



# Whitewood Creek Restoration

**Draft Supplemental Environmental Assessment to the  
“South Dakota Watershed Resiliency Projects  
Programmatic Environmental Assessment”**

**Deadwood, South Dakota**

**October 2023**



**FEMA**

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## ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effect
B&M	Burlington & Missouri River Railroad
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DHS	Department of Homeland Security
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
IPaC	USFWS Information for Planning and Consultation
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
PEA	Programmatic Environmental Assessment
SDDANR	South Dakota Department of Agriculture and Natural Resources
SDDOT	South Dakota Department of Transportation
SDGFP	South Dakota Game, Fish and Parks
SEA	Supplemental Environmental Assessment
SHPO	State Historic Preservation Office
SOI	Secretary of Interior
THPO	Tribal Historic Preservation Office
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service



## SECTION ONE | INTRODUCTION

### 1.1 OVERVIEW

The City of Deadwood, South Dakota is requesting Federal Emergency Management Agency (FEMA) funding through its Public Assistance program to mitigate severe flood damage along Whitewood Creek in Deadwood, Lawrence County, South Dakota, resulting from severe storms, tornadoes, and flooding during the period of June 30 to July 21, 2019. Whitewood Creek, with its source in the canyons, gulches, and watersheds above Deadwood, was specifically affected as the embankments lining the creek washed away in the torrid currents. The fast-moving water up-rooted trees and vegetation lining the creek, eroding the banks, and moving all debris down-slope, causing extensive damage to embankments along the creek's path.

The event was declared a major disaster by the President on October 7, 2019, in accordance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act, (P.L.) 93-288, and the application for FEMA assistance was signed on December 4, 2019. FEMA funding would be provided through the Public Assistance grant program as part of FEMA Disaster DR-4467-SD, Project #123108.

FEMA has prepared this Supplemental Environmental Assessment (SEA) to analyze the potential environmental consequences associated with the proposed actions, while providing a framework for the evaluation of Federal and State laws and regulations. This SEA is being prepared in accordance with FEMA Instruction 108-1-1 and Department of Homeland Security (DHS) Instruction 023-01-001-01, Rev. 1, pursuant to Section 102 of the NEPA of 1969, as implemented by Title 40 of the CFR, Parts 1500-1508 (40 CFR 1500-1508), promulgated by the President's Council on Environmental Quality (CEQ). This SEA tiers off the Programmatic EA (PEA) for "Watershed Resiliency Projects in the State of South Dakota" (November 2021). No significant environmental impacts were identified in the Watershed PEA and a Finding of No Significant Impacts (FONSI) was issued in January 2022, referred to herein as the Watershed PEA and Watershed FONSI (FEMA 2022), which are incorporated by reference and will be referred to throughout this SEA.

### 1.2 BACKGROUND

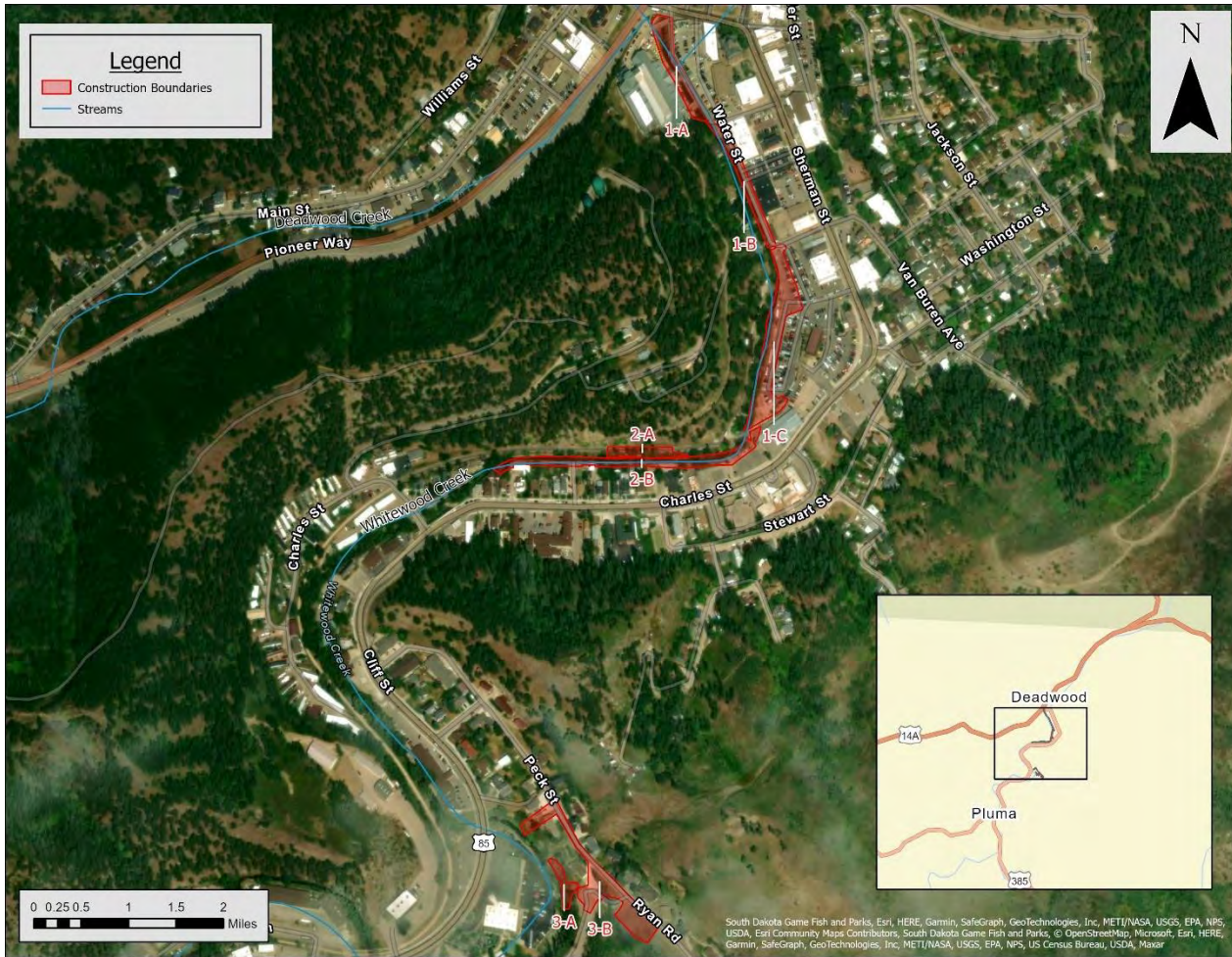
The Watershed FONSI states that a SEA will be required for projects that do not meet the thresholds in the Watershed PEA, create impacts not described in the Watershed PEA, create impacts greater in magnitude, extent, or duration than those described in the Watershed PEA, or require mitigation measures to keep impacts below significant levels that are not described in the Watershed PEA. It also states that FEMA will consult with State and/or Tribal Historic Preservation Offices (SHPO/THPO) to identify and resolve adverse effects on any historic properties listed or eligible for listing in the National Register of Historic Places (NRHP) (36 CFR 800.2), and the U.S. Fish and Wildlife Service (USFWS) to identify and evaluate effects to federally listed threatened and endangered species protected by the Endangered Species Act and species protected under the Bald and Golden Eagle Protection Act or Migratory Bird Treaty Act. An SEA is required for this project because of the potential effects to historic properties in the proposed project area.

### **1.3 PROJECT DESCRIPTION**

The project includes the removal, replacement, or enhancement of vegetated embankments, gabion baskets, and retaining walls along Whitewood Creek. A stormwater line and stormwater discharge points along Whitewood Creek would be relocated, and an upland stormwater retention pond would be regraded. All areas adjacent to the proposed project are fully developed.

The project is broken down into seven sites with most of the proposed improvements to be completed within the floodway or 100-year effective floodplain (1 percent annual chance flood hazard). Six of these sites are to be completed as part of this project with FEMA funding, while the remaining site (1B) would be completed as a separate non-FEMA funded project due to lack of disaster-related damage. However, FEMA considers the separate project to be a connected action and discusses it in this EA. Refer to Figure 1 for a map of site locations.

Structural retaining walls constructed as riverbank protection would be removed and replaced at three sites (1C, 2A, and 2B). At site 3A, structural retaining walls would be added for bank protection. Sites 3A and 3B involve the construction and relocation of stormwater facilities. Detailed descriptions of work to be completed at each site are contained in Section 3.2. Construction is anticipated to begin late fall 2023 and last approximately 16 months.



**Figure 1. Layout of Sites for Whitewood Creek Project**

## SECTION TWO | PURPOSE AND NEED

The purpose and need for this project have not changed from the Watershed PEA, which is to restore watershed hydraulic capacity and floodplain capacity through hazard mitigation and watershed resiliency actions. The banks of Whitewood Creek need to be reinforced to reduce further erosion and the likelihood of catastrophic failure of high-risk streambank areas, along with the protection of existing residential structures and infrastructure at the edges of the streambank.

## SECTION THREE | ALTERNATIVES

### 3.1 ALTERNATIVE 1: No Action Alternative

The No Action Alternative is described in Watershed PEA Section 3.2. Under the “No Action Alternative,” FEMA would not provide Federal funds to the City of Deadwood to repair the damages to the Whitewood Creek area caused by the July 2019 flooding. Existing damages along Whitewood

Creek, which are contributing to ongoing erosion of public and private properties causing a chronic infliction of damages, would continue to occur under the No Action Alternative.

### **3.2 ALTERNATIVE 2: Whitewood Creek Restoration (Proposed Action)**

The Proposed Action includes rehabilitation activities at six locations along Whitewood Creek in the City of Deadwood for a total of 3.59 acres of disturbed surface area. These repairs and improvements include excavation and reshaping of the streambank. Proposed project activities are as follows:

Site 1A—Whitewood Creek to Deadwood Mountain Grand Parking Structure reach (latitude 44.22279 N, longitude -103.43490 W): Approximately 460 linear feet of bank stabilization on both the east and west bank would occur. The east bank stabilization consists of removing a single row of gabion baskets and replacing with precast concrete blocks of matching geometry. Rip rap would be added to a sloped bank in one area. The west bank stabilization consists of adding a concrete curb wall at the base of the existing retaining wall to address the eroded soils (0.5 acres).

Site 1B—Water Street area (latitude 44.222427 N, longitude -103.434547 W): Project activities entail approximately 560 linear feet of reconstruction along Water Street from Center Street to Cemetery Street, including new sidewalk construction, street improvements such as new curb and gutter, and burying overhead electrical services. This work will be bid as a separate non-FEMA-funded project with construction expected in 2024.

Site 1C—Whitewood Creek to Sherman Street parking area (latitude 44.37240 N, longitude 103.72874 W): This site includes approximately 540 linear feet of new concrete block retaining wall, utility relocation, parking lot paving, and other site improvements (1.35 acres). The new retaining wall would replace an existing damaged retaining wall, protect the east bank of the stream, and reduce the risk of failure to the parking lot, sidewalk, and trail entrance located near the east bank.

Site 2A—Whitewood Creek to Charles Street area (north side) (latitude 44.37002 N, longitude 103.73121 W): Project activities include approximately 226 linear feet of new retaining walls and streambank improvements. A concrete retaining wall along the north/west bank would replace an existing stacked rock retaining wall that failed during the 2019 flooding. An Envirolok™ vegetated slope would be installed to reinforce the bank transition to the proposed wall. The Envirolok™ slope uses a combination of soil bags, spikes, and native plants and seeds to reinforce and root into the bank (0.18 acres).

Site 2B—Whitewood Creek to Charles Street area (south side) (latitude 44.37025 N, longitude 103.72896 W): The site includes approximately 1,080 linear feet of new retaining walls and stream bank improvements. The gabion basket wall on the south creek bank that failed during the 2019 floods would be replaced with a concrete retaining wall with footings to protect the creek bank and adjacent private landowners. Damaged vegetation along the north bank would be replaced with bio stabilization measures (0.42 acres).

Site 3A—Whitewood Creek to Comfort Inn and Suites area (latitude 44.36540 N, longitude 103.73187 W): This site includes approximately 180 linear feet of debris cleanup along the east



hillside and construction of approximately 50 linear feet of a new stacked sandstone retaining wall to reinforce and protect the east bank slope. Bio stabilization measures, including an Envirolok™ vegetated slope, would be used instead of riprap above and around the wall. Re-routing of the storm drain network underneath Ryan Road would consist of moving the storm drain outlet pipe farther downstream to reduce further soil erosion (0.19 acres). Site 3B—Ryan Road and Peck Street Drainage Improvements (latitude 44.21988 N, longitude 103.73231 W): Project activities include approximately 700 linear feet of new storm sewer, local street improvements, and improvements to a regional detention pond. Regrading of the retention ponds would consolidate stormwater storage into the lower retaining pond and reduce the risk of detrimental erosion of the upper creek banks (0.95 acres).

## **SECTION FOUR | AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

The affected environment and environmental consequences associated with the Proposed Action are consistent with those described in the Watershed PEA for all resources except physical resources, water resources, biological resources, and cultural resources. Environmental resources for which the effects are unchanged from the Watershed PEA include the following:

- Transportation Facilities
- Safety and Occupational Health
- Socioeconomics and Environmental Justice
- Air Quality
- Noise
- Public Services and Utilities
- Hazardous Materials

### **4.1 PHYSICAL RESOURCES**

#### **4.1.1 AFFECTED ENVIRONMENT**

##### **Geology and Soils**

A subsurface investigation was completed as a component of the engineering design. Soils vary within each site but in general, underlying a thin layer of topsoil, the subsurface soils encountered within the borings consisted of about 6.5-7 feet of fill material overlying very dense mica schist bedrock associated with the Grizzly Formation, which extended to the total depths explored. The fill material was comprised of interbedded silty sand and sandy silt with lean clay lenses present. Abundant gravel and cobble-sized material were also observed in the fill material (City of Deadwood 2023a).

## 4.1.2 ENVIRONMENTAL CONSEQUENCES

### Alternative 1: No Action

Under the No Action Alternative, loss of soils would continue to occur during heavy rain events as the streambank continues to erode. There would be no impacts to geological conditions at the sites.

### Alternative 2: Whitewood Creek Restoration Activities (Proposed Action)

#### *Geology and Soils*

There would be no impacts to geology from the proposed project. Overall, the project would result in beneficial impacts to native soils due to riverbank protection and decreased erosion. Adverse impacts to native soils would be minimal and temporary and mitigated through soil stabilization and erosion control practices, including surface roughening, mulching, temporary and permanent seeding and revegetation, soil stockpile revegetation, and early application of road base (City of Deadwood 2023a). No prime or unique farmland, or farmland of statewide or local importance, would be converted,

## 4.2 WATER RESOURCES

### 4.2.1 AFFECTED ENVIRONMENT

#### Floodplains

Portions of all sites are within an effective FEMA Special Flood Hazard Area such as the floodway or 100-year floodplain (1 percent annual chance flood hazard). Portions of sites 1A, 1C, and 2B are in the 500-year floodplain (0.2 percent annual chance flood hazard), according to FEMA Flood Insurance Rate Map #46081C026F, effective date April 17, 2012 (Appendix A).

#### Wetlands and Waters of the U.S.

Whitewood Creek is considered a riverine wetland according to the USFWS National Wetlands Inventory; no other wetlands are mapped within the project area sites (Appendix A).

#### Water Quality

Water quality regulation falls under the jurisdiction of the South Dakota Department of Agriculture and Natural Resources (SDDANR). SDDANR regulates both point and non-point pollutant sources including stormwater and stormwater-related runoff. Activities that disturb one acre or more of ground require a SDDANR stormwater construction permit.

Water quality monitoring was conducted in 2022 by SDDANR and can be viewed on the DANR Water Quality Monitoring Access Portal (DANR 2023). Total Suspended Solids, Nitrate/Nitrite levels, Total Phosphorus, and E. coli (*Escherichia coli*) bacteria levels were measured. All assessment units were under thresholds set by SDDANR for fish propagation and recreation. At a minimum, unless otherwise

specified in the Administrative Rules of South Dakota Chapter 74:51:03, all streams in South Dakota are assigned the beneficial uses of fish and wildlife propagation, recreation, stock watering, and irrigation.

## 4.2.2 ENVIRONMENTAL CONSEQUENCES

### Alternative 1: No Action

Under this alternative, the banks of Whitewood Creek would not be stabilized, and Whitewood Creek would still be subject to erosion and sedimentation from future heavy rain events. Floodplain hydraulic capacity would not be restored, resulting in negative impacts to the creek itself.

### Alternative 2: Whitewood Creek Restoration Activities (Proposed Action)

#### *Floodplains*

According to hydraulic and hydrologic modeling of the creek, the proposed project would result in a “No Rise” determination for all sites except 1A, meaning there would not be an increase in flood elevation from the proposed project at the remaining sites (City of Deadwood 2023b). Design is still underway for Site 1A. The proposed design should not adversely affect floodplain storage or the flow of water within the floodplain system. Site 1A requires a Conditional Letter of Map Revision (CLOMR) prior to design to determine existing floodplain conditions, as well as a post-project Letter of Map Revision (LOMR) to ensure that negative impacts are not incurred. The proposed design should not adversely affect the floodplain storage or the flow of water within the floodplain system.

The City must comply with conditions described in the Floodplain Development Permit received from Deadwood Planning and Zoning on September 15, 2023, along with State and Local floodplain protection standards and the National Flood Insurance Program regulations.

#### *Wetlands and Waters of the U.S.*

Whitewood Creek is likely considered a jurisdictional riverine wetland/Water of the U.S. and is subject to Clean Water Act permitting, since project activities would occur below the Ordinary High-Water Mark. The applicant obtained the appropriate U.S. Army Corps of Engineers (USACE) Section 404 permits and must comply with the permit conditions. The City submitted a Section 404 permit application to the USACE for Sites 1C, 2A, 2B, 3A and 3C on August 18, 2023 and received permits on October 17, 2023. Bioengineering techniques would be utilized for bank stabilization as much as possible, per FEMA mandates.

The applicant must prepare a Storm Water Pollution Prevention Plan and obtain and comply with applicable Section 401 Water Quality permits as required by SDDANR Surface Water Quality Division or the U.S. Environmental Protection Agency (EPA). This includes any permitting required for stormwater discharge during construction. The applicant is responsible for complying with any conditions outlined within these permits.

### ***Water Quality***

Water quality may be adversely affected through the transmission of sediment, debris, oils, and hazardous substances into surface waters. During construction, agencies would mitigate these impacts by requiring the applicant to apply local Best Management Practices (BMPs) to reduce impacts on wetlands and waterways.

Erosion and sediment control measures, as described in the project Erosion and Sediment Control Plan, would be implemented to minimize both erosion and impacts to water quality. Measures include the addition of concrete washout areas, vehicle tracking control pads, silt fencing, sediment control wattles, erosion control blankets, gravel filter socks, inlet sedimentation protection, temporary sediment traps, and topsoil berms. All disturbed areas from grading operations shall be seeded with a temporary cover crop (City of Deadwood 2023a).

Dewatering activities shall be conducted in compliance with the “General Permit to Discharge under the Surface Water Discharge System for Temporary Dewatering Activities in South Dakota,” SDDENR Permit Number SDG 070000. The contractor is responsible for performing self-monitoring activities including sampling, testing, and reporting as required under the authorization to discharge (City of Deadwood 2023a).

### ***Eight-Step Decision-making process***

Executive Orders 11988 Floodplain Management and 11990 Protection of Wetlands require federal agencies to avoid to the extent possible the long and short-term adverse impacts to the resource and the federal investment associated with the occupancy and modification of floodplains or wetlands. FEMA uses an 8-step decision-making process to evaluate potential effects on, and mitigate impacts to, floodplains and wetlands in compliance with Executive Orders 11988 and 11990 (Appendix A).

The 8-step process requires the publication of an initial public notice and final public notice to solicit comments from the public. The initial public notice was published as part of the disaster-wide public notice and was posted to FEMA’s website (FEMA 2019) and the South Dakota Emergency Management website on October 30, 2019. Lawrence County also held a public meeting on October 30, 2019, at 9:00am at Commission Room County Courthouse, 90 Sherman St. Deadwood, SD. No public comments were received within the 15-day comment period or at the public meeting.

A final project-specific public notice will be published informing the public of FEMA’s intent to proceed with the project. The notice will include significant facts considered in making the determination and a statement indicating that the proposed action will conform to state and local floodplain protection standards.



## 4.3 BIOLOGICAL RESOURCES

### 4.3.1 AFFECTED ENVIRONMENT

#### Vegetation

The area in and around the project limits largely consists of various intensities of development. The banks of Whitewood Creek are minimally vegetated with mature trees located on both sides of the creek. Erosion is present and some segments are largely devoid of vegetation. Due to the residential and business uses adjacent to the project sites, the terrestrial environment is composed largely of manicured lawns, asphalt roadways, ornamental trees and shrubs, and riparian vegetation and trees immediately adjacent to the creek. The creek in this area ranges from graveled bottoms with only inches of water present to deeper pools and heavily sedimented substrate. Vegetation types include Western Cool Temperate Urban Evergreen Forest, Deciduous Forest and Shrubland, Northwestern Great Plains-Black Hills Ponderosa Pine Woodland and Savanna (Landfire 2023).

#### Migratory Bird Treaty Act

The applicant must implement all practicable measures to avoid all take, such as suspending construction where necessary, and/or maintaining adequate buffers to protect the birds until any young have fledged.

#### Bald and Golden Eagle Protection Act

No known bald or golden eagle nests are located within the project area, according to South Dakota Game, Fish and Parks Department (SDGFP). The closest known bald eagle nest is approximately 7.5 miles away and the closest known golden eagle nest is approximately 13 miles away (SDGFP 2023a and Appendix B). Neither coordination with the USFWS nor a Bald and Golden Eagle Protection Act permit is required.

#### Threatened and Endangered Species

The USFWS planning tool Information for Planning and Consultation (IPaC) for Endangered Species Assessment was utilized to determine if there are any known or listed endangered, threatened, or special concern species, high quality natural communities, or other unique natural features known to occur at or near the proposed project sites. The official species list, dated May 15, 2023, is included in Appendix B.

The following species are known or expected to be on or near the proposed project site:

##### *Federally Listed Species*

##### Northern Long-eared Bat

The northern long-eared bat (*Myotis septentrionalis*), an endangered species, is a temperate, insectivorous, migratory bat that hibernates in mines and caves in the winter and spends summers in

wooded areas. The bat has an active season from April 1 – October 31. Critical habitat has not been designed for this species (Appendix B).

#### Tri-colored Bat

The tri-colored bat (*Perimyotis subflavus*) is a proposed endangered species. The tricolored bat is migratory, spending winters in caves and abandoned mines, and summers primarily in deciduous hardwoods. It can also sometimes be found in human structures such as homes, culverts, or bridges. It is anticipated any impacts of this project to northern long-eared bat would also impact the tricolored bat. Critical habitat has not been designed for this species (Appendix B).

#### Red Knot

The Red knot (*Calidris canutus rufa*), a threatened species, is a shorebird that migrates 9,300 miles twice per year. Red knots use inland saline lakes as stopover habitat in the Northern Great Plains and may also use inland freshwater habitats during migration (USFWS 2023). The proposed project is not within this species' designated critical habitat (Appendix B).

#### Monarch butterfly

The Monarch butterfly (*Danaus plexippus*) is a candidate species and not yet listed or proposed for listing. The species is found throughout the U.S. in a variety of habitats but is dependent on milkweed plants for egg-laying. No critical habitat has been designated for this species (Appendix B).

#### *State-listed Species*

#### American Dipper

The SDGFD has identified several records of nesting American Dippers (*Cinclus mexicanus*), a state threatened species, along Whitewood Creek (City of Deadwood 2023a).

### 4.3.2 ENVIRONMENTAL CONSEQUENCES

#### **Alternative 1: No Action**

Under the “No Action” alternative, no localized or regional effects to threatened or endangered species would be expected and consultation with USFWS would not be required to comply with the Endangered Species Act, Migratory Bird Treaty Act, Fish and Wildlife Coordination Act, or state laws.

#### **Alternative 2: Whitewood Creek Restoration Activities (Proposed Action)**

##### **Vegetation**

Trees and shrubs removed for project construction would be replaced with native trees and shrubs in appropriate areas. Tree and shrub removal and planting would mostly occur at Sites 1C, 2A, and 2B; trees and shrubs would be replaced at a far greater than 1:1 ratio in areas approved by a landscape architect. On private property, plant removal would be documented by the contractor and replaced with the same species at a 1:1 ratio (City of Deadwood 2023a). There would be temporary negative impacts to vegetation during construction from removal of existing trees, shrubs, forbs, and grasses,

but these temporarily disturbed areas are expected to naturally revegetate over time, especially with the implementation of Envirolok™ vegetated slopes at certain project sites. Adverse impacts would be minimized through BMPs and mitigation measures. Overall, there would be beneficial impacts on vegetation due to the planting of additional native trees and shrubs and Envirolok™ slopes that would help stabilize the creekbank and provide habitat for endemic species.

### ***Threatened and Endangered Species***

#### *Federally Listed Species*

FEMA initiated consultation with the USFWS on August 31, 2023, with a *may affect, not likely to adversely affect* determination for the northern long-eared bat and tricolored bat. FEMA made the determination there would be *no effect* from the proposed project on the red knot or monarch butterfly. USFWS concurred with this determination on September 1, 2023 (Appendix B), with the condition that tree removal occurs during the inactive season (October 1-May 14) while bats are in hibernacula.

#### *State Listed Species*

The City of Deadwood submitted an Endangered Species Permit request to the SDGFP on June 28, 2023, regarding American Dipper nests. On July 11, 2023, SDGFP authorized the closing of American Dipper nesting boxes along Whitewood Creek within Deadwood city limits to allow construction work needed to improve the creek bank because of prior flood damage. This activity is anticipated to take approximately 24 months, starting in October 2023, which will potentially impact the nesting seasons of 2024 and 2025. The authorization is valid until December 31, 2025, and the City of Deadwood must provide a summary report of authorized activities by January 31, 2026 (SDGFP 2023b and Appendix B).

To minimize impacts to the American Dipper, water quality must be maintained throughout the project duration, since increased turbidity and poor water quality can affect their ability to forage for aquatic prey items (City of Deadwood 2023a).

#### *Migratory Birds*

Planting of additional trees and shrubs at a greater than 1:1 ratio and the use of Envirolok™ vegetated slopes at certain sites would result in a long-term beneficial effect on migratory birds from habitat enhancements. Limiting trimming and removing trees and shrubs from October 1 to May 14 would also provide protections to migratory birds that may be breeding in trees and shrubs within the project area during their breeding season of May 1 to August 15. Construction is scheduled to start in fall/early winter so as not to disrupt migratory birds during the breeding season (February 1 to July 15). Some migratory birds are known to nest outside of the primary nesting season period, such as raptors that can be expected to nest from February 1 to July 15. If active nests are identified, the project proponent should cease construction, maintain a sufficient buffer around active nests to avoid disturbing breeding activities and contact FEMA Environment and Historic Preservation immediately. Empty/abandoned nests can be removed and destroyed without a permit prior to construction, as long as they are not taken into possession.

Mitigation measures:

- Clearing and grubbing shall be in accordance with Section 100 of the Standard Specifications as described in the engineering plans.
- The contractor shall use extreme care so that trees and vegetation outside of the construction limits are not disturbed and shall replace any trees not identified for removal that are damaged or dying as a result of operations with trees or equivalent species and minimum two-inch diameter.
- The contractor shall salvage and replace topsoil on all areas to receive seed to a minimum depth of six inches. For planting soils for tree and shrub planting area, the contractor shall use imported, naturally formed soil from sources that are naturally well-drained sites where topsoil occurs at least four inches deep.
- Disturbance to riparian and wetland areas should be kept to an absolute minimum.
- If riparian vegetation is lost it should be quantified and replaced on site. Seeding of indigenous species should be accomplished immediately after construction to reduce sediment and erosion.
- A site-specific sediment and erosion control plan should be executed.
- A post-construction erosion control plan should be implemented to provide interim control prior to re-establishing permanent vegetative cover on the disturbed site.
- Stream bottoms impacted by construction activities should be restored to pre-project elevations.
- Any construction equipment that comes into contact with surface waters that have been used outside the state or previously used in an aquatic invasive species-positive water should be thoroughly power washed with hot water (>140 degrees F) and completely dried for a minimum of seven days prior to use. All attached dirt, mud debris, and vegetation should be removed and all compartments and tanks capable of holding standing water should be drained (City of Deadwood 2023a).

## 4.4 CULTURAL RESOURCES

### 4.4.1 AFFECTED ENVIRONMENT

Historical, architectural, archaeological, and cultural resources that would be affected by federally funded/licensed undertakings come under the protection of the National Historic Preservation Act (NHPA) (16 US Code 470), as amended. Section 106 of the NHPA requires federal agencies to consider the effects of such undertakings on properties listed, or eligible for listing, in the National Register of Historic Places (NRHP). Regulations related to this process are described in 36 CFR Part 800, Protection of Historic Properties. In addition to NHPA, many other regulations and Executive Orders exist that protect historic and cultural resources.

The Area of Potential Effect (APE) is the geographic area or areas within which an undertaking may cause changes in the character or use of historic properties or archaeological sites. A potential effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic



property that qualify the property for listing in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Examples of adverse effects include physical damage or alteration of the property, change of the character of the property's use or of physical features within its setting that contribute to its historical significance, and introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features.

Therefore, the APE for historic properties is the area that contains a property that would be acquired or physically disturbed to the extent that its current use may be affected, or that would be significantly visually affected by the alternatives under consideration. For archaeological sites, the APE is the area where the ground could be disturbed as a direct or indirect consequence of the alternatives under consideration.

Two Cultural Resource Survey Reports have been completed for the proposed project. The October 27, 2022, report *Intensive Cultural Resources Survey of Deadwood in Advance of Potential FEMA Funding, Lawrence County* (South Dakota State Historical Society, Archaeological Research Center 2022) covered four parcels (Sites 1, 2, 3A, and 3B). The October 11, 2023, report *A Monitoring Report of Pre-Construction Trenching in Area 1C for the City of Deadwood's FEMA Project DR-4476-SD, Lawrence County, South Dakota* (South Dakota State Historical Society, Archaeological Research Center 2023) focused solely on archaeological examination of Site 39LA3000.2014.03, the archaeological remains of the Burlington Interurban Power Plant.

The following eligible or listed cultural resources are located within the APE:

- Deadwood Historic District (39LA3000).
- Deadwood National Historic Landmark (Reference No. 66000716)—Project Sites 1 and 2 are within the boundaries of the Deadwood National Historic Landmark while project Sites 3A and 3B are immediately outside of the National Historic Landmark boundary.
- Stacked Rock Wall (LA2076)—This wall, at project Site 2A, was constructed at the turn of the 19th century to provide additional usable land for the newly arrived Burlington and Missouri River Railroad line coming into the City of Deadwood from the south (South Dakota State Historical Society, Archaeological Research Center 2022).
- Historic Bridge (LA-1051)—This bridge was a feature of the Burlington Northern Railroad (39LA2000); both the bridge and railroad have been converted into the Mickelson Trail, a recreational pedestrian and bike path (South Dakota State Historical Society, Archaeological Research Center 2022).
- Archaeological remains of the Burlington Interurban Power Plant (39LA3000.2014.03)—The power plant was constructed in 1902 to provide electrical power for the interurban trolley between the City of Deadwood and the City of Lead. Use of the plant was discontinued in 1910 and the power plant was demolished in 1911 (South Dakota State Historical Society, Archaeological Research Center 2022).

- Deadwood Burlington & Missouri River Railroad (B&M) roundhouse (newly recorded archaeological site 39LA3000.2023.03) associated with site 39LA3000.2014.03, located at project Site 1C. This site includes intact foundation remnants of the B&M roundhouse. The site was not formally evaluated, nor the site boundaries fully delineated given the limited scope of the trenching and monitoring conducted as part of the October 2023 study. However, given the direct association of site 39LA3000.2023.03 with the B&M, it is recommended the site be considered Eligible for listing on the NRHP because it contributes to the significance of the Deadwood Historic District (39LA3000) and the Deadwood National Historic Landmark (Reference No. 66000716) (South Dakota State Historical Society, Archaeological Research Center 2023).

All other historic properties identified in the October 2022 Archaeological Research Center report were either determined not eligible for listing on the NRHP or would be completely avoided by the project.

### **Tribal Consultation and Outreach**

FEMA corresponded with the following Tribes via email on January 15, 2023: Cheyenne River Sioux, Crow Creek Sioux, Fort Belknap, Lower Brule Sioux, Oglala Sioux, Rosebud Sioux and Santee Sioux. The only response received was from the Lower Brule Sioux, which indicated they need no involvement with the project (Appendix C).

### **Historic Society Outreach**

FEMA conducted outreach to the following Historic Societies on January 15, 2023: Black Hills Preservation Trust; Central City Historic Preservation Commission; Dakota Preservation; Deadwood Alive; Deadwood History, Inc.; Deadwood Public Library; Deadwood Trust for Historic Preservation; Lawrence County Historical Society; Lead Historic Preservation Commission; Rapid City Historic Preservation Commission; Society for Black Hills Pioneers; Spearfish Area Historical Society; Spearfish Historic Preservation Commission; and the Galena Historical Society (Appendix C).

## **4.4.2 ENVIRONMENTAL CONSEQUENCES**

### **Alternative 1: No Action**

The No Action Alternative would not impact cultural resources.

### **Alternative 2: Whitewood Creek Restoration Activities (Proposed Action)**

Potential impacts may occur to the following resources:

- Stacked Rock Wall (LA2076): The City historic preservation department director stated this wall has been repaired several times over the past three decades due to highwater events and the sloughing and deterioration of stones. Each time the original rock was used in rebuilding the structure.

The current plans for the reconstruction of this wall calls for carefully removing the original stone, stockpiling, and reusing the stone as facing on a poured concrete wall that would provide longevity and protection to the railroad tracks as well as maintaining the original historic appearance of the wall. This method of reconstruction of historic retaining walls is often used within the Deadwood National Historic Landmark. FEMA approves of this method of reconstruction, and although is considered an effect on this historic property, FEMA has determined there will not be an adverse effect following this proposed reconstruction method.

- Historic Bridge (LA-1051): The bridge would be used by trucks and machinery to cross over various segments of the overall project. The City has agreed that the construction contractor shall limit use and weight loads on the bridge and otherwise use protective cones/flagging along each corner of the structure. The City historic preservation department would make periodic inspections to ensure the bridge remains undamaged. Provided these conditions are met during all aspects of construction, there will not be an adverse effect on the structure.
- Deadwood B&M roundhouse (newly recorded archaeological site 39LA3000.2023.03): Site 39LA3000.2023.03 is to be avoided by the proposed project. The Deadwood Historic Preservation Officer worked with the City engineer to alter the design of the new retaining wall and develop a plan for avoidance of the archaeological feature. The contractor will perform all excavation around the existing roundhouse foundation with the City's archaeological representative present to provide necessary care and caution to avoid any disturbance or damage to the historical foundation.

The depth of the foundation is unknown but is anticipated to be at least 7 feet below the parking lot elevation. Deadwood's archaeological team will provide additional excavation around this corner prior to the contractor beginning work to determine if temporary shoring of the foundation corner by the contractor is required. Finally, to avoid disturbing the historical feature, there will be a reduction of the 60-inch blocks in this vicinity to 41-inch blocks per Structural Supplemental Instruction No. 01.

FEMA recommends a Finding of Effects, but without Adverse Effect on the Deadwood Historic District. FEMA recommends the proposed construction of the retaining wall at Site 1C avoid both the identified and mapped projected subsurface features and cultural deposits associated with the Deadwood B&M roundhouse foundations (39LA3000.2023.03).

Section 106 project consultation occurred between FEMA Environmental and Historic Preservation and SHPO and NPS on October 15, 2023. SHPO and NPS concurred with these determinations on October 16, 2023, with the following stipulations:

- Stacked Rock Wall (LA2076): Although the reconstruction is considered an effect on this historic property, SHPO and NPS concur there will not be an adverse effect following the proposed reconstruction method outline above.

- Historic Bridge (LA1051): The construction contractor shall limit use and weight loads on the bridge and otherwise use protective cones/flagging along each corner of the structure. SHPO and NPS concur there will not be an adverse effect with these parameters.
- Archaeological remains of the Burlington Interurban Power Plant (Site 39LA3000.2014.03) and associated Deadwood B&M roundhouse (39LA3000.2023.03): SHPO and NPS concur with the determination of Finding of Effects, but without Adverse Effect given the following stipulations. The proposed retaining wall construction must avoid both the identified and mapped projected subsurface features and cultural deposits associated with the Deadwood B&M roundhouse foundations. Additionally, the proposed construction and any ground-disturbing activities associated within Project Area 1C must be monitored by a team of Secretary of Interior (SOI)-qualified archaeologists, with the results and recommendations of monitoring summarized in a final archeological monitoring report sent to FEMA within 60 days of finishing fieldwork.

## 4.5 CUMULATIVE IMPACTS

The CEQ regulations<sup>1</sup> implementing the procedural provisions of NEPA of 1969, as amended<sup>2</sup> defines cumulative effects as: “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or local) or person undertakes such other action. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).”<sup>3</sup> In accordance with NEPA and to the extent reasonable and practical, this EA considered the combined effect of the Proposed Action and other actions occurring or proposed in the vicinity of the proposed project site.

Other past, present, and reasonably foreseeable future projects in the area include the following:

- The addition of the Deadwood Welcome Center at 501 Main Street provides visitors with information on local attractions and points of interest (City of Deadwood 2023c).
- Construction of Outlaw Square, at the corner of Deadwood Street and Main Street, fulfilled the need for additional outdoor event spaces (Outlaw Square 2023).
- Ongoing improvements to retaining walls, crosswalks, trails and trailheads, and parking areas in town (City of Deadwood 2023d).
- Infrastructure improvements along Main Street such as replacement of brick pavers, restoration of some historic streetscape features and utility updates (City of Deadwood Mainstreet Master Plan 2021).

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<sup>1</sup> 40 Code of Federal Regulations [CFR] § 1500-1508.

<sup>2</sup> 42 USC § 4321.

<sup>3</sup> 40 CFR § 1508.7.



- The South Dakota Department of Transportation (SDDOT), in conjunction with the City of Deadwood and Federal Highway Administration, is completing a corridor and environmental study for a portion of US Highway 14 Alternate (US14A)/US Highway 85 (US85)/Pioneer Way in Deadwood. The 'Deadwood Box,' an existing 1,768-foot-long structure over Whitewood Creek, is part of this study. This structure that channels Whitewood Creek below US14A/US85/Pioneer Way is reaching the end of its serviceable life and needs to be replaced. This study will identify potential alignment and design options, structure types, construction phasing, and detour considerations for the Deadwood Box. Other project features include enhanced pedestrian and auto access to Main Street from the highway. The study area for the Deadwood Box project overlaps with the project area for the Whitewood Creek restoration project (SDDOT November 2020). The project is planned for construction in 2028 and is expected to last two years (Black Hills Pioneer 2023).
- The Whitewood Creek Trail extends from Railroad Avenue to the Days of 76 rodeo grounds. The City of Deadwood has plans to extend this trail another mile to the north with the ultimate goal of extending the trail to the City of Sturgis and/or City of Whitewood (SDDOT November 2020).

The following resources are considered to have potential impacts from the Proposed Action. If the Proposed Action had no impact or only had a beneficial effect, the resource was not discussed.

#### **4.5.1 Physical Resources**

Geologic forces such as erosion of the creek's soils and bedrock underlying the creek bed are ongoing and will continue into the future.

The project would result in beneficial impacts to native soils due to riverbank protection and decreased erosion. Temporary adverse impacts to native soils would be minimal and mitigated through soil stabilization and erosion control practices. No adverse cumulative impacts to physical resources are expected as a result of the Proposed Action.

#### **4.5.2 Water Resources**

##### **Wetlands**

Wetlands that may have once been present in the floodplain of the creek as it meandered through Deadwood have been previously impacted by residential, commercial, civic, or industrial developments. Areas that remain as greenspace adjacent to the creek have been incorporated into Deadwood's trail system. Additions of impervious surfaces for parking lots and roads have reduced stormwater infiltration along the creek corridor and stormwater drainage flows directly into the creek in multiple locations.

The Proposed Action would have negligible temporary adverse effects on Whitewood Creek in the areas of bank stabilization. After construction is complete, long-term beneficial impacts would occur as the banks are stabilized and sedimentation into the creek system is reduced.

Future actions would abide by state and federal permitting regulations regarding filling of wetlands or stormwater permitting for construction activities, as applicable, reducing or eliminating impacts to wetlands. No cumulative impacts to wetlands are expected as a result of the Proposed Action.

### Water Quality

The Proposed Action would create small additional amounts of impervious surfaces, but this would have a negligible impact on the creek and water quality. The Proposed Action would stabilize the banks of Whitewood Creek, reducing sediment loading caused by current erosion into the waterway. Future actions would abide by state and federal permitting regulations for filling of wetlands or stormwater permitting for construction activities, as applicable, which would reduce or eliminate future impacts to water resources. No cumulative impacts to water resources and water quality are anticipated as a result of the Proposed Action.

### 4.5.3 Biological Resources

#### Vegetation

Vegetation in and adjacent to Whitewood Creek has historically been damaged or destroyed during flood events, some of which would continue even with implementation of the Proposed Action. Constructing more resilient retaining walls and implementing bioengineering features such as Envirolok™ vegetated slopes would naturally reinforce the streambanks, minimizing future impacts to vegetation.

The removal of trees and other vegetation is required for the Proposed Action to install retaining walls, riprap, and other bank stabilization methods; however, trees and shrubs would be planted at greater than a 1:1 ratio to replace those that must be removed, resulting in an overall beneficial impact to vegetation. No cumulative impacts to vegetation are anticipated from the Proposed Action.

#### Threatened and Endangered Species

For the Proposed Action, FEMA has made a *may affect, not likely to adversely affect* determination for the northern long-eared bat and tri-colored bat, and a *no effect* determination for the Red Knot and Monarch butterfly to which USFWS concurred. The Proposed Action would have minimal effects to the bat species if tree removal occurred while bats are in hibernacula, which is from October 1–May 14. The SDGFP-requested avoidance and mitigation measures for the state-listed American Dipper would make impacts to this species negligible.

Future actions would abide by ESA and USFWS would be consulted for subsequent federal projects. Private projects would not be able to directly take the species. No cumulative impacts to threatened and endangered species are anticipated from the Proposed Action.

### 4.5.4 Cultural Resources

Deadwood is a National Historic Landmark in addition to being a listed National Historic District. The historic features throughout the project area contribute to the overall significance of the City's past.

Historic preservation is important to the City's tourism industry and any incremental effects to these features can eventually diminish the integrity of their historic characteristics and have lasting impacts on the community. FEMA has taken the appropriate steps to ensure the proposed action will not foreseeably contribute, directly or indirectly, to any diminishment of historic properties or the district as a whole. No cumulative impacts to cultural resources are expected as a result of the Proposed Action.

To maintain status as a National Historic Landmark, future actions need to consider impacts to location, design, setting, materials, workmanship, feeling, and association in an effort to retain the visual, atmospheric, or audible elements that contribute to the City's historical significance.

## **4.6 COMPARISON OF ALTERNATIVES AND IMPACTS**

Table 1 compares the activities as described in the Watershed PEA to the Proposed Action and resulting potential impacts, along with BMPs, conditions, and permit requirements.

**Table 1: Comparison of Alternatives and Impacts**

Resource	Proposed Activity Changes from Watershed PEA	Alternative 1: No Action	Alternative 2: Proposed Action	Best Management Practices (BMPs)	Conditions and Permits
<b>Physical Resources</b>	<p>The Watershed PEA applies to restoration or replacement of watershed features using bioengineering methods.</p> <p>The SEA Proposed Action includes channel hardening such as the installation of rip rap and concrete or stone retaining walls for bank stabilization.</p>	<p>Loss of soils would continue to occur during heavy rain events as the streambank continues to erode. There would be no impacts to geological conditions at the sites.</p>	<p>No impacts to geology. Overall, the project would result in beneficial impacts to native soils due to riverbank protection and decreased erosion. Adverse impacts to native soils would be minimal and mitigated through soil stabilization and erosion control practices.</p>	<p>Soil stabilization and erosion and sediment control practices shall be implemented, including surface roughening, mulching, temporary and permanent seeding and revegetation, and soil stockpile revegetation.</p>	<p>None</p>
<b>Water Resources</b>	<p>The Watershed PEA discusses watershed resiliency activities in waterways and floodplains such as bioengineering-inspired bank stabilization. Activities resulting in hardened channelization, or the creation of new impervious</p>	<p>The banks of Whitewood Creek would not be stabilized, and Whitewood Creek would still be subject to erosion and sedimentation from future heavy rain events.</p>	<p>Impacts to Whitewood Creek would occur below the Ordinary High-Water Mark.</p> <p>Water quality may be adversely affected through the transmission of sediment, debris, oils, and hazardous substances into surface waters.</p> <p>There would be no adverse effect on floodplain storage or the flow of water within the floodplain system. Project activities would result in a “No Rise” except for Site 1A, for which engineering design is underway. A Letter of Map Revision would be obtained after project construction. The proposed design should not adversely affect the</p>	<p>Erosion and sediment control measures, as described in the Erosion and Sediment Control Plan, shall be implemented to minimize erosion and impacts to water quality. Measures include the addition of concrete washout areas, vehicle</p>	<p>The City of Deadwood obtained the appropriate USACE Section 404 permits and must comply with applicable permit conditions.</p> <p>The City of Deadwood must comply with any conditions of the Deadwood Planning and Zoning Floodplain Development Permit, along with State and Local floodplain protection standards and the National Flood Insurance Program regulations.</p> <p>The City of Deadwood must obtain a CLOMR prior to project construction and a LOMR post-project.</p>

Resource	Proposed Activity Changes from Watershed PEA	Alternative 1: No Action	Alternative 2: Proposed Action	Best Management Practices (BMPs)	Conditions and Permits
	<p>surfaces are not covered. Waters of the U.S. may be impacted from material redistribution or use of fill materials.</p> <p>The Watershed PEA requires a Hydrologic and Hydraulic Study to determine the best redistribution for watersheds.</p> <p>The SEA Proposed Action includes channel hardening such as the installation of rip rap and concrete or stone retaining walls for bank stabilization.</p>	<p>Floodplain hydraulic capacity would not be restored, resulting in negative impacts to the creek itself.</p>	<p>floodplain storage or the flow of water within the floodplain system.</p>	<p>tracking control pads, silt fencing, sediment control wattles, erosion control blankets, gravel filter socks, inlet sedimentation protection, temporary sediment traps, and topsoil berms. All disturbed areas from grading operations shall be seeded with a temporary cover crop.</p>	<p>The City of Deadwood must prepare a Storm Water Pollution Prevention Plan and obtain and comply with applicable Section 401 Water Quality permits as required by SDDANR Surface Water Quality Division or the EPA including as required for stormwater discharge during construction. The City of Deadwood is responsible for complying with any conditions outlined within these permits.</p> <p>Dewatering activities shall be conducted in compliance with the “General Permit to Discharge under the Surface Water Discharge System for Temporary Dewatering Activities in South Dakota,” SDDANR Permit Number SDG 070000. The contractor is responsible for performing self-monitoring activities including sampling, testing, and reporting as required under the authorization to discharge.</p>
<p><b>Biological Resources</b></p>	<p>The Watershed PEA covers watershed resiliency activities such as bioengineering-inspired bank stabilization, utilization of engineering woody</p>	<p>No localized or regional effects to threatened or endangered species are expected and consultation with USFWS is not</p>	<p>There would be temporary negative impacts to vegetation and migratory birds during construction from removal of existing trees, shrubs, forbs, and grasses. Overall, there would be beneficial impacts on vegetation and migratory birds due to the planting of additional native trees and shrubs and Envirolok™ vegetated slopes that would help</p>	<p>Water quality must be maintained throughout the project duration since increased turbidity and poor water quality can affect the American dipper’s ability to forage for</p>	<p>The project applicant is responsible for complying with necessary USFWS and SDGFP conditions and permits for impacts to threatened and endangered species, migratory birds, and raptors.</p> <p>Clearing and grubbing shall be in accordance with Section 100 of the Standard Specifications.</p>



Resource	Proposed Activity Changes from Watershed PEA	Alternative 1: No Action	Alternative 2: Proposed Action	Best Management Practices (BMPs)	Conditions and Permits
	<p>debris, re-vegetation, and in-stream grade control that does not restrict aquatic species passage. Activities resulting in hardened channelization, or the creation of new impervious surfaces, are not covered.</p> <p>The SEA Proposed Action includes channel hardening activities such as the installation of rip rap and concrete or stone retaining walls for bank stabilization.</p>	<p>required to comply with the Endangered Species Act, Migratory Bird Treaty Act, Fish and Wildlife Coordination Act, or state laws.</p>	<p>stabilize the creekbank and enhance habitat for endemic species.</p> <p>The USFWS was consulted regarding potential impacts to the Northern long-eared bat, tri-colored bat, red knot, and monarch butterfly; the USFWS concurred with FEMA's determination of may affect, not likely to adversely affect for the bat species and no effect to the red knot and monarch butterfly.</p> <p>Deadwood submitted an Endangered Species Permit request to the SDGFP regarding potential impacts to American Dipper nests. SDGFP authorized the closing of American Dipper nesting boxes along Whitewood Creek within Deadwood City Limits to allow construction work needed to improve the creek bank because of prior flood damage.</p>	<p>aquatic prey items.</p>	<p>The contractor shall use extreme care so trees and vegetation outside of the construction limits are not disturbed and shall replace any trees not identified for removal that are damaged or dying as a result of operations with trees or equivalent species and minimum two-inch diameter.</p> <p>The contractor shall salvage and replace topsoil on all areas to receive seed to a minimum depth of six inches. For planting soils for tree and shrub planting area, the contractor shall use imported, naturally formed soil from sources that are naturally well-drained sites where topsoil occurs at least four inches deep.</p> <p>Disturbance to riparian and wetland areas should be kept to an absolute minimum.</p> <p>If riparian vegetation is lost it should be quantified and replaced on site. Seeding of indigenous species should be accomplished immediately after construction to reduce sediment and erosion.</p> <p>A site-specific sediment and erosion control plan should be executed.</p> <p>A post-construction erosion control plan should be implemented to provide interim control prior to re-</p>

Resource	Proposed Activity Changes from Watershed PEA	Alternative 1: No Action	Alternative 2: Proposed Action	Best Management Practices (BMPs)	Conditions and Permits
					<p>establishing permanent vegetative cover on the disturbed site.</p> <p>Stream bottoms impacted by construction activities should be restored to pre-project elevations.</p> <p>Any construction equipment that comes into contact with surface waters that have been used outside the state or previously used in an aquatic invasive species positive water should be thoroughly power washed with hot water (&gt;140 degrees F) and completely dried for a minimum of seven days prior to use. All attached dirt, mud debris, and vegetation should be removed and all compartments and tanks capable of holding standing water should be drained.</p>
<p><b>Cultural Resources</b></p>	<p>The Watershed PEA notes that FEMA will consult with SHPO and/or THPO may be necessary to identify potential impacts for projects that do not fit into a Programmatic Agreement.</p> <p>The SEA Proposed Action has</p>	<p>No impacts to cultural resources.</p>	<p>Potential impacts may occur to the following resources:</p> <ul style="list-style-type: none"> <li>▪ <u>Stacked Rock Wall (LA2076)</u>: The City historic preservation department director stated this wall has been repaired several times over the past three decades due to highwater events and the sloughing and deterioration of stones. Each time the original rock was used in rebuilding the structure.</li> </ul> <p>The current plans for the reconstruction of this wall calls for carefully removing the original stone, stockpiling, and reusing the stone as facing on a poured concrete wall</p>	<p>Artifact collection policy during monitoring: There will be a limited collection strategy – only collecting diagnostics, dateable material, or samples. All materials will be handled by staff of the City at their facilities and curated at that</p>	<p>Proposed construction and any ground-disturbing activities within Site 1C should be monitored by an archaeologist who meets the SOI's Professional Qualification Standards, with the results and recommendations of monitoring summarized in a final monitoring report.</p> <p>Section 106 project consultation occurred on October 15, 2023, between FEMA's Environmental and Historic Preservation Section and the South Dakota SHPO and NPS. SHPO</p>

Resource	Proposed Activity Changes from Watershed PEA	Alternative 1: No Action	Alternative 2: Proposed Action	Best Management Practices (BMPs)	Conditions and Permits
	<p>undergone Section 106 consultation with SHPO and NPS and reached a determination of “No Adverse Effect” to historic properties. Tribes were notified and no comments were received.</p>		<p>that would provide longevity and protection to the railroad tracks as well as maintaining the original historic appearance of the wall. This method of reconstruction of historic retaining walls is often used within the Deadwood National Historic Landmark. FEMA approves of this method of reconstruction, and although is considered an effect on this historic property, FEMA has determined there will not be an adverse effect following this proposed reconstruction method.</p> <ul style="list-style-type: none"> <li>▪ <u>Historic Bridge (LA-1051)</u>: The bridge would be used by trucks and machinery to cross over various segments of the overall project. The City has agreed that the construction contractor shall limit use and weight loads on the bridge and otherwise use protective cones/flagging along each corner of the structure. The City historic preservation department would make periodic inspections to ensure the bridge remains undamaged. Provided these conditions are met during all aspects of construction, there will not be an adverse effect on the structure.</li> <li>▪ <u>Deadwood B&amp;M roundhouse (newly recorded archaeological site 39LA3000.2023.03)</u>: Site 39LA3000.2023.03 is to be avoided by the proposed project. The Deadwood Historic Preservation Officer worked with the City engineer to alter the design of the new retaining wall and develop a plan for avoidance of the archaeological feature.</li> </ul>	<p>location as per standard practice. SOI-qualified archaeologists monitoring within Project Area 1C will have the ability to stop construction in the event cultural materials are identified. Machinery can move to another (archaeologically monitored) location while attention is given to any other location of archaeological sensitivity. In the event materials are deemed significant by the monitoring team, FEMA, SHPO, and NPS are to be notified before construction work resumes. A report of archaeological monitoring will be sent to FEMA</p>	<p>and NPS concurred with FEMA’s determination of No Adverse Effect on cultural/historic resources on October 16, 2023 (Appendix C).</p> <p>The following stipulations/conditions are to be followed during all aspects of construction: 1) The use and weight of equipment crossing historic bridge LA1051 during project implementation will be limited, and City of Deadwood staff will monitor the structure to ensure the bridge is not being adversely affected. 2) Stacked rock wall LA2076 will be repaired and reconstructed using the original stone to cover the poured concrete wall. 3) Project activities will avoid the features of Site 39LA30000.2023.03, the Deadwood B&amp;M Roundhouse, and qualified archaeologists will monitor ground-disturbing activities in Project Area 1C to ensure avoidance of this historic property.</p>

Resource	Proposed Activity Changes from Watershed PEA	Alternative 1: No Action	Alternative 2: Proposed Action	Best Management Practices (BMPs)	Conditions and Permits
			<p>The contractor will perform all excavation around the existing roundhouse foundation with the City’s archaeological representative present to provide necessary care and caution to avoid any disturbance or damage to the historical foundation.</p> <p>The depth of the foundation is unknown but is anticipated to be at least 7 feet below the parking lot elevation. Deadwood’s archaeological team will provide additional excavation around this corner prior to the contractor beginning work to determine if temporary shoring of the foundation corner by the contractor is required. Finally, to avoid disturbing the historical feature, there will be a reduction of the 60-inch blocks in this vicinity to 41-inch blocks per Structural Supplemental Instruction No. 01.</p> <p>FEMA recommends a Finding of Effects, but without Adverse Effect on the Deadwood Historic District. FEMA recommends the proposed construction of the retaining wall at Site 1C avoid both the identified and mapped projected subsurface features and cultural deposits associated with the Deadwood B&amp;M roundhouse foundations (39LA3000.2023.03).</p>	<p>within 60 days of finishing fieldwork.</p> <p>Should human skeletal remains be discovered during construction, all ground-disturbing activities in the immediate vicinity of the discovery will cease and the coroner’s office, FEMA, the South Dakota SHPO, NPS, and the City will be notified immediately.</p>	

Resource	Proposed Activity Changes from Watershed PEA	Alternative 1: No Action	Alternative 2: Proposed Action	Best Management Practices (BMPs)	Conditions and Permits
<b>Cumulative Impacts</b>	In an effort to track and mitigate cumulative impacts any official usage of the Watershed PEA must be documented by the completion of the Compliance Checklist.	No impacts.	No cumulative impacts anticipated to physical resources, water resources, biological resources, or cultural resources as a result of the Proposed Action.	See respective resource sections for BMPs.	See respective resource sections for conditions.



## **SECTION FIVE | PUBLIC INVOLVEMENT**

### ***Public Notice of Availability***

The following document was released for a 14-day public comment period for the draft EA spanning October 19 – November 1, 2023.

# **NOTICE OF AVAILABILITY FOR PUBLIC REVIEW OF A SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT PREPARED FOR WHITEWOOD CREEK RESTORATION IN THE CITY OF DEADWOOD, SOUTH DAKOTA**

October 19, 2023

The Federal Emergency Management Agency is providing notice that a Supplemental Environmental Assessment (SEA) to evaluate the Whitewood Creek restoration project is available for public comment and review. We issue this notice to provide the opportunity for other Federal and State agencies, Native American tribes, non-governmental organizations, and the public to comment on the SEA. These actions are part of our effort to comply with the general provisions of the National Environmental Policy Act (NEPA); NEPA regulations; other Federal laws, regulations, and Executive Orders; and our policies for compliance with those laws and regulations including 44 C.F.R. Part 9 and FEMA Directive 108-1 & Instruction 108-1-1.

This project would mitigate severe flood damage along Whitewood Creek in Deadwood, Lawrence County, South Dakota. Funds would be provided through FEMA's Public Assistance grant program for damage that occurred as a result of FEMA DR-4467-SD pursuant to the authority of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended.

This SEA tiers off the Programmatic Environmental Assessment (PEA) for Watershed Resiliency Projects in the State of South Dakota (November 2021); no significant environmental impacts were identified in the South Dakota Watershed PEA and a Finding of No Significant Impact (FONSI) was issued in January 2022. The Watershed FONSI states that an SEA will be required for projects that do not meet the thresholds in the PEA, create impacts not described in the PEA, create impacts greater in magnitude, extent, or duration than those described in the PEA, or require mitigation measures to keep impacts below significant levels that are not described in the PEA. This SEA is required because of the potential effects to historic properties in the project area.

During severe storms, tornadoes, and flooding from June 30 to July 21, 2019, Whitewood Creek's embankments were eroded and trees and other vegetation lining the creek were uprooted causing extensive damage. The purpose and need for this project is to restore watershed hydraulic capacity and floodplain capacity through hazard mitigation and watershed resiliency actions. The project includes rehabilitation activities at six locations along Whitewood Creek for a total of 3.59 acres of

disturbed surface area, and includes the removal and replacement of vegetated embankments, gabion baskets, and retaining walls. A stormwater line and stormwater discharge points along Whitewood Creek would be relocated, and an upstream stormwater retention pond would be regraded. All areas adjacent to the proposed project are fully developed.

All FEMA funded actions will be completed in compliance with applicable federal, tribal, state, and local laws, regulations, Executive Orders, etc. including the National Environmental Policy Act (NEPA), National Historic Preservation Act, Endangered Species Act, Clean Water Act, Clean Air Act; as well as Executive Orders that require federal agencies to focus attention on the environment and human health with respect to Floodplain Management (EO 11988), Protection of Wetlands (EO 11990), and Environmental Justice (EO 12898).

FEMA has determined the project is located within wetlands and a Special Flood Hazard Area (floodway and 1 percent annual chance flood hazard) and may affect or be affected by the mapped floodplain and wetlands. FEMA's 8-step decision-making process, per EO 11988 and EO 11990, has been completed and all actions will be implemented in a manner that will avoid or minimize potential impacts to the extent practicable. Bioengineering features have been incorporated into the design for all sites where practicably feasible. Any impacts to jurisdictional wetlands will be addressed in compliance with Section 404 of the Clean Water Act. The proposed action will not adversely affect the floodplain function and will reduce future flood hazards. Deadwood must acquire a Floodplain Development Permit and comply with State and Local floodplain protection standards and the National Flood Insurance Program regulations.

The comment period for the draft SEA and 8-step decision-making process will remain open for 14 days following publication of this notice. After gathering public comments, the draft SEA will become final in accordance with FEMA Directive 108-1 & Instruction 108-1-1, FEMA's implementing procedures for NEPA.

The Draft SEA is available for viewing online at the following locations:

<https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa-repository>

<https://www.cityofdeadwood.com/news>

You can provide comments or obtain more detailed information about the proposed project by contacting FEMA Region 8 by email at [fema-r8ehp@fema.dhs.gov](mailto:fema-r8ehp@fema.dhs.gov) and including 'Whitewood Creek Restoration SEA' in the subject line or by U.S. Mail at: Denver Federal Center, Building 710, Box 25267, Denver, Colorado 80225-0267 Attn: "Kyle Cheeseman".

## SECTION SIX | MITIGATION MEASURES, PERMITS, AND STIPULATIONS

The permits, mitigation measures, stipulations, and general conditions listed in the Watershed PEA are still valid, while the following are specific to the Whitewood Creek restoration project:

### Water Resources:

- The City must obtain the appropriate USACE Section 404 permit and comply with applicable permit conditions.
- The City must comply with any conditions of the Deadwood Planning and Zoning Floodplain Development Permit, along with State and Local floodplain protection standards and the National Flood Insurance Program regulations.
- The City must obtain a CLOMR prior to project construction and a LOMR post-project.
- The City must prepare a Storm Water Pollution Prevention Plan and obtain and comply with applicable Section 401 Water Quality permits as required by SDDANR Surface Water Quality Division or the EPA including as required for stormwater discharge during construction. The City of Deadwood is responsible for complying with any conditions outlined within these permits.
- Dewatering activities shall be conducted in compliance with the “General Permit to Discharge under the Surface Water Discharge System for Temporary Dewatering Activities in South Dakota,” SDDENR Permit Number SDG 070000. The contractor is responsible for performing self-monitoring activities including sampling, testing, and reporting as required under the authorization to discharge.

### Biological Resources:

- The project applicant is responsible for complying with necessary USFWS and SDGFP conditions and permits for impacts to threatened and endangered species, migratory birds, and raptors.
- Clearing and grubbing shall be in accordance with Section 100 of the Standard Specifications.
- The contractor shall use extreme care so that trees and vegetation outside of the construction limits are not disturbed and shall replace any trees not identified for removal that are damaged or dying as a result of operations with trees or equivalent species and minimum two-inch diameter.
- The contractor shall salvage and replace topsoil on all areas to receive seed to a minimum depth of six inches. For planting soils for tree and shrub planting area, the contractor shall use imported, naturally formed soil from sources that are naturally well-drained sites where topsoil occurs at least four inches deep.
- Disturbance to riparian and wetland areas should be kept to an absolute minimum.
- If riparian vegetation is lost it should be quantified and replaced on site. Seeding of indigenous species should be accomplished immediately after construction to reduce sediment and erosion.

- A site-specific sediment and erosion control plan should be executed.
- A post-construction erosion control plan should be implemented to provide interim control prior to re-establishing permanent vegetative cover on the disturbed site.
- Stream bottoms impacted by construction activities should be restored to pre-project elevations.
- Any construction equipment that comes into contact with surface waters that have been used outside the state or previously used in an aquatic invasive species positive water should be thoroughly power washed with hot water (>140 degrees F) and completely dried for a minimum of seven days prior to use. All attached dirt, mud debris, and vegetation should be removed and all compartments and tanks capable of holding standing water should be drained (City of Deadwood 2023a).

**Cultural Resources:**

- The use and weight of equipment crossing historic bridge LA1051 during project implementation will be limited, and City of Deadwood staff will monitor the structure to ensure the bridge is not being adversely affected.
- Stacked rock wall LA2076 will be repaired and reconstructed using the original stone to cover the poured concrete wall.
- Project activities will avoid the features of Site 39LA30000.2023.03, the Deadwood B&M Roundhouse, and SOI-qualified archaeologists will monitor ground-disturbing activities in Project Area 1C to ensure avoidance of this historic property. Results and recommendations of monitoring will be summarized in a final archaeological monitoring report within 60 days of finishing field work.
- Should human skeletal remains be discovered during construction, all ground-disturbing activities in the immediate vicinity of the discovery will cease and the coroner's office, FEMA, the South Dakota SHPO, NPS, and the City will be notified immediately.

## **SECTION SEVEN | LIST OF PREPARERS**

This SEA was prepared by FEMA Region VIII, Denver, CO:

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- Richard Myers – FEMA Deputy Regional Environmental Officer
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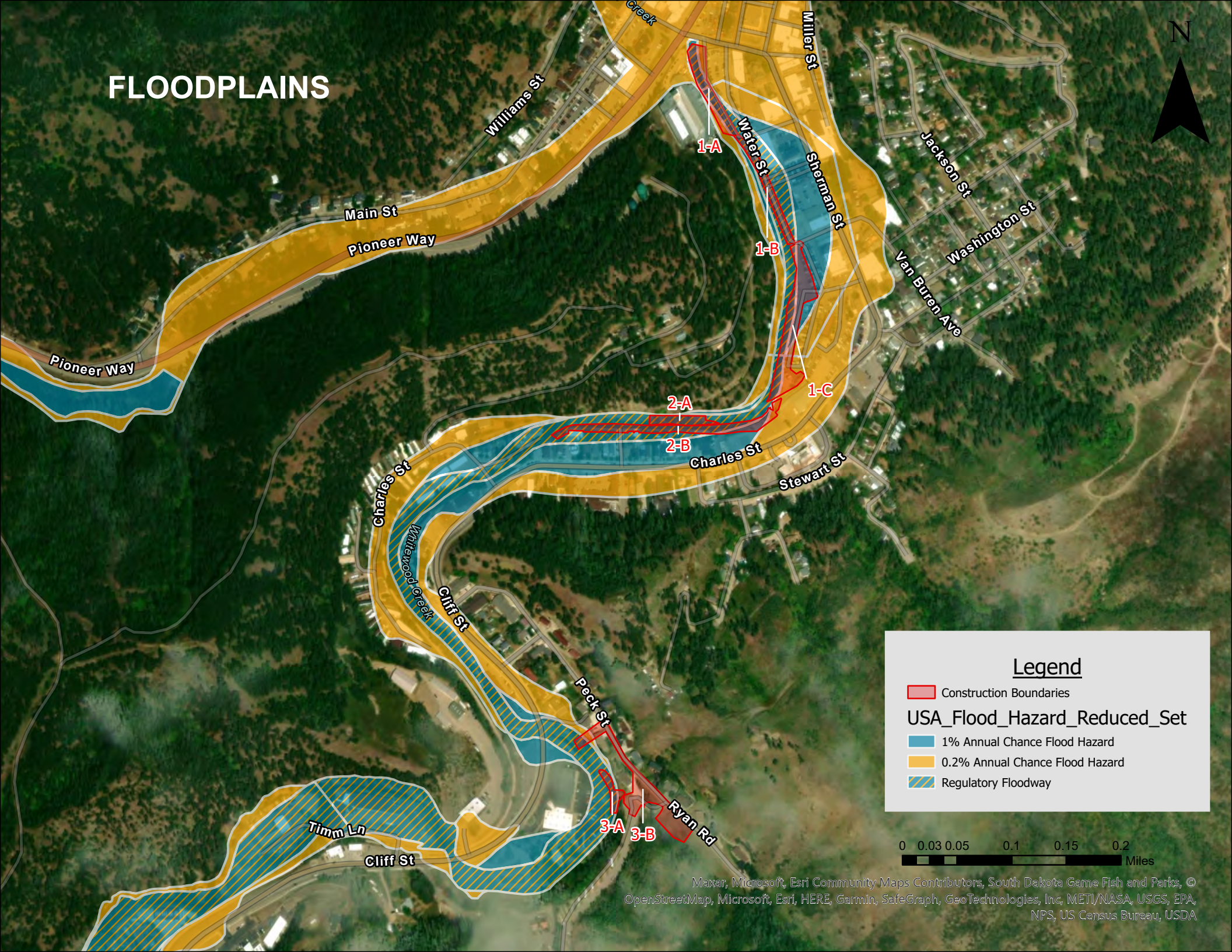
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## **Appendix A: Water Resources—Floodplain and Wetland Maps and Eight-Step Decision-Making Process**



# FLOODPLAINS



Pioneer Way

Main St

Pioneer Way

Williams St

1-A

Water St

Miller St

Sherman St

1-B

Jackson St

Washington St

Van Buren Ave

2-A

2-B

Charles St

1-C

Stewart St

Charles St

Whitewood Creek

Cliff St

Peck St

3-A

3-B

Ryan Rd

Timm Ln

Cliff St


## Legend

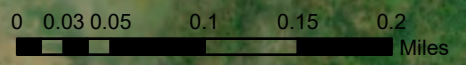
 Construction Boundaries

### USA\_Flood\_Hazard\_Reduced\_Set

 1% Annual Chance Flood Hazard

 0.2% Annual Chance Flood Hazard

 Regulatory Floodway







August 3, 2023

### Wetlands

- Estuarine and Marine Deepwater
- Freshwater Emergent Wetland
- Lake
- Estuarine and Marine Wetland
- Freshwater Forested/Shrub Wetland
- Other
- Freshwater Pond
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# Whitewood Creek Restoration Project, Deadwood, SD

## Eight-Step Decision-Making Process

### Background and Summary:

The City of Deadwood, South Dakota, is requesting Federal Emergency Management Agency (FEMA) funding through its Public Assistance program to mitigate severe flood damage along Whitewood Creek in Deadwood, Lawrence County, South Dakota, resulting from severe storms, tornadoes, and flooding during the period of June 30 to July 21, 2019. Whitewood Creek's embankments were eroded and trees and other vegetation lining the creek were uprooted causing extensive damage. The event was declared a major disaster on October 7, 2019, as FEMA Disaster DR-4467-SD.

The proposed project has the potential to affect a Special Flood Hazard Area and Waters of the U.S. per FIRM #46081C0326F effective date April 17, 2012, and the USFWS National Wetlands Inventory mapper. Executive Order 11988 Floodplain Management and Executive Order 11990 Protection of Wetlands 8-step decision-making process was completed. No-rise is anticipated (except for Site 1A, for which engineering design is underway), and long-term effects will be beneficial. Alternatives were considered and are described in the Whitewood Creek Restoration Supplemental Environmental Assessment. The initial Public Notice was published as part of the disaster-wide public notice. This notice was posted to FEMA's website and the South Dakota Emergency Management website on October 30, 2019. Lawrence County also held a public meeting on October 30, 2019, at 9:00am at Commission Room County Courthouse, 90 Sherman St. Deadwood, SD. No public comments were received within the 15-day comment period or at the public meeting.

Executive Orders 11988 and 11990 require federal agencies to avoid to the extent possible the long- and short-term adverse impacts to the resource and the federal investment associated with the occupancy and modification of flood plains or wetlands. The eight steps summarized below reflect the decision-making process required in the Executive Orders, as discussed in detail in 44 CFR Part 9.

**Project Title:** Whitewood Creek Restoration Project, Deadwood, South Dakota

### Description of Proposed Action:

The project is broken down into seven sites with most of the proposed improvements to be completed within the floodway or 100-year (1 percent annual chance flood hazard) effective floodplain. Six of these sites (1A, 1C, 2A, 2B, 3A, and 3B) would be completed as part of this project with FEMA funding, while the remaining site (1B) would be completed as a separate non-FEMA funded project.

The project includes the removal and replacement of vegetated embankments, gabion baskets, and retaining walls along Whitewood Creek within Deadwood, South Dakota city limits. A stormwater line and stormwater discharge points along Whitewood Creek would be relocated and an upstream stormwater retention pond would be regraded. Structural retaining walls, gabion baskets, and/or rip



rap constructed as riverbank protection would be removed and replaced at sites 1A, 1C, 2A, and 2B. At site 3A, structural retaining walls would be added for bank protection. Site 3A and 3B includes the construction and relocation of stormwater facilities. See Step 3 below for a detailed description of proposed activities at each site.

The Proposed Action is not considered a critical action.

#### Eight Steps:

##### **Step 1: Determine if the Proposed Action is in a wetland and/or 100-year floodplain (500-year floodplain for critical actions).**

Per FIRM #46081C026F, effective date April 17, 2012, portions of all the sites are within an effective FEMA Special Flood Hazard Area—either the floodway or 100-year floodplain (1 percent annual chance flood hazard). Per the USFWS National Wetlands Inventory mapper the proposed project is within riverine wetlands, but no other types of wetlands were identified.

##### **Step 2: Conduct early public review, including public notice.**

The initial public notice was published as part of the disaster-wide public notice and was posted to FEMA's website and the South Dakota Emergency Management website on October 30, 2019. No comments were received.

##### **Step 3: Identify and evaluate practicable alternatives to locating the Proposed Action in a floodplain or wetland.**

Alternatives considered include the No Action and the Proposed Action. Under the No Action Alternative, no improvements would be made to mitigate the effects of flooding or erosion throughout the project sites. Existing damages along Whitewood Creek, which are contributing to ongoing erosion of public and private properties causing a chronic infliction of damages, would continue to occur.

The Proposed Action includes rehabilitation activities at six locations along Whitewood Creek for a total of approximately 3.59 acres of disturbed surface area (with an additional site not utilizing FEMA funding). While the Proposed Action would require construction in the existing floodplain and Waters of the U.S., its purpose is in overall support of improving floodplain and wetland values through watershed and floodplain hydraulic capacity restoration and mitigation. The banks of Whitewood Creek would be stabilized and improved with retaining walls and bioengineering methods with the intent of preventing future erosion.

Project activities for each site are as follows:

Site 1A—Whitewood Creek to Deadwood Mountain Grand Parking Structure reach (latitude 44.22279 N, longitude -103.43490 W): Complete approximately 460 linear feet of bank stabilization on both the east and west bank. The east bank stabilization consists of removing a single row of gabion baskets and replacing with precast concrete blocks of matching geometry. Rip rap would be added

to a sloped bank in one area. The west bank stabilization consists of adding a concrete curb wall at the base of the existing retaining wall to address the eroded soils (0.5 acres). Bioengineering practices were considered for this site; however, due to high velocities during heavy flow events that reach up to 18 feet per second, bioengineering measures were not deemed feasible for long-term protection of the streambanks.

Site 1B—Water Street area (latitude 44.222427 N, longitude -103.434547 W): Project activities entail approximately 560 linear feet of reconstruction along Water Street from Center Street to Cemetery Street including new sidewalk construction, street improvements including new curb and gutter, and burying overhead electrical services. No work will be done in the creek; therefore, no bioengineering options were considered for this site. This work will be bid as a separate non-FEMA-funded project with construction expected in 2024.

Site 1C—Whitewood Creek to Sherman Street parking area (latitude 44.37240 N, longitude 103.72874 W): A 540 linear feet concrete block retaining wall would be constructed to replace an existing damaged retaining wall, to better protect the east bank of the stream and reduce the risk of failure to the parking lot, sidewalk, and trail entrance located near the east bank. An existing concrete wall is located immediately downstream of the proposed wall and an existing bridge with concrete foundations and abutments is immediately upstream of the proposed wall. There is no appropriate area to install bioengineering practices for bank stabilization upstream or downstream of the proposed wall without tearing out functional existing concrete infrastructure.

Site 2A—Whitewood Creek to Charles Street area (north side) (latitude 44.37002 N, longitude 103.73121 W): This site includes approximately 226 linear feet of new retaining walls and streambank improvements. A concrete retaining wall along the north/west bank would replace an existing stacked rock retaining wall that failed during the 2019 flooding. The concrete wall creates a more resistant alternative to a natural bank or other gabion options and keeps the original historic look. Riprap was originally chosen to protect the transition area between the bank and proposed wall, but it was determined bio stabilization measures could be used in lieu of riprap. Bio stabilization allows a more natural looking transition between the natural bank and the concrete wall once vegetation grows in and fulfills FEMA goal of encouraging bioengineering practices that improve environmental quality and wildlife habitat. An Envirolok™ vegetated slope would be installed to reinforce the bank transition to the proposed wall. The Envirolok™ slope uses a combination of soil bags, spikes, and native plants and seeds to reinforce and root into the bank. The Envirolok™ slope would help keep the natural beauty of the existing banked slope while protecting the replacement wall from erosion.

Site 2B—Whitewood Creek to Charles Street area (south side) (latitude 44.37025 N, longitude 103.72896 W): Project activities consist of the addition of a 1,080 linear feet concrete block wall along the south creek bank, which replaces an existing gabion rock wall that failed during the 2019 floods. The wall protects the creek bank and the yards of multiple residential homes along the creek. The concrete block wall was selected as the best repair option to reduce the risk of failure in future floods. It was found there is no reasonable location to implement bio stabilization practices for this

site. Upstream and downstream of the proposed wall are existing concrete walls/bridge abutments; removing the functional existing infrastructure would add unnecessary risk of future bank failure.

The north bank is being replaced with some bio stabilization practices where there was existing vegetation. The biggest concern with adding more bio stabilization to the area is reducing the flow capacity. Tall rectangular channels, which the existing channel is characterized as, typically experience high velocity flow within the channel. Adding bio stabilization and more vegetation would increase the relative roughness of the channel and result in a greater risk of flooding the existing residential structures.

Site 3A— Whitewood Creek to Comfort Inn and Suites area (latitude 44.36540 N, longitude 103.73187 W): Project activities consist of constructing a new 50 linear feet stacked sandstone retaining wall to reinforce and protect the east bank slope. The flooding in 2019 destroyed the base of the bank, which is now sloughing down, risking future failure of the existing cul-de-sac bulb located above the bank. It was determined bio stabilization measures could be utilized in lieu of riprap above and around the wall.

The majority of the bank is located above the 100-year base flood elevation (1% annual chance flood) and floodwaters are not expected to reach the upper end of the slope. An Envirolok™ vegetated slope would be used instead of riprap since the existing slope already has trees, grass, and shrubs. Replanting trees at a greater than 1:1 ratio on this steep slope would be extremely difficult to grow; however, geotextile soil bags with specialized seed would be used instead of riprap.

Site 3B—Ryan Road and Peck Street Drainage Improvements (latitude 44.21988 N, longitude 103.73231 W): Project activities include approximately 700 linear feet of new storm sewer, local street improvements, improvements to a regional detention pond, and re-routing the outlet lower to Whitewood Creek. These activities reduce the risk of detrimental erosion of the upper creek banks. It was determined there is no reasonable location to add bio stabilization. The one location bio stabilization could be placed is at the outlet at Whitewood Creek. This outlet has a 42-inch pipe entering the creek at a greater than 12 percent slope. Between space restrictions and the effluent velocities, a concrete box with large riprap is the safest solution for energy dissipation.

#### **Step 4: Identify the potential direct and indirect impacts of the proposed action.**

Riverine wetlands below the Ordinary High Water Mark would be impacted due to construction of new and replacement retaining walls, concrete footings, rip rap, geotextile soil bags and an outfall structure. Temporary impacts would occur during project construction but would result in long-term beneficial impacts to the stream corridor due to bank stabilization and the reduction of sloughed material and debris entering the stream.

No rise to floodplains is anticipated for all sites except Site 1A, for which design is currently underway. A Letter of Map Revision will then be requested by the City.

#### **Step 5: Develop measures to minimize, restore, and preserve the floodplain or wetland.**

The Proposed Action would reduce the risk of flood damage to infrastructure on properties located adjacent to Whitewood Creek in and near the project area. Bioengineering features as described in Step 3 above have been incorporated into the design for all sites where practicably feasible. Trees and shrubs removed for project construction would be replaced with native trees and shrubs in at least a 1:1 ratio in areas approved by a landscape architect. All disturbed areas from grading operations would be seeded with a temporary cover crop and reclaimed with similar material as existing. Privately owned back yards would have new sod put down and other areas would receive a non-irrigated seed mixture. Overall, there would be beneficial impacts on vegetation due to the planting of additional native trees and shrubs and Envirolok™ slopes to help stabilize the creekbank and provide habitat for endemic species.

Any impacts to wetlands/Waters of the U.S. must be mitigated in accordance with the U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 permit conditions. The City submitted a Section 404 permit application to the USACE for Sites 1C, 2A, 2B, 3A and 3C on August 18, 2023, and received permits on October 17, 2023.

The City of Deadwood must comply with conditions described in the Floodplain Development Permit received from Deadwood Planning and Zoning on September 15, 2023, along with State and Local floodplain protection standards and the National Flood Insurance Program regulations.

#### **Step 6: Reevaluate alternatives.**

The Proposed Action is a bank stabilization and erosion control project that inherently must be conducted in the floodplain and riverine wetland. The Proposed Action would have overall beneficial effects on the creek corridor and is being designed to mitigate damage to the creek and surrounding infrastructure during flood events. The analysis completed indicates the Proposed Action would reduce, not aggravate, future flood hazards.

Project construction mitigating bank erosion from high flow rates would result in positive effects with minimal disruption. Existing riverine wetlands/Waters of the U.S. would be impacted temporarily by the Proposed Action; however, these areas are anticipated to largely return to historical conditions after project completion.

#### **Step 7: Provide final public notice.**

A final project-specific public notice will be published informing the public of FEMA's intent to proceed with the Proposed Action. The notice will include significant facts considered in making the determination and a statement indicating the Proposed Action will conform to state and local floodplain protection standards.

#### **Step 8: Implement the action and identify any project conditions.**

##### **Project Conditions:**

The following project conditions relate to floodplains and Waters of the U.S. Additional project conditions are described in the SEA.

- The applicant must comply with conditions described in the Floodplain Development Permit received from Deadwood Planning and Zoning on September 15, 2023, along with State and Local floodplain protection standards and the National Flood Insurance Program regulations.
- The City of Deadwood must obtain a Conditional Letter of Map Revision prior to project construction and a Letter of Map Revision post-project for Site 1A.
- The City of Deadwood must comply with the appropriate USACE Section 404 permit conditions.
- The City of Deadwood must prepare a Storm Water Pollution Prevention Plan and obtain and comply with applicable Section 401 Water Quality permits as required by South Dakota Department of Agriculture and Natural Resources Surface Water Quality Division or the U.S. EPA including as required for stormwater discharge during construction.
- Dewatering activities shall be conducted in compliance with the “General Permit to Discharge under the Surface Water Discharge System for Temporary Dewatering Activities in South Dakota,” SDDANR Permit Number SDG 070000. The contractor is responsible for performing self-monitoring activities including sampling, testing, and reporting as required under the authorization to discharge.
- Disturbance to riparian and wetland areas should be kept to an absolute minimum. If riparian vegetation is lost it should be quantified and replaced on site. Seeding of indigenous species should be accomplished immediately after construction to reduce sediment and erosion.
- A site-specific sediment and erosion control plan should be executed. A post-construction erosion control plan should be implemented to provide interim control prior to re-establishing permanent vegetative cover on the disturbed site.
- Stream bottoms impacted by construction activities should be restored to pre-project elevations.

## **Appendix B: Threatened and Endangered Species Consultations and USFWS Information for Planning and Consultation Report**



U.S. Department of Homeland Security  
Region VIII  
Denver Federal Center, Building 710  
P.O. Box 25267  
Denver, CO 80225-0267



August 31, 2023

Amity Bass, ESF Project Lead  
U.S. Fish and Wildlife Service  
South Dakota Field Office  
420 South Garfield Avenue  
Pierre, South Dakota 57501-5408

The U.S. Fish and Wildlife Service concurs with your conclusion that this project as described will not adversely affect or jeopardize federally listed/proposed species nor adversely modify designated/proposed critical habitat(s). If the project changes or new information becomes available, please contact this office again so potential impacts to federally listed species and other trust resources may be reevaluated.

**AMITY BASS**  
Digitally signed by AMITY BASS  
Date: 2023.09.01 13:20:47 -05'00'  
Field Supervisor, South Dakota Ecological Services      Date

**Re: Consultation – Deadwood, SD - Whitewood Creek Embankment Repair**

Dear Ms. Bass:

As a result of severe storms, tornadoes, and flooding beginning June 30, 2019, and ending July 21, 2019, the Federal Emergency Management Agency (FEMA), authorized under Presidential disaster declaration FEMA-DR-4467-SD, dated Oct 7, 2019, proposed to administer Federal disaster assistance to parts of South Dakota designated as a major disaster area, pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288, as amended. FEMA funds are available to eligible applicants (State and local governments, as well as certain Private Non-Profit Organizations and Tribes) for assistance with emergency services, debris removal, permanent repairs to infrastructure, buildings, utility services, and other public facilities.

FEMA is initiating consultation of the above-referenced embankment/retaining wall repairs. It is proposed that federal funding through FEMA’s Public Assistance program be provided to the City of Deadwood, SD. FEMA is requesting concurrence from the U.S. Fish and Wildlife Service regarding FEMA’s determination that the proposed project detailed below "May affect, not likely to adversely affect" the northern long-eared bat and tricolored bat.

**Project Description:**

Heavy storms caused high velocity flooding in the City of Deadwood, and along Whitewood Creek, which flows through the city. The creek, with its source in the canyons, gulches, and watersheds above Deadwood, was specifically affected as the embankments lining the creek washed away in the torrid currents. With continued rain in the area the fast-moving water up-rooted trees and vegetation lining the creek, eroding the banks, and moving all debris down-slope causing extensive damage to embankments along the creek’s path (Start GPS: 44.37504, -103.73068; End GPS: 44.36976, -103.73295).

The repair involves the following elements:

Site 1A: Along the Deadwood Mountain Grand/Parking Structure reach and consists of approximately 460 lineal feet of bank stabilization on both the east and west bank. The east bank stabilization will consist of removing a single row of gabion baskets and replacing with precast concrete blocks of matching geometry. In one area, rip rap will be added to a sloped bank. The west bank stabilization will consist of adding a concrete “curb wall” at the base of the existing retaining wall to address the eroded soils.

Site 1B: Whitewood Creek - Water Street Area: This site work includes approximately 600 linear feet of new sidewalk construction, street improvements and utility relocation. This work will be bid as a separate Non-FEMA project in the future.

Site 1C: Sherman Street Parking Area: This site work includes approximately 545 linear feet of new retaining walls, utility relocation, paving and other site improvements.

Site 2A - Whitewood Creek - Charles Street Area (North): This site work includes approximately 224 linear feet of new retaining walls and stream bank improvements.

Site 2B: Whitewood Creek - Charles Street Area (South): This site works includes approximately 1,070 linear feet of new retaining walls and stream bank improvements.

Site 3A: Whitewood Creek - Comfort Inn and Suites Area: This site work includes approximately 180 linear feet of debris cleanup along the east hillside and construction of approximately 180 linear feet of a sandstone stacked stone retaining wall.

Site 3B: Ryan Road and Peck Street Drainage Improvements: The sitework includes approximately 700 linear feet of new storm sewer, local street improvements and improvements to a regional detention pond to prevent future damage.

These repairs and improvements will include excavation and reshaping of the streambank, requiring the removal of trees in an approximately 3.1-acre area, and are located adjacent to rocky outcroppings.

### **Potential Impacts to Threatened and Endangered Species:**

The U.S. Fish and Wildlife Service’s (USFWS) Information for Planning and Conservation (IPaC) website of Threatened and Endangered Species was carefully reviewed on May 15th, 2023, to identify any threatened and endangered species that may occur in the project area. IPaC identified 4 threatened, endangered, or candidate species that may be potentially present within the project area: 1 threatened (red knot), 1 endangered (northern long-eared bat, 1 Proposed Endangered (tricolored bat), and 1 Candidate (monarch butterfly). A variety of sources were reviewed to determine if the project area could be appropriate habitat for the identified species, including the South Dakota National Heritage Database, the Consultation Package Builder in IPaC, and the 2019 FEMA Programmatic Biological Opinion

(PBO) for Endangered Species Act Compliance in South Dakota (USFWS Tracking and Integrated Logging System#: 06E1400-2020-B-0013). Habitat requirements for each of the affected species are discussed briefly in the following paragraphs.

Northern Long-eared Bat (*Myotis septentrionalis*):

The northern long-eared bat (NLEB) was listed as endangered on November 30, 2022. NLEB is a temperate, insectivorous, migratory bat that hibernates in mines and caves in the winter and spends summers in wooded areas. The key stages in its annual cycle are hibernation, spring staging and migration, pregnancy, lactation, becoming volant/weaning, fall migration and swarming. NLEB generally hibernate between mid-fall through mid-spring each year. The spring migration period likely runs from mid-March to mid-May each year, as females depart shortly after emerging from hibernation and are pregnant when they reach their summer area. Young are born between June and early July, with nursing continuing until weaning, which is shortly after young become volant (able to fly) in mid- to late-July. Fall migration likely occurs between mid-August and mid- October. Suitable summer habitat for NLEB consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats. This includes forests and woodlots containing potential roosts, as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. After hibernation ends in late March or early April (as late as May in some northern areas), most NLEB migrate to summer roosts. NLEBs show interannual fidelity to roost trees and/or maternity areas. This species has an active season from April 1 – October 31.

Based on the “Technical Assistance for ‘Whitewood Creek Embankment’” letter (Project code 2023-0081865) generated from the IPaC Consultation Package Builder, and the fact that work may not be completed before April 1, 2024, FEMA has determined that this project requires further consultation.

Tricolored Bat (*Perimyotis subflavus*)

The tricolored bat is currently proposed for listing as “Endangered” under the Endangered Species Act. This insectivorous bat has a distribution that is widespread across central and eastern North America. The tricolored bat is migratory, spending winters in caves and abandoned mines, and summers primarily in deciduous hardwoods. It can also sometimes be found in human structures such as homes, culverts, or bridges. Like other bats, the tricolored bat’s greatest threat is the spread of White-nose Syndrome, a fatal fungal disease (*Pseudogymnoascus destructans*) found in caves and spread amongst colonies. It is anticipated that any impacts of this project to northern long-eared bat will also impact the tricolored bat.


## Summary of Impacts

Although presence of northern long-eared and tricolored bats is possible in the project area, the project will have minimal tree removal, will occur in a highly developed area, and will not contribute to the spread of White-nose Syndrome. The action will have no foreseeable long-term impacts to any local populations. Additionally, **the tree removal portion of this project will occur while bats are in hibernacula, Oct 1 - May 14.** Based on the site conditions of the project area and minimization measures stated above, FEMA has made the determination that this project “**May Affect**” but is “**Not Likely to Adversely Affect**” the northern long-eared bat and the tricolored bat. As the action agency, FEMA respectfully requests concurrence from your office on these conclusions. Additionally, FEMA

has made the determination that the proposed project and location will have “no effect” for the Red Knot (*Calidris canutus rufa*) and monarch butterfly (*Danaus plexippus*). Please respond within 60 days of receipt of this letter in the interest of the project schedule. Should you have any questions about the project or require any additional information, please do not hesitate to contact Kyle Flesness at (202) 704-3691 or [kyle.flesness@fema.dhs.gov](mailto:kyle.flesness@fema.dhs.gov) or Kyle Cheeseman at (202) 808-6632 or [kyle.cheeseman@fema.dhs.gov](mailto:kyle.cheeseman@fema.dhs.gov).

Sincerely,

KYLE J  
CHEESEMAN

 Digitally signed by KYLE J  
CHEESEMAN  
Date: 2023.08.31 16:52:09 -05'00'

Attachments:

Species List

Technical Assistance for ‘Whitewood Creek Embankment’

Whitewood Creek Site Map

WWC BP 100% Drawings\_2023-05-18



**DEPARTMENT OF GAME, FISH, AND PARKS**

Foss Building  
523 East Capitol  
Pierre, South Dakota 57501-3182

July 11, 2023

Kevin Kuchenbecker  
City of Deadwood  
108 Sherman Street  
Deadwood, SD 57732  
[kevin@cityofdeadwood.com](mailto:kevin@cityofdeadwood.com)

Dear Kevin:

With this letter, we authorize the following activities described in your Endangered Species Permit request of 28 June 2023:

- Block access to American Dipper nests along Whitewood Creek within Deadwood City Limits to allow necessary construction work. Construction is needed to improve the creek bank because of prior flood damage.
- This activity is anticipated to take approximately 24 months, starting in August 2023, which will potentially impact the nesting seasons of 2024 and 2025.

This authorization is valid until December 31, 2025.

Please provide a summary report of authorized activities by January 31, 2026.

Sincerely,

Eileen Dowd Stukel  
Wildlife Diversity Coordinator

cc: Jen Buchanan and Hilary Morey, SDGFP

**From:** [Morey, Hilary](#)  
**To:** [Cheeseman, Kyle](#); [Dowd Stukel, Eileen](#); [Buchanan, Jennifer](#)  
**Cc:** [Bello, Charles](#); [Roszell, Pamela](#)  
**Subject:** RE: SD endangered species authorization, American Dipper, City of Deadwood  
**Date:** Wednesday, July 12, 2023 2:41:18 PM

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**CAUTION:** This email originated from outside of DHS. DO NOT click links or open attachments unless you recognize and/or trust the sender. Please select the Phish Alert Report button on the top right of your screen to report this email if it is unsolicited or suspicious in nature.

Hi Kyle-

I checked our database and there are no known bald or golden eagle nests within the project area. The nearest known bald eagle nest is approximately 7.5 miles and the nearest known golden eagle nest is approximately 13 miles.

Please let us know if you need anything else.

**Hilary Morey** | Environmental Review Senior Biologist  
South Dakota Game, Fish and Parks  
523 East Capitol Avenue | Pierre, SD 57501  
605.773.6208 | [Hilary.Morey@state.sd.us](mailto:Hilary.Morey@state.sd.us)



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**From:** Cheeseman, Kyle <kyle.cheeseman@fema.dhs.gov>  
**Sent:** Tuesday, July 11, 2023 5:05 PM  
**To:** Dowd Stukel, Eileen <Eileen.DowdStukel@state.sd.us>; Buchanan, Jennifer <Jen.Buchanan@state.sd.us>; Morey, Hilary <Hilary.Morey@state.sd.us>  
**Cc:** Bello, Charles <Charles.Bello@fema.dhs.gov>; Roszell, Pamela <pamela.roszell@fema.dhs.gov>  
**Subject:** RE: [EXT] SD endangered species authorization, American Dipper, City of Deadwood

Hello,

Thank you for assisting the City with the American Dipper. I'm hoping that you can also assist in determining presence of Bald or Golden Eagles.

Does GFP have any record of Bald/Golden Eagle nests in the project vicinity?

Thanks in advance for any help you can provide!

--

**Kyle J. Cheeseman**  
EHP Acting Advisor- SD Disasters | Region 8  
Environmental and Historic Preservation (EHP)  
Federal Emergency Management Agency  
(202) 808-6632 | [Kyle.Cheeseman@fema.dhs.gov](mailto:Kyle.Cheeseman@fema.dhs.gov)





## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
South Dakota Ecological Services Field Office  
420 South Garfield Avenue, Suite 400  
Pierre, SD 57501-5408  
Phone: (605) 224-8693 Fax: (605) 224-1416

In Reply Refer To:  
Project Code: 2023-0081865  
Project Name: Whitewood Creek Embankment

May 15, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/media/endangered-species-consultation-handbook>

**Migratory Birds:** In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/law/bald-and-golden-eagle-protection-act>, <https://www.fws.gov/media/endangered-species-act-1>, and/or <https://www.fws.gov/law/migratory-bird-treaty-act-1918>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/law/migratory-birds>

Please be aware that bald and golden eagles are protected under the Migratory Bird Treaty Act (16 U.S.C. §§ 703-712, as amended), as well as the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). Projects affecting these species may benefit from the development of an Eagle Conservation Plan (ECP), see guidance at this website (<https://www.fws.gov/node/266177>). An ECP can assist developers in achieving compliance with regulatory requirements, help avoid "take" of eagles at project sites, and provide biological support for eagle permit applications. Additionally, we recommend wind energy

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developments adhere to our Land-based Wind Energy Guidelines for minimizing impacts to migratory birds and bats.

We have recently updated our guidelines for minimizing impacts to migratory birds at projects that have communication towers (including meteorological, cellular, digital television, radio, and emergency broadcast towers). These guidelines can be found at:

<https://www.fws.gov/story/incidental-take-beneficial-practices-communication-towers>  
<http://www.towerkill.com>

According to National Wetlands Inventory maps, (available online at <https://www.fws.gov/library/collections/national-wetland-inventory>) wetlands exist adjacent to the proposed construction corridor. If a project may impact wetlands or other important fish and wildlife habitats, the U.S. Fish and Wildlife Service (Service), in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347) and other environmental laws and rules, recommends complete avoidance of these areas, if possible. If this is not possible, attempts should be made to minimize adverse impacts. Finally if adverse impacts are unavoidable, measures should be undertaken to replace the impacted areas. Alternatives should be examined and the least damaging practical alternative selected. If wetland impacts are unavoidable, a mitigation plan addressing the number and types of wetland acres to be impacted, and the methods of replacement should be prepared and submitted to the resource agencies for review.

Please check with your local wetland management district to determine whether Service interest lands exist at the proposed project site, the exact locations of these properties, and any additional restrictions that may apply regarding these sites. The Offices are listed below. If you are not sure which office to contact, we can help you make that decision.

U.S. Fish and Wildlife Service, Huron Wetland Management District, Federal Building, Room 309, 200 4th Street SW, Huron, SD 57350; telephone (605) 352-5894. Counties in the Huron WMD: Beadle, Buffalo, Hand, Hughes, Hyde, Jerauld, Sanborn, Sully.

U.S. Fish and Wildlife Service, Lake Andes Wetland Management District, P O Box 18, Pickstown, South Dakota, 57367; telephone (605) 487-7603. Counties in the Lake Andes WMD: Aurora, Brule, Charles Mix, Davison, Douglas.

U.S. Fish and Wildlife Service, Madison Wetland Management District, P.O. Box 48, Madison, South Dakota, 57042, telephone (605) 256-2974. Counties in the Madison WMD: Bon Homme, Brookings, Clay, Deuel, Hamlin, Hanson, Hutchinson, Kingsbury, Lake, Lincoln, McCook, Miner, Minnehaha, Moody, Turner, Union, Yankton.

U.S. Fish and Wildlife Service, Sand Lake Wetland Management District, 39650 Sand Lake Drive, Columbia, South Dakota, 57433; telephone (605) 885-6320. Counties in the Sand Lake WMD: Brown, Campbell, Edmunds, Faulk, McPherson, Potter, Spink, Walworth.

U.S. Fish and Wildlife Service, Waubay Wetland Management District, 44401 134A Street, Waubay, South Dakota, 57273; telephone (605) 947-4521. Counties in the Waubay WMD: Clark, Codington, Day,

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Grant, Marshall, Roberts.

You are welcome to visit our website (<https://www.fws.gov/office/southdakota-ecological-services>) or to contact our office/staff at the address or phone number above for more information.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
  - USFWS National Wildlife Refuges and Fish Hatcheries
  - Migratory Birds
  - Wetlands
-

## **OFFICIAL SPECIES LIST**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**South Dakota Ecological Services Field Office**

420 South Garfield Avenue, Suite 400

Pierre, SD 57501-5408

(605) 224-8693

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## PROJECT SUMMARY

Project Code: 2023-0081865  
Project Name: Whitewood Creek Embankment  
Project Type: Stream/Waterbody - Channel/Diversion Structures  
Project Description: Streambank stabilization in Deadwood, SD  
Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@44.3706457,-103.7292295470147,14z>



Counties: Lawrence County, South Dakota

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## ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/10515">https://ecos.fws.gov/ecp/species/10515</a>	Proposed Endangered

## BIRDS

NAME	STATUS
Red Knot <i>Calidris canutus rufa</i> There is <b>proposed</b> critical habitat for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>	Threatened

## INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.



# **USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES**

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

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## MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

- 
1. The [Migratory Birds Treaty Act](#) of 1918.
  2. The [Bald and Golden Eagle Protection Act](#) of 1940.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

**The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location.** To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a>	Breeds Dec 1 to Aug 31

## PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

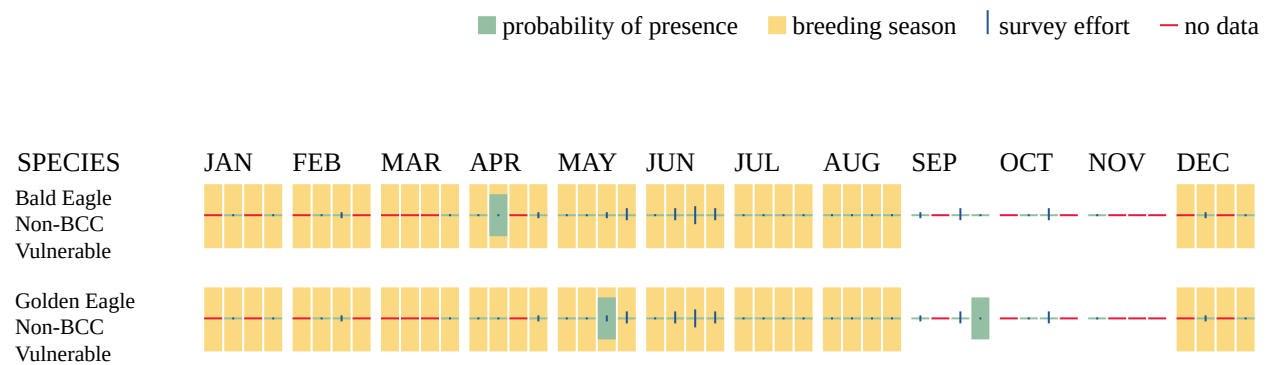
### No Data (—)

A week is marked as having no data if there were no survey events for that week.

### Survey Timeframe

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Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

## MIGRATORY BIRDS FAQ

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#)



requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

### **What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

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For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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## WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

### RIVERINE

- [R3UBGx](#)
  - [R3UBG](#)
  - [R4SBC](#)
  - [R5UBH](#)
-

## **IPAC USER CONTACT INFORMATION**

Agency: Federal Emergency Management Agency

Name: Kyle Cheeseman

Address: Denver Federal Center

City: Lakewood

State: CO

Zip: 80225

Email: [kyle.cheeseman@fema.dhs.gov](mailto:kyle.cheeseman@fema.dhs.gov)

Phone: 2028086632

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## **Appendix C: Cultural Resources Consultations and Correspondence**



October 16, 2023

Mr. Charles A. Bello  
US Department of Homeland Security  
FEMA Region VIII  
Denver Federal Center, Building 710  
PO Box 25267  
Denver, CO 80225-0267

### **SECTION 106 PROJECT CONSULTATION**

Project: 210830028F – Deadwood Whitewood Creek Flood Damage Mitigation  
Location: Lawrence County  
(FEMA)

Dear Mr. Bello:

Thank you for the opportunity to comment on the above-referenced project pursuant to Section 106 of the National Historic Preservation Act of 1966 (as amended). The South Dakota Office of the State Historic Preservation Officer (SHPO) concurs with your determination regarding the effect of the proposed undertaking on the non-renewable cultural resources of South Dakota.

On August 30, 2021, SHPO received your email notifying our office of a potential flood damage project within the Deadwood Historic District, a National Historic Landmark. At that time, the scope of work for the proposed project had not yet been fully defined. On November 5, 2022, SHPO received your email and the report titled “An Intensive Cultural Resources Survey for the City of Deadwood in Advance of Potential FEMA Funding, Lawrence County, South Dakota” by Cassie Vogt of the Archaeological Research Center (CIS No. 4083). SHPO and Dr. Tim Schilling with the National Park Service both provided preliminary comments on this report.

On June 27, 2023, SHPO staff met with staff from FEMA, the Archaeological Research Center, the South Dakota Office of Emergency Management, and the City of Deadwood to conduct a site visit and to discuss the nature of the proposed undertaking and its potential effects on historic properties. During the site visit, staff from the City of Deadwood and the Archaeological Research Center confirmed that 39LA3000.2014.03 (the Burlington Interurban Power Plant) and 39LA2000 (a segment of the Burlington Northern Railway) will be avoided by all project activities. Staff also confirmed that LA00001051 (the railroad bridge over Whitewood Creek) and LA00002076 (a Whitewood Creek stacked stone retaining wall), both of which are Eligible for listing in the National Register of Historic Places, are within the undertaking’s Area of





Potential Effects (APE). Additionally, participants in the site visit identified the need for additional archaeological exploration to determine if and how potential remnants of the Deadwood B&M Roundhouse would be affected by the undertaking.

In email correspondence from September 2023, you notified SHPO that features of the Deadwood B&M Roundhouse were identified during trenching for archaeological investigations. Subsequent correspondence from Kevin Kuchenbecker of the City of Deadwood indicated plans to avoid the features of the Roundhouse during the construction of the retaining wall in project area 1 C. On October 11, 2023, SHPO received your email and the report titled "A Monitoring Report of Pre-Construction Trenching in Area 1 C for the City of Deadwood's FEMA Project DR-4476-SD, Lawrence County, South Dakota" by Fidel Martinez-Greer of the Archaeological Research Center (CIS No. 4236). On October 15, 2023, SHPO received your email delineating the properties affected by the proposed undertaking and the undertaking's overall determination of effect. On October 16, 2023, SHPO was included on correspondence from Dr. Tim Schilling of the National Park Service in which he agreed that FEMA has demonstrated maximum planning and actions to minimize harm to the National Historic Landmark, pursuant to Section 1 10(f) of the National Historic Preservation Act and 36 C.F.R. § 800.10 of the implementing regulations of Section 106.

Based upon the information provided, SHPO agrees that 39LA3000.2023.03, the remnants of the Deadwood B&M Roundhouse, is significant for its contribution to the Transportation history of the Deadwood National Historic Landmark. However, as the boundaries of the site have not been fully delineated and the integrity of the property has not been fully assessed, SHPO will not comment on the contributing versus non-contributing status of the property to the Historic District at this time. As 39LA3000.2023.03 is potentially contributing, SHPO agrees with the recommendations to avoid adverse effects to the property.

Therefore, SHPO agrees with your determination of "No Adverse Effect" for the proposed undertaking, provided the following stipulations are met: 1) The use and weight of equipment crossing Eligible structure LA0000 1051 during project implementation will be limited, and City of Deadwood staff will monitor the structure to ensure the bridge is not being adversely affected. 2) Stacked rock wall LA00002076 will be repaired and reconstructed using the original stone to cover the poured concrete wall. 3) Project activities will avoid the features of 39LA3000.2023.03, the Deadwood B&M Roundhouse, and qualified archaeologists will monitor ground-disturbing activities in Project Area IC to ensure avoidance of the property.-

Activities occurring in areas not identified in your request will require the submission of additional documentation pursuant to 36 C.F.R. § 800.4.

If historic properties are discovered or unanticipated effects on historic properties are found after the agency official has completed the Section 106 process, the agency official shall avoid, minimize or mitigate the adverse effects to such properties and notify the SHPO and Indian tribes that might attach religious and cultural significance to the affected property within 48 hours of the discovery, pursuant to 36 C.F.R. § 800.13.

Concurrence of the SHPO does not relieve the federal agency official from consulting with other appropriate parties, as described in 36 C.F.R. § 800.2(c).

Should you require additional information, please contact Jenna Carlson Dietmeier at Jenna.CarlsonDietmeier@state.sd.us or at (605)773-8370. Your concern for the non-renewable cultural heritage of our state is appreciated.

Sincerely,

A handwritten signature in blue ink that reads "Jenna Carlson Dietmeier". The signature is written in a cursive style.

Jenna Carlson Dietmeier, PhD  
Interim State Historic Preservation Officer, Review & Compliance Coordinator

CC: Tim Schilling -National Park Service  
Kevin Kuchenbecker -City of Deadwood  
Megan Ostrenga Fabricius - Archaeological Research Center, Rapid  
City Lynn Griffin -Archaeological Research Center, Rapid City  
Katie Lamie -Archaeological Research Center, Rapid City

**From:** [Carlson Dietmeier, Jenna](#)  
**To:** [Bello, Charles](#)  
**Cc:** [Schilling, Timothy M](#); [kevin](#); [Trau, Duncan](#)  
**Subject:** RE: [EXTERNAL] FEMA - Deadwood, South Dakota Whitewood Creek Project Determination of Effects Consultation 10-15-2023  
**Date:** Monday, October 16, 2023 2:22:15 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image004.png](#)  
[210830028F - Bello NAE.pdf](#)

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Good afternoon, Charlie,

Attached, please find SHPO concurrence with your determination of “No Adverse Effect” for the proposed Whitewood Creek mitigation project in Deadwood.

Hope you had an amazing weekend at Mesa Verde!

Jenna



## Jenna Carlson Dietmeier, PhD

Interim State Historic Preservation Officer, Review & Compliance  
Coordinator

SOUTH DAKOTA STATE HISTORICAL SOCIETY

[Jenna.CarlsDietmeier@state.sd.us](mailto:Jenna.CarlsDietmeier@state.sd.us)

605-773-8370 | 900 Governors Drive, Pierre | [history.sd.gov](http://history.sd.gov)

---

**From:** Bello, Charles <Charles.Bello@fema.dhs.gov>  
**Sent:** Monday, October 16, 2023 12:54 PM  
**To:** Schilling, Timothy M <Tim\_Schilling@nps.gov>; Carlson Dietmeier, Jenna <Jenna.CarlsDietmeier@state.sd.us>  
**Cc:** kevin <kevin@cityofdeadwood.com>  
**Subject:** RE: [EXT] [EXTERNAL] FEMA - Deadwood, South Dakota Whitewood Creek Project Determination of Effects Consultation 10-15-2023

Thanks so much Tim!  
Very much appreciated – great working with you.  
I will keep you posted on all progress.

Respectfully, Charlie

---

**From:** Schilling, Timothy M <[Tim\\_Schilling@nps.gov](mailto:Tim_Schilling@nps.gov)>  
**Sent:** Monday, October 16, 2023 11:40 AM  
**To:** Bello, Charles <[Charles.Bello@fema.dhs.gov](mailto:Charles.Bello@fema.dhs.gov)>; Carlson Dietmeier, Jenna <[Jenna.CarlsDietmeier@state.sd.us](mailto:Jenna.CarlsDietmeier@state.sd.us)>  
**Cc:** Kevin Kuchenbecker <[kevin@cityofdeadwood.com](mailto:kevin@cityofdeadwood.com)>

**Subject:** Re: [EXTERNAL] FEMA - Deadwood, South Dakota Whitewood Creek Project Determination of Effects Consultation 10-15-2023

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Hello Charlie,

I have nothing more to add. The survey and avoidance measures for the historic resources within the Landmark are thorough. Key points are listed below.

1. The Whitewood Creek retaining wall was reconfigured to ensure that the Roundhouse remains (39LA3000.2023.03) would be avoided.
2. Ground disturbing activities near the Roundhouse site would be monitored by a SOI-qualified archeologist.
3. The B&M Powerhouse remains (39LA3000.2014.03) would be avoided.
4. FEMA and DHPO propose setting weight limits for the use of the historic bridge (LA1051) and marking it with high visibility flags to minimize the risk of damage to the resource.
5. The reconstruction of the retaining wall (LA2706) using the original stone as facing material would preserve the Landmark's setting and historic feeling.
6. No other effects to the Landmark or other National Register eligible properties were identified.

These actions demonstrate maximum efforts to minimize adverse effects as required by Section 110(f) of the NHPA. The finding of no adverse effect for the undertaking appears appropriate providing the conditions listed above are implemented.

Thanks,  
Tim

Tim Schilling, PhD

Archeologist

Historic Preservation Partnerships

National Park Service | Interior Regions 3, 4, 5  
Great Lakes, Mississippi Basin, Missouri Basin

402-437-5392 ext 116

Denney Federal Building, Rm 474

100 Centennial Mall North

Lincoln, NE 68508

Follow the NHL Program!



---

**From:** Bello, Charles <[Charles.Bello@fema.dhs.gov](mailto:Charles.Bello@fema.dhs.gov)>

**Sent:** Sunday, October 15, 2023 8:26 PM

**To:** Carlson Dietmeier, Jenna <[Jenna.CarlsonDietmeier@state.sd.us](mailto:Jenna.CarlsonDietmeier@state.sd.us)>; Schilling, Timothy M <[Tim\\_Schilling@nps.gov](mailto:Tim_Schilling@nps.gov)>

**Cc:** Kevin Kuchenbecker <[kevin@cityofdeadwood.com](mailto:kevin@cityofdeadwood.com)>

**Subject:** [EXTERNAL] FEMA - Deadwood, South Dakota Whitewood Creek Project Determination of Effects Consultation 10-15-2023

**This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.**



Good evening – In the interest of time (pending construction schedules), I am outlining FEMA’s findings and determinations of effects related to the Section 106 process for the above-referenced project. Please note that over the 4-year history of this project I have corresponded numerous times with you and provided information related to cultural resources (both within the Landmark and immediately adjacent to it) that might be potentially impacted by the proposed project. **I very much appreciate your involvement.**

I have previously sent copies of the two Cultural Resource Survey Reports (October 2022 & October 2023). The “Intensive Cultural Resources Survey of Deadwood in Advance of Potential FEMA Funding, Lawrence County (Archaeological Research Center (ARC), October 2022) covered four parcels (Areas 1, 2, 3A, and 3B):

Areas 1 and 2 are within the boundaries of the Deadwood National Historic Landmark.

Areas 3A and 3B are immediately outside of the National Historic Landmark boundary.

I received comments on this report from both your offices in early November 2022 stating you have no further comment relating to the resource identification and evaluation outlined in the ARC report and of which I accepted, except for the following (which I now supply updated information and clarification):

**Stacked Rock Wall (LA2706):** constructed at the turn of the 19th century to provide additional real estate for the newly arrived Burlington and Missouri River Railroad line coming into the City of Deadwood from the South. The City historic preservation department (Kevin Kuchenbecker) stated that this wall has been repaired several times over the past three decades due to highwater events and the sloughing and deterioration of stones. Each time the original rock was used in rebuilding the structure. The current plans for the reconstruction of this resource calls for carefully removing the original stone, stockpiling, and reusing the stone as facing on a poured concrete wall that will provide longevity and protection to the railroad tracks as well as maintaining the original historic appearance of the wall. This method of reconstruction of historic retaining walls is often used within the Deadwood National Historic Landmark. All visible historic materials will remain and be reused in a dry-stacked method of reconstruction recreating a true-sense of original appearance as it did during the time of its historic significance. The reconstruction of this historic structure will be accurate with the reuse of the original material. FEMA approves of this method of reconstruction, and although is considered an effect on this particular historic property, FEMA asked for concurrence that there will not be an adverse effect following the proposed reconstruction method outline above.

**Historic Bridge (LA-1051):** eligible for the NRHP under Criteria C and D (SHPO concurrence). The bridge will be used by trucks and machinery to cross over various segments of the overall project. The City has agreed that the construction contractor shall limit use and weight loads on the bridge and otherwise use protective cones/flagging along each corner of the structure. The City historic preservation department will make periodic inspections to ensure the bridge remains undamaged.

A Monitoring Report of Pre-Construction Trenching in Area 1C for the City of Deadwood's FEMA Project DR-4476-SD, Lawrence County, South Dakota was issued on October 11, 2023 (ARC). This report focused solely on archaeological examination of **Site 39LA3000.2014.03** (the archaeological remains of the Burlington Interurban Power Plant). As I discussed over the phone with both of you I had the City supply the following information:

*Given the direct association of site 39LA3000.2023.03 with the B&M, the investigators recommend that the site be considered Eligible for the NRHP. The investigators recommend that because the site contributes to the significance of the Deadwood Historic District (39LA3000) and the Deadwood National Historic Landmark (Reference No. 66000716), Site 39LA3000.2023.03 is to be avoided by the proposed project..*



*Upon discovery of the corner of the foundation of the roundhouse, Deadwood Historic Preservation Officer immediately worked with the engineer of record and the contractor to develop a plan for avoidance of the archaeological feature. The original plan for the project would have encroached upon, damaged and potentially destroyed a portion of the foundation due to the proximity of the proposed new retaining wall. The more precise location of the foundation is near Retaining Wall station 2+00. Plans now call for the contractor perform all excavation around the existing roundhouse foundation with Owner's archaeological representative present and to provide necessary care and caution to avoid any disturbance or damage to the historical foundation.*

*The depth of the foundation is unknown but is anticipated to be at least 7 feet below the parking lot elevation. Deadwood's archaeological team will provide additional excavation around this corner prior to Contractor beginning work to determine if temporary shoring of the foundation corner by Contractor is required. Finally, to avoid disturbing the historical feature, there will be a reduction of the 60" blocks in this vicinity to 41" blocks per Structural Supplemental Instruction No. 01 attached to this report.*

As noted in an email that I sent to you last week i reviewed the report submitted by the State Archaeological Research Center and found it well written and acceptable in meeting the requirements of the SOW for this aspect of the project. I agree with the conclusions and recommendations of the ARC.

I concur that the foundation remnants of the Deadwood B&M roundhouse were identified and documented as archaeological site 39LA3000.2023.03. I also understand that the site could was not formally evaluated, nor the site boundaries fully delineated given the limited scope of the trenching and monitoring. Because of the direct association of site 9LA3000.2023.03 with the B&M, I concur the site be considered Eligible for the NRHP and further agree that because the site contributes to the significance of the Deadwood Historic District (39LA3000) and Deadwood National Historic Landmark (Reference No. 66000716), Site 39LA3000.2023.03 will be avoided by the proposed project.

I recommend a Finding of Effects, but without Adverse Effect on the Deadwood Historic District. I recommend the proposed construction of a retaining wall avoid both the identified and mapped projected subsurface features and cultural deposits associated with the Deadwood B&M roundhouse foundations, newly recorded as archaeological site 39LA3000.2023.03. Additionally, I further recommended the proposed construction and any ground-disturbing activities associated within Project Area 1C be monitored by a qualified archaeologist, with the results and recommendations of monitoring summarized in a final monitoring report and submitted to FEMA.

**All other historic properties identified in the October 2022 ARC report were either determined not eligible for listing on the NRHP (with SHPO concurrence) or will be**

**completely avoided by the project (verified by the City and FEMA/State OEM Public Assistance.**

I also point out that I corresponded with a variety of Tribes and historic societies over the past year as details of proposed construction were made available. I continued this notification by email and often phone calls throughout the first half of 2023 – unfortunately, I did not receive any responses back except from the THPO at Lower Brule – saying they need no involvement. I have kept SHPO aware of my effort at Tribal/Public outreach.

**Artifact collection policy during monitoring (ARC/City):** There will be a limited collection strategy – only collecting diagnostics, dateable material, or samples. All materials will be handled by staff of the City at their facilities and curated at that location as per standard practice.

SOI-qualified archaeologists monitoring within Project Area 1C will have the ability to stop construction in the event cultural materials are identified. Machinery can move to another (archaeologically monitored) location while attention is given to any other location of archaeological sensitivity. In the event materials are deemed significant by the monitoring team, FEMA, SHPO, and the NPS are to be notified before construction work resumes. A report of archaeological monitoring will be sent to FEMA within 60 days of finishing fieldwork.

I respectfully ask for your concurrence with the following:

- **Stacked Rock Wall (LA2706):** FEMA approves the City's proposed method of reconstruction. Although the reconstruction is considered an effect on this particular historic property, FEMA asked for concurrence that there will not be an adverse effect following the proposed reconstruction method outline above.
- **Historic Bridge (LA-1051):** Eligible for the NRHP under Criteria C and D (SHPO concurrence). The bridge will be used by trucks and machinery to cross over various segments of the overall project. The City has agreed that the construction contractor shall limit use and weight loads on the bridge and otherwise use protective cones/flagging along each corner of the structure. Provided these conditions are met during all aspects of construction, there will not be an adverse effect on the structure.
- **Site 39LA3000.2014.03** (Archaeological remains of the Burlington Interurban Power Plant). The site is eligible for listing on the NRHP. I recommend a Finding of Effects, but without Adverse Effect. I recommend the proposed construction of a retaining wall will avoid both the identified and mapped projected subsurface features and cultural deposits associated with the Deadwood B&M roundhouse foundations, and newly recorded as archaeological site 39LA3000.2023.03. Additionally, I further recommended the proposed construction and any ground-disturbing activities associated within Project Area 1C be monitored by a team of SOI-qualified archaeologists, with the results and recommendations of monitoring

summarized in a final monitoring report.

Sorry for this evening email, I hurried back today after viewing the solar eclipse at Mesa Verde National Park (& witnessed it from the amazing Cliff Palace!). I realize how important this infrastructure project is for the City/State – and I want to assist in any way possible, especially in light of the proposed construction schedule. I appreciate any comments or additional stipulations/conditions that either of you may have. I am available tomorrow or any day this week to discuss.

Respectfully, Charlie

Charles A. Bello, M.A., RPA  
Advisor | Environmental / Historic Preservation | FEMA Region 8  
Regional Coordinator / Advisor – Unified Federal Review | FEMA Region 8

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Federal Emergency Management Agency  
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**From:** [Bello, Charles](#)  
**To:** [Hardegen, Steven](#)  
**Cc:** [Myers, Richard](#); [Cheeseman, Kyle](#)  
**Subject:** Deadwood, South Dakota - Whitewood Creek Project - Tribal & Historical Society Contacts  
**Date:** Saturday, June 3, 2023 10:28:39 AM  
**Attachments:** [image002.png](#)

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I sent out a long email & some snail mail letters to the following Tribes and Historic Societies on January 15 & then followed up with each by email and sometimes a phone call – unfortunately no responses back from anyone except from the THPO at Lower Brule – saying they need no involvement. SHPO is aware of my effort at Tribal/Public outreach.

I feel I have covered all aspects of interested party consultation – also note that I have been regularly working with SD-SHPO and the DOI on this project.

- Cheyenne River Sioux; Crow; Crow Creek Sioux; Fort Belknap; Lower Brule Sioux; Oglala Sioux; Rosebud Sioux and Santee Sioux.
- Black Hills Preservation Trust; Central City Historic Preservation Commission; Dakota Preservation; Deadwood Alive; Deadwood History Inc.; Deadwood Public Library; Deadwood Trust for Historic Preservation; Lawrence County Historical Society; Lead Historic Preservation Commission; Rapid City Historic Preservation Commission; Society for Black Hills Pioneers; Spearfish Area Historical Society; Spearfish Historic Preservation Commission; and the Galena Historical Society

A copy of my text is given below and I also sent project design narrative, maps, damage photos, and a copy of the archaeo report.

I am seeking input for the above-referenced Federal Emergency Management Agency (FEMA) hazard mitigation project related to FEMA Disaster #4467 (Severe Storms, Tornadoes, & Flooding – Incident Period: June 30 to July 21, 2019; Federal Disaster Declaration Date: Oct 7, 2019). Please note that the final scope-of-work for the project is still being developed – anticipated to be completed this Spring/Summer, with work beginning shortly thereafter. I am waiting for engineering documents, photos, and final scopes-of-work for the permanent repairs and proposed hazard mitigation. I will send the current project design narrative and damage photos in a separate email. There are approximately eight areas along Whitewood Creek with various damaged flood protection elements (see attached documents) that will be repaired and otherwise subject to additional hazard mitigation improvements. I am interested in hearing about the existence of properties of religious, cultural, or historic significance that you might care to discuss with me to ensure such sites are properly identified and protected.

I have attached a copy of the *Intensive Cultural Resources Survey for the City of Deadwood in Advance of Potential FEMA Funding, Lawrence County, South Dakota* (prepared for the City of Deadwood by the Archaeological Research Center, Rapid City, October 2022). This study

was undertaken in advance of FEMA funding for repair of flood damages and hazard mitigation along Whitewood Creek in Deadwood, Lawrence County, South Dakota. The proposed work comprises four project locations (Areas 1, 2, 3A, and 3B). Areas 1 and 2 are within the boundaries of the Deadwood National Historic Landmark (NHL) and Areas 3A and 3B are just outside the NHL boundary. The FEMA work, if approved, will return the environment along Whitewood Creek to pre-disaster conditions – damages caused by major flooding in 2019. The proposed work will remove the damaged retaining wall, new retaining wall emplacement, and riprap installation within the project area, covering a total of 1.9 hectares (4.6 acres). The proposed project areas are in Sections 26 and 27, T5N R3E on USGS 7.5' Deadwood South Quadrangle – within the Black Hills Archaeological Region.

As a result of the survey, one new retaining wall structure (LA00002075) and one unevaluated bridge (LA00001051) were documented in Area 1. Two new retaining wall structures (LA00002076 and LA00002077) and a new segment of site 39LA2000 were recorded in Area 2. Structures LA00002075 and LA00002077 have been determined Not Eligible for the NRHP while LA00001051 and the new segment of 39LA2000 is Eligible. There were no archaeological sites related to previous Native American use/occupation of the study area. The report was reviewed and approved by archaeologists/architectural historians from the National Park Service and the South Dakota State Historic Preservation Office. However, each noted that final design plans will be required to make a determination of effect for each historic property identified in the report, and to keep the historic integrity of the National Historic Landmark intact. NPS and SHPO stated it will be important to finish the retaining walls in an appropriate manner – sympathetically designed walls may avoid an adverse effect while inappropriate finishes may lead to an adverse effect. Given that LA00002076 is Eligible and it does not seem like avoidance of the historic property is feasible, an Adverse Effect for the undertaking is likely, and will require a MOA. If the exact effects to the property (or to any historic properties) cannot be determined prior to the approval of the Undertaking, a Programmatic Agreement would be more suitable. In addition to the Undertaking's physical effects on historic properties, FEMA will consider the effect(s) that the undertaking may have on the setting and/or feeling of the Deadwood NHL.

Any questions, suggestions, or input to the project you may have are welcome. Here are some of my notes on the report:

- The project work areas were accurately portrayed to the archaeologists in the field. The proposed work will require removal of the damaged retaining wall, new retaining wall emplacement, and riprap installation within the four project areas, covering a total of 1.9 hectares (4.6 acres).
- As a result of the survey, one new retaining wall structure (LA00002075) and one Unevaluated bridge (LA00001051) were documented in Area 1; and two new retaining wall structures (LA00002076 and LA00002077) and a new segment of site 39LA2000 were recorded in Area 2. Structures LA00002075 and LA00002077 have been determined Not Eligible for the NRHP while LA00001051 and the new segment of 39LA2000 are Eligible. [I would like to see specific details of the proposed work at LA00001051 and the new segment of 39LA2000 locations, including any proposed mitigation]. If avoidance is not possible, then there may be an adverse effect and MOA].
- Shovel tests were excavated in Area 2 in an attempt to identify intact deposits on the

south side of Whitewood Creek. Tests 1 and 2 were positive for cultural material and showed evidence of historic occupation, railroad activity, and the possible remnants of a railroad spur track. Further work is recommended at this location. [I agree that further work should occur – I talked to the ARC and this can start pretty quickly and will not take long in the field and then to report. There will have to be a separate contract issued & I can write the SOW for all-inclusive more in-depth historic research, fieldwork, lab analysis and reporting.]

- Previously recorded site 39LA3000.2014.03 is the archaeological remains of the Burlington Interurban Power Plant and is recommended Eligible for listing in the NRHP. The current archaeological survey noted changes to the site, but these changes do not appear to have negatively impacted the site's significance or integrity. Bridge LA00001051 was previously recorded but Unevaluated for the NRHP. As a result of this investigation, the bridge was recommended and determined Eligible. Finally, Site 39LA2000 was updated during survey with a new contributing segment recorded within Area 2. If possible, avoidance of this segment of the site is recommended, as 39LA2000 is Eligible for the NRHP. [Again, we need to look at what work is proposed for return to pre-disaster condition and then if there may be HMGP impacts – avoidance is best, but may not be practical and thus we are looking at an adverse effect and MOA – SHPO and NPS have to be brought into the discussion.]
- Newly recorded structures include LA00002075, LA00002076, and LA00002077. All three are retaining walls along Whitewood Creek. LA00002075 and LA00002077 were recommended and determined Not Eligible for the NRHP with no further work recommended. LA00002076 was determined Eligible for the NRHP; because project plans call for the removal and reconstruction of this structure, it is recommended that the City work with FEMA and SHPO to mitigate potential adverse effects to the structure. [We need to look at what work is actually proposed at LA00002076 (including HMGP impacts) – looks like avoidance is not feasible, and thus we are looking at an adverse effect and MOA – SHPO and NPS have to be brought into the discussion.]
- In addition to the recommendations above, the investigator recommends the City work with an experience geologist or geoarchaeologist to examine the soils of the cutbank in Area 3A [need to clarify if we are working in this area]. The exposed cutbank provides a good picture of soil deposition along Whitewood Creek and may allow for an interpretive opportunity and a positive contribution to the character of the Deadwood NHL (Area 3A is outside of but adjacent to the boundary of the NHL). In addition to the recommended test unit excavation in Area 2, test trenches, to be excavated via backhoe, are recommended within Area 1 within the vicinity of the Burlington Northern's roundhouse (see Figure 39). [I would like to know what specific ground disturbing work is proposed for this location before we actually do more testing]. This would allow the City and FEMA to ascertain the presence and extent of potential cultural resources buried below the modern parking lot that may be associated with the former railroad yard. Finally, construction monitoring by a qualified archaeologist is recommended for Areas 1 and 2 during project construction activities, [I conditionally agree with this recommendation, but only after we have results of additional mechanical testing] as these areas are within the Deadwood NHL and have the potential to reveal additional



buried cultural resources.

- Details of additional archaeological testing and construction monitoring, as well as the geological examination and avoidance of the retaining wall (LA00002076) should be discussed with the FEMA/City/SHPO/NPS team as soon as possible.

Charles A. Bello, M.A., RPA

Advisor | Environmental / Historic Preservation | FEMA Region 8

Regional Coordinator / Advisor – Unified Federal Review | FEMA Region 8

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**FEMA**