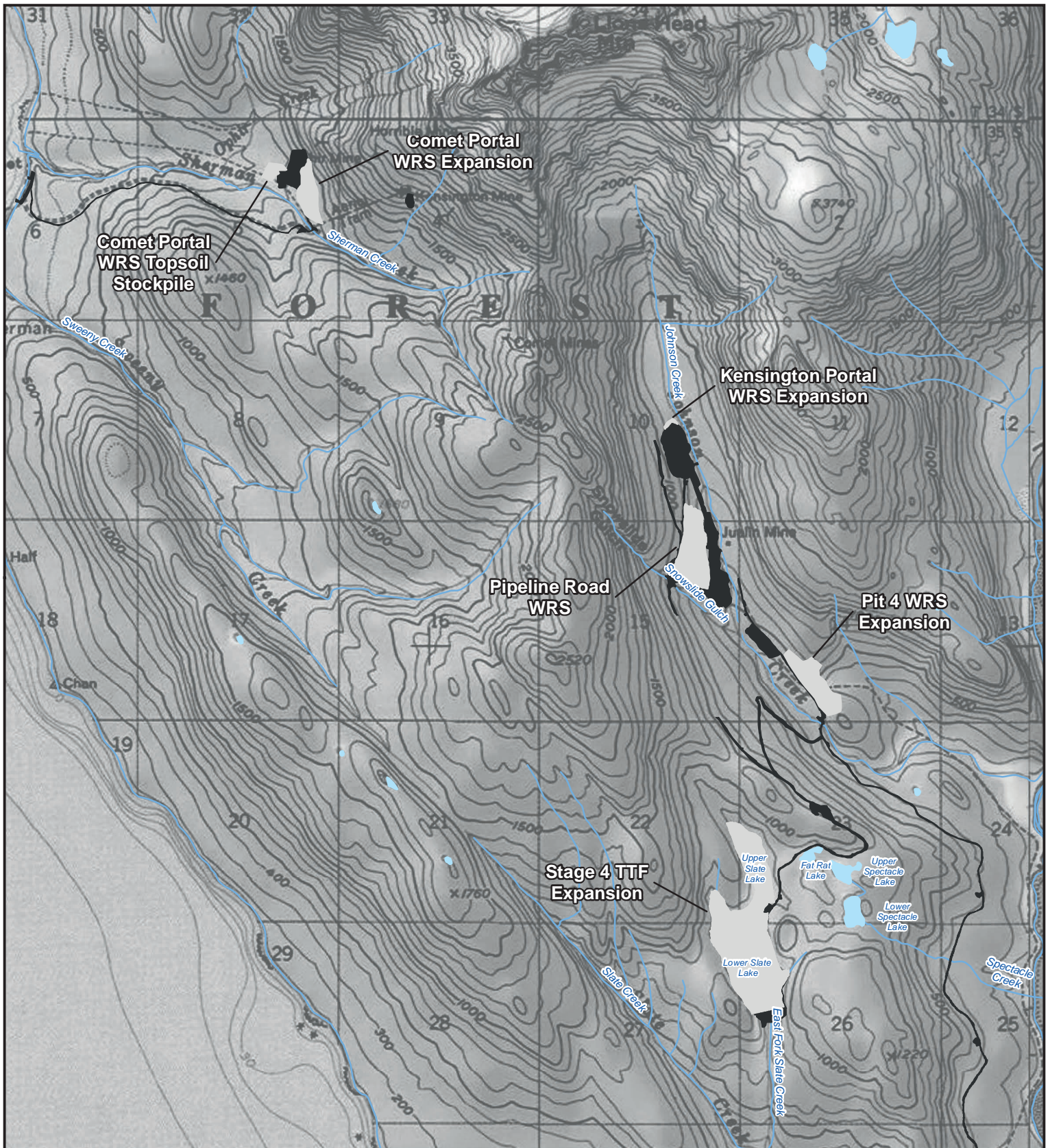
WATERWAY: Johnson, Slate, and Sherman  
Creeks

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

SHEET 1

DATE: Oct 12, 2020





Proposed POA 1 Overview - Plan View

Kensington Mine  
Coeur Alaska, Inc.

Proposed Plan of Operations Amendment 1

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



0 0.25 0.5  
Miles  
HORIZONTAL DATUM:  
NAD 1983, State Plane Zone 4



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M

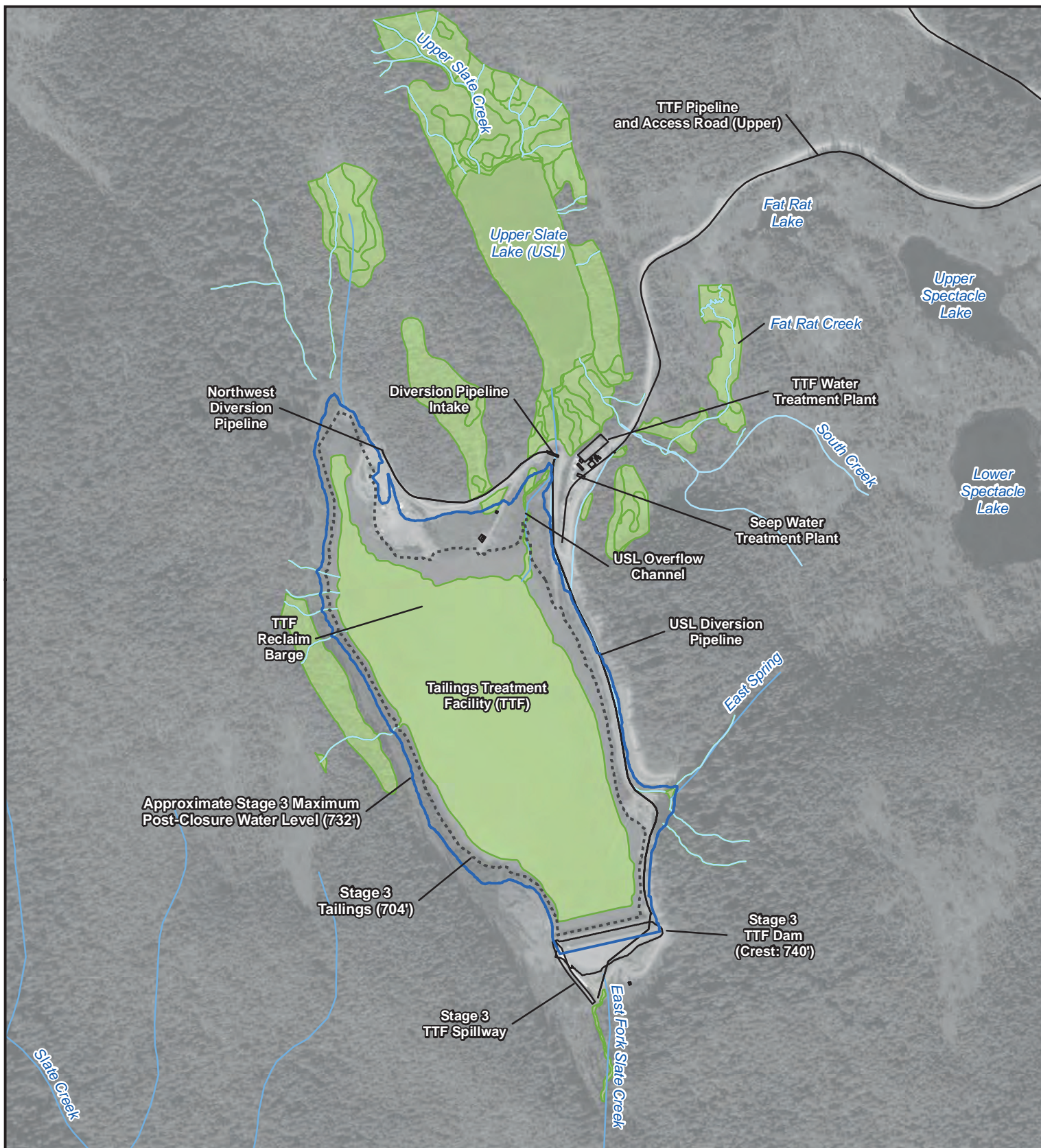
WATERWAY: Johnson, Slate, and Sherman Creeks

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

SHEET 2

DATE: Oct 12, 2020





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-M

WATERWAY: Slate Creek

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

SHEET 3

DATE: Oct 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-M

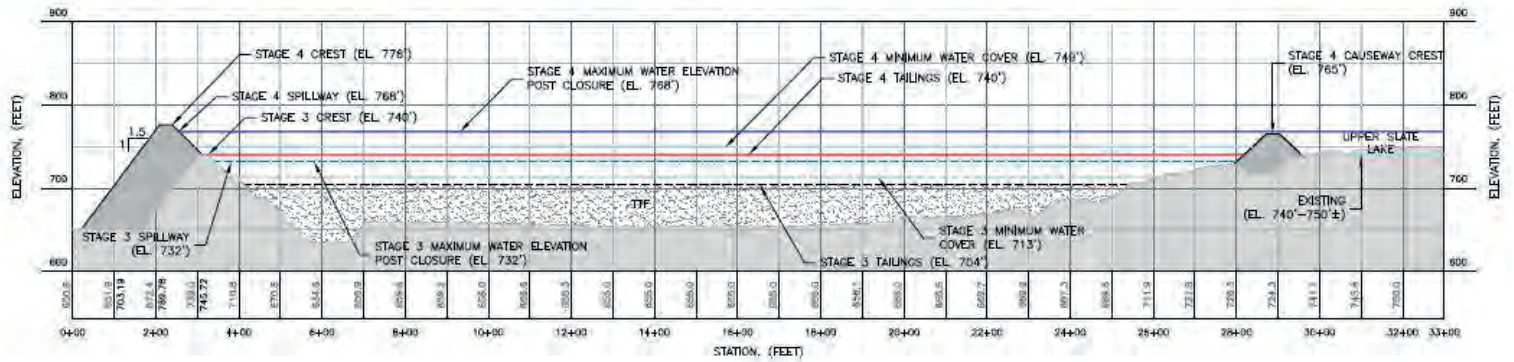
WATERWAY: Slate Creek

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

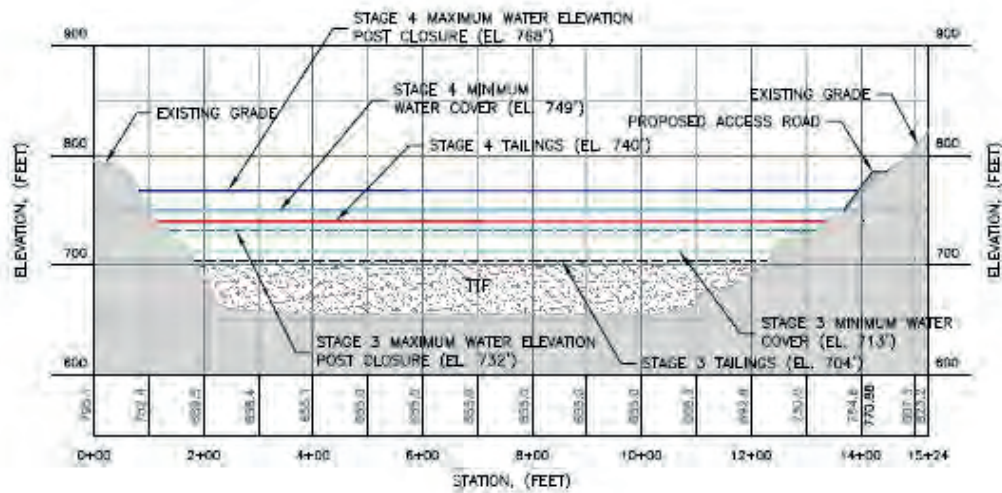
SHEET 4

DATE: Oct, 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

**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-M

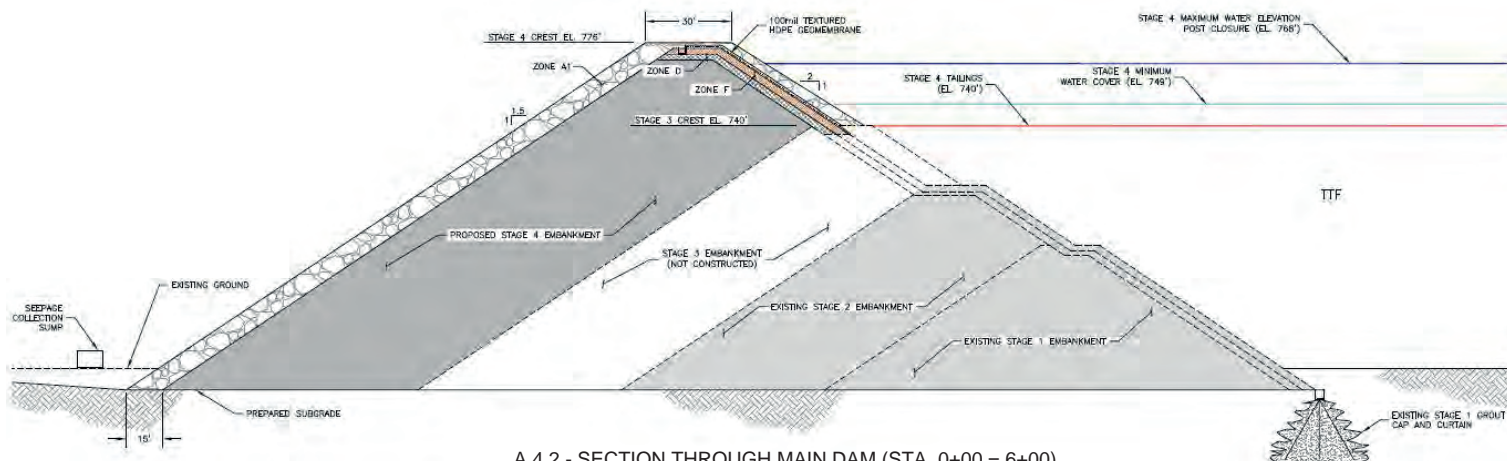
WATERWAY: Johnson, Slate, and Sherman Creeks

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

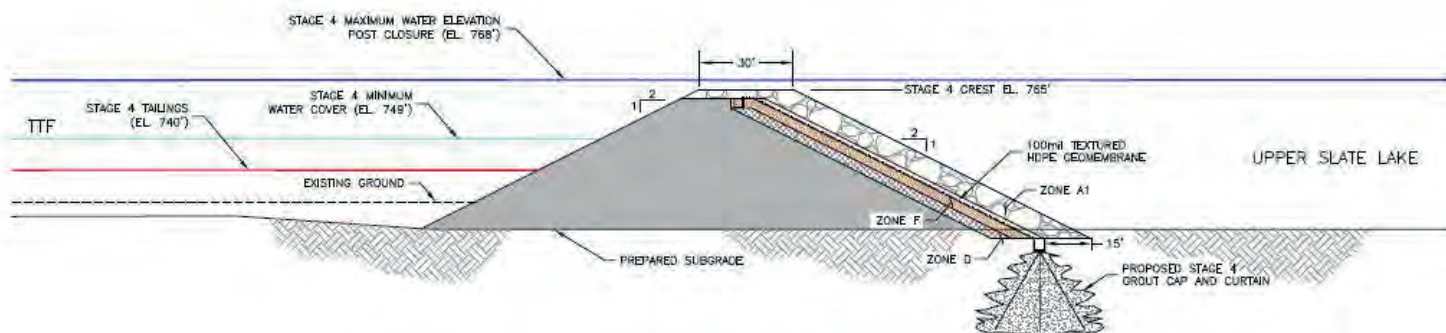
SHEET 5

DATE: Oct 12, 2020

HORIZONTAL DATUM:  
NAD 1983, State Plane Zone 4



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-M

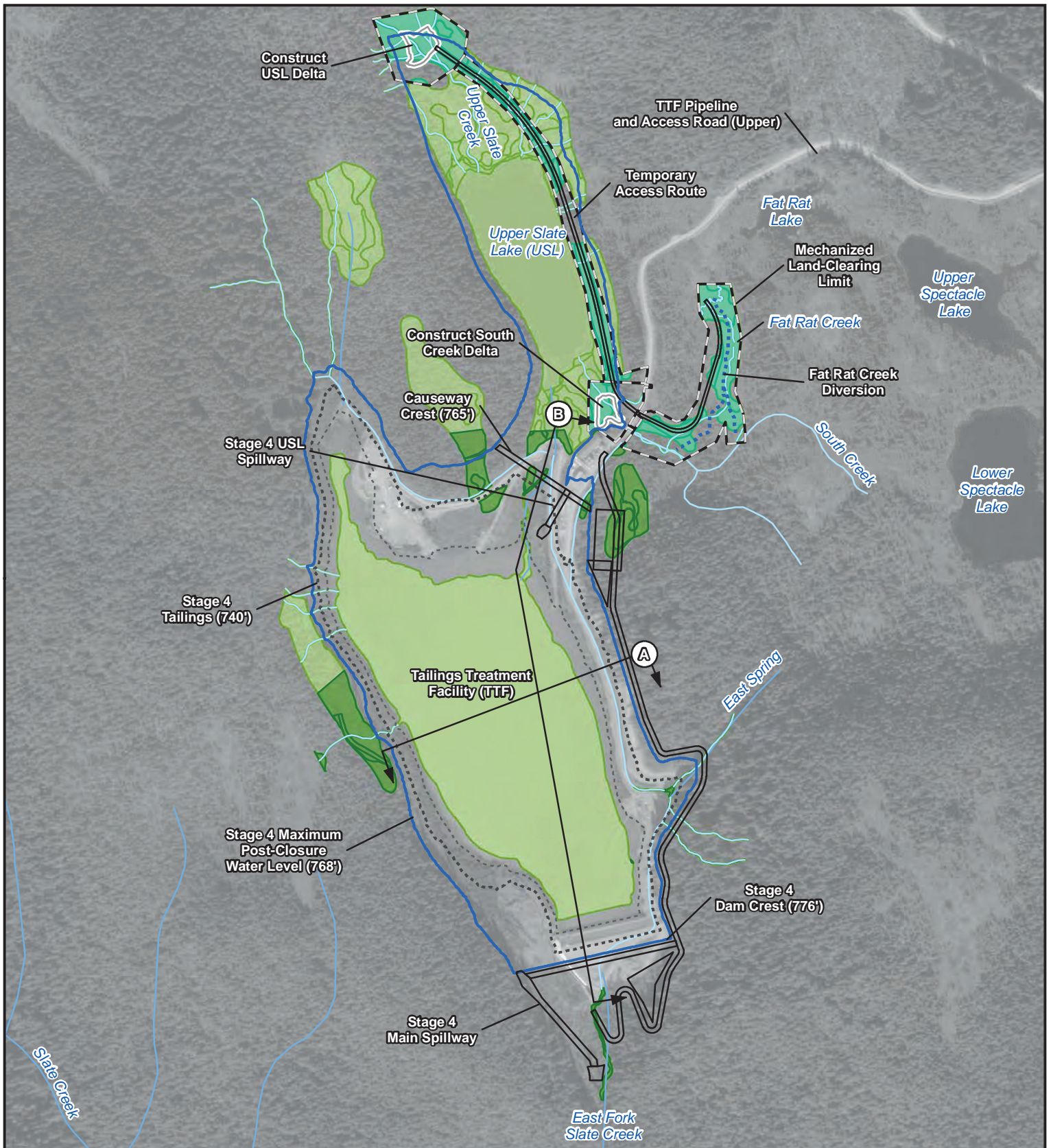
WATERWAY: Johnson, Slate, and Sherman  
Creeks

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

SHEET 6

DATE: Oct 12, 2020





**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-M

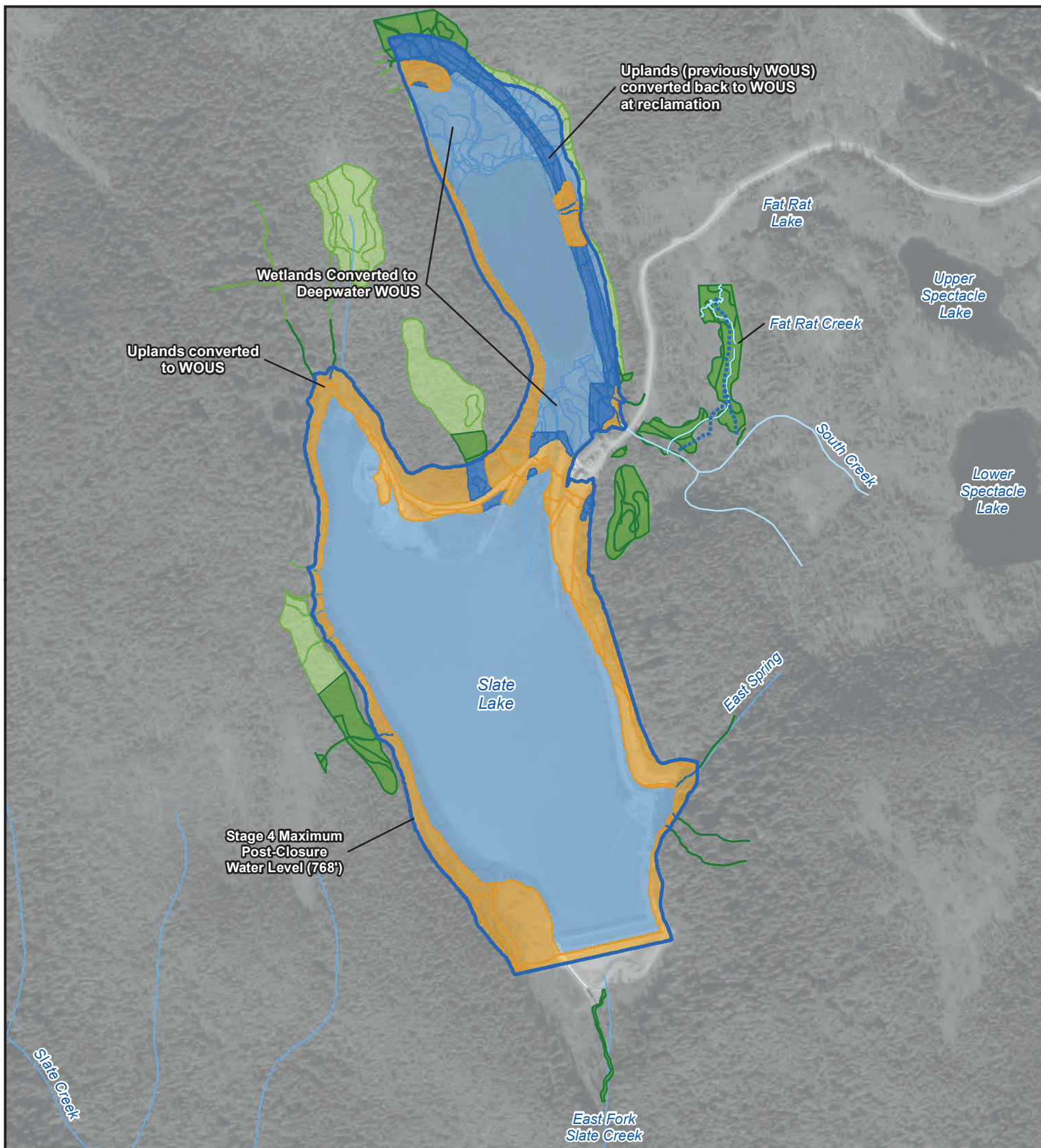
WATERWAY: Slate Creek

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

SHEET 7

DATE: Oct 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-M

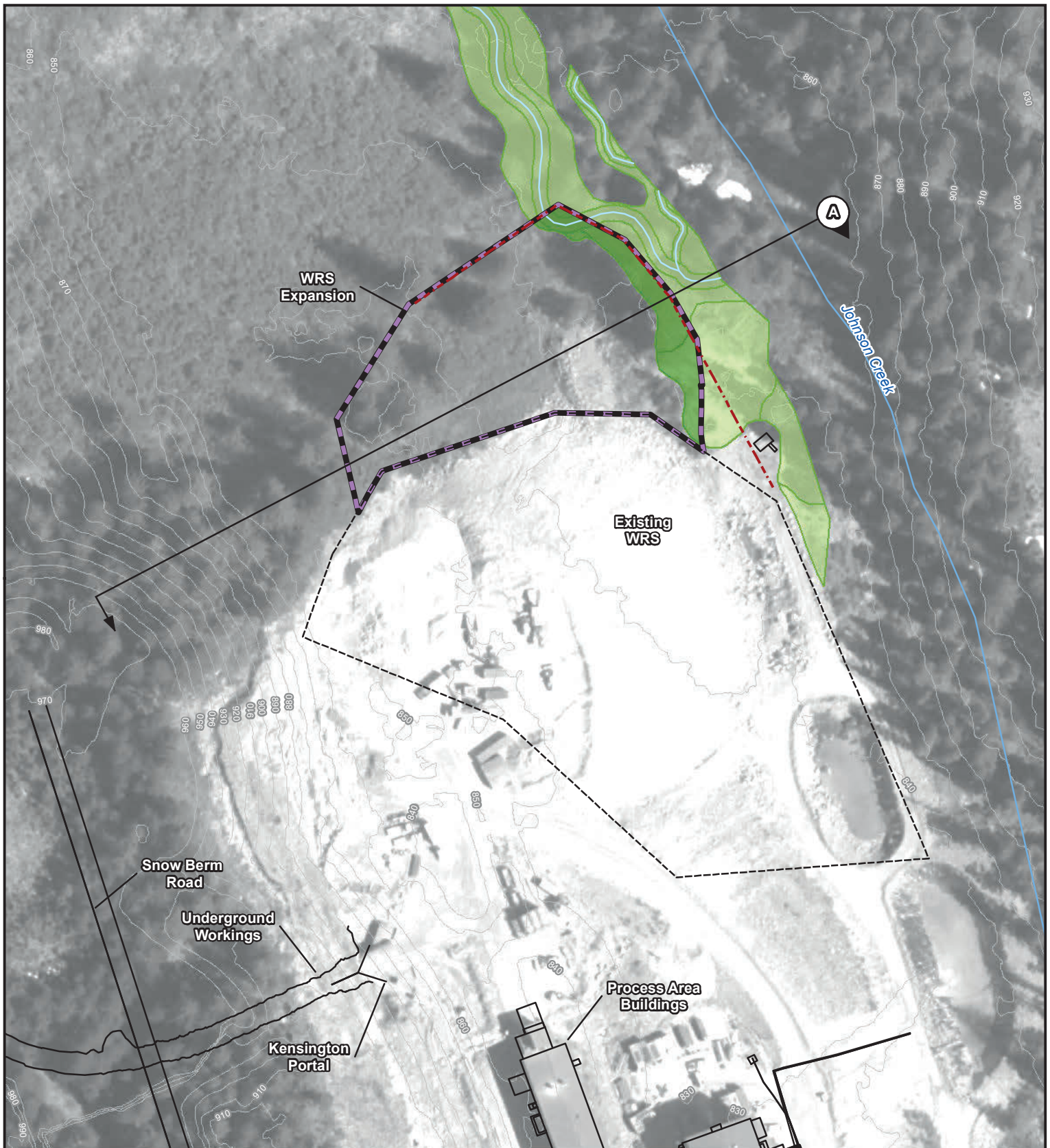
WATERWAY: Slate Creek

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

SHEET 8

DATE: Oct 12, 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.

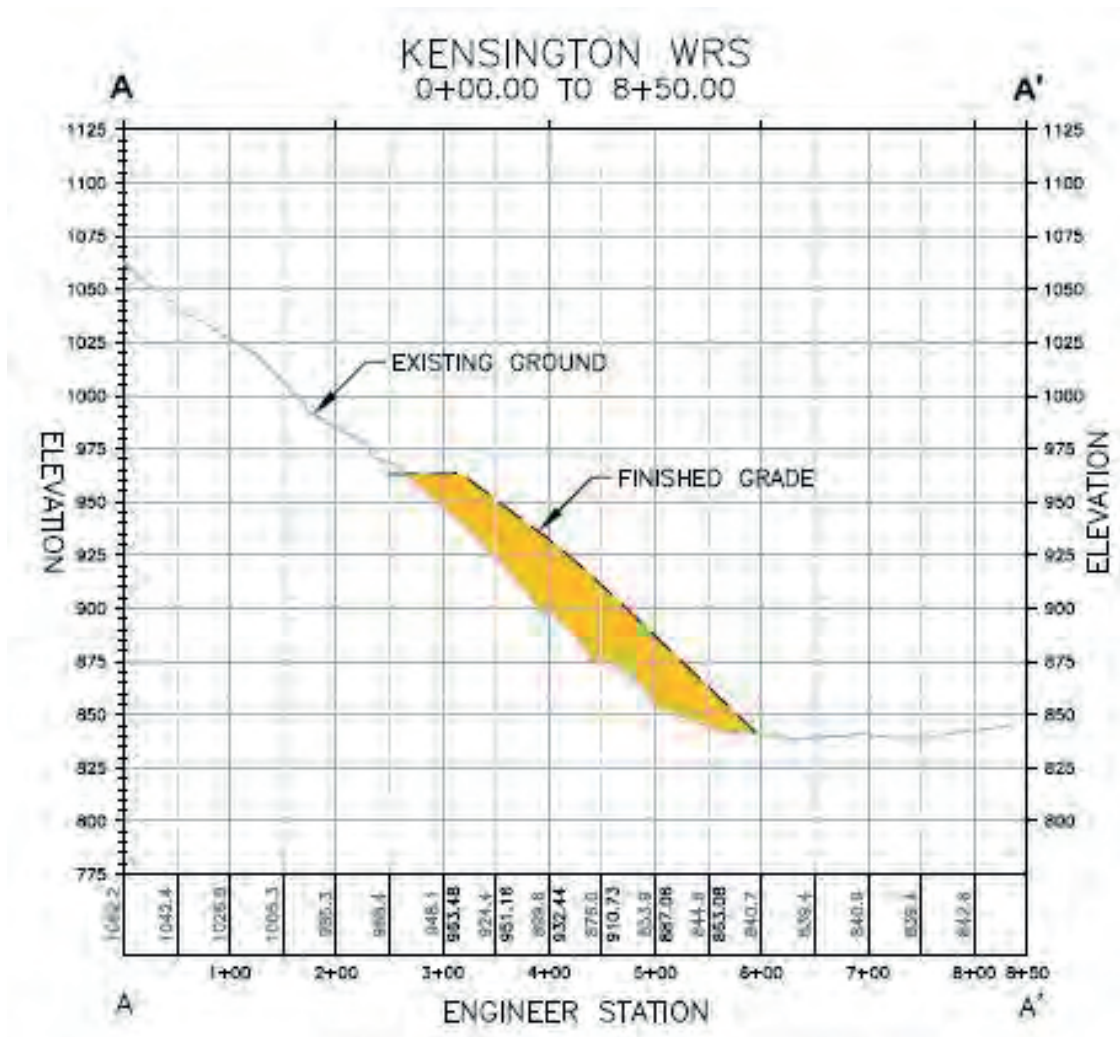
FILE NO: POA-1990-592-M

WATERWAY: Johnson Creek

LOCATION: Copper River Meridian:  
T35S, R62E, S10

SHEET 9

DATE: Oct 12, 2020

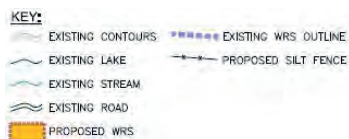


**Proposed Kensington WRS Expansion - Typical Cross Section**

Kensington Mine  
Coeur Alaska, Inc.

Proposed Plan of Operations  
Amendment 1

HORIZONTAL DATUM:  
NAD 1983, State Plane Zone 4



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M

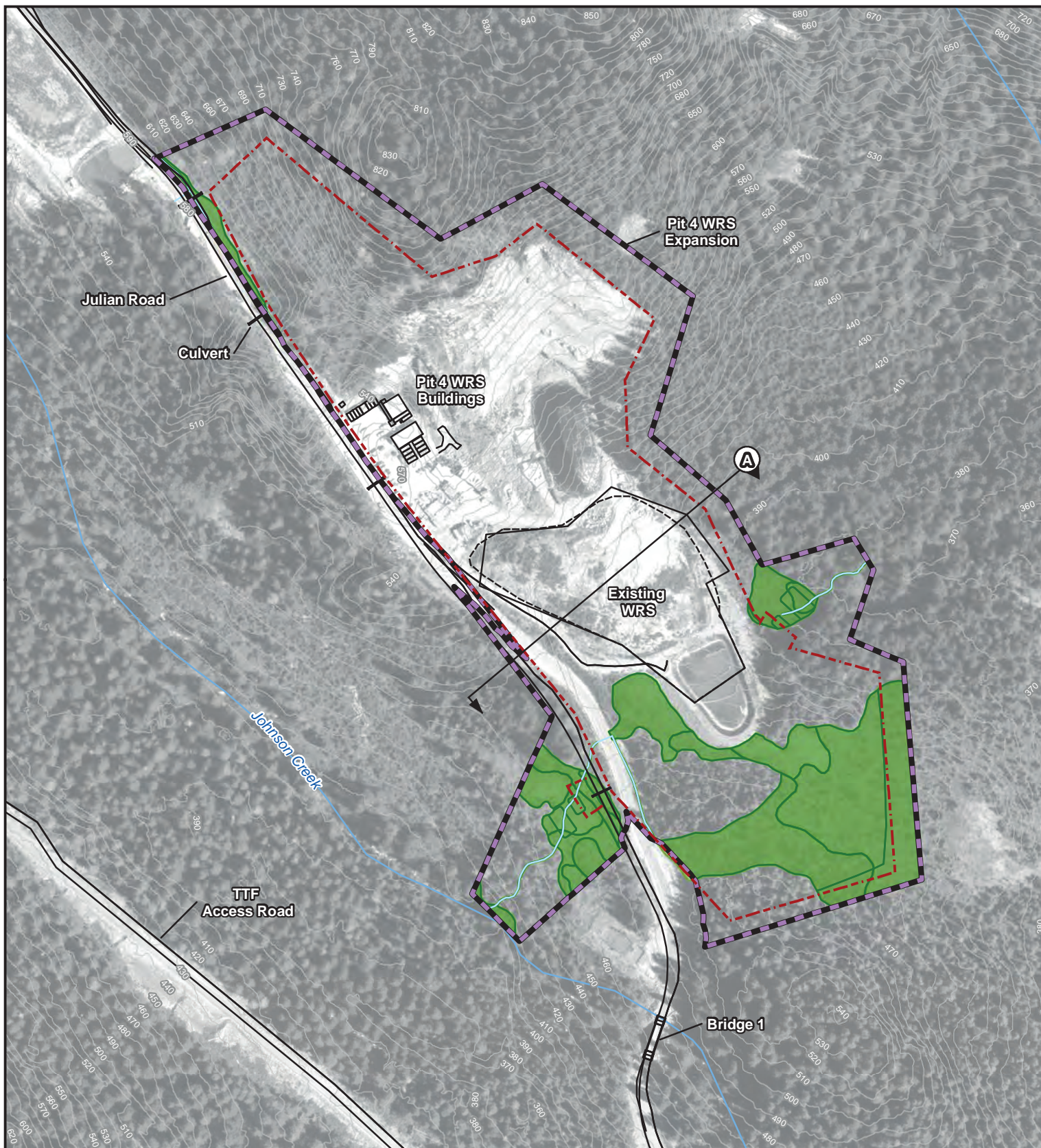
WATERWAY: Johnson Creek

LOCATION: Copper River Meridian: T35S,  
R62E, S10

SHEET 10

DATE: Oct 12, 2020





# 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-M

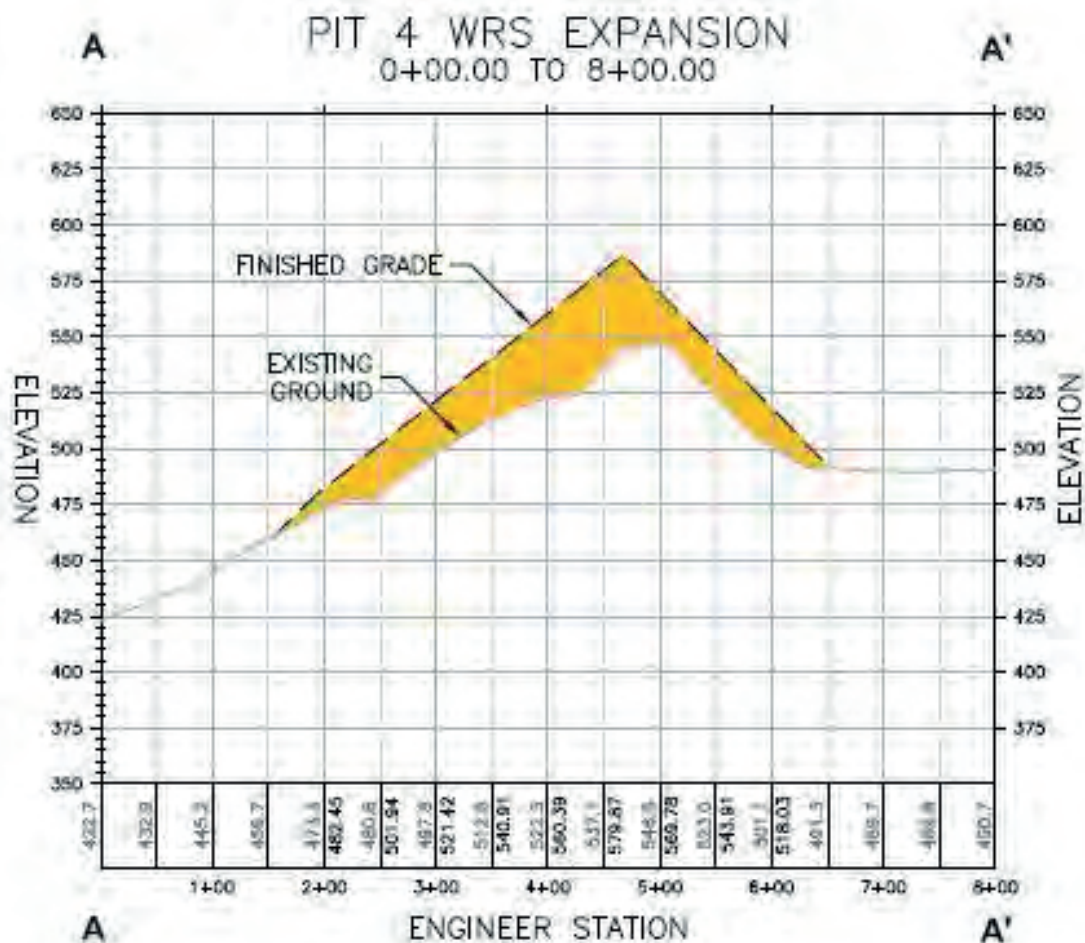
WATERWAY: Johnson Creek

LOCATION: Copper River Meridian:  
T35S, R62E, S10

SHEET 11

DATE: Oct 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



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M

WATERWAY: Johnson Creek

LOCATION: Copper River Meridian: T35S,  
R62E, S10

SHEET 12

DATE: Oct 12, 2020

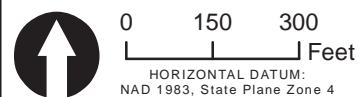




**Proposed Comet WRS Expansion - Plan View**

Kensington Mine  
Coeur Alaska, Inc.

**Proposed Plan of Operations  
Amendment 1**



- 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-M

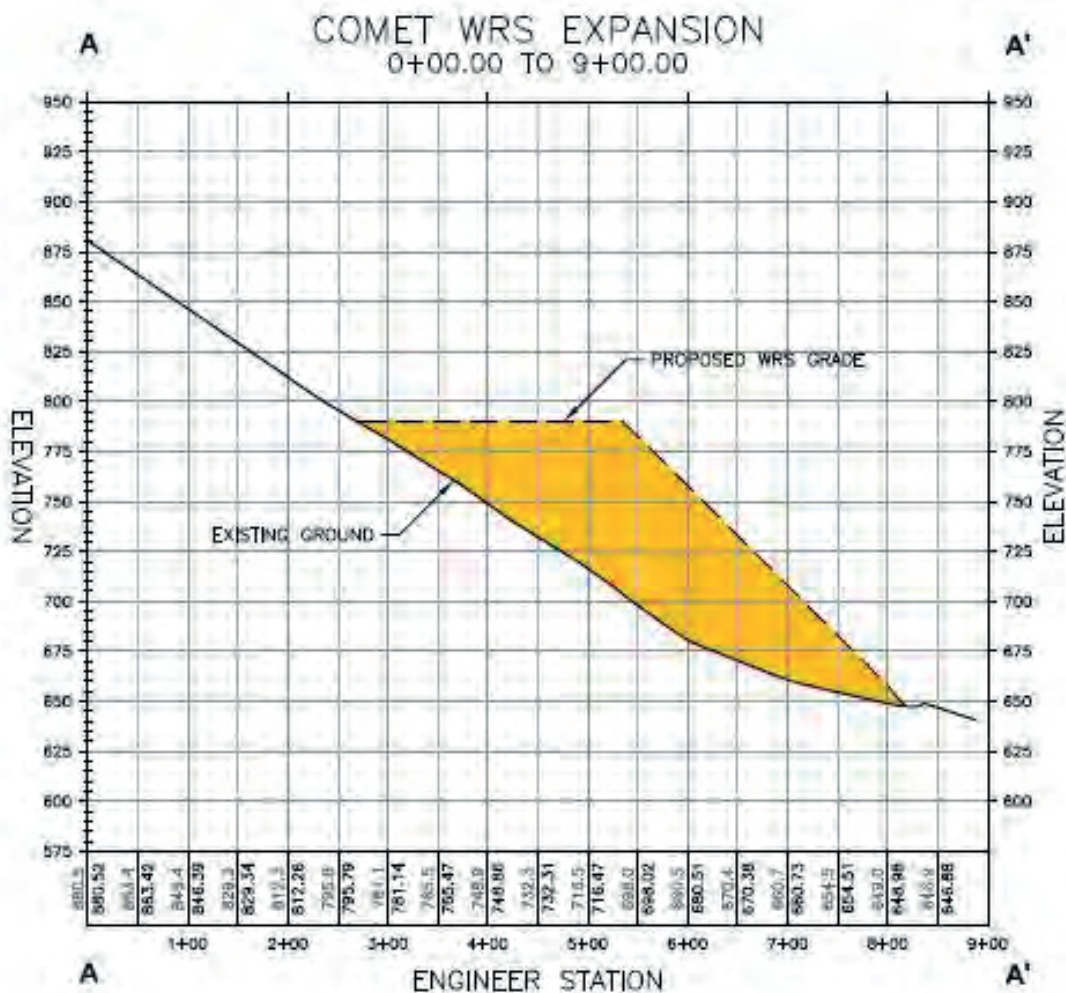
WATERWAY: Sherman Creek

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

SHEET 13

DATE: Oct 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



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M

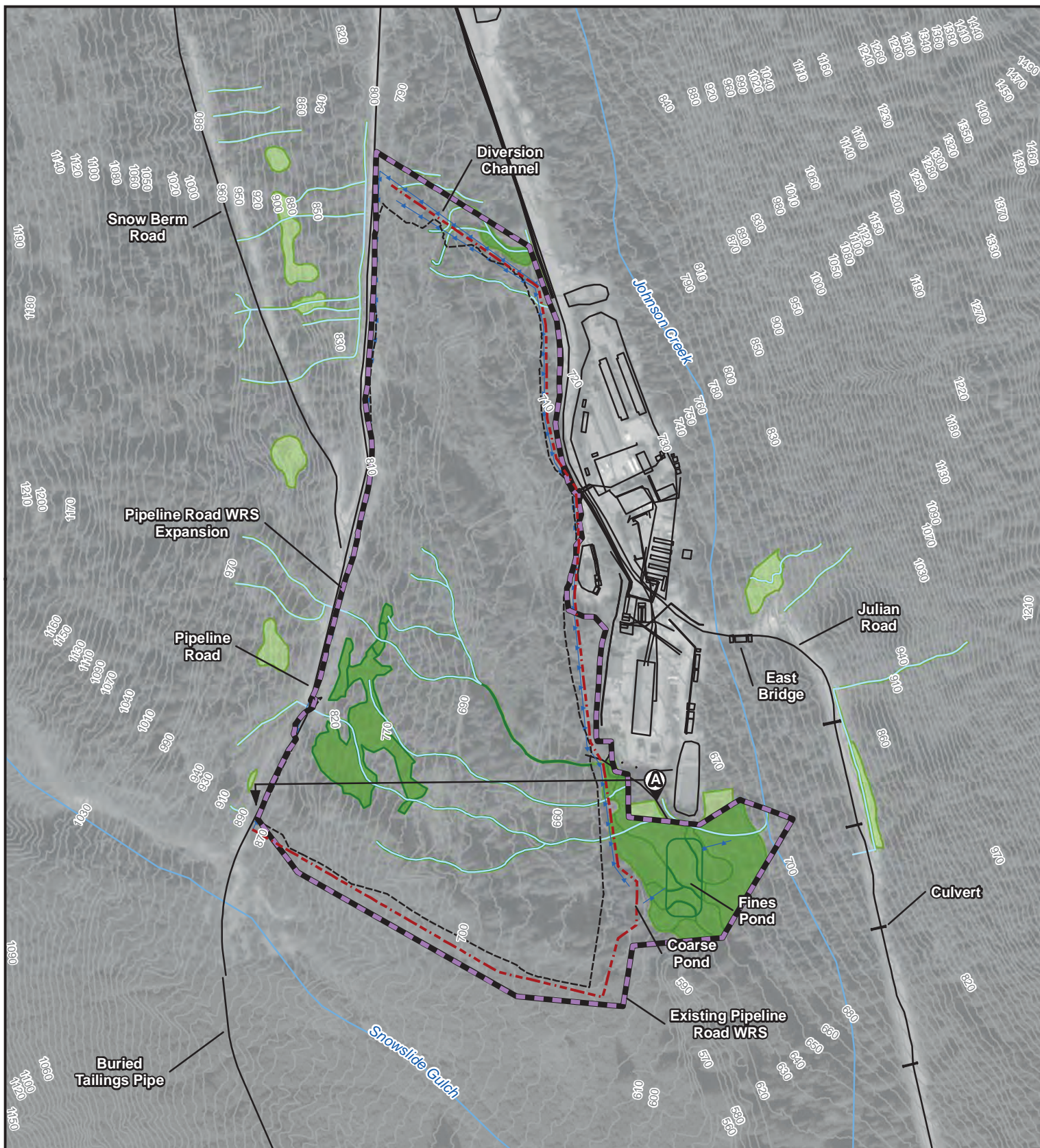
WATERWAY: Sherman Creek

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

SHEET 14

DATE: Oct 12, 2020





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-M

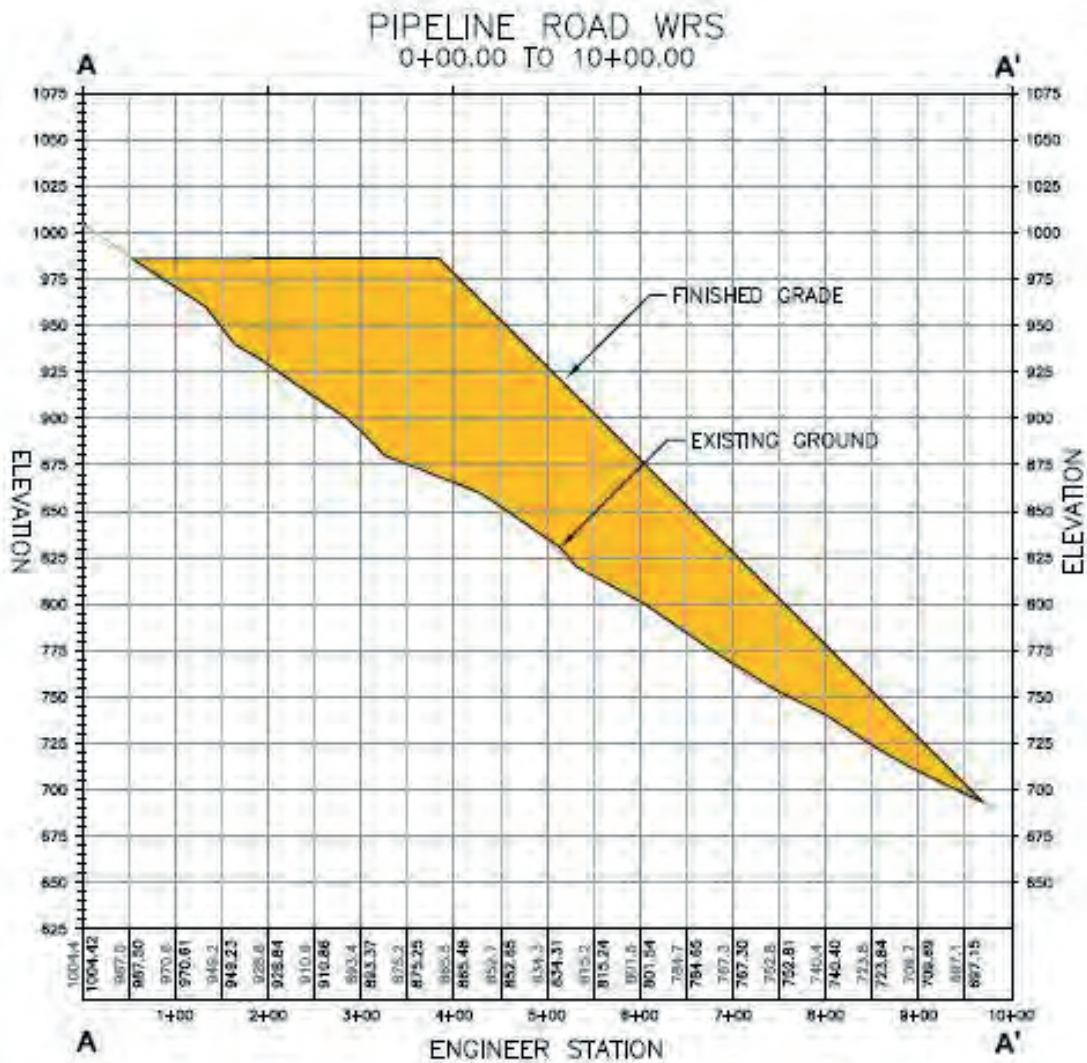
WATERWAY: Johnson Creek

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

SHEET 15

DATE: Oct 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



APPLICANT: Coeur Alaska, Inc.

FILE NO: POA-1990-592-M

WATERWAY: Johnson Creek

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

SHEET 16

DATE: Oct 12, 2020

**From:** Casey, Dave  
**Sent:** Tuesday, October 27, 2020 10:42 AM  
**To:** 'DEC 401 Cert (DEC sponsored)'  
**Cc:** 10168581\_Coeur AK POA1 EIS  
**Subject:** RE: Coeur Alaska, Inc. - Prefiling Meeting Request for CWA §401 WQC  
**Attachments:** 20201026\_Kensington\_Mine\_POA  
1\_Sec401\_Prefiling\_Mtg\_Rqst.pdf

Hi Angela,

I'm sorry. I forgot to include the attachment. I guess I was working too late last night. 😊

I hope all is well with you!

dc

**Dave Casey**

**D** 907.644.2191 **M** 907.394.2576

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**From:** DEC 401 Cert (DEC sponsored) [mailto:dec-401cert@alaska.gov]  
**Sent:** Tuesday, October 27, 2020 10:31 AM  
**To:** Casey, Dave <Dave.Casey@hdrinc.com>  
**Cc:** DEC 401 Cert (DEC sponsored) <dec-401cert@alaska.gov>  
**Subject:** RE: Coeur Alaska, Inc. - Prefiling Meeting Request for CWA §401 WQC

**CAUTION: [EXTERNAL]** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Dave,

Thank you for sending us a pre-filing meeting request. To give us a little more information about the project, would you complete the Pre-filing Meeting Request form found on [DEC's 401 Certification](#) webpage?

You will also need to submit the 401 Request for Certification Form (also on the webpage) in 30 days to initiate the certification process.

Thanks,  
Angela Hunt

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**From:** Casey, Dave [mailto:Dave.Casey@hdrinc.com]  
**Sent:** Monday, October 26, 2020 11:29 PM  
**To:** DEC 401 Cert (DEC sponsored) <dec-401cert@alaska.gov>  
**Cc:** Kevin Eppers - Coeur Alaska <KEppers@coeur.com>; 10168581\_Coeur AK POA1 EIS

<10168581\_CoeurAKPOA1EIS@hdrinc.com>

**Subject:** Coeur Alaska, Inc. - Prefiling Meeting Request for CWA §401 WQC

Hello,

On behalf of Coeur Alaska, Inc. (Coeur) please accept this prefiling notice for a Clean Water Act Sec 401 Water Quality Certification.

The USFS is schedule to make available for public comment their Draft Supplemental EIS for this project on Oct 30, and Coeur will be filling their Clean Water Act Section 404 application to USACE on Oct 27<sup>th</sup>.

If you have any questions or would like to set a meeting, please feel free to contact me.

Best Regards,

dc

**Dave Casey**

*Client Development Leader*

*Associate Vice President*

**HDR**

2525 C Street, Suite 500

Anchorage, Alaska 99503-2632

**D** 907.644.2191 **M** 907.394.2576

[Dave.Casey@hdrinc.com](mailto:Dave.Casey@hdrinc.com)

[hdrinc.com/follow-us](http://hdrinc.com/follow-us)



## Watkins, Valerie

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**From:** Casey, Dave  
**Sent:** Monday, November 23, 2020 1:31 PM  
**To:** Vigil, Randal P CIV USARMY CEPOA (US)  
**Cc:** Eppers, Kevin; 10168581\_Coeur AK POA1 EIS  
**Subject:** RE: Public Notice for Kensington

Hi Randy,

We took a look a little deeper look into this just to back check the numbers of the waste rock stockpiles themselves and those turned out good. So what Marcia found is just a simple addition error where we tallied the individual footprints associated with the waste rock stockpiles on Table 6. That said, where Marsha noticed the Acres in WOUS total, we also noticed the Footprint (Acres) total was tallied in error as well. So the corrected column totals in Table 6 are:

Footprint (Acres) = 102.27 (was 102.64)

Acres in WOUs = 17.18 (was 17.91) – Note 17.18 acres represents both the area for the “Total Discharge of Fill” AND the total area of “WOUS converted to Upland”

I should also note that “Acres in WOUS” column total from Table 6 is also used in Section 7.3 Compensatory Mitigation where POA 1’s overall fill footprint in WOUS is discussed. So carrying forward the corrected number from Table 6, POA 1’s estimated WOUS fill is adjusted to 26.48 acres (down from 27.2 acres (see Section 7.3 on the top of page 2 in the Project Description)) .

This adjustment then logically carries forward into the Section 7.3’s discussion of POA 1’s closure footprint where the gain of WOUS is compared to the amount filled. Now instead of POA 1 having a 0.8 acre net decrease in WOUS, the adjusted number is a 0.08 acres net decrease in WOUS. Ends up being a pretty close to a wash now.

If I can provide further help or clarification please let me know. Thanks for letting me know about this one!

Best,

dc

**Dave Casey**

**D** 907.644.2191 **M** 907.394.2576

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**From:** Vigil, Randal P CIV USARMY CEPOA (US) <Randal.P.Vigil@usace.army.mil>  
**Sent:** Monday, November 16, 2020 11:45 AM  
**To:** Casey, Dave <Dave.Casey@hdrinc.com>  
**Subject:** FW: Public Notice for Kensington

**CAUTION: [EXTERNAL]** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Dave, Marcia made the below comment. Checking with to see if the impact table just has a typo or if something is missing. Thanks. Randy

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**From:** Heer, Marcia L. <heer.marcia@epa.gov>  
**Sent:** Monday, November 16, 2020 11:29 AM  
**To:** Vigil, Randal P CIV USARMY CEPOA (US) <Randal.P.Vigil@usace.army.mil>  
**Cc:** Jen, Mark <Jen.Mark@epa.gov>  
**Subject:** [Non-DoD Source] Public Notice for Kensington

Hi Randy,

I am reviewing the PN for Kensington and wanted to check on the WOTUS fill acreage amounts. Shouldn't the waste rock project component be 17.18 acres WOTUS impacts instead of 17.91?

Not to try and correct you, but I just wanted to ensure I have the right numbers.

Thank you and hope all is well in Juneau,

Marcia.

Marcia L. Heer  
U.S. EPA, Region 10-Water Division  
Wetlands and Oceans Section  
(907) 271-3689