

FUTURE FISHERIES IMPROVEMENT PROGRAM GRANT APPLICATION

Please fill in the highlighted areas
all sections (IA, IB, IC, etc.) must be addressed or the application will be considered invalid

I. APPLICANT INFORMATION

- A. Applicant Name: Austin McCullough
- B. Mailing Address: 730 N. Montana St.
- C. City: Dillon State: MT Zip: 59725
- Telephone: (406) 925-1938 E-mail: amccullough@mt.gov
- D. Contact Person: Austin McCullough
- Address if different from Applicant: _____
- City: _____ State: _____ Zip: _____
- Telephone: _____ E-mail: _____
- E. Landowner and/or Lessee Name (if other than Applicant): Big Hole Grazing Association – Dave Smith
- Mailing Address: PO box 521
- City: Twin Bridges State: MT Zip: 59754
- Telephone: (406) 689-3136 E-mail: NA

II. PROJECT INFORMATION*

- A. Project Name: Big Hole Grazing Association Rock Creek realignment
- River, stream, or lake: Rock Creek
- Location: Township: T4S Range: R16W Section: 1
- Latitude: 45.52114 Longitude: -113.53167 *within project (decimal degrees)*
- County: Beaverhead
- B. Purpose of Project:
- The purpose of this project is to divert a reach of Rock Creek from a former irrigation ditch that now acts as the predominant channel back into its historical channel and riparian corridor.
- C. Brief Project Description: _____

The Big Hole Grazing Association (BHGA) is enrolled in the Candidate Conservation Agreement with Assurances for Arctic Grayling in the upper Big Hole River Program (CCAA). In cooperation with the CCAA program, the BHGA has agreed to manage stream and riparian habitats sustainably (as defined by the NRCS riparian assessment method) to benefit Arctic Grayling. A ½-mile reach of Rock Creek that flows through BHGA property was captured by an irrigation ditch sometime between 1960 and 1979. Since that time, the irrigation ditch became naturalized, gaining sinuosity and a limited floodplain, within a down-cut channel. Although the original channel is still active during high flows, the existing channel carries all baseflows and is the primary channel for fish habitat.

The existing channel is unstable with excessive erosion being apparent (see attached pictures). Vegetation along the existing channel is poorly established and, thus, provides little habitat complexity for fish. Limited vegetation also reduces the streams ability to dissipate energy during flood flows, capture and store sediment, and store ground water. In contrast, the original channel has maintained a dynamic riparian corridor with a well-established willow and sedge assemblage (see attached pictures). Returning Rock Creek flows to the original channel, including its intact riparian corridor and floodplain, is expected to improve stream function by reducing sediment inputs, increasing sediment capture/storage capabilities, increasing ground water storage, and reducing thermal loading to stream water.

This project will complement several projects that have been implemented on Rock Creek to benefit Arctic grayling. Rock Creek historically held relatively high densities of Arctic grayling but was disconnected from the Big Hole River in the early-1990s. In 2006, a CCAA project re-established connectivity between Rock Creek and the Big Hole River and improved fish habitat along the lower two miles of the stream. Additional projects have constructed riparian fences along the stream to reduce cattle impacts and provided infrastructure to improve irrigation water management (e.g., headgates, diversions, measuring devices) or reduce the need for diverting stream flows to water livestock (e.g., stock tanks). Additionally, Rock Creek is the only tributary in the CCAA program with a stream-specific water conservation agreement (others are associated with the five CCAA management segments). From 2010 through 2014, RSIs were used to introduce Arctic Grayling to Rock Creek and assist their recolonization of the stream. Electrofishing surveys since RSI introductions documented that juvenile and young-of-the-year Arctic grayling utilize the stream, which suggests that the species also uses Rock Creek for spawning. In 2017, Arctic grayling were not captured in reaches of Rock Creek near the project area. However, this project will contribute to a wholistic stream restoration approach that, at a minimum, is expected to improve water quality (e.g., reduce stream temperature and sediment inputs, etc.) in downstream reaches that are utilized by Arctic grayling. This project is also expected to benefit other species. For example, the estimated density of brook trout was 146% higher in an upstream reference reach than in the existing channel.

Montana Fish, Wildlife, and Parks and the USFWS Partner's for Fish and Wildlife program contracted Confluence Consulting to design a solution to return Rock Creek stream flows to the original channel. The design will construct a plug at the head of the existing channel to back water up and force stream flows to utilize the original channel. The plug will be constructed using on-site material (donated by the landowner) at an elevation near that of water during a 100-year flood event. This FFIP grant application requests funds for project oversight and construction that is expected to take place during spring of 2018.

D. Length of stream or size of lake that will be treated:

Project will treat ~35 feet of stream bank, but will improve fish habitat and stream function on a ½-mile reach of Rock Creek

E. Project Budget:

Grant Request (Dollars): \$ **13,246.30**

Contribution by Applicant (Dollars): \$ **13,802.45** In-kind \$ **0.00**
(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): \$ **0.00** In-kind \$ **1,050.00**
(attach verification - See page 2 budget template)

Total Project Cost: \$ **28,098.75**

F. Attach itemized (line item) budget – see template

Attach **specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support and fish biologist support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete a *supplemental questionnaire*** (fwp.mt.gov/habitat/futurefisheries/supplement2.doc).

H. **Attach land management & maintenance plans that will ensure protection of the reclaimed area.**

III. PROJECT BENEFITS*

A. What species of fish will benefit from this project?:

Arctic grayling, mountain whitefish, burbot, mottled sculpin, longnose dace, white and longnose suckers, brook trout, brown trout, and rainbow trout.

B. How will the project protect or enhance wild fish habitat?:

This project will return stream flows to well-established riparian and instream habitat on a ½-mile reach of Rock Creek.

C. Will the project improve fish populations and/or fishing? To what extent?:

This project is expected to enhance existing fish populations and contribute to on-going conservation efforts for Arctic grayling in Rock Creek.

D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

Unfortunately, this project will take place on private property with limited fishing opportunities to the public.

E. The project agreement includes a 20-year maintenance commitment. Please discuss your ability to meet this commitment.

The BHGA supports this project and has signed a 10-year landowner agreement for its implementation. The BHGA has also signed a 10-year CCAA conservation agreements for their property that shows their commitment to Arctic grayling conservation.

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

Rock Creek was diverted into an irrigation ditch that subsequently became the predominant channel. This project will return Rock Creek flows to the original channel and associate riparian corridor.

G. What public benefits will be realized from this project?:

This project will enhance the quality of the existing fishery by improving stream function and fish habitat. Additionally, the CCAA program, and specifically projects like this that allow landowners to implement their property-specific conservation plan, contributed to a not-warranted ESA listing decision for Arctic grayling in Montana in 2014.

H. Will the project interfere with water or property rights of adjacent landowners? (explain):

No.

I. Will the project result in the development of commercial recreational use on the site?: (explain):

No.

J. Is this project associated with the reclamation of past mining activity?:

No.

Each approved project applicant must enter into a written agreement with Montana Fish, Wildlife & Parks specifying terms and duration of the project. The applicant must obtain all applicable permits prior to project construction. A competitive bid process must be followed when using State funds.

IV. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature:



Date:

11/30/2017

Sponsor (if applicable):

***Highlighted boxes will automatically expand.**

Mail To: Montana Fish, Wildlife & Parks
Fisheries Division
PO Box 200701
Helena, MT 59620-0701

E-mail To: Michelle McGree
mmcgree@mt.gov
(electronic submissions MUST be signed)

Incomplete or late applications will be rejected and returned to applicant.
Applications may be rejected if this form is modified.

*****Applications must be signed and *received* by the Future Fisheries Program Officer in Helena before December 1 and June 1 of each year to be considered for the subsequent funding period.*****

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

Both tables must be completed or the application will be returned

WORK ITEMS (ITEMIZE BY CATEGORY)	NUMBER OF UNITS	UNIT DESCRIPTION*	COST/UNIT	TOTAL COST	CONTRIBUTIONS			
					FUTURE FISHERIES REQUEST	IN-KIND SERVICES**	IN-KIND CASH	TOTAL
Personnel***								
Survey	1	LS	\$2,589.95	\$ 2,589.95				\$ -
Design	1	LS	\$4,665.00	\$ 4,665.00				\$ -
Engineering	1	LS	\$860.00	\$ 860.00				\$ -
Permitting	1	LS	\$5,687.50	\$ 5,687.50				\$ -
Oversight	1	LS	\$4,651.30	\$ 4,651.30	4,651.30			\$ 4,651.30
				\$ -				\$ -
			Sub-Total	\$ 18,453.75	\$ 4,651.30	\$ -	\$ -	\$ 4,651.30
Travel								
Mileage				\$ -				\$ -
Per diem				\$ -				\$ -
			Sub-Total	\$ -	\$ -	\$ -	\$ -	\$ -
Construction Materials****								
Pit Run	175	CY	\$6.00	\$ 1,050.00		1,050.00		\$ 1,050.00
Seed Mix	0.5	ACRE	\$150.00	\$ 75.00	75.00			\$ 75.00
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ 1,125.00	\$ 75.00	\$ 1,050.00	\$ -	\$ 1,125.00
Equipment and Labor								
Excavator	28	HR	\$160.00	\$ 4,480.00	4,480.00			\$ 4,480.00
Haul Truck	8	HR	\$130.00	\$ 1,040.00	1,040.00			\$ 1,040.00
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ 5,520.00	\$ 5,520.00	\$ -	\$ -	\$ 5,520.00
Mobilization								
Exavator	1	EA	\$1,500.00	\$ 1,500.00	1,500.00			\$ 1,500.00
Haul Truck	1	EA	\$1,500.00	\$ 1,500.00	1,500.00			\$ 1,500.00
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ 3,000.00	\$ 3,000.00	\$ -	\$ -	\$ 3,000.00
TOTALS				\$ 28,098.75	\$ 13,246.30	\$ 1,050.00	\$ -	\$ 14,296.30

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

OTHER REQUIREMENTS:

All of the columns in the budget table and the matching contribution table MUST be completed appropriately or the application will be invalid. Please see the example budget sheet for additional clarification.

*Units = feet, hours, inches, etc. Do not use lump sum unless there is no other way to describe the costs.

**Can include in-kind materials. Justification for in-kind labor (e.g. hourly rates used for calculations). Describe here or in text.

Reminder: Government salaries cannot be used as in-kind match

***The Review Panel suggests that design and oversight costs associated with a proposed project not exceed 15% of the total project budget. If design and oversight costs are in excess of 15%, applications must include a minimum of two competitive bids for the cost of undertaking the project.

****The Review Panel recommends a maximum fencing cost of \$1.50 per foot. Additional costs may be the responsibility of the applicant and/or partners.

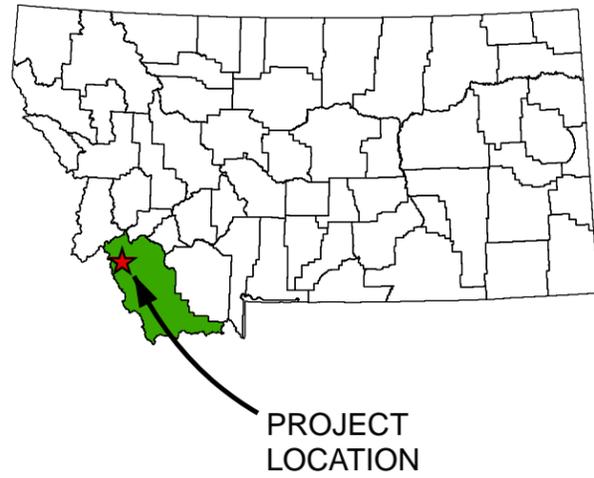
MATCHING CONTRIBUTIONS (do not include requested funds)

CONTRIBUTOR	IN-KIND SERVICE	IN-KIND CASH	TOTAL	Secured? (Y/N)
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
TOTALS	\$ -	\$ -	\$ -	





MONTANA



PROJECT LOCATION

ROCK CREEK CHANNEL REACTIVATION 65% DESIGN PLANS

SHEET INDEX

1. COVER SHEET / PROJECT LOCATION
2. OVERALL SITE PLAN
3. PLUG SITE PLAN
4. PLUG AND SITE ACCESS DETAILS
5. SPECIFICATIONS AND QUANTITIES

PREPARED FOR:

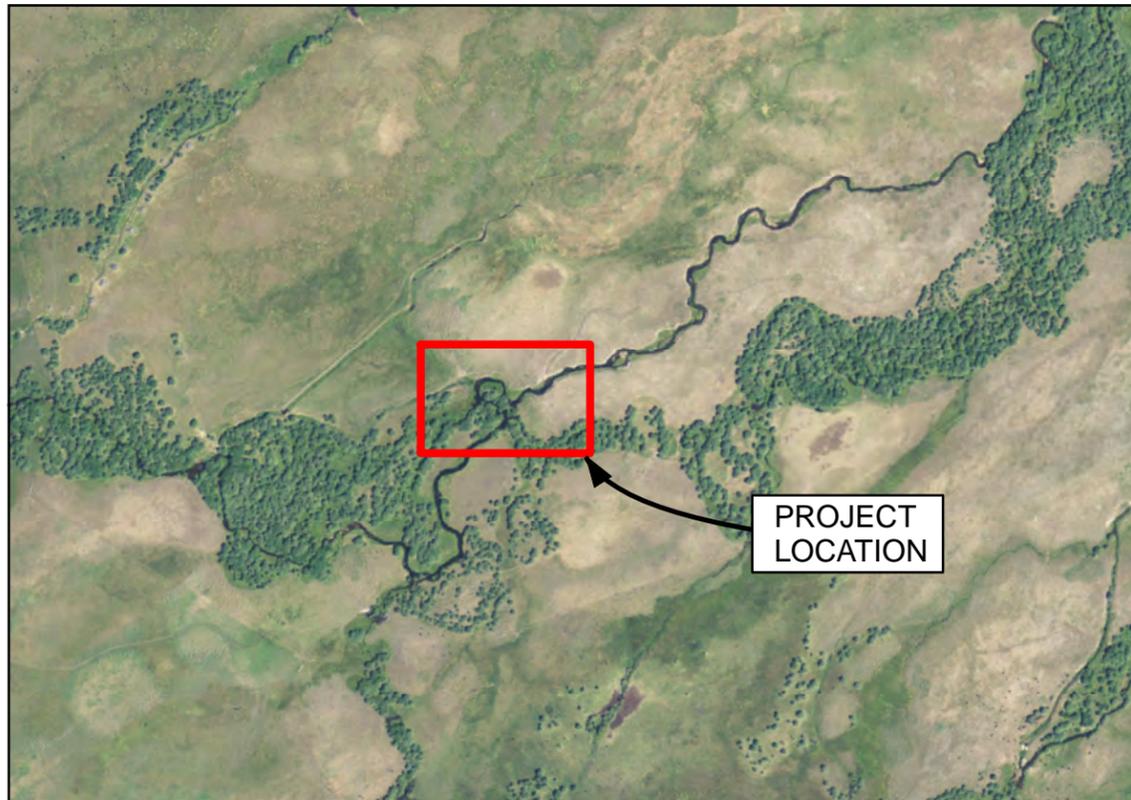


MONTANA FISH, WILDLIFE AND PARKS
1420 EAST SIXTH AVENUE
HELENA, MT 59620

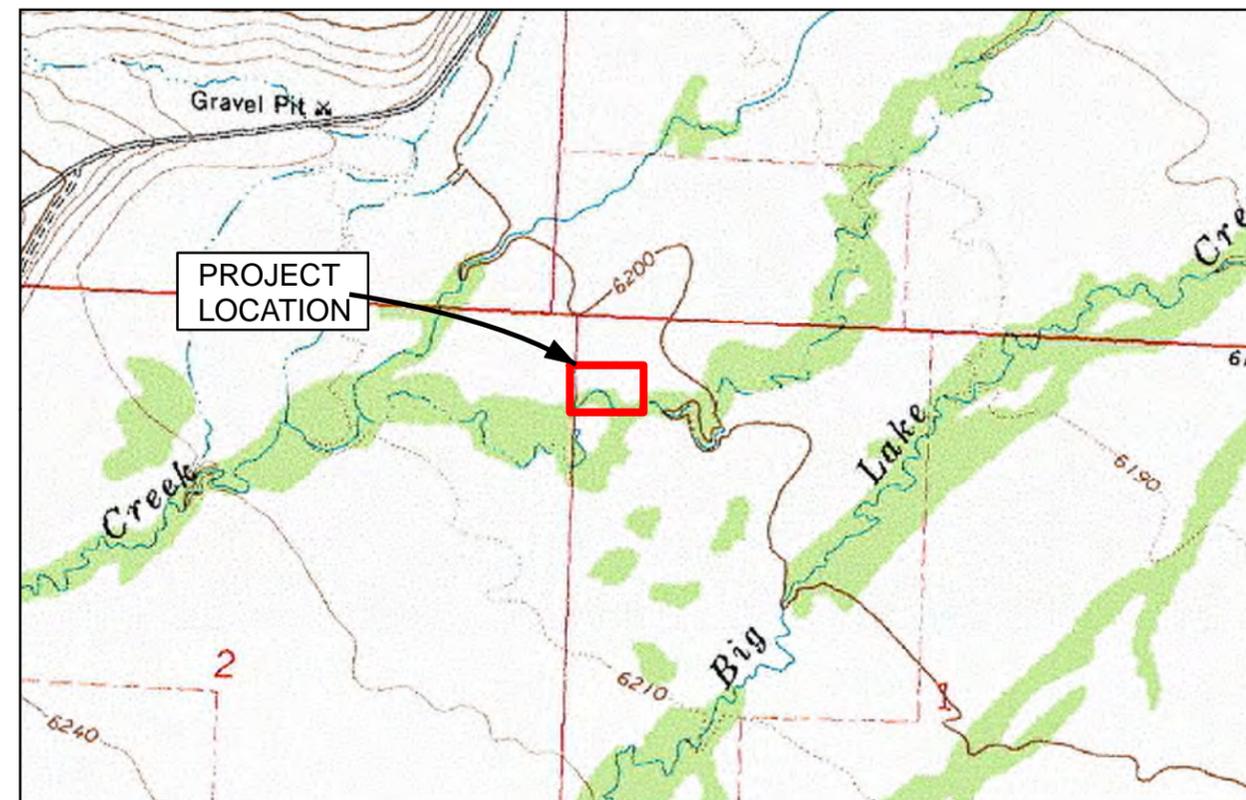
PREPARED BY:



CONFLUENCE CONSULTING, INC
PO BOX 1133
BOZEMAN, MT 59771



PROJECT VICINITY AERIAL PHOTO



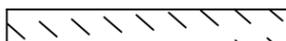
PROJECT VICINITY TOPOGRAPHIC MAP

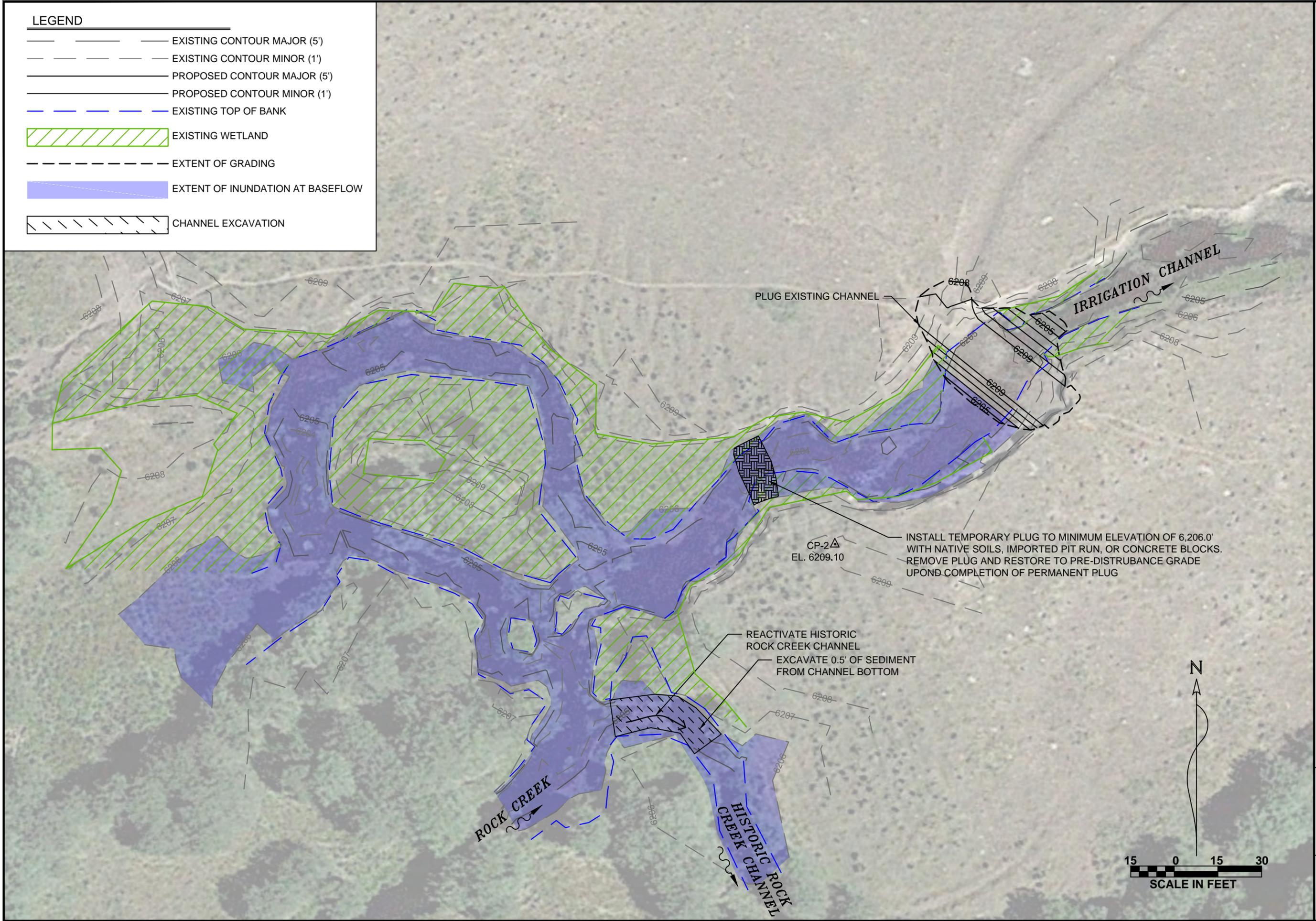
PLAN DATE:
10/30/17

COVER SHEET /
PROJECT
LOCATION

SHEET: **1**

LEGEND

-  EXISTING CONTOUR MAJOR (5')
-  EXISTING CONTOUR MINOR (1')
-  PROPOSED CONTOUR MAJOR (5')
-  PROPOSED CONTOUR MINOR (1')
-  EXISTING TOP OF BANK
-  EXISTING WETLAND
-  EXTENT OF GRADING
-  EXTENT OF INUNDATION AT BASEFLOW
-  CHANNEL EXCAVATION



DRAWN BY: CTS	DATE: 2017-10-30			
DESIGNED BY: TT	SCALE NO: MEW.F.02			
CHECKED BY: TT	FILE NAME: ROCKCREEK.DWG			
REV.	DATE	DESCRIPTION	BY	APPD
1				
2				



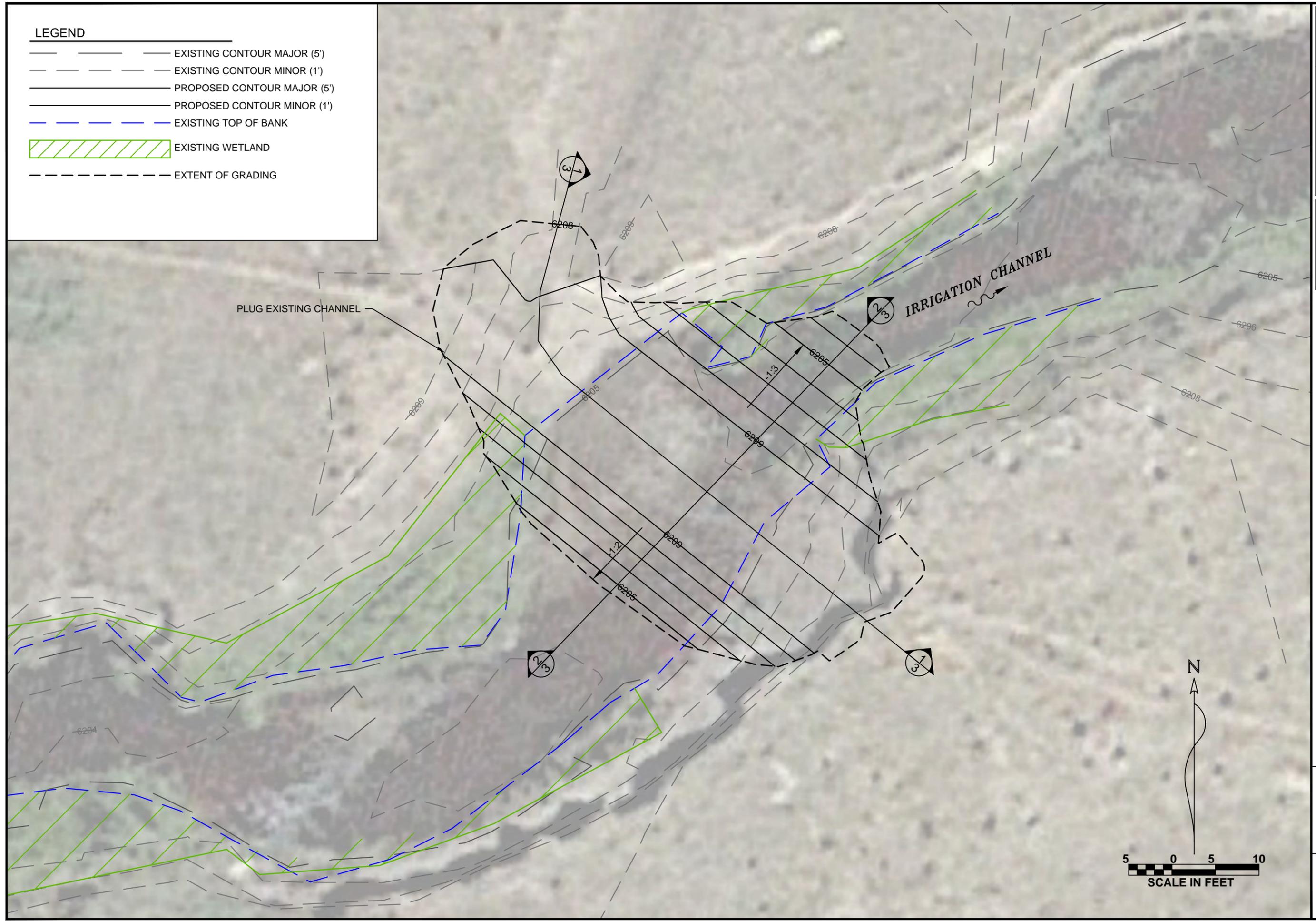
ROCK CREEK CHANNEL REACTIVATION
Wisdom, Montana

OVERALL SITE PLAN

SHEET: **2**

LEGEND

-  EXISTING CONTOUR MAJOR (5')
-  EXISTING CONTOUR MINOR (1')
-  PROPOSED CONTOUR MAJOR (5')
-  PROPOSED CONTOUR MINOR (1')
-  EXISTING TOP OF BANK
-  EXISTING WETLAND
-  EXTENT OF GRADING



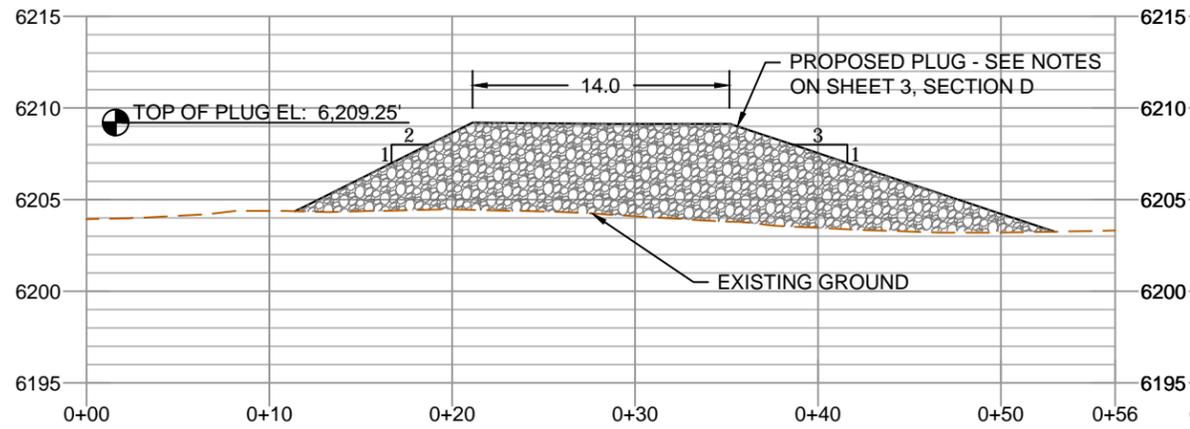
DRAWN BY: CTS	DATE: 2017-10-30			
DESIGNED BY: TT	SCALE: AS SHOWN			
CHECKED BY: TT	FILE NAME: ROCKCREEK.DWG			
REV.	DATE	DESCRIPTION	BY	APPD
1				
2				



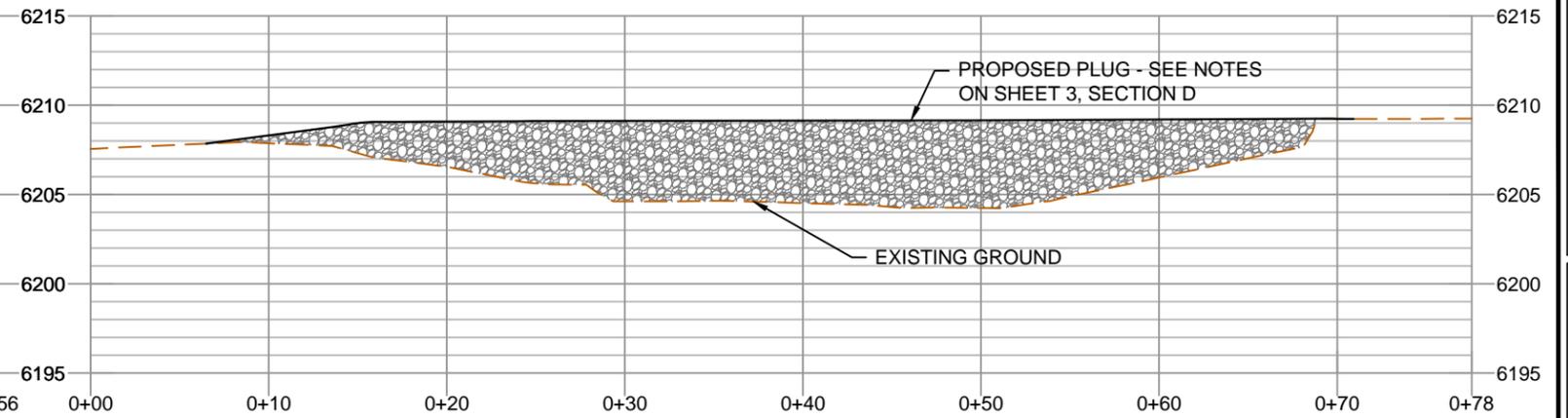
ROCK CREEK CHANNEL REACTIVATION
Wisdom, Montana

SITE DETAIL

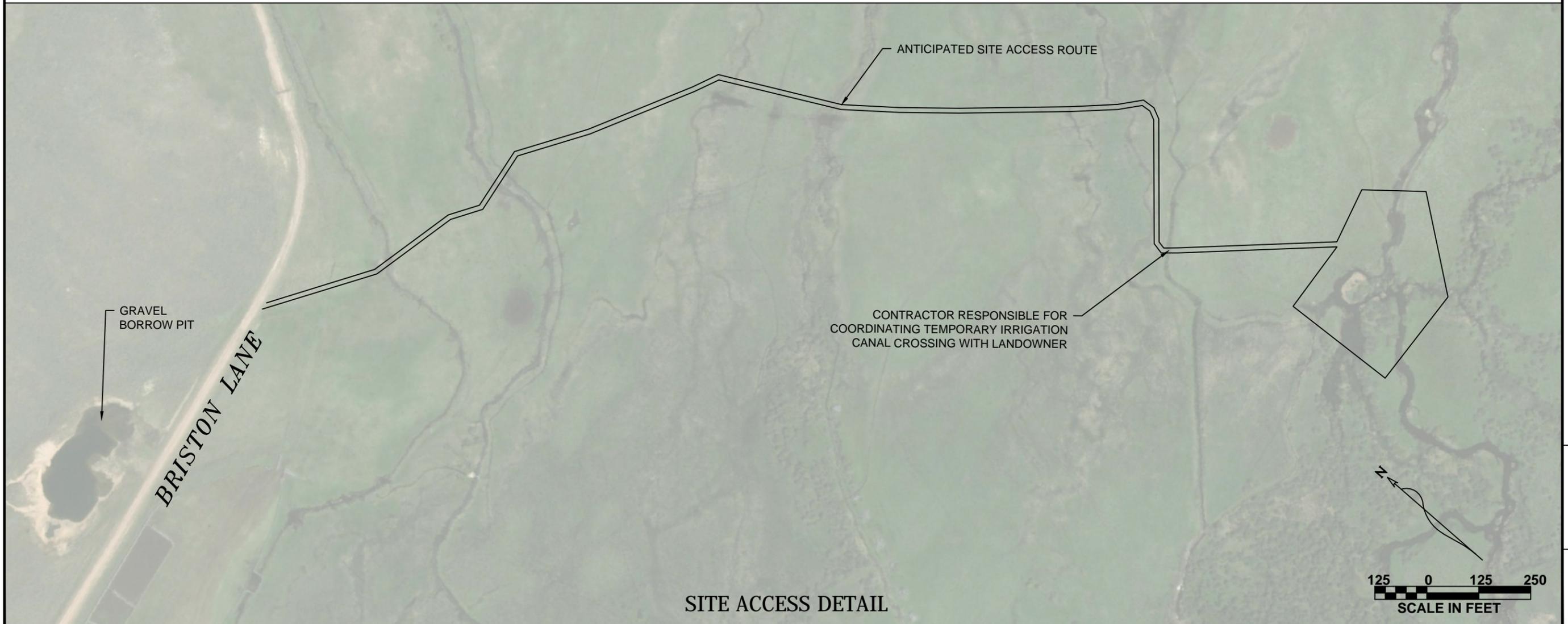
SHEET: **3**



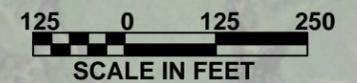
2 PLUG PROFILE
3 1" = 10'



1 PLUG CROSS SECTION
3 1" = 10'



SITE ACCESS DETAIL



DATE: 2017-10-30	FILE NAME: ROCKCREEK.DWG
DESIGNED BY: TT	CHECKED BY: TT
DRAWN BY: CTS	DATE: 1
PROJECT NO: MEWP.03	DESCRIPTION:
BY: APPD	BY: APPD



ROCK CREEK CHANNEL REACTIVATION
Wisdom, Montana

PLUG AND SITE ACCESS DETAILS

A. ACCESS

- The contractor shall access the site as specified in the drawings. Temporary crossings of waterways shall be the responsibility of the CONTRACTOR and shall be installed to minimize impacts to the banks and beds of waterways. Deviation from the access route shown on the drawings shall only be allowed with permission from the LANDOWNER.

B. MACHINERY AND EQUIPMENT CLEANING REQUIREMENTS

- The CONTRACTOR will wash all earthwork equipment to remove seeds, roots, and rhizomes from the equipment prior to initial transport to the site in order to prevent the spread of noxious weeds to the site. (This is not meant to apply to service or employee vehicles that will stay on the roadway traveling frequently in and out of the Project area.) All earthwork equipment shall be pressure cleaned and be completely free of soil, seeds, vegetative matter, or other debris that could contain or hold seeds prior to the initial arrival to the construction site.
- All CONTRACTOR equipment will arrive at the work site clean and weed-free. The CONTRACTOR will periodically inspect and verify that equipment is arriving free of soil and debris capable of transporting noxious weed seeds, roots, or rhizomes.
- Equipment will not be sprayed with herbicide chemicals as a preventative measure. Many herbicides target a wide range of vegetation and using herbicides in this way may harm desirable vegetation.
- The CONTRACTOR will also thoroughly clean and inspect seeding equipment prior to conducting seeding activities.

C. EXCAVATION

- Excavation shall be made to the grade, dimensions and cross sections as shown on the drawings. Care shall be taken to insure that no excavation is made below grade or beyond the dimensions of the planned excavations. In the event that excavating is made beyond the above limits, the Contractor shall replace the excavated materials and compact the replaced material.

D. GENERAL FILL

- In all locations where grading is proposed on the site, as shown on the plans, topsoil shall be removed to a point where organics are absent from the soil. Remove vegetation, debris, unsatisfactory soil materials, obstructions, oversize boulders and deleterious materials from ground surface prior to placement of fills. Plow, strip, or break-up surfaces so fill material will bond with existing surface.
- Fill shall not be placed until the required excavation and foundation preparation have been completed and the foundation has been inspected and approved by the ENGINEER. Fill shall not be placed upon a frozen surface, nor shall snow, ice, or frozen material be incorporated in the fill.
- Fill shall be composed of well graded pit run composed of sand, gravel and cobbles, free from organic matter or other objectionable foreign material. Material shall be sourced as specified in drawings. If another source is proposed, source material shall be approved by ENGINEER.
- Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers. Compaction shall be obtained by a minimum of 2 passes over the entire surface with a smooth drum vibratory compactor, weighted-wheeled excavation equipment, manually-directed power tampers, or 2 blows with the back of an excavator bucket with a force that produces compaction comparable to that developed by wheeled excavation equipment. The top 4 inches of surfaces to be seeded or sodded shall not require compaction in addition to that obtained in the smoothing and shaping operation.
- The moisture content of the fill material shall be maintained within the range required to permit maximum compaction. The application of water to the fill materials shall be accomplished at the borrow areas insofar as practicable. Water may be applied by sprinkling the materials after placement on the fill, if necessary. Uniform moisture distribution shall be obtained by disking. Material that is too wet (yields free water when kneaded in the hand) when deposited on the fill shall either be removed or be dried to the proper moisture content prior to compaction.
- If the top surface of the preceding layer of compacted fill or a foundation or abutment surface in the zone of contact with the fill becomes too dry to permit suitable bond it shall either be removed or scarified and moistened by sprinkling to an acceptable moisture content prior to placement of the next layer of fill.

E. DEWATERING CONSIDERATIONS

- Dewatering may be needed to prevent surface water and subsurface or groundwater from flowing into excavations and from flooding project site and surrounding area. Dewatering shall be adequate to allow proper compaction of subgrade materials.
- If dewatering is needed, the Contractor is responsible for obtaining the appropriate DEQ dewatering permits and for providing dewatering equipment and methods as necessary for this project. Work will be performed during low water in Rock Creek. All costs of dewatering, including permit acquisition, measures to handle the discharge and all related work of cleanup, restoration, etc. shall be incidental to the work.

F. HAUL ROADS / RECLAMATION

- The Contractor shall be responsible for maintenance of all haul roads during construction, including snow removal as necessary. The Contractor shall also be responsible for removal and cleanup of all spillage of excavated materials on all haul routes. Haul roads and all other disturbed areas shall be reclaimed immediately after construction. Restoration shall consist of grading disturbed areas to match surrounding ground elevation. Disturbed areas shall be seeded as specified.

G. SEEDING

- Grass seed shall be sown at the rate specified in the seed table on all disturbed areas using broadcast methods. The drill seed rate is half the broadcast application rate. Seeding by hand or mechanical broadcasting will be permitted on areas inaccessible to drills or impractical to seed by other prescribed methods as approved by the Engineer. Seed shall be lightly tilled by rake or other means into first inch of topsoil depth.

H. CLEANUP AND DISPOSAL

- Excess material shall either be hauled off site or placed as directed by LANDOWNER. Excess material will not be permitted to be accumulated and shall be removed concurrently with the finishing operation. Care will be taken to prevent the entrance of the material into drainage structures, other waterway, during the construction period.

TABLE 1: UPLAND SEED MIX

SPECIES	PLS LBS PER AC (Broadcast Rate)	PERCENT BY SEED
Western Wheatgrass (<i>Pascopyrum smithii</i> var. 'Rosana')	16.6	28.5
Thickspike Wheatgrass (<i>Elymus lanceolatus</i> ssp. <i>lanceolatus</i> var. <i>Critana</i>)	11.9	28.5
Sandberg Bluegrass (<i>Poa secunda</i> var. 'High Plains')	1.5	28.5
TOTAL	30.0	100

Seed mix available through Granite Seed: <https://graniteseed.com>, 1(801)768-4422

TABLE 2: QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNITS
1	PLUG FILL	175	CY
2	CHANNEL EXCAVATION	8	CY

DRAWN BY: CTS	DATE: 2017-10-30			
DESIGNED BY: JT	SCALE: AS SHOWN			
CHECKED BY: JT	PROJECT NO: MEWP.03			
	FILE NAME: ROCKCREEK.DWG			
REV.	DATE	DESCRIPTION	BY	APPD
1				
2				



ROCK CREEK CHANNEL REACTIVATION
Wisdom, Montana

SPECIFICATIONS AND QUANTITIES

SHEET: **5**