

OFFICIAL USE ONLY
File Number: P24-057
Date Received: 6/20/24
By: GB
Fee Paid: \$5,700
Approved Date:
Denied Date:
By:

Floodplain Development Permit Application

Submit completed application and documentation to planningandzoning@ketchumidaho.org Or hand deliver to Ketchum City Hall, 191 5th St. W. Ketchum, ID If you have questions, please contact the Planning and Building Department at (208) 726-7801. To view the Development Standards, visit the City website at: www.ketchumidaho.org and click on Municipal Code. You will be contacted and invoiced once your application package is complete.

When is a Floodplain Development Permit Application required?

The Floodplain Management Overlay Zoning District boundaries are represented on the official zoning map of the City.

All land within the external boundary of the special flood hazard area (SFHA) and all parcels with any portion thereof affected by said SFHA shall be considered to be within the Floodplain Management Overlay Zoning district.

All land areas within the external boundary of the SFHA shall be considered to be within the floodplain subdistrict of the Floodplain Management Overlay Zoning District. The City may make necessary interpretations of the boundary based upon the recommendation of the City Engineer or other expert.

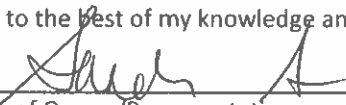
All land areas within the external boundary of the regulatory floodway shall be considered to be within the floodway subdistrict of the Floodplain Management Overlay Zoning District. The City may make necessary interpretations of the boundary based upon the recommendation of the City Engineer or other expert.

NOTE: This permit is required for all properties containing 100 year floodplain area and Riparian Setbacks

PROPERTY OWNER INFORMATION
Property Owner Name(s): Sandra Swan
Property Owner's Mailing Address: 8 Brittany Meadows Atherton, CA 94027-0000
Phone:
Email: emtswan@comcast.net
PROJECT INFORMATION
Project Name: River and Riparian Restoration Project - Swan Property
Project Representative's Name (main point of contact for project): Charles G. Brockway, P.E.
Project Representative's Phone: 208-736-8543
Project Representative's Mailing Address: 2016 Washington Ave. N Suite #4 Twin Falls, ID 83301
Project Representative's Email: charles.g.brockway@brockwayeng.com
Architect's name, phone number, e-mail: N/A
Landscape Architect's name, phone number, e-mail: N/A
Environmental consultant's name, phone number, e-mail: N/A
Engineer's name, phone number, e-mail: See above
Project Address: 401 Northwood Way, Ketchum, ID 83340
Legal Description of parcel: T.04N R.17E Sec.12 SE 1/4 NE 1/4 SE 1/4, Tax Parcel No.: RPK04310000120
Lot Size: 4.320 acres
Zoning District: City
Overlay Zones – indicate all that apply: <input checked="" type="checkbox"/> Floodplain <input checked="" type="checkbox"/> Floodway <input checked="" type="checkbox"/> Riparian Zone <input type="checkbox"/> Avalanche <input type="checkbox"/> Mountain
Brief description of project scope: See attached narrative for project description and scope.
Value of Project: \$50,000
TYPE OF PROJECT – indicate all that apply:

<input type="checkbox"/> New Building in Floodplain	<input type="checkbox"/> Building Addition in Floodplain	<input type="checkbox"/> Emergency Streambank Stabilization / Stream Alteration	<input type="checkbox"/> Other. Please describe:
<input checked="" type="checkbox"/> Floodplain Development	<input checked="" type="checkbox"/> Streambank Stabilization / Stream Alteration		
PROPOSED SETBACKS – if project is a new building or an addition to an existing building			
Front:N/A	Side:N/A	Side:N/A	Rear:N/A
ADDITIONAL INFORMATION			
Will fill or excavation be required in floodplain, floodway or riparian zone?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If Yes, Amount in Cubic Yards: Fill: CY Excavation: CY		Please see attached narrative for full breakdown.	
Will Existing Trees or Vegetation be Removed?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Will new trees or vegetation be planted?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Applicant agrees in the event of a dispute concerning the interpretation or enforcement of the Floodplain Management Overlay Application, in which the City of Ketchum is the prevailing party, to pay reasonable attorney fees, including attorney fees on appeal, and expenses of the City of Ketchum. I, the undersigned, certify that all information submitted with and upon this application form is true and accurate to the best of my knowledge and belief.



 Signature of Owner/Representative



 Date

Criteria for Evaluation of Floodplain Development Permit Applications

River and Riparian Restoration Project for the Swan Property
June 4, 2024

The criteria of floodplain development permit applications are addressed as follows:

1. The proposal preserves or restores the inherent natural characteristics of the river, floodplain, and Riparian Zone, including riparian vegetation and wildlife habitat. Development does not alter river channel unless all stream alteration criteria for evaluation are also met.

Damaged land will be restored and natural characteristics preserved. Riparian zone will be appropriately restored and revegetated.

2. No temporary construction activities, encroachment, or other disturbance into the twenty-five foot (25') Riparian Zone, including encroachment of below grade structures, shall be permitted, except for approved stream stabilization work and restoration work associated with a riparian zone that is degraded.

Riparian zone has been degraded and restoration is proposed.

3. No permanent development shall occur within the twenty-five foot (25') Riparian Zone, except for approved stream stabilization work and restoration work associated with permit issued under this title, or exceptions as described below:

Stream alteration permit sought for bank stabilization and riparian restoration.

- a. Access to a property where no other primary access is available.

Not applicable

- b. Emergency access required by the Fire Department.

Not applicable

- c. A single defined pathways or staircases for the purpose of providing access to the river channel and in order to mitigate multiple undefined social paths.

Not applicable

- d. Development by the City of Ketchum

Not applicable

4. New or replacement planting and vegetation in the Riparian Zone shall include plantings that are low growing and have dense root systems for the purpose of stabilizing stream banks and repairing damage previously done to riparian vegetation. Examples of such plantings most commonly include red osier dogwood, common chokecherry, serviceberry, elderberry, river birch, skunk bush sumac,

Beb's willow, Drummond's willow, little wild rose, gooseberry, and honeysuckle. However, in rare instances the distance from the top-of-bank to the mean high- water mark is significant and the native vegetation appropriate for the Riparian Zone are low growing, drought resistant grasses and shrubs. Replacement planting and vegetation shall be appropriate for the specific site conditions. Proposal does not include vegetation within the twenty-five foot (25') Riparian Zone that is degraded, not natural, or which does not promote bank stability.

Revegetation plan has been developed by BYLA Landscape Architect to include native plantings such as those described in this criteria. Vegetation within the riparian zone is natural and will have root systems and woody characteristics to promote bank stability.

5. Landscaping and driveway plans to accommodate the function of the floodplain allow for sheet flooding. Surface drainage is controlled and shall not adversely impact adjacent properties including driveways drained away from paved roadways. Culvert(s) under driveways may be required. Landscaping berms shall be designed to not dam or otherwise obstruct floodwaters or divert same onto roads or other public pathways.

Not applicable

6. Floodwater carrying capacity is not diminished by the proposal.

Hydraulic modeling has been performed. Flood conveyance capacity will be enhanced by the project.

7. Impacts of the development on aquatic life, recreation, or water quality upstream, downstream or across the stream are not negative.

The project will have positive impacts on these factors; see #18 and #19.

8. Building setback in excess of the minimum required along waterways is encouraged. An additional ten-foot (10') building setback beyond the required twenty-five foot (25') Riparian Zone is encouraged to provide for yards, decks and patios outside the twenty five foot (25') Riparian Zone.

Not applicable.

9. The top of the lowest floor of a building located in, or partially within, the SFHA shall be at or above the Flood Protection Elevation (FPE). A building is considered to be partially within the SFHA if any portion of the building or appendage of the building, such as footings, attached decks, posts for upper story decks, are located within the SFHA. See section 17.88.060, figures 1 and 2 of this chapter to reference construction details. See Chapter 17.08 of this title for definition of "lowest floor."
 - a. In the SFHA where Base Flood Elevations (BFEs) have been determined, the FPE shall be twenty-four inches (24") above the BFE for the subject property; twenty-four inches (24") or two (2) feet is the required freeboard in Ketchum city limits.
 - b. In the SFHA where no BFE has been established, the FPE shall be at least two (2) feet above the highest adjacent grade.

Not applicable

10. The backfill used around the foundation in the SFHA floodplain shall provide a reasonable transition to existing grade but shall not be used to fill the parcel to any greater extent.
 - a. Compensatory storage shall be required for any fill placed within the floodplain.
 - b. A CLOMR-F shall be obtained prior to placement of any additional fill in the floodplain.

Land is being restored to the same elevation as prior to the 2017 flood that destroyed the riparian zone and applicant's property. No new fill is being placed.

11. All new buildings located partially or wholly within the SFHA shall be constructed on foundations that are designed by a licensed professional engineer.

Not applicable

12. Driveways shall comply with City of Ketchum street standards; access for emergency vehicles has been adequately provided for by limiting flood depths in all roadways to one foot (1-ft) or less during the 1% annual chance event.

Not applicable

13. Landscaping or revegetation shall conceal cuts and fills required for driveways and other elements of the development.

Not applicable

14. (Stream alteration.) The proposal is shown to be a permanent solution and creates a stable situation.

The proposal utilizes appropriate bank slopes, toe protection, log barbs, woody debris incorporation, woody vegetation, and other measures to ensure stability.

15. (Stream alteration.) No increase to the one percent (1%) annual chance flood elevation at any location in the community, based on hydrologic and hydraulic analysis performed in accordance with standard engineering practice and has been certified and submitted with supporting calculations and a No Rise Certificate, by a registered Idaho engineer.

Modeling has been performed and a "no-rise" certification provided.

16. (Stream alteration.) The project has demonstrated No Adverse Impact or has demonstrated all impacts will be mitigated.

No adverse impact in terms of flood height, velocity, flood carrying capacity, inundation extent, sedimentation or erosion potential, or other similar quantifiable parameter will occur on other properties, as evidenced by the hydraulic modeling.

17. (Stream alteration.) The recreational use of the stream including access along any and all public pedestrian/fisher's easements and the aesthetic beauty shall not be obstructed or interfered with by the proposed work.

No such impediment is proposed.

18. (Stream alteration.) Fish habitat shall be maintained or improved as a result of the work proposed.

The bank stabilization will incorporate log barbs which have been demonstrated to create pools and riffles and improve fish habitat. Riparian vegetation along the will provide shading. Currently, vegetation is denuded and poor or no habitat exists along the east bank.

19. (Stream alteration.) The proposed work shall not be in conflict with the local public interest, including, but not limited to, property values, fish and wildlife habitat, aquatic life, recreation and access to public lands and waters, aesthetic beauty of the stream and water quality.

The project will improve fish and wildlife habitat, improve recreational use by eliminating debris barriers that currently exist, maintain and enhance access to the waterway, improve the aesthetic beauty of the stream by restoring land to a natural condition and providing pool and riffle water flow characteristics, and improve water quality by providing riparian vegetation and associated shading. All of the above will be beneficial for property values.

20. (Stream alteration.) The work proposed is for the protection of the public health, safety and/or welfare such as public schools, sewage treatment plant, water and sewer distribution lines and bridges providing particularly limited or sole access to areas of habitation.

Not applicable

21. (Wetlands) Where development is proposed that impacts any wetland the first priority shall be to move development from the wetland area. Mitigation strategies shall be proposed at time of application that replace the impacted wetland area with an equal amount and quality of new wetland area or riparian habitat improvement.

Not applicable

Engineering “No-Rise” Certification

(for projects located in a mapped floodway)

44 CFR 60.3(d)(3) requires that local communities participating in the National Flood Insurance Program “Prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge;”

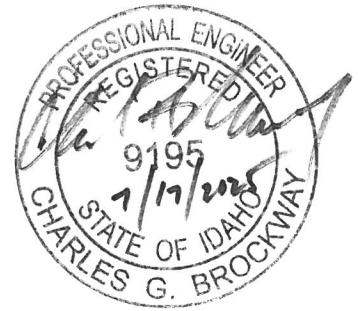
This is to certify that I am a duly qualified engineer licensed to practice in the State of Idaho. Pursuant to the above regulation, this further certifies that the attached data and hydraulic modeling support the fact that the proposed River and Riparian Restoration Project – Swan Property, at 401 Northwood Way, will not increase the base flood (100-year flood) elevation on the Big Wood River at published sections in the Flood Insurance Study for Blaine County, Idaho dated November 26, 2010 and will not increase the 100-year flood elevations at unpublished cross-sections in the vicinity of the project.

Seal:



Amendment to River and Riparian Restoration Project for the Swan Property

July 17, 2025



This amendment concerns permit applications submitted on June 10, 2024 for the Swan project in Ketchum, Idaho. The project design has been changed so that Area 4 of the project, i.e. restoration of the eroded floodplain, will involve a fill area of 0.10 acres or less. This change affects Section D.3. of the original narrative dated June 7, 2024. No other changes are being made to the project.

The reason for this change is that the Corps of Engineers now considers most of Area 4 to be jurisdictional wetlands, and it is necessary to remain under the 0.10 acre threshold so that the activity may be covered by Nationwide Permit 18. Sawtooth Environmental was retained to evaluate the site and delineate an approximate wetland line, which is shown on the revised site plan.

The restoration will include three types of treatment, as shown on the site plan Revision C:

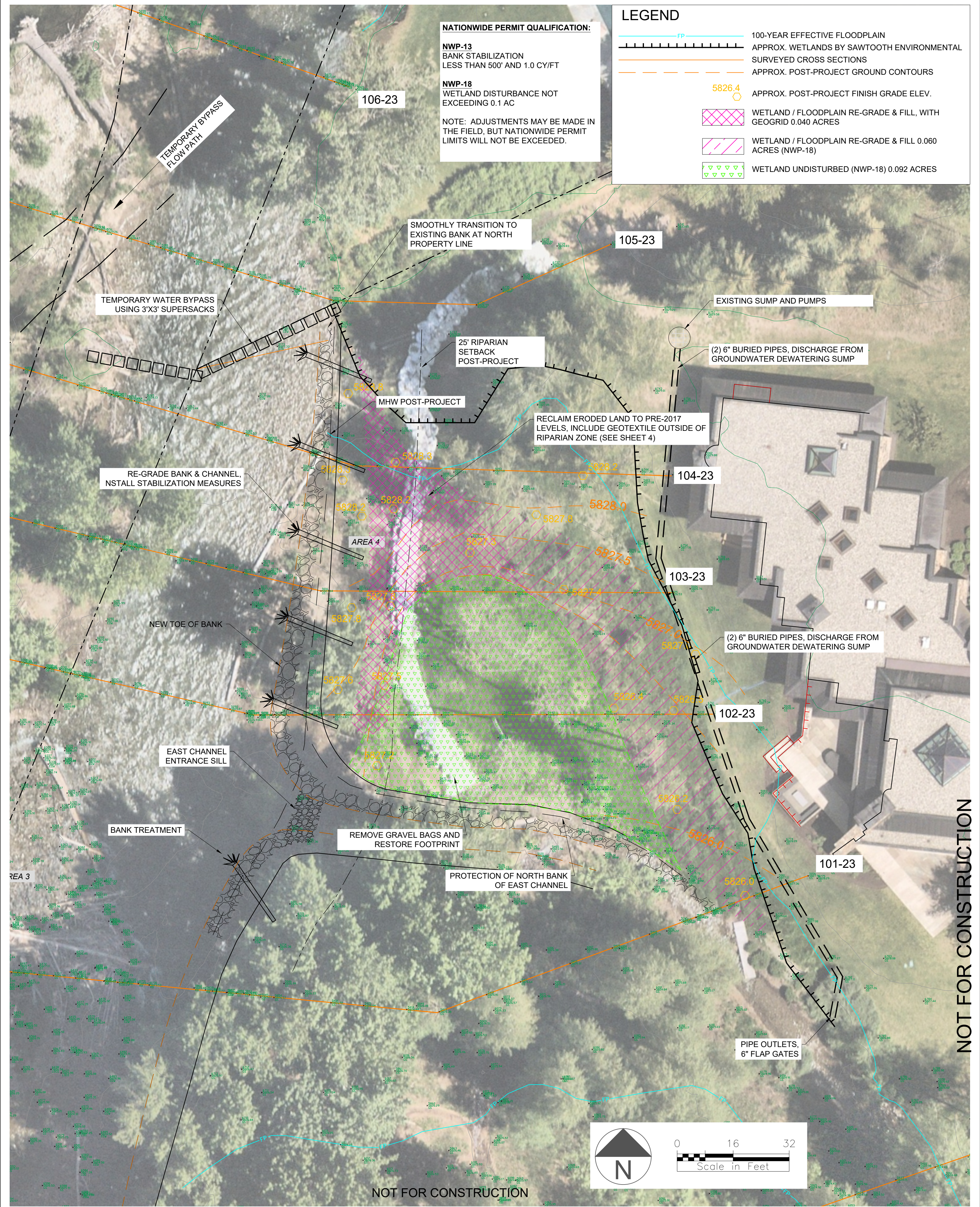
1. Re-graded, restored and protected area near the bank and in the area where the most significant sheet flow will occur as the river bank overtops during high water. This area will be protected with the subsurface geotextile as previously contemplated in order to prevent the downcutting that has previous occurred.
2. Re-graded and restored land that will not involve placement of the geotextile. This area will receive sheet flow but is less at risk of erosion.
3. Undisturbed wetland. This is the central area of the floodplain restoration and is slightly lower than surrounding land. It is the main region of sheet flow during high water events. This area has established very well with native vegetation and should be self-sustaining the established vegetation will provide a degree of erosion protection.

Specific changes to the project documents are as follows:

1. Site plan for Area 4 (Drawing #3) is replaced with Revision C of the drawing included herein. All other drawing sheets are unchanged.
2. Line 3 of Table 1 of the narrative dated June 7, 2024 is changed to read as follows:

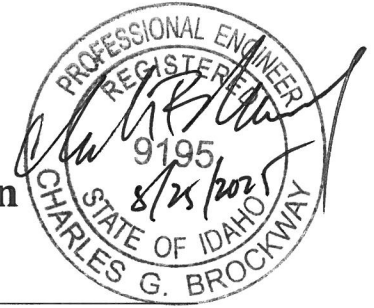
Project Component	River Length (ft)	Plan Area (acres)	Total excavation (cu. yd.)	Excavation below OHW (cu. yd.)	Total fill (cu. yd.)	Fill below OHW (cu. yd.)
3. Restoration of eroded land in floodplain	n/a	0.10	0	0	155	0

3. The project revegetation plan is revised to remove plantings from the undisturbed wetland area. This area is to remain undisturbed.



THIS DRAWING HAS BEEN PREPARED BY BROCKWAY ENGINEERING, PLLC. FOR A SPECIFIC PROJECT TAKING INTO ACCOUNT THE SPECIFIC AND UNIQUE REQUIREMENTS OF THE PROJECT. REUSE OF THIS DRAWING FOR ANY PURPOSE IS PROHIBITED UNLESS WRITTEN PERMISSION FROM BOTH BROCKWAY ENGINEERING & THE CLIENT IS GRANTED.				DESIGNED CGB	DRAFTED CGB	<div><div></div><div><div>BROCKWAY ENGINEERING PLLC</div><div>HYDRAULICS ♦ HYDROLOGY ♦ WATER RESOURCES</div><div>2016 WASHINGTON ST NORTH, STE 4 TWIN FALLS ID, 83301 (208) 736-8543</div></div></div>	SWAN, SANDRA RIVER RESTORATION 2024		PROJECT # 1436-03-2023	
				SCALE AS SHOWN (16 X 24 DWG ONE-Y)			AREA 4 SITE PLAN		DWG #	REV
									3	
				REV	DESCRIPTION		DATE	APPD.		
C	REDUCED WETLAND DISTURBANCE	7/17/2025								
A	ISSUED FOR PERMITTING	6/7/2024								

River and Riparian Restoration Project for the Swan Property: Stream Alteration and Floodplain Development Permit Applications - Amended



Charles G. Brockway, Ph.D., P.E.
Brockway Engineering

August 25, 2025

At the request of IDWR, this narrative incorporates the Amendment dated July 17, 2025 that was submitted separately to the agencies.

A. Background

Flooding in the Big Wood River in 2017 caused major erosion damage to the applicant's property, destabilized the east bank of the river, and deposited large quantities of gravel in the channel due to the formation of a massive debris dam. The resulting elevated flood heights led to inundation of the property even at very low river flows, as well as increased groundwater levels requiring installation of a foundation dewatering system. Erosion of the applicant's property was only temporarily restrained by emergency placement of gravel bags, but the damage continued in subsequent high-flow periods. At the same time, high flows in the past two years have beneficially mobilized the majority of the previously-deposited gravel, but a debris dam is now forming in the same fashion as it did in 2017.

B. Project objectives

The objectives of the proposed stream restoration project include:

1. Restore the applicant's property.
2. Reduce the risk of erosion of applicant's land and the need for future stream restoration projects and permitting.
3. Allow the floodplain on the applicant's land to function properly as it has historically – inundating at the same frequency but no greater, and performing an appropriate riparian functions.
4. Stabilize the east river bank to prevent ongoing erosion and deposition.
5. Restore the river channel conveyance capacity.
6. Restore the high-water conveyance function of the East Channel as it has functioned historically.

This property is in a platted subdivision lot, and the house is within a platted building envelope. The owner is aware of the risks and obligations of building near a floodplain, but no property owner is ever obligated to allow property to be destroyed. She has both a right and an obligation to protect her property – both land and structures, from undue

flood risk. The owner understands the function of the 100-year floodplain and does not intend to reduce its capacity or degrade its proper function. Yet, if nothing is done to properly stabilize this reach, the river may continue its avulsion to the east and create a major river channel through the applicant's property, decimating its value and putting both the applicant's residence and downstream residences on the East Channel at much greater risk.

C. Current river topography

To provide data to support the project modeling and to evaluate the current state of the river, an extensive survey was commissioned from Alpine Enterprises and completed October 2023. This survey consisted of eight cross-sections spanning the entire floodplain and extending upstream and downstream of the project area, plus hundreds of individual ground shots to define important features. These cross sections and shots can be seen on the project drawings.

The most important finding revealed by the survey is that the river is now flowing in four major channels of roughly comparable size. This is a significant change that has occurred since the previous survey was conducted in 2018. The braiding of the channel in this reach is a function of the low gradient, the accumulation of debris, and the subsequent deposition of gravel. In terms of the objectives of the proposed project, this is a positive finding since the additional flow paths will tend to reduce the total flow in the channel against the applicant's property.

The channels are noted on the project drawings, and for reference are numbered from east to west: Channel #1 is the easternmost channel against the applicant's property, Channel #2 is the next channel to the west, and Channels #3 and #4 are the two western channels. Channels #3 and #4 in particular have significantly grown in size since the 2018 survey. These two channels come together between cross sections 101-23 and 102-23, and the remaining channels come together south of the project, forming a single channel flowing southward toward Warm Springs bridge.

These channels are to be distinguished from the small channel known as the East Channel, which is a minor high-flow channel that flows past the Chateau at Northwood condominiums. This channel will continue to be referred to as the East Channel for continuity with previous work.

Another important finding of the survey is that the majority of the gravel deposition caused by the 2017 debris dam (described in more detail below), has been naturally mobilized and transported downstream. In comparing the 2023 survey with the 2018 survey, the channel at Sections 102-23, 103-23, and 104-23, which were largely blocked in 2018, are now mostly free-flowing. This is important because it will allow much less gravel to be removed to accomplish the project objectives.

D. Project components

The proposed components of the project are described below and illustrated on the drawings included with the permit application.

D.1. Removal of debris blockages to restore Channel #2 capacity.

This work will take place within Areas 1 and 2 on the project site plan.

A substantial debris dam has formed at the entrance to Channel #2 at Section 107-23, about 300 feet upstream of the applicant's project. Opening this channel will tend to induce greater flow in Channel #2 and less flow in Channel #1, reducing the risk to both the applicant's property and the properties north of her land.

Another area of blockage that consists of debris and gravel is located in Channel #2 approximately 260 feet downstream of the channel entrance at Sections 104-23 and 103-23. Clearing of this area will increase the cross-flow from Channel #1 to Channel #2, relieving some pressure on the east bank.

Where suitable, the woody debris will be utilized in the bank stabilization element (Section D.4.).

D.2. Removal of the incipient major debris dam at location of the 2017 dam.

This work will take place within Area 3 on the project site plan.

The 2017 debris dam was the instigator of the problem now faced by the applicant. A major dam formed, backing up the water and causing 2 to 3 feet of gravel deposition in Channel #1. This dam also caused a cross channel to be cut from Channel #1 to #2, which was a beneficial development. This debris was removed in 2018, which allowed Channel #1 to flow freely and has led to the majority of the gravel deposition being mobilized and cleared naturally. Now, however, both Channel #1 and the cross channel are partially blocked by debris and debris accumulation is happening in a manner nearly identical to what occurred in 2017. The cross channel is blocked by a major tree directly across its entrance, with only a narrow flow path remaining. If not addressed, this partial debris dam will undoubtedly catch other floating debris, leading to the formation of a debris dam similar to the 2017 dam. This channel must be kept clear to allow it to continue naturally mobilizing and transporting the remaining legacy 2017 gravel deposition. This component of the project is absolutely necessary – if a debris dam forms again during a flooding situation and gravel is deposited like it was in 2017, the project will be back where it started six years ago.

Where suitable, the woody debris will be utilized in the bank stabilization element (Section D.4.).

D.3. Restoration of eroded land

This work will take place within Area 4 on the project site plan.

This component will involve removing existing gravel bags and restoring eroded turf and riparian areas. This area must still be allowed to function as a flood plain, but must be adequately protected from erosion. Original grade was estimated from the topographic survey data collected in 2017 and 2018, in which the surveyor was directed to obtain ground shots from obvious pre-flood points such as bases of trees, undisturbed turf areas, etc.

The Corps of Engineers now considers most of Area 4 to be jurisdictional wetlands, and it is necessary to remain under the 0.10 acre threshold so that the activity may be covered by Nationwide Permit 18. Sawtooth Environmental was retained to evaluate the site and delineate an approximate wetland line, which is shown on the revised site plan.

The restoration will include three types of treatment, as shown on the site plan Revision C:

1. Re-graded, restored and protected area near the bank and in the area where the most significant sheet flow will occur as the river bank overtops during high water. The reclaimed area must be able to withstand shallow sheet flow without downcutting, which could allow the river to make a new channel directly through the applicant's property as it is currently doing. To accomplish the erosion protection, geogrid will be used as depicted on the project plans. The geogrid is a subsurface erosion control matting that is 4" tall, with a honeycomb pattern that is filled with soil and planted with vegetation amongst the honeycomb cells. The product is then covered and will not be visible
2. Re-graded and restored land that will not involve placement of the geotextile. This area will receive sheet flow but is less at risk of erosion.
3. Undisturbed wetland. This is the central area of the floodplain restoration and is slightly lower than surrounding land. It is the main region of sheet flow during high water events. This area has established very well with native vegetation and should be self-sustaining the established vegetation will provide a degree of erosion protection.

The reclaimed area will be revegetated in accordance with the revegetation plan described in Section G. The revegetation plan represents a significant improvement compared to pre-2017 conditions, and it is noteworthy that the type and density of appropriate riparian vegetation will exceed that of nearby neighboring properties.

D.4. Stabilization of the east river bank

This work will take place within Area 4 on the project site plan.

The east bank has been greatly damaged and is unstable. This component of the project involves modest removal of accumulated legacy gravel from the 2017 event to create a defined bank, and placement of log barbs embedded in the east bank of the river and projecting into water at the toe of the slope. Between the barbs, toe logs, rock, and additional wood will be placed. Where suitable, reclaimed woody debris harvested from the debris jams will be incorporated into the bank stabilization. Some of this wood may be rotted or unsuitable and will be hauled away. Field determinations will be made of the suitability of wood for use in the bank protection.

The benefits of the bank stabilization action include erosion protection, encouraging the high velocity flow to remain waterward of the bank, encouraging the river to curve westward, and improving habitat. Log barbs have been used with greater frequency along the Big Wood River in the past decade, and have proven to provide good stabilization with greater habitat benefits. The toe rock proposed in the plan will be embedded in the toe and will not be evident in the visual appearance. The applicant has no desire to create any semblance of a riprapped bank.

As a stopgap measure, the bank stabilization will include a line of buried rock set approximately 10 to 15 feet back from the top of bank, completely hidden from view. The objective of this element is to provide a final backstop against downcutting or bank migration in the event of a severe, unforeseen occurrence that causes the bank to fail. As a backstop measure, it typically never comes into play but provide extra insurance with no environmental impact. This approach has been used on the Big Wood.

Between Sections 104 and 105, the bank stabilization will incorporate the discharge pipes from the foundation dewatering system for the residence. On the applicant's property, adjacent groundwater is coincident with the river level at this location. The dewatering system consists of sumps located outside of the building footprint, pumping clean groundwater only, drawing the water table down to protect the foundation system. The dewatering system does not pump water directly from crawl spaces or any other area that is exposed to potential contamination. As such, DEQ has determined that provided the pumped water is free of pollutants there is no discharge permit required. Further, no water permit is required from IDWR since dewatering is excluded from water permitting requirements. Operation of the system will typically occur only during the high water in the spring, typically 30 to 60 days in duration. During very low-water seasons, the system will not operate. This element is being included in the permit application because the pipes in question are located within the floodplain and riparian setback and therefore must be permitted.

D.5. Restoration and stabilization of the East Channel

This work will take place within Area 4 on the project site plan.

Water should be allowed to flow into East Channel, but the entrance to the channel has been eroded and is now at risk of down-cutting and allowing excessive flow to occur in the channel, potentially allowing partial river capture to occur. The flood risk to owners of property along the channel has been elevated significantly for this reason. During 2022 and 2023, very large amounts of water entered the channel even though these years were not extreme flood events. The objective of this project element is twofold: 1) to reestablish the channel as a functioning river feature that will provide both flood conveyance during high flows; and 2) provide water supply to maintain the riparian values provided by the channel during non-flood moderate river flows as it has for many years. The intent is to put the channel back in essentially the same configuration as it was historically, but with sufficient protection at the entrance.

The work involves re-grading the unstable entrance section of the channel and downstream approximately 80 feet from the river downstream, reestablishing the proper channel geometry. It is very important that the east channel not be allowed to become a major channel of the river, as there are multiple residences situated extremely close to the east channel, and some have experienced bank erosion. To stabilize the entrance to the channel, a buried rock sill with embedded root wads will be placed. The purpose is to prevent the entrance from down-cutting, thereby allowing excessive flow into the channel and potential causing a partial river capture. This stabilization can be done with buried stone and root wads.

An analysis of the magnitude and duration of flow in the East Channel with the proposed channel geometry is provided in Section H.3. The geometry was selected to allow lower flow to occur as it has historically, thereby maintaining riparian functionality, while still passing higher flows to allow the channel to operate as a flood channel as it has historically. This analysis resulted in a two-stage entrance geometry as described in Section H.3., with a crest elevation of 5824.4. The channel has received siltation in the amount of 1.0 to 2.5 feet which must be removed. Based on channel elevations downstream of the siltation, 5824.4 appears to be consistent with the likely pre-2017 elevations at the entrance.

The East Channel work also will include protecting the south boundary of reclaimed land, which is also the north bank of the East Channel. The reason for this action is twofold: 1) water that sheet flows southeasterly over the reclaimed area during a flood will flow into the east channel, which will cause rivulets and erode the bank if not protected, and 2) the east channel flow itself could undercut and erode the southern boundary of the reclaimed area. The treatment does not need to be a heavy treatment but will include a modest amount of buried toe rock, not visible, and root wads.

D.6. Removal of downed trees

This work will take place within Area 4 on the project site plan.

Beavers have cut three trees which have fallen across Channel #1. These trees are about 4 to 8 inches in diameter. They are ripe to mobilize and will likely catch on the debris dam forming as described in #2 above. These trees are sound and can likely be utilized in the other project elements.

E. Quantities

Quantities of excavation and fill were calculated for the project components and are shown in Table 1. OHW was assumed to be the line existing prior the 2017 discrete event.

Table 1. Quantities.

Project Component	River Length (ft)	Plan Area (acres)	Total excavation (cu. yd.)	Excavation below OHW (cu. yd.)	Total fill (cu. yd.)	Fill below OHW (cu. yd.)
1. Channel #2 capacity enhancement	n/a	0.081	115	69	0	0
2. Removal of debris dam at Section 101	n/a	0.064	113	113	0	0
3. Restoration of eroded land in floodplain	n/a	0.10	0	0	155	0
4. Bank protection and stabilization – east river bank	252	0.058	0	0	183	183
5a. East channel entrance sill	15	0.0028	12	12	12	12
5b. East channel sedimentation removal	80	0.017	46	46	0	0
5b. East channel bank protection	123	0.023	0	0	57	57
Temporary bypass and coffer	n/a	0.0048	0	0	23	16
TOTALS		1.05	301	240	431	268
TOTALS (not including temporary work)		1.04	301	240	563	252
Notes: Eroded land restoration: Fill volume is for reclamation of land within floodplain. Bank stabilization: Length is north-south length, fill is toe protection and logs. East channel entrance sill: Length is the north-south length of the east channel entrance protection. East channel bank protection: Length is west-east along north bank of East Channel.						

F. Water Bypass and Construction

The project work area will be dewatered to the extent possible in order to reduce or turbidity impacts and to allow proper grade and geometric control on all features of the project without the interferences of flooded conditions. This will be accomplished by placing “supersack” 3’x3’ gravel bags or concrete blocks along the north property line and diverting the flow across the divide between Channels #1 and #2. A natural flow path exists here, but minor work may be needed to grade the area and induce the Channel #1 flow into Channel #2. This may include relocating a log across the flow path and minor regrading. Material removed for the bypass channel will be temporarily placed on the gravel bar just adjacent to the channel. At the end of the project the gravel bags will be removed and the stockpiled material will be placed back into the excavated bypass channel.

Construction of the project will involve equipment working in the river. This activity will be minimized to the extent possible but there is no other feasible means of accomplishing the project. Standard practices will be utilized relative to fueling of equipment to remain a minimum of 50 feet from ordinary high water.

G. Revegetation Plan

The project is divided in three revegetation zones according to the treatment received: the restored land area outside of the riparian zone but not including the undisturbed wetland area, the riparian zone 25 feet from mean high water line of the Big Wood River, excluding the East Channel, and the bank stabilization zone consisting of the bank slope after treatment. Each vegetative treatment is described below. Consultation was made with the owner’s landscape professional, Ben Young Landscape Architects (BYLA), to refine the species to be planted in each zone.

The revegetation plan represents a significant improvement compared to pre-2017 conditions, and it is noteworthy that the type and density of appropriate riparian vegetation will exceed that of nearby neighboring properties.

Zone 1: Reclaimed land outside of the 25-foot riparian zone but not including the undisturbed wetland area:

Grasses

Match original vegetation: Scottish Links Fine Fescue by Magic Valley Sod.

Shrubs – plant at density of three (3) per 1,000 ft², approximately 20 shrubs total

Golden currant	<i>Ribes aureum</i>
Red-osier dogwood	<i>Cornus sericea</i>
River alder shrub	<i>Alnus incana</i>
Woods rose	<i>Rosa woodsii</i>

Zone 2: Riparian zone within 25 feet of post-project mean high water line of Big Wood River

Riparian Grasses (approximately equal proportions)

Idaho fescue	<i>Festuca idahoensis</i>
Streambank wheatgrass	<i>Agropyron riparium</i>
Creeping red fescue	<i>Festuca rubra</i>
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>
Silky lupine	<i>Lupinus sericeus</i>

Shrubs – plant at density of six (6) per 1,000 ft², approximately 35 shrubs total

Golden currant	<i>Ribes aureum</i>
Red-osier dogwood	<i>Cornus sericea</i>
River alder shrub	<i>Alnus incana</i>
Woods rose	<i>Rosa woodsii</i>

Zone 3: Bank stabilization

Plant cuttings at spacing no greater than five (5) feet within the bank stabilization from the toe of the slope to the top of the bank, along the entire river length of the treatment.

Booth willow	<i>Salix boothii</i>
Geyer willow	<i>Salix geyeria</i>
Pacific willow	<i>Salix lasiandra</i>

Planting Methods and Coverage

The owner's landscape professional will be retained to oversee and/or perform the revegetation work in accordance with the specifications herein.

The reclaimed area will be topped with 4 inches of organic-rich topsoil and graded to provide an adequate seed bed. Grasses will be planted by the hydroseed method at 25 lb/acre or as recommended by the landscape professional. Broadcast application will only be used in areas unreachable by hydroseeding equipment.

Shrubs will typically be 5-gallon containerized nursery stock, planted in accordance with accepted practices for containerized plantings. The geotextile material will be cut to allow the full required diameter for each planting.

Willow plantings within the bank stabilization will be made at a target spacing of 5 feet, with the willows placed deep enough to reach permanent water.

H. Hydraulic Analysis and Discussion of River Changes since 2017

H.1. HEC-RAS model overview

Hydraulic modeling using HEC-RAS 4.1 was performed for the project to assess conditions during the 100-year event of 2,880 cfs, which is the FEMA effective base flow for the reach. Direction from the City was to use this flow even though a higher flow is being used by FEMA for the remapping study currently in progress. Cross-sections from the FEMA 2024 draft modeling were used as the baseline, and eight new cross-sections were developed using the survey data from August 2023 described above to reflect current conditions through the project reach. The project is located between FEMA Sections EN and EM.

A Corrected Effective model was developed by inserting the new cross-sections and adjusting reach lengths accordingly. A Post-Project model was developed which incorporates both the restoration of land within the floodplain (including the most conservative assumption of restoration back to 2017 levels, even though a portion of the wetland area will be left undisturbed and will not be completely up to these levels), the proposed channel work, and the bank stabilization actions.

Because the new sections span four channels with heavy vegetative growth between channels and on the overbanks, horizontally-varied roughness coefficients were used. Refinement of the coefficients was based on the seminal work by Chow (1959), which includes Equation 5-12 as a procedure for developing roughness values for natural stream channels:

$$n = (n_0 + n_1 + n_2 + n_3 + n_4)m_5$$

Using Table 5-5,

$n_0 = 0.028$	baseline for coarse gravel channels
$n_1 = 0.010$	moderate surface irregularity
$n_2 = 0.012$	size and shape of channel cross-section alternating occasionally
$n_3 = 0.015$	moderate effect of obstructions such as debris, logs, boulders
$n_4 = 0$	relatively little vegetation growth in the channels themselves
$m_5 = 1.000$	minor meandering

This procedure results in a channel n-value of 0.065. The value for the heavy vegetative growth areas and overbank was selected from Table 5-6 as 0.10.

Historically FEMA has used 0.04 and 0.08 for the channel and overbank, respectively. In the 2024 draft work, FEMA reduced all coefficients and adopted 0.030 to 0.035 for the channel and 0.050 to 0.065 for the overbanks. These values are too low for the conditions on the ground. FEMA indicated in its meetings with the local communities

that even if its 100-year flow was too high, it was “compensating” by reducing the roughness coefficients to try to match observed inundation in 2017. It is unfortunate that FEMA did this, because the correct procedure is to select roughness coefficients that reflect real channel conditions, not to use them as correction factors to compensate for an erroneously high flow value.

H.2. River changes since 2017

As noted, the 2017 flood caused major geomorphologic changes in the river, including a massive gravel deposition upstream of a debris dam at Section 101. The topographic survey in 2018 characterized these features. Significant changes in the river have occurred since the 2018 survey, as evidenced by the August 2023 survey and the hydraulic modeling discussed above. Basic findings are as follows:

The river now consists of four distinct channels, all of which carry flow during flood events.

The western two channels are deeper and larger than the eastern two in the southern portion of the study area, and appear to now be the major channels.

The gravel deposition at the Swans caused by the debris dam in 2017 has been substantially removed by the river. Down-cutting of 1.0 to 2.5 feet has occurred, and it is expected that additional down-cutting will likely occur, barring additional debris dams.

New channels have been created on the island on the applicant’s property (Sections 100-23 and 101-23), likely as a result of the higher water level caused by the gravel deposition, as well as the denuding of bank vegetation material in this area.

At 2,880 cfs, the 2023 existing conditions water surface elevations at the applicant’s property are lower than the 2018 existing conditions by approximately 0.3 to 1.0 feet.

Due to the gravel mobilization and the development of the four main channels, the overall capacity of these reach is significantly greater.

Comparing 2023 existing vs. post-project, zero rise can be achieved with relatively modest channel work (using either 2,880 cfs or 4,207 cfs), and some work within Channel #2.

The Post-Project model indicates no change or a slight reduction in flood heights compared to the Corrected Effective model during the 100-year event (Table 2). Changes in channel velocity are negligible. The model indicates that the project meets the required “no-rise” criteria for work within a regulatory floodway.

Table 2. HEC-RAS model results for existing and post-project conditions during the 100-year flood of 2,880 cfs.

Section	River Station	Existing Conditions		Post-Project		WSE Change	Velocity Change
		WSE (ft)	Channel velocity (ft/s)	WSE (ft)	Channel velocity (ft/s)		
107-23	6128	5832.04	4.98	5831.98	4.57	-0.06	-0.41
106-23	5940	5830.07	4.65	5830.07	4.66	-0.01	0.01
105-23	5874	5829.27	4.45	5829.23	4.54	-0.04	0.09
104-23	5829	5828.76	3.68	5828.73	3.75	-0.03	0.07
103-23	5784	5828.23	4.36	5828.23	4.32	0.00	-0.04
102-23	5743	5827.83	4.03	5827.84	4.14	0.00	0.11
101-23	5640	5826.96	3.86	5826.96	3.86	0.00	0
100-23	5551	5826.49	3.09	5826.49	3.09	0.00	0

The model also indicates that the inundated area of the east 100-year floodplain on the applicant's property will be essentially the same as delineated by FEMA, i.e. no loss of floodplain value will occur. The model predicts the floodplain will begin to be inundated at a flow of 2,000 cfs. The model predicts the overland flow in the left overbank (east floodplain) during the 100-year event ranges from 48 to 289 cfs through the study reach. In short, the floodplain conveyance is being adequately preserved.

The following model output reports are included with this narrative:

1. Cross-sections showing existing and proposed geometry (reflecting both land reclamation, channel excavation, and bank stabilization). Water surface elevations are shown on the cross-sections for the 100-year flow of 2880 cfs.
2. Longitudinal profile showing existing and proposed river invert, and computed water surface profiles for the 100-year flow. This profile clearly illustrates the "hump" in the river invert due to the gravel deposition.
3. Output table showing results for both the existing and post-project conditions.

H.3. Analysis of magnitude and duration of flow to East Channel

The objective of the East Channel work is to preserve the historical functionality of the channel, but no data exists on amount or frequency of flow in the channel. Therefore, a reasonable judgment must be made to ensure the channel will continue to provide both a low-flow riparian maintenance function as well as a flood carrying function. The entrance elevation and geometry must be set so that flow will occur through a reasonable period of the summer as it has historically, but not all the time because the channel has likely dewatered during low flows in the river. Toward these ends, the project drawings

depict a two-stage channel geometry at the entrance, designed to allow a low base flow to occur during low river levels while allowing the channel to also safely function as a high-flow flood channel as it has historically.

The magnitude of flow in the East Channel is a function of the elevation of water in the river and geometry of the channel entrance. A higher river level will cause a greater flow in the channel, and a lower channel entrance elevation will allow both a larger flow and a longer duration flow as the river recedes. The post-project HEC-RAS model (Section H) was used to calculate a water surface elevation at the channel entrance for a range of river flows from 100 to 1000 cfs. A rating curve, or relationship between river elevation and East Channel flow, was developed assuming the channel acts as a compound broad-crested weir. With these tools, the flow in the East Channel can be estimated for any flow in the Big Wood River at the site, as illustrated in Figure 1.

A time series of daily flow in the Big Wood River at the site was determined by adding the daily flows at the USGS gauge near Ketchum, upstream of the confluence with North Fork, and the USGS gauge on North Fork. The period of record is 2011-2023, limited by the available data at the North Fork gauge. In determining whether the East Channel flows are reasonable for a given entrance design, the important period is the summertime, excluding the spring and early-summer high runoff period when the channel will flow no matter what geometry is selected and in fact the entire “island” may be swamped. Therefore, a partial series of daily river flows was created by including only the period July 1 – October 31 for each year of record.

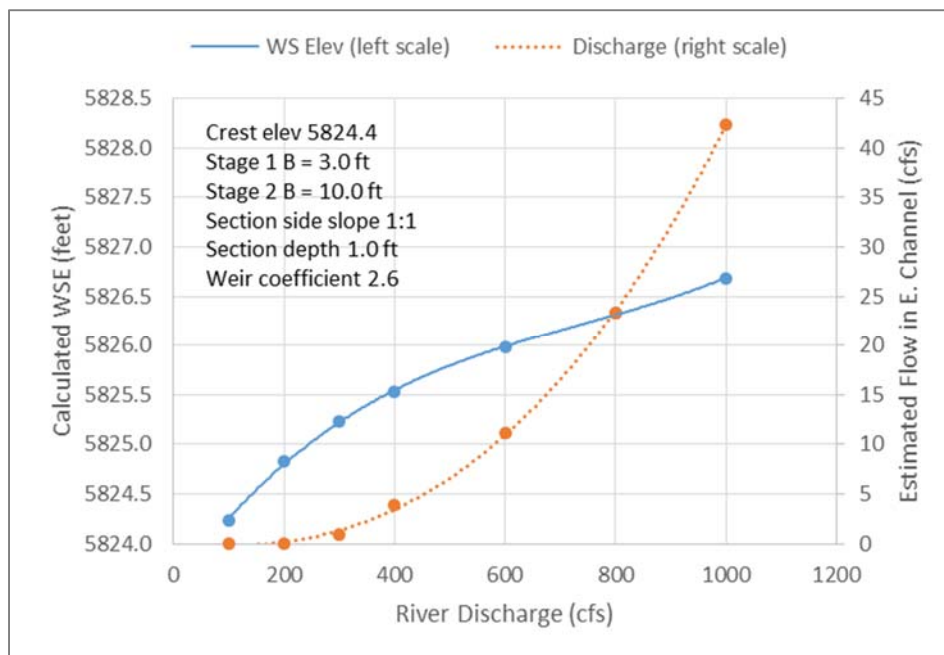


Figure 1. Calculated water surface elevation at East Channel entrance, and corresponding channel discharge based on compound broad-crested weir with geometry as shown in the project drawings.

For each day in the partial series, the flow in the East Channel was estimated, and pertinent statistics calculated. Different geometries and channel elevations were investigated, resulting in a selected crest elevation of 5824.4, with a low-flow section bottom width of 3 feet and a high-flow section bottom width of 10 feet. The final recommended design results in the hydrographs shown in Figure 2, and the statistics shown in Table 3. It is estimated that the channel will be active for an average of 48 days beyond July 1, with a mean flow during the active period of 4.6 cfs. During drought years, the channel will flow very little and during high years flow will remain through the fall. This pattern appears likely to be in line with historical channel function

Again, there is no historical data on East Channel flows, so the above analysis represents a reasonable judgment. In addition, it must be understood that there is always a risk of geomorphologic change. In particular, the recent development of the west channels observed in the river may continue to occur, potentially shifting water away from the east side and negatively affecting the flows in the East Channel.

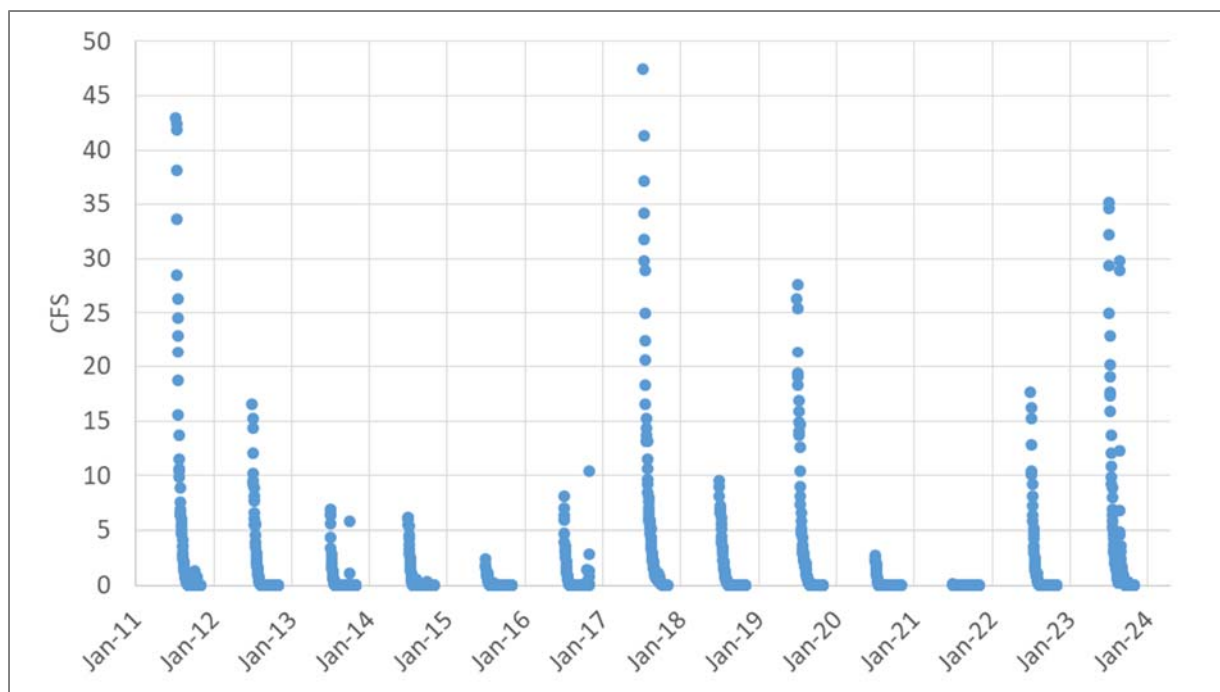


Figure 2. Estimated flow in East Channel, July 1 – October 31, for the 2011-2023 period of record. Rare high flows above 50 cfs not shown.

Table 3. Annual estimates of flow pattern in East Channel.

Year	Mean flow when active (cfs)	Duration (days from July 1)	Cutoff date
2011	18.0	80	19-Sep
2012	4.1	43	13-Aug
2013	2.0	29	30-Jul
2014	1.7	39	9-Aug
2015	0.7	24	25-Jul
2016	2.0	41	11-Aug
2017	12.5	101	10-Oct
2018	2.7	46	16-Aug
2019	5.5	69	8-Sep
2020	1.0	20	21-Jul
2021	0.1	3	4-Jul
2022	4.0	44	14-Aug
2023	6.1	88	27-Sep
Overall mean	4.6	48	18-Aug

HEC-RAS Model Results

Project Drawings

Large-format submitted separately

Amendment dated July 17, 2025

(this was submitted as a standalone document, but has been incorporated into the project narrative at the request of the Idaho Department of Water Resources)

HEC-RAS Model Results

HEC-RAS Output: Existing Conditions Model

Swan23.p03

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	
Ketchum	16278	EW	Effective100	2880	5919.01	5922.852	5922.852	5924.21	0.012534	9.4	317.53	130.42	0.99
Ketchum	14986		Effective100	2880	5904.92	5911.054	5910.352	5911.68	0.00453	7.17	537.22	200.84	0.62
Ketchum	14683	EV	Effective100	2880	5902.95	5908.167	5908.167	5909.62	0.010158	10.1	342.58	133.82	0.92
Ketchum	13393	EU	Effective100	2880	5889.56	5897.443	5897.443	5898.35	0.004511	8.79	690.95	499.46	0.73
Ketchum	12189	ET	Effective100	2880	5878.4	5884.421	5884.421	5886.03	0.006891	10.29	318.4	140.61	0.9
Ketchum	11461		Effective100	2880	5871.81	5877.923	5877.923	5879.16	0.008055	9.4	393.45	179.45	0.93
Ketchum	10983		Effective100	2880	5867.71	5875.383		5875.96	0.001639	6.15	498.49	139.27	0.46
Ketchum	10952	ES	Effective100	2880	5866.87	5875.016	5873.042	5875.83	0.002557	7.22	398.64	78.68	0.57
Ketchum	10950		Bridge										
Ketchum	10900		Effective100	2880	5867.43	5873.322	5873.322	5875.25	0.012007	11.14	258.5	68.02	1.01
Ketchum	10635	ER	Effective100	2880	5865.73	5870.157	5870.021	5871.58	0.008301	9.72	327.81	123.98	0.85
Ketchum	9404	EQ	Effective100	2880	5853.18	5859.092	5858.949	5860.18	0.010084	9.1	413.85	231.81	0.84
Ketchum	8239	EP	Effective100	2880	5844.33	5848.565	5848.342	5849.56	0.00874	8.59	399.51	158.33	0.84
Ketchum	7485	EO	Effective100	2880	5837.8	5841.756	5841.756	5842.6	0.009615	8.49	498.21	329.6	0.87
Ketchum	6409	EN	Effective100	2880	5828.48	5832.784		5833.22	0.006342	6.7	718.07	439.97	0.7
Ketchum	6128	107-23	Effective100	2880	5826.02	5832.043		5832.33	0.012692	4.98	856.05	545.5	0.57
Ketchum	5940	106-23	Effective100	2880	5824.31	5830.071		5830.37	0.010527	4.65	772.09	507.05	0.49
Ketchum	5874	105-23	Effective100	2880	5823.8	5829.267		5829.53	0.012734	4.45	809.26	529.7	0.51
Ketchum	5829	104-23	Effective100	2880	5823.42	5828.756		5828.91	0.008146	3.68	1075.25	600.76	0.42
Ketchum	5784	103-23	Effective100	2880	5822.16	5828.226		5828.46	0.011475	4.36	902.69	558.72	0.52
Ketchum	5743	102-23	Effective100	2880	5822.2	5827.831		5828.01	0.009538	4.03	990.16	548.2	0.49
Ketchum	5640	101-23	Effective100	2880	5820.62	5826.963		5827.16	0.007284	3.86	944.86	545.82	0.44
Ketchum	5551	100-23	Effective100	2880	5820.98	5826.493		5826.62	0.0048	3.09	1138.23	607.41	0.35
Ketchum	5160	EM	Effective100	2880	5815.48	5823.814	5823.814	5824.88	0.004191	9.47	632.6	464.4	0.64
Ketchum	4288	EL	Effective100	2880	5811.59	5816.696	5816.696	5818.55	0.011323	10.92	265.88	72.8	0.98
Ketchum	4043		Effective100	2880	5808.29	5814.812	5813.249	5815.6	0.0034	7.18	421.67	119.25	0.56
Ketchum	4002	EK	Effective100	2880	5808.2	5813.945	5813.16	5815.26	0.006631	9.3	324.63	80.48	0.75
Ketchum	4000		Bridge										
Ketchum	3926		Effective100	2880	5808.06	5813.494	5812.803	5814.66	0.006126	8.73	343.72	89.99	0.74
Ketchum	3733	EJ	Effective100	2880	5806.65	5812.15	5812.15	5813.3	0.008145	8.8	403.29	276.5	0.82
Ketchum	3114	EI	Effective100	2880	5800.28	5807.418	5806.498	5808.19	0.006355	7.18	437.35	141.42	0.64
Ketchum	2559	EH	Effective100	2880	5797.6	5802.226	5802.226	5803.11	0.014175	7.63	410.67	275.16	0.94
Ketchum	1325	EG	Effective100	2880	5786.28	5791.017		5791.49	0.006278	5.62	569.2	309.16	0.61
Ketchum	742		Effective100	2880	5780.97	5785.36	5785.36	5786.98	0.009207	10.21	282.04	87.61	1
Ketchum	3	EF	Effective100	2880	5777.51	5784.19	5782.168	5784.34	0.000863	3.71	1505.21	834.15	0.29

HEC-RAS Output: Existing Conditions Model - Floodway Data

Swan 23.p06

Floodway stations manually entered based on effective model and FIRM

Reach	River Sta		Profile	Top Width / Area		Vel Total (ft/s)	W.S. Elev (ft)	Base WS (ft)	Prof Delta WS (ft)
				(ft)	(sq ft)				
Ketchum	16278	EW	FW	130.31	317.15	9.08	5922.849	5922.852	0
Ketchum	14986		FW	187.63	531.1	5.42	5911.031	5911.054	-0.02
Ketchum	14683	EV	FW	129.58	346.62	8.31	5908.2	5908.167	0.03
Ketchum	13393	EU	FW	160.79	401.34	7.18	5897.413	5897.443	-0.03
Ketchum	12189	ET	FW	127.61	304.84	9.45	5884.387	5884.421	-0.03
Ketchum	11461		FW	164.57	378.67	7.61	5877.934	5877.923	0.01
Ketchum	10983		FW	106.65	498.54	5.78	5875.384	5875.383	0
Ketchum	10952	ES	FW	78.68	398.68	7.22	5875.017	5875.016	0
Ketchum	10950	BR U	FW	78.67	398.52	7.23	5875.015	5875.014	0
Ketchum	10950	BR D	FW	77.86	347.03	8.3	5874.542	5874.541	0
Ketchum	10900		FW	68.01	258.44	11.14	5873.321	5873.322	0
Ketchum	10635	ER	FW	90.84	288.53	9.98	5870.007	5870.157	-0.15
Ketchum	9404	EQ	FW	205.22	451.1	6.38	5859.282	5859.092	0.19
Ketchum	8239	EP	FW	140.68	360.26	7.99	5848.41	5848.565	-0.16
Ketchum	7485	EO	FW	166	417.14	6.9	5842.916	5841.756	1.16
Ketchum	6409	EN	FW	92	306.26	9.4	5833.909	5832.784	1.13
Ketchum	6128	107-23	FW	187.15	475.97	6.05	5832.573	5832.043	0.53
Ketchum	5940	106-23	FW	213.8	641.79	4.49	5830.405	5830.071	0.33
Ketchum	5874	105-23	FW	253	668.97	4.31	5829.76	5829.267	0.49
Ketchum	5829	104-23	FW	251	696.49	4.14	5829.327	5828.756	0.57
Ketchum	5784	103-23	FW	262	703.43	4.09	5828.929	5828.226	0.7
Ketchum	5743	102-23	FW	279	614.43	4.69	5828.401	5827.831	0.57
Ketchum	5640	101-23	FW	297	773.49	3.72	5827.589	5826.963	0.63
Ketchum	5551	100-23	FW	306	922.06	3.12	5827.143	5826.493	0.65
Ketchum	5160	EM	FW	95	379.14	7.6	5823.71	5823.814	-0.1
Ketchum	4288	EL	FW	72.8	265.88	10.83	5816.696	5816.696	0
Ketchum	4043		FW	108.21	428.55	6.72	5814.876	5814.812	0.06
Ketchum	4002	EK	FW	73.2	343.38	8.54	5814.118	5813.945	0.17
Ketchum	4000	BR U	FW	73	336.69	8.55	5814.113	5813.942	0.17
Ketchum	4000	BR D	FW	80.7	365.27	7.88	5813.873	5813.655	0.22
Ketchum	3926		FW	80.7	356.09	8.09	5813.759	5813.494	0.27
Ketchum	3733	EJ	FW	100.1	315.21	9.14	5812.042	5812.15	-0.11
Ketchum	3114	EI	FW	110.7	403.1	7.14	5807.501	5807.418	0.08
Ketchum	2559	EH	FW	160.58	354.13	8.13	5802.149	5802.226	-0.08
Ketchum	1325	EG	FW	192.45	504.89	5.7	5791.047	5791.017	0.03
Ketchum	742		FW	87.61	282.04	10.21	5785.36	5785.36	0
Ketchum	3	EF	FW	292	1047.59	2.75	5784.19	5784.19	0

HEC-RAS Output: Proposed Conditions Model

Swan 23.p04 Profile 1

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	WSE Chg from exist	
Ketchum	16278	EW	Effective100	2880	5919.01	5922.852	5922.852	5924.21	0.012534	9.4	317.53	130.42	0.99	0.00
Ketchum	14986		Effective100	2880	5904.92	5911.054	5910.352	5911.68	0.00453	7.17	537.22	200.84	0.62	0.00
Ketchum	14683	EV	Effective100	2880	5902.95	5908.167	5908.167	5909.62	0.010158	10.1	342.58	133.82	0.92	0.00
Ketchum	13393	EU	Effective100	2880	5889.56	5897.443	5897.443	5898.35	0.004511	8.79	690.95	499.46	0.73	0.00
Ketchum	12189	ET	Effective100	2880	5878.4	5884.421	5884.421	5886.03	0.006891	10.29	318.4	140.61	0.9	0.00
Ketchum	11461		Effective100	2880	5871.81	5877.923	5877.923	5879.16	0.008055	9.4	393.45	179.45	0.93	0.00
Ketchum	10983		Effective100	2880	5867.71	5875.383		5875.96	0.001639	6.15	498.49	139.27	0.46	0.00
Ketchum	10952	ES	Effective100	2880	5866.87	5875.016	5873.042	5875.83	0.002557	7.22	398.64	78.68	0.57	0.00
Ketchum	10950		Bridge											
Ketchum	10900		Effective100	2880	5867.43	5873.322	5873.322	5875.25	0.012007	11.14	258.5	68.02	1.01	0.00
Ketchum	10635	ER	Effective100	2880	5865.73	5870.157	5870.021	5871.58	0.008301	9.72	327.81	123.98	0.85	0.00
Ketchum	9404	EQ	Effective100	2880	5853.18	5859.092	5858.949	5860.18	0.010084	9.1	413.85	231.81	0.84	0.00
Ketchum	8239	EP	Effective100	2880	5844.33	5848.565	5848.342	5849.56	0.00874	8.59	399.51	158.33	0.84	0.00
Ketchum	7485	EO	Effective100	2880	5837.8	5841.756	5841.756	5842.6	0.009615	8.49	498.21	329.6	0.87	0.00
Ketchum	6409	EN	Effective100	2880	5828.48	5832.688		5833.18	0.007331	7.04	676.68	424.02	0.75	-0.10
Ketchum	6128	107-23	Effective100	2880	5826.02	5831.984		5832.23	0.011394	4.57	863.48	532.82	0.52	-0.06
Ketchum	5940	106-23	Effective100	2880	5824.31	5830.066		5830.37	0.010589	4.66	769.86	505.13	0.49	-0.01
Ketchum	5874	105-23	Effective100	2880	5823.8	5829.229		5829.5	0.013372	4.54	789.79	520.95	0.53	-0.04
Ketchum	5829	104-23	Effective100	2880	5823.42	5828.726		5828.9	0.007855	3.75	1028	599.18	0.42	-0.03
Ketchum	5784	103-23	Effective100	2880	5822.16	5828.226		5828.47	0.010234	4.32	869.21	551.46	0.5	0.00
Ketchum	5743	102-23	Effective100	2880	5822.2	5827.835		5828.03	0.010055	4.14	927.88	544.01	0.5	0.00
Ketchum	5640	101-23	Effective100	2880	5820.62	5826.963		5827.16	0.007284	3.86	944.86	545.82	0.44	0.00
Ketchum	5551	100-23	Effective100	2880	5820.98	5826.493		5826.62	0.0048	3.09	1138.23	607.41	0.35	0.00
Ketchum	5160	EM	Effective100	2880	5815.48	5823.814	5823.814	5824.88	0.004191	9.47	632.6	464.4	0.64	0.00
Ketchum	4288	EL	Effective100	2880	5811.59	5816.696	5816.696	5818.55	0.011323	10.92	265.88	72.8	0.98	0.00
Ketchum	4043		Effective100	2880	5808.29	5814.812	5813.249	5815.6	0.0034	7.18	421.67	119.25	0.56	0.00
Ketchum	4002	EK	Effective100	2880	5808.2	5813.945	5813.16	5815.26	0.006631	9.3	324.63	80.48	0.75	0.00
Ketchum	4000		Bridge											
Ketchum	3926		Effective100	2880	5808.06	5813.494	5812.803	5814.66	0.006126	8.73	343.72	89.99	0.74	0.00
Ketchum	3733	EJ	Effective100	2880	5806.65	5812.15	5812.15	5813.3	0.008145	8.8	403.29	276.5	0.82	0.00
Ketchum	3114	EI	Effective100	2880	5800.28	5807.418	5806.498	5808.19	0.006355	7.18	437.35	141.42	0.64	0.00
Ketchum	2559	EH	Effective100	2880	5797.6	5802.226	5802.226	5803.11	0.014175	7.63	410.67	275.16	0.94	0.00
Ketchum	1325	EG	Effective100	2880	5786.28	5791.017		5791.49	0.006278	5.62	569.2	309.16	0.61	0.00
Ketchum	742		Effective100	2880	5780.97	5785.36	5785.36	5786.98	0.009207	10.21	282.04	87.61	1	0.00
Ketchum	3	EF	Effective100	2880	5777.51	5784.19	5782.168	5784.34	0.000863	3.71	1505.21	834.15	0.29	0.00

HEC-RAS Output: Proposed Conditions Model - Floodway Data

Swan23.p04 Profile 2

Floodway stations manually entered based on effective model and FIRM

Reach	River Sta		Profile	Top Width /Area		Vel Total (ft/s)	W.S. Elev (ft)	Base WS (ft)	Prof Delta (ft)	WSE chg from exist
				(ft)	(sq ft)					
Ketchum	16278	EW	FW	130.31	317.15	9.08	5922.849	5922.852	0	0.00
Ketchum	14986		FW	187.63	531.1	5.42	5911.031	5911.054	-0.02	0.00
Ketchum	14683	EV	FW	129.58	346.62	8.31	5908.2	5908.167	0.03	0.00
Ketchum	13393	EU	FW	160.79	401.34	7.18	5897.413	5897.443	-0.03	0.00
Ketchum	12189	ET	FW	127.61	304.84	9.45	5884.387	5884.421	-0.03	0.00
Ketchum	11461		FW	164.57	378.67	7.61	5877.934	5877.923	0.01	0.00
Ketchum	10983		FW	106.65	498.54	5.78	5875.384	5875.383	0	0.00
Ketchum	10952	ES	FW	78.68	398.68	7.22	5875.017	5875.016	0	0.00
Ketchum	10950	BR U	FW	78.67	398.52	7.23	5875.015	5875.014	0	0.00
Ketchum	10950	BR D	FW	77.86	347.03	8.3	5874.542	5874.541	0	0.00
Ketchum	10900		FW	68.01	258.44	11.14	5873.321	5873.322	0	0.00
Ketchum	10635	ER	FW	90.84	288.53	9.98	5870.007	5870.157	-0.15	0.00
Ketchum	9404	EQ	FW	205	450.7	6.39	5859.28	5859.092	0.19	0.00
Ketchum	8239	EP	FW	140.71	360.74	7.98	5848.414	5848.565	-0.15	0.00
Ketchum	7485	EO	FW	166	416.9	6.91	5842.915	5841.756	1.16	0.00
Ketchum	6409	EN	FW	92	306.26	9.4	5833.909	5832.69	1.22	0.00
Ketchum	6128	107-23	FW	188	507.8	5.67	5832.514	5831.984	0.53	-0.06
Ketchum	5940	106-23	FW	213.8	631.46	4.56	5830.357	5830.066	0.29	-0.05
Ketchum	5874	105-23	FW	253	633.15	4.55	5829.619	5829.229	0.39	-0.14
Ketchum	5829	104-23	FW	251	710.8	4.05	5829.204	5828.726	0.48	-0.12
Ketchum	5784	103-23	FW	262	748.95	3.85	5828.878	5828.226	0.65	-0.05
Ketchum	5743	102-23	FW	279	626.6	4.6	5828.392	5827.835	0.56	-0.01
Ketchum	5640	101-23	FW	297	773.49	3.72	5827.589	5826.963	0.63	0.00
Ketchum	5551	100-23	FW	306	922.06	3.12	5827.143	5826.493	0.65	0.00
Ketchum	5160	EM	FW	95	379.14	7.6	5823.71	5823.814	-0.1	0.00
Ketchum	4288	EL	FW	72.8	265.88	10.83	5816.696	5816.696	0	0.00
Ketchum	4043		FW	108.21	428.55	6.72	5814.876	5814.812	0.06	0.00
Ketchum	4002	EK	FW	73.2	343.38	8.54	5814.118	5813.945	0.17	0.00
Ketchum	4000	BR U	FW	73	336.69	8.55	5814.113	5813.942	0.17	0.00
Ketchum	4000	BR D	FW	80.7	365.27	7.88	5813.873	5813.655	0.22	0.00
Ketchum	3926		FW	80.7	356.09	8.09	5813.759	5813.494	0.27	0.00
Ketchum	3733	EJ	FW	100.1	315.21	9.14	5812.042	5812.15	-0.11	0.00
Ketchum	3114	EI	FW	110.7	403.1	7.14	5807.501	5807.418	0.08	0.00
Ketchum	2559	EH	FW	160.58	354.13	8.13	5802.149	5802.226	-0.08	0.00
Ketchum	1325	EG	FW	192.45	504.89	5.7	5791.047	5791.017	0.03	0.00
Ketchum	742		FW	87.61	282.04	10.21	5785.36	5785.36	0	0.00
Ketchum	3	EF	FW	292	1047.59	2.75	5784.19	5784.19	0	0.00

Project Drawings

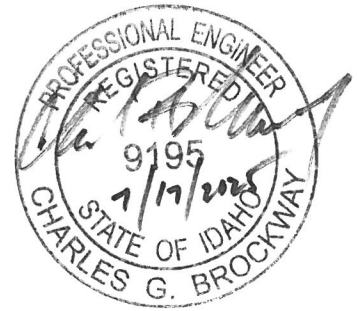
Large-format submitted separately

Amendment dated July 17, 2025

(this was submitted as a standalone document, but has been incorporated into the project narrative at the request of the Idaho Department of Water Resources)

Amendment to River and Riparian Restoration Project for the Swan Property

July 17, 2025



This amendment concerns permit applications submitted on June 10, 2024 for the Swan project in Ketchum, Idaho. The project design has been changed so that Area 4 of the project, i.e. restoration of the eroded floodplain, will involve a fill area of 0.10 acres or less. This change affects Section D.3. of the original narrative dated June 7, 2024. No other changes are being made to the project.

The reason for this change is that the Corps of Engineers now considers most of Area 4 to be jurisdictional wetlands, and it is necessary to remain under the 0.10 acre threshold so that the activity may be covered by Nationwide Permit 18. Sawtooth Environmental was retained to evaluate the site and delineate an approximate wetland line, which is shown on the revised site plan.

The restoration will include three types of treatment, as shown on the site plan Revision C:

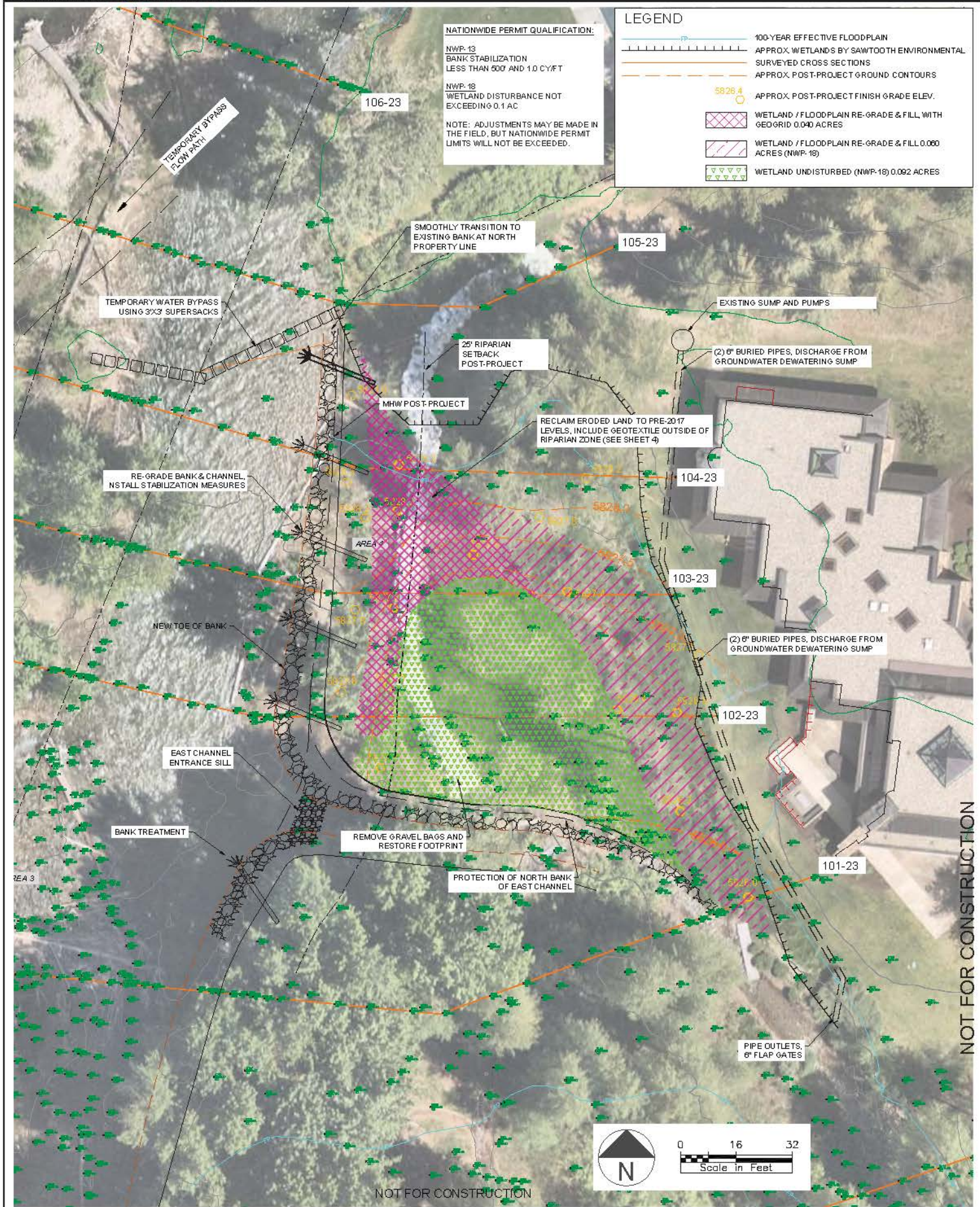
1. Re-graded, restored and protected area near the bank and in the area where the most significant sheet flow will occur as the river bank overtops during high water. This area will be protected with the subsurface geotextile as previously contemplated in order to prevent the downcutting that has previous occurred.
2. Re-graded and restored land that will not involve placement of the geotextile. This area will receive sheet flow but is less at risk of erosion.
3. Undisturbed wetland. This is the central area of the floodplain restoration and is slightly lower than surrounding land. It is the main region of sheet flow during high water events. This area has established very well with native vegetation and should be self-sustaining the established vegetation will provide a degree of erosion protection.

Specific changes to the project documents are as follows:

1. Site plan for Area 4 (Drawing #3) is replaced with Revision C of the drawing included herein. All other drawing sheets are unchanged.
2. Line 3 of Table 1 of the narrative dated June 7, 2024 is changed to read as follows:

Project Component	River Length (ft)	Plan Area (acres)	Total excavation (cu. yd.)	Excavation below OHW (cu. yd.)	Total fill (cu. yd.)	Fill below OHW (cu. yd.)
3. Restoration of eroded land in floodplain	n/a	0.10	0	0	155	0

3. The project revegetation plan is revised to remove plantings from the undisturbed wetland area. This area is to remain undisturbed.



THIS DRAWING HAS BEEN PREPARED
BY BROCKWAY ENGINEERING, PLLC.
FOR A SPECIFIC PROJECT AND
INTO ACCORD WITH THE SPECIFIC AND
UNIQUE REQUIREMENTS OF THE
PROJECT. REUSE OF THIS DRAWING
FOR ANY PURPOSE IS PROHIBITED
UNLESS WRITTEN PERMISSION FROM
BOTH BROCKWAY ENGINEERING &
THE CLIENT IS OBTAINED.

REV	DESCRIPTION	DATE	APPD.
C	REDUCED WETLAND DISTURBANCE	7/17/2025	
A	ISSUED FOR PERMITTING	6/7/2024	

DESIGNED CDB	DRAWN CDB
SCALE AS SHOWN 1/8" = 1'-0" (ONLY)	



BROCKWAY ENGINEERING PLLC
HYDRAULICS • HYDROLOGY • WATER RESOURCES

2016 WASHINGTON ST NORTH, STE 4
TWIN FALLS, ID, 83301
(208) 736-8543

SWAN, SANDRA
RIVER RESTORATION 2024

AREA 4 SITE PLAN

PROJECT #
1436-03-2023

DWG #
3



JOINT APPLICATION FOR PERMITS

U.S. ARMY CORPS OF ENGINEERS - IDAHO DEPARTMENT OF WATER RESOURCES - IDAHO DEPARTMENT OF LANDS

Authorities: The Department of Army Corps of Engineers (Corps), Idaho Department of Water Resources (IDWR), and Idaho Department of Lands (IDL) established a joint process for activities impacting jurisdictional waterways that require review and/or approval of both the Corps and State of Idaho. Department of Army permits are required by Section 10 of the Rivers & Harbors Act of 1899 for any structure(s) or work in or affecting navigable waters of the United States and by Section 404 of the Clean Water Act for the discharge of dredged or fill materials into waters of the United States, including adjacent wetlands. State permits are required under the State of Idaho, Stream Protection Act (Title 42, Chapter 38, Idaho Code and Lake Protection Act (Section 58, Chapter 13 et seq., Idaho Code). In addition the information will be used to determine compliance with Section 401 of the Clean Water Act by the appropriate State, Tribal or Federal entity.

Joint Application: Information provided on this application will be used in evaluating the proposed activities. Disclosure of requested information is voluntary. Failure to supply the requested information may delay processing and issuance of the appropriate permit or authorization. **Applicant will need to send a completed application, along with one (1) set of legible, black and white (8½"x11"), reproducible drawings that illustrate the location and character of the proposed project / activities to both the Corps and the State of Idaho.**

See Instruction Guide for assistance with Application. Accurate submission of requested information can prevent delays in reviewing and permitting your application. Drawings including vicinity maps, plan-view and section-view drawings must be submitted on 8-1/2 x 11 papers.

Do not start work until you have received all required permits from both the Corps and the State of Idaho

FOR AGENCY USE ONLY											
USACE NWW-		Date Received:		<input type="checkbox"/> Incomplete Application Returned		Date Returned:					
Idaho Department of Water Resources No.		Date Received:		<input type="checkbox"/> Fee Received DATE:		Receipt No.:					
Idaho Department of Lands No.		Date Received:		<input type="checkbox"/> Fee Received DATE:		Receipt No.:					
INCOMPLETE APPLICANTS MAY NOT BE PROCESSED											
1. CONTACT INFORMATION - APPLICANT Required:					2. CONTACT INFORMATION - AGENT:						
Name: Sandra Swan					Name: Charles G. Brockway, P.E.						
Company:					Company: Brockway Engineering PLLC						
Mailing Address: 2395 Acorn Palm Rd					Mailing Address: 2016 Washington St North Ste 4						
City: Boca Raton			State: FL	Zip Code: 33432		City: Twin Falls			State: ID		
Zip Code: 83301											
Phone Number (include area code):		E-mail:			Phone Number (include area code): 208-736-8543		E-mail: charles.g.brockway@brockwayeng.				
3. PROJECT NAME or TITLE: Swan Debris Removal					4. PROJECT STREET ADDRESS: 401 Northwood Way						
5. PROJECT COUNTY: Blaine		6. PROJECT CITY: Ketchum			7. PROJECT ZIP CODE: 83340		8. NEAREST WATERWAY/WATERBODY: Big Wood River				
9. TAX PARCEL ID#: RPK04310000120		10. LATITUDE: 43.691540		11a. 1/4: NW		11b. 1/4: SE		11c. SECTION: 12		11d. TOWNSHIP: 4N	
11e. RANGE: 17E		12b. ESTIMATED END DATE: October 31, 2024		13a. IS PROJECT LOCATED WITHIN ESTABLISHED TRIBAL RESERVATION BOUNDARIES? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES Tribe:							
13b. IS PROJECT LOCATED IN LISTED ESA AREA? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES					13c. IS PROJECT LOCATED ON/NEAR HISTORICAL SITE? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES						
14. DIRECTIONS TO PROJECT SITE: Include vicinity map with legible crossroads, street numbers, names, landmarks. Travel north out of Ketchum, ID on State Highway 75 past the turn to Warm Springs Road, for 0.7 miles to the intersection of State Highway 75 and Saddle Road, turn left (west) on Saddle Road. Proceed west on Saddle Road for 0.1 miles, take first right (north) on Northwood Way. Applicant's residence and property are located approximately 180' north of Saddle Road and Northwood Way intersection on the right hand (west) side of Northwood Way.											
15. PURPOSE and NEED: <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Public <input checked="" type="checkbox"/> Private <input type="checkbox"/> Other Describe the reason or purpose of your project; include a brief description of the overall project. Continue to Block 16 to detail each work activity and overall project. Please see attached narrative dated August 25, 2025											

16. DETAILED DESCRIPTION OF EACH ACTIVITY WITHIN OVERALL PROJECT. Specifically indicate portions that take place within waters of the United States, including wetlands: Include dimensions; equipment, construction, methods; erosion, sediment and turbidity controls; hydrological changes: general stream/surface water flows, estimated winter/summer flows; borrow sources, disposal locations etc.:

Please see attached narrative.

17. DESCRIBE ALTERNATIVES CONSIDERED to AVOID or MEASURES TAKEN to MINIMIZE and/ or COMPENSATE for IMPACTS to WATERS of the UNITED STATES, INCLUDING WETLANDS: See Instruction Guide for specific details.

No reasonable alternative exists to restore land to pre-flood condition and provide long-term bank stability and proper flow distribution.

18. PROPOSED MITIGATION STATEMENT or PLAN: If you believe a mitigation plan is not needed, provide a statement and your reasoning why a mitigation plan is NOT required. Or, attach a copy of your proposed mitigation plan.

A mitigation plan is not required because no wetlands will be impacted and the conveyance capacity of the channel will be greater than under existing conditions.

19. TYPE and QUANTITY of MATERIAL(S) to be discharged below the ordinary high water mark and/or wetlands:

Dirt or Topsoil: _____ cubic yards
Dredged Material: _____ cubic yards
Clean Sand: _____ cubic yards
Clay: _____ cubic yards
Gravel, Rock, or Stone: _____ cubic yards
Concrete: _____ cubic yards
Other (describe): Gravel, rock, and wood : 252 cubic yards
Other (describe): Temporary coffer : 16 cubic yards

TOTAL: _____ 268 cubic yards

20. TYPE and QUANTITY of impacts to waters of the United States, including wetlands:

Filling: 0.0838 acres 3,650 sq ft. 407 cubic yards
Backfill & Bedding: _____ acres _____ sq ft. _____ cubic yards
Land Clearing: _____ acres _____ sq ft. _____ cubic yards
Dredging: _____ acres _____ sq ft. _____ cubic yards
Flooding: _____ acres _____ sq ft. _____ cubic yards
Excavation: 0.145 acres 6,316 sq ft. 240 cubic yards
Draining: _____ acres _____ sq ft. _____ cubic yards
Other: Temporary coffer : 0.0048 acres 209 sq ft. 16 cubic yards

TOTALS: 0.2288 acres 9,966 sq ft. 647 cubic yards

☐ YES

Not implemented due to inability to obtain City of Ketchum permit

9

n/a

☒ YES

See Instruction Guide for further clarification and all contact information.

1

1

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YES Does applicant have water quality data relevant to determining whether the affected waterbody is high quality or not?

YES Is the applicant willing to collect the data needed to determine whether the affected waterbody is high quality or not?

Care will be taken to minimize turbidity in Big Wood River during debris removal.

27. LIST EACH IMPACT to stream, river, lake, reservoir, including shoreline: Attach site map with each impact location.

Big Wood River

180

Impact Length
(acres, square ft
linear ft)

4,3564,356

29. ADJACENT PROPERTY OWNERS NOTIFICATION REQUIREMENT: Provide contact information of ALL adjacent property owners below.

Name:
MARSUPIAL PROPERTIES LLC C/O ALISON & GEOFFREY RUSACK

Mailing Address:
1825 BALLARD CANYON RD

City: SOLVANG State: CA Zip Code: 93463

Phone Number (include area code): E-mail:

Name:
EDWARD AND BARBARA PATTON

Mailing Address:
P.O. BOX 6284

City: KETCHUM State: ID Zip Code: 83340

Phone Number (include area code): E-mail:

Name:
PATTON, EDWARD SCOTT TRUSTEE

Mailing Address:
P.O. BOX 6284

City: KETCHUM State: ID Zip Code: 83340

Phone Number (include area code): E-mail:

Name:
CITY OF KETCHUM

Mailing Address:
P.O. BOX 2315

City: KETCHUM State: ID Zip Code: 83340

Phone Number (include area code): E-mail:

Name:
HOWARD, WILLIAM E TRUSTEE

Mailing Address:
56 LAUREL POINT LANE

City: FRIDAY HARBOR State: WA Zip Code: 98250

Phone Number (include area code): E-mail:

Name:
CAMPBELL, DOROTHY BEAUCHAMP

Mailing Address:
C/O KIMIYA LEUTERITZ MGR, 2454 ALTON PKWY

City: IRVINE State: CA Zip Code: 92606

Phone Number (include area code): E-mail:

Name:
COMMUNITY LIBRARY ASSOC INC

Mailing Address:
JENNY EMERY DAVIDSON, P.O. BOX 2168

City: KETCHUM, ID State: ID Zip Code: 83340

Phone Number (include area code): E-mail:

Name:
CHATEAUX OF NORTHWOOD OWNERS

Mailing Address:
C/O JOHN PHILLIPS, P.O. BOX 605

City: KETCHUM State: ID Zip Code: 83340

Phone Number (include area code): E-mail:

30. SIGNATURES: STATEMENT OF AUTHORIZATION / CERTIFICATION OF AGENT / ACCESS

Application is hereby made for permit, or permits, to authorize the work described in this application and all supporting documentation. I certify that the 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 (Block 2). I hereby grant the agencies to which this application is made, the right to access/come upon the above-described location(s) to inspect the proposed and completed work/activities.

Signature of Applicant: _____ Date: _____

Signature of Agent: _____ Date: _____

This application must be signed by the person who desires to undertake the proposed activity AND signed by a duly authorized agent (see Block 1, 2, 30). Further, 18 USC Section 1001 provides that: "Whoever, in any manner within the jurisdiction of any department 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".

Name
MARSHALL PROPERTIES LLC, CALISON & GLOVER HUSACK

Mailing Address
1825 HALL MUD CANYON RD

City State Zip Code
SOLVANO CA 94461

Phone Number (for block owner contact) E-mail

Name
EDWARD AND BARBARA PATTON

Mailing Address
P.O. BOX 6284

City State Zip Code
KEETCHUM ID 83340

Phone Number (for block owner contact) E-mail

Name
PATTON EDWARD SCOTT TRUSTEE

Mailing Address
P.O. BOX 6284

City State Zip Code
KEETCHUM ID 83340

Phone Number (for block owner contact) E-mail

Name
CITY OF KEETCHUM

Mailing Address
P.O. BOX 2415

City State Zip Code
KEETCHUM ID 83340

Phone Number (for block owner contact) E-mail

Name
HOWARD, WILLIAM F TRUSTEE

Mailing Address
56 LAUREL POINT LANE

City State Zip Code
FRIDAY HARBOR WA 98250

Phone Number (for block owner contact) E-mail

Name
CAMPBELL, DOROTHY BEAUCHAMP

Mailing Address
C/O KIMIYA LTD TRITZ MGR, 2454 ALTON PKWY

City State Zip Code
IRVINE CA 92614

Phone Number (for block owner contact) E-mail

Name
COMMUNITY LIBRARY ASSOC INC

Mailing Address
JENNY EMERY DAVIDSON, P.O. BOX 2168

City State Zip Code
KEETCHUM, ID 83340

Phone Number (for block owner contact) E-mail

Name
CHATEAUX OF NORTHWOOD OWNERS

Mailing Address
C/O JOHN PHILLIPS, P.O. BOX 605

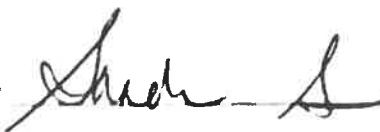
City State Zip Code
KEETCHUM ID 83340

Phone Number (for block owner contact) E-mail

30 SIGNATURES STATEMENT OF AUTHORIZATION / CERTIFICATION OF AGENT / ACCESS

Application is hereby made for permit, or permits, to authorize the work described in this application and all supporting documentation. I certify that the 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 (Block 2). I hereby grant the agencies to which this application is made, the right to access/come upon the above described location(s) to inspect the proposed and completed work/activities.

Signature of Applicant



Date: Aug 26, 2025

Signature of Agent



Date 8/26/2025

This application must be signed by the person who desires to undertake the proposed activity AND signed by a duly authorized agent (see Block 1, 2, 30). Further, 18 USC Section 1001 provides that: "Whoever, in any manner within the jurisdiction of any department 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."