

La Belle Creek Restoration Project

Valle Vidal, Carson National Forest



La Belle Creek Restoration Project

Project Contacts



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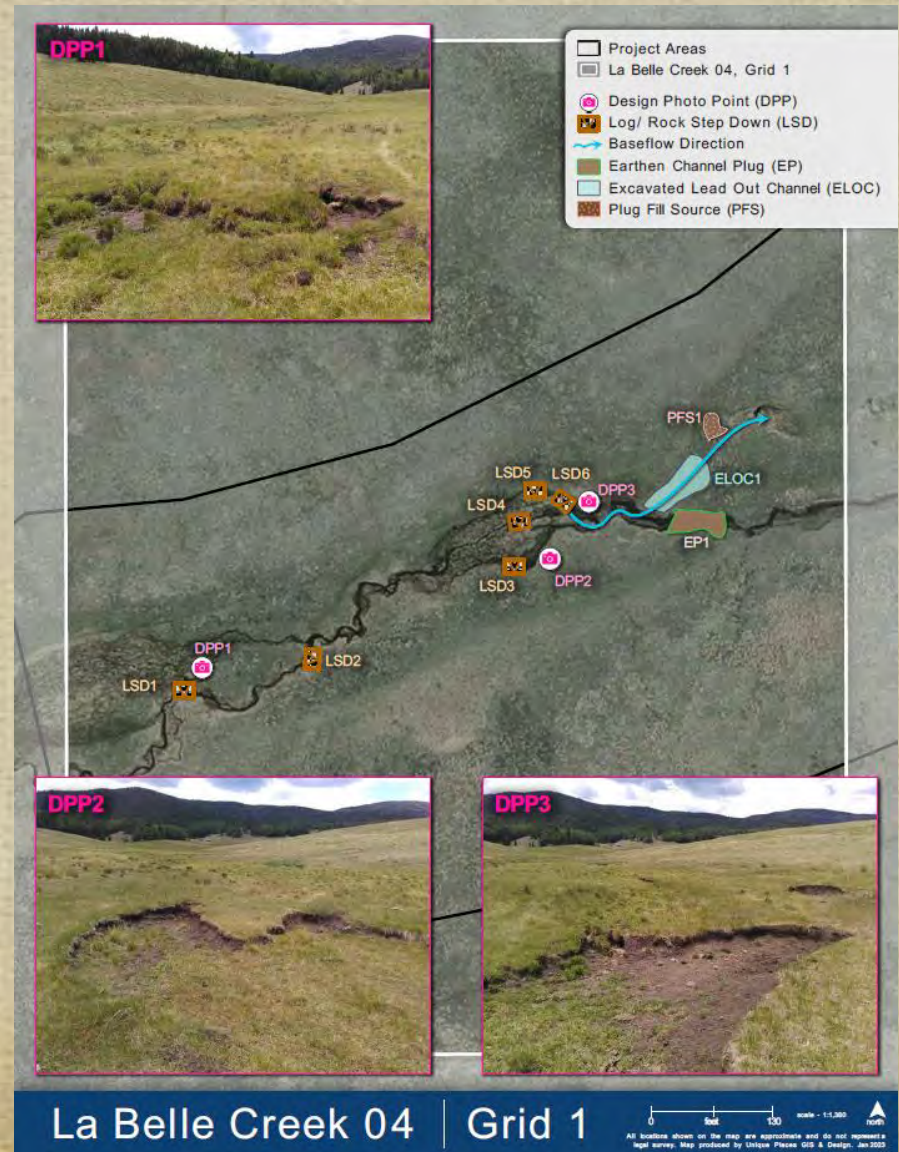
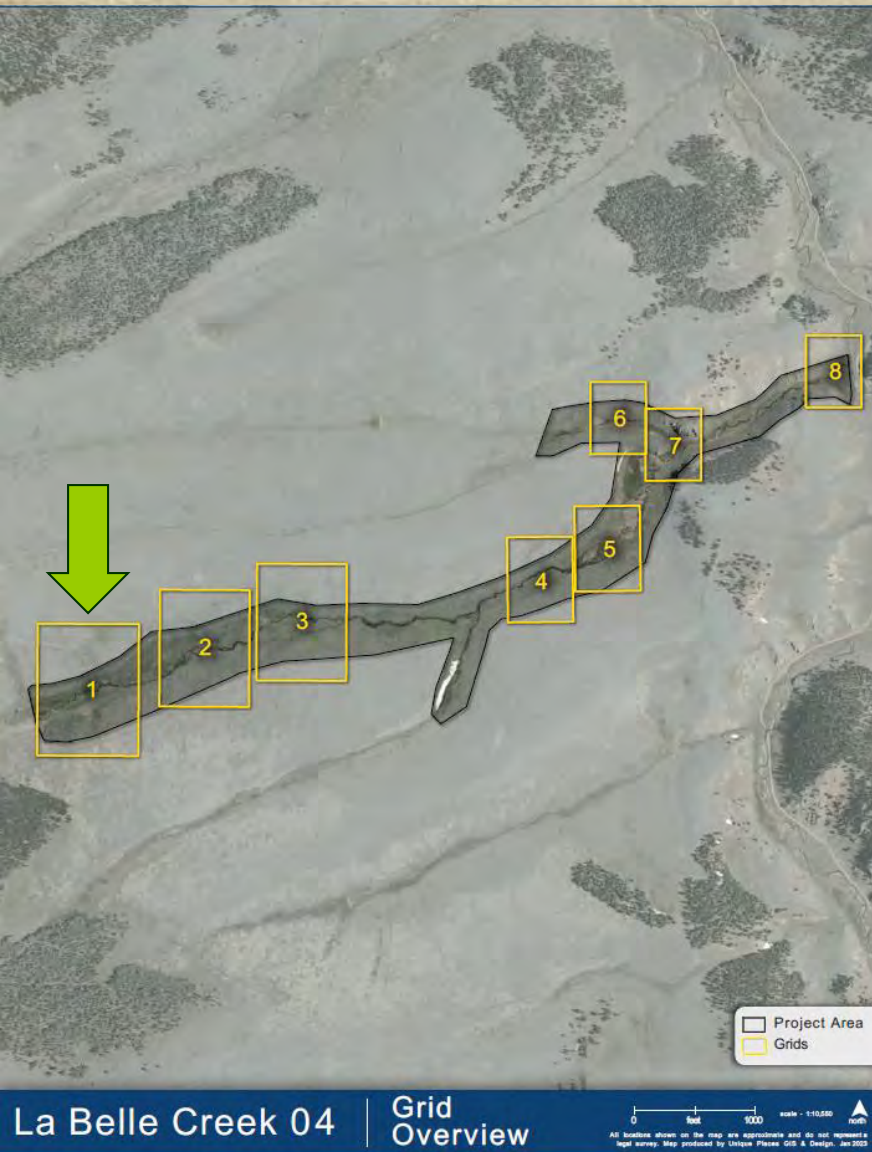
Alyssa Radcliff
Alyssa.Radcliff@usda.gov

The map displays the Comanche Creek Watershed, which is outlined in a thick black line. Within this watershed, several project areas are identified and outlined in yellow. These include Grassy Creek, Vidal Creek 8b, La Belle Creek 4, Foreman Creek 5, Sawmill Creek 6, Comanche Creek 12, Vidal Creek 7a, Vidal Creek 7b, Vidal Creek 8a, Vidal Creek 7c, Vidal Creek 9, Vidal Creek 10b, Vidal Creek 11, Vidal Creek 10a, and Vidal Creek 8a. A legend in the bottom right corner explains the symbols: a yellow outline for 'Project Areas', a dashed yellow outline for 'Project Areas Not Included in Design Packet', and a thick black outline for 'Comanche Creek Watershed'. A scale bar at the bottom indicates distances in miles (0 to 1.0). A north arrow is also present. An inset map in the top left corner shows the location of the watershed within the larger context of the Red River and the state of Texas. A large orange arrow points from the left edge of the map towards the La Belle Creek 4 area, and a large green arrow points from the center towards the Vidal Creek 7a area.

Project Areas

Overview Map

La Belle Creek Overview and details of Project Grid 1



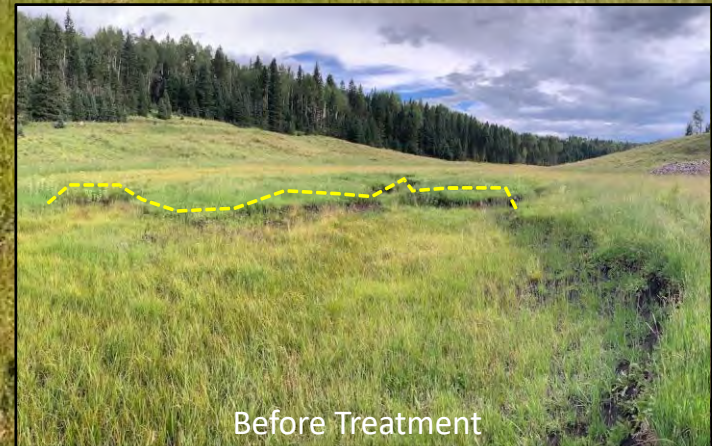
Log Stepdown

with Rock
Headcut Repair

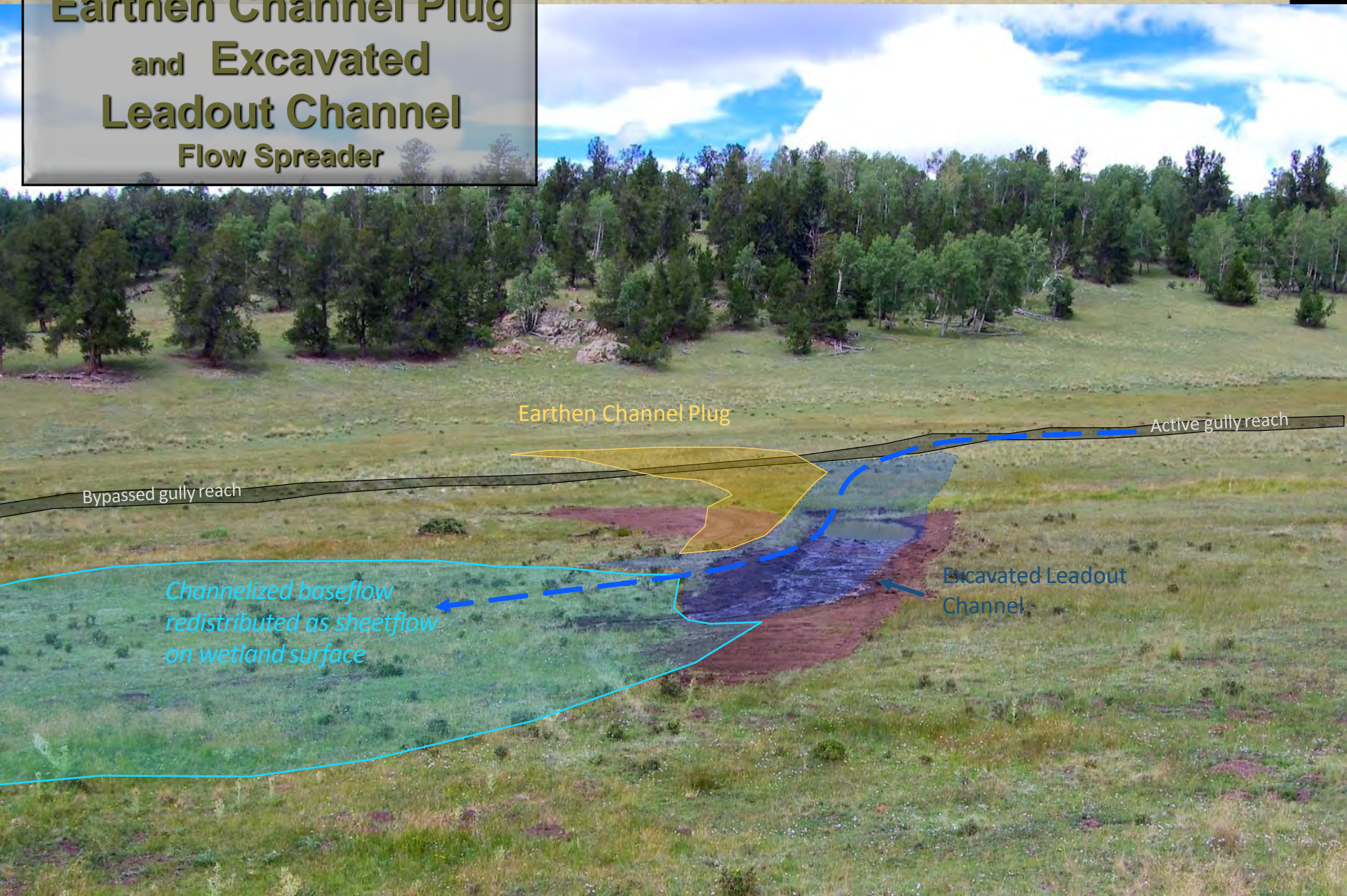
Logs embedded
into headcut

Edge of Headcut

Cobble fill
between logs



Earthen Channel Plug and Excavated Leadout Channel Flow Spreader



Sod Tile Stepdown Headcut Repair



Untreated low-energy headcut concentrating flow and accelerating wetland channelization.

Former
Headcut
Pourover



Sod tiles laid
over headcut
face to create
an energy
dissipating
stepdown

Summary of Project

Construction of 35, engineered instream structures at an estimated cost of \$436,000

This effort will require several pieces of heavy equipment, as well as materials brought in from off site, and careful use of the equipment to place these engineered structures. This portion of the restoration efforts within the Watershed also has the challenge of being much more difficult to access, resulting in higher mobilization costs.

This project will primarily benefit Elk, and Rio Grande Cutthroat Trout.





La Belle Creek Restoration Project

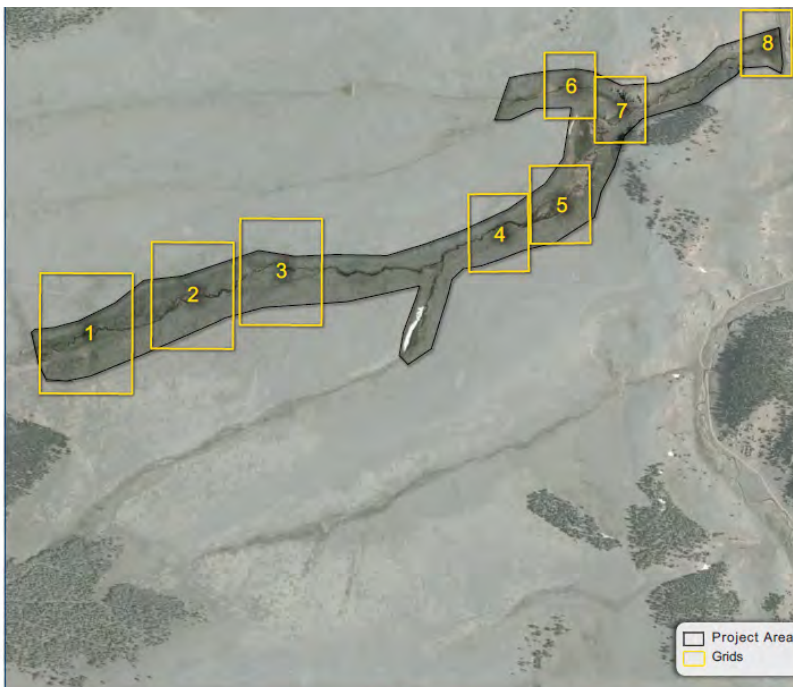


- The Comanche Creek Watershed encompasses 27,430 acres of forests, rangelands, wet meadows, slope wetlands and streamside riparian habitats. Historically, this watershed has been impaired by poor rangeland management and short sighted forestry goals.
- Since 2001, a large scale, holistic approach to restoration of this watershed has been in effect. The restoration goals of this work include:
 - Raising the Water Table
 - Reestablishing Floodplain connectivity
 - Improving riparian habitat diversity
 - Increasing forage production and wetland plant communities
- This work has been implemented in all of the priority creeks and drainages within the Watershed, except for La Belle Creek, the last high priority, untreated creek within the watershed.
- This project has been sponsored and carried out by a variety of partners, including federal and state management agencies, Trout Unlimited, The Quivira coalition, the EPA and even Coca-Cola.
- The Habitat Stamp Program has previously funded restoration work in this watershed as part of the 2021 project prioritization.

Project Contacts:

USFS - Alyssa Radcliffe
NMDGF - Daniel Lusk

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Daniel.lusk@dgf.nm.gov



Proposed Management Action

- The NMDGF, in collaboration with the USFS, will contract the installation of approximately 35 in stream structures to mitigate stream bank incision and erosion issues.
- HSP funds will be utilized for the purchase of material, mobilization of heavy equipment, labor wages to operate machinery and install the engineered in stream structures, de-mobilize equipment and mitigate implementation footprints by seeding disturbed areas.
- Following this Implementation, the NMDGF and USFS will enter into a monitoring phase to evaluate the efficacy of this landscape restoration effort, and adjust land management decisions in response to those monitoring reports.
- Google Earth Link:

Estimated
Budget: \$436,000

Project Name:

La Belle Creek Restoration Project

Project relation to CAC advice or prioties:

This project benefits fish. La Belle Creek feeds into Comanche Creek, a tributary of Rio Costilla which is one of the better fisheries for Rio Grande Cutthroat Trout. Once implemented, this project will help to maintain hydrologic function of the Comanche Creek Watershed, and improve water quality and trout habitat in the waters below.

Project Specific Details:

This project is the final leg of a larger effort to improve watershed health in the Valle Vidal. All work has been completed from the original conceptual design except for the proposed actions contained within this project proposal. A design packet is attached at the end of this document for additional details.

Historical Data:

The Valle Vidal watershed was historically impaired by poor grazing management, which has since been altered to be more sustainable. The heritage impairments to the watershed have been systematically addressed in a phased restoration approach.

Itemized Use of Funds:

Materials (Rock) and Transport - \$118,500

Labor to operate equipment, harvest timber for structures, install structures - \$245,150

404 permit application - \$6,000

Mobilization/De-mobilization - \$28,400 GRT - \$29,356.19

Comprehensive Project Analysis:

Please see the attached design packet and presentation for these details.

Monitoring Plan/ Strategy:

The Valle Vidal is monitored by the USFS staff, including Range, Wildlife, Fisheries, Hydrologists and other specialists. It is a special area of interest and also has many other researchers/NGO's who conduct studies and monitoring throughout. As this phase of the project is the final stage of the Valle Vidal restoration project, the NMDGF will enter into a monitoring phase of all installed structures and management approaches within the Valle Vidal.

Project Emphasis Species:

Rio Grande Cutthroat Trout and Elk.

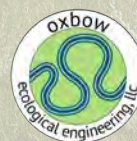


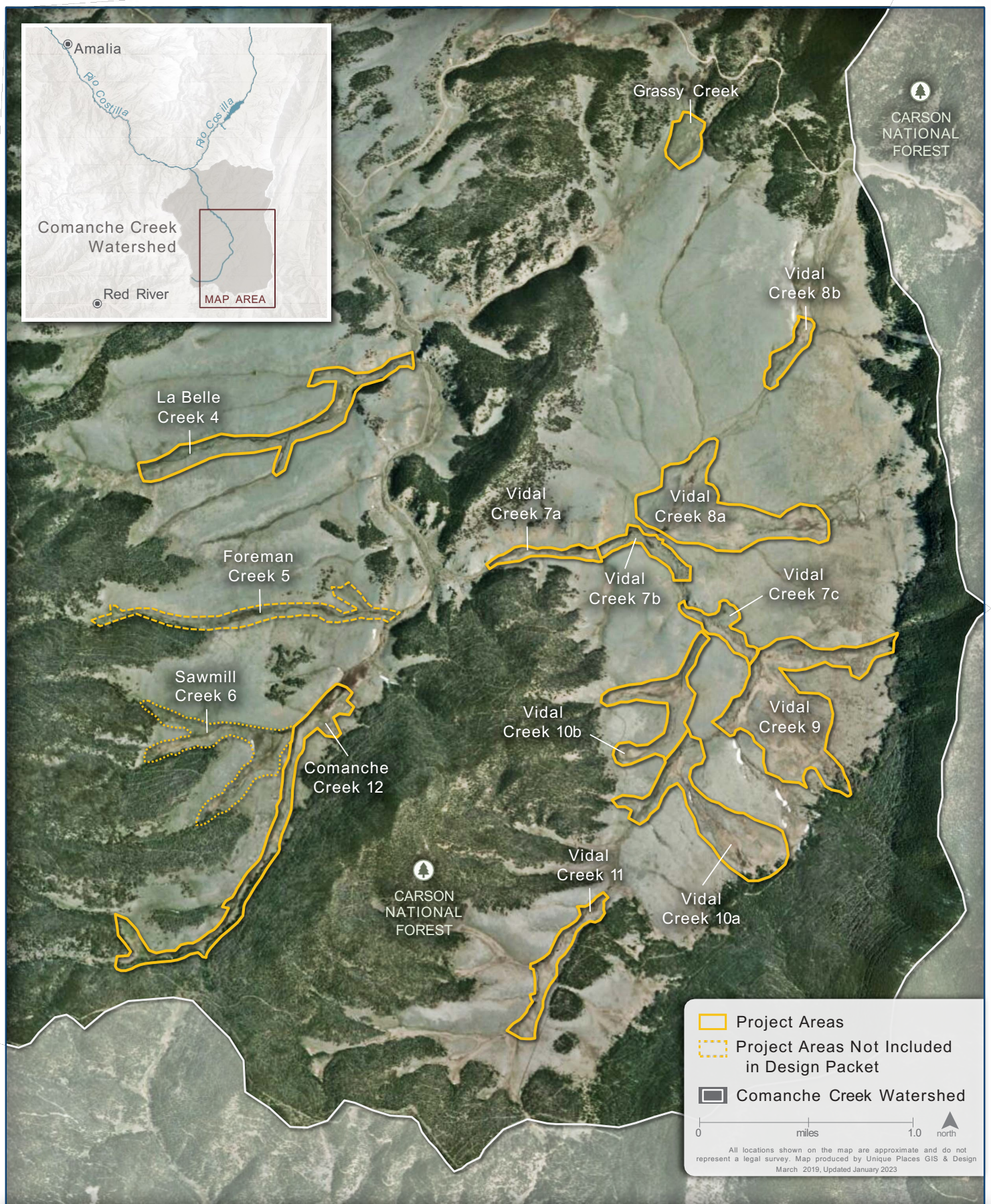
La Belle Creek 04

Comanche Creek Watershed
Restoration Master Plan Design Packet



January 15, 2023





Project Areas | Overview Map



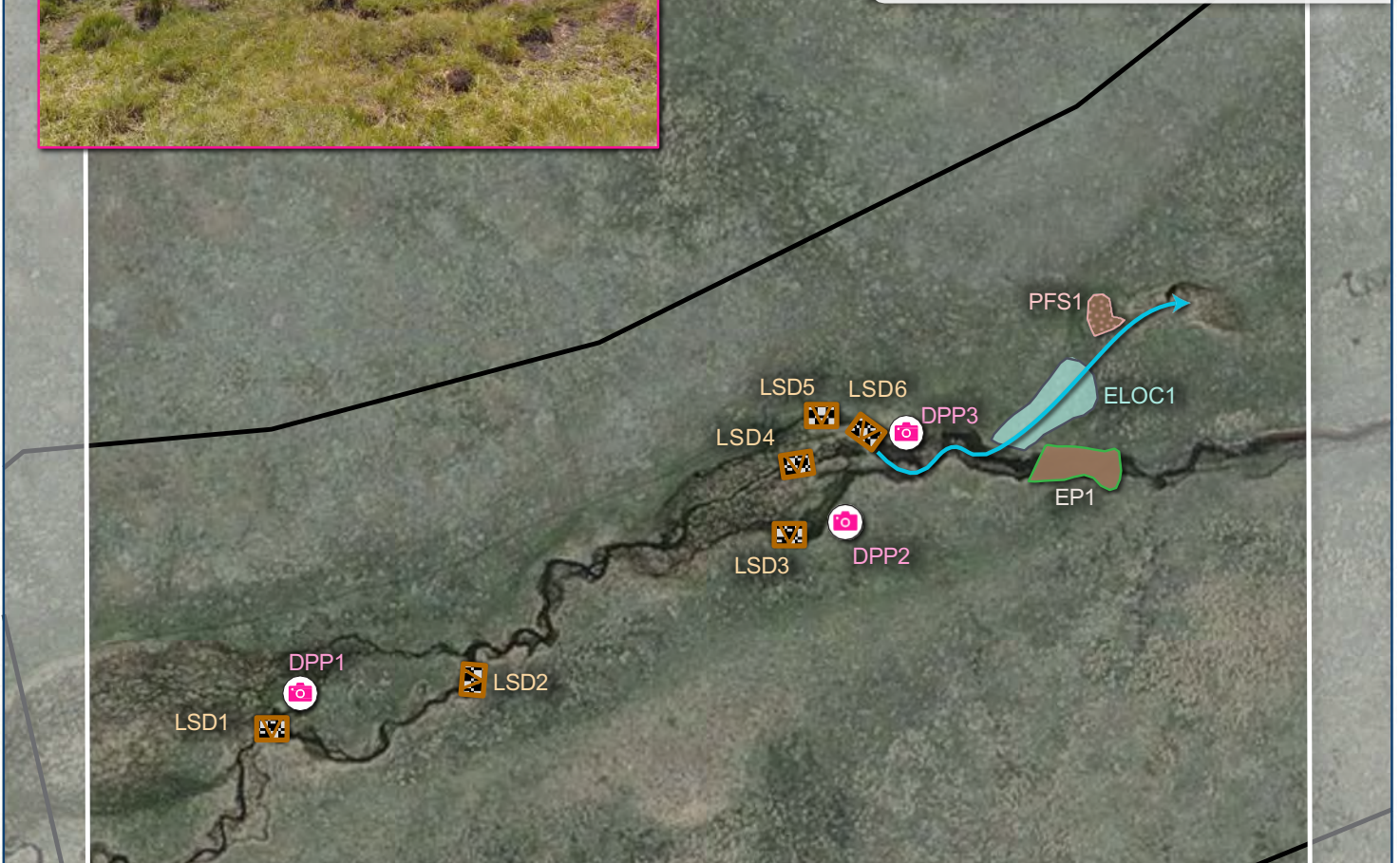
La Belle Creek 04

Grid Overview

0 feet 1000 scale - 1:10,550 north
All locations shown on the map are approximate and do not represent a legal survey. Map produced by Unique Places GIS & Design, Jan 2023



- Project Areas
- La Belle Creek 04, Grid 1
- Design Photo Point (DPP)
- Log/ Rock Step Down (LSD)
- Baseflow Direction
- Earthen Channel Plug (EP)
- Excavated Lead Out Channel (ELOC)
- Plug Fill Source (PFS)



La Belle Creek 04 | Grid 1

0 feet 130 scale - 1:1,380 north
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



- Project Areas
- La Belle Creek 04, Grid 2
- Design Photo Point (DPP)
- Log/ Rock Step Down (LSD)
- Baseflow Direction
- Earthen Channel Plug (EP)
- Plug Fill Source (PFS)

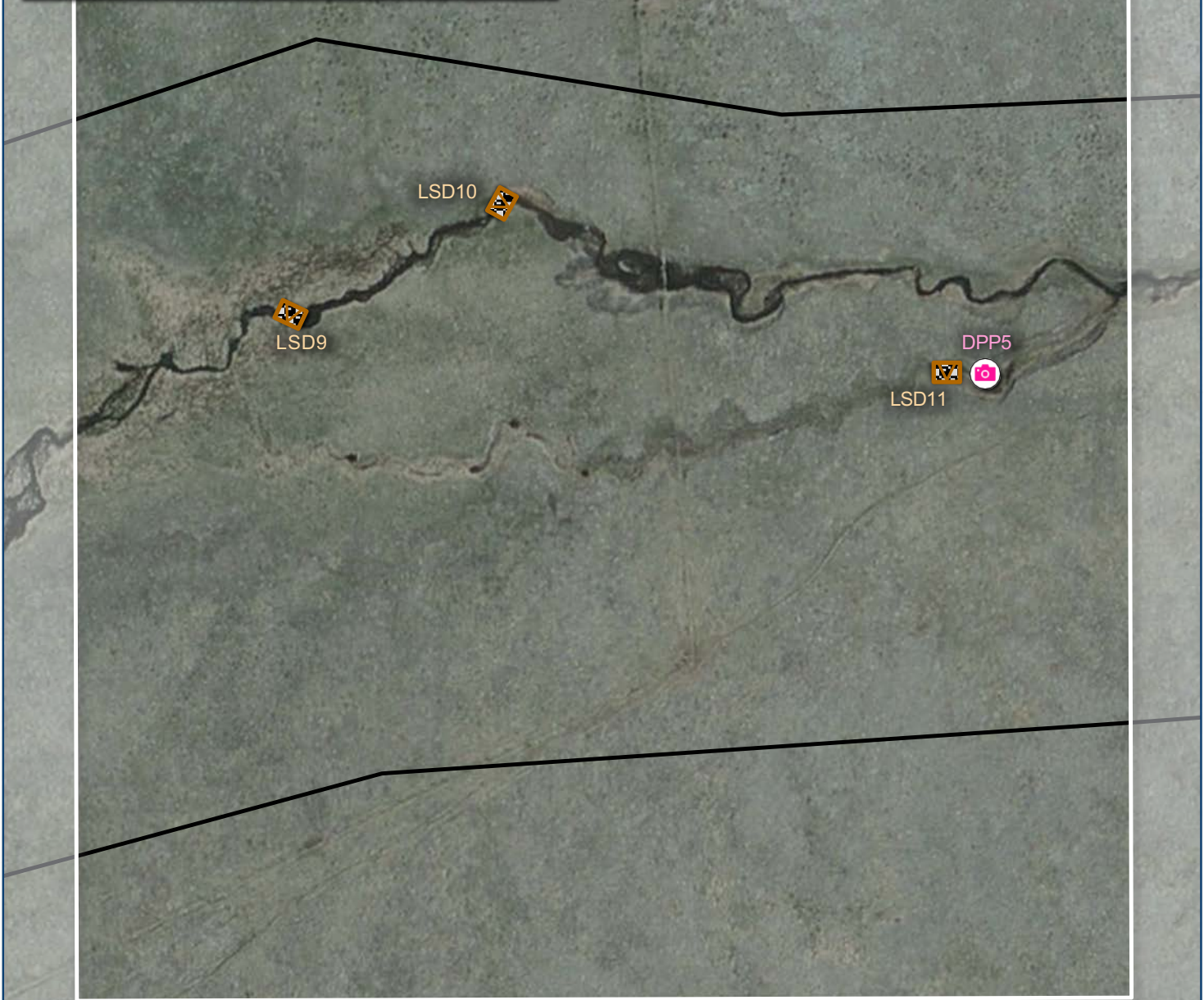


La Belle Creek 04 | Grid 2

0 feet 120 scale - 1:1,220 north
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-  Project Areas
-  La Belle Creek 04, Grid 3
-  Design Photo Point (DPP)
-  Log/ Rock Step Down (LSD)



La Belle Creek 04 | Grid 3



La Belle Creek 04 | Grid 4

DPP7



- Project Areas
- La Belle Creek 04, Grid 5
- Design Photo Point (DPP)
- Sod Tile Stepdown (ST)
- Log/ Rock Stepdown w/ Sod Plug (LSSP)
- Recommended Exclosure Perimeter (XP)

XP1

LSSP1

DPP7

ST2

DPP6

LA BELLE CREEK 04 GRID 4

DPP6



La Belle Creek 04 | Grid 5

0 feet 90 scale - 1:890



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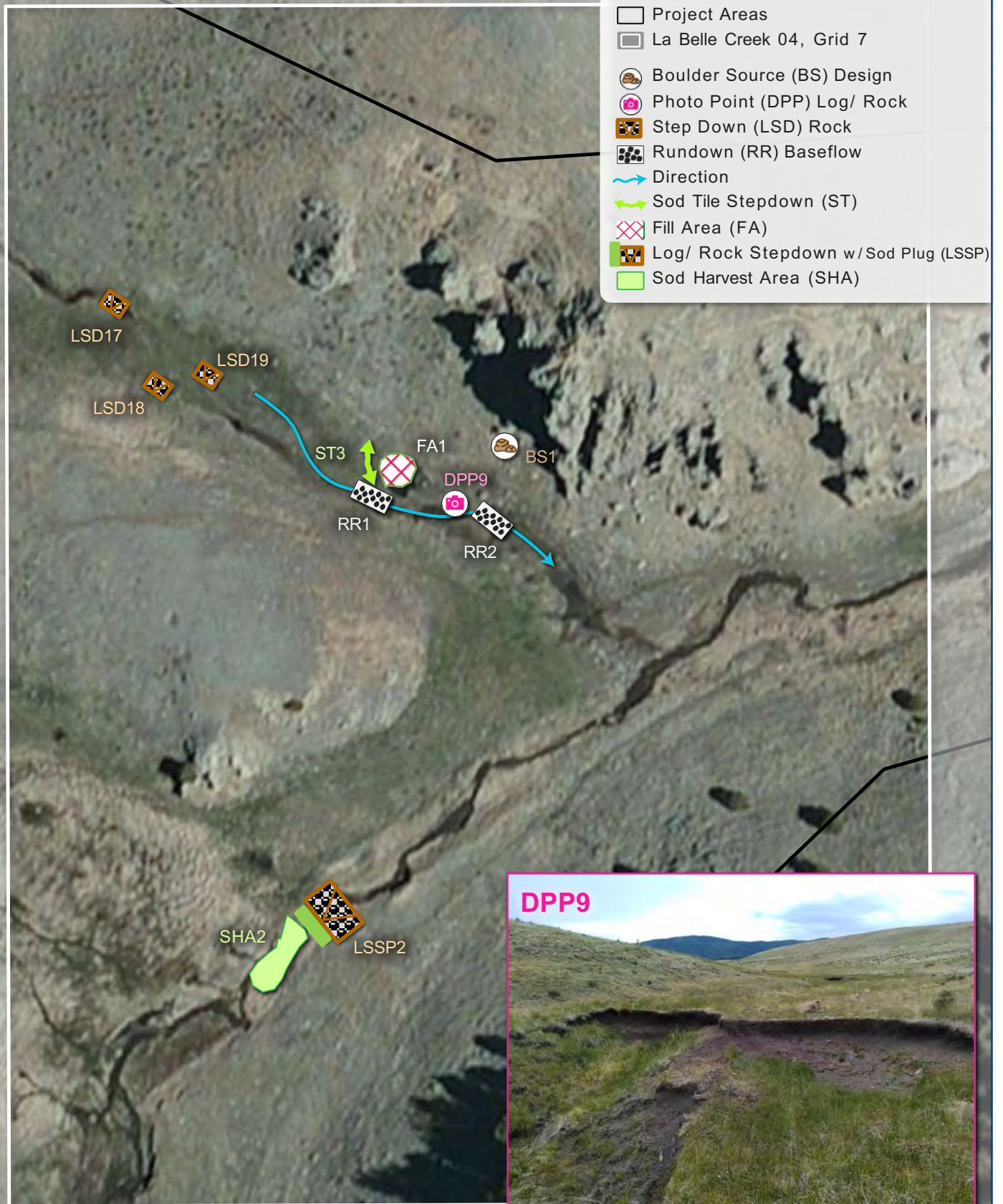
- Project Areas
- La Belle Creek 04, Grid 6
- Design Photo Point (DPP)
- Log/ Rock Step Down (LSD)



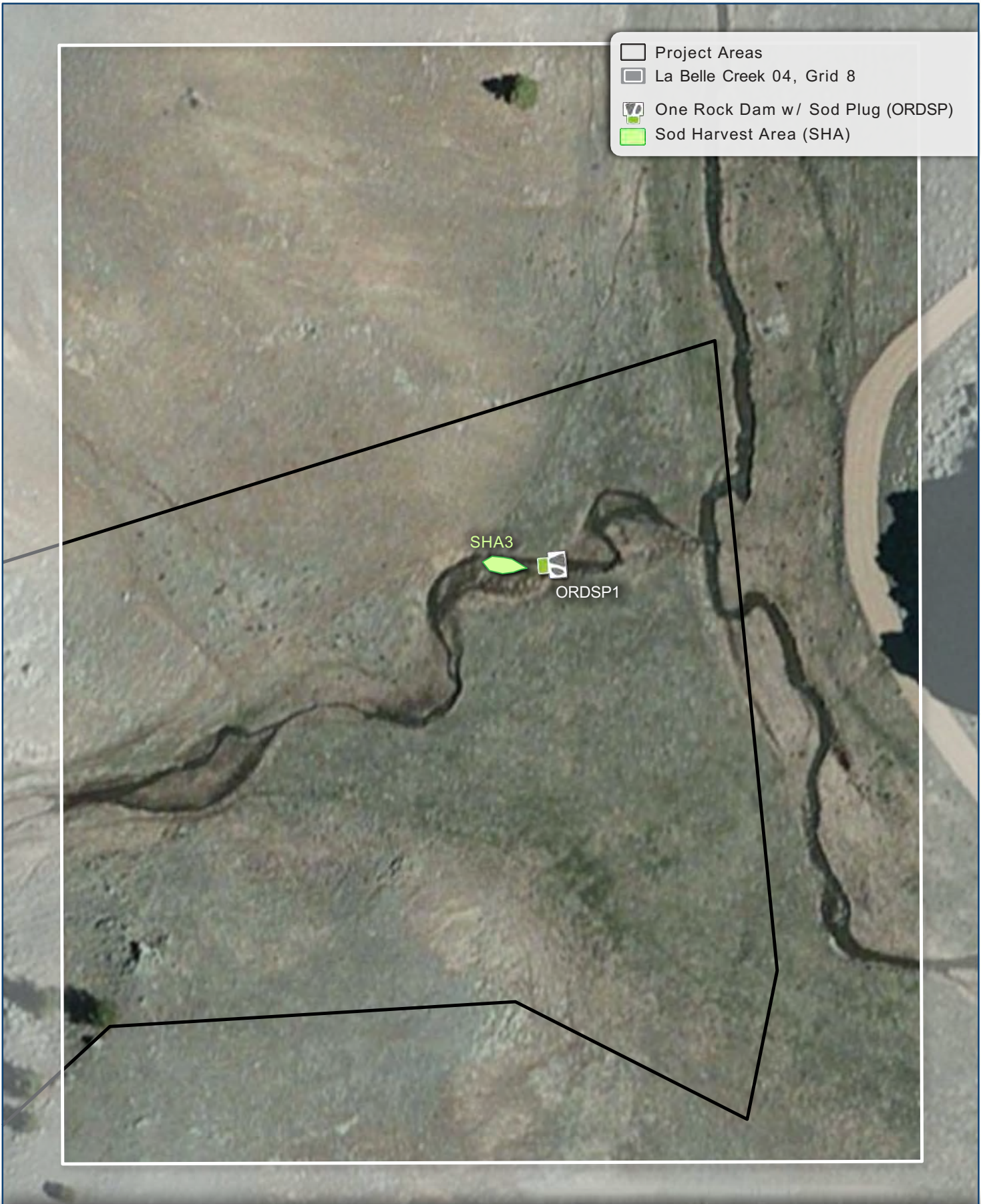
La Belle Creek 04 | Grid 6

0 feet 75 scale - 1:750 north

All locations shown on the map are approximate and do not represent a legal survey. Map produced by Unique Places GIS & Design, Jan 2023



La Belle Creek 04 | Grid 7



La Belle Creek 04 | Grid 8

0 75 feet scale - 1:750 north
All locations shown on the map are approximate and do not represent a legal survey. Map produced by Unique Places GIS & Design, Jan 2023



Project Area Access

0 feet 1100 scale - 1:12,500 north

All locations shown on the map are approximate and do not represent a legal survey. Map produced by Unique Places GIS & Design, March 2019



Log Harvest Areas

0 feet 630 scale - 1:6,380 north
All locations shown on the map are approximate and do not represent a legal survey. Map produced by Unique Places GIS & Design, March 2019

Log Stepdown

with Rock
Headcut Repair

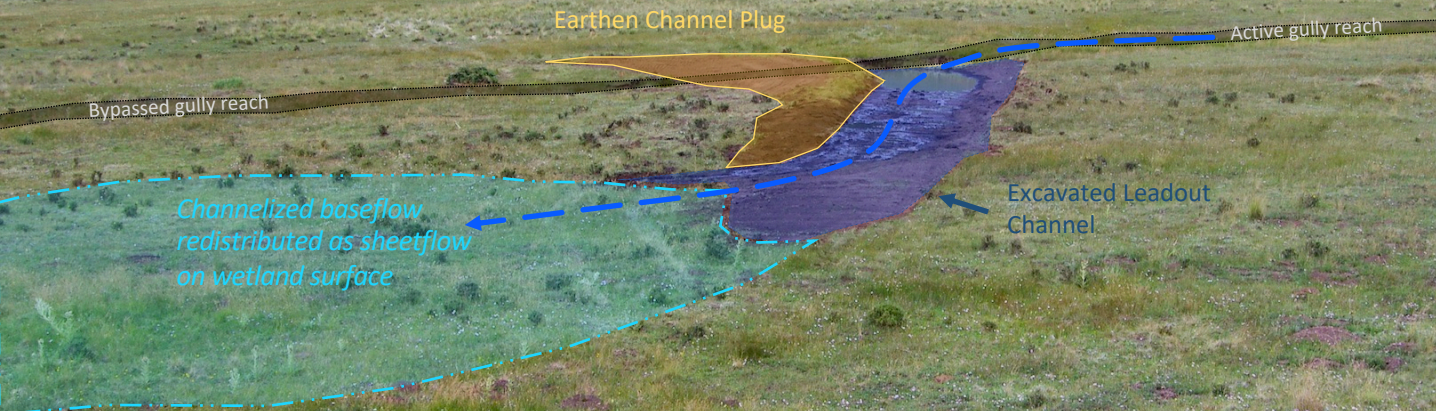
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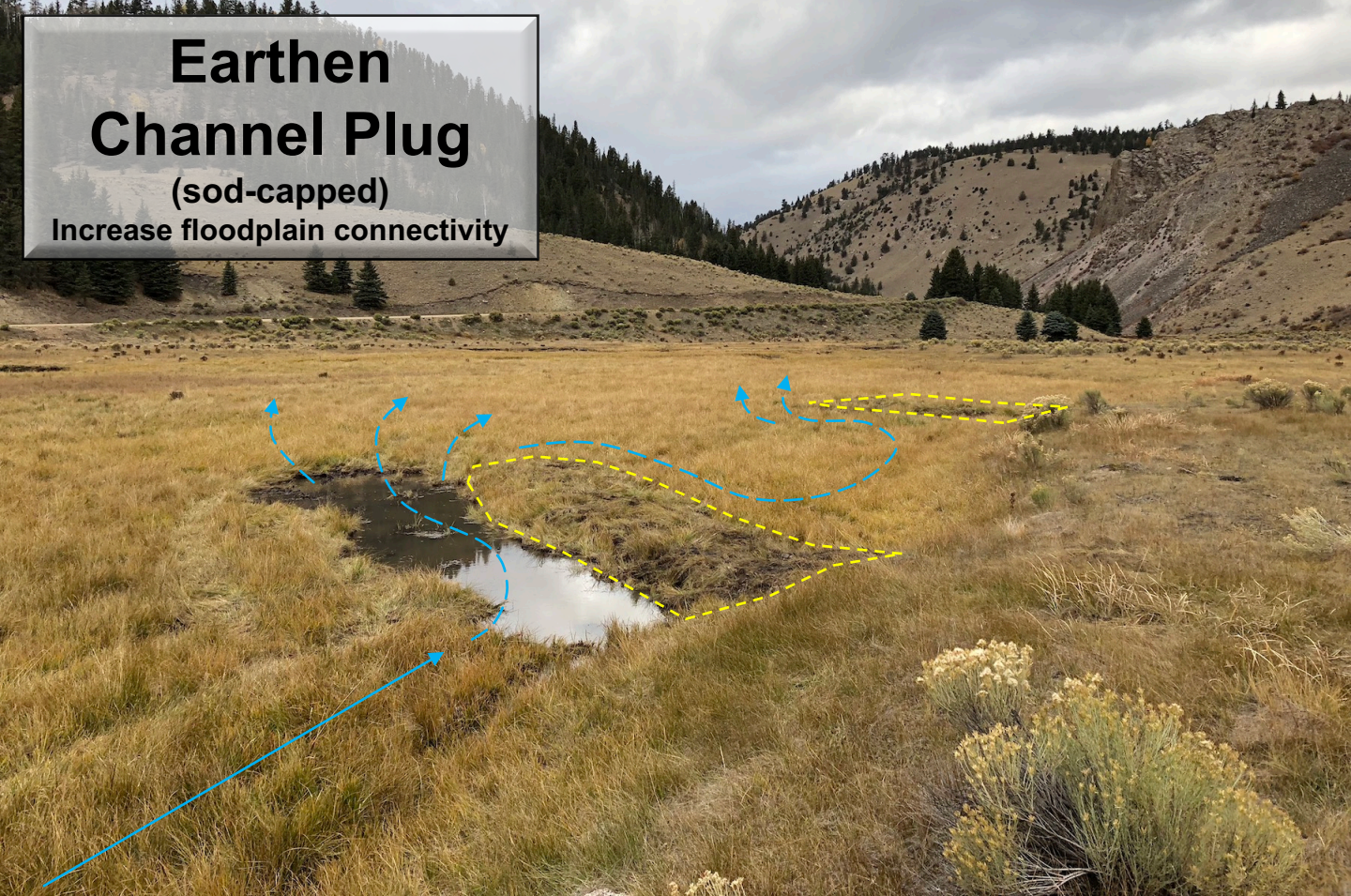
Earthen Channel Plug and Excavated Leadout Channel Flow Spreader



Earthen Channel Plug

(sod-capped)

Increase floodplain connectivity



Sod Tile Stepdown

Headcut Repair



*Untreated low-energy
headcut concentrating flow
and accelerating wetland
channelization.*

Former
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Sod tiles laid
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One Rock Dam

Floodplain access

One rock dam

