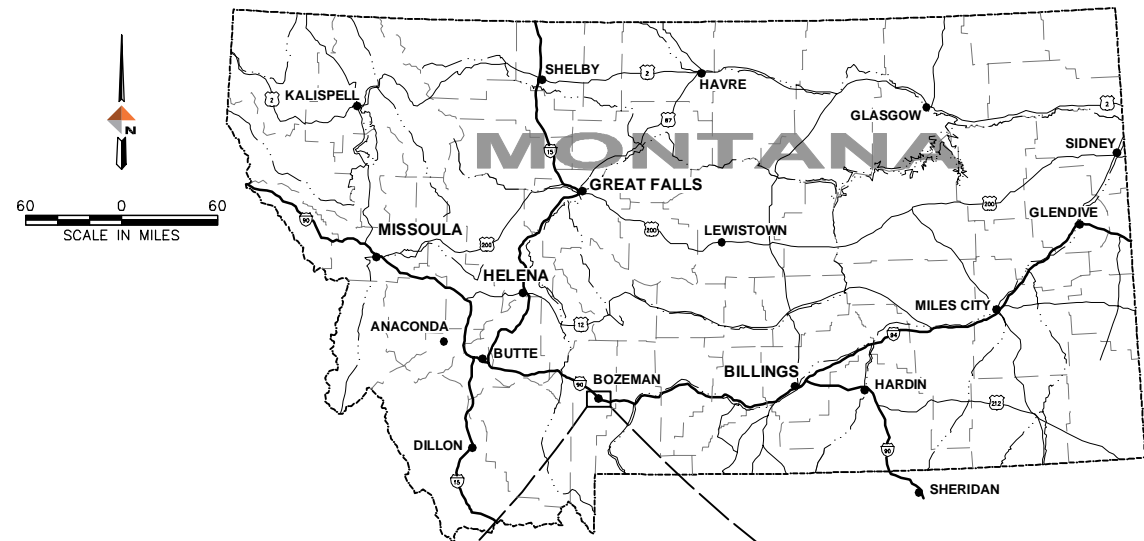


## Attachment 1

### Project Plan Sheets within FWP Site

G:\36\21818-01\65CAD\Civil\MC-CU-CV-21818-01.dwg PLOT DATE 2020-6-16 09:47 SAVED DATE 2020-04-27 21:23 USER: genderson



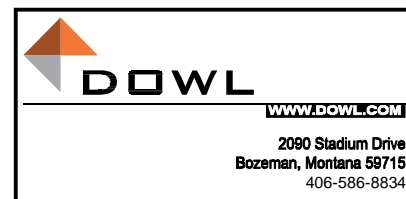
# MANLEY DITCH REHABILITATION BOZEMAN, MONTANA

## PREPARED FOR:

CITY OF BOZEMAN  
20 EAST OLIVE ST.  
BOZEMAN, MT 59771  
KYLE MEHRENS  
406-582-2270

**BOZEMAN**<sup>MT</sup>

## PREPARED BY:



## UTILITY COMPANY CONTACTS:

**SPRINT**  
Steven Schauer  
360-402-7725  
Steven.schauer@sprint.com

**CENTURY LINK**  
Jana Harmon  
800-573-1311  
Jana.harmon@centurylink.com

**CITY OF BOZEMAN**  
Kyle Mehrens  
406-582-2270  
KMehrens@bozeman.net

**NORTHWESTERN ENERGY**  
Joe Carmody  
406-422-3276  
Joe.Carmody@northwestern.com

## SHEET INDEX

SHEET NO.	TITLE
C0	COVER SHEET
G0	GENERAL NOTES AND SURVEY CONTROL
S1	SOUTH DRAINAGE SWALE - PLAN AND PROFILE
S2	PARKING IMPROVEMENTS
PP1	PLAN AND PROFILE STA. 0+00 TO STA. 5+70
PP2	PLAN AND PROFILE STA. 5+70 TO STA. 11+40
PP3	PLAN AND PROFILE STA. 11+40 TO STA. 17+10
PP4	PLAN AND PROFILE STA. 17+10 TO STA. 22+60
D1	DETAILS
D2	DETAILS
XS	CHANNEL CROSS SECTIONS

PROJECT	4036.21818.01
DATE	APRIL 2020
SHEET	C0

## GENERAL NOTES

1. ALL WORK PERFORMED AND MATERIALS USED SHALL MEET OR EXCEED THE PROJECT MANUAL, THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS—6TH EDITION APRIL 2010 (MPWSS), THE CITY OF BOZEMAN MODIFICATION TO MPWSS AND ANY CONTRACT SPECIFICATION. ALL WORK SHALL BE IN CONFORMANCE WITH THE STATE, FEDERAL, AND LOCAL JURISDICTION STANDARDS. COORDINATE WITH CITY OF BOZEMAN.
2. PRIOR TO CONSTRUCTION, VERIFY PERTINENT UTILITY LOCATIONS AND ELEVATIONS, ESPECIALLY AT CROSSING LOCATIONS. CALL UULC ONE—CALL CENTER AT 1—800—424—5555 FOR LOCATES.
3. NOTIFY THE CITY OF BOZEMAN AND UULC TWO BUSINESS DAYS PRIOR TO BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO MAKE THE FOLLOWING NOTIFICATIONS:
  - a. ALL TRAFFIC CONTROL PLANS SHALL BE SUBMITTED TO THE CITY FOR APPROVAL.
  - b. NOTIFY ALL EMERGENCY SERVICES OF STREET CLOSURES A MINIMUM OF 24 HOURS IN ADVANCE OF CLOSURE. UPDATE STREET CLOSURE NOTIFICATIONS DAILY.
  - c. NOTIFY ALL ADJACENT LANDOWNERS BY DOOR HANGER/OR DIRECT CONTACT 48 HOURS PRIOR TO START OF WORK.
4. ALL PERMITS SHALL BE OBTAINED PRIOR TO COMMENCEMENT OF CONSTRUCTION. AN APPROVED SET OF CONSTRUCTION DOCUMENTS FOR ALL WORK SHALL BE KEPT ON THE CONSTRUCTION SITE AT ALL TIMES.
5. THE UNDERGROUND UTILITIES SHOWN HEREON REPRESENT A COMBINATION OF RECORD INFORMATION, SURFACE VISIBLE APPURTENANCES AND FIELD LOCATES OF UNDERGROUND UTILITIES BY A UTILITY LOCATING COMPANY. THE SURFACE VISIBLE UTILITIES WERE LOCATED IN THE FIELD BUT ALL UNDERGROUND LINES ARE APPROXIMATIONS. THERE MAY BE ADDITIONAL UTILITIES NOT ADJACENT TO THE PROPERTY NOT DETECTED BY THE UTILITY LOCATING COMPANY. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE. CONTRACTOR SHALL OBTAIN LOCATES PRIOR TO CONSTRUCTION AND SHALL POTHOLE UTILITIES AS NECESSARY TO CONFIRM LOCATION.
6. PROTECT EXISTING SURVEY MONUMENTS, PROPERTY PINS, AND PROJECT CONTROL POINTS FROM DISTURBANCE DURING CONSTRUCTION OR PROVIDED THE SERVICES OF A MONTANA LICENSED LAND SURVEYOR TO REFERENCE AND REPLACE ALL POINTS THAT ARE DISTURBED. (INCIDENTAL TO WORK ASSOCIATED WITH UNIT PRICE ITEM)

## CONSTRUCTION NOTES

1. PROTECT ALL EXCAVATIONS LEFT OPEN OVERNIGHT.
2. COORDINATE WITH MONTANA RAIL LINK FOR DISPOSAL OF EXCESS SOIL ON SITE.
3. RESTORE ALL ASPHALT, CONCRETE SURFACES, STRUCTURES, AND ITEMS NOT SPECIFICALLY DESIGNATED TO BE DISTURBED TO PRE-CONSTRUCTION CONDITION OR BETTER AT NO COST TO THE OWNER.
4. PROTECT ALL EXISTING UTILITIES AND THEIR FUNCTION DURING CONSTRUCTION.
5. EARTHWORK VOLUMES REFLECT THE NEAT LINES AND GRADES DEFINED BY THE EXISTING TERRAIN AND THE PROPOSED SUBGRADE SURFACES WITH NO ADJUSTMENT FOR SHRINK OR SWELL.
6. CONTRACTOR SHALL SPECIFY THE SOURCE OF ANY FILL TO BE IMPORTED TO THE SITE AND SHALL SUBMIT SAMPLES TO THE LABORATORY FOR EVALUATION AND APPROVAL.
7. STORM DRAIN MANHOLE STRUCTURES SHALL CONFORM TO CITY OF BOZEMAN MODIFICATIONS TO MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, LATEST EDITION. ALL STRUCTURES SHALL BE GROUTED WATERTIGHT AND SHALL HAVE THE LID SET FLUSH WITH THE SURROUNDING GROUND SURFACE.
8. STORM DRAIN PIPE SHALL BE CLASS II REINFORCED CONCRETE PIPE WITH RUBBER GASKET JOINTS AND SHALL CONFORM TO CITY OF BOZEMAN MODIFICATIONS TO MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, LATEST EDITION.
9. PIPE BEDDING SHALL BE TYPE I PER CITY OF BOZEMAN MODIFICATIONS TO MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, LATEST EDITION.
10. EMBANKMENT SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR DENSITY AND SHALL BE PLACED WITHIN 2% OF OPTIMUM MOISTURE CONTENT.
11. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE PREPARED AND RESEEDING USING THE SPECIFIED SEED MIX.

## UTILITY NOTES

1. SPECIAL ARRANGEMENTS, COORDINATED WITH NORTHWESTERN ENERGY, ARE REQUIRED FOR ANY CROSSING OF THE GAS MAIN BY VEHICLES IN EXCESS OF STANDARD INTERSTATE DESIGN LOADING.
2. CONTRACTOR TO COORDINATE WITH NORTHWESTERN ENERGY WHEN PERFORMING ANY EXCAVATION (INCLUDING HYDRO-EXCAVATION) WITHIN 25 FEET OF THE GAS MAIN.
3. COORDINATION WITH NORTHWESTERN ENERGY IS TO BE WITH JOE CARMODY, Joe.Carmody@northwestern.com, 406-422-3276, OR AS AN ALTERNATE, RACHELLE BENSKI, Rachelle.Benski@northwestern.com, 406-497-2215.
4. CONTACT OTHER UTILITY COMPANY OWNERS TO COORDINATE CROSSINGS OR REQUIRED RELOCATIONS.

## SURVEY CONTROL AND COORDINATE SYSTEM NOTES

1. COORDINATES ARE MONTANA STATE PLANE (NAD83-2011), EXPRESSED IN INTERNATIONAL FEET FOR HORIZONTAL UNITS. THE VERTICAL DATUM IS NAVD88, COMPUTED WITH GEOID12B, EXPRESSED IN U.S. SURVEY FEET FOR VERTICAL UNITS. DISTANCES ARE GRID DISTANCES AND DO NOT EQUAL TRUE GROUND DISTANCES. TO DETERMINE TRUE GROUND DISTANCES, DIVIDE GRID DISTANCES BY A COMBINED SCALE FACTOR OF 0.99942692.
2. CONTROL WAS ESTABLISHED ON A PREVIOUS PROJECT. DOWL VERIFIED THE CONTROL WITH AN OPUS SOLUTION AT POINT 5001, WHICH FELL WITHIN 0.12 FT. HORIZONTAL AND 0.03 FT. VERTICAL OF DOWL'S RECORD VALUE. DOWL HELD THE RECORD VALUE OF THE POINT AND DID NOT ADJUST THE CONTROL TO OPUS. VALUES FOR POINTS 10, 11, AND 5011 WERE DETERMINED BY RADIAL RTK GPS OBSERVATIONS.

CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
10	534984.266	1573805.554	4688.64	SURV PPC
11	533814.256	1574767.182	4700.97	SURV PPC
5001	535602.009	1573625.971	4681.73	AC-PPC
5011	533797.886	1574449.434	4712.18	PCF OPC 14531LS HKM ENG

## WETLAND PLANT INSTALLATION GUIDELINES

1. WETLAND PLANTS SHOULD BE 10T (1.75 INCH DIAMETER X 8.5 INCHES DEEP) OR 16D (2 INCH DIAMETER X 7 INCHES DEEP) IN SIZE, OR SIMILAR.
2. WETLAND PLANTS SHOULD BE INSTALLED IN THE SPRING OR EARLY SUMMER, BETWEEN MAY 15 AND JULY 15, WHEN SUFFICIENT HYDROLOGY IS PRESENT.
3. ALL PLANTS WILL BE HANDLED WITH CARE DURING TRANSPORTATION AND INSTALLATION TO PREVENT DAMAGE.
4. ALL PLANTS WILL BE KEPT IN THEIR CONTAINERS AND PROTECTED FROM DRYING UNTIL INSTALLED. STAGED PLANTS SHOULD BE WATERED DAILY OR AS NECESSARY TO KEEP ROOTS MOIST.
5. PLANTS WILL BE PROTECTED FROM BROWSE IN STAGING AREAS AS NECESSARY.
6. PLANTS WILL BE REMOVED FROM THEIR CONTAINERS AND THE ROOTS LOOSENED IF THEY ARE EXCESSIVELY ROOT BOUND.
7. PLANTS MAY BE INSTALLED USING HOEDADS, SHOVELS, OR SIMILAR HAND TOOLS AT AVERAGE 2 FT SPACING ON CENTER (1 PLANT PER 4 SQUARE FEET).
8. PLANTS WILL BE PLANTED SO THAT THEIR ROOT COLLARS ARE FLUSH WITH THE SURFACE AND ROOTS ARE VERTICAL, NOT BENT.
9. THE SOIL AROUND THE PLANTING HOLE WILL BE LOOSENED TO ALLOW THE ROOTS TO EXPAND FREELY ONCE THE PLANT IS INSTALLED.
10. PLANTS WILL BE INSTALLED AT THE PROPER DEPTH AND BACKFILLED CAREFULLY TO ENSURE THERE ARE NO AIR POCKETS. SOIL FROM THE HOLES WILL BE USED AS BACKFILL FOR THE PLANTING HOLE.
11. PLANTS WILL BE WATERED IN, USING ONE GALLON OF WATER PER PLANT, WITHIN ONE DAY OF BEING PLANTED. AFTER WATERING IN, ADDITIONAL SOIL WILL BE ADDED TO FILL THE PLANTING HOLE IF NEEDED.
12. ADDITIONAL WATERING AFTER INSTALLATION MAY BE NECESSARY TO ENSURE PLANT ESTABLISHMENT. ASSUME IT WILL BE NECESSARY TO SUPPLY SUFFICIENT WATER TO KEEP THE WETLAND PLANTING ZONE SATURATED BETWEEN TIME OF PLANTING AND SEPTEMBER 15 IN THE FIRST YEAR.

PLANT MIX (10T OR 16D CONTAINERS, INSTALL AT 2 FT SPACING ON CENTER OR 1 PLANT PER 4 SQUARE FT):

<u>Species Name</u>	<u>Common Name</u>	<u>Percent of Mix</u>
<i>Carex nebrascensis</i>	Nebraska sedge	20%
<i>Carex utricularia</i>	Northwest Territory sedge	20%
<i>Eleocharis palustris</i>	common spikerush	10%
<i>Juncus arcticus</i>	arctic rush	20%
<i>Schoenoplectus acutus</i>	hardstem bulrush	20%
<i>Scirpus microcarpus</i>	small-fruited bulrush	10%

## SEEDING GUIDELINES

1. SEED WILL BE APPLIED BY BROADCAST METHODS USING APPLICATORS THAT CAN BE CARRIED BY HAND.
2. SEED CAN BE APPLIED IN SPRING OR FALL TO A NON-COMPACTED SOIL SURFACE.
3. SEED WILL BE APPLIED PER THE PRESCRIBED APPLICATION RATE.
4. SEED MIXES MAY CONSIST OF BOTH LIGHT AND HEAVY SEED THAT MAY HAVE DIFFERENT APPLICATION RATES.
5. CONTRACTOR IS RESPONSIBLE FOR KEEPING SEED COOL, DRY, AND RODENT-FREE.
6. THE QUANTITY OF SEED PROVIDED WILL BE SUFFICIENT FOR DESIGNATED AREAS AT PRESCRIBED APPLICATION RATES, PLUS 10%. IF THE SEED SUPPLY IS EXHAUSTED THROUGH APPLICATION ABOVE THE DESIGNATED RATE, CONTRACTOR WILL PURCHASE ADDITIONAL SEED AT THE CONTRACTOR'S EXPENSE.

SEED MIX

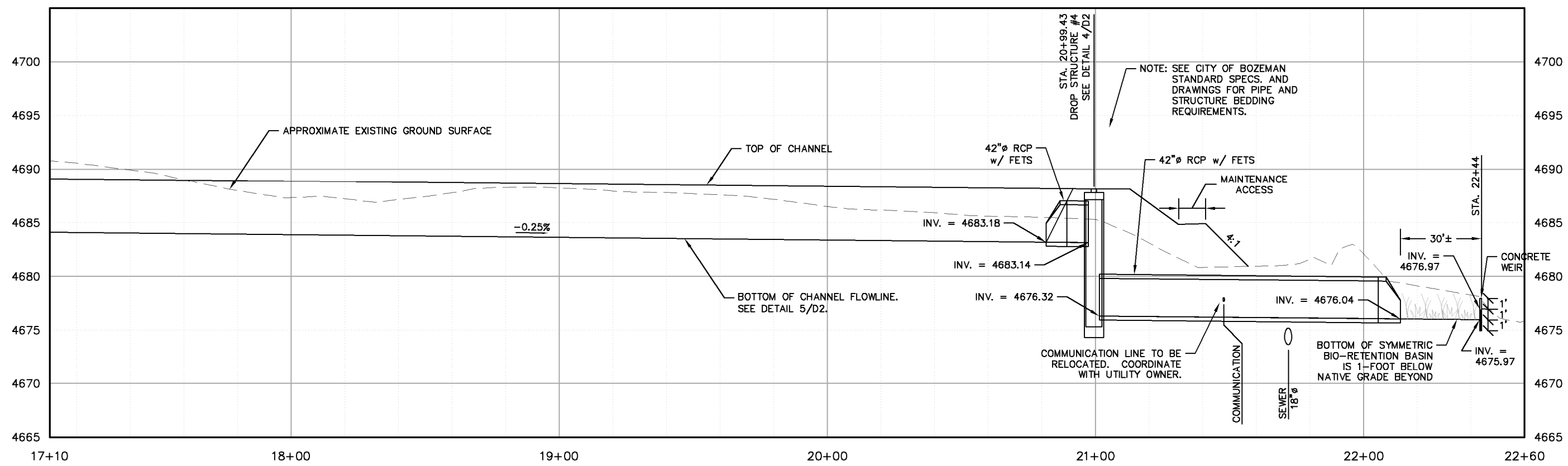
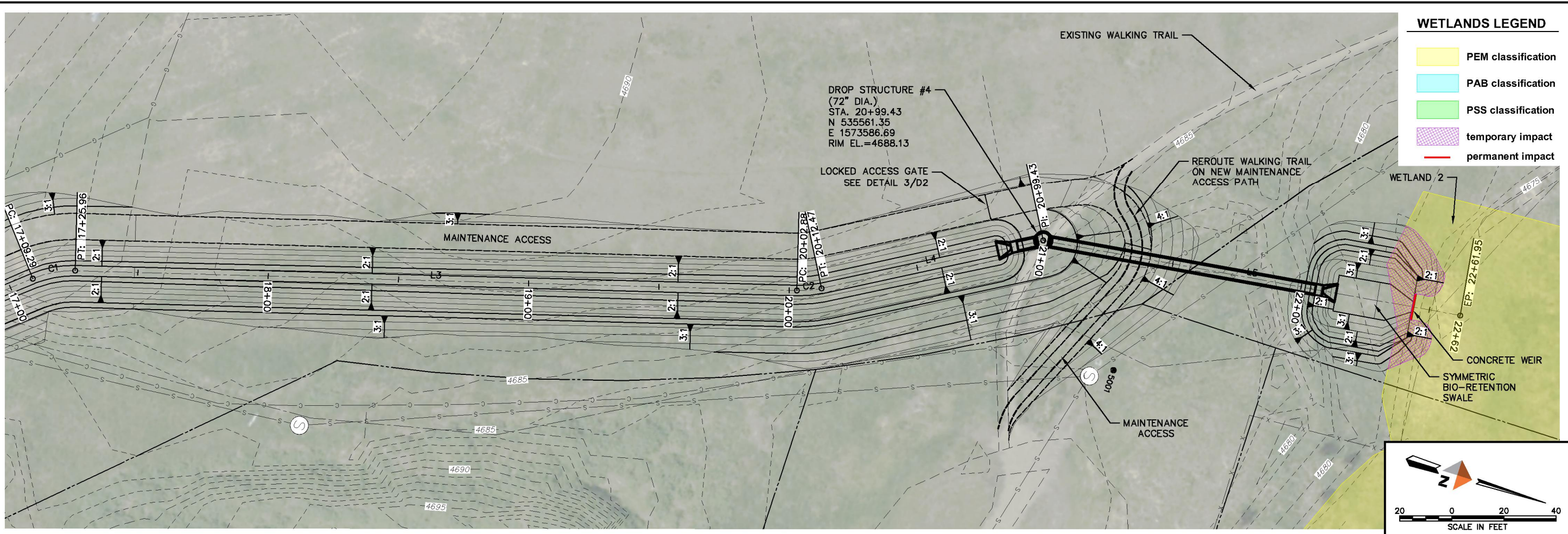
Species Name	Common Name	Pure Live Seed (PLS) lbs/acre
<i>Beckmannia syzigachne</i>	American sloughgrass	0.5
<i>Calamagrostis canadensis</i>	bluejoint reedgrass	0.25
<i>Carex nebrascensis</i>	Nebraska sedge	1
<i>Deschampsia cespitosa</i>	tufted hairgrass	1
<i>Elymus trachycaulus</i>	slender wheatgrass	4
<i>Juncus arcticus</i>	arctic rush	0.1
<i>Pascopyrum smithii</i>	western wheatgrass	2
	TOTAL	8.85

## SEEDBED PREPARATION

1. SEEDBED SHOULD BE A ROUGH SURFACE TO TRAP BROADCASTED SEED IN SMALL FURROWS OR MICROSITES. THIS CAN BE CREATED BY HARROWING OR LIGHTLY RAKING THE SURFACE PRIOR TO APPLICATION.
2. LIGHTLY RAKE IN SEED AFTER APPLICATION AND APPLY LIGHT COMPACTION TO IMPROVE SOIL CONTACT.
3. WATER IMMEDIATELY AFTER SEEDING TO IMPROVE SEED/SOIL CONTACT.



G:\36\21818-01\65CAD\Civil\MC-CU-CP-21818-01.dwg PLOT DATE 2020-06-16 09:39 SAVED DATE 2020-06-15 14:55 USER: gerderson



REVISIONS		BY
REV	DATE	DESCRIPTION

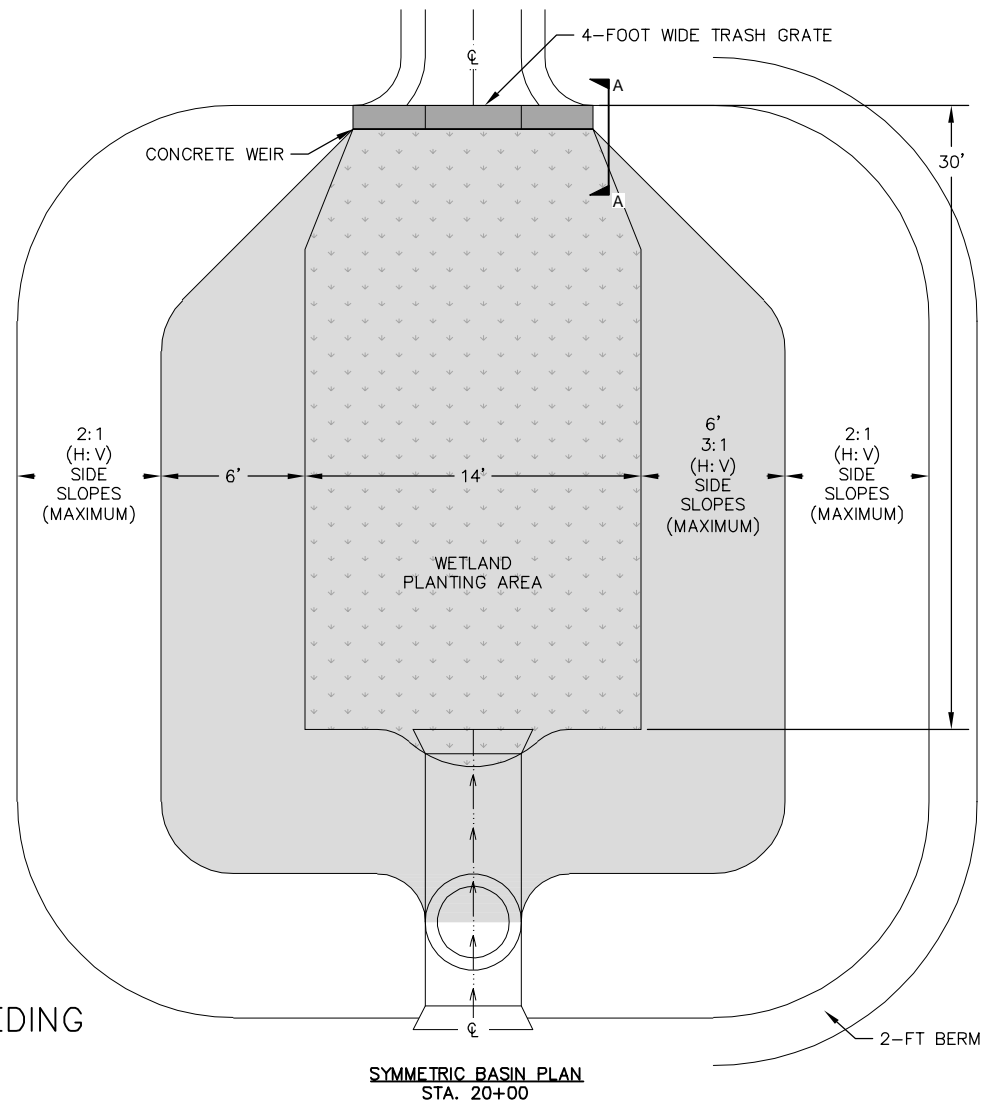
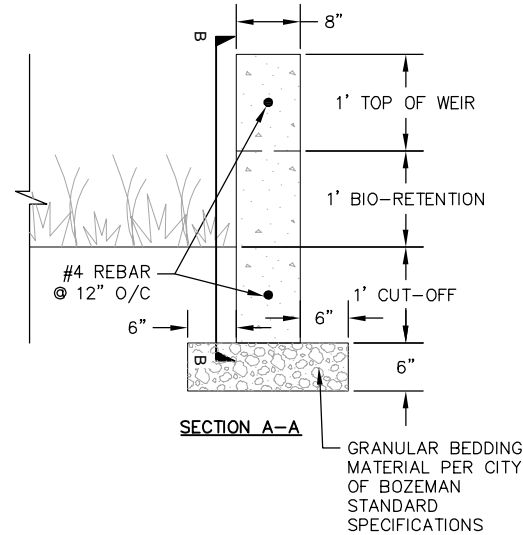
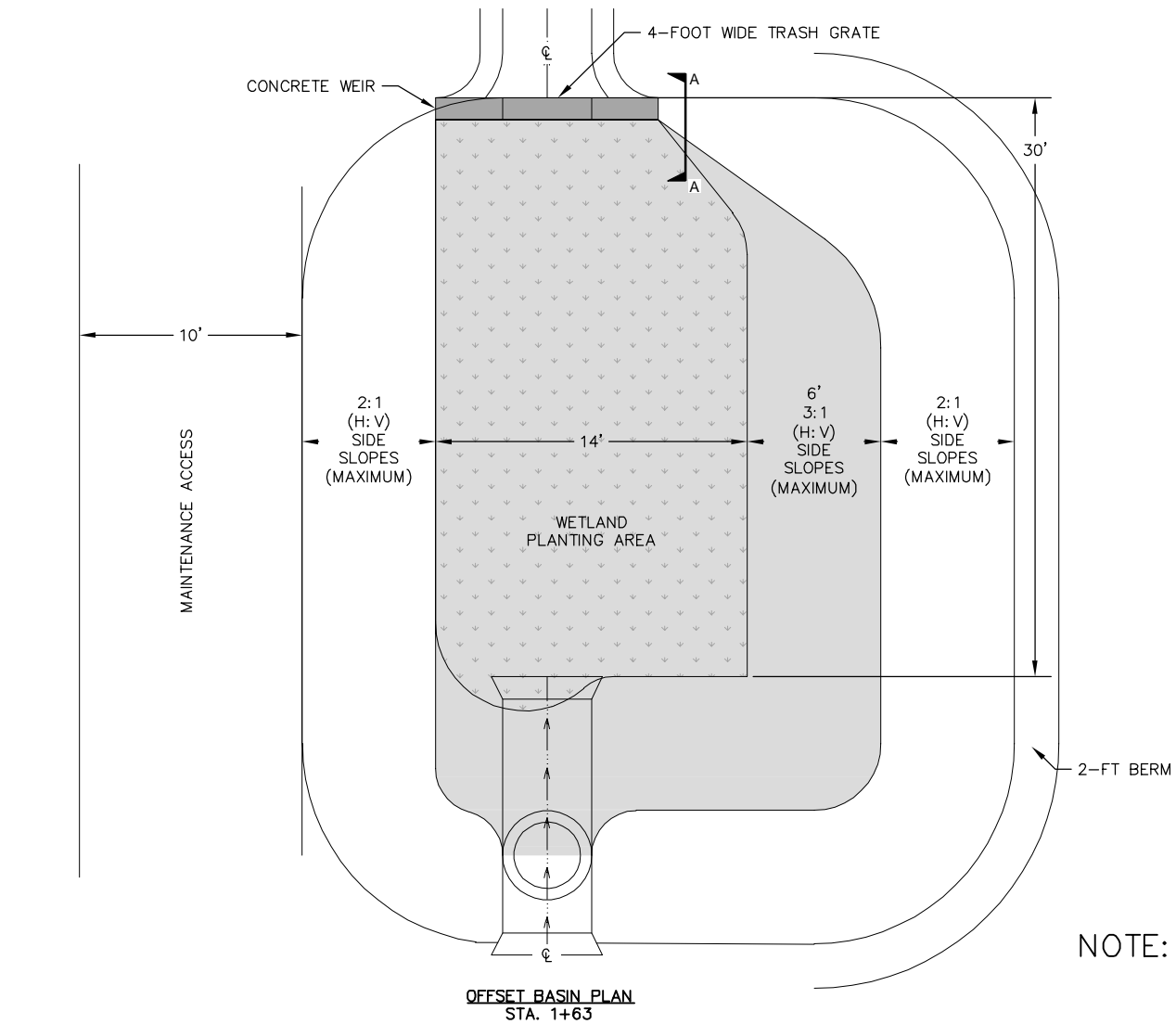
**DOWL**  
WWW.DOWL.COM  
2090 Stadium Drive  
Bozeman, Montana 59715  
406-586-8834

CITY OF BOZEMAN - MANLEY DITCH REHABILITATION  
BOZEMAN, MONTANA  
**PLAN AND PROFILE**  
STA. 17+10 TO STA. 22+60

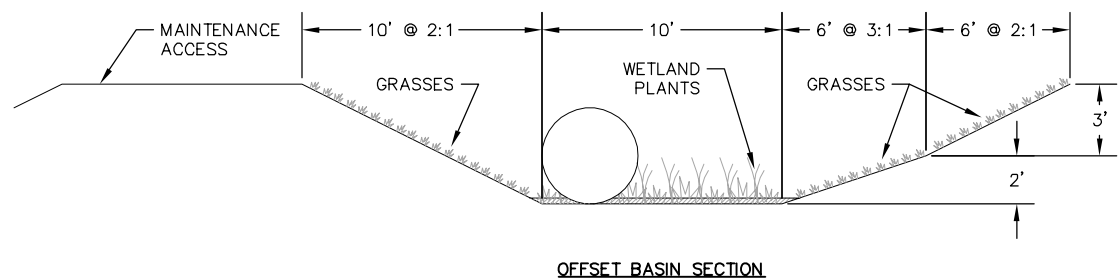
PROJECT 4036.21818.01  
DATE APRIL 2020

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SHEET  
**PP4**

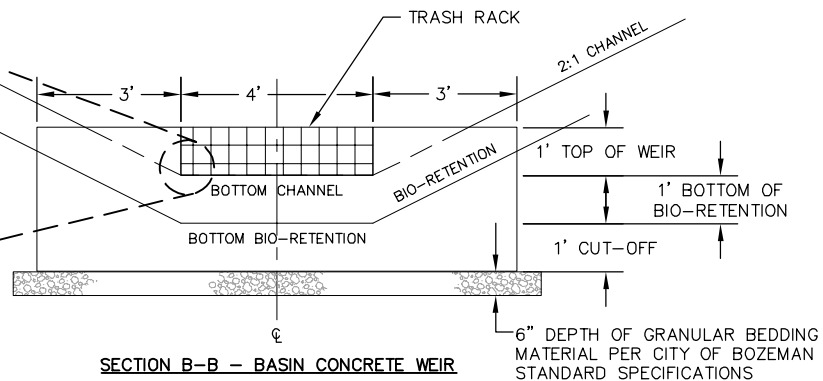
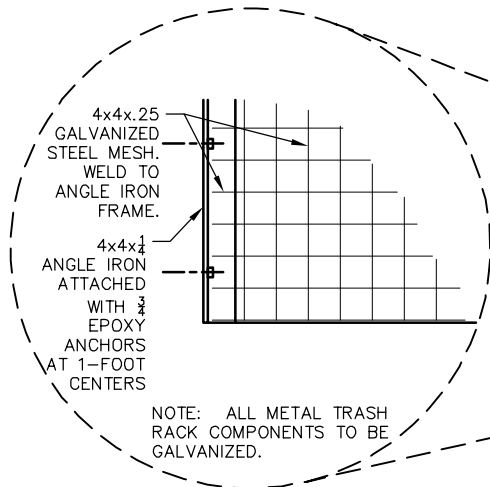
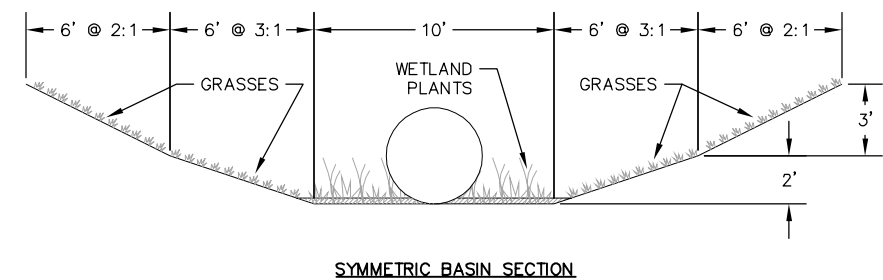
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NOTE: SEE WETLAND PLANT AND SEEDING NOTES ON SHEET G0.



1  
D1  
DETAIL  
BIORETENTION SWALES  
SCALE : NONE



REV	DATE	DESCRIPTION	BY

**DOWL**  
2090 Stadium Drive  
Bozeman, Montana 59715  
406-586-8634  
www.dowl.com

CITY OF BOZEMAN - MANLEY DITCH REHABILITATION  
BOZEMAN, MONTANA  
DETAILS

PROJECT 4036.21818.01  
DATE APRIL 2020

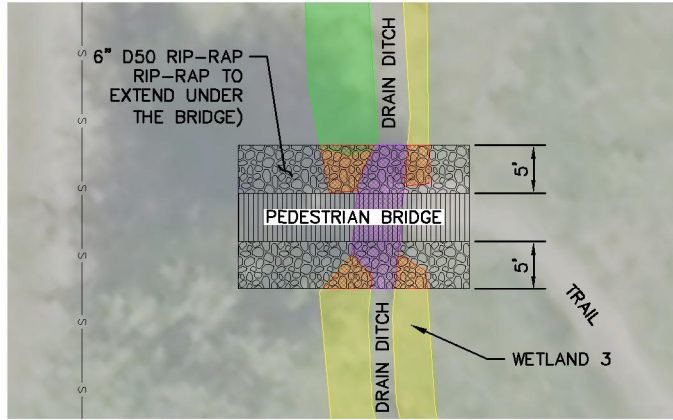
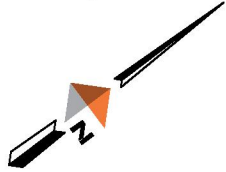
© DOWL 2020  
SHEET  
**D1**

GALLATIN COUNTY, MONTANA

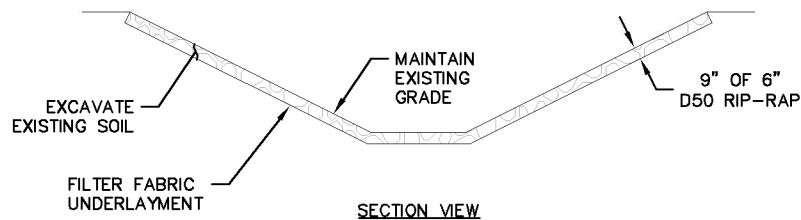


WETLANDS LEGEND

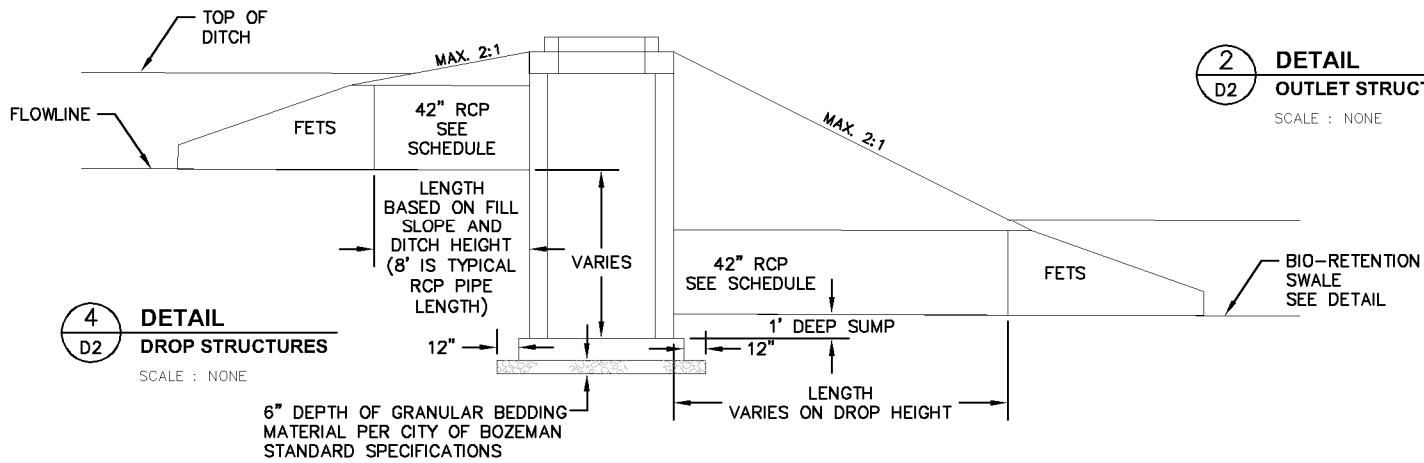
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- PAB classification
- PSS classification
- Wetland permanent impact
- Waterway permanent impact



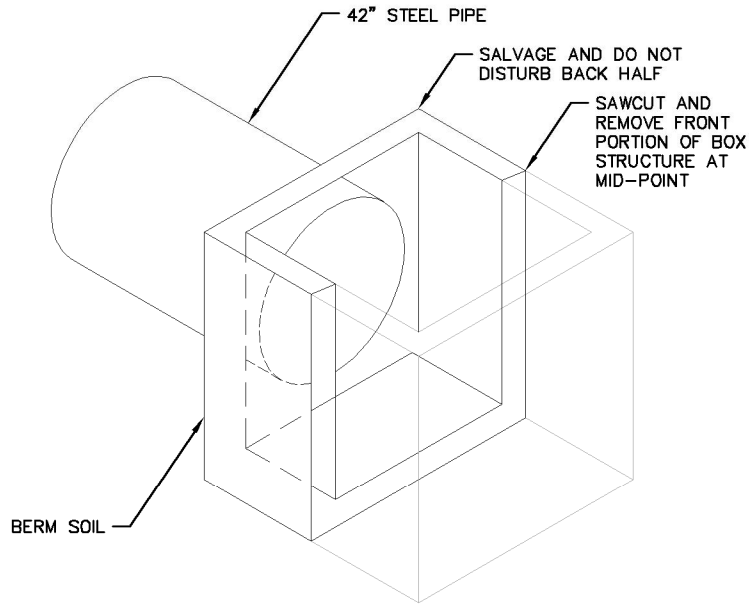
PLAN VIEW  
SCALE IN FEET  
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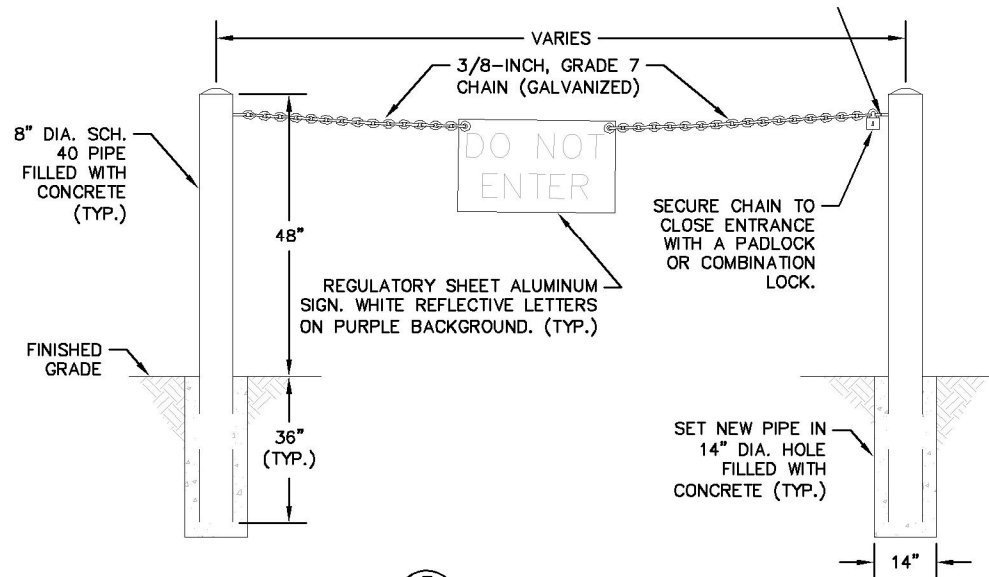
1  
D2  
DETAIL  
PEDESTRIAN BRIDGE CHANNEL STABILIZATION  
SCALE : NONE



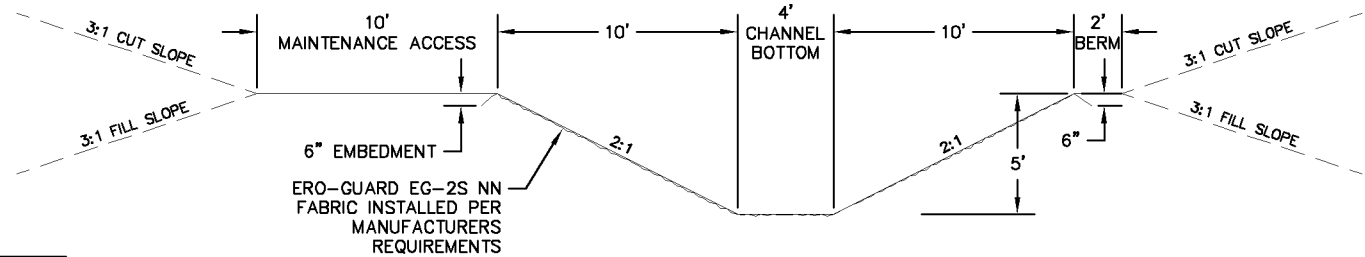
4  
D2  
DETAIL  
DROP STRUCTURES  
SCALE : NONE



2  
D2  
DETAIL  
OUTLET STRUCTURE MODIFICATION  
SCALE : NONE



3  
D2  
DETAIL  
SECURITY GATE  
SCALE : NONE



5  
D2  
DETAIL  
CHANNEL CROSS-SECTION  
SCALE : NONE

INLET RCP			STRUCTURE			OUTLET RCP			PIPE SKEW
FETS INVERT IN	RCP INVERT IN @ MH	LENGTH (FT.)	STRUCTURE	STATION	DIAMETER (IN.)	RCP INVERT OUT @ MH	FETS INVERT OUT	LENGTH (FT.)	ANGLE (DEG.)
4700.07	4697.45	40	DROP STRUCTURE #1	1+78.62	96	4695.65	4695.61	8	98
4694.78	4694.74	8	DROP STRUCTURE #2	9+48.36	72	4689.52	4689.46	16	160
4689.33	4689.29	8	DROP STRUCTURE #3	14+47.04	72	4683.76	4683.70	16	161
4683.18	4683.14	8	DROP STRUCTURE #4	20+99.43	72	4676.32	4676.04	104	158

NOTE: LENGTHS SHOWN ARE RCP ONLY AND DO NOT INCLUDE FETS.

REV	DATE	DESCRIPTION	BY

**DOWL**  
WWW.DOWL.COM  
2090 Stadium Drive  
Bozeman, Montana 59715  
406-586-8634

CITY OF BOZEMAN - MANLEY DITCH REHABILITATION  
BOZEMAN, MONTANA  
DETAILS

PROJECT 4036.21818.01  
DATE APRIL 2020

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SHEET

D2

GALLATIN COUNTY, MONTANA

Attachment 2  
USFWS Coordination



May 1, 2020

Jodi Bush, Field Supervisor  
U.S. Fish & Wildlife Service  
Montana Ecological Services Field Office  
585 Shepard Way, Suite 1  
Helena, MT 59601

Subject:                   ESA Coordination  
                              On behalf of the City of Bozeman  
                              Manley Ditch Rehabilitation Project  
                              Bozeman, Gallatin County, Montana

Dear Ms. Bush:

On behalf of the City of Bozeman, DOWL presents this request for a review of proposed work associated with stormwater improvements within the Bozeman city limits. Limits of the proposed project and location are shown on the attached site location map. The project limits are east of N 7<sup>th</sup> Avenue, northeast of the Montana Rail Link (MRL) railroad tracks, and southwest of the development along Gallatin Park Drive in Bozeman, Gallatin County, Montana. The project is found within Section 36 of Township 1 South, Range 5 East. The center of the project area is at latitude 45.705903, longitude -111.044558.

The project involves conveyance improvements to the City of Bozeman's stormwater system by rehabilitating/extending an abandoned irrigation ditch (Manley Ditch). The ditch historically crossed under the MRL tracks and distributed flows to agricultural fields northeast of the railroad tracks. The area has since been developed, the Manley Ditch culvert under the MRL tracks was blocked many years ago on the outlet end, and the ditch on the northeast side of the tracks has disintegrated and disappeared over time. Proposed improvements include removing the steel plate blocking the outlet of the existing culvert under the MRL tracks, regrading a portion of the ditch near the culvert inlet, and constructing a new conveyance ditch from the culvert outlet, which will flow northwest along the northeast side of the MRL tracks and convey stormwater flows into a nearby wetland associated with the Montana Fish, Wildlife, and Parks Cherry River Fishing Access site. Drop structures and bio-retention swales will be constructed within the ditch to provide water quality treatment before discharging into the wetland. The project will require a Nationwide Permit from the U.S. Army Corps of Engineers, Montana Regulatory office.

According to U.S. Fish and Wildlife Service (USFWS) IPaC database, Canada lynx and North American wolverine are listed as potentially occurring within the project area; however, this area is within the Bozeman city limits, adjacent to the MRL tracks, and may not be suitable habitat for these two species. Any comments or concerns that you may have regarding the project, or known species occurrences within the project area, are appreciated.



Please contact Emily Peterson, DOWL, at 406.324.7419 or [epeterson@dowl.com](mailto:epeterson@dowl.com) with any information and/or concerns that you may have, or if you have any questions or require any additional information regarding this request. Thank you very much for your assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "Emily Peterson". The signature is fluid and cursive, with the first name "Emily" and last name "Peterson" clearly distinguishable.

Emily Peterson  
Environmental Manager

Attachments: as specified

## Emily Peterson

---

**From:** Martin, Jacob <jacob\_martin@fws.gov>  
**Sent:** Wednesday, May 13, 2020 7:58 AM  
**To:** Emily Peterson  
**Cc:** Davies, Jess J  
**Subject:** [EXT] City of Bozeman - Manley Ditch Rehabilitation Project

**WARNING:** External Sender - use caution when clicking links and opening attachments.

Dear Ms. Peterson:

Thank you for your May 1, 2020, letter requesting U.S. Fish and Wildlife Service comment on the proposed subject project in Bozeman, Montana.

The U.S. Fish and Wildlife Service reviewed your letter and IPaQ report. We have no additional comments regarding federally-listed or proposed threatened or endangered species or other trust species.

Thank you for the opportunity to comment. If you have any questions or comments about this correspondence please contact Jess Davies at [jess\\_davies@fws.gov](mailto:jess_davies@fws.gov) or 406-449-5225, extension 214.

Sincerely,

Jacob M. (Jake) Martin  
Assistant Field Supervisor  
Montana Ecological Services Office  
585 Shephard Way, Suite 1  
Helena, Montana 59601  
(406) 449-5225x215  
[jacob\\_martin@fws.gov](mailto:jacob_martin@fws.gov)

## Attachment 3

# Montana Natural Heritage Program Species of Concern List – Animal and Plant

## Montana Natural Heritage - SOC Report

# Animal Species of Concern

Species List Last Updated **04/16/2020**

A program of the Montana State Library's  
Natural Resource Information System  
operated by the University of Montana.

10 Species of Concern

1 Special Status Species

Filtered by the following criteria:

Township = 001S005E (based on mapped Species Occurrences)

[Expand All](#) | [Collapse All](#)

### Introduction

### Species of Concern

<b>Species of Concern</b> <b>10 Species</b> <b>Filtered by the following criteria:</b> Township = 001S005E (based on mapped <b>Species Occurrences</b> )										
---	--	--	--	--	--	--	--	--	--	--

MAMMALS (MAMMALIA)										1 SPECIES
										TOWNSHIP = 001S005E (based on mapped Species Occurrences)
SCIENTIFIC NAME COMMON NAME TAXA SORT	FAMILY (SCIENTIFIC) FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	FWP SWAP	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
<b>Myotis lucifugus</b> Little Brown Myotis	<b>Vespertilionidae</b> Bats	G3	S3				SGCN3	3%	100%	Generalist
<b>Species Occurrences verified in these Counties:</b> Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Deer Lodge, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Golden Valley, Granite, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Lincoln, Madison, McCone, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Silver Bow, Stillwater, Sweet Grass, Teton, Toole, Treasure, Valley, Wheatland, Wibaux, Yellowstone <b>State Rank Reason:</b> Species is common and widespread, but under significant threat of catastrophic declines due to White-Nose Syndrome, a fungal disease responsible for the collapse of populations of this species in the eastern US.										

BIRDS (AVES)										6 SPECIES
										TOWNSHIP = 001S005E (based on mapped Species Occurrences)
SCIENTIFIC NAME COMMON NAME TAXA SORT	FAMILY (SCIENTIFIC) FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	FWP SWAP	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
<b>Ardea herodias</b> Great Blue Heron	<b>Ardeidae</b> Bitterns / Egrets / Herons / Night-Herons	G5	S3	MBTA			SGCN3	3%	100%	Riparian forest
<b>Species Occurrences verified in these Counties:</b> Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Dawson, Deer Lodge, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Golden Valley, Granite, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Lincoln, Madison, McCone, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Silver Bow, Stillwater, Sweet Grass, Teton, Treasure, Valley, Wheatland, Wibaux, Yellowstone <b>State Rank Reason:</b> Small breeding population size, evidence of recent declines, and declining regeneration of riparian cottonwood forests due to altered hydrology and grazing.										
<b>Catharus fuscescens</b> Veery	<b>Turdidae</b> Thrushes	G5	S3B	MBTA		SENSITIVE	SGCN3	6%	100%	Riparian forest
<b>Species Occurrences verified in these Counties:</b> Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Cascade, Chouteau, Custer, Deer Lodge, Fergus, Flathead, Gallatin, Glacier, Granite, Hill, Jefferson, Lake, Lewis and Clark, Liberty, Lincoln, Madison, McCone, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Silver Bow, Stillwater, Sweet Grass, Teton, Wheatland, Yellowstone										
<b>Dolichonyx oryzivorus</b> Bobolink	<b>Icteridae</b> Blackbirds	G5	S3B	MBTA			SGCN3	9%	100%	Moist grasslands
<b>Species Occurrences verified in these Counties:</b> Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Granite, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Madison, McCone, Meagher, Missoula, Musselshell, Park, Petroleum, Phillips, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Stillwater, Sweet Grass, Teton, Valley, Wheatland, Wibaux, Yellowstone <b>State Rank Reason:</b> Species has undergone recent large population declines in Montana and a patchwork of declines and increases have been documented in surrounding states and provinces.										



<b>Haemorhous cassinii</b> Cassin's Finch	<b>Fringillidae</b> Finches	G5	S3	MBTA; BCC10			SGCN3	11%	62%	Drier conifer forest
<b>Species Occurrences verified in these Counties:</b> Beaverhead, Big Horn, Broadwater, Carbon, Cascade, Chouteau, Custer, Deer Lodge, Fergus, Flathead, Gallatin, Glacier, Golden Valley, Granite, Jefferson, Judith Basin, Lake, Lewis and Clark, Lincoln, Madison, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Powder River, Powell, Ravalli, Rosebud, Sanders, Silver Bow, Stillwater, Sweet Grass, Teton, Wheatland, Yellowstone <b>State Rank Reason:</b> Data show recent short-term declines in population for this species										
<b>Nucifraga columbiana</b> Clark's Nutcracker	<b>Corvidae</b> Jays / Crows / Magpies	G5	S3	MBTA	Species of Conservation Concern on Forests (FLAT)		SGCN3	9%	84%	Conifer forest
<b>Species Occurrences verified in these Counties:</b> Beaverhead, Big Horn, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Deer Lodge, Fergus, Flathead, Gallatin, Glacier, Golden Valley, Granite, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Lincoln, Madison, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Ravalli, Sanders, Silver Bow, Stillwater, Sweet Grass, Teton, Toole, Wheatland, Yellowstone										
<b>Troglodytes pacificus</b> Pacific Wren	<b>Troglodytidae</b> Wrens	G5	S3	MBTA			SGCN3	1%	39%	Moist conifer forests
<b>Species Occurrences verified in these Counties:</b> Beaverhead, Broadwater, Cascade, Fergus, Flathead, Gallatin, Glacier, Granite, Jefferson, Judith Basin, Lake, Lewis and Clark, Lincoln, Madison, Meagher, Mineral, Missoula, Park, Powell, Ravalli, Sanders, Stillwater, Sweet Grass, Teton										

INVERTEBRATES - INSECTS										2 SPECIES
										TOWNSHIP = 001S005E (based on mapped <b>Species Occurrences</b> )
SCIENTIFIC NAME COMMON NAME TAXA SORT	FAMILY (SCIENTIFIC) FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	FWP SWAP	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
STONEFLIES										
<b>Isocapnia crinita</b> Hooked Snowfly	<b>Capniidae</b> Small Winter Stoneflies	G5	S2					20%	9%	Mountain Streams to Rivers
<b>Species Occurrences verified in these Counties:</b> Flathead, Gallatin, Lincoln, Missoula, Ravalli <b>State Rank Reason:</b> The Hooked Snowfly is currently ranked "S2" in Montana because it was thought to be at risk due to very limited and/or potentially declining population numbers, range and/or habitat, making it vulnerable to extirpation in the state. But, recent range extensions due to newly reported collections may warrant re-evaluating this SOC rank.										
<b>Isocapnia integra</b> Alberta Snowfly	<b>Capniidae</b> Small Winter Stoneflies	G4G5	S2					20%	5%	Mountain Streams to Rivers
<b>Species Occurrences verified in these Counties:</b> Broadwater, Carbon, Cascade, Flathead, Gallatin, Lincoln, Mineral, Park, Stillwater, Sweet Grass, Yellowstone <b>State Rank Reason:</b> The Alberta snowfly is currently ranked "S2" in Montana because it was thought to be at risk due to very limited and/or potentially declining population numbers, range and/or habitat, making it vulnerable to extirpation in the state. But, recent range extensions due to taxonomic changes may warrant re-evaluating this SOC rank.										

INVERTEBRATES - MOLLUSKS										1 SPECIES
										TOWNSHIP = 001S005E (based on mapped <b>Species Occurrences</b> )
SCIENTIFIC NAME COMMON NAME TAXA SORT	FAMILY (SCIENTIFIC) FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	FWP SWAP	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
<b>Margaritifera falcata</b> Western Pearlshell	<b>Margaritiferidae</b> Margaritiferid Mussels	G5	S2		Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)	SENSITIVE	SGCN2	10%	26%	Mountain streams, rivers
<b>Species Occurrences verified in these Counties:</b> Beaverhead, Broadwater, Cascade, Deer Lodge, Gallatin, Granite, Jefferson, Lake, Lewis and Clark, Lincoln, Madison, Meagher, Missoula, Powell, Ravalli, Sanders, Silver Bow <b>State Rank Reason:</b> The Western Pearlshell is currently ranked a "S2" Species of Concern in MT and is at risk because of very limited and/or potentially declining population numbers, range and/or habitat, making it vulnerable to extirpation in the state. This species is widespread in geographic area, but is declining in terms of area occupied and the number of sites with viable individuals; populations showing repeated reproduction (at least several age classes) are now the exception rather than the rule. Montana currently has only 14 "excellent" viable populations out of ~200 known locations (Stagliano 2010). Short term trends show populations declining by ~20% over the last decade (Stagliano 2015).										

## Potential Species of Concern

## Special Status Species

## Montana Natural Heritage - SOC Report

# Plant Species of Concern

Species List Last Updated **04/16/2020**

A program of the Montana State Library's  
Natural Resource Information System  
operated by the University of Montana.

7 Species of Concern

1 Potential Species of Concern - Species Occurrences are not maintained for Animal PSOC, therefore we cannot filter these species geographically

**Filtered by the following criteria:**

Township = 001S005E (based on mapped Species Occurrences)

[Expand All](#) | [Collapse All](#)

### Introduction

### Species of Concern

#### Species of Concern

7 Species

**Filtered by the following criteria:**Township = 001S005E (based on mapped **Species Occurrences**)

FLOWERING PLANTS - DICOTS (MAGNOLIOPSIDA)									5 SPECIES
TOWNSHIP = 001S005E (based on mapped Species Occurrences)									
SCIENTIFIC NAME COMMON NAME TAXA SORT	OTHER NAMES	FAMILY (SCIENTIFIC) FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	MNPS THREAT CATEGORY	HABITAT
<b>Cryptantha fendleri</b> Fendler Cat's-eye		<b>Boraginaceae</b> Borage Family	G5	S2			SENSITIVE	2	Sandy sites
<b>Species Occurrences verified in these Counties:</b> Beaverhead, Gallatin, Sheridan			<b>State Rank Reason:</b> Fendler cat's-eye is restricted to very localized sandhills habitat in the far southwestern and northeastern corners of Montana where it is known from a total of three moderate to large-sized populations. It responds positively to disturbance that maintains its sparsely vegetated habitat. Fire suppression and dune stabilization efforts have likely had an adverse effect on populations of this species.						
<b>Eriogonum crosbyae</b> Crosby's Buckwheat	<b>Eriogonum capistratum</b> <b>var. muhlickii</b> , <b>Eriogonum chrysops</b> [misapplied]	<b>Polygonaceae</b> Buckwheat Family	G4	S3					Alpine
<b>Species Occurrences verified in these Counties:</b> Deer Lodge, Gallatin, Granite, Ravalli			<b>State Rank Reason:</b> Rare to Uncommon. This entity is restricted to high elevation sites in the Bitterroot Range and in the Anaconda-Pintlers, where it may be locally common in some areas. Good population data are lacking for most occurrences, though it's long-term viability does not appear to be a major concern at this time due, in part, to the remoteness of its habitat.						
<b>Mimulus nanus</b> Dwarf Purple Monkeyflower		<b>Phrymaceae</b> Lopseed Family	G5	S2S3		Sensitive - Known on Forests (BRT, CG)		2	Open slopes (low-elevation)
<b>Species Occurrences verified in these Counties:</b> Gallatin, Ravalli			<b>State Rank Reason:</b> <i>Mimulus nanus</i> is only known from a few extant occurrences in the state, plus two historical collections. Populations are generally small and in habitats susceptible to weed invasion. At least a few of the occurrences contain scattered spotted knapweed plants.						
<b>Penstemon whippleanus</b> Whipple's Beardtongue		<b>Plantaginaceae</b> Plantain Family	G5	S2					Open areas (subalpine and alpine)
<b>Species Occurrences verified in these Counties:</b> Beaverhead, Gallatin, Madison			<b>State Rank Reason:</b> Whipple's beardtongue occurs at the edge of its range in Montana, and is known here from just two collections, only one of which is recent. The species occupies high elevation, rocky habitat that is relatively unthreatened.						
<b>Physaria saximontana</b> <b>var. dentata</b> Rocky Mountain Twinpod		<b>Brassicaceae</b> Mustards	G3T3	S3					Gravelly slopes/talus (Montane/subalpine)
<b>Species Occurrences verified in these Counties:</b> Beaverhead, Broadwater, Carbon, Chouteau, Fergus, Flathead, Gallatin, Glacier, Lewis and Clark, Madison, Park, Pondera, Powell, Silver Bow, Sweet Grass, Teton			<b>State Rank Reason:</b> State endemic known from several counties across central and southern Montana mountain ranges.						

#### FLOWERING PLANTS - MONOCOTS (LILIOPSIDA)

TOWNSHIP = 001S005E (based on mapped **Species Occurrences**)

2 SPECIES

SCIENTIFIC NAME COMMON NAME TAXA SORT	OTHER NAMES	FAMILY (SCIENTIFIC) FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	MNPS THREAT CATEGORY	HABITAT
<a href="#">Muhlenbergia minutissima</a> Annual Muhly		<a href="#">Poaceae</a> Grasses	G5	S3					
<b>Species Occurrences verified in these Counties:</b> Beaverhead, Gallatin, Madison, Missoula, Ravalli, Silver Bow <b>State Rank Reason:</b> <i>Muhlenbergia minutissima</i> is known from 7 locations observed from 1895 to 2015 in central and western Montana. It is also reported to occur in northeast Montana, but specimens have not been located (Peterson <i>in</i> FNA 2003). A 1941 occurrence near Belgrade has been searched for in recent decades, but not re-located (Matt Lavin personal communication). Plants can occupy disturbed areas, yet populations may not be persisting. Surveys that bring forth current data on locations, populations sizes, habitat requirements, or threats is needed.									
<a href="#">Sporobolus neglectus</a> Small Dropseed		<a href="#">Poaceae</a> Grasses	G5	S1S2					Grasslands (low-elevation)
<b>Species Occurrences verified in these Counties:</b> Gallatin, Sanders, Wheatland <b>State Rank Reason:</b> Rare in Montana, where it is known from a few widely scattered and poorly documented sites.									

### Potential Species of Concern

### Special Status Species

### Additions To Statewide List

### Species Removed From Statewide List

Citation for data on this website:  
 Montana Plant Species of Concern Report. Montana Natural Heritage Program. Retrieved on 6/29/2020, from <http://mtnhp.org/SpeciesOfConcern/?AorP=p>

Attachment 4  
SHPO Coordination





May 1, 2020

Damon Murdo  
Cultural Records Manager  
Montana Historical Society  
P.O. Box 201201  
Helena, MT 59620-1201

Subject: Database Review Request, Section 106 Coordination  
On behalf of the City of Bozeman  
Manley Ditch Rehabilitation Project  
Bozeman, Gallatin County, Montana

Dear Mr. Murdo:

On behalf of the City of Bozeman, DOWL presents this request for a database review to identify known and likely locations of any potential or existing historic or archaeological sites within the project area shown on the attached site location map (data request form also attached). The project limits are east of N 7<sup>th</sup> Avenue, northeast of the Montana Rail Link (MRL) railroad tracks, and southwest of the development along Gallatin Park Drive in Bozeman, Gallatin County, Montana. The project is found within Section 36 of Township 1 South, Range 5 East. The center of the project area is at latitude 45.705903, longitude -111.044558.

The project involves conveyance improvements to the City of Bozeman's stormwater system by rehabilitating/extending an abandoned irrigation ditch (Manley Ditch). The ditch historically crossed under the MRL tracks and distributed flows to agricultural fields northeast of the railroad tracks. The area has since been developed, the Manley Ditch culvert under the MRL tracks was blocked many years ago on the outlet end, and the ditch on the northeast side of the tracks has disintegrated and disappeared over time. Proposed improvements include removing the steel plate blocking the outlet of the existing culvert under the MRL tracks, regrading a portion of the ditch near the culvert inlet, and constructing a new conveyance ditch from the culvert outlet, which will flow northwest along the northeast side of the MRL tracks and convey stormwater flows into a nearby wetland associated with the Montana Fish, Wildlife, and Parks Cherry River Fishing Access site. Drop structures and bio-retention swales will be constructed within the ditch to provide water quality treatment before discharging into the wetland. The project will require a Nationwide Permit from the U.S. Army Corps of Engineers, Montana Regulatory office.

Please contact Emily Peterson, DOWL, at 406.324.7419 or [epeterson@dowl.com](mailto:epeterson@dowl.com) with any information and/or concerns that you may have, or if you have any questions or require any additional information regarding this request. Thank you for your assistance.

Sincerely,

A handwritten signature in blue ink that reads "Emily Peterson".

Emily Peterson  
Environmental Manager

Attachments: as specified

## Emily Peterson

---

**From:** Murdo, Damon <dmurdo@mt.gov>  
**Sent:** Friday, May 01, 2020 2:36 PM  
**To:** Emily Peterson  
**Cc:** KMehrens@BOZEMAN.NET; Wade Irion  
**Subject:** [EXT] RE: City of Bozeman Manley Ditch Rehabilitation - Data Request and Request for comments  
**Attachments:** 2020050104.pdf; Reports.pdf; Sites.pdf  
**Follow Up Flag:** Follow up  
**Flag Status:** Flagged  
**Categories:** Filed by Newforma

**WARNING:** External Sender - use caution when clicking links and opening attachments.



May 1, 2020

Emily Peterson  
DOWL  
1300 Cedar Street  
Helena MT 59601

RE: MANLEY DITCH REHABILITATION PROJECT. SHPO Project #:2020050104

Dear Emily:

I have conducted a cultural resource file search for the above-cited project located in Section 36, T1S R5E. According to our records there have been a few previously recorded sites within the designated search locale. In addition to the sites there have been a few previously conducted cultural resource inventories done in the areas. I have attached a list of these sites and reports. If you would like any further information regarding these sites or reports, you may contact me at the number listed below.

It is SHPO's position that any structure over fifty years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. If the ditch or any structures are to be altered, and are over fifty years old, we would recommend that they be recorded, and a determination of their eligibility be made prior to any disturbance.

If this project involves a federal agency, it may constitute a federal undertaking subject to compliance with Section 106 of the National Historic Preservation Act. As such it will be important for you to coordinate efforts in the further consideration of impacts to cultural resources through the federal agency for consultation with our office.

If you have any further questions or comments, you may contact me at (406) 444-7767 or by e-mail at [dmurdo@mt.gov](mailto:dmurdo@mt.gov). I have attached an invoice for the file search. Thank you for consulting with us.

Sincerely,

Damon Murdo

## Attachment 5

### 1994 Cultural Resources Report for FWP Cherry River Fishing Access Site

## SCS/FWP CULTURAL RESOURCES INVENTORY REPORT FORM

1. Project Name: Cherry River Fishing Access Sites
2. Location:  
Gallatin County T 1S, R 5E, Section 26 W $\frac{1}{2}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$   
36 N $\frac{1}{2}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$
3. USGS Quad: Bozeman 7.5 1987 (provisional)
4. Ownership: Department of Fish, Wildlife, and Parks
5. Project Description: In parcel 1 (section 26) the plans call for construction of access routes, parking space, and a latrine on an undeveloped tract south of the East Gallatin River. Construction on parcel 2 (section 36) is an expansion of an existing fishing access. The enlarged area will provide more parking space and a latrine.
6. Environmental Description: Parcel 1 - The access site is bordered by a county road on the west and an old remnant channel on the east. The proposed project area lies at 4610 feet elevation. The topography is fairly flat with a very slight north aspect. The riparian vegetation is very dense and about 2 feet tall. It includes rose, field horsetail, wild rye, snowberry, and dogwood. The soils are loamy alluvium. The East Gallatin River is 250 feet to the north.  
Parcel 2 - The access site is partially existing and is bordered by a county road to the south and constructed duck ponds to the north and east. The elevation is 4675 feet with a slight northern aspect. The topography is fairly flat. Again the vegetation is very dense and approximately 5 feet tall. Most of the vegetation appeared to be sweet clover with a trace of needle & thread and thistle. The soils are loamy alluvium with a heavy gravel component. The East Gallatin River is approximately 800 feet north.
7. File Search Results: A file search was previously conducted (June 17, 1992) for parcel 2 with negative results. A limited survey for duck ponds just east of the fishing access also failed to identify any cultural properties. The county road was realigned 2 or 3 years ago removing the house that shows on the topographic map. An oversight failed to secure a file search for parcel 1.

9-7-94



8. Field Methods: The inventory was conducted on August 31, 1994. Due to the very dense vegetation on both tracts, survey was limited to examining existing game and recreation trails, bladed access roads, and wildlife bedding areas. These by nature are random and do not provide adequate surface visibility.

Acres surveyed: 1

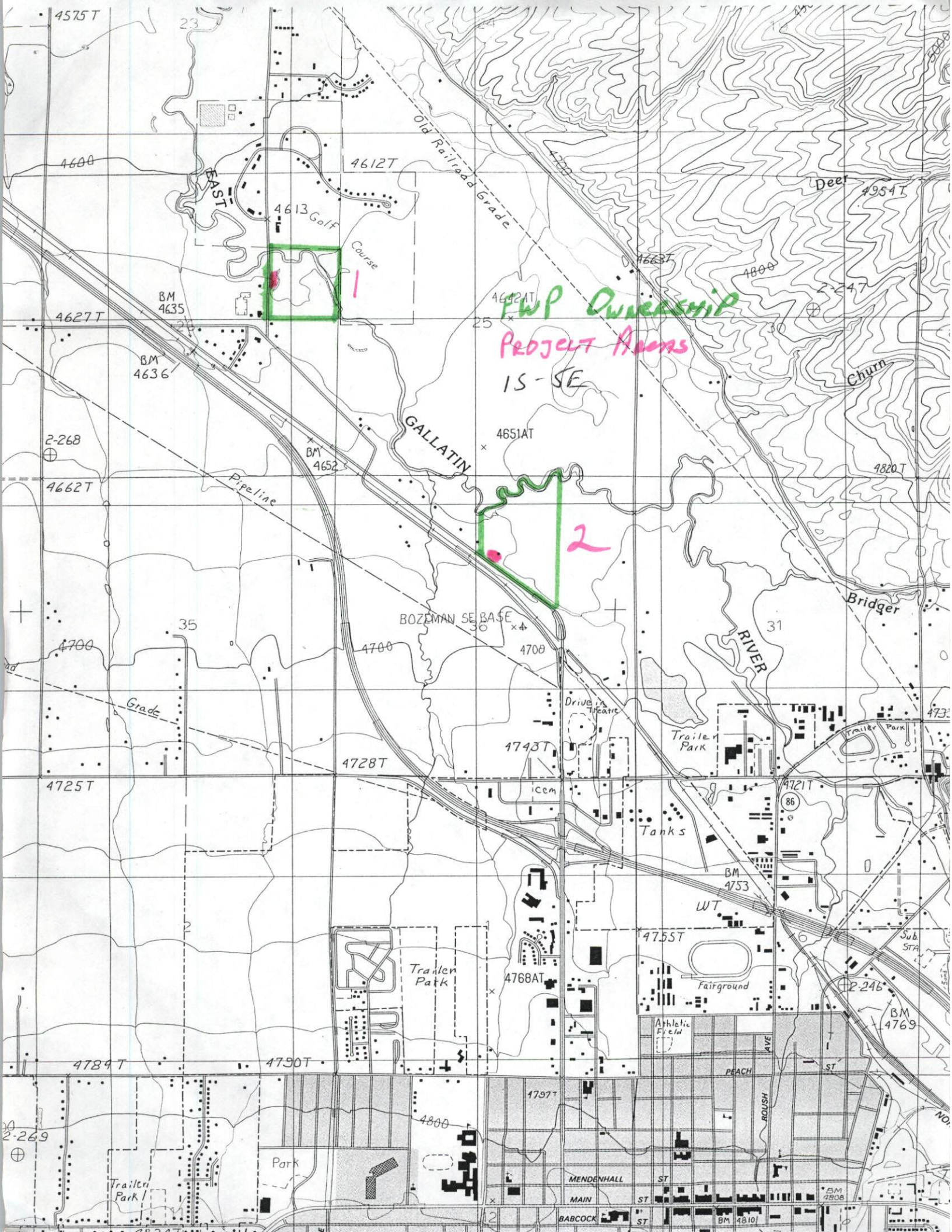
9. Cultural Resources: No cultural properties were located as a result of this inventory.

10. Recommendations: Parcel 1 is recommended for a follow-up examination. The topographic context indicates the possibility for cultural properties. The next examination should take place after vegetation is cleared so that surface visibility is greatly enhanced.

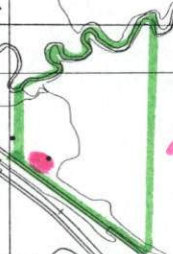
Parcel 2 is recommended for clearance. Recent construction of the duck ponds, realignment of the county road, and existing fishing access parking area have heavily impacted the area around the proposed expansion. The expansion will probably cover less than one acre.

11. Reporter/Date: Dori Passmann, SCS/FWP Archaeologist  
September 1, 1994

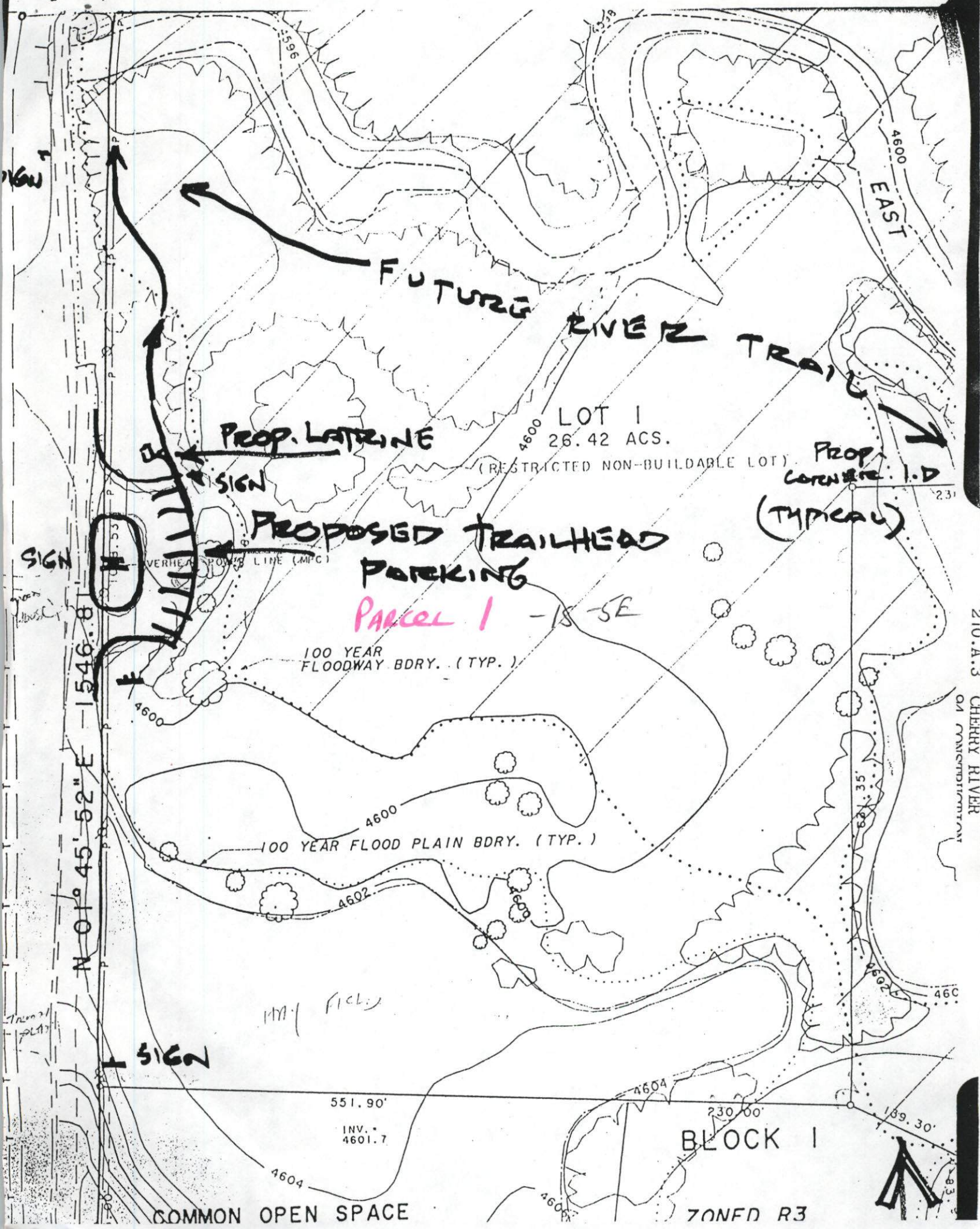




FWP Ownership  
PROJECT Areas  
IS-SE









COS 1498

410.8

# CHENEY RIVER FAS SOUTH TRAILHEAD PARKING AREA

EAST GALLATI

SPRINGHILL ROAD  
60 COUNTY RD. EAS.  
BY PETITION  
938.12' TO W.C.  
1091.21'

SW COR. SEC. 25  
(FND. 2" PIPE WALUM. CAP)

SAUNDERS  
RIVERSIDE  
ACRES

23 FM 1633

PACIFIC

DETAIL 'A'  
SCALE: 1"=20'

TRACT 3

1332.00'

N 00° 54' 07" E  
24.14'

SE COR. SEC. 25  
(FND. 3/4" SMOOTH BAR)

WC

1233.63'  
1327.56' S 88° 52' 55" W

MAILEY ROAD  
60' COUNTY ROAD EASEMENT  
- PETITION NO. 90

FM 3 PG. 611

N 00° 39' 42" W  
1377.84'

TRACT 3  
NO SCALE

1:500'

SOLAR OBSERVATION

BAR W/RED CAP OR  
ID

REBAR W/ALUM. CAP

MER

TOTAL AREA = 422.114 AC.

0' 250' 500' 1000' 2000'

Proposed  
Trail

Proposed  
Landscape

TRACT 4  
48.526 AC.

PARCEL 2  
15-5E

Proposed  
Trailhead  
PARKING

Proposed  
JACKPOT  
FENCE

UNPLATTED

E 1/16 COR.  
SEC. 25B.36  
(COR. FALLS IN RIVER)

WC

2286.17' 13000' 500° 24' 33" E 2416.17'

UNPLATTED

H. = 18° 59' 45"  
R. = 74° 95'  
L. = 243.67'

N. B

C 1/4 COR. SEC. 36  
(FND. ALUM. CAP)

1315.97'  
S 89° 14' 25" E

C-E 1/16 COR.  
SEC. 36

(NOTHING FND. OR BETT.)

7th Ave.

7/2/95