

CABINET MOUNTAINS WATER DISTRICT

WATER SYSTEM IMPROVEMENTS ENVIRONMENTAL ASSESSEMENT

JULY 2020

PROJECT NO. {218168}

PREPARED BY:



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PREPARED FOR:

**Cabinet Mountains
Water District**

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From: Lynn, John - RD, Coeur d' Alene, ID <john.lynn@usda.gov>
Sent: Wednesday, August 19, 2020 12:01 PM
To: Kyle Meschko
Cc: Chase Macpherson
Subject: RE: Cabinet Mountains Water District - Cultural Resources Survey (SHPO Rev. No. 2020-439)

Kyle there are no comments as far as RD is concerned the EA doc is approved.

From: Kyle Meschko <kmeschko@Kellerassociates.com>
Sent: Wednesday, August 19, 2020 10:47 AM
To: Lynn, John - RD, Coeur d' Alene, ID <john.lynn@usda.gov>
Cc: Chase Macpherson <cmacpherson@Kellerassociates.com>
Subject: RE: Cabinet Mountains Water District - Cultural Resources Survey (SHPO Rev. No. 2020-439)

Thanks John! When should we anticipate your final review comments back?

Chase please add letter to report.

KYLE MESCHKO, PE
Keller Associates, Inc.
OFFICE 208-813-7603 | CELL 208-946-3312

From: Lynn, John - RD, Coeur d' Alene, ID <john.lynn@usda.gov>
Sent: Wednesday, August 19, 2020 8:17 AM
To: Kyle Meschko <kmeschko@Kellerassociates.com>
Subject: FW: Cabinet Mountains Water District - Cultural Resources Survey (SHPO Rev. No. 2020-439)

From: Erickson, Kent - RD, Boise, ID <kent.erickson2@usda.gov>
Sent: Wednesday, August 19, 2020 8:15 AM
To: Ashley Brown <Ashley.Brown@ishs.idaho.gov>
Cc: Lynn, John - RD, Coeur d' Alene, ID <john.lynn@usda.gov>
Subject: RE: Cabinet Mountains Water District - Cultural Resources Survey (SHPO Rev. No. 2020-439)

Good morning Ashley,

Attached is our Section 106 determination letter for the Cabinet Mountains Water District, Water System Improvements project.

Thanks,
Kent

Kent M. Erickson, P.E. | State Engineer
USDA Rural Development
9173 W. Barnes Drive, Suite A1
Boise, ID 83709



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, ID 83706 • (208) 373-0502
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Brad Little, Governor
Jess Byrne, Director

October 8, 2020

Electronic Delivery: idahokatz@gmail.com

Chairman, Ed Katz
Cabinet Mountains Water District
PO Box 1223
Bonners Ferry, Idaho 83805

RE: Concurrence with the finding of no significant impact for the Cabinet Mountains Water District drinking water improvements project – DW2008

Dear Mr. Katz:

The Idaho Department of Environmental Quality (DEQ) has reviewed the finding of no significant impact (FONSI) prepared and issued by the U.S. Department of Agriculture Rural Development (USDA-RD) for the Cabinet Mountains Water District on May 26, 2020. DEQ concurs with the FONSI made as the environmental determination by the USDA-RD on May 26, 2020, and hereby adopts it to satisfy DEQ's environmental document review requirements for the referenced project.

A FONSI is required to be published one time in the *Bonners Ferry Herald*, newspaper of record. DEQ will complete the publication requirement by requesting the FONSI legal notice for the referenced project be published in the *Bonners Ferry Herald*. DEQ will request the legal notice be published on October 8, 2020. The legal notice will explain how the public can obtain copies of the full FONSI. USDA-RD did not receive any comments from the public during their environmental review.

Refer any comments regarding technical considerations to Katy Baker-Casile in the Coeur d'Alene Regional Office at (208) 666-4640 or katy.baker-casile@deq.idaho.gov. Refer comments regarding the environmental review to LaDonn Kaylor in the State Office at (208) 373-0556 or ladonn.kaylor@deq.idaho.gov.

Sincerely,

A handwritten signature in blue ink that reads "Jerri Henry".

Jerri Henry
Drinking Water Protection & Finance Division Administrator

JH:LK:tg

Encolusre: FONSI legal notice

c: MaryAnna Peavey, DEQ State Office
Charlie Parkins, DEQ State Office
Tyler Fortunati, DEQ State Office
Katy Baker-Casile, DEQ Coeur d'Alene Regional Office
LaDonn Kaylor, DEQ State Office
Chase Macpherson, EI, Keller Associates Inc., cmacpherson@kellerassociates.com
Kyle Meschko, Keller Associates Inc., kmeschko@kellerassociates.com
Noel J. LaRoque, USDA Rural Development, noel.laroque@usda.gov

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1.0 PURPOSE AND NEED

1.1 PROJECT DESCRIPTION

The Cabinet Mountains Water District (CWMD) system covers a large area in Boundary County. This area is south of the Kootenai River extending almost as far south as the Bonner County Line, adjacent to the McArthur Reservoir (**Figure 1.0**). The current system is comprised of two groundwater wells just south of the Kootenai River, three storage tanks, five booster stations, and over 75 miles of water main. There are 745 active connections with a total of 921 active and inactive connections.

The system was developed in 1994 to provide water to many county residents who were without a reliable water source due to lack of groundwater availability. Unfortunately, the system was not designed or constructed with the intention of providing fire flow. Other noted deficiencies include lack of capacity, aging infrastructure, low pressures, and inability to meet peak hour demands. These deficiencies have given the District enough reason to upgrade their current system.

Keller Associates, Inc. was retained to build on the previous facility plan, address DEQ review comments, and prepare a planning document consistent with the interagency outline. With funding now available to further the project, the purpose of this report is to outline the environmental elements associated with the proposed alternative and other alternatives introduced. Consultation from the appropriate agencies of environmental concern has been received to advance the design of the proposed alternatives with necessary environmental considerations.

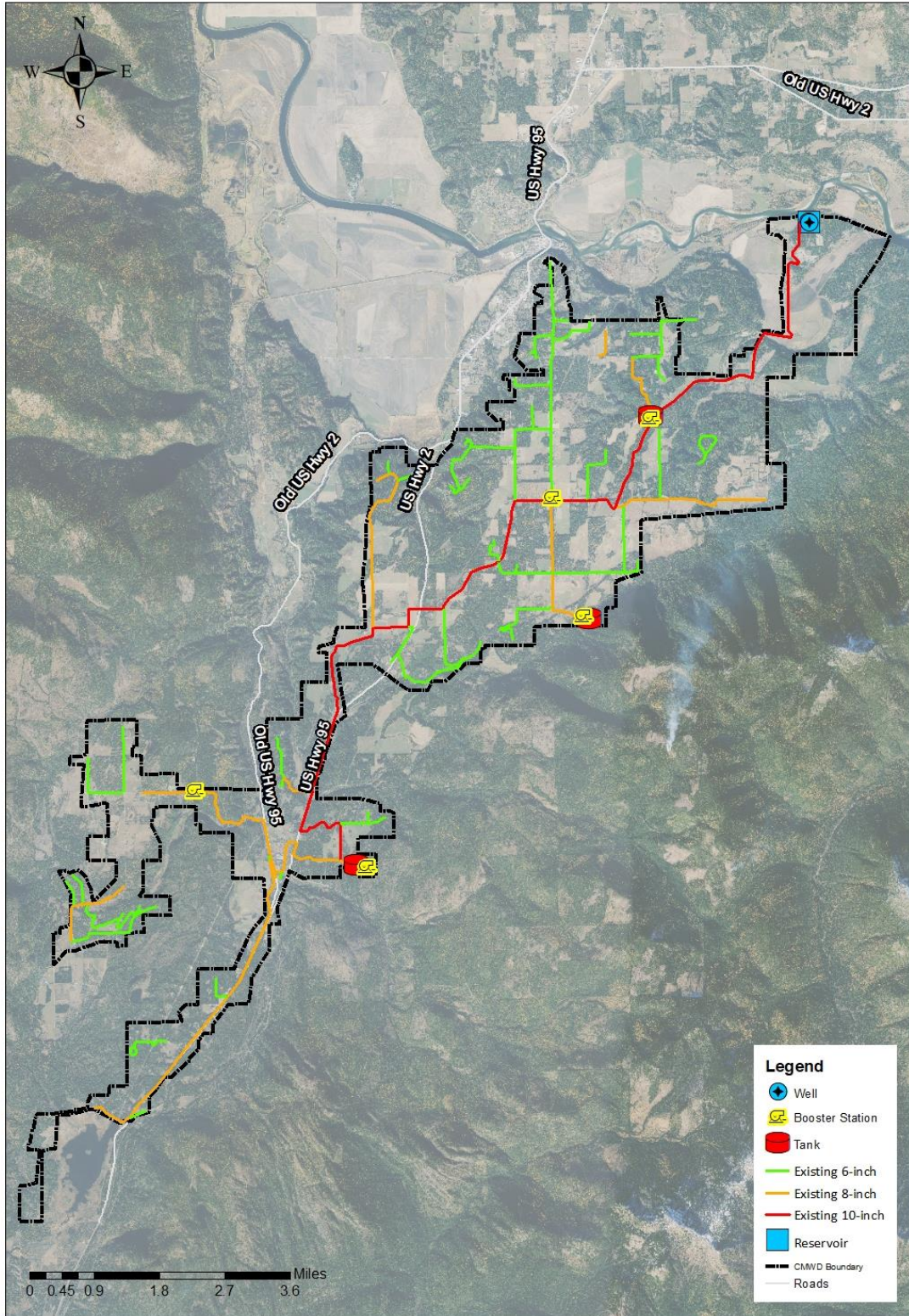


Figure 1.0: CMWD Existing Water System

1.2 PURPOSE AND NEED

CMWD is currently under a suspension on approving additional water connections. As mentioned above, an evaluation of the existing system identified the following deficiencies: inadequate water supply capacity, inadequate storage, low pressures during peak hour flow conditions, and inability to provide recommended minimum fire flows. A plan for mitigating these deficiencies and meeting future system requirements is needed.

1.2.1 PUBLIC HEALTH, SANITATION, AND SECURITY

CMWD system is relatively secure. All buildings are secured by locking doors, and the Crossport Well area is fenced in with locking gates. CMWD has not reported any problems with facility damage or water quality. Water quality grab samples taken by CMWD have historically met state standards; however, isolated low pressures, lack of redundancy, and inadequate fire flows put the system at risk, especially during summer months, when demands are highest. The CMWD has indicated that they do not have any issues with shut off valves within the system. Additionally, they do not believe that they have a need for additional shut-off valves at this time.

The most recent Sanitary Survey completed by DEQ in 2016 indicates that the CMWD's water system is in substantial compliance with the Idaho Rules for Public Drinking Water Systems. Additionally, no significant deficiencies were identified as a part of DEQ's Sanitary Survey. A copy of this survey is included in **Appendix A**.

1.2.2 AGING INFRASTRUCTURE

Much of CMWD system appears to be in fair condition with normal wear and deterioration. CMWD operators have done an excellent job of extending the life of infrastructure through regular maintenance and upkeep. It is anticipated that the three existing tanks will need coatings and substantial repair in the next 15+ years. Additionally, the pumps installed in the wells and booster stations will need to be replaced/refurbished in the next 10-15 years. The distribution system is reported to be in fair to good condition. As pressure in the system rises, existing services, valves, and meters will need to be monitored to detect new leaks. A long-term distribution replacement plan is recommended to assist with the replacement of this aging structure such as piping, fire hydrants, meters, valves and pumping facilities.

1.2.3 REASONABLE GROWTH

CMWD's well production data was analyzed from 2016-2018. The maximum day flow was based on the highest recorded well production day in the analysis period (**Table 1.1**).

Within the service area, not all connections actively used water each month. There were 921 total accounts on the billing system in 2019. However, some of these accounts do not currently use any water (open, but not active). CMWD reported that all of these connections were expected to become fully active within the next several years. Therefore, the District elected to base future water usage on all open accounts (921), plus predicted growth.

Over 300 new connections are anticipated to be added to the system within the 20-year planning period. These are anticipated to be located predominantly in the North Paradise Zone, and the Highland Flats Zone. See **Table 1.1** for existing and future demands.

Table 1.1: Existing and Future Demands

	2019	2039 DESIGN	CURRENT WATER RIGHTS
Average Day (gal/day)	192,800	261,668	1,290,000
Max Day (gal/day)	900,700	1,224,500	
Projected EDU's	921	1,252	N/A
Average Water Usage (gal/day/EDU)	209		
Max Day Water Usage per EDU	978		
Max Day (gpm)	625	850	897
Peak Hour (gpm)	1,212	1,649	

New well and storage improvements should be sized to accommodate 20-year projected needs. Storage facilities will be sized for current and future 20-year projected needs (**Table 1.2**). System booster stations and pipelines should be designed to accommodate future needs – and be installed to provide necessary fire flow, transmission, and 20- year projected needs.

Table 1.2: Existing and Future Storage Needs

YEAR	2019	2039
Operational Storage, gal ¹	130,200	130,200
Peaking Storage, gal ²	177,400	241,200
48-Hour Emergency Storage, gal	563,600	766,200
Fire Storage (1,000 gpm for 2 hours), gal	120,000 (nested in emergency storage)	120,000 (nested in emergency storage)
Total Storage Requirements, gal	871,200	1,137,600
Existing Storage Available, gal	382,300	382,300
Additional Storage Needed, gal	488,900	755,300

¹ Existing operation storage currently in use by the District, which was assumed to remain the same for future conditions (requiring tighter operating points as the system demands and storage increase).

² Peaking Storage was calculated using 20% of the maximum day demand based off system SCADA trends (6/2/19-6/5/19). This falls within the typical range of needed equalization storage, between 10 – 25% of maximum day demands, as recommended by the Washington Department of Health Water System Design Manual (Section 9.0.3).

1.2.4 COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

CMWD existing water system does not have sufficient supply capacity to meet maximum day demands for existing commitments for active and inactive connections. Additionally, CMWD needs additional storage capacity to satisfy CMWD desired 48-hour emergency storage volumes. Due to spread, size of water mains, and supply pressures the system specifically in the North Paradise Area is very sensitive to pressure swings based on operations and usage. These pressure swings have been observed to fluctuate approximately 10-20 PSI or more at certain locations. This results in pressures intermittently dropping below 40 PSI at specific isolated locations which does not comply with public drinking water system requirements.

1.2.5 PROJECT FINANCING

DEQ, CDBG, USACE, and USDA-RD appear to be the most favorable funding sources for the District to pursue. All options could potentially provide assistance in the form of low interest loans, grant money, or principal forgiveness to lessen the impact on CMWD's user rates. Additional sources of funding may decrease the anticipated rate increase associated with these projects. Rates are expected to increase by \$20 and \$30 per connection per month, pending final funding sources and terms. With existing rates of \$45 per month per connection, the new rates could be \$65 - \$75 per month.

2.0 ALTERNATIVES EVALUATED INCLUDING THE PROPOSED ACTION

2.1 PROPOSED ACTION

This section of the report includes a summary of the recommended improvement projects. After reviewing the various alternatives, the District has elected to pursue the recommended priority 1 projects as described below:

- Develop a new well at the Crossport site to meet current and future supply requirements. Complete additional improvements at the existing Crossport Well facility such as the replacement of the existing generator and addition of SCADA controls (refer to the facility plan for more details).
- Construct three new storage tanks (Parker Canyon, Highland Flats, North Paradise) for a total of 760,000 gallons of storage to meet current and future storage needs.
- Replace the Highland Booster Station; replace/modify the Parker Canyon Booster Station; add Mountain Meadows Booster Station; add Kootenai Trail (Cow Creek) Booster Station; and complete improvements at Black Mountain Booster Station as well as well as Black Mountain Facility Improvements.
- Upgrade the Naples pressure reducing valve station.

These projects have been organized into a Capital Improvement Plan (CIP) and address the existing storage deficiency, improve pressures above the required 40 psi minimum during peak hour events, and

increase the available fire flow in the system to above 250 gpm. The improvements are displayed in **Table 2.1**.

Table 2.1: Capital Improvement Plan

ID	PROJECT	EST. COST (2019 DOLLARS)
W1.1	Additional Crossport Well	\$877,000
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster	\$2,107,000
T1.2	Highland Flats Tank (200,000 gal)	\$1,370,000
T1.3	North Paradise Elevated Tank (300,000 gal)	\$2,192,000
1.1	Highland Booster Replacement	\$586,000
1.2	Black Mountain Booster Improvements	\$179,000
1.3	Mountain Meadows Rd. Booster	\$285,000
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	\$62,000
1.5	Kootenai Trail Booster	\$285,000
CI	Crossport Well Facility Improvements	\$168,000
CI	Black Mountain Facility Improvements	\$103,000
	<i>Total Priority 1 (rounded)</i>	\$8,214,000

2.1.1 PRELIMINARY PROJECT DESIGN

Each project identified in the CIP will help create a more reliable water system. Locations and areas of potential affect (APE) are shown in the **Appendix B**. Brief descriptions of additional design considerations are included in the sections below.

Priority 1 Improvements:

Project W1.1 – Additional Crossport Well

An additional well at the Crossport site will be developed. Pending the results of the existing well casing investigation, this may include drilling a new well, or utilizing the existing Well #3 casing (budget for drilling a new well is included in the CIP). The proposed well will be connected to the existing system, and the existing building will be expanded to accommodate the proposed well. The proposed well is expected to be capable of supplying more than 500 gpm with minimal drawdown, similar to the existing Crossport wells. It will have access to standby power and will be connected to the District’s existing controls system.

Project T1.1.2 – Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station

A new partially buried, concrete water storage tank will be constructed adjacent to the existing Parker Canyon Tank. The two tanks will be interconnected and will essentially operate as a single tank under normal operations. Isolation valves will allow one of the tanks to be taken offline for maintenance purposes and redundancy. The existing Parker Canyon Booster station will be abandoned in favor of a new booster station. The new Parker Canyon Booster Station will be constructed near or on top of the proposed tank and be capable of operating with one or both of the existing tanks supplying the pumps. The new booster station will have twice the capacity of the existing Parker Canyon booster

station and will be equipped with standby power and variable frequency drives with the ability to operate based on local pressures. Additional land will need to be purchased adjacent to the existing Parker Canyon Facility.

Project T1.2 – Highland Flats Tank (200,000 gal)

Currently, there is no storage in the Highland Flats Pressure Zone. A Partially Buried Concrete Tank will be installed on a nearby hill at the hydraulic grade of the pressure zone. The project will consist of the partially buried concrete tank, an access road, overflow protection measures, yard piping and valving, and electrical and controls. Additional land will need to be purchased. Initial conversations with property owners have occurred but the exact location is unknown and could change substantially.

Project T1.3.2 – North Paradise Elevated Tank (300,000 gal)

The North Paradise Elevated Tank is intended to provide additional systemwide storage, with an emphasis specifically in the north portion of the Paradise pressure zone. This project will consist of an access road, yard piping, an elevated steel tank, valving, and controls. The District has already acquired property at this location, but additional land may need to be purchased or access easement

Project 1.1 – Highland Booster Replacement

The existing Highland Flats Booster Station will be replaced with a new booster station. The replacement booster station will have duty pumps and larger pumps to meet average and maximum demands. This project will include installation of the new pumps, a new CMU building, instrumentation, generator, mechanical and yard piping, controls, and demolition of the existing booster station. Additional land or easement will need to be acquired.

Project 1.2 – Black Mountain Booster Improvements

This project includes upgrades to the existing Black Mountain Booster Station. Air relief and pressure relief provisions will be installed, as well as installation of a pressure sustaining valve to maintain pressure in the Paradise Zone when the tank is filling. The existing primary duty pump will be replaced.

Project 1.3 – Mountain Meadows Road Booster

The goal of this project is to improve pressure to comply with DEQ minimum pressure requirements. The project will include a new small booster station with two pumps, mechanical piping/valving, instrumentation, and a generator. Pumps will be sized to deliver peak hour demands. This project requires an easement.

Project 1.4 – Naples Pressure Reducing/Pressure Sustaining Valve

This project consists of replacing the existing pressure sustaining valve with a combination pressure sustaining/reducing valve. SCADA integration and power supply upgrades will also be included in the project.

Project 1.5 – Kootenai Trail Booster

The goal of this project is to improve pressure to comply with DEQ minimum pressure requirements. The project will include a new small booster station with two pumps, mechanical piping/valving, instrumentation, and a generator. Pumps will be sized to deliver peak hour demands. This project requires an easement.

Project CI – Crossport Well Facility Improvements and Black Mountain Tank/Booster Improvements

This project involves additional improvements to the existing Crossport and Black Mountain facilities that are needed based on on-site evaluations. At the Crossport Site, this includes a replaced generator, pressure and air relief provisions, and new flowmeters. At the Black Mountain Facility, flowmeter replacement and tank rehabilitation are included.

2.2 OTHER ALTERNATIVES EVALUATED

2.2.1 SUPPLY ALTERNATIVES

Alternative 1: No Action

Without providing any supply capacity upgrades the District would be left without sufficient redundant capacity during peak events. No impact would be passed along to the environment, but significant public health risks would be present.

Alternative 2: Additional Crossport Well

This alternative is discussed in **Section 2.1.1** (Preliminary Project Design).

Alternative 3: Cow Creek Well

The District has expressed a desire to improve redundancy in their water source, as well as increase system capacity. Recently, a new well was drilled at a new location away from their existing supply wells in order to achieve this. Upon performing pump tests and water quality tests, the Cow Creek Well experienced iron and manganese levels that were above secondary drinking water standards. These two constituents would require a costly treatment process in order to use the Cow Creek Well for anything other than an emergency backup well. The well-produced approximately 250 gpm, but additional pumping and capacity would be needed to ensure it would satisfy the future peak day pumping demands of 300+ gpm when combined with a Crossport wells. This well is about 2,000 feet away from existing District infrastructure and additional distribution piping would be needed to connect to the system.

Alternative 4: Development of a New Well at a Site (to be determined)

This alternative considers drilling a new well at a location to be determined. Based on information from the District, the region has limited areas where higher producing wells can be found, however, the distance to these and the potential water quality are unknown. The limited information from the test well near Cow Creek suggests that the water quality is also highly variable even in proximity to known quality sources. One

potential location for a new site could be near the Cow Creek test well which reportedly did not have elevated levels of manganese and iron. Additional production capacity and water quality testing of the existing test well may show this site has some promise. However, this alternative would still be considerably more costly than Alternative 2. Should an alternative site be investigated, a hydrogeologic evaluation would be needed.

2.2.2 EVALUATION OF SUPPLY ALTERNATIVES

Advantages and Disadvantages

Table 2.2 presents the advantages and disadvantages associated with each supply alternative. Cost, redundancy, capacity and quality of water source were of main concern.

Table 2.2: Supply Alternatives – Advantages and Disadvantages

ALTERNATIVE	ADVANTAGES	DISADVANTAGES
1 – No Action	<ul style="list-style-type: none"> • Lowest initial cost 	<ul style="list-style-type: none"> • System does not meet supply capacity for current max day demand and lacks adequate supply redundancy • No redundant water sources • Moratorium to new water connections • Non-compliance with State Public Drinking Water Standards
2 – New Crossport Well	<ul style="list-style-type: none"> • Low initial cost • Reliable water source • Increase system capacity • Substantial amount of Infrastructure already in place with existing adjacent well fields 	<ul style="list-style-type: none"> • No redundant water sources
3 – Cow Creek Well	<ul style="list-style-type: none"> • Redundant water source • Increase in system capacity 	<ul style="list-style-type: none"> • High in capital cost with need for a treatment facility for the iron and manganese • Unpredictable/proven water source. • Unknown well capacity since pumping was less than 250 gpm • Additional distribution piping needed to connect to system
4 – Develop a New Well at a Site to be Determined	<ul style="list-style-type: none"> • Potential for redundant, quality water source • Increase in system capacity 	<ul style="list-style-type: none"> • Higher capital cost expected • High degree of uncertainty

Environmental Considerations

Table 2.3 presents the environmental concerns associated with each supply alternative.

Table 2.3: Environmental Impacts Summary – Supply Alternatives

ENVIRONMENTAL CRITERIA	ALTERNATIVE 1- NO ACTION	ALTERNATIVE 2- NEW WELL AT CROSSPORT FACILITY	ALTERNATIVE 3- USE COW CREEK WELL	ALTERNATIVE 4- DEVELOPMENT OF NEW WELL AT TBD
Climate / Physical Aspects (topography/geology/and soils)	Limit new development potential	No permanent adverse impacts	No permanent adverse impacts	Unknown
Population, Economic, and Social Profile	Uncorrected deficiencies will jeopardize District's economic options in the future— growth moratorium	Increased development potential through 20-year planning period	Increased development potential through 20-year planning period pending ability to meet firm capacity	Increased development potential through 20-year planning period
Land Use	No impact	No adverse impact	No adverse impact	Likely minimal impact
Floodplain Development	No impact	No impact	No impact	Unknown
Wetlands and Water Quality	No wetlands near the project area	No wetlands near the project area	No wetlands near the project area	Unknown
Wild & Scenic Rivers	No impact	No wild/scenic rivers within project or impact areas	No wild/scenic rivers within project or impact areas	Unknown
Cultural Resources	No impact	Impact unlikely because construction will be in previously disturbed area	Impact unlikely because construction will be in near disturbed areas	Unknown
Flora and Fauna	No impact	No adverse impact	No adverse impact	No adverse impact
Recreation/Open Space	No impact	No adverse impact	No adverse impact	No adverse impact
Agricultural Lands	No impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	No impact	No adverse impact	No adverse impact	No adverse impact
Energy	No impact	No adverse impact	No adverse impact	No adverse impact
Public Health	Public health risk from existing supply deficiencies	Positive long-term impact on District's ability to provide firm capacity	Positive long-term impact on District's ability to provide firm capacity	Positive long-term impact on District's ability to provide firm capacity

Cost Analysis for Supply Alternatives

Table 2.4 presents a brief cost analysis of the supply alternatives. Factors contributing to the life-cycle cost include the capital cost and the operation and maintenance (O&M) cost for the 20-year life cycle evaluation. The O&M costs presented reflect power, replacement, and estimated expenses for site visits at each facility (e.g., travel time, visual inspection, and cleaning).

Table 2.4: Life-Cycle Cost Estimate – Supply Alternatives

	ALT 2 – ADDITIONAL CROSSPORT WELL	ALT 3 – COW CREEK WELL	ALT 4 – NEW WELL AT SITE TBD
Capital Cost Estimate			
Total Capital Cost^{1,2}	\$877,000	\$2,051,000	\$1,405,000
Operation and Maintenance Cost Estimate			
Annual Electrical	\$17,000	\$17,100	\$17,000
Annual Maintenance	\$19,900	\$66,500	\$26,600
Replacement ³	\$2,900	\$8,600	\$1,200
<i>Total Annual O&M Cost</i>	<i>\$39,800</i>	<i>\$92,000</i>	<i>\$45,000</i>
20-Year O&M Cost	\$796,000	\$1,840,000	\$900,000
20 Year Total Cost			
Total Cost	\$1,673,000	\$3,891,000	\$2,305,000

All costs are in 2019 dollars.

1. Capital cost includes contractor overhead, contingency, and engineering.
2. These Life-Cycle cost estimates do not reflect the time value of money. For example, total O&M costs reflect annual cost multiplied by 20 years.
3. Replacement costs include pumps, generators, as well as filter media for alternative 3

Potential Construction Challenges

Utilizing a new well is anticipated to exceed the District’s existing water rights. The District would need to secure additional water rights to meet total pumping capacity or relegate one well to be a dedicated backup well. Keller Associates recommends that the District begin applying for additional water rights.

When drilling a new well (Crossport Well and new well alternatives), adequate well capacity, water quality, and depth of wells are not always guaranteed due to uncertainty associated with underground drilling. The Cow Creek Well already has several known challenges such as high levels of iron and manganese.

2.2.3 STORAGE ALTERNATIVES

It should be noted that the main considerations for the storage alternatives were the number of tanks -- either three or four tanks. Materials and type of tank are also considered, but these differences were considered negligible for the sake of this report.

Alternative 1: No Action

Without providing any additional storage, the District would be left without sufficient storage capacity during emergencies. No additional environmental impacts would directly result from constructing new storage facilities, but significant public health and property risks would be present. The region would also be at higher risk to fire damage.

Alternative 2: Three Tanks

This alternative is discussed in **Section 2.1.1** (Preliminary Project Design).

Alternative 3: Four Tanks

This alternative considers four new tanks to meet storage and pressure requirements. The four proposed tanks are a 260,000-gallon buried concrete tank at Parker Canyon, a 200,000-gallon ground level concrete tank at Highland Flats, a 300,000-gallon elevated steel tank at North Paradise, and a 150,000-gallon ground level concrete tank at Kootenai Trail. This alternative would not require an additional booster station to meet water pressure requirements.

2.2.4 EVALUATION OF STORAGE ALTERNATIVES

Environmental Considerations

Table 2.5 presents the environmental concerns associated with each storage alternative. Environmental impacts are presented for each tank, rather than each alternative, to better evaluate the impacts of each individual action within the alternative. Alternative 2 (the selected alternative) involves the construction of three storage tanks, and Alternative 3 involves the construction of four tanks.

Table 2.5: Environmental Impact Summary – Storage Alternatives

ENVIRONMENTAL CRITERIA	NO ACTION	PARKER CANYON TANK	HIGHLAND FLATS TANK	NORTH PARADISE TANK	KOOTENAI TRAIL TANK
Climate / Physical Aspects (topography/geology/and soils)	No impact	Modest site expansion to have minimal impact	Modest sized site expected to have minimal impacts	Modest sized site expected to have minimal impacts	Modest sized site expected to have minimal impacts
Population, Economic, and Social Profile	Uncorrected deficiencies will jeopardize District's economic options in the future and pose serious property fire damage risk	Increased potential through 20-year planning period	Increased potential through 20-year planning period	Increased potential through 20-year planning period	Increased potential through 20-year planning period
Land Use	Reduced capacity for future development	Minimal impact; slightly less land available for other uses	Minimal impact; slightly less land available for other uses	Minimal impact; slightly less land available for other uses	Minimal impact; slightly less land available for other uses
Floodplain Development	No impact	No Impact	No Impact	No Impact	No Impact
Wetlands and Water Quality	No impact	No Impact	No Impact	No Impact	No Impact
Wild & Scenic Rivers	No impact-No Wild & Scenic Rivers in area	No impact-No Wild & Scenic Rivers in area	No impact-No Wild & Scenic Rivers in area	No impact-No Wild & Scenic Rivers in area	No impact-No Wild & Scenic Rivers in area
Cultural Resources	No impact	No Impact	No Impact	No Impact	Unlikely, but possible
Flora and Fauna	No impact	Minimal, due to previously disturbed site	Possible, but limited impacts to small site area	Possible, but limited impacts to small site area	Possible, but limited impacts to small site area
Recreation/Open Space	No impact	Minimal, due to previously disturbed site	Minimal impact; slightly less land available for other use	Minimal impact; slightly less land available for other use	Minimal impact; slightly less land available for other use
Agricultural Lands	No impact	Minimal, existing land unsuitable for agriculture	Minimal, existing land unsuitable for agriculture	Minimal, existing land unsuitable for agriculture	Minimal, existing land unsuitable for agriculture

Table 2.5: Environmental Impact Summary – Storage Alternatives (Continued)

ENVIRONMENTAL CRITERIA	NO ACTION	PARKER CANYON TANK	HIGHLAND FLATS TANK	NORTH PARADISE TANK	KOOTENAI TRAIL TANK
Air Quality	No impact	No permanent impacts	No permanent impacts	No permanent impacts	No permanent impacts
Energy	No impact	No impacts	Minimal impacts	Long-term benefit of providing tank service at system pressure and reducing existing “repumping”	Long-term benefit of providing tank service at system pressure and reducing existing “repumping”
Public Health	Public health risk from existing uncorrected deficiencies	Quality services	Quality services	Quality services	Quality services

Cost Analysis for Storage Alternatives

Table 2.6 presents a brief cost analysis of the storage alternatives. Factors contributing to the life-cycle cost include the capital cost and the operation and maintenance (O&M) cost for the 20-year life cycle evaluation. The O&M costs presented reflect power, replacement, and estimated expenses for site visits at each facility (e.g., travel time, visual inspection, and cleaning).

Table 2.6: Life-Cycle Cost Estimate – Storage Alternatives

	ALT 2 – THREE TANKS AND SMALL BOOSTER STATION ²	ALT 3 – FOUR TANKS
	Capital Cost Estimate	
Total Capital Cost^{1,2}	\$5,954,000	\$6,686,000
	Operation and Maintenance Cost Estimate	
Annual Electrical	\$750	\$250
Annual Labor	\$17,000	\$16,000
Replacement ³	\$3,500	\$3,500
<i>Total Annual O&M Cost</i>	<i>\$21,250</i>	<i>\$19,750</i>
20-Year O&M Cost	\$425,000	\$395,000
	20 Year Total Cost	
Total Cost	\$6,379,000	\$7,081,000

All costs are in 2019 dollars.

1. Capital cost includes contractor overhead, contingency, and engineering.
2. These Life-Cycle cost estimates do not reflect the time value of money. For example, total O&M costs reflect annual cost multiplied by 20 years.
3. Replacement costs include pumps and generators

2.2.5 DISTRIBUTION ALTERNATIVES

Alternative 1: No Action

The existing system currently does not meet DEQ requirements for minimum pressures and would continue to have substandard pressures without needed actions. The no action alternative would also leave the District's system at risk during fire events, as insufficient flow would be available for fire suppression.

Alternative 2: Replace Transmission Lines

Increasing size of substandard and inadequate existing transmission mains is anticipated to result in minimal disruption of the environment as most of the existing transmission mains are located in previously disturbed roadways and or roadside ditches. Upon completion, no long-term adverse impact is anticipated. Pressures and fire flows throughout the system would improve. The lowest pressures generally occur at dead-end lines located at higher elevations near the system's boundaries. Although this will generally improve customers on the main transmission line, it does not result in pressures above 40 psi at critical locations within the District.

Alternative 3: New Transmission Lines

Installing new transmission lines to improve system looping is anticipated to result in minimal disruption of the environment as most of the transmission line loops will follow previously disturbed roadways and or roadside ditches. Upon completion, no long-term adverse impact is anticipated. Pressures and fire flows throughout the system would improve. This alternative would also increase the District's redundancy, as the transmission line looping in the system would have greater capacity. Due to the topography of the District, this option is only feasible in areas where easements can be acquired and the terrain does not prove cost-prohibitive for the installation of new pipes. Additionally, this option alone does not correct the low-pressure areas that currently experience pressures below 40 psi.

Alternative 4: Upgrade Existing Booster Stations

This alternative is discussed in **Section 2.1.1** (Preliminary Project Design).

Alternative 5: Construct New Booster Stations

This alternative is discussed in **Section 2.1.1** (Preliminary Project Design).

2.2.6 EVALUATION OF DISTRIBUTION ALTERNATIVES

Environmental Concerns

Table 2.7 presents the environmental concerns associated with each supply alternative. Alternatives 4 and 5 (the selected alternatives) involve the upgrading of existing and addition of new booster stations to meet fire flow and peak hour demands.

Table 2.7: Environmental Impact Summary – Distribution System Recommendations

ENVIRONMENTAL CRITERIA	NO ACTION	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5
		REPLACE TRANSMISSION LINES	INSTALL NEW TRANSMISSION LINES	UPGRADE EXISTING BOOSTER STATIONS	CONSTRUCT NEW BOOSTER STATIONS
Climate / Physical Aspects (topography/geology/and soils)	No impact	No permanent adverse impacts	No permanent adverse impacts	No permanent adverse impacts	No permanent adverse impacts
Population, Economic, and Social Profile	Uncorrected deficiencies will jeopardize District's economic options in the future	Will provide additional system capacity to support development	Will provide additional system capacity to support development	Will provide additional system capacity to support development	Will provide additional system capacity to support development
Land Use	Reduced capacity and service area for future development	Will increase land use opportunities	Will increase land use opportunities	Will increase land use opportunities	Will increase land use opportunities
Floodplain Development	No impact	No construction is expected to occur within floodplains	No development is expected to occur within floodplains	No construction is expected to occur within floodplains	No development is expected to occur within floodplains
Wetlands and Water Quality	No adverse impact	No construction is expected to occur within wetlands. No impact to water quality expected	No development is expected to occur within wetlands. No impact to water quality expected	No construction is expected to occur within wetlands. No impact to water quality expected	No development is expected to occur within wetlands. No impact to water quality expected
Wild & Scenic Rivers	No impact-No Wild & Scenic Rivers in area	No impact-No Wild & Scenic Rivers in area	No impact-No Wild & Scenic Rivers in area	No impact-No Wild & Scenic Rivers in area	No impact-No Wild & Scenic Rivers in area
Cultural Resources	No impact	Impact unlikely because construction will be in previously disturbed area/ under the roadway.	Impact unlikely because construction will be in previously disturbed area/ under the roadway.	Impact unlikely because construction will be in previously disturbed area	Impact unlikely, proposed locations do not appear to be located in cultural/preserved areas

Table 2.7: Environmental Impact Summary – Distribution System Recommendations (*Continued*)

ENVIRONMENTAL CRITERIA	NO ACTION	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5
Flora and Fauna	No impact	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Recreation/Open Space	No impact	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Agricultural Lands	No impact	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	No impact	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Energy	Increased energy used for pumping	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Public Health	Public health risk from existing uncorrected deficiencies	Positive long-term impact on District's ability to provide water service	Positive long-term impact on District's ability to provide water service	Positive long-term impact on District's ability to provide water service	Positive long-term impact on District's ability to provide water service

Cost Analysis for Distribution Alternatives

Life-cycle cost estimates were not developed for the distribution system alternatives. Keller Associates recommends that pipe improvement alternatives and costs be further vetted as part of future pipeline pre-design efforts. However, cost estimates for new and replacement booster stations (Alternatives 4 and 5) are provided in **Table 2.1**.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This portion of the report presents a general overview of existing environmental conditions within the study area. The EA contains descriptions of the environmental conditions in the planning area, with the intent of identifying potential environmental impacts that may arise when implementing the proposed improvements.

CMWD is located in Boundary County, from Bonners Ferry south to the McArthur Lake Wildlife Management Area. It is not anticipated that the District will expand significantly due to the bounds of the Kootenai River to the north, a wildlife management area to the south, and steep mountain topography to the east and west. Population growth for the District is anticipated to be within the existing service area.

The proposed project planning area (PPPA) is shown in **Figure 1.0** of the area of potential effects (APE) Maps in **Appendix B**. The delineation of this planning area boundary is developed based on current District limits, existing water system piping, recent and planned developments, land use regulations (zoning), and topography.

3.1 LAND USE/IMPORTANT FARMLAND/FORMALLY CLASSIFIED LANDS

3.1.1 AFFECTED ENVIRONMENT

According to the Boundary County zoning map in **Appendix C**, the project boundary contains mostly agricultural forest, rural residential, residential, suburban, agricultural forest, and City owned land (Boundary County Idaho, 2014). The proposed project planning area (PPPA) has an area of 39,900 acres. Total land required for the proposed improvements has not been established, however, APEs have been designated with a total of 128 acres for all projects. These areas are presented in **Figures 2.01** through **2.08** in **Appendix B**. It is anticipated that not even a third of the total APE will be used; larger APEs are shown as a precautionary measure and will reduce in size when topographic survey has been completed for each project.

According to the NRCS Web Soil Survey, there are four prime farmland soils that come in contact with the project APEs. These soils are Rubson silt loam, Rubson ashy silt loam, Selle ashy fire sandy loam, and Stein gravelly ashy silt loam (USDA NRCS, 2019). The soil numbers associated with these soils are 165, 166, 174, and 179, respectively. Six of the proposed projects contain these soils, however, only four projects have the potential to affect prime farmland. These projects are the new mountain Meadows Booster Station, the new Highland Flats Tank, the PRV, and the new Kootenai Trail (Cow Creek) Booster Station. Environmental consequences and mitigation for these projects are discussed in the following sections. A full NRCS soil report can be found in **Appendix C**.

Regarding formally classified lands, there are no known formally classified lands within the PPPA. The Kootenai River borders the District to the north and the Kaniksu National Forest borders the District to the East, West and South, but the District does not cross over into these lands. All APEs are contained in the PPPA.

Agency consultation letters requesting comments for preparation of an Environmental Assessment were sent to Bureau of Land Management, Natural Resources Conservation District (NRCS), and U.S. Forest Service on March 19th, 2020. A response was received from Greg Becker with the NRCS on April 24th, 2020; this response can be found in **Appendix D** and the next section. No other responses were received.

3.1.2 ENVIRONMENTAL CONSEQUENCES

The Boundary County zoning map in **Appendix C** is broken up into townships and sections with color coded zone ordinances. **Table 3.1** summarizes the location, land designation, and potential environmental impact associated with each project.

It is anticipated that projects will only expand into rural residential and agricultural forest land. The chosen supply alternative, the new Crossport Well, will not require any additional land as it will be installed at the existing well site owned by the District. Development of the new storage tanks will all require access easements. Fortunately, the district has indicated that acquiring additional land is attainable and has already begun conversations with property owners. Proposed new booster stations would also require the District to purchase additional land or secure as permanent easement.

As mentioned in the previous section, only four projects have the potential to affect prime farmland, however this can be avoided with placement of the project. Large APEs were developed for this purpose. Therefore, it is not anticipated that prime farmland will be affected by these projects unless topographic survey yields no other option. A response from Greg Becker with the NRCS was received on April 24th, 2020. He had no comment on the proposed projects, therefore it is assumed that the proposed projects will have NO EFFECT on prime farmland.

There will be no environmental consequences associated with formally classified lands. National forests or any other form of classified lands do not exist in the PPPA and APEs.

Table 3.1: Project Locations, Land Designations, and Environmental Impact

APE FIGURE NO.	PROJECT	TOWNSHIP AND RANGE	SECTION	LAND DESIGNATION	ENVIRONMENTAL IMPACT
2.01	New Crossport Well	62N 2E	29	Rural Residential	No Impact
2.02	Highland Booster Station Replacement	60N 1W	2	Ag. Forest	Slight Impact
		61N 1W	35	Ag. Forest	Slight Impact
2.02	New Highland Tank	60N 1W	2	Ag. Forest	Slight Impact
		61N 1W	35	Ag. Forest	Slight Impact
2.03	New Cow Creek Booster	61N 2E	7, 18	Ag. Forest	Slight Impact
2.04	New North Paradise Tank	62N 1E	35	Rural Residential	Slight Impact
2.05	New Parker Canyon Tank	61N 1E	1	Rural Residential	Slight Impact
2.06	Parker Canyon Booster Replacement	61N 1E	1	Rural Residential	Slight Impact
No APE	Completion of Black Mt. Booster Station	61N 1E	23	Ag. Forest	No Impact
2.07	Upgrades to Pressure PRV	61N 1 E	30	Ag. Forest	Slight Impact
2.08	New Mountain Meadows Booster Station	60N 1E	5	Rural Residential	Slight Impact

3.1.3 MITIGATION

To mitigate the potential impacts, projects will be placed in the most feasible and minimally environmentally intrusive locations. After construction, the disturbed surfaces surrounding new facilities will be restored to original condition or better.

3.2 FLOOD PLAINS

3.2.1 AFFECTED ENVIRONMENT

Three maps (Flood Hazard Maps-Upper, Middle, and South) show the 100-year floodplain and floodway for the Project Area and are included in **Appendix C**; these maps were obtained from the Idaho Department of Water Resources website (Idaho Department of Water Resources, n.d). Flood zones on the map include Zone A, AE, AH, AO, D and X. The northern portion of CMWD along the Kootenai River is located in Flood Hazard Zone A and Zone AE. However, after review of the maps, no existing infrastructure or proposed projects exist within the defined flood hazard zones or floodplains. **Table 3.2** summarizes the affected environment for each proposed project.

Table 3.2: Affected Environment in Flood Hazard Zones or Floodplains

ID	PROJECT	AFFECTED ENVIRONMENT
W1.1	Alternative 1: Additional Crossport Well	No Impact
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	No Impact
T1.2	Highland Flats Tank (200,000 gal)	No Impact
T1.3	North Paradise Elevated Tank (300,000 gal)	No Impact
1.1	Highland Booster Replacement	No Impact
1.2	Black Mountain Booster Improvements	No Impact
1.3	Mountain Meadows Rd. Booster	No Impact
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	No Impact
1.5	Kootenai Trail Booster	No Impact
CI	Crossport Well Facility Improvements	No Impact
CI	Black Mountain Facility Improvements	No Impact

An agency consultation letter requesting comments for preparation of an Environmental Assessment was sent to the Idaho Department of Water Resources (IDWR) floodplain manager that coordinates National Flood Insurance Program (NFIP) in Idaho on March 19th, 2020. A response was received on March 25th, 2020. The response confirmed that none of the CMWD projects are located in a floodplain.

3.2.2 ENVIRONMENTAL CONSEQUENCES

There are no anticipated environmental consequences regarding flood plains.

3.2.3 MITIGATION

No mitigation will be required regarding flood plains.

3.3 WETLANDS

3.3.1 AFFECTED ENVIRONMENT

The Idaho Department of Water Resources provides GIS data outlining Wetlands in Idaho (IDFG, 2018). A wetlands map is provided in **Appendix C**. While the data shows wetlands within the PPPA (north of Crossport), APEs of proposed projects are not located in wetlands. **Table 3.3** summarizes the affected environment for each proposed project.

Table 3.3: Affected Environment in Wetlands

ID	PROJECT	AFFECTED ENVIRONMENT
W1.1	Alternative 1: Additional Crossport Well	Potential to impact perennial streams
T1.1.	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster	No Impact
T1.2	Highland Flats Tank (200,000 gal)	No Impact
T1.3	North Paradise Elevated Tank (300,000 gal)	No Impact
1.1	Highland Booster Replacement	No Impact
1.2	Black Mountain Booster Improvements	No Impact
1.3	Mountain Meadows Rd. Booster	No Impact
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	No Impact
1.5	Kootenai Trail Booster	No Impact
CI	Crossport Well Facility Improvements	No Impact
CI	Black Mountain Facility Improvements	No Impact

An agency consultation letter requesting comments for preparation of an Environmental Assessment was sent to the U.S. Army Corps of Engineers on March 19th, 2020. A response was received by Shane Slate on April 27th, 2020. His response included the following:

“A permit from the Corps will only be needed if the proposed project will involve the discharge of dredged and/or fill material into waters of the U.S., including wetlands. The IDWR comment references perennial streams being impacted. If that is in fact the case any stream crossings may require a Corps permit.”

As mentioned in the response, the Idaho Department of Water Resources (IDWR) responded saying that a 404 permit may be required if the additional Crossport well has the potential to effect perennial streams. IDWR has been contacted for more information on this response but has not been heard back from.

3.3.2 ENVIRONMENTAL CONSEQUENCES

The drilling of new well has the potential to effect perennial streams according to IDWR.

3.3.3 MITIGATION

This project may require a 404 permit to be acquired from the U.S. Army Corps of Engineers.

3.4 WATER RESOURCES

3.4.1 AFFECTED ENVIRONMENT

The CMWD currently draws their water from a small aquifer recharged by the Cabinet Mountains Basin. There is no specific information or official name given to this aquifer, and it has not been classified as a sole source aquifer by the EPA; therefore, it is not in need of special protection (Idaho Dept. of Environmental Quality, 2013a).

There are two wells that draw from the aquifer and one well that is currently inactive from damage during drilling. The wells are located 800 feet south of the Kootenai River at the Crossport site. Wells #1 and #2 (the active wells) are 16 feet apart. Well #3 (the inactive well) is located 10 feet south of the active wells. Wells #1 and #2 have been pump tested at 800-gpm and 500-gpm, respectively. The completed well depth of each well is 150 feet, and the static water level below all three wells is 60 feet. Only the drawdown from Well #1 is known, reported at 0.2 feet.

It is proposed that an additional well will be added to the Crossport Site by drilling a new well, which may result in short-term environmental disturbance, if appropriate standards and regulations are not followed. If the inactive well is not used, it will be abandoned per Idaho DEQ standards. The other projects are not anticipated to have any short-term or long-term environmental effects.

As population and water demand continue to grow in the District, long-term effects may arise from the use of the new well. A low yielding well could result from over-consumption, however, there is no evidence that an additional well would produce these results.

Agency consultation letters requesting comments for preparation of an Environmental Assessment were sent to the Idaho Department of Water Resources and Idaho Department of Environmental Quality on March 19th, 2020. A response from Douglas Jones, the Idaho Department of Water Resources (IDWR) North Regional Manager, on April 6th, 2020 contained the following remarks:

“Several project elements dealing with well development and replacement will require Department of Water Resource Applications. Elements of the project may entail work that may affect perennial streams with work below the OHWM, thus requiring Int App 404 permitting.”

A 404 permit from the U.S. Army corps of Engineers may be required for the additional Crossport well; IDWR has been contacted for more information, however, no response has been received.

3.4.2 ENVIRONMENTAL CONSEQUENCES

Low Yielding Well: As mentioned above, A low yielding well could result from over-consumption, however, there is no evidence that an additional well would produce these results.

Storm Water: Land disturbance activities associated with the project can potentially impact nearby Kootenai River. Impacts to these aquatic systems can be generated by increased erosion, sediment and related contaminants. Its anticipated that there will be minimal land impact and it is likely to be on already disturbed/developed land.

Hazardous Waste: With any construction project, there is a potential to spill contaminated waste which could leach into the surrounding environment such as the aquifer or Kootenai River.

Ground Water and Surface Water: There is potential to contaminate the groundwater with the drilling of a new well or effect perennial streams with work below the ordinary high-water mark (OHWM). Consultation from IDWR expressed these concerns with comments that 404 permitting will need to be acquired.

3.4.3 MITIGATION

Low Yielding Well: Careful monitoring and regular well tests should indicate if a well has been overconsumed.

Storm Water: Best Management Practices (BMPs) and/or Best Available Technology (BAT) should be used during construction to minimize impacts from contaminated storm water.

Hazardous Waste: Accidental spills of hazardous waste should be reported to the proper authorities when necessary and promptly cleaned up.

Ground Water and Surface Water: Any potential contamination to groundwater with the drilling of a new well should be mitigated by a licensed driller. This project may require a 404 permit to be acquired from the U.S. Army Corps of Engineers.

3.5 COASTAL RESOURCES

3.5.1 AFFECTED ENVIRONMENT

The Coastal Zone Management Act does not list any area in Idaho as a Coastal Resource; therefore, no area will be affected by the proposed improvements.

3.5.2 ENVIRONMENTAL CONSEQUENCES

There are no anticipated environmental consequences regarding costal resources.

3.5.3 MITIGATION

No mitigation will be required regarding coastal resources.

3.6 BIOLOGICAL RESOURCES

VEGETATION

Boundary County, Idaho possesses a rich diversity of vegetation. Forests are mostly conifer, consisting of 37.5% Sub-Alpine Fir, 18% Lodgepole Pine, 16.9% Douglas Fir, 9.5% Western Larch, 7.3% Western Cedar, 6.1% Douglas Fir, 1.5% Ponderosa Pine, 1.3% White Pine, and 1% White Bark Pine (Boundary County Planning and Zoning, 2008). According to the United States Fish and Wildlife Service (USFWS), the Whitebark Pine is a candidate on the threatened species list in Boundary County but has not yet been deemed threatened.

NOXIOUS WEEDS

Noxious weeds in Boundary County include St. John's Wort, Common Tansy, Houndstongue, Hawkweeds, Spotted Knapweed, Dalmatian Toadflax, Canada Thistle, Absinth Wormwood, Leafy Spurge, Field Bindweed, Hoary Crees, and Yellow Toadflax (Boundary County Idaho, n.d.).

FISH

There are more than 30 fish species in Boundary county. Of these species, the Bull trout is a threatened species and the White Sturgeon is endangered. More information about these fish can be found in the USFWS endangered species list in **Appendix C**.

BIRDS

Birds in Boundary County are plentiful; however, some do require special attention and care. Birds around the project area that are of concern include the Bald Eagle, Cassin's Finch, the Golden Eagle, Lesser Yellowlegs, the Olive-sided Flycatcher and the Rufous Hummingbird. According to the IPaC report in **Appendix C**, only the Bald Eagle has a high probability of presence. This considered, mitigation efforts may be required during construction to preserve the Bald Eagle's habitat.

WILDLIFE

Like vegetation, the wildlife in Boundary County is rich and diverse. Most species are native and in abundant numbers. According to the Boundary County Planning and Zoning comprehensive Plan, nearly every parcel of land in the County provides habitat to one or more species of wildlife (Boundary County Planning and Zoning, 2008). Endangered or threatened mammal species include Grizzly Bear, Gray Wolf, Canada Lynx, Woodland Caribou, and North American Wolverine. Specifics on their status can be found in **Table 3.4** or **Appendix C**.

3.6.1 AFFECTED ENVIRONMENT

Using the USFWS IPaC Explore Location resource, six species were identified as "potentially affected" in the CMWD PPPA (U.S. Fish and Wildlife Service, n.d.). The full IPaC report can be found in **Appendix C** which includes information on the Migratory Birds Treaty Act and Bald and Golden Eagle Protection Act. Whitebark Pine, Bull Trout, White Sturgeon, Grizzly Bear, Canada Lynx, and North American Wolverine are listed as endangered, threatened, or proposed threatened. **Table 3.4** summarizes each species' status and the Appendix includes a report from the USFWS (as of March 2nd, 2020) showing endangered species in the District Service Area.

Table 3.4: USFWS Endangered Species List for Boundary County

GROUP	COMMON NAME	SCIENTIFIC NAME	POPULATION	STATUS	LEAD OFFICE	RECOVERY PLAN	RECOVERY PLAN STAGE
Conifers and Cycads	Whitebark pine	Pinus albicaulis	Wherever found	Candidate	Wyoming Ecological Services Field Office	n/a	n/a
Fishes	Bull Trout	Salvelinus confluentus	U.S.A., conterminous, lower 48 states	Threatened	Idaho Fish and Wildlife Office	Recovery Plan for the Coterminous United States Population of Bull Trout (Salvelinus confluentus)	Final
Fishes	White sturgeon	Acipenser transmontanus	U.S.A. (ID, MT), Canada (B.C.), Kootenai R. system	Endangered	Idaho Fish and Wildlife Office	Revised Recovery Plan for the Kootenai River Distinct Population Segment of the White Sturgeon	Final Revision 1
Mammals	Grizzly bear	Ursus arctos horribilis	U.S.A., conterminous (lower 48) States, except where listed as an experimental population	Threatened	Montana Ecological Services Field Office	Revised Grizzly Bear Recovery Plan	Final Revision 1
Mammals	Canada Lynx	Lynx canadensis	Wherever Found in Contiguous U.S.	Threatened	Montana Ecological Services Field Office	4(f)(I) Determination Regarding Recovery Planning for the Canada Lynx (Lynx canadensis)	Exempt
Mammals	North American wolverine	Gulo gulo luscus	Wherever found	Proposed Threatened	Montana Ecological Services Field Office	n/a	n/a

Agency consultation letters requesting comments for preparation of an Environmental Assessment were sent to the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the Idaho Department of Fish and Game on March 19th, 2020. The U.S. Fish and Wildlife Service responded on April 7th and the Idaho Department of Fish and Game ; details of this response can be found in the following section and **Appendix D**.

3.6.2 ENVIRONMENTAL CONSEQUENCES

VEGETATION

Every proposed project is located in a rural residential area or on agricultural forest land. Given the circumstances, it can be anticipated that there will be some tree and shrub removal associated with each project. Short-term effects may result in disturbance to wildlife if vegetation is removed, and long-term effects may result in less vegetation in an area. Environmental impact will be kept to a minimum whenever there is an opportunity, however, placement of some projects has not yet been established. The impact to vegetation and wildlife will be a major component on where items are placed to minimize vegetation removal.

A response from the U.S. Fish and Wildlife Service on April 7th indicated that the proposed projects may have some effect on Whitebark Pine if tree removal is to occur. However, with further investigation it was found that the elevation range for Whitebark Pine begins at 2,950 ft. Potentially, the highest elevation project is the Highland Flats tank at 2,600 feet. Therefore, it is anticipated that the CMWD projects will have NO EFFECT on Whitebark Pine. The response justifying this determination can be found in **Appendix D**.

Additionally, a response from Idaho Fish and Game on April 7th, 2020 did not identify any specific effects to vegetation from the proposed project. However, the official response that was checked on the intergovernmental review comment sheet was “Effects, although measurable, would be acceptable”. This response suggests some effects to vegetation, which are anticipated, but no mitigation efforts other than BMPs during construction are necessary. Documentation of this response can be found in **Appendix D**.

NOXIOUS WEEDS

With any construction project, there is the potential to spread noxious weeds using construction vehicles. Best management practices (BMPs) to mitigate the spread of harmful species will be implemented during construction to combat this issue.

FISH

A response from Katherine Sarsen of the U.S. Fish and Wildlife Service on April 7th contained the following regarding effects to the Kootenai River, Bull Trout, and White Sturgeon:

“If ground disturbance is minimal and there is no in-water work, there may not be any effect to bull trout, Kootenai River white sturgeon, or designated critical habitat for either. Again, this may warrant a ‘no effect’ determination, especially if there is a buffer between the river and the project and ground disturbances would be stabilized or reseeded.”

A full response can be found in **Appendix D**. Since no proposed projects exist within waterways or associated wetlands, it is not anticipated that any fish will be affected. BMPs to mitigate

pollution to groundwater or the Kootenai River will be implemented where applicable, especially when drilling the new Crossport well; a licensed driller should mitigate any potential effects caused by drilling. Therefore, it is anticipated that the CMWD projects will have NO EFFECT on the Kootenai River, White Sturgeon.

A response from Idaho Fish and Game on April 7th, 2020 did not identify any effects to fish from the proposed project. Therefore, NO EFFECT is still anticipated towards fish. Documentation of this response can be found in **Appendix D**.

BIRDS

These proposed projects due have the potential to remove trees which may result in disturbance or interference regular bald or golden eagle breeding, feeding or sheltering habits. Careful mitigation efforts will have to be made to preserve the habitat of the birds listed in the IPaC report.

WILDLIFE

Katherine Sarensen of the U.S. Fish and Wildlife Service also had comments regarding Grizzly Bears and the Canada Lynx. For Grizzly bears, it was found that all CMWD projects are outside of grizzly bear recurring use areas. It was suggested that as long as sanitary and food storage measures are taken during construction, the potential for attracting Grizzly Bears will be reduced significantly. Therefore, it is anticipated that the CMWD project will have NO EFFECT on Grizzly Bears.

According to the U.S. Fish and Wildlife response, Canada Lynx have been seen moving across the McArthur Lake Corridor, across Highway 95. However, they are relatively elusive to areas with human activity and are not normally found within the CMWD region. Therefore, it is anticipated that the CMWD project will have NO EFFECT on the Canada Lynx.

Additionally, the response from Idaho Fish and Game did not identify any effects to wildlife from the proposed project. Therefore, NO EFFECT is still anticipated towards wildlife. Documentation of this response can be found in **Appendix D**.

Construction may have the potential to deter other animals from entering the proximity of a project. Mitigation efforts to reduce noise and keep animals out of construction areas will be taken when applicable. Long term impacts to birds may arise with the construction of new booster stations and storage tanks with the removal of trees; however, migratory patterns are not expected to be impacted. **Table 3.6** summarizes the anticipated effect that the proposed projects may have on vegetation, fish, and wildlife.

Table 3.5: Affected Biological Resources

ID	PROJECT	AFFECTED ENVIRONMENT
W1.1	Alternative 1: Additional Crossport Well	Minor, short-term disturbance to wildlife from construction activities
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	Minor, short-term disturbance to wildlife from construction activities. Minor, long-term impacts from vegetation removal
T1.2	Highland Flats Tank (200,000 gal)	Minor, short-term disturbance to wildlife from construction activities. Minor, long-term impacts from vegetation removal
T1.3	North Paradise Elevated Tank (300,000 gal)	Minor, short-term disturbance to wildlife from construction activities. Minor, long-term impacts from vegetation removal
1.1	Highland Booster Replacement	Minor, short-term disturbance to wildlife from construction activities. Minor, long-term impacts from vegetation removal
1.2	Black Mountain Booster Improvements	Minor, short-term disturbance to wildlife from construction activities. Minor, long-term impacts from vegetation removal
1.3	Mountain Meadows Rd. Booster	Minor, short-term disturbance to wildlife from construction activities. Minor, long-term impacts from vegetation removal
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	Minor, short-term disturbance to wildlife from construction activities.
1.5	Kootenai Trail Booster	Minor, short-term disturbance to wildlife from construction activities. Minor, long-term impacts from vegetation removal
CI	Crossport Well Facility Improvements	Minor, short-term disturbance to wildlife from construction activities
CI	Black Mountain Facility Improvements	Minor, short-term disturbance to wildlife from construction activities

3.6.3 MITIGATION

VEGETATION

As mentioned previously, mitigation efforts for vegetation will mostly be conducted with the placement of the proposed project within the anticipated APE; a minimum impact to vegetation will be a contributing factor on placement. BMPs to protect vegetation during construction activities will also be implemented.

NOXIOUS WEEDS

Best management practices (BMPs) to mitigate the spread of noxious weeds will be implemented during construction; this will include, but is not limited to, vehicle washdown areas, stabilized construction exits, silt fences, etc.

FISH

Since no proposed projects exist within waterways and associated wetlands, it is not anticipated that any fish will be affected. However, BMPs to mitigate pollution to groundwater or the Kootenai River will be implemented where applicable. A 404 permit is also being sought after as well drilling may have an effect on perennial streams.

BIRDS

Tree removal will be minimized when siting new facilities. The Migratory Birds Treaty Act and Bald and Golden Eagle Protection Act will be referenced if the proposed projects pose any environmental concerns to birds, and a biological assessment may be conducted if agencies request it.

WILDLIFE

Mitigation efforts to reduce noise and keep animals out of construction areas will be taken when applicable. Proper sanitation and food storage activities will take place to reduce the attraction of Grizzly Bears to project sites.

3.7 CULTURAL RESOURCES AND HISTORIC PROPERTIES

3.7.1 AFFECTED ENVIRONMENT

According to the National Register of Historic Places (NRHP) in Idaho, there are only five historic properties in proximity to the CMWD. These properties are the Northside School, Fry's Trading Post, the Bonners Ferry Main Post Office, the Boundary County Courthouse, and the Russell and Pearl Soldering House. A GIS map prepared by Keller Associates using NHRP data can be viewed in **Appendix C** with these locations. From the map, no properties are within the district planning boundary or an area of potential affect. Individual maps for each APE can also be found in **Appendix B**.

Agency consultation letters requesting comments for preparation of an Environmental Assessment were sent to the Idaho State Historic Preservation Office, Confederated Salish and Kootenai Tribes, and Kootenai Tribe of Idaho on March 19th, 2020. No response has been received from the Confederated Salish and Kootenai Tribes and the Kootenai Tribe of Idaho.

A response from the Ashly Brown, the Historical Review Officer from the Idaho State Historic Preservation Office, was received on March 26th, 2020. The response included the following:

"In order for the USDA to be in compliance with Section 106 of the National Historic Preservation Act (as outlined in § 36 CFR 800), we recommend that a cultural resources survey be conducted to identify and evaluate historic properties that may be affected by the project. The report should take into consideration those direct and indirect effects, including reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative, as stated in § 36 CFR 800.5(a)(1). The cultural resources survey and report should be prepared by an archaeologist and if necessary, an architectural historian meeting the Secretary of the Interior's Standards, per § 36 CFR Part 61."

The full response can be found in **Appendix D**. After receiving this response, a cultural survey report was prepared for all proposed project locations by Archaeologist Robert Lee Sappington with the following findings:

"There are no pre-existing sites in the APE. An intensive cultural resource survey was conducted throughout the APE. The project area has been disturbed by the construction of the existing

infrastructure, access roads, utilities, logging and other impacts. No cultural resources were identified within the APE. Project locations will have NO EFFECT on Historic Properties.”

The full cultural survey report can be found in **Appendix F**. Approval of the Cultural Resource Report and its findings was received by Ashly Brown on July 15th of 2020. The approval letter can also be found in **Appendix F**.

3.7.2 ENVIRONMENTAL CONSEQUENCES

The cultural resource report has indicated that the proposed projects will have NO EFFECT on Historic Properties or cultural resources.

3.7.3 MITIGATION

Based on the results of the cultural survey report, no mitigation is required with respect to cultural resources.

3.8 AESTHETICS

3.8.1 AFFECTED ENVIRONMENT

Of the proposed projects, the only projects that may disrupt the aesthetic of an area are the three new storage tanks. Two of the Storage tanks, the Parker Canyon and Highland Flats Tanks, will be constructed partially buried concrete. Although these tanks will be large, they are not suspected to be eyesores, cause skylining, glare, or take away from the overall aesthetic of the environment.

The North Paradise tank may have the potential cause skylining or glare as it is intended to be an elevated steel reservoir (water tower). **Table 3.7** summarizes the affected environment for each proposed project.

Table 3.6: Affected Environment in Relation to Aesthetics

ID	PROJECT	AFFECTED ENVIRONMENT
W1.1	Alternative 1: Additional Crossport Well	No Impact
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	No Adverse Impact
T1.2	Highland Flats Tank (200,000 gal)	No Adverse Impact
T1.3	North Paradise Elevated Tank (300,000 gal)	Potential to Effect
1.1	Highland Booster Replacement	No Impact
1.2	Black Mountain Booster Improvements	No Impact
1.3	Mountain Meadows Rd. Booster	No Impact
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	No Impact
1.5	Kootenai Trail Booster	No Impact
CI	Crossport Well Facility Improvements	No Impact
CI	Black Mountain Facility Improvements	No Impact

3.8.2 ENVIRONMENTAL CONSEQUENCES

Environmental consequences from the three storage tanks are minimal regarding aesthetic. The North Paradise tank may have the potential cause skylining or glare as it is intended to be an elevated steel reservoir (water tower).

3.8.3 MITIGATION

Mitigation for the aesthetic of the North Paradise Tank could involve the use of dark, natural looking paint to help the tank blend into the surrounding environment. Dark paint will help reduce any glare from the tank. However, agency consultation has not indicated that the tank is located in a visually sensitive area. The decision to make the tank blend into the environment will be left up to the CMWD further into the design process.

3.9 AIR QUALITY

3.9.1 AFFECTED ENVIRONMENT

Boundary County and the District do not contain any air non-attainment areas or maintenance areas, and no impacts are anticipated to air quality (Idaho Department of Environmental Quality, n.d.). See the Idaho Air Attainment Map in **Appendix C**.

An agency consultation letter requesting comments for preparation of an Environmental Assessment was sent to the Idaho Department of Environmental Quality on March 19th, 2020. No response has been received.

3.9.2 ENVIRONMENTAL CONSEQUENCES

With any construction project, air quality can be affected from emissions and dust produced by construction equipment.

3.9.3 MITIGATION

BMPs for dust control and emissions will be implemented during construction activities.

3.10 SOCIO-ECONOMIC IMPACT ASSESSMENT/ENVIRONMENTAL JUSTICE

Water availability is a fundamental part of any community. The purpose of these water projects is to address the Cabinet Mountains Water District's inadequate water supply capacity, inadequate storage, low pressures during peak hour flow conditions, and inability to provide recommended minimum fire flows. The proposed projects will solve these issues with the benefit of providing sustainability and room for residential and commercial growth to the community.

3.10.1 AFFECTED ENVIRONMENT

POPULATION/CONNECTION TRENDS

CMWD currently serves approximately 745 active connections with a total of 921 total active and inactive connections. The District has indicated that the inactive connections are predominantly meters and service lines connected to empty lots, to be developed. The District is already committed to supplying water to these connections. Therefore, they have decided to use the total connections (921) as existing conditions, as opposed to the current active connections. The District also has 30 "will serve" commitments with no expiration dates. The majority of these connections are residential with there being minimal commercial demands on the system besides Alta Mill. The District elected to continue to use 1.5% as their assumed future growth rate, consistent with what was established in the 2018 Facility Plan. **Table 3.8** shows the population projections.

Table 3.7: Projected Population and Connections 1.5% Growth

DESIGN POINT	TOTAL CONNECTIONS	POPULATION
2019	921	2,275
2039 (20-year growth)	1,252	3,092
2059 (40-year growth)	1,697	4,192

DEMOGRAPHICS

Considering that the CMWD is a District does not belong to a specific City or Town, demographics were based off the entire County. According to the United States Census Bureau, 13.5% of Boundary County is in poverty, which is slightly higher than the U.S. and Idaho averages of 11.8% (the averages are the same). The median household income of the County is \$43,507; this is lower than the U.S. and Idaho median household incomes of \$60,293 and \$53,089, respectively (U.S. Census Bureau, 2018). Of the residents in the County, 90.0% are white, 2.0% are American Indian or Alaska Native, 2.1% are two or more races, and 5.2% are Hispanic or Latino; other races are below 1% (U.S. Census Bureau, 2018).

It is important to be aware of the demographics of a community because projects have the potential to adversely affect minority and low-income areas. Depending on the funding efforts for this project, user rates have the potential to increase minorly or substantially. It is noted that CMWD will provide opportunities for the public to provide comments about the project alternatives and possible environmental impacts. Notices for public comments will be advertised in accordance to state and local requirements.

RESIDENTIAL/COMERCIAL AFFECTS

As mentioned previously, all projects are located in rural residential or agricultural forest areas. No businesses or business districts should be affected. Minimum impacts to residents are anticipated, although, noise from construction activities can be expected. Mitigation efforts such as limiting hours of construction will most likely be implemented, but this is an agreement to be made between the contractor and the City.

TRAFFIC AFFECTS

No projects are located on or near any major roads such as Highway 2, which runs through Bonners Ferry. Small, temporary traffic effects can be expected from construction activities, but traffic patterns and intensity should remain relatively the same.

3.10.2 ENVIRONMENTAL CONSEQUENCES

Based on the scope and location of the proposed projects, it is anticipated that there will be temporary, minor environmental effects to residents and traffic during construction. These temporary, minor effects will most likely be from noise and minor traffic delays from construction operations.

Long-term negative impacts may arise from increased user rates depending on the funding of this project, which have the potential to effect minority and low-income populations. Funding opportunities are discussed in the most recent facility plan prepared by Keller Associates.

Other long-term impacts are anticipated to be positive as the District will have adequate water supply capacity, adequate storage, desired pressures during peak hour flow conditions, and recommended minimum fire flows. The District will also benefit from sustainability and room for residential and commercial growth.

3.10.3 MITIGATION

To mitigate residential and traffic disturbance from construction, a traffic control plan will be implemented to minimize travel disruption and construction will likely be limited (e.g. 7:00 AM to 7:00 PM).

Effects to low minority and low-income populations due to increased user rates can be mitigated through funding and public outreach.

3.11 MISCELLANEOUS ISSUES

3.11.1 AFFECTED ENVIRONMENT

Construction activities from the proposed projects are likely to cause noise and disturb residents and wildlife as mentioned previously. Transportation impacts may also arise from construction vehicles moving to and from site. Environmental consequences and mitigation efforts must be considered.

3.11.2 ENVIRONMENTAL CONSEQUENCES

As mentioned above, construction activities have the potential to disturb residents, wildlife, and traffic however, these are only short-term environmental impacts and will be mitigated appropriately. No projects are located on or near any major roads such as Highway 2, which runs through Bonners Ferry. Small, temporary traffic effects can be expected from construction activities, but traffic patterns and intensity should remain relatively the same.

3.11.3 MITIGATION

To mitigate residential, wildlife, and traffic disturbance from construction, a traffic control plan will be implemented to minimize travel disruption and construction will likely be limited (e.g. 7:00 AM to 7:00 PM).

3.12 HUMAN HEALTH AND SAFETY

3.12.1 AFFECTED ENVIRONMENT

All effects to human health from the proposed projects are anticipated to be positive, as more people within the district will have access to safe, clean drinking water. Construction of the new well, water tanks, booster stations, and distribution lines are not anticipated to produce any electromagnetic fields (EMFs).

3.12.2 ENVIRONMENTAL CONSEQUENCES

It is understood that construction activities can result in accidental spills of hazardous materials which can affect air and water quality. Accidental surface spills of petroleum hydrocarbon products (i.e. fuel, oil, and similar products) are most commonly associated with the transportation and delivery of fuel to work sites or facilities. Mitigation efforts in the event of an accidental spill are detailed in the following section.

3.12.3 MITIGATION

The Idaho Release, Reporting, and Corrective Action Regulations (IDAPA 58.01.02.851 and .852), require notification within 24 hours of any spill of petroleum product greater than 25 gallons and notification for the release of lesser amounts if they cannot be cleaned up within twenty-four (24) hours. The cleanup requirements are also contained in those regulations. Both federal and Idaho regulations require the cleanup of any spill or release of used oil (IDAPA 58.01.05.015; 40 CFR 279.22(d)(3)).

3.13 CORRIDOR ANALYSIS

3.13.1 AFFECTED ENVIRONMENT

Although some of the proposed projects may briefly affect roadways with the connection of facility distribution lines to existing lines, a corridor analysis is not necessary for the purpose of these proposed projects.

3.13.2 ENVIRONMENTAL CONSEQUENCES

No environmental consequences from the proposed projects regarding corridor analysis are anticipated.

3.13.3 MITIGATION

No environmental consequences from the proposed projects regarding corridor analysis are anticipated, so no mitigation is required.

4.0 CUMULATIVE EFFECTS

Impacts that may occur as a result of these proposed projects may be beneficial or adverse to the human population and the surrounding environment. The following sections discuss direct, indirect, short term, long term, and cumulative impacts that will result from completion of the proposed improvements.

Direct Impacts

Direct impacts, whether adverse or beneficial, are caused by the actual construction of the preferred alternative and occur at the same time and place as construction.

There will be direct impacts to the land and roads during construction of the new well, tanks, and upgrades of the distribution system. Disturbed vegetated areas will be re-vegetated; disturbed road surfaces and pavements will be resurfaced and repaved. Proposed improvements may have a temporary local impact on noise and air quality during construction.

Addition of new ground water wells will increase energy consumption; however, implementation of variable frequency drives on well pumps will reduce this impact to the minimum.

Indirect Impacts

Indirect impacts are caused by the construction of the proposed project and occur at a later, foreseeable time. Construction of the proposed projects are not anticipated to cause indirect impacts to the environment.

Short Term Impacts

Short term impacts are those that affect the project area for a brief amount of time after the project's completion. Areas disturbed by construction of a new well, tank, or booster station may take several seasons to fully re-vegetate. Earthwork associated with transmission improvements may involve disturbance of existing roads and could make road surfaces vulnerable to more rapid degradation.

Long Term Impacts

Long term impacts are those that affect the project area for an extended amount of time after the project's completion. No adverse long-term impacts besides land use are anticipated to result from the implementation of the selected alternatives.

Cumulative Impacts

Cumulative impacts are the sum of past, present, and reasonably foreseeable actions in the project area. Cumulative impacts are not expected to result from construction this project.

Unavoidable Adverse Impacts

Unavoidable impacts include those that cannot be fully mitigated due to disturbance of local vegetation and soils in construction areas of groundwater wells and during pipeline installation. Care will be taken to minimize unavoidable adverse impacts, such as disturbance of local vegetation and soils, through implementation of best management practices.

Table 4.1 summarizes the effects of the proposed projects for each environmental category.

Table 4.1: Cumulative Effects and Mitigation Summary

ENVIRONMENTAL CATEGORY	SUMMARIZED EFFECTS	SUMMARY OF MITIGATION
LAND USE/IMPORTANT FARMLAND/FORMALLY CLASSIFIED LANDS	<ol style="list-style-type: none"> 1. Most projects have the potential to affect small, isolated rural residential areas or agricultural forest areas with the removal of some trees or shrubs. 2. Prime farmland also has minor potential to be affected. 3. Access easements and additional land will be required for most projects 	<ol style="list-style-type: none"> 1. Some impacts to forest or residential land cannot be avoided, but restoration of surfaces to current or better conditions will occur where applicable. 2. Projects will not be placed on prim farmland if topographic survey permits it 3. The District is already in contact with landowners to purchase land.
FLOOD PLAINS	No Impact	No mitigation necessary
WETLANDS	<ol style="list-style-type: none"> 1. Potential to effect perennial streams with the drilling of a new well. 	<ol style="list-style-type: none"> 1. A 404 permit may be required by the U.S. Army Corps of Engineers.
WATER RESOURCES	<ol style="list-style-type: none"> 2. Low Yielding Well: A low yielding well could result from over consumption. 3. Storm Water: Land disturbance activities associated with the new well construction can impact the nearby Kootenai River. Impacts to these aquatic systems can generated by increased erosion, sediment, and other related contaminants. 4. Hazardous Waste: There is potential for contaminated waste spills during construction activities. 5. Groundwater and Surface Water: There is potential to contaminate groundwater and effect perennial streams with the drilling of a new well. 	<ol style="list-style-type: none"> 1. Low Yielding Well: Careful monitoring and regular well tests 2. Storm Water: Best Management Practices (BMPs) and/or Best Available Technology (BAT) should be used during construction to minimize impacts from contaminated storm water. 3. Hazardous Waste: Accidental spills of hazardous waste should be reported to the proper authorities when necessary and promptly cleaned up. 4. Ground Water: Any potential contamination to groundwater with the drilling of a new well should be mitigated by a licensed driller. A 404 permit may be required to address any affects to perennial streams.
COASTAL RESOURCES	No Impact	No mitigation necessary

Table 4.1: Cumulative Effects Summary (Continued)

ENVIRONMENTAL CATEGORY	SUMMARIZED EFFECTS	SUMMARY OF MITIGATION
BIOLOGICAL RESOURCES	<ol style="list-style-type: none"> 1. Tree and shrub removal are anticipated for the construction of new storage tanks and booster stations. 2. Construction vehicles have the potential to transport the seeds of noxious weeds. 3. Removal of trees may affect environmentally protected birds in the area. 4. Construction activities have the potential to temporarily disrupt wildlife habitat in the area. 	<ol style="list-style-type: none"> 1. Placement of projects and BMPs will minimize the impacts to vegetation. 2. BMPs such as vehicle washdown area, stabilized construction exits, and silt fences will be used during construction. 3. The Migratory Birds Treaty Act and Bald and Golden Eagle Protection Act will be referenced if there is environmental concern. 4. BMPs to reduce noise and keep animals out of construction areas will be utilized where applicable.
CULTURAL RESOURCES AND HISTORIC PROPERTY	No Effect	No Mitigation Necessary
AESTHETICS	<ol style="list-style-type: none"> 1. The North Paradise elevated steel tank has the potential to cause sky-lining and glare. 	<ol style="list-style-type: none"> 1. Unless notified by an agency that the tank is located in a visually sensitive area, mitigation efforts will be left up to the CMWD.
AIR QUALITY	<ol style="list-style-type: none"> 1. Short-term effect to air quality due to construction vehicle/equipment emissions and dust. 	<ol style="list-style-type: none"> 1. BMPs for dust control and emissions will be implemented during construction activities.
SOCIO-ECONOMIC IMPACT ASSESSMENT /ENVIRONMENTAL JUSTICE	<ol style="list-style-type: none"> 1. Noise disturbance to residents and traffic effects during construction. 2. Increased user rates which may affect low income or minority communities. 	<ol style="list-style-type: none"> 1. Limited hours of operation and a traffic control plan will be utilized reduce disturbance to residents and traffic 2. Funding and public outreach will help mitigate user rates.
MISCELLANEOUS ISSUES	<ol style="list-style-type: none"> 1. Construction activities and noise have the potential to disturb residents, wildlife, and traffic. 	<ol style="list-style-type: none"> 3. A traffic control plan and limited hours of operation will mitigate disturbance.

Table 4.1: Cumulative Effects Summary (Continued)

ENVIRONMENTAL CATEGORY	SUMMARIZED EFFECTS	SUMMARY OF MITIGATION
HUMAN HEALTH AND SAFETY	1. Potential for accidental spills of hazardous materials that can affect air and water quality	1. Follow Idaho Release, Reporting, and Corrective Action Regulations in the event of a spill.
CORRIDOR ANALYSIS	Unnecessary due to the nature of the proposed projects.	No mitigation necessary

5.0 SUMMARY OF MITIGATION

Mitigation efforts are based off agency consultation and information presented previously. Mitigation efforts for each environmental category can be found in **Table 4.1**, next to the respective environmental effect or consequence. A more general summary of mitigation is presented in this section in relation to construction activities, which are expected to be the cause of most environmental complications associated with the proposed projects if they are to occur.

During and prior to construction of the proposed project, certain environmental safety precautions need to be taken as well as enforced if a problem should occur. These measures are as follows:

1. A Storm Water Protection Plan (SWPP) shall be implemented during ground disturbing activities to prevent storm water, sediment, oils, and debris from entering nearby surface water.
2. Proper steps should be taken to contain all runoff during any type of construction. Examples would be silt fence, a mulch or vegetative cover, and temporary berms.
3. Drains are needed to control surface runoff and keep soil losses to a minimum.
4. When reseeding the areas of disturbance, make sure the seeding plans are site specific to surrounding vegetation.
5. All reasonable precautions shall be taken to prevent the generation of fugitive dust. Consideration will be given to factors such as the proximity of dust eliminating operations to human inhabitants and/or activities and atmospheric conditions which might affect the movement of particulate matter. Some of the reasonable precautions may include, but are not limited to, the following:
 - a. Use of water or chemicals
 - b. Application of dust suppressants
 - c. Use of control equipment
 - d. Covering of trucks
 - e. Paving
 - f. Removal of materials
6. Accidental surface spills of petroleum hydrocarbon products (i.e. fuel, oil, and similar products) are most commonly associated with the transportation and delivery of fuel to work sites or facilities. The Idaho Release, Reporting, and Corrective Action Regulations (IDAPA 58.01.02.851 and .852), require notification within 24 hours of any spill of petroleum product greater than 25 gallons and notification for the release of lesser amounts if they cannot be cleaned up within twenty-four (24) hours. The cleanup requirements are also contained in those regulations. Both federal and Idaho regulations require the cleanup of any spill or release of used oil (IDAPA 58.01.05.015; 40 CFR 279.22(d)(3)).

6.0 COORDINATION, CONSULTATION, AND CORRESPONDENCE

Coordination, consultation, and correspondence of the agencies listed in **Table 6.1** are detailed in **Section 3** of this report in their resource-specific subsection. Response records can be found in **Appendix D**.

Table 6.1: Coordination, Consultation and Correspondence List

NO.	AGENCY	RESPONSE DATE
1	Bureau of Land Management	No Response
2	Confederated Salish and Kootenai Tribes	No Response
3	Department of Environmental Quality	No Response
4	Floodplain Management Agency (IDWR, NFIP Coordinator)	3/25/2020
5	Idaho Department of Water Resources	4/6/2020
6	Idaho Fish and Game	4/7/2020
7	Idaho State Historic Society	3/25/2020
8	Kootenai Tribe of Idaho	No Response
9	National Marine Fisheries Service	No Response
10	Natural Resources Conservation District	4/24/2020
11	U.S. Army Corps of Engineers	4/27/2020
12	U.S. Fish and Wildlife Service	4/7/2020
13	U.S. Forest Service	No Response

7.0 PUBLIC OUTREACH

The Community Engagement section of the most current facility plan reports that CMWD has been active in communicating and working with their constituents. CMWD has informed users through their monthly bills of the ongoing study and future projects, posted meeting agendas, and held open meetings for the facility plan. All project progress reports were provided to District Board of representatives and operations staff. Additionally, public outreach open houses have been held prior to the fall 2019 bond to educate and inform the users of the need and impacts for the upcoming projects.

It is required by USDA that the environmental assessment (EA) of the proposed CMWD projects be made available for public review. The order of events detailed by the EA outline to complete the public outreach requirement are as follows:

1. Submission of EA to USDA for review
2. Acceptance of EA by USDA as a Federal Document
3. Authorization for Keller Associates to publish a public notice
4. Publication of public notice in a newspaper of general circulation in area of proposal (3 consecutive publications for daily newspapers and 2 consecutive publications for weekly newspapers)
5. Public review of EA allowing for 14 to 30 days to submit comments
6. USDA review and response to public comments received
7. Revision of EA by Keller Associates to make any necessary or appropriate changes
8. Re-submission of EA to USDA
9. USDA review and approval
10. Publication of a second public notice by Keller Associates announcing the availability of the FONSI

The notice of availability for the EA was posted for two consecutive weeks in the Bonners Ferry Herald on the 7th of May 2020 and the 14th of May 2020; the affidavit for publication can be found in **Appendix E**. The EA was made available for public review through USDA and on the CMWD website. A two-week comment period after the final day of publication was allowed for the public to submit comments to USDA; no public comments were received by Keller Associates, CMWD or USDA during or after the public comment period.

With no public objection to the proposed projects and the facts presented in the EA, a publication was made on June 18th, 2020 in the Bonners Ferry Herald to provide notice of Finding of no Significant Impact. The affidavit of publication can be found in **Appendix E**.

8.0 REFERENCES

The following references were used in preparation of this Environmental Assessment report:

- Boundary County Idaho. (2014). *Planning and Zoning*. Retrieved March 2, 2020, from <http://boundarycountyid.org/site-page/planning-zoning>
- Boundary County Idaho. (n.d.). *Noxious Weeds of Boundary County*. Retrieved March 2, 2020, from <http://boundarycountyid.org/site-page/noxious-weeds-boundary-county>
- Boundary County Planning and Zoning. (2008). *Boundary County Comprehensive Plan*. Retrieved March 2, 2020, from http://www2.boundarycountyid.org/planning/compplan/final_draft/02natural_resources.htm
- Idaho Dept. of Environmental Quality. (2013a). *Sole Source Aquifers*. Retrieved February, 2020, from <http://www.deq.idaho.gov/water-quality/ground-water/sole-source-aquifers.aspx>
- Idaho Department of Environmental Quality. (n.d.). *Attainment versus Nonattainment – Idaho Department of Environmental Quality*. Retrieved March 3, 2020, from <https://www.deq.idaho.gov/air-quality/monitoring/attainment-versus-nonattainment/>
- IDFG. (2018). *Idaho's Wetlands*. Retrieved March 2, 2020, from <https://idfg.idaho.gov/conservation/wetlands>
- Idaho Department of Water Resources. (n.d). Floodplain Management. Retrieved March 2, 2020, from <https://idwr.idaho.gov/floods/map.html>
- U.S. Census Bureau. (2018) *QuickFacts: Idaho; United States; Boundary County, Idaho*. Retrieved March 18, 2020 from www.census.gov/quickfacts/fact/table/ID,US,boundarycountyidaho/RHI125218
- USDA NRCS. (2019) *Custom Soil Resource Report for Boundary County Area, Idaho*. Retrieved April 20th, 2020 from <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
- U.S. Fish and Wildlife Service. (n.d.). Species by County Report (Boundary County, ID). Retrieved March 2, 2020, from <https://ecos.fws.gov/ecp0/reports/species-by-current-range-county?fips=16021>

9.0 LIST OF PREPARERS

Table 9.1: List of Preparers

NAME	ROLE
Kyle Meschko, PE	Project Manager and Agency Contact
Justin Walker, PE & Zack Wallen, EI & Chase MacPherson, EI	Preparer and Document QC
Cheryl Broadway	Agency Letter Preparation and Document QC

APPENDIX A

DEQ SANITARY SURVEY



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

2110 Ironwood Parkway, Coeur d'Alene, ID 83814 (208) 769-1422

C. L. "Butch" Otter, Governor
John H. Tippets, Director

August 29, 2018

Jeremy Davy
Cabinet Mountains Water District
PO Box 1223
Bonners Ferry, ID 83805
Jeremy@cmwd.org

Subject: Report of Sanitary Survey, Cabinet Mountains Water District, ID1110042

Dear Jeremy:

I would like to thank you and Luke Reoch for participating in the survey of the Cabinet Mountains Water District public drinking water system (system) on July 31, 2018.

The system was inspected and determined to be operating mostly in compliance with the Idaho Rules for Public Drinking Water Systems (Rules). At the time an air gap or other approved mechanism for backflow protection is provided on well discharge to waste (evaluated as a significant deficiency), the system will be considered operating in full compliance with the Rules.

Requirements and recommendations are also included at the conclusion of the enclosed report.

I may be reached at 208-666-4624 if you wish to discuss the findings of the survey.

Sincerely,

A handwritten signature in blue ink that reads "Suzanne Scheidt Miller".

Suzanne Scheidt Miller
Senior Drinking Water Analyst
suzanne.scheidtmiller@deq.idaho.gov

Enclosures: Cabinet Mountains Water District System Report and Photo Log

c: Anna Moody, Drinking Water Program Supervisor – Anna.Moody@deq.idaho.gov
Ed Katz, Board President, PO Box 1223, Bonners Ferry, ID 83805
EDMS File: ID1110042 / 2018ACA6920 / 2018ACA6922 / 2018ACA6923

2018 Drinking Water Supply Report
Idaho Department of Environmental Quality

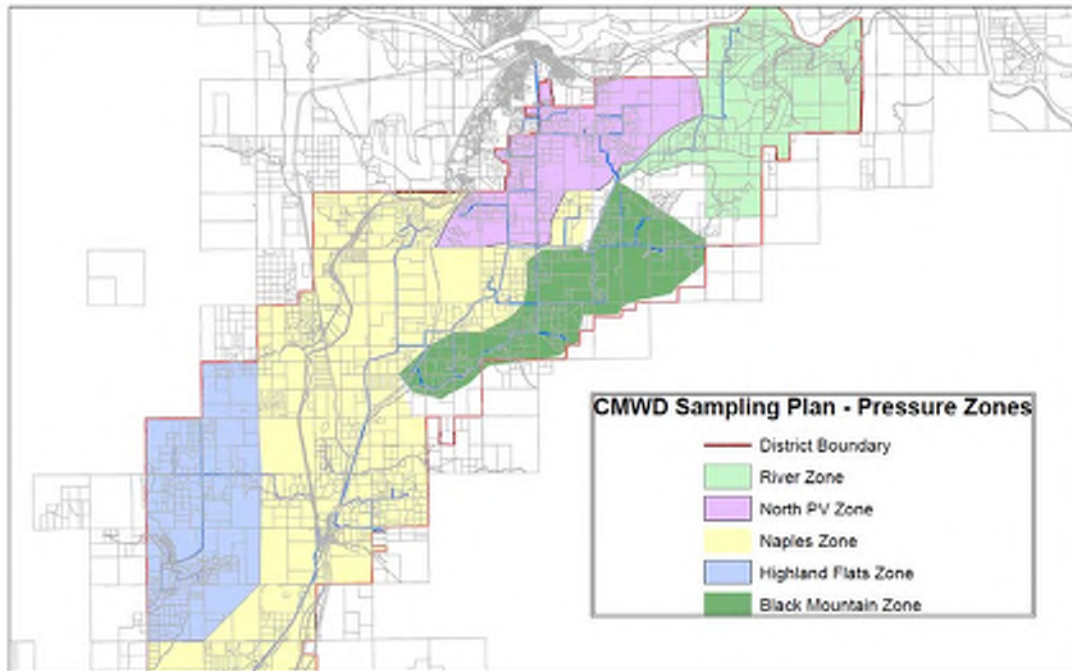
System: Cabinet Mountains Water District
PWS#: ID1110042 **County:** Boundary **Date of Survey:** July 31, 2018
System Representatives Present at Survey: Jeremy Davy, Designated Operator in Charge
Surveyed by: Suzanne Scheidt, Senior Drinking Water Analyst
Sources: Wells 1 and 2
Water System Type: Community
Population: 2100 **Service Connections:** 900 residential and commercial

A photographic log is enclosed with the narrative report.

System Overview

The Cabinet Mountains community public drinking water system (system) is owned and operated by Cabinet Mountains Water District (District). The system is supplied by two wells situated within the River pressure zone (north east service area). A well site has been approved for a third well to be situated within the south east service area zone with drilling planned for later this year. District service area extends approximately 25 miles between the Kootenai River and McArthur Lake along east and west sides of Highway 95 as depicted within the red border below. Four pressure zones are served: the River zone, the combined North Paradise Valley and Black Mountain Zone, the Naples Zone and the Highland Flats zone.

Cabinet Mountains Service Area



System Overview

Seventy-six miles of water main distributes water from the system's two wells over a span of 25 miles to supply service connections. Three reservoirs and four booster stations maintain adequate system pressure.

Vertical turbine line shaft (VTLS) wells equipped with variable frequency drive (VFD) motors are actuated in alternating lead/lag to maintain set point levels in the 40,000 gallon Parker Canyon tank housed below the Parker Canyon booster station. Two VTLS pumps (also equipped with VFDs) lift water from the Parker Canyon tank to supply Black Mountain and Naples Tanks. Four Corners booster station boosts pressure when Parker Canyon booster station is not actuated.

A pressure reducing valve (PRV) vault between northern and southern zones is auto-actuated via operator set points programmed into on-site PLC equipped with SCADA relay. The PRV is opened to gravity supply the Naples tank from the northern zone. When the tank is not calling for water, the PRV is closed. PRV components are energized via 12V AGM glass matt batteries charged via solar panel. If necessary, back-up power may be provided via portable generator through on-site pigtail receptacle.

The Naples booster station lifts water from the Naples tank to pressurize three residential connections via individual service meters. The Highland Flats booster station boosts pressure from the Naples zone to the Highland Flats zone.

Back-up power to wells, Parker Canyon booster station and Black Mountain booster station is supplied via diesel generators equipped with 110% secondary containment. Back-up propane generators supplies Four Corners and Naples (Mountain Meadows) booster station. Diesel generator at wells and Parker Canyon booster station are manually tested, while other generators are auto-tested weekly. A mechanism for back-up power is recommended at Highland Flats booster station and further discussed on page 7 of this report.

The District supplies a one-way intertie to the City of Bonners Ferry via the City's Hoover Booster Station.

Voluntary chlorination of distribution system components is provided via flow proportional injection on individual well discharge points.

Remote monitoring of all systems components is implemented through a supervisory control and data acquisition (SCADA) system. Remote SCADA oversight allows operators to respond in a timely manner to system concerns and significantly increases the level of service and public health protection to water users. SCADA programming sends autodialer alarms to operators and District office staff in the event of system conditions such as: power loss or surge, pump failure, communication failure, and low and high reservoir level. Due to remote locations of some system components, intrusion alarms are recommended to protect system infrastructure such as Black Mountain and Naples tanks.

Source Water Assessment Reports for wells serving the system were updated by DEQ in August 2016 and available on line at <http://www2.deq.idaho.gov/water/swaOnline/Search> . The report is scheduled to be updated in 2018 to include a large gravel pit within the well field zone of influence.

The District shares a mutual aid agreement with the City of Bonners Ferry; it is recommended the agreement is updated to reflect current configuration and capacity of both systems.

Sources

Wells 1 and 2 meet all required setback distances and are housed within a well building located at 1347 Crossport Road on a property enclosed with eight-foot hurricane fence. Wells are 16 feet apart and previously evaluated as a well field. Analyses of well 1 and 2 pump testing (conducted in October 1995) by Jim De Smet, P.G. indicates “both wells are extremely productive and likely to be capable of pumping 1500 gpm or more.”

Wells operate in alternating lead/lag and are equipped with 75 hp VTLS pumps actuated to maintain levels in the 40,000 gallon Parker Canyon tank. Tank levels are determined via level transducer with a back-up float system. Pumps are equipped with VFD motors modulated to maintain operator assigned hertz settings. Combined well discharge is restricted to 1000 gpm to accommodate distribution main capacity. At the time of the survey combined well discharge was 885 gallons per minute.

Water lube to vertical turbine line shaft pumps is regulated through solenoid valves via distribution back pressure and routed through a flow restrictor prior to well start up. In the event flow is not detected, the PLC will preclude well start-up and an auto-dialer alarm will be generated to the on-duty operator. Control valves route air and water to a dry well during pump actuation and shut down. As per Idaho Rules for Public Drinking Water Systems, IDAPA 58.01.08.511.02.g: “The pump to waste discharge piping shall be valved to ensure that other system components that could be negatively affected by the quality of the discharged water are not pressurized by the water that is being pumped to waste. The existing well discharge to waste is required to be valved to ensure potable system components are protected.” This is evaluated as a significant deficiency requiring correction. A plan for correction has been determined through consultation between DEQ and system operator following the survey and the significant deficiency is scheduled for correction within 120 days of receipt of the survey report. A floor drain will be installed in conjunction with correction of the significant deficiency.

Individual well discharge appurtenances include: raw water sample tap, flow meter, check valve, pressure relief valve, sodium hypochlorite injection quill, isolation (gate valves) and flow to waste. Each well pedestal was found to be sealed, and well casing vents protected with 24-mesh screen.

Well 1(E0005601) and Well 2 (E0005602)

Wells 1 and 2 were drilled concurrently and of similar construction characteristics: 12-inch cased wells were drilled in 1995 to a depth of 150 feet through layers of cemented cobble, sand and boulders. Wells were constructed with a cement surface seal to a depth of 18 feet. Well casings extend to a depth of 128 feet, with stainless steel telescoping screens installed from 128 to 148 feet.

Voluntary Chlorination of Distribution Components

Voluntary chlorination of distribution components is provided by components housed in the well building. One 35 gallon day tank, situated on secondary containment and vented to atmosphere contains 12.5% (Hasachlor) diluted sodium hypochlorite (one gallon sodium hypochlorite to two gallons water). Two Walchem electronic (diaphragm) metering pumps under flooded suction draw from the tank and inject sodium hypochlorite injection via quills installed on individual well discharge within the well building. Each metering pump is rated to discharge against 160 psi at a maximum feed rate of 0.6 gallons per hour; pumps are set at 90 stroke. Well discharge rates are not subject to fluctuation. Metering pumps are tied to individual flow meter discharge to provide automatic flow cut off via the PLC.

Raw and chlorinated sample taps are provided on individual well discharge.

District operators monitor for free chlorine residual daily from the Parker Canyon and Highland booster stations. Parker Canyon daily residuals are compiled on a monthly report provided to DEQ. Reports are consistently provided to DEQ within 10 days following the end of each month.

Distribution System

Distribution main consists of seventy-six miles of 6- to 10-inch ductile iron and PVC, primarily constructed between 1995 and 1999. Water main is partially looped and all dead end mains are equipped with a mechanism to flush. Flushing is conducted at a minimum basis of twice per year as required by the Rules.

Service connections at locations where main pressure exceeds 100 psi are equipped with individual pressure reducing valves. Valves are regularly maintained and protected from freezing.

The location of air vacuum relief valves have been identified in distribution. Valves subject to malfunction or otherwise requiring repair are valved off from the system until repair is complete. Repair of air vacuum relief valves is required. Valve outlets are required to be raised above the ground water table, downturned and equipped with 24-mesh screen.

The system is within the South Boundary and Paradise Valley Fire Districts and does not meet minimum fire flow requirements of 1100 gpm, however strives to achieve 250 gpm.

Booster Stations

Primary logic controllers (PLC) are installed at all booster pumping stations. PLC information is relayed to SCADA to allow for operator remote oversight. All booster pumps are equipped with low flow cut off to prevent pump damage in the event water supply to pumps is compromised. All booster stations are locked and equipped with adequate heating and ventilation systems. All stations with the exception of Four Corners booster station are equipped with floor drains.

Parker Canyon Booster Station and Tank

The Parker Canyon booster station lifts water from the River zone to supply remaining gravity and pressure zones. Parker Canyon booster pumps are actuated to maintain levels in the Black Mountain and Naples Tanks. Booster pumps consist of two 75 VTLS hp pumps equipped with VFDs modulating to maintain operator hertz settings and discharge up to 500 gpm each.

Pumps are equipped with adequate isolation valves and flow meters. A pressure relief valve on boosted discharge is plumbed to return to the Parker Canyon tank. Pressure gages are provided on inlet and outlet piping, with pump discharge pressure transducer readings relayed via PLC to SCADA. At the time of the survey, pump one was discharging at 466 gpm with pump two at 358 gpm.

The 50,000 gallon rectangular ground-level concrete tank has a total storage capacity of 40,000 gallons. The tank access hatch is housed within the booster station building and equipped with an internal watertight seal. The reservoir overflow discharges over a rip rap bank; the outlet is equipped with 24-mesh screen and flapper valve. Tank interior was in excellent condition with no evidence of sedimentation on tank floor.

Four Corners Booster Station

Four Corners booster station pressurizes the North Paradise Valley zone during periods when Parker Canyon boosters are off and the Black Mountain booster station is pressurizing the zone. The booster station is typically actuated during summer months only. Boosted pressure is supplied via two 10 hp pumps discharging up to 250 gpm each and equipped with Grundfos drives to modulate at a discharge pressure of 70 psi.

Pumps are equipped with individual upstream and downstream isolation valves and flow meters. Pump curves indicate discharge pressure cannot exceed 90 psi; therefore, a pressure relief valve on boosted discharge is not required. Pressure gages are provided on inlet and outlet piping, with pump discharge pressure transducer readings relayed via PLC to SCADA.

Black Mountain Booster Station and Tank

The Black Mountain tank supplies the Black Mountain booster station pressurizing the North Paradise Valley pressure zone. Pressurized water from Parker Canyon enters through the booster pump station and routes to the tank via automatic control valve actuators. Black Mountain Booster pumps consist of three in-line pumps equipped with VFD. Two 7.5 hp pumps with discharge capacity of 235 gpm each and one 5 hp pump with discharge capacity of 90 gpm modulate to maintain 35 psi to distribution during summer periods and 30 psi during winter. Booster pumps are equipped to be auto-energized via diesel generator.

Pumps are equipped with individual upstream and downstream isolation valves and combined discharge flow meters. A pressure relief valve on boosted discharge is plumbed to return to the Black Mountain tank. Pressure gages are provided on inlet and outlet piping, with pressure transducer, actuator valves and flow meter tied to the PLC and relayed to SCADA.

The Black Mountain tank has a total storage capacity of 175,000 gallons. The tank was inspected in 2016 by a third party contractor. While the corner leak was evaluated as not requiring immediate attention, future maintenance will be required in order to preserve tank service life. However, the tank cannot be taken off line for maintenance without disruption of service. It is strongly recommended the District carefully evaluate additional storage, such as the proposed 600,000 gallon North Paradise Valley standpipe under consideration, in order to also allow for maintenance of system components without extended disruption of service.

The tank access hatch is equipped with an internal seal and adequately screened vent. Reservoir overflow discharges over a rip rap bank; the outlet is equipped with 24-mesh screen and flapper valve. Tank interior was in excellent condition with no evidence of sedimentation on tank floor.

Naples Booster Station and Tank (Mountain Meadows Road)

The Naples Tank gravity supplies the Naples pressure zone and Highland Flats booster station. The Naples booster station lifts water from the tank to boost pressure to three service connections. Pressurized water enters directly to the tank gravity supplying the pressure zone. A pressure reducing valve station (detail included on page 2) in distribution opens when the tank is filling and closes when the tank gravity supplies the pressure zone.

One 5 hp booster pump actuated via pressure switch pressurizes three individual metered service connections. Pressure gages are installed on influent and boosted pressure. The pump is equipped with one upstream and three downstream valves (corp stops) on metered services in building. The booster station building is equipped with adequate heat, ventilation and floor drain. The Naples tank PLC was tied into the Naples booster station immediately following the survey to allow for remote monitoring of pump operation via SCADA relay.

The Naples (aka Mountain Meadows) tank also has a total storage capacity of 175,000 gallons. The tank was inspected in 2016 by a third party contractor and found to be clean. The tank cannot currently be taken off line for maintenance without disruption of service.

The tank access hatch is equipped with an internal watertight seal and adequately screened vent. The reservoir overflow discharges over a rip rap bank; the outlet is equipped with 24-mesh screen and flapper valve. Tank interior was in excellent condition with no evidence of sedimentation on tank floor.

Highland Flats Booster Station

As previously indicated, the Naples Tank gravity supplies the Highland Flats booster station which in turn pressurizes the Highland Flats pressure zone. Booster pumps (5 hp and 10 hp equipped with VFDs) are actuated to maintain boosted pressure of 65 psi. Typical pump discharge is 30 gpm; however the boosted pressure flow meter has become unreliable with replacement recommended. Pumps are equipped with individual upstream and downstream isolation valves. A pressure relief valve on boosted discharge is installed; however the outlet is isolated by a ball valve until relief discharge is routed away from electrical controls and to atmosphere. This is evaluated as a deficiency requiring correction. Pressure gages are provided on inlet and outlet piping, with a pressure transducer, actuator valves and flow meter tied to PLC and relayed to SCADA.

Booster station upgrades and future storage to serve the Highland Flats pressure zone are currently under evaluation. It is recommended the booster station be equipped with back-up power following determination of future booster station improvements.

Cross Connection Control Implementation

The 2012 survey indicated the District Board was to adopt a Cross Connection Control resolution by February 2, 2013. Please provide a copy of documentation to DEQ demonstrating system authority to implement their program. High risk service connections have been inspected for potential cross connections with residential service connection inspections on going. The system is implementing a tracking system to ensure annual backflow assembly testing is completed as required. The District is required to continue moving toward full program implementation.

The Idaho Rules for Public Drinking Water Systems require that community public drinking water systems implement a cross connection control program that includes at minimum the following five elements as per IDAPA 58.01.08.552.06 a-e:

- a. An inspection program to locate cross connections and determine required suitable protection. For new connections, suitable protection must be installed prior to providing water service.
- b. Required installation and operation of adequate backflow prevention assemblies. Appropriate and adequate backflow prevention assembly types for various facilities, fixtures, equipment, and uses of water should be selected from the AWWA Pacific Northwest Section Cross Connection Control Manual, the Uniform Plumbing Code, the AWWA Recommended Practice for Backflow Prevention and Cross Connection Control (M14), the USC Foundation Manual of Cross Connection Control, or other sources deemed acceptable by the Department. The assemblies must meet the requirements of Section 543 and comply with local ordinances.
- c. Annual inspections and testing of all installed backflow prevention assemblies by a tester licensed by a licensing authority recognized by the Department. Testing shall be done in accordance with the test procedures published by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research. See the USC Foundation Manual of Cross-Connection Control referenced in Subsection 002.02.
- d. Discontinuance of service to any structure, facility, or premises where suitable backflow protection has not been provided for a cross connection.
- e. Assemblies that cannot pass annual tests or those found to be defective shall be repaired, replaced, or isolated within ten (10) business days. If the failed assembly cannot be repaired, replaced, or isolated within ten (10) business days, water service to the failed assembly shall be discontinued.

Monitoring Summary

The system is in compliance with all current monitoring requirements. The District actively participates in DEQ's Monitoring Waiver Program. The table below summarizes current monitoring requirements. Current monitoring schedule information may also be accessed at: <http://www.deq.idaho.gov/water-quality/drinking-water/pws-switchboard.aspx>

Sample Type	Frequency	Sample Location
Distribution		
Total coliform	2 samples per month	In accordance with coliform sampling
Lead and Copper	10 samples every 3 years	Assigned sampling locations
Total Trihalomethane	1 sample every year	2001 White Mountain Road
Haloacetic Acids Group 5	1 sample every year	2001 White Mountain Road
Sample Location: Wellfield (Wells 1 & 2) Frequency		
Nitrate	1 sample per year	
Nitrite	1 sample per 9 years	
Alpha	1 sample per 9 years	
Fluoride	1 sample per 9 years	
Sodium	1 sample per 3 years	
Uranium	1 sample per 9 years	
VOCs	1 sample per 6 years	
Arsenic	1 sample per 9 years	
Radium 226	1 sample per 9 years	
Radium 228	1 sample per 9 years	
Regulated IOC	1 sample per 9 years	

Source Water Quality

Source water quality meets all regulatory standards. Nitrate levels (1995-present) range consistently between minimum detection limits to 1.47 mg/L with a decreasing trend from samples collected from the well field. The maximum contaminant level (MCL) for nitrate in drinking water is 10 mg/L.

Arsenic levels (1998-2015) consistently range below minimum detection limits from the well field and Finucane well. The MCL for arsenic in drinking water is 0.010 mg/L.

Distribution Water Quality

Disinfection by product results drawn from the designated sampling location in August 2017. Haloacetic acid group 5 results were 2.16 ug/L; the MCL for haloacetic acids in drinking water is 60 ug/L. Total trihalomethane results were 4.25 ug/L; the MCL for total trihalomethanes in drinking water is 80.0 ug/L. Results are indicative of low organic compounds in the source supply.

Lead and copper monitoring results from the most recent round of ten samples collected in September 2016 indicate levels of lead in drinking water supply range between 0.0017 to 0.0070 mg/L. The action level for lead in drinking water is 0.015 mg/L. Copper levels ranged from 0.0115 to 0.0896 mg/L. The action level for copper in drinking water is 1.3 mg/L.

The District is required to collect two coliform samples per month from rotating locations throughout distribution. A total coliform sampling plan is referenced to collect samples on a rotating basis from the four pressure zones: Highland Flats, 4 Corners, Parker Canyon, and Black Mountain.

Operator Certification

The Cabinet Mountains Water District is classified as a distribution two water system and is under designated oversight of Responsible Charge Operator Charlie Dreschel. Mr. Dreschel holds Distribution Level 2 (DWD2-16686) and Treatment Level 1 (DWT1-16687) licenses, renewal due 8/10/2019. Jeremy Davy is operator of record and holds Distribution Level 1 (DWD1-21598) and Treatment Level 1 (DWT1-21599) licenses, renewal due 05/25/2019. Luke Reoch is also an operator of record and holds Distribution Level 1 (DWD1-22429) and Treatment Level 1 (DWT1-22430) licenses, renewal due 3/16/20. As per Idaho Statute, the licensed operator is responsible for all decisions impacting water quality or quantity.

Administration

The District is administered by a five member Board meeting on the second Tuesday of each month at the District Office. Ed Katz serves as District President, John Martling as Vice President, and Karen Glazier, Michael Stephens and Rick Staats as Board Members.

Rate Structure

All District service connections are metered. A monthly basis rate of \$43 is charged for up to 12,000 gallons with overages as indicated below:

12,000-24,000 gallons	\$4 per 1,000 gallons
24,000-48,000 gallons	\$6 per 1,000 gallons
Greater than 48,000 gallons	\$8 per 1,000 gallons

Conclusion

The system was found to be operating mostly in compliance with the Idaho Rules for Public Drinking Water Systems and will be considered operating in full compliance upon correction of the significant deficiency noted below:

Significant Deficiency

1. As per Idaho Rules for Public Drinking Water Systems, IDAPA 58.01.08.511.02.g: “The pump to waste discharge piping shall be valved to ensure that other system components that could be negatively affected by the quality of the discharged water are not pressurized by the water that is being pumped to waste.” Well discharge to waste is required to be valved to ensure potable system components are protected within 120 days of receipt of this report.

Deficiency – A plan of correction is requested within 120 days describing the District’s timeline to address the deficiency below:

1. A pressure relief valve on Highland Flats boosted discharge is installed; however the outlet is isolated by a ball valve until the relief may be routed away from electrical controls and outside the building. The pressure relief valve outlet is required to be exhausted to atmosphere.

Requirements

1. Maintenance of the Black Mountain Tank will be required in the future to preserve tank service period.
2. The location of air vacuum relief valves have been identified in distribution. Valves subject to malfunction or requiring repair have been valved from the system until repair is completed. Repair of air vacuum relief valves is required.
3. The 2012 survey indicated the District Board were to adopt a Cross Connection Control resolution by February 2, 2018. Please provide a copy of documentation demonstrating system implementation authority. The District is required to continue to implement their program.

Recommendations

1. It is strongly recommended the system consider additional storage, such as the proposed 600,000 gallon North Paradise Valley standpipe under consideration.
2. A mechanism for back-up power is recommended at the Highland Flats booster station.
3. Due to the remote locations of some system components, intrusion alarms are recommended to protect system infrastructure such as the Black Mountain and Naples tanks.
4. The District shares a mutual aid agreement with the City of Bonners Ferry; it is recommended the agreement is updated to reflect current system configurations and capacities.
5. A flow meter on Highland Flats boosted pressure has become unreliable; replacement is recommended.

Photographic Documentation

Name of Facility: Cabinet Mountains Water District

Inspector(s): Suzanne Scheidt Miller

Inspection Date: Tuesday, July 31, 2018

Purpose of Inspection: Sanitary Survey Inspection



Publish Date: Wednesday 1 August 2018

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Photograph 1: Well discharge appurtenances



Photograph 2: Well 1



Photograph 3: Well 1 sample tap



Photograph 4: Well 1 screened vent

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Photograph 5: Well 1 discharge to waste control valve



Photograph 6: Test well (capped)



Photograph 7: Well 2



Photograph 8: Well 2

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Photograph 9: Well 2 electronic metering pump and calibration cylinder



Photograph 10: Sodium hypochlorite day tank

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Photograph 11: Well 1 electronic metering pump



Photograph 12: Electronic metering pump placard

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Photograph 14: Pressure gage well discharge



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Photograph 16: Individual flow meter tied to electronic chlorine metering pump

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Photograph 17: Finished (chlorinated) sample tap



Photograph 18: Well 2 discharge to waste control valve

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Photograph 19: Well electrical switches



Photograph 20: Well electrical switches

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Photograph 21: Well flow rates



Photograph 22: Well discharge to waste dry well (requires air gap/backflow protection)



Photograph 23: Well 1 and 2 building



Photograph 24: Parker Canyon booster station

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Photograph 25: Parker Canyon diesel generator



Photograph 26: Parker Canyon tank



Photograph 27: Parker Canyon level controls (well actuation)



Photograph 28: Parker Canyon tank water tight access hatch

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Photograph 29: Parker Canyon booster pump



Photograph 30: Parker Canyon booster pump



Photograph 31: Parker Canyon boosted discharge appurtenances



Photograph 32: Parker Canyon boosted discharge appurtenances

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Photograph 33: Parker Canyon booster pump controls



Photograph 34: Parker Canyon pump controls

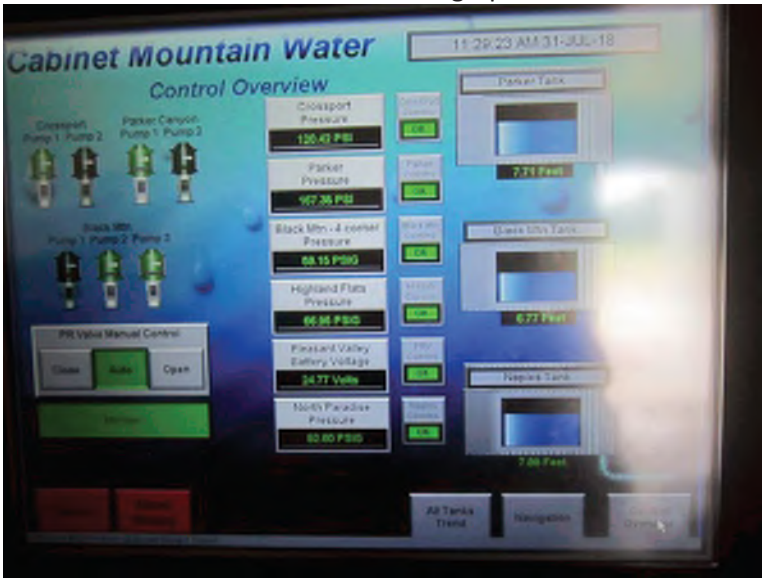


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Photograph 36: Parker Canyon tank screened overflow w metal flapper valve

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Photograph 37: Four Corners booster station SCADA display



Photograph 38: Four Corners booster station autodialer



Photograph 39: Four Corners booster station



Photograph 40: Four Corners booster pumps and discharge appurtenances

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Photograph 41: Four Corners booster pumps and discharge appurtenances



Photograph 42: Four Corners sample tap



Photograph 43: Four Corners sample tap



Photograph 44: Four Corners combined boosted flow meter

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Photograph 45: Four Corners boosted discharge appurtenances



Photograph 46: Four Corners inlet pressure



Photograph 47: Four Corners booster station



Photograph 48: Four Corners propane generator

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Photograph 49: Black Mountain reservoir (leak)



Photograph 50: Black Mountain reservoir interior



Photograph 51: Black Mountain reservoir interior



Photograph 52: Black Mountain interior reservoir hatch water tight seal

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Photograph 53: Black Mountain reservoir interior overflow



Photograph 54: Black Mountain reservoir interior overflow



Photograph 55: Black Mountain reservoir vent w 24-mesh screen



Photograph 56: Black Mountain reservoir lid

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Photograph 57: Black Mountain reservoir



Photograph 58: Black Mountain booster station diesel generator



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Photograph 60: Black Mountain operators daily record log

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Photograph 61: Black Mountain reservoir fill line and boosted discharge appurtenances



Photograph 62: Black Mountain boosted discharge flow meter



Photograph 63: Black Mountain boosted discharge appurtenances flow meter



Photograph 64: Black Mountain booster station, thermostatically controlled heater

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Photograph 65: Black Mountain booster station, thermostatically controlled louvre vent



Photograph 66: Black Mountain booster station, thermostatically controlled louvre vent



Photograph 67: Black Mountain booster pump controls



Photograph 68: Black Mountain reservoir screened drain

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Photograph 69: Black Mountain reservoir screened overflow



Photograph 70: Pressure reducing valve vault w pigtail



Photograph 71: Pressure reducing valve vault



Photograph 72: Pressure reducing valve solar panel to charge batteries

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Photograph 73: Naples tank and booster station



Photograph 74: Naples booster station propane generator



Photograph 75: Naples tank booster pump



Photograph 76: Naples tank booster station, 3 residential connections

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Photograph 77: Naples tank boosted discharge, 3 residential connections



Photograph 78: Metered residential connection w corp stop



Photograph 79: Naples tank overflow outlet screened with metal flapper valve



Photograph 80: Naples tank overflow outlet screened with metal flapper valve

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Photograph 81: Naples tank roof



Photograph 82: Naples tank interior

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Photograph 83: Naples tank ultra-sonic level transducer



Photograph 84: Naples tank interior

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Photograph 85: Naples tank overflow



Photograph 86: Naples tank lid w water tight seal

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Photograph 87: Naples tank lid w screened vent



Photograph 88: Naples tank



Photograph 89: Naples tank



Photograph 90: Naples tank

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Photograph 91: Highland Flats booster pump controls



Photograph 92: Highland Flats flow meter (malfunctioning)

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Photograph 93: Highland Flats pressure relief (requires reconfiguration of discharge)



Photograph 94: Highland Flats combined boosted discharge flow meter



Photograph 95: Highland Flats boosted discharge appurtenances



Photograph 96: Highland Flats inlet pressure

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Photograph 97: Highland Flats pressure transducer and sample tap



Photograph 98: Highland Flats booster pump



Photograph 99: Highland Flats booster station building

From: [Jeremy Davy](#)
To: [Suzanne Scheidt](#)
Subject: Cabinet Mtns Water Dist. Drain Repair
Date: Friday, December 28, 2018 8:44:09 AM

Good Morning Suzanne,

I have attached some photos of the new drain system we got finished last night, please let me know if you need anything else.

Have a Happy New Year,

Jeremy Davy
System Operator
Cabinet Mountains Water District
(208)946-1985
Jeremy@cmwd.org













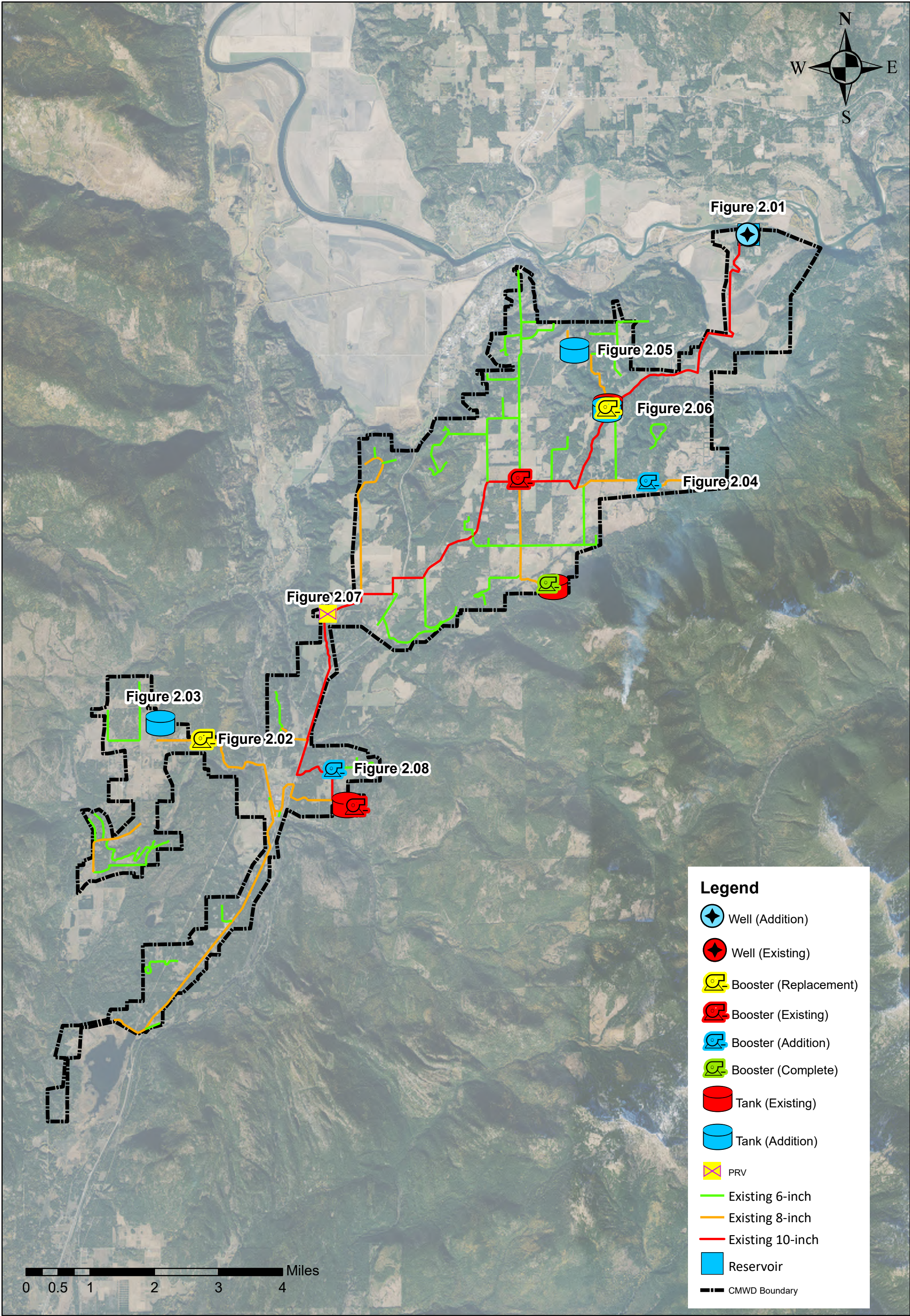






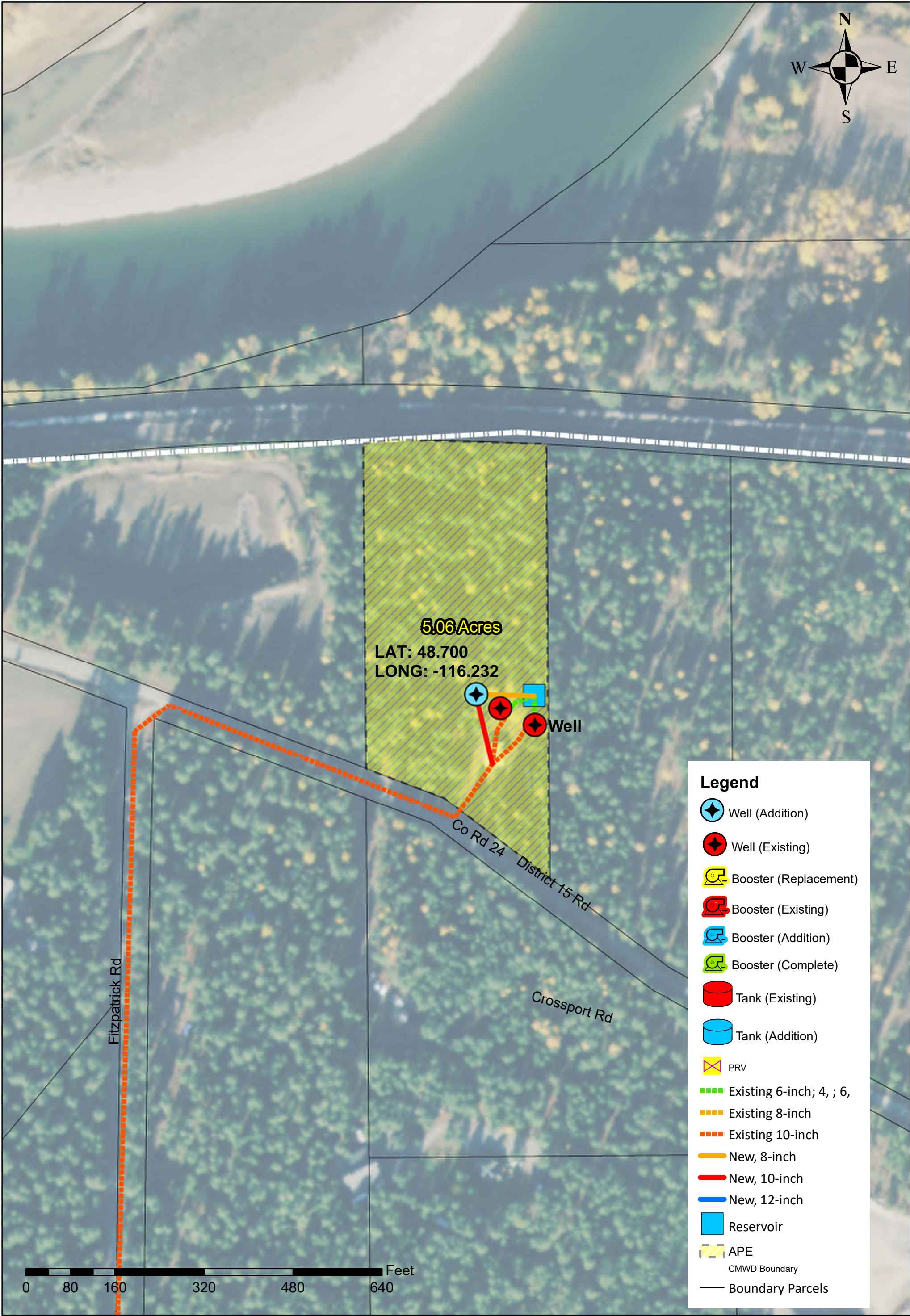
APPENDIX B

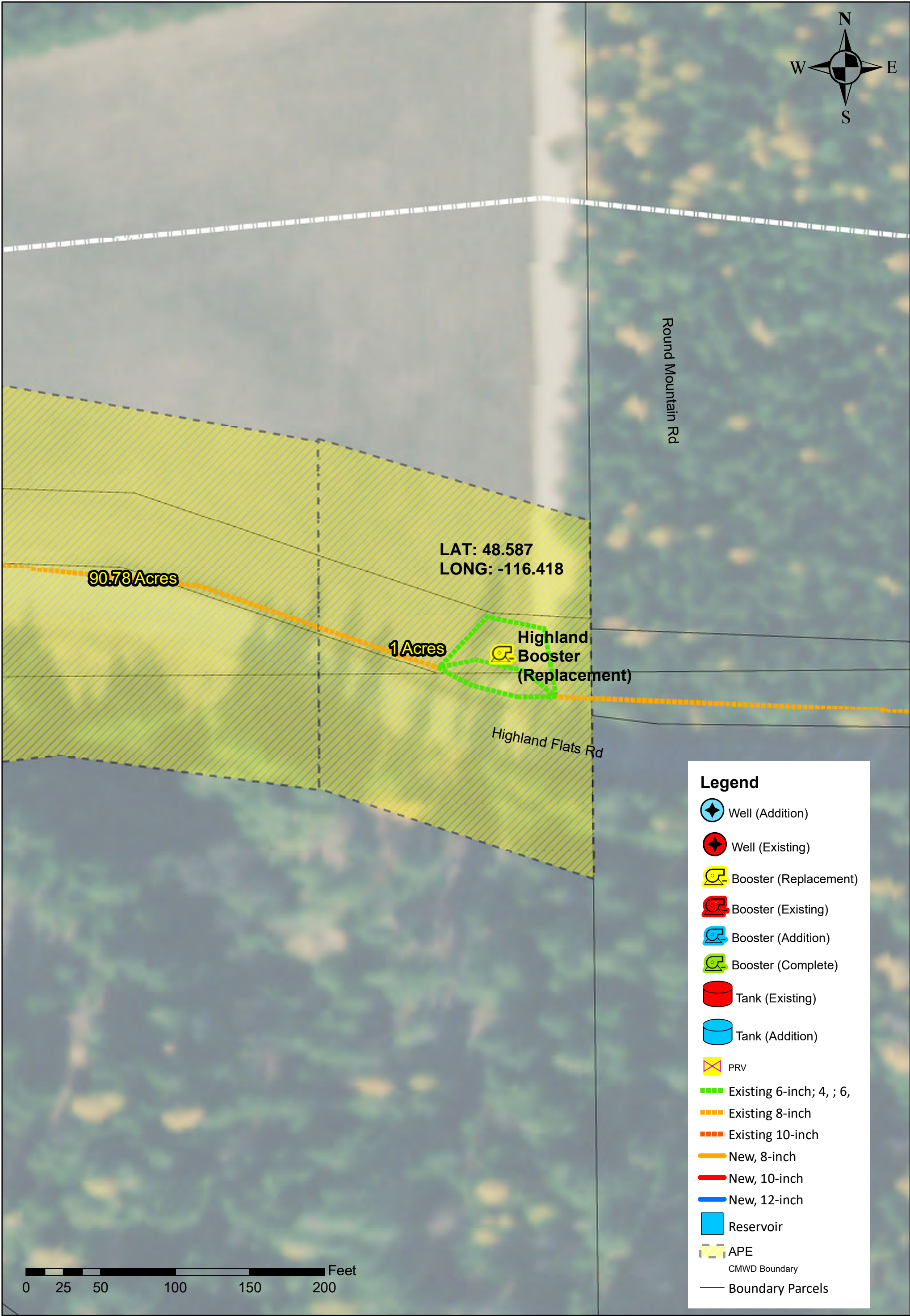
FIGURES AND MAPS

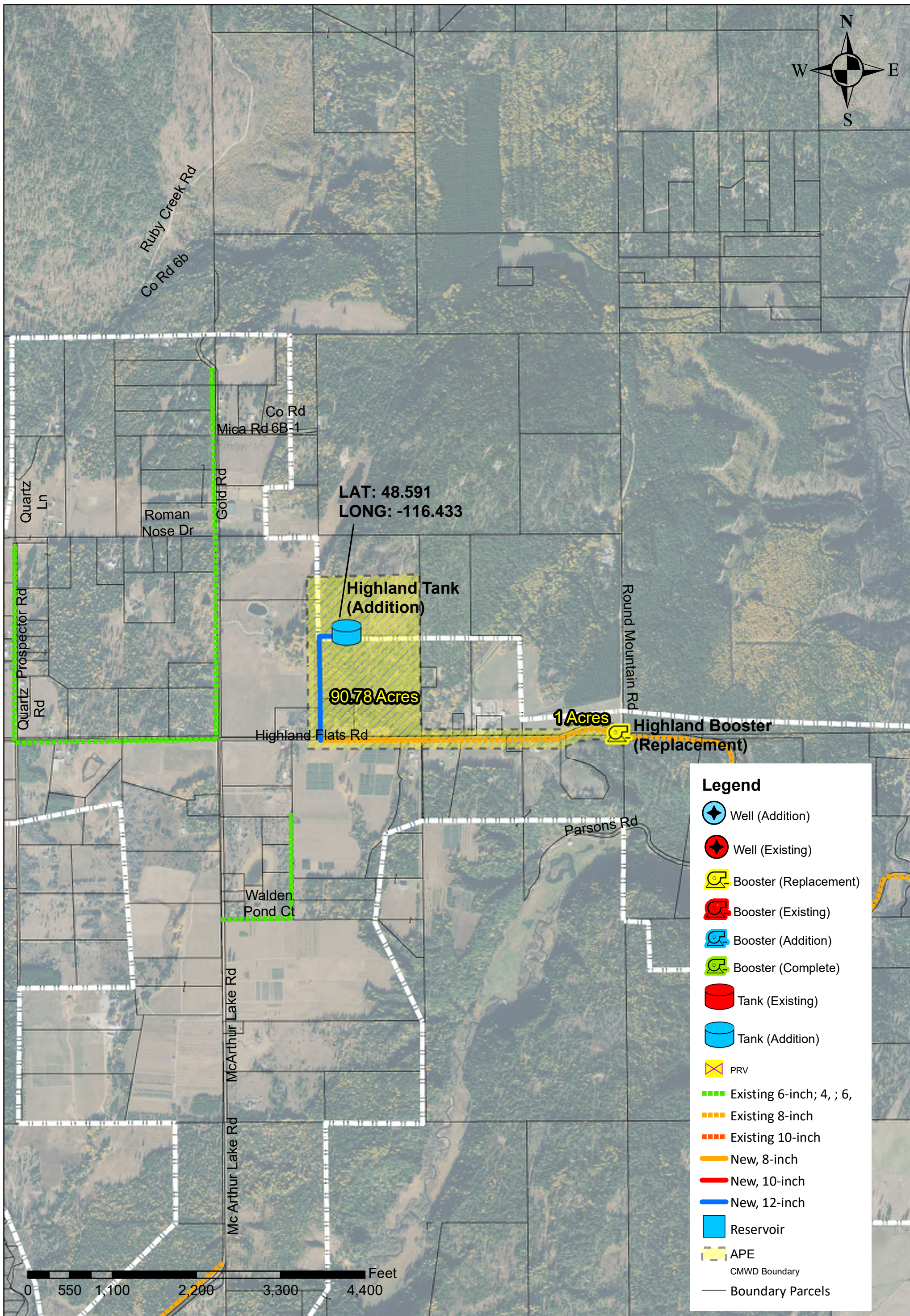


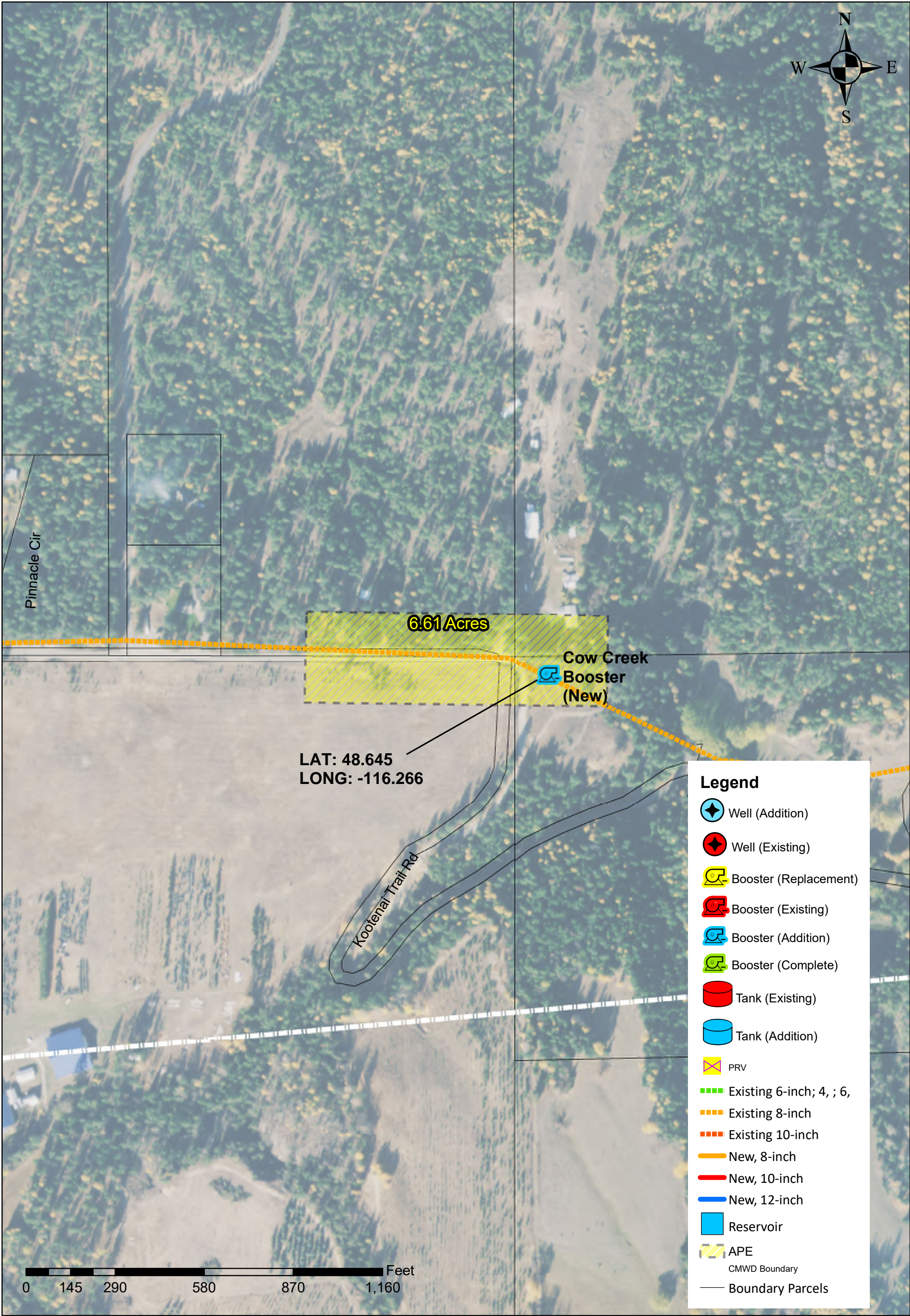
Legend

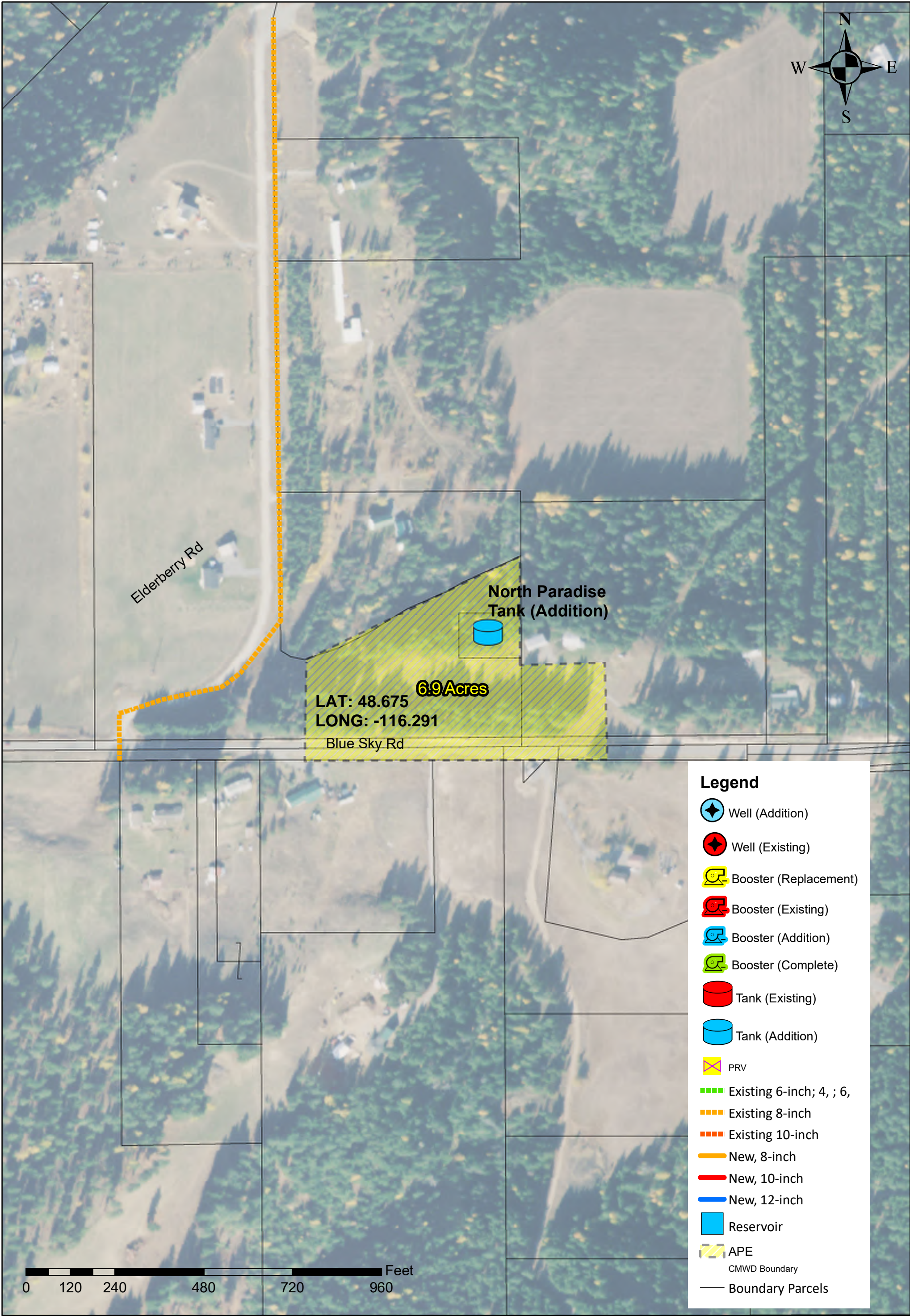
- Well (Addition)
- Well (Existing)
- Booster (Replacement)
- Booster (Existing)
- Booster (Addition)
- Booster (Complete)
- Tank (Existing)
- Tank (Addition)
- PRV
- Existing 6-inch
- Existing 8-inch
- Existing 10-inch
- Reservoir
- CMWD Boundary

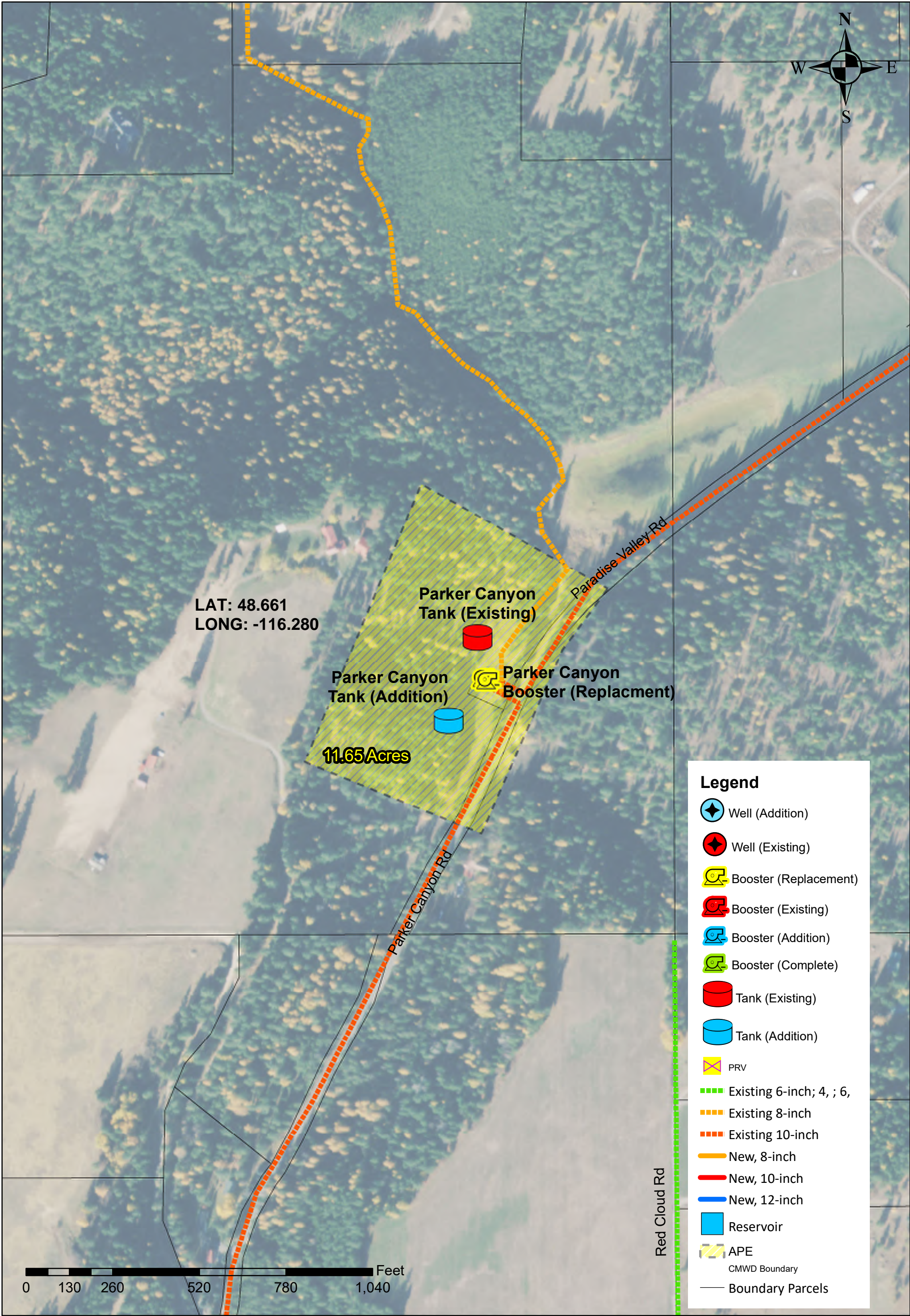


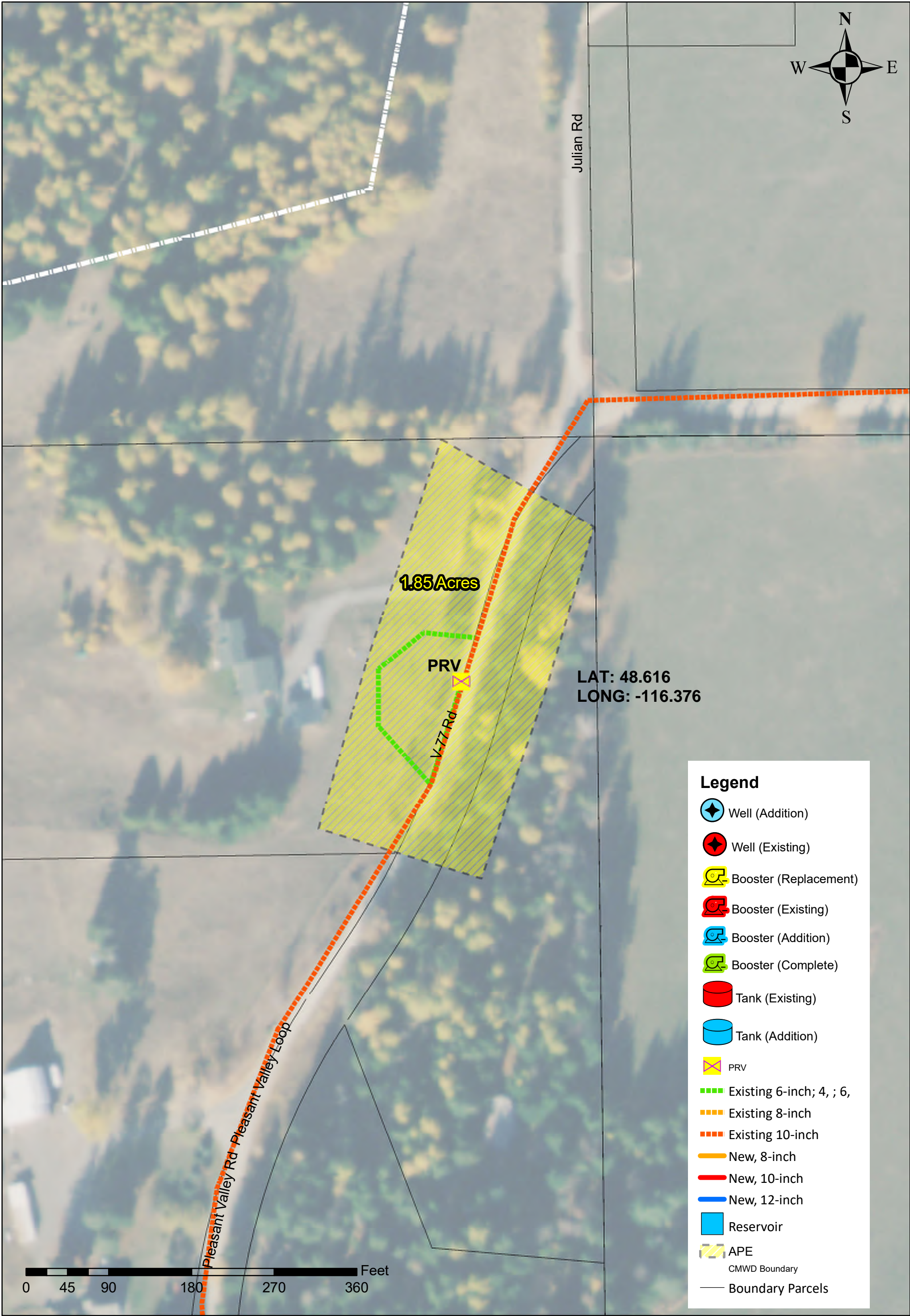


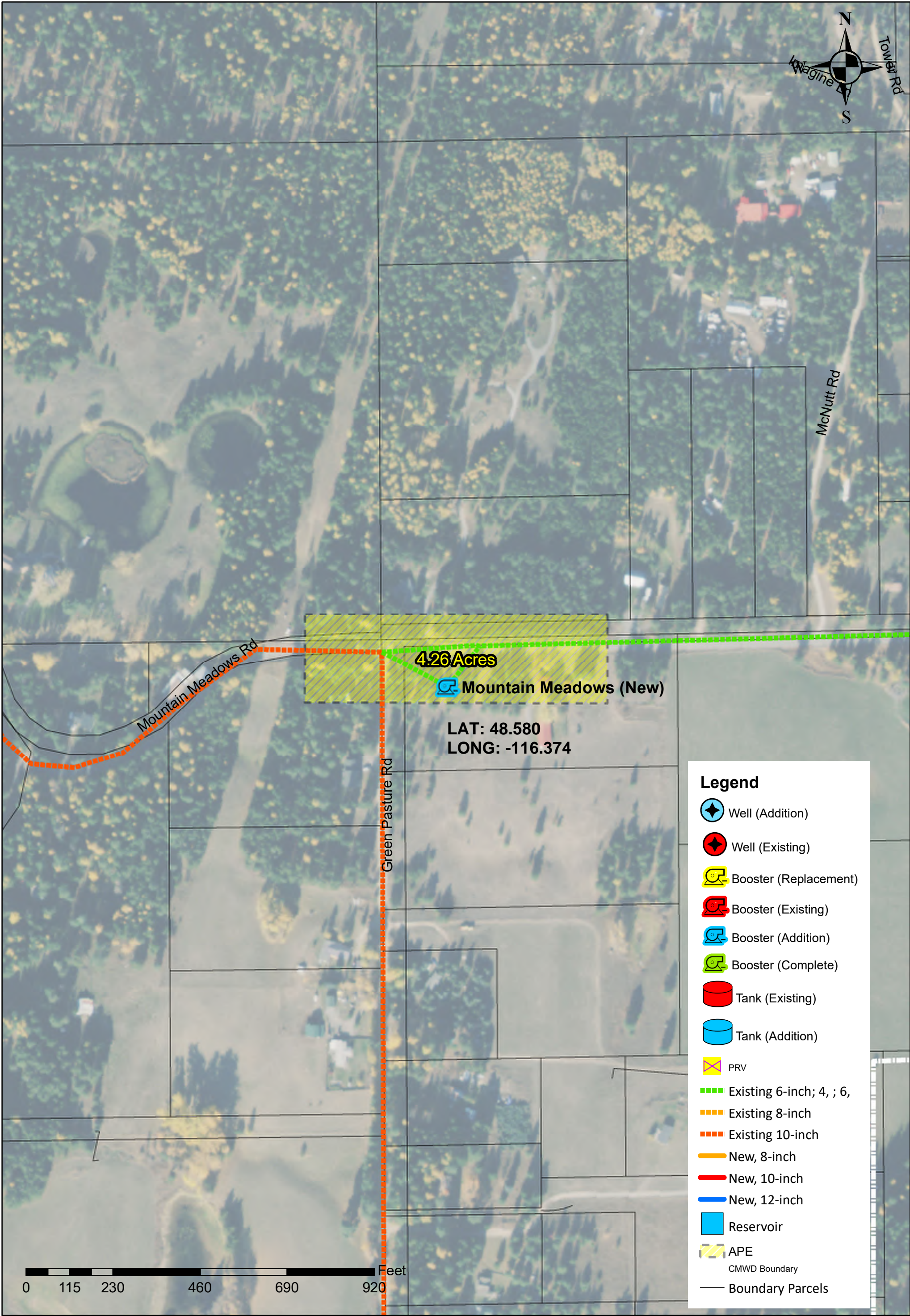








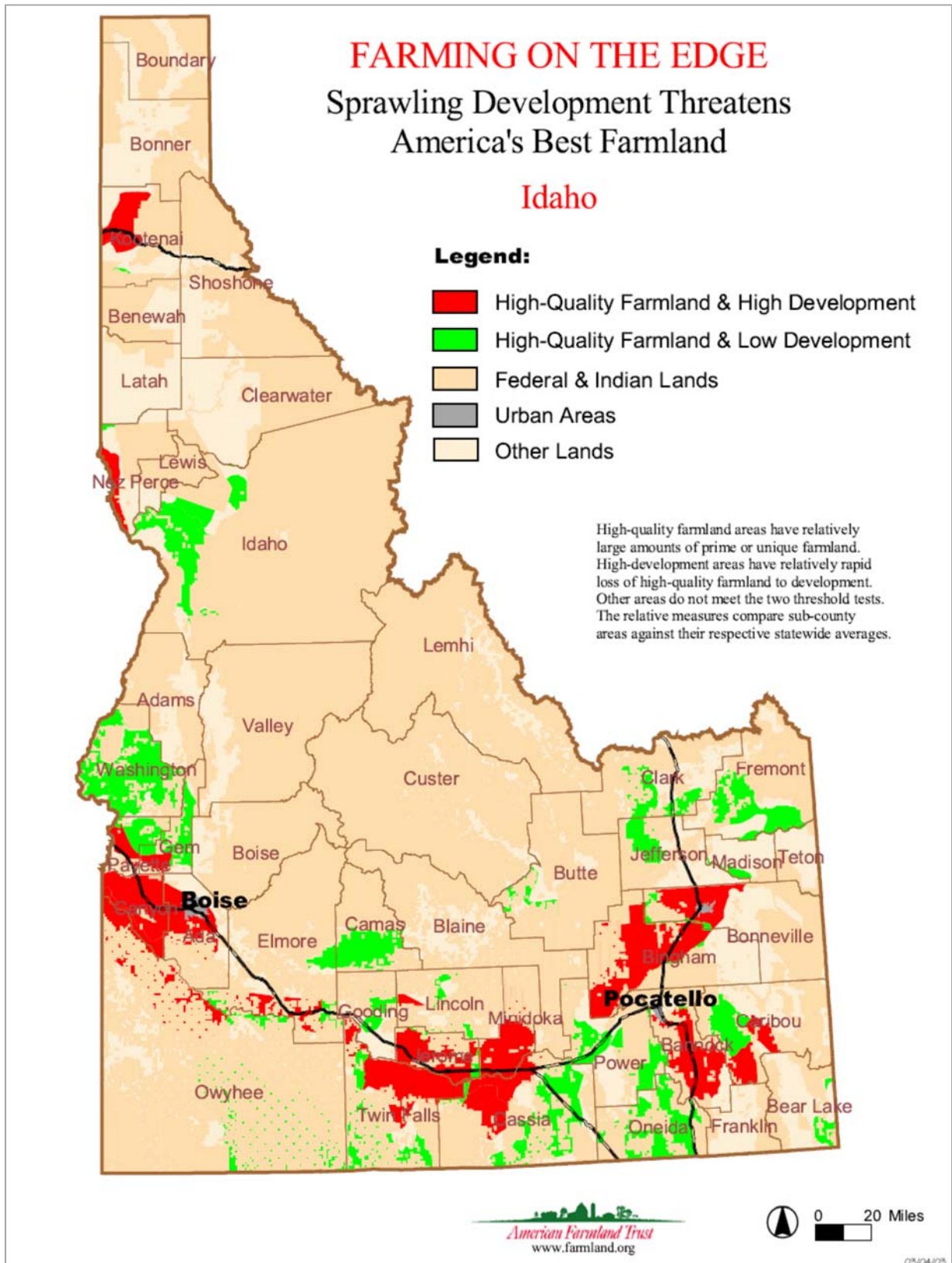




APPENDIX C

ENVIRONMENTAL REFERENCE DOCUMENTS

Important Farmland throughout the State





United States
Department of
Agriculture

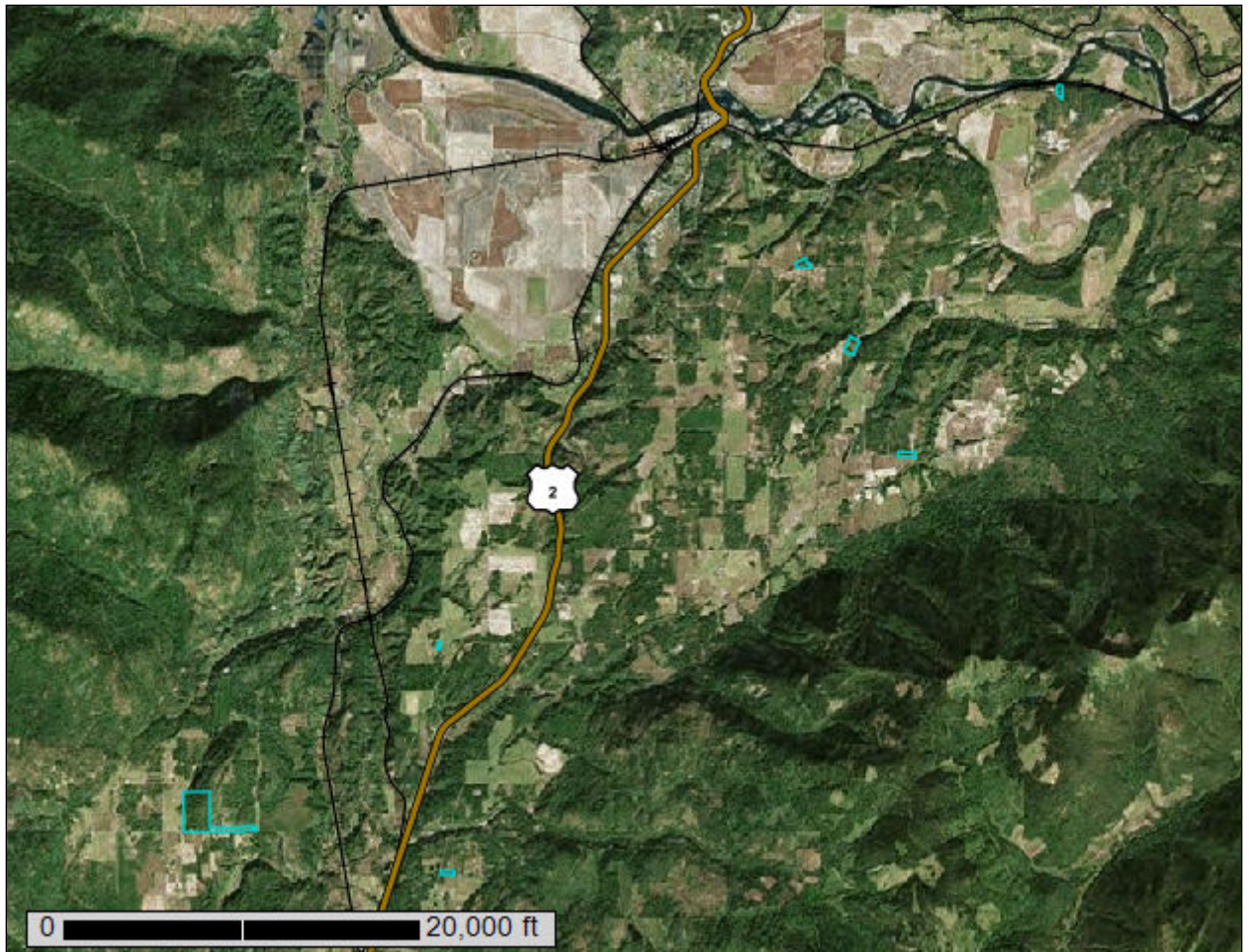
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Boundary County Area, Idaho

CMWD APE



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

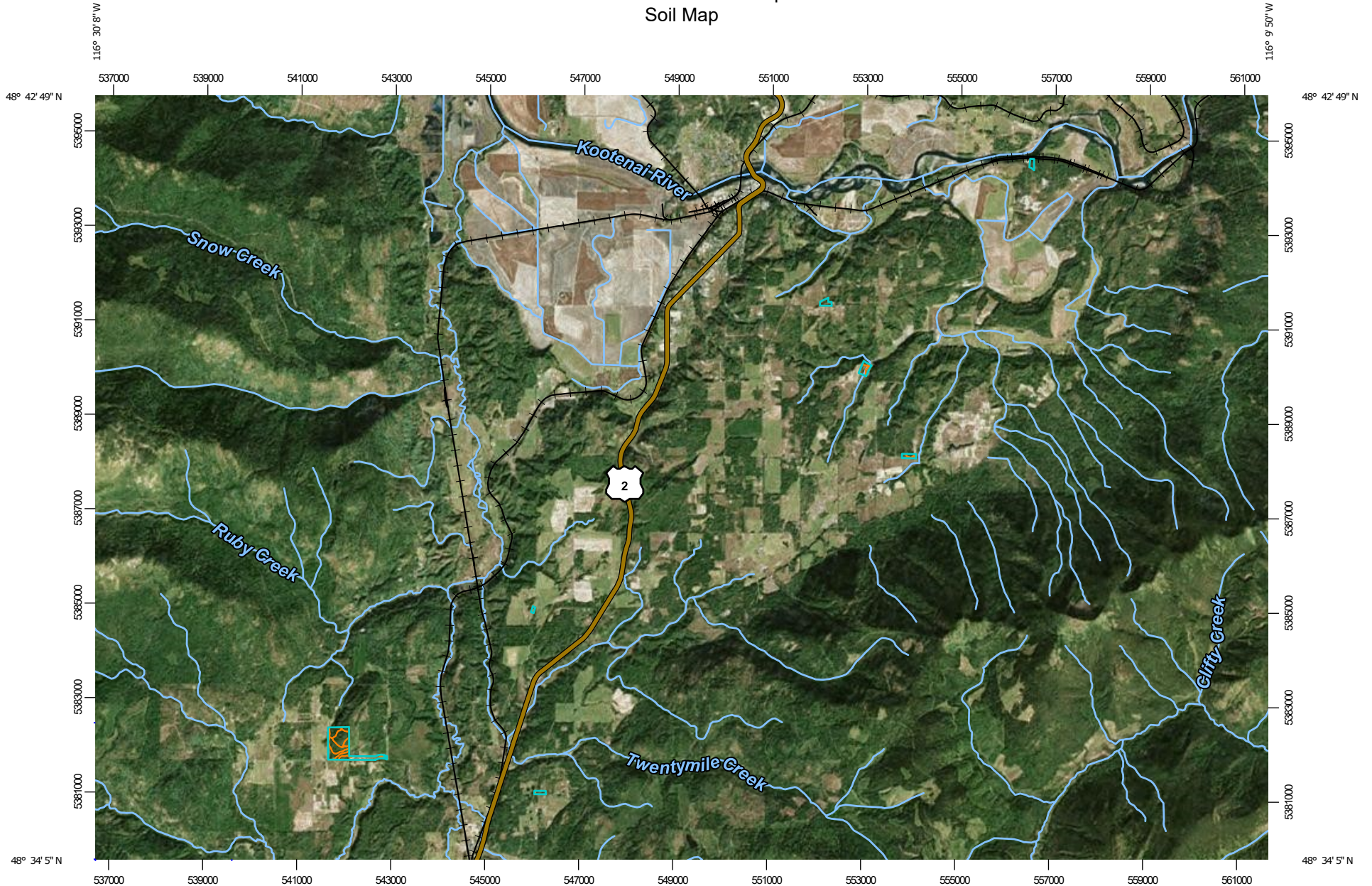
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

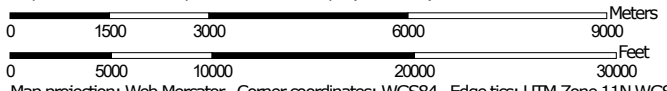
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:114,000 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Boundary County Area, Idaho
 Survey Area Data: Version 14, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 15, 2010—Mar 3, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
103	Artnoc silt loam, 35 to 75 percent slopes	0.8	0.7%
110	Crash silt loam, 35 to 75 percent slopes	2.0	1.6%
114	Dufort ashy silt loam, 35 to 65 percent slopes	13.8	10.8%
126	Idamont ashy silt loam, 15 to 35 percent slopes	16.1	12.5%
165	Rubson ashy silt loam, 0 to 2 percent slopes	4.0	3.1%
166	Rubson ashy silt loam, 2 to 8 percent slopes	33.8	26.4%
167	Rubson ashy silt loam, 8 to 15 percent slopes	4.5	3.5%
171	Seelovers silt loam, 0 to 2 percent slopes	5.3	4.2%
174	Selle ashy fine sandy loam, 0 to 7 percent slopes	2.9	2.2%
175	Selle-Elmira complex, 0 to 20 percent slopes	10.1	7.9%
179	Stien gravelly ashy silt loam, 2 to 8 percent slopes	5.1	3.9%
184	Treble, very bouldery-Rock outcrop complex, 35 to 65 percent slopes	19.8	15.5%
189	Flemingcreek silt loam, 35 to 65 percent slopes	6.9	5.3%
191	Dufort-Rock outcrop-Kriest complex, 15 to 35 percent slopes	3.0	2.4%
Totals for Area of Interest		128.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some

Custom Soil Resource Report

observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The

Custom Soil Resource Report

pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Boundary County Area, Idaho

103—Artnoc silt loam, 35 to 75 percent slopes

Map Unit Setting

National map unit symbol: 540b
Elevation: 1,800 to 2,700 feet
Mean annual precipitation: 25 to 30 inches
Mean annual air temperature: 43 to 45 degrees F
Frost-free period: 90 to 120 days
Farmland classification: Not prime farmland

Map Unit Composition

Artnoc and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Artnoc

Setting

Landform: Escarpments
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Silty glaciolacustrine deposits

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material
O_e - 1 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: silt loam
AB - 4 to 8 inches: silt loam
B_{t1} - 8 to 18 inches: silt loam
B_{t2} - 18 to 33 inches: silt loam
C - 33 to 60 inches: silt loam

Properties and qualities

Slope: 35 to 75 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (K_{sat}): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Available water storage in profile: Very high (about 12.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: C
Other vegetative classification: western redcedar/queencup beadrilly (CN530)
Hydric soil rating: No

110—Crash silt loam, 35 to 75 percent slopes

Map Unit Setting

National map unit symbol: 540k
Elevation: 1,800 to 2,700 feet
Mean annual precipitation: 25 to 30 inches
Mean annual air temperature: 42 to 44 degrees F
Frost-free period: 80 to 110 days
Farmland classification: Not prime farmland

Map Unit Composition

Crash and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crash

Setting

Landform: Escarpments
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous silty glaciolacustrine deposits

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material
O_e - 1 to 2 inches: moderately decomposed plant material
A₁ - 2 to 3 inches: silt loam
A₂ - 3 to 5 inches: silt loam
AB - 5 to 9 inches: silt loam
B_{t1} - 9 to 13 inches: silt loam
B_{t2} - 13 to 20 inches: silt loam
B_{t3} - 20 to 29 inches: silt loam
B_k - 29 to 60 inches: silt loam

Properties and qualities

Slope: 35 to 75 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (K_{sat}): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 25 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 12.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: C

Other vegetative classification: western hemlock/queencup beadlily (CN570)
Hydric soil rating: No

114—Dufort ashy silt loam, 35 to 65 percent slopes

Map Unit Setting

National map unit symbol: 540n
Elevation: 2,400 to 3,800 feet
Mean annual precipitation: 30 to 35 inches
Mean annual air temperature: 44 to 46 degrees F
Frost-free period: 90 to 120 days
Farmland classification: Not prime farmland

Map Unit Composition

Dufort and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dufort

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank, side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Volcanic ash and/or loess over till derived from granite and/or gneiss and/or schist

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material
O_e - 1 to 2 inches: moderately decomposed plant material
A - 2 to 3 inches: ashy silt loam
Bw₁ - 3 to 9 inches: ashy silt loam
Bw₂ - 9 to 18 inches: gravelly ashy silt loam
2Bt₁ - 18 to 25 inches: very gravelly sandy loam
2Bt₂ - 25 to 36 inches: extremely cobbly sandy loam
2Bt₃ - 36 to 47 inches: extremely cobbly sandy loam
2Bt₄ - 47 to 52 inches: very gravelly fine sandy loam
2C - 52 to 60 inches: extremely bouldery sandy loam

Properties and qualities

Slope: 35 to 65 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (K_{sat}): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: B
Other vegetative classification: grand fir/ninebark (CN506)
Hydric soil rating: No

126—Idamont ashy silt loam, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: 5410
Elevation: 2,400 to 4,900 feet
Mean annual precipitation: 30 to 45 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 80 to 110 days
Farmland classification: Not prime farmland

Map Unit Composition

Idamont and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Idamont

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Volcanic ash over till derived from granite and/or gneiss and/or schist

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material
O_e - 1 to 3 inches: moderately decomposed plant material
A - 3 to 4 inches: ashy silt loam
Bw₁ - 4 to 10 inches: ashy silt loam
Bw₂ - 10 to 21 inches: ashy silt loam
2Bw₃ - 21 to 31 inches: gravelly loam
2Bt - 31 to 55 inches: gravelly sandy loam
3C - 55 to 60 inches: extremely cobbly sandy loam

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (K_{sat}): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Custom Soil Resource Report

Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Other vegetative classification: western redcedar/queencup beadlily (CN530)

Hydric soil rating: No

165—Rubson ashy silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 541z

Elevation: 2,100 to 2,700 feet

Mean annual precipitation: 25 to 30 inches

Mean annual air temperature: 42 to 45 degrees F

Frost-free period: 100 to 135 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Rubson and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rubson

Setting

Landform: Terraces

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Volcanic ash and/or loess over glaciolacustrine deposits

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

Oe - 2 to 3 inches: moderately decomposed plant material

A - 3 to 5 inches: ashy silt loam

Bw1 - 5 to 11 inches: ashy silt loam

Bw2 - 11 to 17 inches: ashy silt loam

Bt1 - 17 to 26 inches: silt loam

Bt2 - 26 to 32 inches: silt loam

Bt3 - 32 to 35 inches: silt loam

Bt4 - 35 to 53 inches: very fine sandy loam

Bt5 - 53 to 58 inches: very fine sandy loam

C - 58 to 68 inches: loamy very fine sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Custom Soil Resource Report

Frequency of ponding: None

Available water storage in profile: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Other vegetative classification: western hemlock/queencup beadlily (CN570)

Hydric soil rating: No

166—Rubson ashy silt loam, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2x1zn

Elevation: 1,740 to 2,720 feet

Mean annual precipitation: 23 to 30 inches

Mean annual air temperature: 45 to 46 degrees F

Frost-free period: 105 to 130 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Rubson and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rubson

Setting

Landform: Terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed volcanic ash, loess and glaciolacustrine deposits

Typical profile

O_i - 0 to 2 inches: slightly decomposed plant material

O_e - 2 to 3 inches: moderately decomposed plant material

A - 3 to 5 inches: ashy silt loam

B_w - 5 to 17 inches: ashy silt loam

B_{t1} - 17 to 35 inches: silt loam

B_{t2} - 35 to 58 inches: very fine sandy loam

C - 58 to 68 inches: loamy very fine sand

Properties and qualities

Slope: 2 to 8 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (K_{sat}): Moderately high to high (1.42 to 7.09 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Other vegetative classification: western hemlock/queencup beadlily (CN570)
Hydric soil rating: No

167—Rubson ashy silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 5421
Elevation: 2,100 to 2,700 feet
Mean annual precipitation: 25 to 30 inches
Mean annual air temperature: 42 to 45 degrees F
Frost-free period: 100 to 135 days
Farmland classification: Not prime farmland

Map Unit Composition

Rubson and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rubson

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Volcanic ash and/or loess over glaciolacustrine deposits

Typical profile

O_i - 0 to 2 inches: slightly decomposed plant material
O_e - 2 to 3 inches: moderately decomposed plant material
A - 3 to 5 inches: ashy silt loam
B_{w1} - 5 to 11 inches: ashy silt loam
B_{w2} - 11 to 17 inches: ashy silt loam
B_{t1} - 17 to 26 inches: silt loam
B_{t2} - 26 to 32 inches: silt loam
B_{t3} - 32 to 35 inches: silt loam
B_{t4} - 35 to 53 inches: very fine sandy loam
B_{t5} - 53 to 58 inches: very fine sandy loam
C - 58 to 68 inches: loamy very fine sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (K_{sat}): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Custom Soil Resource Report

Available water storage in profile: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Other vegetative classification: western hemlock/queencup beadlily (CN570)

Hydric soil rating: No

171—Seelovers silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5425

Elevation: 1,750 to 3,000 feet

Mean annual precipitation: 23 to 30 inches

Mean annual air temperature: 42 to 46 degrees F

Frost-free period: 80 to 120 days

Farmland classification: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Seelovers and similar soils: 85 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Seelovers

Setting

Landform: Valley floors, flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed fine-silty alluvium

Typical profile

A1 - 0 to 6 inches: silt loam

A2 - 6 to 12 inches: silt loam

Bg1 - 12 to 17 inches: silt loam

Bg2 - 17 to 29 inches: silt loam

Cg - 29 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: About 0 to 18 inches

Frequency of flooding: Frequent

Frequency of ponding: None

Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 6e

Custom Soil Resource Report

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: C/D

Other vegetative classification: western redcedar/devil's club (CN550)

Hydric soil rating: Yes

Minor Components

Typic fluvaquents

Percent of map unit: 5 percent

Landform: Flood plains, valley floors

Down-slope shape: Linear

Across-slope shape: Concave

Other vegetative classification: western redcedar/devil's club (CN550)

Hydric soil rating: Yes

Devoignes

Percent of map unit: 3 percent

Landform: Flood plains, drainageways

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Pywell

Percent of map unit: 2 percent

Landform: Drainageways, depressions, flood plains

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

174—Selle ashy fine sandy loam, 0 to 7 percent slopes

Map Unit Setting

National map unit symbol: 5427

Elevation: 2,000 to 2,500 feet

Mean annual precipitation: 25 to 30 inches

Mean annual air temperature: 43 to 45 degrees F

Frost-free period: 100 to 130 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Selle and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Selle

Setting

Landform: Terraces

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Volcanic ash and/or loess over sandy glaciolacustrine deposits

Custom Soil Resource Report

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material
O_e - 1 to 2 inches: moderately decomposed plant material
A - 2 to 3 inches: ashy fine sandy loam
Bw₁ - 3 to 6 inches: ashy fine sandy loam
Bw₂ - 6 to 17 inches: ashy fine sandy loam
Bw₃ - 17 to 33 inches: loamy fine sand
E&Bt - 33 to 42 inches: fine sand
C - 42 to 60 inches: fine sand

Properties and qualities

Slope: 0 to 7 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (K_{sat}): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Other vegetative classification: western redcedar/queencup beadlily (CN530)
Hydric soil rating: No

175—Selle-Elmira complex, 0 to 20 percent slopes

Map Unit Setting

National map unit symbol: 2x6t5
Elevation: 1,970 to 2,530 feet
Mean annual precipitation: 25 to 30 inches
Mean annual air temperature: 43 to 45 degrees F
Frost-free period: 110 to 140 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Selle and similar soils: 50 percent
Elmira and similar soils: 35 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Selle

Setting

Landform: Dunes
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear

Custom Soil Resource Report

Parent material: Volcanic ash and/or loess over sandy glaciolacustrine deposits

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 6 inches: ashy fine sandy loam

Bw - 6 to 21 inches: fine sandy loam

E/Bt - 21 to 61 inches: loamy fine sand

Properties and qualities

Slope: 0 to 5 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 7.09 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: A

Other vegetative classification: western redcedar/queencup beadlily (CN530)

Hydric soil rating: No

Description of Elmira

Setting

Landform: Dunes

Landform position (two-dimensional): Backslope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Very minor amounts of volcanic ash and/or loess over sandy glaciolacustrine deposits

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

A - 2 to 5 inches: loamy sand

Bw - 5 to 26 inches: loamy sand

E and Bt - 26 to 60 inches: sand

Properties and qualities

Slope: 3 to 20 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Excessively drained

Capacity of the most limiting layer to transmit water (Ksat): High to very high (7.09 to 42.51 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: A

Custom Soil Resource Report

Ecological site: Warm-Frigid, Xeric, Loamy Slopes, low AWC subsoils (Douglas Fir/Warm Dry Shrub) *Pseudotsuga menziesii* / *Physocarpus malvaceus* - *Symphoricarpos albus* (F043AY519WA)
Other vegetative classification: Douglas-fir/common snowberry (CN310)
Hydric soil rating: No

Minor Components

Pywell, somewhat poorly drained

Percent of map unit: 1 percent
Landform: Flood plains, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: WET MEADOW 16-24 PZ (R044XY601WA)
Hydric soil rating: Yes

179—Stien gravelly ashy silt loam, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: 542d
Elevation: 1,800 to 2,800 feet
Mean annual precipitation: 25 to 30 inches
Mean annual air temperature: 42 to 45 degrees F
Frost-free period: 90 to 110 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Stien and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Stien

Setting

Landform: Outwash terraces, lateral moraines
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Volcanic ash over drift and/or outwash

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
Oe - 1 to 2 inches: moderately decomposed plant material
A - 2 to 3 inches: gravelly ashy silt loam
Bw1 - 3 to 6 inches: gravelly ashy silt loam
Bw2 - 6 to 17 inches: extremely gravelly ashy silt loam
2BC - 17 to 27 inches: extremely cobbly sandy loam
3C - 27 to 60 inches: extremely cobbly coarse sand

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: More than 80 inches

Custom Soil Resource Report

Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: Warm-Frigid, Xeric, Loamy Slopes, low AWC subsoils (Douglas Fir/Warm Dry Shrub) *Pseudotsuga menziesii* / *Physocarpus malvaceus* - *Symphoricarpos albus* (F043AY519WA)
Other vegetative classification: Douglas-fir/common snowberry (CN310)
Hydric soil rating: No

184—Treble, very bouldery-Rock outcrop complex, 35 to 65 percent slopes

Map Unit Setting

National map unit symbol: 542k
Elevation: 1,800 to 3,800 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 90 to 120 days
Farmland classification: Not prime farmland

Map Unit Composition

Treble, very bouldery surface, and similar soils: 55 percent
Rock outcrop: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Treble, Very Bouldery Surface

Setting

Landform: Mountains, escarpments
Landform position (two-dimensional): Backslope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Volcanic ash and loess over till derived from gneiss and/or granite and/or schist

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
Oe - 1 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: gravelly ashy sandy loam
Bw1 - 4 to 8 inches: gravelly ashy sandy loam
Bw2 - 8 to 14 inches: gravelly ashy sandy loam
Bt1 - 14 to 24 inches: very gravelly sandy loam

Custom Soil Resource Report

Bt2 - 24 to 34 inches: very gravelly sandy loam

Bt3 - 34 to 60 inches: very gravelly sandy loam

Properties and qualities

Slope: 35 to 65 percent

Percent of area covered with surface fragments: 1.5 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Ecological site: Warm-Frigid, Xeric, Loamy Slopes, low AWC subsoils (Douglas Fir/Warm Dry Shrub) *Pseudotsuga menziesii* / *Physocarpus malvaceus* - *Symphoricarpos albus* (F043AY519WA)

Other vegetative classification: Douglas-fir/ninebark (CN260)

Hydric soil rating: No

Description of Rock Outcrop

Typical profile

R - 0 to 60 inches: bedrock

Properties and qualities

Slope: 35 to 65 percent

Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydric soil rating: Unranked

189—Flemingcreek silt loam, 35 to 65 percent slopes

Map Unit Setting

National map unit symbol: 5435

Elevation: 1,800 to 2,400 feet

Mean annual precipitation: 25 to 30 inches

Mean annual air temperature: 43 to 45 degrees F

Frost-free period: 100 to 130 days

Farmland classification: Not prime farmland

Map Unit Composition

Flemingcreek and similar soils: 85 percent

Custom Soil Resource Report

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Flemingcreek

Setting

Landform: Escarpments
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Glaciolacustrine deposits

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material
O_e - 1 to 2 inches: moderately decomposed plant material
A - 2 to 3 inches: silt loam
BA - 3 to 11 inches: silt loam
Bt₁ - 11 to 18 inches: silty clay loam
Bt₂ - 18 to 32 inches: silty clay loam
Bk₁ - 32 to 48 inches: silt loam
Bk₂ - 48 to 60 inches: silt loam

Properties and qualities

Slope: 35 to 65 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (K_{sat}): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 12.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Other vegetative classification: grand fir/twinflower (CN590)
Hydric soil rating: No

191—Dufort-Rock outcrop-Kriest complex, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: 5436
Elevation: 1,800 to 3,600 feet
Mean annual precipitation: 25 to 30 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 90 to 120 days
Farmland classification: Not prime farmland

Custom Soil Resource Report

Map Unit Composition

Dufort and similar soils: 45 percent

Rock outcrop: 25 percent

Kriest and similar soils: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dufort

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank, side slope

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Volcanic ash and/or loess over till derived from granite and/or gneiss and/or schist

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material

O_e - 1 to 2 inches: moderately decomposed plant material

A - 2 to 3 inches: ashy silt loam

B_{w1} - 3 to 9 inches: ashy silt loam

B_{w2} - 9 to 18 inches: gravelly ashy silt loam

2B_{t1} - 18 to 25 inches: very gravelly sandy loam

2B_{t2} - 25 to 36 inches: extremely cobbly sandy loam

2B_{t3} - 36 to 47 inches: extremely cobbly sandy loam

2B_{t4} - 47 to 52 inches: very gravelly fine sandy loam

2C - 52 to 60 inches: extremely bouldery sandy loam

Properties and qualities

Slope: 15 to 35 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (K_{sat}): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Other vegetative classification: grand fir/ninebark (CN506)

Hydric soil rating: No

Description of Rock Outcrop

Typical profile

R - 0 to 60 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent

Depth to restrictive feature: 0 inches to lithic bedrock

Custom Soil Resource Report

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydric soil rating: No

Description of Kriest

Setting

Landform: Mountains, ridges

Landform position (two-dimensional): Backslope

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Volcanic ash and loess over till over residuum weathered from granite and/or schist and/or gneiss

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

Oe - 1 to 2 inches: moderately decomposed plant material

A - 2 to 4 inches: gravelly ashy sandy loam

Bw1 - 4 to 8 inches: gravelly ashy sandy loam

Bw2 - 8 to 18 inches: gravelly ashy sandy loam

Bt1 - 18 to 27 inches: gravelly sandy loam

Bt2 - 27 to 34 inches: gravelly sandy loam

BC - 34 to 43 inches: gravelly loamy sand

2Cr - 43 to 53 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent

Depth to restrictive feature: 40 to 60 inches to paralithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: A

Other vegetative classification: grand fir/ninebark (CN506)

Hydric soil rating: No

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

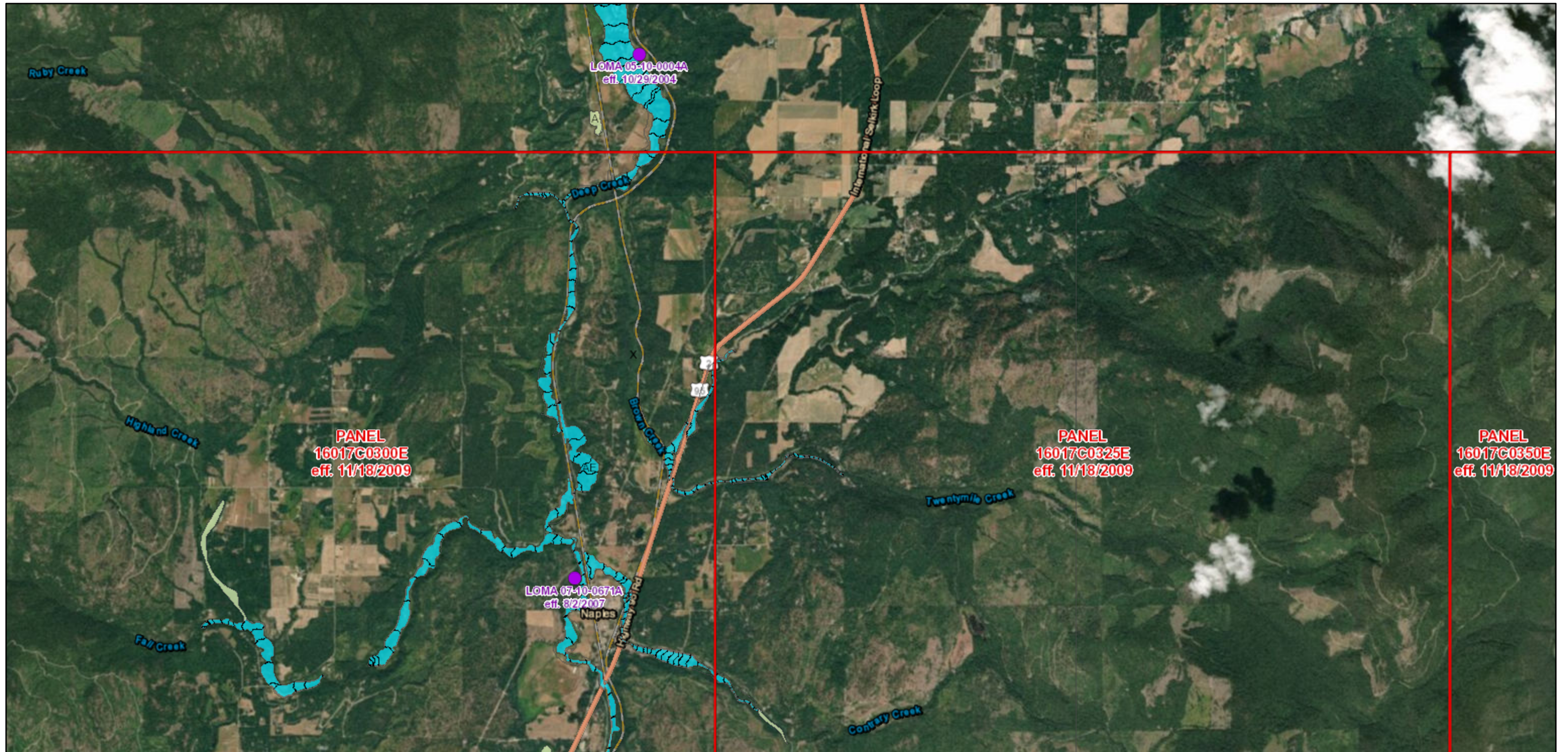
Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624






United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf



Flood Hazard Map-Middle






6/10/2019, 11:04:44 AM





Flood Hazard Zones

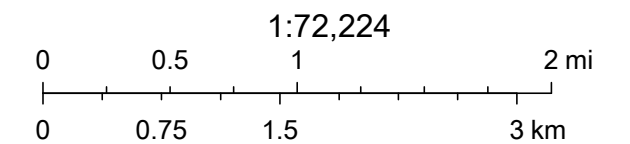
-  1% Annual Chance Flood Hazard
-  Regulatory Floodway
-  Special Floodway
-  Area of Undetermined Flood Hazard
-  0.2% Annual Chance Flood Hazard

-  Future Conditions 1% Annual Chance Flood Hazard
-  Area with Reduced Risk Due to Levee

Special Flood Hazard Area

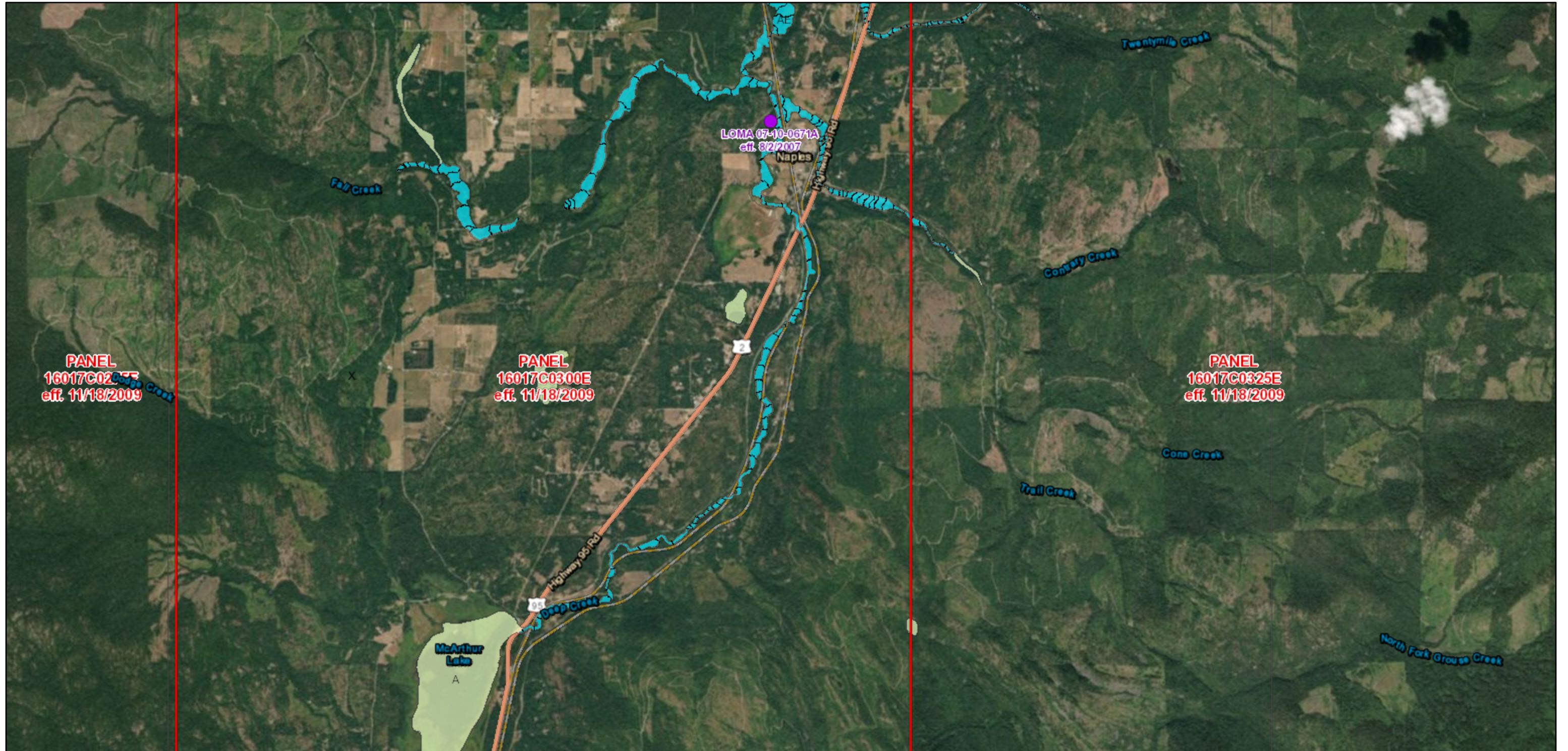
-  Zone A
-  Zone AE
-  Zone AH

-  Zone AO
-  Zone D (Unknown)
-  X
-  Base Flood Elevation (Merged)



Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and

Flood Hazard Map-South



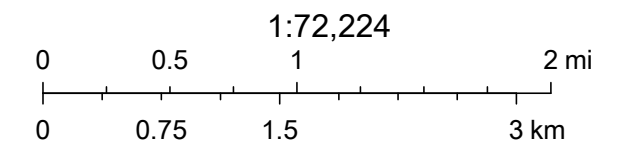
6/10/2019, 10:53:54 AM

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard

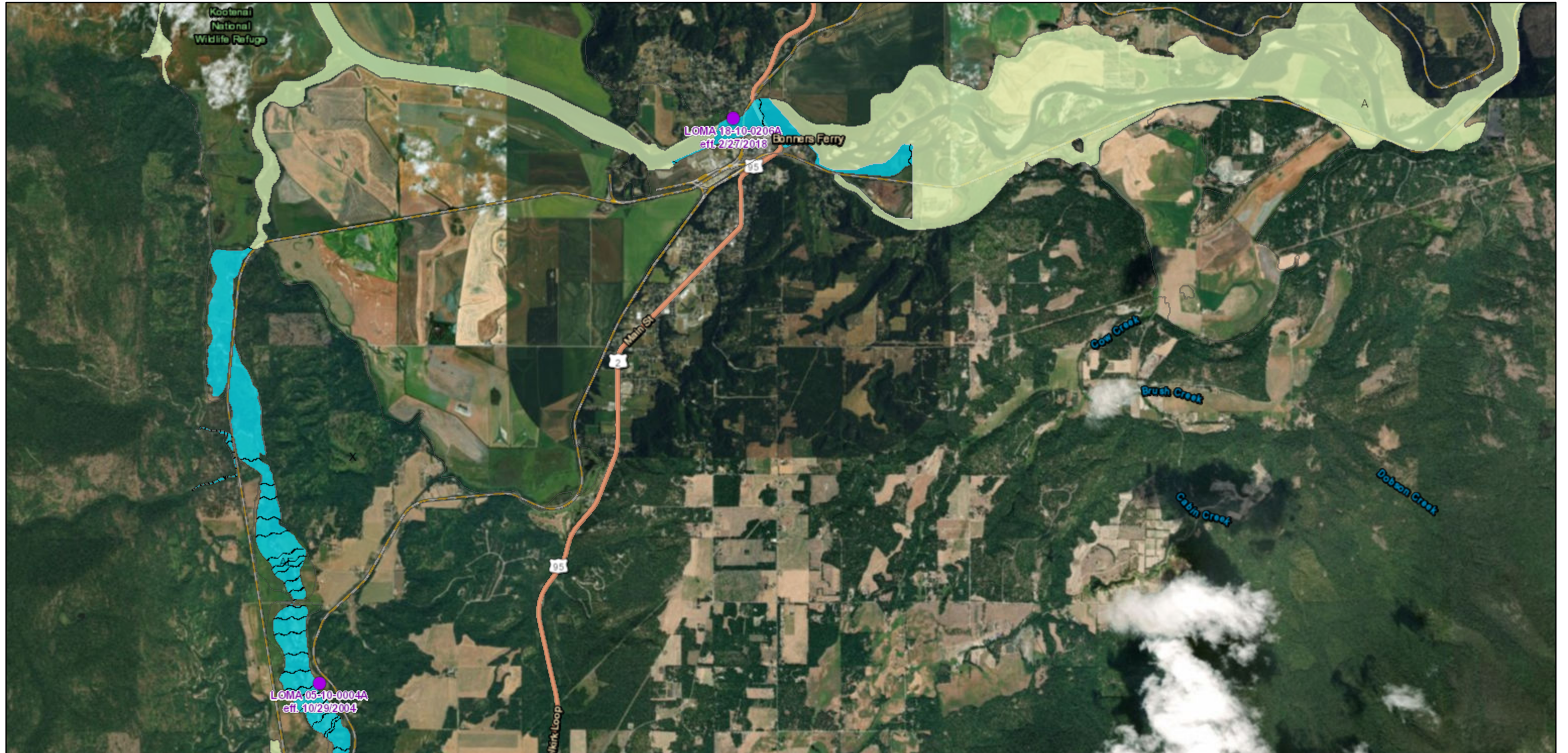
- Future Conditions 1% Annual Chance Flood Hazard
 - Area with Reduced Risk Due to Levee
- ### Special Flood Hazard Area
- Zone A
 - Zone AE
 - Zone AH

- Zone AO
- Zone D (Unknown)
- X
- Base Flood Elevation (Merged)



Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and

Flood Hazard Map-Upper



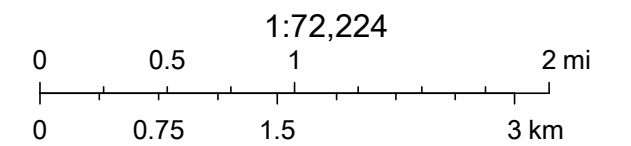
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Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard

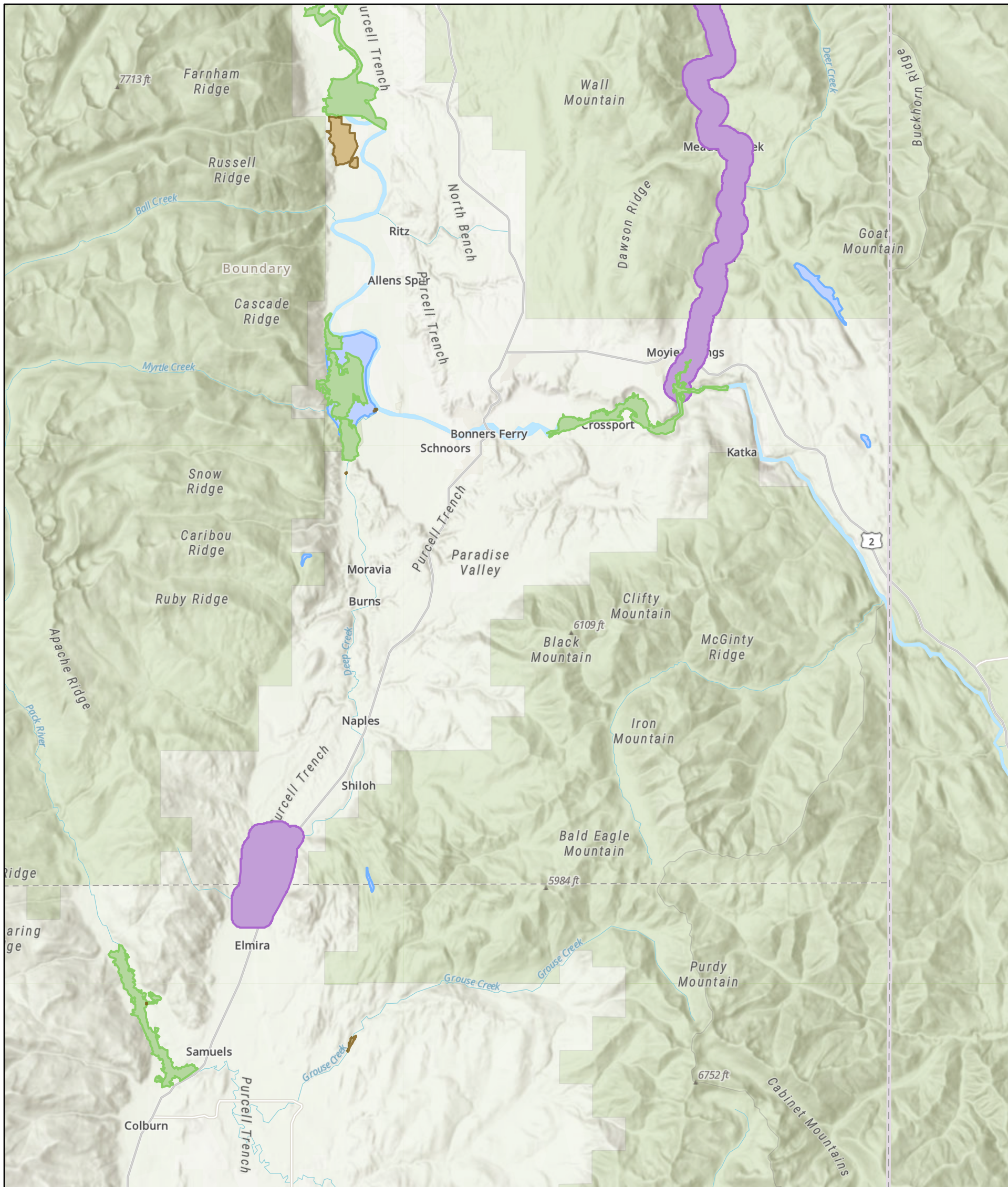
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Special Flood Hazard Area**
- Zone A
- Zone AE
- Zone AH

- Zone AO
- Zone D (Unknown)
- X
- Base Flood Elevation (Merged)



Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and

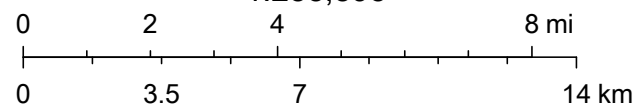
Wetlands



6/10/2019, 12:37:33 PM

- Wetland Assessment Areas
- Wetland Prioritization SCORTP 2012 (Top 60)
- Wetland Prioritization SCORTP 2005 (Top 25)
- Wetland Prioritization SCORTP 1998

1:288,895



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community
Idaho Fish and Game



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Idaho Fish And Wildlife Office
1387 South Vinnell Way, Suite 368
Boise, ID 83709-1657
Phone: (208) 378-5243 Fax: (208) 378-5262

In Reply Refer To:

April 30, 2020

Consultation Code: 01EIFW00-2020-SLI-0915

Event Code: 01EIFW00-2020-E-02089

Project Name: Cabinet Mountains Water District Water System Improvements

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (<https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf>). Additionally, wind energy projects should follow the wind energy guidelines (<https://www.fws.gov/ecologica-servces/energy-development/wind/html>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/communication-towers.php>.

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 Tracking Number 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:

Idaho Fish And Wildlife Office
1387 South Vinnell Way, Suite 368
Boise, ID 83709-1657
(208) 378-5243

Project Summary

Consultation Code: 01EIFW00-2020-SLI-0915

Event Code: 01EIFW00-2020-E-02089

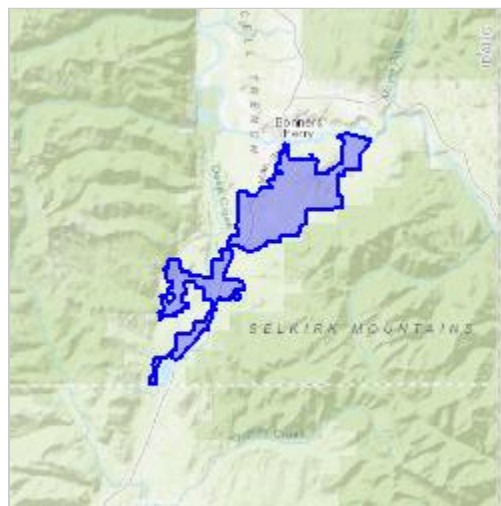
Project Name: Cabinet Mountains Water District Water System Improvements

Project Type: WATER SUPPLY / DELIVERY

Project Description: This project is located in Boundary County, ID, south of the Kootenai River extending almost as far south as the Bonner County Line, adjacent to the McArthur Reservoir . The project involves the addition of the following water system improvements to the Cabinet Mountains Water District (CMWD): One (1) new well, three (3) new water storage tanks, two (2) new booster pump stations, two (2) replacement booster pump stations, one (1) completion of an existing booster pump station, and upgrades to one (1) pressure reducing valve (PRV) station. The proposed improvements are located throughout the CMWD boundary in various locations with areas of potential effect (APE) ranging anywhere from 0 acres to 90 acres. It is anticipated that construction of these water system improvements will begin in the summer of 2021.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/48.601521500000004N116.38547422624102W>



Counties: Bonner, ID | Boundary, ID

Endangered Species Act Species

There is a total of 5 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 Fisheries¹, 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.

-
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
Canada Lynx <i>Lynx canadensis</i> Population: Wherever Found in Contiguous U.S. There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened
Grizzly Bear <i>Ursus arctos horribilis</i> Population: U.S.A., conterminous (lower 48) States, except where listed as an experimental population There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7642	Threatened
North American Wolverine <i>Gulo gulo luscus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

Fishes

NAME	STATUS
Bull Trout <i>Salvelinus confluentus</i> Population: U.S.A., conterminous, lower 48 states There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8212	Threatened

Conifers and Cycads

NAME	STATUS
Whitebark Pine <i>Pinus albicaulis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1748	Candidate

Critical habitats

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

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.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

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
<p>Bald Eagle <i>Haliaeetus leucocephalus</i></p> <p>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.</p> <p>https://ecos.fws.gov/ecp/species/1626</p>	<p>Breeds Jan 1 to Aug 31</p>
<p>Cassin's Finch <i>Carpodacus cassinii</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9462</p>	<p>Breeds May 15 to Jul 15</p>

NAME	BREEDING SEASON
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. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Olive-sided Flycatcher <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Rufous Hummingbird <i>selasphorus rufus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15

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 (|)

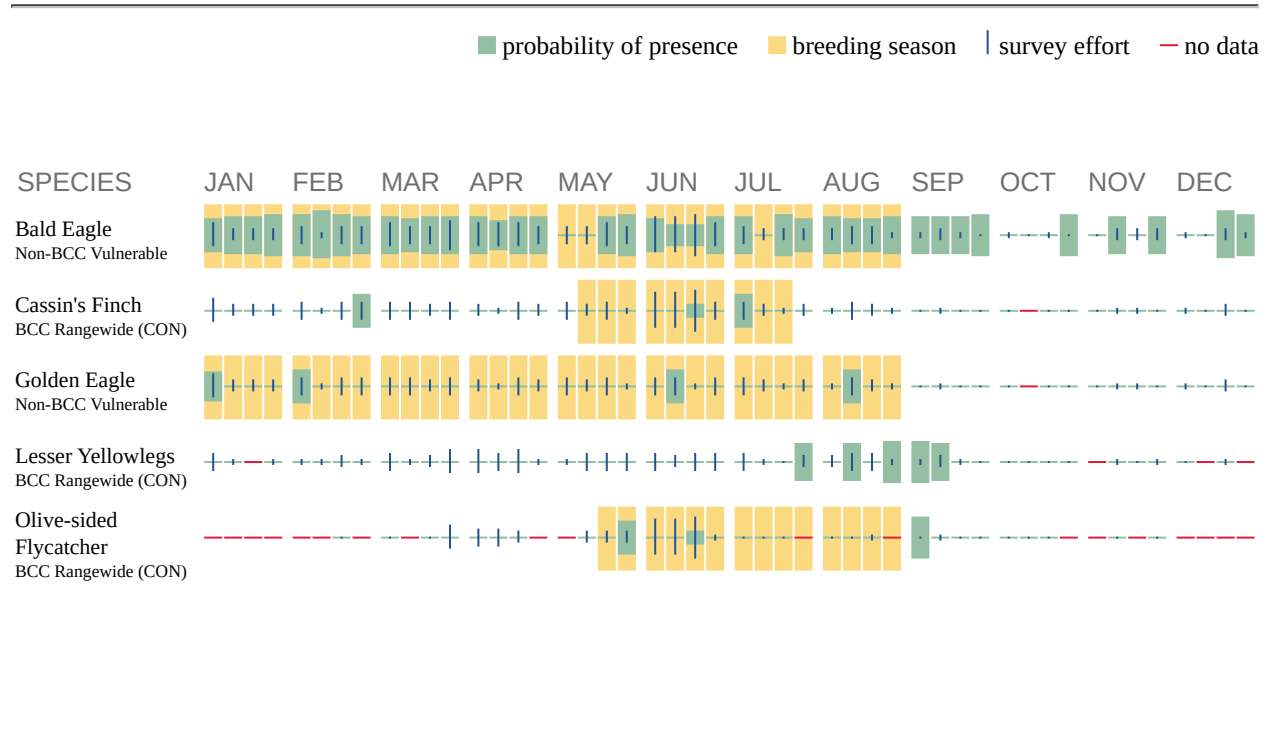
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

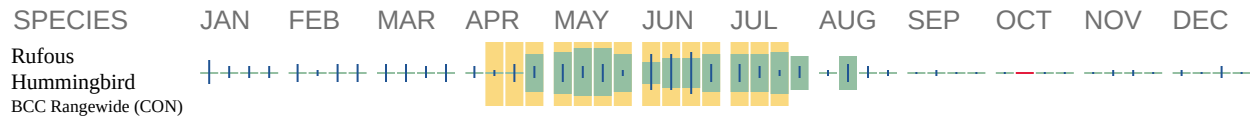
No Data (—)

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

Survey Timeframe

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 <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.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](#) and/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 migratory birds potentially occurring 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 [AKN Phenology 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 to 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, migrating or present year-round in my project 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 refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). 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

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.

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.

FRESHWATER POND

- [Palustrine](#)

RIVERINE

- [Riverine](#)
-



U.S. Fish & Wildlife Service

ECOS
[ECOS](#) / [Species Reports](#) / [Species By County Report](#)

Species By County Report

The following report contains Species that are known to or are believed to occur in this county. Species with range unrefined past the state level are now excluded from this report. If you are looking for the Section 7 range (for Section 7 Consultations), please visit the [IPaC](#) application.

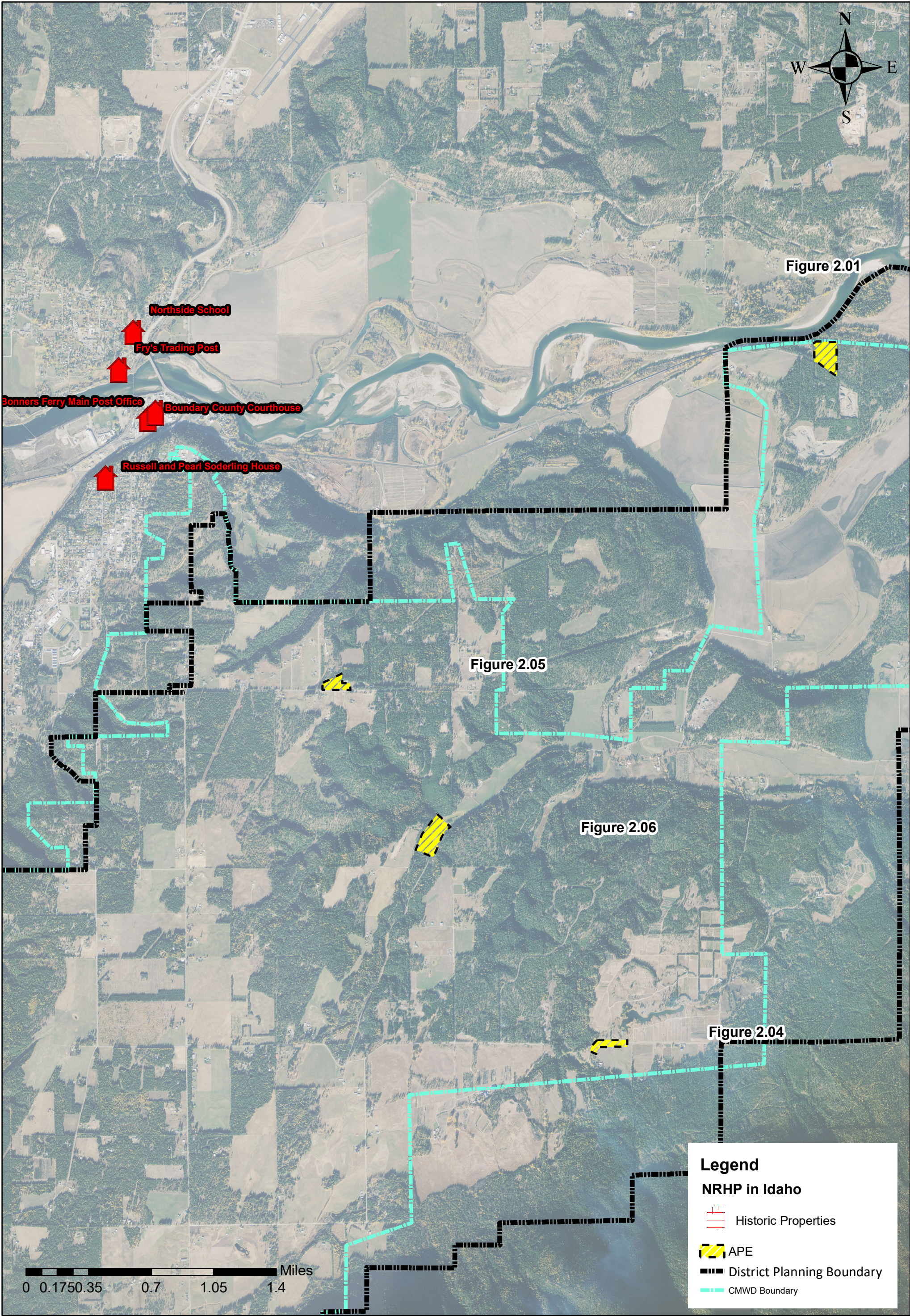
County: Boundary, Idaho

CSV





Need to contact a FWS field office about a species? Follow [this link](#) to find your local FWS Office.

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status	Recovery Plan Stage
Conifers and Cycads	Whitebark pine (<i>Pinus albicaulis</i>)	Wherever found	Candidate	Wyoming Ecological Services Field Office			
Fishes	Bull Trout (<i>Salvelinus confluentus</i>)	U.S.A., conterminous, lower 48 states	Threatened	Idaho Fish and Wildlife Office	Recovery Plan for the Coterminous United States Population of Bull Trout (Salvelinus confluentus)	Implementation Progress	Final
Fishes	White sturgeon (<i>Acipenser transmontanus</i>)	U.S.A. (ID, MT), Canada (B.C.), Kootenai R. system	Endangered	Idaho Fish and Wildlife Office	Revised Recovery Plan for the Kootenai River Distinct Population Segment of the White Sturgeon	Implementation Progress	Final Revision 1
Mammals	Grizzly bear (<i>Ursus arctos horribilis</i>)	U.S.A., conterminous (lower 48) States, except where listed as an experimental population	Threatened	Montana Ecological Services Field Office	Revised Grizzly Bear Recovery Plan	Implementation Progress	Final Revision 1


Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status	Recovery Plan Stage
Mammals	Grizzly bear (<i>Ursus arctos horribilis</i>)	Cabinet-Yaak Recovery Zone Population	Under Review	Montana Ecological Services Field Office			
Mammals	Gray wolf (<i>Canis lupus</i>)	Northern Rocky Mountain DPS	Recovery	Office of the Regional Director			
Mammals	Canada Lynx (<i>Lynx canadensis</i>)	Wherever Found in Contiguous U.S.	Threatened	Montana Ecological Services Field Office	<u>4(f)(1) Determination Regarding Recovery Planning for the Canada Lynx (<i>Lynx canadensis</i>)</u>	Recovery efforts in progress, but no implementation information yet to display.	Exempt
Mammals	Woodland Caribou (<i>Rangifer tarandus caribou</i>)	Selkirk Mountain population	Endangered	Idaho Fish and Wildlife Office			
Mammals	North American wolverine (<i>Gulo gulo luscus</i>)	Wherever found	Proposed Threatened	Montana Ecological Services Field Office			

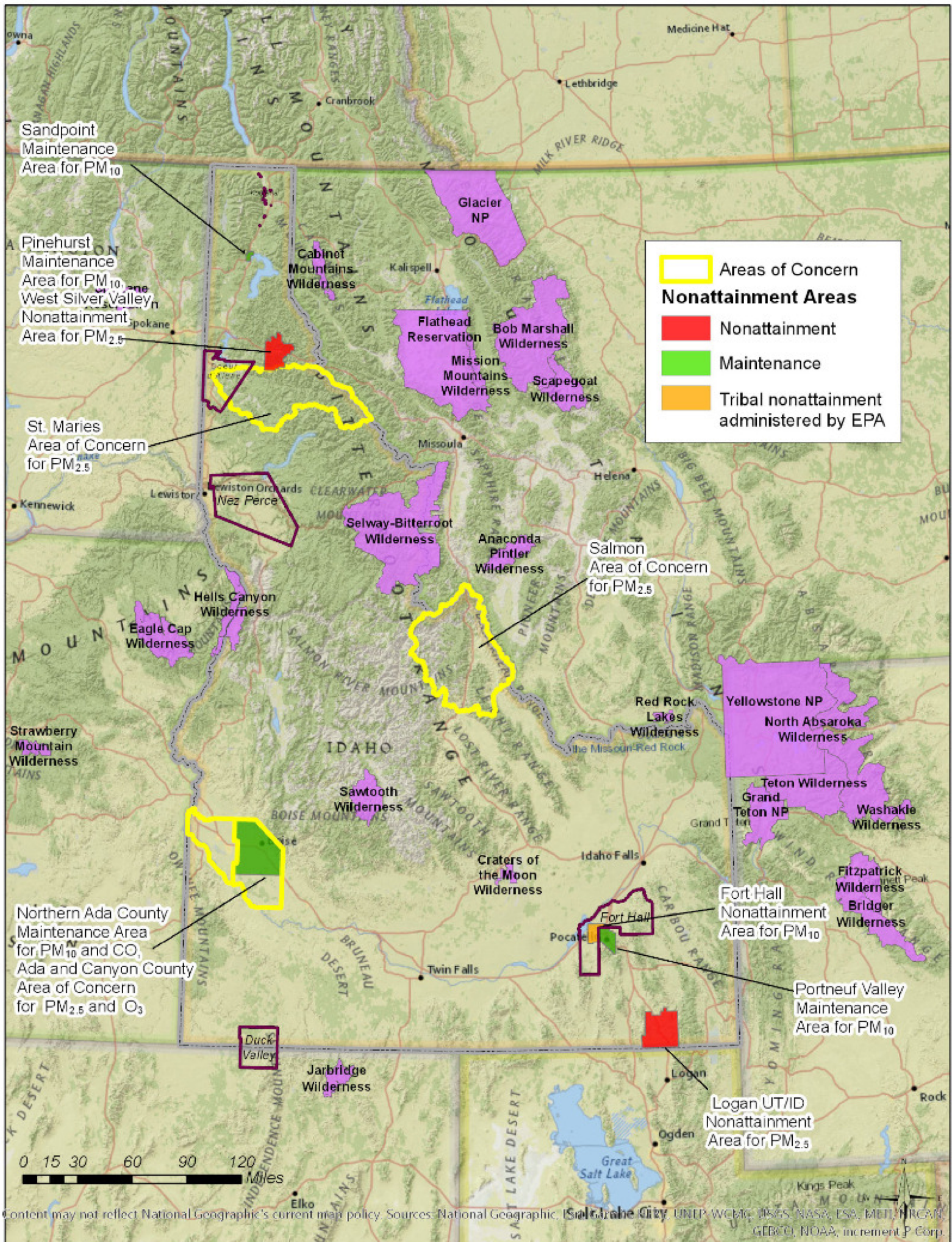


IDAHO - Boundary County

	<p>Boundary County Courthouse (added 1987 - - #87001581) Also known as 001316 Kootenai St. , Bonners Ferry</p>
	<p>Historic Significance: Event, Architecture/Engineering Architect, builder, or engineer: Martin,Fletcher Architectural Style: Art Deco Area of Significance: Politics/Government, Art, Architecture Period of Significance: 1925-1949 Owner: Local Historic Function: Government Historic Sub-function: Courthouse Current Function: Government Current Sub-function: Courthouse</p>
	<p>Fry's Trading Post (added 1984 - - #84001104) Also known as Bonner-Fry Trading Post Off US 95 , Bonners Ferry</p>
	<p>Historic Significance: Event Area of Significance: Commerce Period of Significance: 1900-1924, 1875-1899 Owner: Private Historic Function: Commerce/Trade Historic Sub-function: Specialty Store Current Function: Vacant/Not In Use</p>
	<p>Harvey Mountain Quarry (added 1978 - - #78001053) Address Restricted , Bonners Ferry</p>
	<p>Historic Significance: Information Potential Area of Significance: Historic - Aboriginal, Prehistoric Cultural Affiliation: Native American Period of Significance: 5000-6999 BC, 3000-4999 BC, 1800-1824, 1750-1799, 1749-1500 AD, 1700-1749, 1499-1000 AD, 1000-2999 BC, 1000 AD-999 BC Owner: Federal Historic Function: Industry/Processing/Extraction Historic Sub-function: Extractive Facility Current Function: Landscape Current Sub-function: Unoccupied Land</p>
	<p>North Side School (added 1992 - - #92000417) Also known as Burkholder,Jim and Ruth,House;006259 218 W. Commanche , Bonners Ferry</p>
	<p>Historic Significance: Architecture/Engineering, Event Architect, builder, or engineer: Cox,J.G., Keith & Whitehouse</p>

	<p>Architectural Style: Classical Revival Area of Significance: Education, Architecture Period of Significance: 1925-1949, 1900-1924 Owner: Private Historic Function: Education Historic Sub-function: School Current Function: Work In Progress</p>
	<p>Snyder Guard Station Historical District (added 1983 - - #83000283) Also known as Snyder Guard Station S of Eastport on Forest Service Rd. 211 , Eastport</p>
	<p>Historic Significance: Architecture/Engineering, Event Architectural Style: No Style Listed Area of Significance: Conservation, Architecture Period of Significance: 1950-1974, 1925-1949, 1900-1924 Owner: Federal Historic Function: Domestic, Landscape Historic Sub-function: Camp, Conservation Area, Secondary Structure Current Function: Domestic, Landscape Current Sub-function: Camp, Conservation Area, Secondary Structure</p>
	<p>Soderling, Russell and Pearl, House (added 1998 - - #97001650) Also known as 21-17876 217 W. Madison St. , Bonners Ferry</p>
	<p>Historic Significance: Architecture/Engineering Architect, builder, or engineer: Solderling, Russell Architectural Style: Other Area of Significance: Architecture Period of Significance: 1925-1949 Owner: Private Historic Function: Domestic Historic Sub-function: Single Dwelling Current Function: Domestic Current Sub-function: Single Dwelling</p>
	<p>Spokane & International Railroad Construction Camp (added 1994 - - #94000630) Also known as Chinese Ovens site;10-BY-372;IHSI 21-15699 E of US 95 along the Spokane & International RR tracks, 2 mi. S of the US--Canadian border , Eastport</p>
	<p>Historic Significance: Architecture/Engineering, Information Potential Architectural Style: No Style Listed Area of Significance: Historic - Non-Aboriginal, European, Architecture Cultural Affiliation: American Period of Significance: 1900-1924 Owner: Private</p>

	<p>Historic Function: Domestic Historic Sub-function: Institutional Housing Current Function: Vacant/Not In Use</p>
	<p>US Post Office--Bonners Ferry Main (added 1989 - - #89000129) Also known as Bonners Ferry Main Post Office 215 First , Bonners Ferry</p>
	<p>Historic Significance: Architecture/Engineering, Event Architect, builder, or engineer: Simon,Louis A. Architectural Style: Classical Revival Area of Significance: Politics/Government, Architecture Period of Significance: 1925-1949 Owner: Federal Historic Function: Government Historic Sub-function: Post Office Current Function: Government Current Sub-function: Post Office</p>



Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, Garmin, UNEP, WGC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

APPENDIX D

AGENCY CONSULTATION

#	Agency	Recipient on Letter	Phone Number	Email Address	Certified Mail Received	Confirmed Response Date	Tracking Notes	Official Response	Recorded Response in EA?
1	Bureau of Land Management	Kurt Pindel	208.769.5000	blm_id_coeurdaleneoffice@blm.gov	3/24/2020	No Response	4/6/20 - CB left vm for Kurt Pindel at 208.769.5040 (his direct line) Cell: 208.277.4432	No Response	
2	Confederated Salish and Kootenai Tribes	Marcia Pablo	406.675.2700	marciap@ckst.org	3/26/2020	No Response	An email with the letter and APE maps has been sent on 4/6/2020. Original mailing packet returned.	No Response	
3	Department of Environmental Quality	Matthew Plaisted	208.769.1422	matthew.plaisted@deg.idaho.gov	3/23/2020	No Response	4/3/20 - CB spoke with Matthew. He received letter & will return completed comment sheet w/o 4/6/20	No Response	
4	Floodplain Management Agency	Maureen O'Shea	xxx	maureen.oshea@idwr.idaho.gov	3/26/2020	3/26/2020	No follow-up call required - 208.287.4800	No projects exist in a floodplain, therefore no mitigation is required	Updated
5	Idaho Department of Water Resources	Doug Jones	208.762.2800	doug.jones@idwr.idaho.gov	3/23/2020	4/6/2020	4/3/20 - CB left vm for Doug. Spoke with Ed, who said Doug received letter.	"Several project elements dealing with well development and replacement will require Department of Water Resource applications. Elements of the project may entail work that may affect perennial streams with work below the OHWM, thus requiring Int App 404 permitting"	Updated
6	Idaho Fish and Game	To Whom It May Concern	208.769.1414	merit.horsmon@idfg.idaho.gov	3/23/2020	4/7/2020	4/3/20 - CB left vm for Merit Horsmon. 4/6/20 - CB spoke with Merit, who will return info on 4/7/20	The returned comment sheet has checked "Effects, although measurable, would be acceptable."	Updated
7	Idaho State Historic Society	Ashley Brown	xxx	Ashley.Brown@ishs.idaho.gov	3/23/2020	3/25/2020	No follow-up call required	A cultural Resource Survey is Required	Updated
8	Kootenai Tribe of Idaho	Josie Shottanana	208.267.3519	josie@kootenai.org	3/26/2020	No Response	4/6/20 - CB left vm for Josie on general vm box. (No directory available)	No Response	
9	NOAA Fisheries (National Marine Fisheries Service)	To Whom It May Concern	208.883.8747	None Available	3/26/2020	No Response	4/3/20 - CB left vm for David Arthaud	No Response	
10	Natural Resources Conservation District	To Whom It May Concern	208.378.5700	Greg.Becker@id.usda.gov	N/A	4/24/2020	4/6/20 - CB left vm on general vm box. Mailing signed for 4/2/20. Re-emailed letter and APE map on 4/22. Response received 4/24; he did not receive the letter in the mail.	He said that his agency has no comments	Updated
11	U.S. Army Corps of Engineers	Karen Kelly	208.667.7025	NEPANWW@usace.army.mil	3/21/2020	4/27/2020	4/6/20 - CB spoke with Karen Kelly (cell: 509.527.7248). She forwarded letter to Corp Eng Regulatory CDA office & spoke with Kyle & provided him with contact info. (We need to confirm with the CDA office; our letter was forwarded - Signed for by L. Stewart (AN C-2) 3/21/20.). The Letter was never recieved. Letter was recieved officially Shane Slate via email on 4/24.	"A permit from the Corps will only be needed if the proposed project will involve the discharge of dredged and/or fill material into waters of the U.S., including wetlands. The IDWR comment references perennial streams being impacted. If that is in fact the case any stream crossings may require a Corps permit."	Updated
12	U.S. Fish and Wildlife Service	To Whom It May Concern	509.891.6839	katy_fitgerald@fws.gov	3/20/2020	4/7/2020	Response received on 4/7	We may deem the project as "NO EFFECT" to all biological resources of concern if best management practices are taken not to attract bears	Updated
13	U.S. Forest Service	To Whom It May Concern	xxx	jeanne.higgins@usda.gov	3/24/2020	No Response	Signed for by B.S. (SED R25) 3/24/2020 - CM called Douglas Nishek and left voicemail	No Response	



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

Idaho Fish & Game
Panhandle Region
2885 W. Kathleen Avenue
Coeur d'Alene, ID 83815

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

To Whom It May Concern,

We are seeking information from your agency regarding known environmental issues associated with the proposed project. Your comments are being solicited as part of National Environmental Policy Act (NEPA) compliance, related cross-cutting act compliance and agency regulatory requirements.

The following information is being provided to aid in your evaluation of the proposal:

- 1. Area of Potential Effect:** There are ten proposed improvements in eight areas of potential effect for this project. Each area varies in size depending on the improvement to the Cabinet Mountains Water District (CMWD). Proposed system improvements include a new well, three new water tanks, two new booster stations, two replacement booster stations, one booster station completion, and upgrades to a pressure release valve station. Attached is a map package identifying areas of improvement and the area of potential affect associated with the improvement. Some areas may seem quite large, however, feasibility of placement has not been established for several improvements.
- 2. Location:** The Cabinet Mountains Water District (CWMD) system covers a large area from the Kootenai River extending almost as far south as the Bonner County Line, adjacent to Mc Arthur Reservoir. The CMWD Planning Boundary is approximately 36 square miles and crosses into Townships 62N1W, 62N1E, 62N2E, 61N1W, 61N1E, 60N1W, and 60N1E. Specific locations regarding range, township, and sections can be found on in **Table 1** on the following page.

Table 1: Project Locations

AFIE Project No	Project	Township and Range	Section
1	New Crossport Well	62N 2E	29
2	Highland Booster Station Replacement	60N 1W	2
		61N 1W	35
3	Highland Tank	60N 1W	3
		61N 1W	35
4	New Cow Creek Booster	61N 2E	7, 18
5	New North Paradise Tank	62N 1E	35
6	New Parker Canyon Tank	61N 1E	1
7	Parker Canyon Booster Replacement	61N 1E	2
8	Completion of Black Mt. Booster Station	61N 1E	23
9	Upgrades to Pressure PRV	61N 1 E	30
10	New Mountain Meadows Booster Station	60N 1E	5

3. **Federal Agencies Involved:** USDA has agreed to provide funding to this project. Other Federal Agency's potentially involved with this project include the U.S Forest Service (National Forests), the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the Bureau of Land Management, and the National Marine Fisheries Service for environmental screening.

4. **Project Description:** CMWD is currently under a moratorium on additional water connections. An evaluation of the existing system identified the following deficiencies: inadequate water supply capacity, inadequate storage, low pressures during peak hour flow conditions, and inability to provide recommended minimum fire flows. A plan for mitigating these deficiencies and meeting future system requirements has been established. Recommended improvements include the following:

- Develop a new well at the Crossport site to meet current and future supply requirements. Complete additional improvements at the existing Crossport Well facility.
 - Construct three new storage tanks (Parker Canyon, Highland Flats, North Paradise) for a total of 760,000 gallons of storage to meet current and future storage needs.
- Replace the Highland Booster Station; replace the Parker Canyon Booster Station; add Mountain Meadows Booster Station; add Cow Creek Booster Station; and complete improvements at Black Mountain Booster Station.
- Upgrade the Naples pressure reducing valve station.

These projects have been organized into a Capital Improvement Plan (CIP). Priority 1 improvements address the existing storage deficiency, improve pressures above the required 40 psi minimum during peak hour events, and increase the available fire flow in the system to above 250 gpm. The improvements are displayed in **Table 2** on the following page.

Table 2: Capital Improvement Plan

ID	Project	Estimated Cost (2019 Dollars)
W1.1	Alternative 1: Additional Crossport Well	\$877,000
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	\$2,107,000
T1.2	Highland Flats Tank (200,000 gal)	\$1,370,000
T1.3	North Paradise Elevated Tank (300,000 gal)	\$2,192,000
1.1	Highland Booster Replacement	\$586,000
1.2	Black Mountain Booster Improvements	\$179,000
1.3	Mountain Meadows Rd. Booster	\$285,000
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	\$62,000
1.5	Kootenai Trail Booster	\$285,000
CI	Crossport Well Facility Improvements	\$168,000
CI	Black Mountain Facility Improvements	\$103,000
<i>Total (rounded)</i>		\$8,214,000

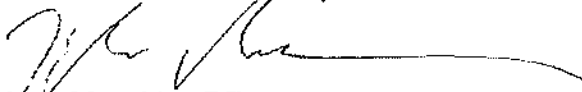
Most projects will be developed on land already owned by the CMWD, in rural areas, or underneath the roadway. Some projects, such as the Highland tank, North Paradise Tank, Mountain Meadows Booster Station, or Cow Creek Booster Station have the potential to affect forest land, however, efforts to mitigate this will be taken.

5. **Environmental Information:** It is anticipated that there may be minimal, temporary impacts to flora and fauna during the construction of these projects. Any suggestions on mitigation during construction are welcome.
6. **Attachments:** Attached are nine (9) pages of maps that show the area of potential effect (APE) for each proposed project.

Please provide your comments on the enclosed comment sheet or by letter within 30-days of the date of this letter to 601 Sherman Ave Suite 1, Coeur d'Alene, ID 83814 and 7830 Meadowlark Way, Suite C3 Coeur d'Alene, ID 83815. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

Sincerely,

KELLER ASSOCIATES, INC.



Kyle Meschko, PE
 Project Manager

Enclosure(s)

cc: USDA, Rural Development Area Office

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO USDA, RURAL DEVELOPMENT:

We have reviewed the subject preapplication for Federal assistance and have reached the following conclusions on its relationship to our plans and programs:

- It has no adverse effect.
- We have no comment.
- Effects, although measurable, would be acceptable.
- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: _____

BY: _____

PHONE NUMBER: _____

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

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- Effects, although measurable, would be acceptable.
- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: IDAHO DEPT. OF FISH + GAME
BY: MERRITT HORSNOM
PHONE NUMBER: 208-770-3778



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

Idaho State Historic Society
Ashley Brown, Historic Preservation Review Officer
210 Main Street
Boise, ID 83702

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

Dear Ms. Ashley Brown,

We are seeking information from your agency regarding known environmental issues associated with the Cabinet Mountains Water District's proposed project. Your comments are being solicited as part of National Environmental Policy Act (NEPA) compliance, related cross-cutting act compliance and agency regulatory requirements.

The following information is being provided to aid in your evaluation of the proposal:

1. **Area of Potential Effect:** There are ten proposed improvements in eight areas of potential effect for this project. Each area varies in size depending on the improvement to the Cabinet Mountains Water District (CMWD). Proposed system improvements include a new well, three new water tanks, two new booster stations, two replacement booster stations, one booster station completion, and upgrades to a pressure release valve station. Attached is a map package identifying areas of improvement and the area of potential affect associated with the improvement. Some areas may seem quite large, however, feasibility of placement has not been established for several improvements.
2. **Location:** The Cabinet Mountains Water District (CWMD) system covers a large area from the Kootenai River extending almost as far south as the Bonner County Line, adjacent to Mc Arthur Reservoir. The CMWD Planning Boundary is approximately 36 square miles and crosses into Townships 62N1W, 62N1E, 62N2E, 61N1W, 61N1E, 60N1W, and 60N1E. Specific locations regarding range, township, and sections can be found in **Table 1** on the following page.

Table 1: Project Locations

APP Page No.	Project	Township and Range	Section
1	New Crossport Well	62N 2E	29
2	Highland Booster Station Replacement	60N 1W	2
		61N 1W	35
3	Highland Tank	60N 1W	3
		61N 1W	35
4	New Cow Creek Booster	61N 2E	7, 18
5	New North Paradise Tank	62N 1E	35
6	New Parker Canyon Tank	61N 1E	1
7	Parker Canyon Booster Replacement	61N 1E	2
8	Completion of Black Mt. Booster Station	61N 1E	23
9	Upgrades to Pressure PRV	61N 1 E	30
10	New Mountain Meadows Booster Station	60N 1E	5

3. **Federal Agencies Involved:** USDA has agreed to provide funding to this project. Other Federal Agency's potentially involved with this project include the U.S Forest Service (National Forests), the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the Bureau of Land Management, and the National Marine Fisheries Service for environmental screening.

4. **Project Description:** CMWD is currently under a moratorium on additional water connections. An evaluation of the existing system identified the following deficiencies: inadequate water supply capacity, inadequate storage, low pressures during peak hour flow conditions, and inability to provide recommended minimum fire flows. A plan for mitigating these deficiencies and meeting future system requirements has been established. Recommended improvements include the following:

- Develop a new well at the Crossport site to meet current and future supply requirements. Complete additional improvements at the existing Crossport Well facility.
- Construct three new storage tanks (Parker Canyon, Highland Flats, North Paradise) for a total of 760,000 gallons of storage to meet current and future storage needs.
- Replace the Highland Booster Station; replace the Parker Canyon Booster Station; add Mountain Meadows Booster Station; add Cow Creek Booster Station; and complete improvements at Black Mountain Booster Station.
- Upgrade the Naples pressure reducing valve station.

These projects have been organized into a Capital Improvement Plan (CIP). Priority 1 improvements address the existing storage deficiency, improve pressures above the required 40 psi minimum during peak hour events, and increase the available fire flow in the system to above 250 gpm. The improvements are displayed in **Table 2** on the following page.

Table 2: Capital Improvement Plan

ID	Project	Est. Cost (2018 Dollars)
W1.1	Alternative 1: Additional Crossport Well	\$877,000
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	\$2,107,000
T1.2	Highland Flats Tank (200,000 gal)	\$1,370,000
T1.3	North Paradise Elevated Tank (300,000 gal)	\$2,192,000
1.1	Highland Booster Replacement	\$586,000
1.2	Black Mountain Booster improvements	\$179,000
1.3	Mountain Meadows Rd. Booster	\$285,000
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	\$62,000
1.5	Kootenai Trail Booster	\$285,000
CI	Crossport Well Facility Improvements	\$168,000
CI	Black Mountain Facility Improvements	\$103,000
<i>Total (rounded)</i>		\$8,214,000

It is anticipated that no existing buildings will be disturbed by these projects. Most projects will be developed on land already owned by the CMWD, in rural areas, or underneath the roadway. Some projects, such as the Highland tank, North Paradise Tank, Mountain Meadows Booster Station, or Cow Creek Booster Station have the potential to affect forest land, however, efforts to mitigate this will be taken.

- 5. Environmental Information:** GIS data obtained from the National Register of Historic Places (NRHP) in Idaho indicates there are only five historic properties in proximity to the CMWD. These properties are the Northside School, Fry's Trading Post, the Bonners Ferry Main Post Office, the Boundary County Courthouse, and the Russell and Pearl Soldering House. However, no properties are within the district planning boundary or an area of potential affect.
- 6. Attachments:** Attached are nine (9) pages of maps that show the area of potential effect (APE) for each proposed project.

Please provide your comments on the enclosed comment sheet or by letter within 30-days of the date of this letter to 601 Sherman Ave Suite 1, Coeur d'Alene, ID 83814 and 7830 Meadowlark Way, Suite C3 Coeur d'Alene, ID 83815. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

Sincerely,

KELLER ASSOCIATES, INC.


 Kyle Meschko, PE
 Project Manager

Enclosure(s)

cc: USDA, Rural Development Area Office

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO USDA, RURAL DEVELOPMENT:

We have reviewed the subject preapplication for Federal assistance and have reached the following conclusions on its relationship to our plans and programs:

- It has no adverse effect.
- We have no comment.
- Effects, although measurable, would be acceptable.
- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: _____

BY: _____

PHONE NUMBER: _____



Brad Little
Governor of Idaho

Janet Gallimore
Executive Director
State Historic
Preservation Officer

Administration:
2205 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2682
Fax: 208.334.2774

Idaho State Museum:
610 Julia Davis Dr.
Boise, Idaho 83702
208.334.2120

**Idaho State Archives
and State Records
Center:**
2205 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2620

**State Historic
Preservation Office:**
210 Main St.
Boise, Idaho 83702
208.334.3861

**Old Idaho Penitentiary
and Historic Sites:**
2445 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2844

HISTORY.IDAHO.GOV

26 March 2020

Kyle Meschko, PE
Keller Associates
601 Sherman Ave, Suite 1
Coeur d'Alene, Idaho 83814
kmeschko@Kellerassociates.com

**RE: Cabinet Mountains Water District / Water System
Improvements Area of Potential Impact / SHPO Rev. No. 2020-439**

Dear Kyle:

Thank you for consulting with our office on the above referenced project. We understand the scope of work includes USDA providing funding to the Cabinet Mountain Water District. Project actions will include the installation of a new well, three new water tanks, two new booster stations, two replacement booster stations, one booster station completion, and upgrades to a pressure release valve station within the Cabinet Mountains Water District in Bonner County, Idaho.

In order for the USDA to be in compliance with Section 106 of the National Historic Preservation Act (as outlined in § 36 CFR 800), we recommend that a cultural resources survey be conducted to identify and evaluate historic properties that may be affected by the project. The report should take into consideration those direct and indirect effects, including reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative, as stated in § 36 CFR 800.5(a)(1). The cultural resources survey and report should be prepared by an archaeologist and if necessary, an architectural historian meeting the Secretary of the Interior's Standards, per § 36 CFR Part 61.

For more information regarding SHPO reporting and documentation standards, please review [Consulting with the Idaho State Historic Preservation Office](#). An available list of consultants is available on our [website](#). Inclusion on these lists should not be viewed as an endorsement or recommendation by our office; ultimately it is up to the hirer to confirm that the consultant meets the [Secretary of the Interior's Professional Qualification Standards](#).

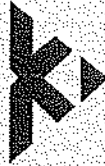
If you have any questions or the scope of work changes, please contact me via phone or email at 208.488.7463 or ashley.brown@ishs.idaho.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Ashley Brown', with a stylized, cursive script.

Ashley Brown, M.A.
Historical Review Officer
Idaho State Historic Preservation Office

KELLER
ASSOCIATES



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

Floodplain Management Agency
322 E. Front Street, Suite 648
P.O. Box 83720
Boise, ID 83720-0098

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

Dear Ms. Maureen O'Shea,


Cabinet Mountains Water District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Development in order that it may assess the environmental impacts of various improvements to the CMWD water distribution system in Boundary County, ID. The project is being proposed to give the District necessary storage capacity, provide appropriate water pressures (above 40 psi) during peak hour events, and increase available fire flow in the system above 250 gpm. Specific projects include the development of a new well to meet current and future supply requirements, construction of three new storage tanks, the replacement of two booster stations, the addition of two new booster stations, the completion of one booster station, and upgrades to a pressure reducing valve station.

Enclosed are maps that depict the proposal's construction activities and a description of the work involved; it should be noted that some areas of potential effect (APE), especially for new improvements, are presented as very large, however, this is a precautionary measure as the placement of new improvements have not been entirely established.

Cabinet Mountains Water District requests your review of this project for potential impacts to or from floodplain areas and any recommendations you may have to mitigate or avoid these effects. We would appreciate a response within 30 days. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

Sincerely,

KELLER ASSOCIATES, INC.


Kyle Meschko, PE
Project Manager

Enclosure(s)

cc: USDA, Rural Development Area Office

GROWING POSSIBILITIES 

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO USDA, RURAL DEVELOPMENT:

We have reviewed the subject preapplication for Federal assistance and have reached the following conclusions on its relationship to our plans and programs:

- It has no adverse effect.
- We have no comment.
- Effects, although measurable, would be acceptable.
- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: _____

BY: _____

PHONE NUMBER: _____

From: Kyle Meschko
Sent: Wednesday, March 25, 2020 12:44 PM
To: O'Shea, Maureen
Cc: Chase Macpherson
Subject: RE: Cabinet Mountains Water District - Water System Improvements

Great thank you Maureen for your quick response.

KYLE MESCHKO, PE
Keller Associates, Inc.
OFFICE 208-813-7603 | CELL 208-946-3312

From: O'Shea, Maureen <Maureen.OShea@idwr.idaho.gov>
Sent: Wednesday, March 25, 2020 12:25 PM
To: Kyle Meschko <kmeschko@kellerassociates.com>
Cc: Chase Macpherson <cmacpherson@kellerassociates.com>
Subject: RE: Cabinet Mountains Water District - Water System Improvements

Kyle,

None of the Latitude/Longitude coordinates are located in the Special Flood Hazard Area (SFHA)
No floodplain permitting is required based on the coordinates provided.

1. New Crossport Well: 48.700 -116.232 – Not in the Special Flood Hazard Area (NSFHA)



2. Highland Booster Station Replacement: 48.587-116.418 - Not in the Special Flood Hazard Area (NSFHA)



3. New Highland Tank: 48.591 -116.433 - Not in the Special Flood Hazard Area (NSFHA)



4. New Cow Creek Booster Station: 48.645 -116.266 - Not in the Special Flood Hazard Area (NSFHA)



5. New North Paradise Tank: 48.675 -116.291 - Not in the Special Flood Hazard Area (NSFHA)



6. Parker Canyon Booster Station Replacement: 48.661 -116.280 - Not in the Special Flood Hazard Area (NSFHA)



7. New Parker Canyon Tank: 48.661 -116.280 - Not in the Special Flood Hazard Area (NSFHA)



8. New PRV: 48.616 -116.376 - Not in the Special Flood Hazard Area (NSFHA)



9. New Mountain Meadows Booster Station: 48.580 -116.374 - Not in the Special Flood Hazard Area (NSFHA)



Thank you,
Maureen O'Shea, AICP, CFM
State NFIP Coordinator
Idaho Dept. of Water Resources
322 E. Front Street, PO Box 83720,
Boise, ID 83720-0098
Office # 208-287-4928
Cell # 208-830-4174
Maureen.OShea@idwr.idaho.gov
<https://www.idwr.idaho.gov/floods/>

From: Kyle Meschko [<mailto:kmeschko@Kellerassociates.com>]
Sent: Wednesday, March 25, 2020 11:50 AM
To: O'Shea, Maureen <Maureen.OShea@idwr.idaho.gov>
Cc: Chase Macpherson <cmacpherson@Kellerassociates.com>
Subject: RE: Cabinet Mountains Water District - Water System Improvements

Hello Maureen,

Here are the approximate coordinates of each proposed project in **decimal degrees** using projected coordinate system **NAD 1983 UTM Zone 11N**:

1. New Crossport Well: **48.700 -116.232**
2. Highland Booster Station Replacement: **48.587-116.418,**
3. New Highland Tank: **48.591 -116.433,**
4. New Cow Creek Booster Station: **48.645-116.266,**
5. New North Paradise Tank: **48.675-116.291,**
6. Parker Canyon Booster Station Replacement: **48.661-116.280,**
7. New Parker Canyon Tank: **48.661-116.280,**
8. New PRV: **48.616-116.376,**
9. New Mountain Meadows Booster Station: **48.580-116.374,**

Please let me know if you need anything else.

KYLE MESCHKO, PE
Keller Associates, Inc.
OFFICE 208-813-7603 | CELL 208-946-3312

From: O'Shea, Maureen <Maureen.OShea@idwr.idaho.gov>
Sent: Wednesday, March 25, 2020 9:27 AM
To: Kyle Meschko <kmeschko@Kellerassociates.com>
Subject: Cabinet Mountains Water District - Water System Improvements

Kyle,

I am unable to comment on the new wells, tanks, booster stations, & other upgrades, etc. without Latitude/Longitude for each new or replacement element to determine whether or not the locations are in the Special Flood Hazard Area (SFHA).

Thank you,
Maureen O'Shea, AICP, CFM
State NFIP Coordinator
Idaho Dept. of Water Resources
322 E. Front Street, PO Box 83720,
Boise, ID 83720-0098
Office # 208-287-4928
Cell # 208-830-4174

Maureen.OShea@idwr.idaho.gov
<https://www.idwr.idaho.gov/floods/>



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

Idaho Department of Water Resources
Northern Region
7600 Mineral Drive, Suite 100
Coeur d'Alene, ID 83815

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

Dear Mr. Doug Jones,

We are seeking information from your agency regarding known environmental issues associated with the proposed project. Your comments are being solicited as part of National Environmental Policy Act (NEPA) compliance, related cross-cutting act compliance and agency regulatory requirements.

The following information is being provided to aid in your evaluation of the proposal:

1. **Area of Potential Effect:** There are ten proposed improvements in eight areas of potential effect for this project. Each area varies in size depending on the improvement to the Cabinet Mountains Water District (CMWD). Proposed system improvements include a new well, three new water tanks, two new booster stations, two replacement booster stations, one booster station completion, and upgrades to a pressure release valve station. Attached is a map package identifying areas of improvement and the area of potential affect associated with the improvement. Some areas may seem quite large, however, feasibility of placement has not been established for several improvements.
2. **Location:** The Cabinet Mountains Water District (CWMD) system covers a large area from the Kootenai River extending almost as far south as the Bonner County Line, adjacent to Mc Arthur Reservoir. The CMWD Planning Boundary is approximately 36 square miles and crosses into Townships 62N1W, 62N1E, 62N2E, 61N1W, 61N1E, 60N1W, and 60N1E. Specific locations regarding range, township, and sections can be found in **Table 1** on the following page.

Table 1: Project Locations

API Project No.	Project	Rowland Township Range	Section
1	New Crossport Well	62N 2E	29
2	Highland Booster Station Replacement	60N 1W	2
		61N 1W	35
3	Highland Tank	60N 1W	3
		61N 1W	35
4	New Cow Creek Booster	61N 2E	7, 18
5	New North Paradise Tank	62N 1E	35
6	New Parker Canyon Tank	61N 1E	1
7	Parker Canyon Booster Replacement	61N 1E	2
8	Completion of Black Mt. Booster Station	61N 1E	23
9	Upgrades to Pressure PRV	61N 1 E	30
10	New Mountain Meadows Booster Station	60N 1E	5

3. **Federal Agencies Involved:** USDA has agreed to provide funding to this project. Other Federal Agency's potentially involved with this project include the U.S Forest Service (National Forests), the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the Bureau of Land Management, and the National Marine Fisheries Service for environmental screening.

4. **Project Description:** CMWD is currently under a moratorium on additional water connections. An evaluation of the existing system identified the following deficiencies: inadequate water supply capacity, inadequate storage, low pressures during peak hour flow conditions, and inability to provide recommended minimum fire flows. A plan for mitigating these deficiencies and meeting future system requirements has been established. Recommended improvements include the following:
 - Develop a new well at the Crossport site to meet current and future supply requirements. Complete additional improvements at the existing Crossport Well facility.
 - Construct three new storage tanks (Parker Canyon, Highland Flats, North Paradise) for a total of 760,000 gallons of storage to meet current and future storage needs.
 - Replace the Highland Booster Station; replace the Parker Canyon Booster Station; add Mountain Meadows Booster Station; add Cow Creek Booster Station; and complete improvements at Black Mountain Booster Station.
 - Upgrade the Naples pressure reducing valve station.

These projects have been organized into a Capital Improvement Plan (CIP). Priority 1 improvements address the existing storage deficiency, improve pressures above the required 40

psi minimum during peak hour events, and increase the available fire flow in the system to above 250 gpm. The improvements are displayed in **Table 2**:

Table 2: Capital Improvement Plan

ID	Project	Estimated Project Cost
W1.1	Alternative 1: Additional Crossport Well	\$877,000
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	\$2,107,000
T1.2	Highland Flats Tank (200,000 gal)	\$1,370,000
T1.3	North Paradise Elevated Tank (300,000 gal)	\$2,192,000
1.1	Highland Booster Replacement	\$586,000
1.2	Black Mountain Booster Improvements	\$179,000
1.3	Mountain Meadows Rd. Booster	\$285,000
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	\$62,000
1.5	Kootenai Trail Booster	\$285,000
CI	Crossport Well Facility Improvements	\$168,000
CI	Black Mountain Facility Improvements	\$103,000
<i>Total (rounded)</i>		\$8,214,000

It is anticipated that no existing buildings will be disturbed by these projects. Most projects will be developed on land already owned by the CMWD, in rural areas, or underneath the roadway. Some projects, such as the Highland tank, North Paradise Tank, Mountain Meadows Booster Station, or Cow Creek Booster Station have the potential to affect forest land, however, efforts to mitigate this will be taken.

5. Environmental Information: Regarding water resources, **Table 3** summarizes the environmental impacts of each proposed solution.

Table 3: Affected Environment in Relation to Water Resources

ID	Project	Affected Environment
W1.1	Alternative 1: Additional Crossport Well	Potential to Temporarily Affect
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	No Impact
T1.2	Highland Flats Tank (200,000 gal)	No Impact
T1.3	North Paradise Elevated Tank (300,000 gal)	No Impact
1.1	Highland Booster Replacement	No Impact
1.2	Black Mountain Booster Improvements	No Impact
1.3	Mountain Meadows Rd. Booster	No Impact
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	No Impact
1.5	Kootenai Trail Booster	No Impact
CI	Crossport Well Facility Improvements	No Impact
CI	Black Mountain Facility Improvements	No Impact

It is proposed that an additional well will be added to the Crossport Site by either utilizing the existing, inactive well or drilling a new well, which may result in environmental disturbance. If the inactive well is not used, it will be abandoned per Idaho DEQ standards. The other projects are not anticipated to have any environmental effect.

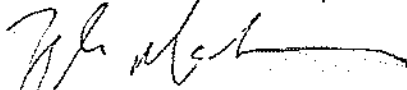
Mr. Doug Jones
March 6, 2020
Page 4 of 4

6. **Attachments:** Attached are nine (9) pages of maps that show the area of potential effect (APE) for each proposed project.

Please provide your comments on the enclosed comment sheet or by letter within 30-days of the date of this letter to 601 Sherman Ave Suite 1, Coeur d'Alene, ID 83814 and 7830 Meadowlark Way, Suite C3 Coeur d'Alene, ID 83815. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

Sincerely,

KELLER ASSOCIATES, INC.



Kyle Meschko, PE
Project Manager

Enclosure(s)

cc: USDA, Rural Development Area Office

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO USDA, RURAL DEVELOPMENT:

We have reviewed the subject preapplication for Federal assistance and have reached the following conclusions on its relationship to our plans and programs:

- It has no adverse effect.
- We have no comment.
- Effects, although measurable, would be acceptable.
- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: _____

BY: _____

PHONE NUMBER: _____

INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

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- Additional comments for project improvement. (Attach if necessary)

REMARKS:

Several project elements dealing with well development and replacement will require Department of Water Resource applications. Elements of the project may entail work that may affect perennial streams with work below the OTHWM, thus requiring Int App 404 permitting.

AGENCY: Idaho Dept of Water Resources

BY: Douglas Jones, Northern Regional Manager

PHONE NUMBER: 208.767.2800



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

U.S. Fish and Wildlife Service
Northern Idaho
11103 E. Montgomery Drive
Spokane, WA 99206

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

To Whom It May Concern,

Cabinet Mountains Water District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Development in order that it may assess the environmental impacts of various improvements to the CMWD water distribution system in Boundary County, ID. The project is being proposed to give the District necessary storage capacity, provide appropriate water pressures (above 40 psi) during peak hour events, and increase available fire flow in the system above 250 gpm. Specific projects include the development of a new well to meet current and future supply requirements, construction of three new storage tanks, the replacement of two booster stations, the addition of two new booster stations, the completion of one booster station, and upgrades to a pressure reducing valve station.

Enclosed are maps that depict the proposal's construction activities and a description of the work involved; it should be noted that some areas of potential effect (APE), especially for new improvements, are presented as very large, however, this is a precautionary measure as the placement of new improvements have not been entirely established.

To initiate the process, Rural Development has asked us to gather information regarding Federally-listed species, critical habitat, and migratory birds from your office. Rural Development, as the lead Federal agency, is responsible for compliance with Section 7(a)(2) of the Endangered Species Act, and will provide determinations of effect as appropriate during the consultation process.

The proposal should not represent a "major construction activity" as defined in 50 CFR 402.02. We request a list of any Federally-listed or proposed threatened or endangered species and designated or proposed critical habitat that may be present in the project area. In addition, please advise us of any present concerns you may have related to possible effects of the project listed above on such species or critical habitat, as well as any other wildlife concerns.

We would appreciate a response within 30 days. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

U.S. Fish and Wildlife Service
March 6, 2020
Page 2 of 2

Sincerely,

KELLER ASSOCIATES, INC.


Kyle Meschko, PE
Project Manager

Enclosure(s)

cc: USDA, Rural Development Area Office

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

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- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: _____

BY: _____

PHONE NUMBER: _____

From: Sarensen, Katherine S <katherine_sarensen@fws.gov>
Sent: Thursday, April 9, 2020 10:17 AM
To: Chase Macpherson
Subject: Re: [EXTERNAL] CMWD U.S. Fish and Wildlife Service Consultation Letter

Hi Chase,

Yes, I think the determination for whitebark pine is justified.

-Kat

From: Chase Macpherson <cmacpherson@Kellerassociates.com>
Sent: Thursday, April 9, 2020 9:41 AM
To: Sarensen, Katherine S <katherine_sarensen@fws.gov>
Cc: Kyle Meschko <kmeschko@Kellerassociates.com>
Subject: RE: [EXTERNAL] CMWD U.S. Fish and Wildlife Service Consultation Letter

Hi Katherine,

Thank you for finding that information. After reviewing the APEs for these projects, none of them get above an elevation of 2,600 ft, and it is very unlikely that they will even get that high. Do you think it is safe to say that these projects will have “no effect” on Whitebark Pine?

Thanks,



CHASE MACPHERSON, EI
OFFICE 208-758-8601 | CELL 509-599-5758
601 Sherman Avenue, Suite 1 Coeur d'Alene, ID 83814
kellerassociates.com

Keller Associates remains dedicated to serving you during these unprecedented times. Please contact me through my cell number for assistance or support on your project.

From: Sarensen, Katherine S <katherine_sarensen@fws.gov>
Sent: Wednesday, April 8, 2020 10:42 AM
To: Chase Macpherson <cmacpherson@Kellerassociates.com>
Cc: Kyle Meschko <kmeschko@Kellerassociates.com>
Subject: Re: [EXTERNAL] CMWD U.S. Fish and Wildlife Service Consultation Letter

Hi Chase,

From what I've found, the elevation range begins at approximately 2,950 feet.

Source: <https://www.fws.gov/oregonfwo/articles.cfm?id=149489519>; https://www.fws.gov/nevada/nv_species/documents/whitebp/Whitebark_pine_FR07272011.pdf

-Kat

Federal Register / Vol. 76, No. 138 / Tuesday, July 19, 2011 / Proposed Rules 42631

srobinson on DSK4SPTVN1PROD with PROPOSALS VerDate Mar<15>2010 17:35 Jul 18, 2011 Jkt 223001 PO 00000 Frm 00042 Fmt 4702 Sfmt 4702 E:\FR\FM\19JYP1.SGM 19JYP1
Federal Register / Vol. 76, No. 138 / Tuesday, July 19, 2011 / Proposed Rules 42631 include the information specified in § 64.1001(c) of this chapter. Such filings shall be made with the Commission,

www.fws.gov

OFWO - Whitebark Pine

Whitebark Pine is a slow-growing, long-lived tree with a life span of up to 500 years and sometimes more than 1,000 years. Although Whitebark Pine can occur in pure or nearly pure stands at high elevations, it more typically occurs in stands of mixed species in a variety of forest community types.

www.fws.gov

From: Chase Macpherson <cmacpherson@Kellerassociates.com>

Sent: Wednesday, April 8, 2020 9:19 AM

To: Sarensen, Katherine S <katherine_sarensen@fws.gov>

Cc: Kyle Meschko <kmeschko@Kellerassociates.com>

Subject: RE: [EXTERNAL] CMWD U.S. Fish and Wildlife Service Consultation Letter

Hi Katherine,

Thank you for your detailed and quick response. I will be sure to incorporate the information you have provided into our report.

The only thing I have a question about is the Whitebark pine; there is potential for tree removal with the construction of the three new water tanks. The Highland Flats Tank may be put onto a hillside with an elevation range of 2,300 to 2,600 feet. Does the Whitebark pine exist in this elevation range? What do you suggest to make sure our projects do not effect this tree species?

Thanks,



CHASE MACPHERSON, EI

OFFICE 208-758-8601 | CELL 509-599-5758

601 Sherman Avenue, Suite 1 Coeur d'Alene, ID 83814

kellerassociates.com

Keller Associates remains dedicated to serving you during these unprecedented times. Please contact me through my cell number for assistance or support on your project.

From: Sarensen, Katherine S <katherine_sarensen@fws.gov>

Sent: Tuesday, April 7, 2020 12:00 PM

To: Chase Macpherson <cmacpherson@Kellerassociates.com>

Cc: Kyle Meschko <kmeschko@Kellerassociates.com>

Subject: Re: [EXTERNAL] CMWD U.S. Fish and Wildlife Service Consultation Letter

Hi Chase,

I pulled your shapefile into ArcGIS and it appears that the area of impact locations fall between the Selkirk and Cabinet-Yaak Recovery Zones and appear to be outside of grizzly bear recurring use areas. Do the activities occur along existing roads? We would expect any transient bear in the area would generally avoid an open, used road. I would recommend your project contain some best management practices aimed at reducing potential for attracting grizzly bears, such as sanitation and food storage measures. If you would like, I can send you the IPNF Food Storage Order as a guide or you can find it on their website. If you implement these measures (or something similar) you may minimize potential effects to the point where you just would not anticipate any effect to bears. In this case, a "no effect" determination may be warranted.

Likewise, we wouldn't expect Canada lynx to occur in developed housing areas due to the level of human disturbance, but Canada lynx have been documented moving across the McArthur Lake corridor, across Highway 95. I'll let you make that call if you think lynx would even be in the vicinity of your project sites. They are pretty elusive where people occur, and the footprint of your action doesn't appear to take up a significant portion of the landscape. There just may not be any potential for an effect to an individual that rises

to the level of "may effect." You would only consult if you think an effect to an individual is *reasonably certain to occur*.

The other area you should consider in your effects would be the activity adjacent the Kootenai River, and whether the action would have enough ground disturbance to cause impact to aquatic species. If ground disturbance is minimal and there is no in-water work, there may not be any effect to bull trout, Kootenai River white sturgeon, or designated critical habitat for either. Again, this may warrant a "no effect" determination, especially if there is a buffer between the river and the project and ground disturbances would be stabilized or reseeded.

Whitebark pine is a candidate species and currently is not listed, but a listing decision is in the future. It has fairly stringent elevation requirements. You will have to determine your locations in relation to potential whitebark pine. If there is no tree removal in your action and is not located near whitebark pine, then the project would not represent an effect to this species.

I hope this helps and, please, reach out if you have any questions or think we should be discussing any species in greater detail. Ask yourself if an impact is reasonably certain to occur, given all best management practices and minimization measures, and go from there. I strongly recommend the food storage/sanitation for bears, even though movement between the recovery zones has been limited. With increasing grizzly bear populations, it's just good practice in this area. If you go with a "no effect" determination for any species, keep a record in your project file that contains the rationale for your determination.

Stay safe,

-Kat

From: Chase Macpherson <cmacpherson@Kellerassociates.com>
Sent: Monday, April 6, 2020 11:12 AM
To: Sarensen, Katherine S <katherine_sarensen@fws.gov>
Cc: Kyle Meschko <kmeschko@Kellerassociates.com>
Subject: RE: [EXTERNAL] CMWD U.S. Fish and Wildlife Service Consultation Letter

Hi Katherine,

Thank you for your response, and no worries, we understand that there may be some complications associated with COVID-19.

We have already generated a species list using the IPaC website. I have attached it to this email. The list does contain Grizzly Bear, however, our area of potential effect (APE) for each proposed project is not as large as the area we used to generate the list. I would appreciate it if you could check our APEs to see if they fall within Grizzly Bear recovery zones; I have attached a shapefile of the APEs. The attributes should tell you which APE is associated with each project.

Is there anything else I can provide to give you a complete picture of the project?

Thanks,



CHASE MACPHERSON, EI

OFFICE 208-758-8601 | CELL 509-599-5758

601 Sherman Avenue, Suite 1 Coeur d'Alene, ID 83814

kellerassociates.com

Keller Associates remains dedicated to serving you during these unprecedented times. Please contact me through my cell number for assistance or support on your project.

From: Sarensen, Katherine S <katherine_sarensen@fws.gov>

Sent: Monday, April 6, 2020 10:46 AM

To: Chase Macpherson <cmacpherson@Kellerassociates.com>

Subject: Re: [EXTERNAL] CMWD U.S. Fish and Wildlife Service Consultation Letter

Hi Chase,

We have received your letter. My apologies that is your request may have been inadvertently left behind in our office when we transitioned to full time telework in response to the Covid-19.

To get you started with your species list, I recommend visiting the Service's online Information for Planning and Conservation (IPaC) website ([//ecos.fws.gov/ipac/](http://ecos.fws.gov/ipac/)) that allows users to input a project location and receive information on threatened or endangered species, critical habitat, migratory birds or other natural resources may be impacted by the project. Many agencies and contractors use the IPaC website to obtain the most current list of threatened or endangered species in their project site. This list is valid for 90 days. Users may also get a list of potential impacts from specific project activities and receive conservation measures recommended by U.S. Fish and Wildlife Service

biologists to avoid, minimize, or mitigate effects to listed species. We encourage you to use the site first to see if it fits your needs and requirements.

The only outstanding concern I might have, based on the project maps, is that your species list may include grizzly bear. If it does, and the project includes road construction, you could send me the shapefiles of the project actions and I would be happy to see if any fall within the grizzly bear recovery zone or recurring use areas. At this time, I don't really have a complete picture of the project, but there are measures you could take to reduce impacts to bears if the project will overlap secure habitat.

If you have any further questions as you work through the assessment of effects to listed species, please feel free to reach out. We are happy to help.

-Kat

From: Fitzgerald, Katy <katy_fitzgerald@fws.gov>
Sent: Friday, April 3, 2020 6:09 PM
To: Chase Macpherson <cmacpherson@Kellerassociates.com>; JohnsonHughes, Christy <christy_johnsonhughes@fws.gov>; Sarensen, Katherine S <katherine_sarensen@fws.gov>
Subject: Re: [EXTERNAL] CMWD U.S. Fish and Wildlife Service Consultation Letter

Thanks for the note. Im no longer with the Idaho Fish and Wildlife Office but have included Christy Johnson- Hughes the supervisor there and one of the consultation staff members. Im sure they will be following up with you on your request.

Katy

***Katy Fitzgerald, Wildlife Biologist
USFWS- Colorado Fish and Wildlife Conservation Office
c/o AFCEC/CZOM
580 Goodfellow Dr, Bldg 1324, Room 133
Peterson AFB, CO 80914
719-661-6769 cell***

From: Chase Macpherson <cmacpherson@Kellerassociates.com>
Sent: Friday, April 3, 2020 5:44 PM
To: Fitzgerald, Katy <katy_fitzgerald@fws.gov>
Cc: Kyle Meschko <kmeschko@Kellerassociates.com>
Subject: [EXTERNAL] CMWD U.S. Fish and Wildlife Service Consultation Letter

Hi Katy,

I am an engineer working with Kyle Meschko on the Cabinet Mountains Water District Project. Recently, we sent your office a letter seeking consultation on the environmental effects of the proposed project. We have not heard back, so I figured I would reach out, see if you got the letter, and ask when we might expect to receive a response. We were hoping to receive a response by sometime next week if possible.

I also realized that we may not have sent you maps with coordinates of the proposed projects, so I have attached an updated map with LAT and LONG. The original letter is also attached. Please let me know if you have any questions about the letter or attachments; you can reach me through my email or cell. Thank you for your time, and we look forward to hearing back from you.

Best,



CHASE MACPHERSON, EI

OFFICE 208-758-8601 | CELL 509-599-5758

601 Sherman Avenue, Suite 1 Coeur d'Alene, ID 83814

kellerassociates.com

Keller Associates remains dedicated to serving you during these unprecedented times. Please contact me through my cell number for assistance or support on your project.



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

USDA - Natural Resources Conservation Service
9173 W. Barnes Drive, Suite C
Boise, ID 83709-1574

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

To Whom It May Concern,

Cabinet Mountains Water District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Development in order that it may access the environmental impacts of various improvements to the CMWD water distribution system in Boundary County, ID. The project is being proposed to give the District necessary storage capacity, provide appropriate water pressures (above 40 psi) during peak hour events, and increase available fire flow in the system above 250 gpm. Specific projects include the development of a new well to meet current and future supply requirements, construction of three new storage tanks, the replacement of two booster stations, the addition of two new booster stations, the completion of one booster station, and upgrades to a pressure reducing valve station.


Enclosed are U.S. Geological Survey maps that depicts the proposal's construction activities and a description of the work involved; it should be noted that some areas of potential effect (APE), especially for new improvements, are presented as very large, however, this is a precautionary measure as the placement of new improvements have not been entirely established.

Cabinet Mountains Water District requests that your office review the proposal for any State and Federally-listed threatened and endangered species and any other important State natural resources that may occur in the project area. Please provide any recommendations you may have to mitigate or avoid these impacts.

We would appreciate a response within 30 days. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

Sincerely,

KELLER ASSOCIATES, INC.



Kyle Meschko, PE
Project Manager

March 6, 2020
Page 2 of 2

Enclosure(s)
cc: USDA, Rural Development Area Office

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO USDA, RURAL DEVELOPMENT:

We have reviewed the subject preapplication for Federal assistance and have reached the following conclusions on its relationship to our plans and programs:

- It has no adverse effect.
- We have no comment.
- Effects, although measurable, would be acceptable.
- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: NRCS

BY: Greg Becker

PHONE NUMBER: 208-267-3340 X104

From: Slate, Shane P CIV USARMY CENWW (US) <Shane.P.Slate@usace.army.mil>
Sent: Monday, April 27, 2020 11:28 AM
To: Chase Macpherson
Subject: RE: CMWD, Agency Consultation for EID

Hi Chase,

A permit from the Corps will only be needed if the proposed project will involve the discharge of dredged and/or fill material into waters of the U.S., including wetlands. The IDWR comment references perennial streams being impacted. If that is in fact the case any stream crossings may require a Corps permit.

Sincerely,

Shane Slate
Regulatory Project Manager

US Army Corps of Engineers
Walla Walla District
Coeur d'Alene Regulatory Office
1910 Northwest Blvd., Suite 210
Coeur d'Alene, ID 83814
Ph. 208-433-4474
shane.p.slate@usace.army.mil

-----Original Message-----

From: Chase Macpherson [<mailto:cmacpherson@Kellerassociates.com>]
Sent: Friday, April 24, 2020 11:04 AM
To: Slate, Shane P CIV USARMY CENWW (US) <Shane.P.Slate@usace.army.mil>
Subject: [Non-DoD Source] CMWD, Agency Consultation for EID

Hi Shane,

As requested from our phone call this morning, I have attached the original Cabinet Mountains Water District consultation letter we sent out, the area of potential effect maps for each proposed project, and the response we received from IDWR regarding a 404 permit. Please review the enclosed documents and provide us with any comments you may have about the proposed projects. It would be great to get a response from you next week if possible, but take your time and let me know if you have any questions.

Thanks,

<Blockedhttps://linkprotect.cudasvc.com/url?a=http%3a%2f%2fwww.kellerassociates.com%2f&c=E,1,3UyNbjUeFvr1qIs9zvrF8bCe5dIFdV0Jw0Sz9IF0ApUBoPgTU1LUzzymACNTVA9E_TFEwvitYrdKiHL-Uz_ozOulx2vu37fNCtdJpNNWLJxtpq_SgwD_&typo=1>

CHASE MACPHERSON, EI

OFFICE 208-758-8601 | CELL 509-599-5758

601 Sherman Avenue, Suite 1 Coeur d'Alene, ID 83814

https://linkprotect.cudasvc.com/url?a=https%3a%2f%2fkellerassociates.com&c=E,1,XtjAZJcxXKCJbKi9WUVTENe2J4sNRusSWq7JTm8x_ViomD7ZDY9FcW6TzXcVkWetm5U9HAFkf5DYcq52GtS7G1NO_C3KzS91iFpzz_Qfwg,,&typo=1

<Blockedhttps://linkprotect.cudasvc.com/url?a=http%3a%2f%2fwww.kellerassociates.com%2f&c=E,1,8Mw_2r1Y2ClxtHTK9Ho0-fiQBx2HQ1SCm1sEfgE67vBKe8QuHQ4G8gimJdNLtxketqLvzt2jc1_vQsM7HHI1p1W1Q_vU-4U4x_M_tVMxlUc,&typo=1>

Keller Associates remains dedicated to serving you during these unprecedented times. Please contact me through my cell number for assistance or support on your project.



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

Bureau of Land Management
Coeur d'Alene District
3815 Schreiber Way
Coeur d'Alene, ID 83815

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

Dear Mr. Kurt Pindel,

Cabinet Mountains Water District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Development in order that it may assess the environmental impacts of various improvements to the CMWD water distribution system in Boundary County, ID. The proposed project is expected to give the District necessary storage capacity, provide appropriate water pressures (above 40 psi) during peak hour events, and increase available fire flow in the system above 250 gpm. Specific projects include the development of a new well to meet current and future supply requirements, construction of three new storage tanks, the replacement of two booster stations, the addition of two new booster stations, the completion of one booster station, and upgrades to a pressure reducing valve station.

Enclosed are maps that depict the proposal's construction activities and a description of the work involved; it should be noted that some areas of potential effect (APE), especially for new improvements, are presented as very large, however, this is a precautionary measure as the placement of new improvements have not been entirely established. As is shown on the enclosed maps, some of the construction may take place in prime forest or agricultural forest Land. Although the submittal of a special use permit application at this time would be premature, we are seeking information on potential environmental effects from the project as an input to the Rural Development's decision-making process. We request your review of this project for potential impacts to officially designated areas within prime forest or agricultural forest land and any recommendations you may have to mitigate or avoid these effects.

We would also appreciate receiving any information regarding additional review requirements that your agency may have. We would appreciate a response within 30 days. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

Mr. Kurt Pindel
March 6, 2020
Page 2 of 2

Sincerely,

KELLER ASSOCIATES, INC.



Kyle Meschko, PE
Project Manager

Enclosure(s)

cc: USDA, Rural Development Area Office

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO USDA, RURAL DEVELOPMENT:

We have reviewed the subject preapplication for Federal assistance and have reached the following conclusions on its relationship to our plans and programs:

- It has no adverse effect.
- We have no comment.
- Effects, although measurable, would be acceptable.
- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: _____

BY: _____

PHONE NUMBER: _____



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

Confederated Salish and Kootenai Tribes
PO Box 1269
Bonners Ferry, ID 83805

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

Dear Ms. Marcia Pablo,

We are seeking information from your agency regarding known environmental issues associated with the Cabinet Mountains Water District's proposed project. Your comments are being solicited as part of National Environmental Policy Act (NEPA) compliance, related cross-cutting act compliance and agency regulatory requirements.

The following information is being provided to aid in your evaluation of the proposal:

1. **Area of Potential Effect:** There are ten proposed improvements in eight areas of potential effect for this project. Each area varies in size depending on the improvement to the Cabinet Mountains Water District (CMWD). Proposed system improvements include a new well, three new water tanks, two new booster stations, two replacement booster stations, one booster station completion, and upgrades to a pressure release valve station. Attached is a map package identifying areas of improvement and the area of potential affect associated with the improvement. Some areas may seem quite large, however, feasibility of placement has not been established for several improvements.
2. **Location:** The Cabinet Mountains Water District (CWMD) system covers a large area from the Kootenai River extending almost as far south as the Bonner County Line, adjacent to Mc Arthur Reservoir. The CMWD Planning Boundary is approximately 36 square miles and crosses into Townships 62N1W, 62N1E, 62N2E, 61N1W, 61N1E, 60N1W, and 60N1E. Specific locations regarding range, township, and sections can be found in **Table 1** on the following page.

Table 1: Project Locations

APL Project No.	Project	Flow/Storage/Station	Station
1	New Crossport Well	62N 2E	29
2	Highland Booster Station Replacement	60N 1W	2
		61N 1W	35
3	Highland Tank	60N 1W	3
		61N 1W	35
4	New Cow Creek Booster	61N 2E	7, 18
5	New North Paradise Tank	62N 1E	35
6	New Parker Canyon Tank	61N 1E	1
7	Parker Canyon Booster Replacement	61N 1E	2
8	Completion of Black Mt. Booster Station	61N 1E	23
9	Upgrades to Pressure PRV	61N 1 E	30
10	New Mountain Meadows Booster Station	60N 1E	5

3. **Federal Agencies Involved:** USDA has agreed to provide funding to this project. Other Federal Agency's potentially involved with this project include the U.S Forest Service (National Forests), the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the Bureau of Land Management, and the National Marine Fisheries Service for environmental screening.

4. **Project Description:** CMWD is currently under a moratorium on additional water connections. An evaluation of the existing system identified the following deficiencies: inadequate water supply capacity, inadequate storage, low pressures during peak hour flow conditions, and inability to provide recommended minimum fire flows. A plan for mitigating these deficiencies and meeting future system requirements has been established. Recommended improvements include the following:

- Develop a new well at the Crossport site to meet current and future supply requirements. Complete additional improvements at the existing Crossport Well facility.
- Construct three new storage tanks (Parker Canyon, Highland Flats, North Paradise) for a total of 760,000 gallons of storage to meet current and future storage needs.
- Replace the Highland Booster Station; replace the Parker Canyon Booster Station; add Mountain Meadows Booster Station; add Cow Creek Booster Station; and complete improvements at Black Mountain Booster Station.
- Upgrade the Naples pressure reducing valve station.

These projects have been organized into a Capital Improvement Plan (CIP). Priority 1 improvements address the existing storage deficiency, improve pressures above the required 40 psi minimum during peak hour events, and increase the available fire flow in the system to above 250 gpm. The improvements are displayed in **Table 2** on the following page.

Table 2: Capital Improvement Plan

ID	Project	Estimated Cost (USD Dollars)
W1.1	Alternative 1: Additional Crossport Well	\$877,000
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	\$2,107,000
T1.2	Highland Flats Tank (200,000 gal)	\$1,370,000
T1.3	North Paradise Elevated Tank (300,000 gal)	\$2,192,000
1.1	Highland Booster Replacement	\$586,000
1.2	Black Mountain Booster Improvements	\$179,000
1.3	Mountain Meadows Rd. Booster	\$285,000
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	\$62,000
1.5	Kootenai Trail Booster	\$285,000
CI	Crossport Well Facility Improvements	\$168,000
CI	Black Mountain Facility Improvements	\$103,000
<i>Total (rounded)</i>		\$8,214,000

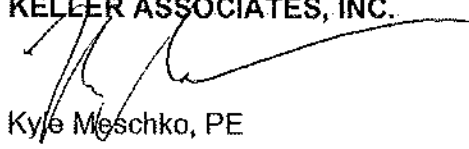
It is anticipated that no existing buildings will be disturbed by these projects. Most projects will be developed on land already owned by the CMWD, in rural areas, or underneath the roadway. Some projects, such as the Highland tank, North Paradise Tank, Mountain Meadows Booster Station, or Cow Creek Booster Station have the potential to affect forest land, however, efforts to mitigate this will be taken.

- 5. Environmental Information:** Based on the location of the proposed projects, the only expected environmental impacts are from limiting land use availability, the potential to affect prime forest or agricultural forest land, minimal temporary impacts to flora and fauna (from construction), and minimal energy impacts. All other environmental criteria either has positive impact or no impact at all.
- 6. Attachments:** Attached are nine (9) pages of maps that show the area of potential effect (APE) for each proposed project.

Please provide your comments on the enclosed comment sheet or by letter within 30-days of the date of this letter to 601 Sherman Ave Suite 1, Coeur d'Alene, ID 83814 and 7830 Meadowlark Way, Suite C3 Coeur d'Alene, ID 83815. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

Sincerely,

KELLER ASSOCIATES, INC.



Kyle Meschko, PE
 Project Manager

Enclosure(s)

cc: USDA, Rural Development Area Office

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO USDA, RURAL DEVELOPMENT:

We have reviewed the subject preapplication for Federal assistance and have reached the following conclusions on its relationship to our plans and programs:

- It has no adverse effect.
- We have no comment.
- Effects, although measurable, would be acceptable.
- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: _____

BY: _____

PHONE NUMBER: _____



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

Department of Environmental Quality
2110 Ironwood Parkway
Coeur d'Alene, ID 83814

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

Dear Mr. Matthew Plaisted,

We are seeking information from your agency regarding known environmental issues associated with the proposed project. Your comments are being solicited as part of National Environmental Policy Act (NEPA) compliance, related cross-cutting act compliance and agency regulatory requirements.

The following information is being provided to aid in your evaluation of the proposal:

- 1. Area of Potential Effect:** There are ten proposed improvements in eight areas of potential effect for this project. Each area varies in size depending on the improvement to the Cabinet Mountains Water District (CMWD). Proposed system improvements include a new well, three new water tanks, two new booster stations, two replacement booster stations, one booster station completion, and upgrades to a pressure release valve station. Attached is a map package identifying areas of improvement and the area of potential affect associated with the improvement. Some areas may seem quite large, however, feasibility of placement has not been established for several improvements.
- 2. Location:** The Cabinet Mountains Water District (CWMD) system covers a large area from the Kootenai River extending almost as far south as the Bonner County Line, adjacent to Mc Arthur Reservoir. The CMWD Planning Boundary is approximately 36 square miles and crosses into Townships 62N1W, 62N1E, 62N2E, 61N1W, 61N1E, 60N1W, and 60N1E. Specific locations regarding range, township, and sections can be found in **Table 1** on the following page.

Table 1: Project Locations

APC Page No.	Project	Flow/Storage Range	Station
1	New Crossport Well	62N 2E	29
2	Highland Booster Station Replacement	60N 1W	2
		61N 1W	35
3	Highland Tank	60N 1W	3
		61N 1W	35
4	New Cow Creek Booster	61N 2E	7, 18
5	New North Paradise Tank	62N 1E	35
6	New Parker Canyon Tank	61N 1E	1
7	Parker Canyon Booster Replacement	61N 1E	2
8	Completion of Black Mt. Booster Station	61N 1E	23
9	Upgrades to Pressure PRV	61N 1 E	30
10	New Mountain Meadows Booster Station	60N 1E	5

3. **Federal Agencies Involved:** USDA has agreed to provide funding to this project. Other Federal Agency's potentially involved with this project include the U.S Forest Service (National Forests), the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the Bureau of Land Management, and the National Marine Fisheries Service for environmental screening.

4. **Project Description:** CMWD is currently under a moratorium on additional water connections. An evaluation of the existing system identified the following deficiencies: inadequate water supply capacity, inadequate storage, low pressures during peak hour flow conditions, and inability to provide recommended minimum fire flows. A plan for mitigating these deficiencies and meeting future system requirements has been established. Recommended improvements include the following:

- Develop a new well at the Crossport site to meet current and future supply requirements. Complete additional improvements at the existing Crossport Well facility.
 - Construct three new storage tanks (Parker Canyon, Highland Flats, North Paradise) for a total of 760,000 gallons of storage to meet current and future storage needs.
 - Replace the Highland Booster Station; replace the Parker Canyon Booster Station; add Mountain Meadows Booster Station; add Cow Creek Booster Station; and complete improvements at Black Mountain Booster Station.
- Upgrade the Naples pressure reducing valve station.

These projects have been organized into a Capital Improvement Plan (CIP). Priority 1 improvements address the existing storage deficiency, improve pressures above the required 40 psi minimum during peak hour events, and increase the available fire flow in the system to above 250 gpm. Improvements and cost estimates corresponding to each one are displayed in **Table 2** on the following page.

Table 2: Capital Improvement Plan

ID	Project	Estimated Project Cost
W1.1	Alternative 1: Additional Crossport Well	\$877,000
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	\$2,107,000
T1.2	Highland Flats Tank (200,000 gal)	\$1,370,000
T1.3	North Paradise Elevated Tank (300,000 gal)	\$2,192,000
1.1	Highland Booster Replacement	\$586,000
1.2	Black Mountain Booster Improvements	\$179,000
1.3	Mountain Meadows Rd. Booster	\$285,000
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	\$62,000
1.5	Kootenai Trail Booster	\$285,000
CI	Crossport Well Facility Improvements	\$168,000
CI	Black Mountain Facility Improvements	\$103,000
<i>Total (rounded)</i>		\$8,214,000


It is anticipated that no existing buildings will be disturbed by these projects. Most projects will be developed on land already owned by the CMWD, in rural areas, or underneath the roadway. Some projects, such as the Highland tank, North Paradise Tank, Mountain Meadows Booster Station, or Cow Creek Booster Station have the potential to affect forest land, however, efforts to mitigate this will be taken.

- 5. Environmental Information:** Based on the location of the proposed projects, the only expected environmental impacts are from limiting land use availability, the potential to affect prime forest or agricultural forest land, minimal temporary impacts to flora and fauna (from construction), and minimal energy impacts. All other environmental criteria either has positive impact or no impact at all. If there are other environmental impacts that have not been considered, considerations and mitigation advice from the DEQ is welcome.
- 6. Attachments:** Attached are nine (9) pages of maps that show the area of potential effect (APE) for each proposed project.

Please provide your comments on the enclosed comment sheet or by letter within 30-days of the date of this letter to 601 Sherman Ave Suite 1, Coeur d'Alene, ID 83814 and 7830 Meadowlark Way, Suite C3 Coeur d'Alene, ID 83815. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

Sincerely,

KELLER ASSOCIATES, INC.



Kyle Meschko, PE
 Project Manager

Enclosure(s)

cc: USDA, Rural Development Area Office

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO USDA, RURAL DEVELOPMENT:

We have reviewed the subject preapplication for Federal assistance and have reached the following conclusions on its relationship to our plans and programs:

- It has no adverse effect.
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- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: _____

BY: _____

PHONE NUMBER: _____



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

Kootenai Tribe of Idaho
P.O. Box 1269
Bonners Ferry, ID 83805

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

Dear Ms. Josie Shottanana,

We are seeking information from your agency regarding known environmental issues associated with the Cabinet Mountains Water District's proposed project. Your comments are being solicited as part of National Environmental Policy Act (NEPA) compliance, related cross-cutting act compliance and agency regulatory requirements.

The following information is being provided to aid in your evaluation of the proposal:

1. **Area of Potential Effect:** There are ten proposed improvements in eight areas of potential effect for this project. Each area varies in size depending on the improvement to the Cabinet Mountains Water District (CMWD). Proposed system improvements include a new well, three new water tanks, two new booster stations, two replacement booster stations, one booster station completion, and upgrades to a pressure release valve station. Attached is a map package identifying areas of improvement and the area of potential affect associated with the improvement. Some areas may seem quite large, however, feasibility of placement has not been established for several improvements.
2. **Location:** The Cabinet Mountains Water District (CWMD) system covers a large area from the Kootenai River extending almost as far south as the Bonner County Line, adjacent to Mc Arthur Reservoir. The CMWD Planning Boundary is approximately 36 square miles and crosses into Townships 62N1W, 62N1E, 62N2E, 61N1W, 61N1E, 60N1W, and 60N1E. Specific locations regarding range, township, and sections can be found in **Table 1** on the following page.

Table 1: Project Locations

API Project No.	Project	Township and Range	Section
1	New Crossport Well	62N 2E	29
2	Highland Booster Station Replacement	60N 1W	2
		61N 1W	35
3	Highland Tank	60N 1W	3
		61N 1W	35
4	New Cow Creek Booster	61N 2E	7, 18
5	New North Paradise Tank	62N 1E	35
6	New Parker Canyon Tank	61N 1E	1
7	Parker Canyon Booster Replacement	61N 1E	2
8	Completion of Black Mt. Booster Station	61N 1E	23
9	Upgrades to Pressure PRV	61N 1 E	30
10	New Mountain Meadows Booster Station	60N 1E	5

3. **Federal Agencies Involved:** USDA has agreed to provide funding to this project. Other Federal Agency's potentially involved with this project include the U.S Forest Service (National Forests), the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the Bureau of Land Management, and the National Marine Fisheries Service for environmental screening.

4. **Project Description:** CMWD is currently under a moratorium on additional water connections. An evaluation of the existing system identified the following deficiencies: inadequate water supply capacity, inadequate storage, low pressures during peak hour flow conditions, and inability to provide recommended minimum fire flows. A plan for mitigating these deficiencies and meeting future system requirements has been established. Recommended improvements include the following:

- Develop a new well at the Crossport site to meet current and future supply requirements. Complete additional improvements at the existing Crossport Well facility.
- Construct three new storage tanks (Parker Canyon, Highland Flats, North Paradise) for a total of 760,000 gallons of storage to meet current and future storage needs.
- Replace the Highland Booster Station; replace the Parker Canyon Booster Station; add Mountain Meadows Booster Station; add Cow Creek Booster Station; and complete improvements at Black Mountain Booster Station.
- Upgrade the Naples pressure reducing valve station.

These projects have been organized into a Capital Improvement Plan (CIP). Priority 1 improvements address the existing storage deficiency, improve pressures above the required 40 psi minimum during peak hour events, and increase the available fire flow in the system to above 250 gpm. The improvements are displayed in **Table 2** on the following page.

Table 2: Capital Improvement Plan

ID	Description	Estimated Cost (\$)
W1.1	Alternative 1: Additional Crossport Well	\$877,000
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	\$2,107,000
T1.2	Highland Flats Tank (200,000 gal)	\$1,370,000
T1.3	North Paradise Elevated Tank (300,000 gal)	\$2,192,000
1.1	Highland Booster Replacement	\$586,000
1.2	Black Mountain Booster Improvements	\$179,000
1.3	Mountain Meadows Rd. Booster	\$285,000
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	\$62,000
1.5	Kootenai Trail Booster	\$285,000
Cf	Crossport Well Facility Improvements	\$168,000
Cf	Black Mountain Facility Improvements	\$103,000
<i>Total (rounded)</i>		\$8,214,000


It is anticipated that no existing buildings will be disturbed by these projects. Most projects will be developed on land already owned by the CMWD, in rural areas, or underneath the roadway. Some projects, such as the Highland tank, North Paradise Tank, Mountain Meadows Booster Station, or Cow Creek Booster Station have the potential to affect forest land, however, efforts to mitigate this will be taken.

5. **Environmental Information:** Based on the location of the proposed projects, the only expected environmental impacts are from limiting land use availability, the potential to affect prime forest or agricultural forest land, minimal temporary impacts to flora and fauna (from construction), and minimal energy impacts. All other environmental criteria either has positive impact or no impact at all.
6. **Attachments:** Attached are nine (9) pages of maps that show the area of potential effect (APE) for each proposed project.

Please provide your comments on the enclosed comment sheet or by letter within 30-days of the date of this letter to 601 Sherman Ave Suite 1, Coeur d'Alene, ID 83814 and 7830 Meadowlark Way, Suite C3 Coeur d'Alene, ID 83815. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

Sincerely,

KELLER ASSOCIATES, INC.



Kyle Meschko, PE
 Project Manager

Enclosure(s)

cc: USDA, Rural Development Area Office

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO USDA, RURAL DEVELOPMENT:

We have reviewed the subject preapplication for Federal assistance and have reached the following conclusions on its relationship to our plans and programs:

- It has no adverse effect.
- We have no comment.
- Effects, although measurable, would be acceptable.
- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: _____

BY: _____

PHONE NUMBER: _____



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

National Marine Fisheries Service
102 N. College Street
Grangeville, ID 83830

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

To Whom It May Concern,

Cabinet Mountains Water District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Development in order that it may assess the environmental impacts of various improvements to the CMWD water distribution system in Boundary County, ID. The project is being proposed to give the District necessary storage capacity, provide appropriate water pressures (above 40 psi) during peak hour events, and increase available fire flow in the system above 250 gpm. Specific projects include the development of a new well to meet current and future supply requirements, construction of three new storage tanks, the replacement of two booster stations, the addition of two new booster stations, the completion of one booster station, and upgrades to a pressure reducing valve station. Enclosed are U.S. Geological Survey maps that depict the proposal's construction activities and a description of the work involved.

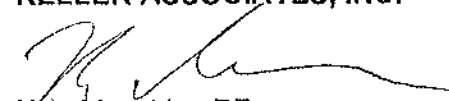
To initiate the process, Rural Development has asked us to gather information regarding Federally-listed species, critical habitat, and migratory birds from your office. Rural Development, as the lead Federal agency, is responsible for compliance with Section 7(a)(2) of the Endangered Species Act, and will provide determinations of effect as appropriate during the consultation process.

The proposal should not represent a "major construction activity" as defined in 50 CFR 402.02. We request a list of any Federally-listed or proposed threatened or endangered species and designated or proposed critical habitat that may be present in the project area. In addition, please advise us of any present concerns you may have related to possible effects of the project listed above on such species or critical habitat, as well as any other wildlife concerns.

We would appreciate a response within 30 days. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

Sincerely,

KELLER ASSOCIATES, INC.


Kyle Meschko, PE
Project Manager

March 6, 2020
Page 2 of 2

Enclosure(s)

cc: USDA, Rural Development Area Office

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District

(APPLICANT NAME)

Water System Improvements

(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO USDA, RURAL DEVELOPMENT:

We have reviewed the subject preapplication for Federal assistance and have reached the following conclusions on its relationship to our plans and programs:

- It has no adverse effect.
- We have no comment.
- Effects, although measurable, would be acceptable.
- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: _____

BY: _____

PHONE NUMBER: _____



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

U.S. Army Corps of Engineers
201 N. 3rd Avenue
Walla Walla, WA 99362

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

Dear Ms. Karen Kelly,

Cabinet Mountains Water District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Development in order that it may access the environmental impacts of various improvements to the CMWD water distribution system in Boundary County, ID. The project is being proposed to give the District necessary storage capacity, provide appropriate water pressures (above 40 psi) during peak hour events, and increase available fire flow in the system above 250 gpm. Specific projects include the development of a new well to meet current and future supply requirements, construction of three new storage tanks, the replacement of two booster stations, the addition of two new booster stations, the completion of one booster station, and upgrades to a pressure reducing valve station.

Enclosed are U.S. Geological Survey maps that depict the proposal's construction activities and a description of the work involved; it should be noted that some areas of potential effect (APE), especially for new improvements, are presented as very large; this is a precautionary measure as the placement of new improvements have not been entirely established.

Cabinet Mountains Water District requests that your office review the proposal for any wetland environmental impacts. Please provide any recommendations you may have to mitigate or avoid these impacts.

We would appreciate a response within 30 days. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

Sincerely,

KELLER ASSOCIATES, INC.


Kyle Meschko, PE
Project Manager

Ms. Karen Kelly
March 6, 2020
Page 2 of 2

Enclosure(s)

cc: USDA, Rural Development Area Office

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District

(APPLICANT NAME)

Water System Improvements

(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO USDA, RURAL DEVELOPMENT:

We have reviewed the subject preapplication for Federal assistance and have reached the following conclusions on its relationship to our plans and programs:

- It has no adverse effect.
- We have no comment.
- Effects, although measurable, would be acceptable.
- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: _____

BY: _____

PHONE NUMBER: _____



601 Sherman Ave, Suite 1
Coeur d'Alene, ID 83814

(208) 813-7603

March 6, 2020

U.S. Forest Service
Idaho Panhandle
3815 Schreiber Way
Coeur d'Alene, ID 83815

**Re: Cabinet Mountains Water District / Water System Improvements
Areas of Potential Impact**

To Whom It May Concern,

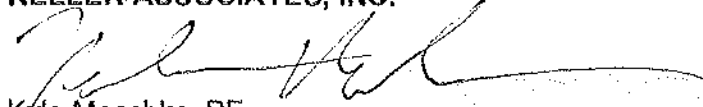
Cabinet Mountains Water District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Development in order that it may access the environmental impacts of various improvements to the CMWD water distribution system in Boundary County, ID. The project is being proposed to give the District necessary storage capacity, provide appropriate water pressures (above 40 psi) during peak hour events, and increase available fire flow in the system above 250 gpm. Specific projects include the development of a new well to meet current and future supply requirements, construction of three new storage tanks, the replacement of two booster stations, the addition of two new booster stations, the completion of one booster station, and upgrades to a pressure reducing valve station.

Enclosed are maps that depict the proposal's construction activities and a description of the work involved; it should be noted that some areas of potential effect (APE), especially for new improvements, are presented as very large, however, this is a precautionary measure as the placement of new improvements have not been entirely established. As is shown on the enclosed maps, some of the construction may take place in prime forest or agricultural forest Land. Although the submittal of a special use permit application at this time would be premature, we are seeking information on potential environmental effects from the project as an input to the Rural Development's decision-making process. We request your review of this project for potential impacts to officially designated areas within prime forest or agricultural forest land and any recommendations you may have to mitigate or avoid these effects.

We would also appreciate receiving any information regarding additional review requirements that your agency may have. We would appreciate a response within 30 days. If you need any further information or wish to discuss the project, please contact Kyle Meschko at (208) 758-8652.

Sincerely,

KELLER ASSOCIATES, INC.



Kyle Meschko, PE
Project Manager

Enclosure(s)

cc: USDA, Rural Development Area Office

**INTERGOVERNMENTAL REVIEW COMMENT SHEET
FOR**

Cabinet Mountain Water District
(APPLICANT NAME)

Water System Improvements
(PROJECT TYPE)

TO AGENCY ADDRESSED:

If you intend to comment but cannot respond to USDA, Rural Development within 30 calendar days, please notify USDA, Rural Development immediately. If no response is received by the due date, it will be assumed that you have no comment and the file will be closed.

PROGRAM REVIEW AND COMMENT

TO USDA, RURAL DEVELOPMENT:

We have reviewed the subject preapplication for Federal assistance and have reached the following conclusions on its relationship to our plans and programs:

- It has no adverse effect.
- We have no comment.
- Effects, although measurable, would be acceptable.
- It has adverse effects. (Explain in the Remarks Section.)
- We are interested but require more information to evaluate the proposal. (Explain in the Remarks Section)
- Additional comments for project improvement. (Attach if necessary)

REMARKS:

AGENCY: _____

BY: _____

PHONE NUMBER: _____

APPENDIX E

PUBLIC OUTREACH

AFFIDAVIT OF PUBLICATION

State of Idaho

ss

County of Boundary, Jinda Johnson
being first duly sworn on oath deposes and says that
he/she is book keeper of the
Bonners Ferry Herald, a newspaper printed and
published at Bonners Ferry, Boundary County, Idaho;
that the said newspaper has been continuously and
uninterruptedly published in said Boundary County during
a period of 12 months prior to the first publication of the
hereto attached notice of publication in the case of:

Public Notice
_____ as it
was published in the regular and entire issue of the said
paper for a period of 2 consecutive weeks,
commencing on 17th day of May, 2020 and
ending on the 14th day of May, 2020 and
that said notice was published in said newspaper.

Jinda Johnson

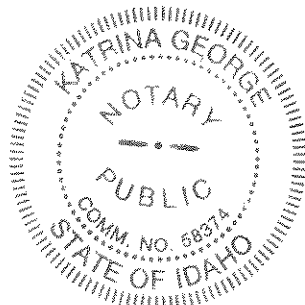
SUBSCRIBED AND SWORN TO before me, this

14th day of May, 2020.

Katrina George
Notary Public-State of Idaho

Residing at: Kootenai County 10396

My Commission Expires 8/29/23



Public Notice Announcing the Availability of an Environmental Assessment
DEPARTMENT OF AGRICULTURE Rural Development
CABINET MOUNTAINS WATER DISTRICT: Notice of Availability of an Environmental Assessment
AGENCY: USDA Rural Development (RD)
ACTION: Notice of Availability of an Environmental Assessment
SUMMARY: Notice is hereby given that the RD, as required by the National Environmental Policy Act, is issuing an environmental assessment (EA) in connection with possible impacts related to a project proposed by the Cabinet Mountains Water District (CMWD), of Boundary County, ID. The proposal is for construction of many water system improvements including:
*One (1) new well located at the existing Crossport Well Site.
*Three (3) new water tanks, one located in the existing Parker Canyon Tank Site, one in the Highlands Flats area, and one in North Paradise area.
*Two (2) new booster pump stations, one located near Kootenai Trail Road and the other near Mountain Meadows Road.
*Two (2) replacement booster pump stations, one located at the existing Parker Canyon Tank Site and the other located near Highland Flats Road.
*Improvements of a booster pump station at the existing Black Mountain Booster Station site.
*Upgrades to a pressure reducing valve (PRV) station.
These projects are intended to improve the water system. CMWD has submitted an application to RD for funding of the projects.
FOR FURTHER INFORMATION CONTACT: John Lynn, Community Program Specialist, USDA RD
USDA Rural Development
7830 N Meadowlark Way, Suite C3
Coeur d'Alene, ID 83815
Office Phone: 208-209-4363
Email: john.lynn@usda.gov
Please contact USDA RD for a copy of the EA or it can be found on CMWD website (www.cmwd.org).
SUPPLEMENTARY INFORMATION: The CWMD provide water to a large area in Boundary County. This service area is south of the Kootenai River extending almost as far south as the Bonner County Line, adjacent to the McArthur Lake. The current system is comprised of two groundwater wells, three storage tanks, five booster pump stations, and over 75 miles of water main. There are approximately 930 connections. The system was developed in 1994 to provide water to many County residents who were without a reliable water source due to lack of groundwater availability. System deficiencies include lack of capacity, aging infrastructure, low pressures, and inability to meet peak hour demands. The proposed improvement projects are planned to rectify these deficiencies. Keller Associates, an environmental consultant, prepared an environmental assessment for RD that describes the projects, assesses the proposed projects' environmental impacts, and summarizes as applicable any mitigation measures used to minimize environmental effects. RD has conducted an independent evaluation of the environmental assessment and believes that it accurately assesses the impacts of the proposed project. No significant impacts are expected as a result of the construction of the project. Questions and comments should be sent to RD at the address provided. RD will accept questions and comments on the environmental assessment for 14 days from the date of publication of this notice. Any final action by RUS related to the proposed project will be subject to, and contingent upon, compliance with all relevant Federal environmental laws and regulations and completion of environmental review procedures as prescribed by 7 CFR Part 1970, Environmental Policies and Procedures.
Dated: 5/4/2020
BFH#10396
MAY 7, 14, 2020

AFFIDAVIT OF PUBLICATION

State of Idaho

ss

County of Boundary, Jinda Johnson

being first duly sworn on oath deposes and says that he/she is book keeper of the Bonners Ferry Herald, a newspaper printed and published at Bonners Ferry, Boundary County, Idaho; that the said newspaper has been continuously and uninterruptedly published in said Boundary County during a period of 12 months prior to the first publication of the hereto attached notice of publication in the case of:

Public Notice

_____ as it was published in the regular and entire issue of the said paper for a period of 1 consecutive weeks, commencing on 18th day of June, 2020 and ending on the 18th day of June, 2020 and that said notice was published in said newspaper.

Jinda Johnson

SUBSCRIBED AND SWORN TO before me, this

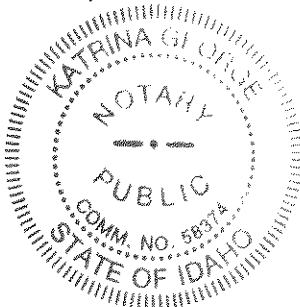
18th day of June, 2020.

Katrina George

Notary Public-State of Idaho

Residing at: Kootenai County

My Commission Expires 8/29/23



Public Notice Announcing the Availability of a Finding of No Significant Impact

DEPARTMENT OF AGRICULTURE

Rural Development

Cabinet Mountains Water District: Notice of Finding of No Significant Impact

ACTION: Notice of Finding of No Significant Impact.

SUMMARY: The USDA RD has made a Finding of No Significant Impact (FONSI) with respect to a request for possible financing assistance to the Cabinet Mountains Water District for the construction of water system improvements in Cabinet Mountains Water District.

FURTHER INFORMATION: To obtain copies of the Environmental Assessment (EA) and FONSI, or for further information, contact: John Lynn, RD Coeur d'Alene Office, 7830 N. Meadowlark Way, Suite C3, Phone: 208-209-4363, or john.lynn@id.usd.a.gov.

SUPPLEMENTARY INFORMATION: The proposed project consists of the following:

- * One (1) new well located at the existing Crossport Well Site.
- * Three (3) new water tanks, one located in the existing Parker Canyon Tank Site, one in the Highlands Flats area, and one in North Paradise area.
- * Two (2) new booster pump stations, one located near Kootenai Trail Road and the other near Mountain Meadows Road.
- * Two (2) replacement booster pump stations, one located at the existing Parker Canyon Tank Site and the other located near Highland Flats Road.
- * Improvements of a booster pump station at the existing Black Mountain Booster Station site.
- * Upgrades to a pressure reducing valve (PRV) station.

Alternatives considered by USDA RD and the Cabinet Mountains Water District include various water supply, storage and distribution alternatives that are discussed in detail in the Cabinet Mountains Water District water system improvements EA. The USDA RD has reviewed and approved the EA for the proposed project.

The availability of the EA for public review was announced via notice in the following newspaper: The Bonners Ferry Herald. A 14-day comment period was announced in the newspaper notice. The EA was also available for public review at the Cabinet Mountains Water District's website. No comments were received. Based on its EA, commitments made by the Cabinet Mountains Water District, and public comments received, USDA RD has concluded that the project would have no significant impact (or no impacts) to water quality, wetlands, floodplains, land use, aesthetics, transportation, or human health and safety.

The proposed project will utilize the Nationwide Programmatic Agreement Among the U.S. Department of Agriculture Rural Development Programs, National Conference of State Historic Preservation Officers and The Advisory Council on Historic Preservation for Sequencing Section 106 (NPA) to achieve compliance with the Nation Historic Preservation Act and formally determine effects on historic properties listed or eligible for listing on the National Register of Historic Places. The Agency has concluded that the proposed project will have no effect to federally listed threatened and endangered species or designated critical habitat thereof. The proposed project would not disproportionately affect minority and/or low-income populations.

No other potential significant impacts resulting from the proposed project have been identified. Therefore, USDA RD has determined that this FONSI fulfills its obligations under the National Environmental Policy Act, as amended (42 U.S.C. 4321 et seq.), the Council on Environmental Quality Regulations (40 CFR §§ 1500-1508), and USDA Rural Development's Environmental Policies and Procedures (7 CFR Part 1970) for its action related to the project. USDA RD is satisfied that the environmental impacts of the proposed project have been adequately addressed. USDA RD federal action would not result in significant impacts to the quality of the human environment, and as such it will not prepare an Environmental Impact Statement for its action related to the proposed project.

Dated: June 11, 2020

BFH#10417/AD#388165

JUNE 18, 2020

LEGAL NOTICE
OF THE CONCURRENCE OF A FINDING OF NO SIGNIFICANT IMPACT FOR THE
PROPOSED CABINET MOUNTAINS WATER DISTRICT DRINKING WATER
IMPROVEMENTS PROJECT, BONNERS FERRY, BOUNDARY COUNTY, IDAHO

The Idaho Department of Environmental Quality (DEQ) has reviewed the finding of no significant impact (FONSI) prepared and issued by the U.S. Department of Agriculture, Rural Development (USDA-RD) on May 26, 2020, for the Cabinet Mountains Water District drinking water improvements project. DEQ concurs with the FONSI issued by the USDA-RD, and hereby adopts it to satisfy DEQ's environmental document review requirements under the State Environmental Review Process (SERP), "Rules for Administration of Planning Grants for Drinking Water Facilities" (IDAPA 58.01.22), and "Rules for Administration of Drinking Water Loan Program" (IDAPA 58.01.20), for the project described below.

- Adding one new well, located at the existing Crossport Well Site;
- Adding three new water tanks, one located in the existing Parker Canyon Tank Site, on in the Highlands Flats area, and one in the North Paradise area;
- Adding two replacement booster pump stations, one located at the existing Parker Canyon Tank Site, and the other located near Highland Flats Road;
- Improving of a booster pump station at the existing Black Mountain Booster Station Site; and
- Upgrading to a pressure reducing valve station.

Copies of the notice of FONSI concurrence and the environmental information document upon which it is based are available for public review by submitting a public records request, pursuant to Idaho Code § 74-101, et seq. A request may be submitted at <http://www.deq.idaho.gov/contact-us/public-records-request/online-prr-request-form/> or by contacting the Idaho Department of Environmental Quality's Records Officer, Marcella Mink, at Marcella.Mink@deq.idaho.gov or (208) 373-0149.

The records may also be available for public review at the following location:

Cabinet Mountains Water District
PO Box 1223
Bonners Ferry, Idaho 83805
Contact: Chairman Ed Katz, (208) 267-7795 or idahokatz@gmail.com

APPENDIX F

CULTURAL SURVEY REPORT



Brad Little
Governor of Idaho

Janet Gallimore
Executive Director
State Historic
Preservation Officer

Administration:
2205 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2682
Fax: 208.334.2774

Idaho State Museum:
610 Julia Davis Dr.
Boise, Idaho 83702
208.334.2120

**Idaho State Archives
and State Records
Center:**
2205 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2620

**State Historic
Preservation Office:**
210 Main St.
Boise, Idaho 83702
208.334.3861

**Old Idaho Penitentiary
and Historic Sites:**
2445 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2844

HISTORY.IDAHO.GOV

15 July 2020

Zack Wallin
Keller Associates
601 Sherman Ave, Suite 1
Coeur d'Alene, Idaho 83814
zwallin@Kellerassociates.com

**RE: Cabinet Mountains Water District / Water System
Improvements Area of Potential Impact / SHPO Rev. No. 2020-439**

Dear Zack:

Thank you for consulting with our office on the above referenced project. We understand the scope of work includes USDA providing funding to the Cabinet Mountain Water District. Project actions will include the installation of a new well, three new water tanks, two new booster stations, two replacement booster stations, one booster station completion, and upgrades to a pressure release valve station within the Cabinet Mountains Water District in Bonner County, Idaho.

Pursuant to 36 CFR 800, we have applied the criteria of effect to the proposed undertaking. Based on the information received 6 July 2020, we concur the proposed project actions will have **no effect to historic properties.**

In the event that cultural material is inadvertently encountered during implementation of this project, work shall be halted in the vicinity of the finds until they can be inspected and assessed by the appropriate consulting parties.

If you have any questions or the scope of work changes, please contact me via phone or email at 208.488.7463 or ashley.brown@ishs.idaho.gov.

Sincerely,

Ashley Brown, M.A.
Historical Review Officer
Idaho State Historic Preservation Office



August 19, 2020

Ashley Brown, Historic Preservation Review Officer
Idaho State Historical Preservation Office
210 Main St.
Boise, ID 83702

Re: Cabinet Mountains Water District, Water System Improvements Project
SHPO Review No. 2020-439

Dear Ms. Brown,

In your letter dated July 15, 2020 regarding the subject project (SHPO Review No. 2020-439), your office determined the proposed project will have no adverse effect to historic properties. USDA Rural Development concurs in this determination and this will conclude Section 106 review for the project.

If you have any questions or need additional information, please contact Kent Erickson at (208) 327-6462.

Sincerely,

Kent M. Erickson, P.E.
State Engineer

Cc: Boise; USDA RD

Rural Development • Idaho State Office

9173 West Barnes Drive • Suite A1 • Boise, ID 83709
Voice (208) 378-5600 • Fax (208) 378-5643

USDA is an equal opportunity provider and employer.

CABINET MOUNTAINS WATER DISTRICT, BOUNDARY COUNTY, IDAHO



July 2020

By: Robert Lee Sappington

Abstract

The Cabinet Mountains Water District (CMWD) is located in Boundary County in north Idaho. CMWD is currently planning to upgrade portions of its facilities and a total of 10 separate improvements have been proposed including the installation of a new well, construction of three new water tanks, construction of two new booster stations, construction of two replacement booster stations, completion of one booster station, and upgrades to a pressure relief valve station. The sites are located in rural settings east and south of Bonners Ferry. The improvements are planned on parcels totaling approximately 128 acres but most construction will occur on sites that are less than 1 acre in extent. the specific Area of Potential Effect (APE) totals approximately 15 acres.

The project is being funded by USDA and is therefore an undertaking subject to compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

To comply with Section 106, this report evaluates whether the proposed project would affect any historic properties within the APE. There are no pre-existing sites in the APE. An intensive cultural resource survey was conducted throughout the APE. The project area has been disturbed by the construction of the existing infrastructure, access roads, utilities, logging, and other impacts. No cultural resources were identified within the APE. Project actions will have NO EFFECT on Historic Properties.

CERTIFICATION OF RESULTS

I certify that this investigation was conducted and documented according to Secretary of Interior's Standards and guidelines and that the report is complete and accurate to the best of my knowledge.



Signature of Principal Investigator

1 July 2020

Date

Key Information

PROJECT NAME

Cabinet Mountains Water District

PROJECT NUMBER(S)

LOCATION

10 locations east and south of Bonners Ferry, in Boundary County

USGS QUADS

Moyie Spring, ID, Bonners Ferry, ID, and Naples, ID

LEGAL LOCATION OF SURVEY

T 62 N, R 2 E, Section 29; T 62 N, R 1 E, Section 35; T 61 N, R 2 E, Sections 7 & 18; T 61 N, R 1 E, Sections 1, 23, & 30; T 61 N, R 1 W, Section 35; T 60 N, R 1 E, Section 5; and T 60 N, R 1 W, Section 2

PROJECT AREA

15 Acres

AREA SURVEYED

15 Acres Intensive Survey

0 Acres Reconnaissance Survey

PROJECT DATA

0 Previously recorded cultural resources

0 New cultural resources located and/or recorded

AUTHORS

Robert Lee Sappington

FEDERAL AGENCY

USDA

REPORT PREPARED FOR

Cabinet Mountains Water District

REPOSITORY

Idaho State Historic Preservation Office

PRINCIPAL INVESTIGATOR

Robert Lee Sappington, Ph.D., RPA

DATE

7/1/2020

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Project Description

The Cabinet Mountains Water District (CMWD) has facilities across Boundary County, Idaho. These facilities date to the early 1990s and CMWD is currently planning to upgrade portions of its infrastructure. A total of ten separate improvements have been proposed including the installation of a new well, construction of three new water tanks, construction of two new booster stations, construction of two replacement booster stations, completion of one booster station, and upgrades to a pressure relief valve station. Five sites are in proximity to existing facilities while the other five sites involve ground-disturbance in new settings. All sites are in rural settings adjacent to existing county and private roads (Figures 1-7).

The new Crossport Well will be installed within the existing CMWD yard that encloses the office building/wellhouse and the existing well (Figure 8). Future plans may involve the construction of a new office building at the northwest corner of the yard (Figure 9) with an APE of less than 1 acre.

The existing Parker Canyon Booster Station is located on the west side of Parker Canyon Road (Figures 10-13). Planned improvements include two parts. Following the acquisition of approximately 2 acres to the south both a replacement booster station and a new tank will be constructed (Figures 10-13).

The new North Paradise Tank will be constructed in the north side of Blue Sky Road in a setting where no current facilities exist (Figures 19-21). There will be a new access to the tank and the APE is approximately 6.9 acres.

The new Kootenai Trail (or Cow Creek) Booster Station will be constructed on Kootenai Trail Road in a setting where no existing facilities exist. Approximately 6.6 acres are within the APE and three locations are being considered (Figures 14-16) but the actual APE is less than 1 acre and the footprint of the booster station will be 100 feet x 100 feet.

The existing Black Mountain Booster Station and tank are located within a fenced enclosure on approximately 2 acres at the end of a private road (Figures 17-18). No ground-disturbing construction is currently being planned but some upgrades occur to the existing facilities and two drainage areas below the fence could be improved in the future.

The Pressure Reducing Valve Station (PRV) is in an existing underground chamber on the east side of Pleasant Valley Loop that is run by solar power (Figure 22). The planned improvements will not involve ground disturbance with the exception of obtaining a more reliable power source from a nearby power line (Figure 20).

The new Mountain Meadows Booster Station will be constructed on Mountain Meadows Road at the southeast corner of the intersection with Green Pasture Road (Figure 23). Approximately 4.26 acres were initially considered but the planned station will have a footprint of less than an acre or approximately 100 feet x 100 feet.

The existing Highland Booster Station is located at the northwest corner of the junction of Round Mountain Road with Highland Flats Road (Figure 24). All sites are being considered (Figures 25-27) but the actual replacement booster station will be less than 1 acre and the footprint will be 100 feet x 100 feet. From that point a new waterline will be constructed along the north side of Highland Flats Road for approximately 0.5 miles to an existing unnamed private road that provides access to communication facilities on Round Mountain (Figures 28, 38-42). The waterline will continue up the

existing access road to the new Highland Tank (Figures 29-32), Two locations are being considered (Figures 22-37) but the new Highland Tank will have a footprint of less than 1 acre.

Project Area of Potential Effect (APE)

The potential improvements were initially planned on ten parcels totaling approximately 128 acres. Less land acquisition is now required and the plans have become more specific with most of the project sites being less than 1 acre. The Area of Potential Effect (APE) is approximately 15 acres.

Environmental Setting

The project is located within the Columbia Plateau. There are ten physiographic regions within the Columbia Plateau and the project area is located within the Rocky Mountains Region (Chatters 1998). The Belt Series bedrock and the Kanikso Batholith are the primary geologic features underlying the region. The Belt Series is the result of the metamorphism of sedimentary formations that were formed by shallow seas during the Precambrian while the granitic magma of the batholith formed during the Cretaceous period. The Purcell Trench Lobe of the Cordilleran Ice Sheet extended south from British Columbia across the APE toward Lake Pend Oreille. Landforms have been greatly affected by Pleistocene glaciation and most of the surface geology in the APE consists of Quaternary moraine and glaciofluvial outwash or Quaternary lake deposits (Lewis 2002).

Pollen records covering the past 13,000 years have been obtained from various ponds and bogs in north Idaho and they indicate that modern plant communities were in place by approximately 4000 years ago. The initial Holocene conditions were tundra-steppe with sage and grass communities prior to the development of forests and meadows. Elevation is 2080 feet above sea level at the center of the APE. Deep Creek provides a permanent water source in the APE.

The APE has been disturbed by the construction of roads and utilities as well as by logging, agriculture, and other impacts. Observed vegetation in the APE included ponderosa pine, white pine, Douglas fir, grand fir, tamarack, western red cedar, Englemann spruce, birch, Rocky Mountain maple, aspen, cottonwood, alder, apple, ocean spray, ceanothus, snowberry, oregon grape, wild rose, thimble berry, lupine, horse tail, bracken fern, oxeye daisy, tansy, thistle, mullein, yellow hawkweed, clover, alfalfa, and dandelion. Evidence of fauna was limited to whitetail deer as well as elk tracks and vole borrows.

Cultural Setting

ETHNOGRAPHIC AND PRE-CONTACT CONTEXT

The interior portion of the Pacific Northwest includes north Idaho and adjacent parts of Montana, Oregon, Washington, and British Columbia and it is part of the Plateau Culture Area. Humans have lived in north Idaho for at least the past 11,000 years although excavated and radiocarbon dated sites are poorly documented. All accounts agree that the project area is within the traditional territory of the Kootenai Indians. Kootenai elders and oral historians say that their very early history and origin is so uniquely Kootenai and so sacred that it cannot be shared with outsiders; the Creator put the Kootenai

in their aboriginal territory and told them to honor this place which the first Kootenai People promised to do and they continue to do so (Kootenai Tribe of Idaho 2010:8-9). The vicinity of Bonners Ferry, as well as adjacent parts of northern Idaho, northeastern Washington, northwestern Montana, and southeastern British Columbia are clearly within Kootenai Aboriginal Territory (Kootenai Tribe of Idaho 2010:10). For “thousands and tens of thousands of years” there were thousands of people living in small family groups in those areas best suited to their talents and tastes. Each family group had its own places to hunt, fish, and gather plants; some groups lived deep in the Rockies while others were in their heartland; among the seven bands that constitute the Kootenai Nation, the Kootenai Tribe of Idaho is one of the surviving groups of the River Kootenai People (Kootenai Tribe of Idaho 2010:11).

The Kootenai people lived peacefully with one another and with their Salish and Nez Perce neighbors until five or six hundred years ago when one of the people had a vision that destructive strangers would soon come (Kootenai Tribe of Idaho 2010:14). At first only a few traders appeared but soon more came and in 1855 the name of Head Chief Michel was forged on a document at the Hellgate Treaty in Montana (Kootenai Tribe of Idaho 2010:20). By 1889 the Kootenai were being pressured to take allotments and by 1928 the last of their land had been taken (Kootenai Tribe of Idaho 2010:27). Houses were built in 1931 but they no longer possessed Tribal land. Following the formation of the Indian Claims Commission the Kootenai filed a claim for the loss of aboriginal territories and won in 1960; they were awarded \$425,000 (Kootenai Tribe of Idaho 2010:38). The money was only partially awarded and without a reservation the Kootenai were unable to receive much in the way of government services.

By 1974 the surviving Kootenai people were desperate enough to declare war on the United States; Tribal members put up roadblocks and charged a ten cent toll to pass through (Kootenai Tribe of Idaho 2010:47). The publicity resulted in the construction of 12 new houses and the Bureau of Indian Affairs put the last 12.5 acres of their mission into a trust (Kootenai Tribe of Idaho 2010:50). Things improved with the Indian Self Determination Act of 1976 and the first major step in economic development came with Kootenai River Inn in 1986 which was followed by construction of the sturgeon hatchery in 1987. As of 2010 the Tribe has taken control of much of its administration, manages multiple businesses as well as a health clinic, and has environmental programs including the Kootenai Tribe of Idaho Fish and Wildlife Program (Kootenai Tribe of Idaho 2010:58-60).

According to ethnographers, the APE is historically within the territory of the Kootenai Indians although it is well outside the present Kootenai Tribe of Idaho reservation boundaries (Brunton 1998: Figure 1). The focus for the Kootenai people was along the Kootenai/Kootenay River and they were organized into two social divisions, the Upper and Lower Kootenai, with six bands located across British Columbia, Montana, and Idaho. The Lower Kootenai included two bands, one of which was located around Bonners Ferry, now known as the Kootenai Tribe of Idaho (Brunton 1998: Figure 1). The Kootenai people speak a unique language that is unrelated to any of their neighbors. The Kootenai River and its environs provided the Kootenai people with most of their subsistence needs. Their more permanent village and camp sites were located along the river. From the Kootenai perspective the river defined the two seasons, summer and winter. Summer involved travel and fishing associated with their distinctive canoes and winter involved travel and hunting associated with the use of snowshoes. Subsistence was based on a combination of fishing, hunting, and plant gathering. No direct access to water at the sites within the APE so it is likely that the ancestors of the Kootenai were in the project area for hunting or gathering.

HISTORIC CONTEXT

The first Europeans in northern Idaho were members of the Hudson's Bay and North West companies who arrived in the early 19th century. By the late 1840s, Idaho was part of Oregon Territory and its mountainous terrain was a pass-through for settlers headed west. Members of the Coeur d'Alene Tribe were instrumental in establishing the oldest building, the Cataldo Mission, in what would become Idaho. In 1840, Father De Smet, a Catholic priest from Iowa, visited with the tribe and selected the location of the mission. The Coeur d'Alene Mission of the Sacred Heart was built in 1850-1853 and it stands today as a National Historic Landmark. Soon after its completion, this portion of Idaho fell under the jurisdiction of the newly created Washington Territory. Shortly thereafter the discovery of gold and other metals led to a mining boom, with miners and settlers from California and elsewhere flooding into the region. In order to govern the Pacific Northwest more efficiently, the size of the Washington Territory was decreased when President Lincoln signed an act declaring a separate Idaho Territory in 1863.

In the 1860s, two decades after the visit of Father De Smet, the British Boundary Commission Survey sent teams to establish the 49th Parallel, which is generally referred to as the United States-Canada border. A supply camp was set up on the north side of the Kootenai River and a supply route operated between this encampment and Fort Walla Walla. In 1863, the same year President Lincoln declared Idaho its own territory, gold was discovered on Wild Horse Creek in British Columbia, approximately 30 miles north of Bonners Ferry. Around the same time, gold and other precious minerals enticed many settlers and prospectors to north Idaho from all over the United States. One such prospector was Edward Bonner, who set up a ferry and trading post at the Kootenai River. Bonner operated the ferry for almost a decade before selling it to Richard Fry, who maintained the ferry and trading store operation which accommodated travelers through the area to destinations elsewhere. By the late 1880s, a small town had developed on the south side of the Kootenai River. Gold mining in Canada and the establishment of the Northern Pacific Railroad on the north end of Lake Pend Oreille made Bonners Ferry a central location for a community to develop. By 1892, the Great Northern Railroad had laid its tracks through Bonners Ferry and the population boomed. That same year, the name of the town officially became Bonners Ferry. Boundary County bought the ferry in 1902 and the Bonners Ferry Lumber Company began operating in the area in 1904. The Spokane International Railroad bridged the river in 1906. Today Bonners Ferry is the county seat of Boundary County.

Another historic community in the southern part of the project area is Naples which was named after Naples, Italy, by Italians working on the construction of the Great Northern Railroad in 1892; the town had a post office from 1892 to 1913 (Boone 1998:268). It is a farming, livestock, and lumber area and uranium deposits have been found east of Naples (Boone 1998:268).

Although the initial logging boom in the early twentieth century was a relatively successful industry for Idaho, timber production did not reach its peak until World War II, when the demand for timber skyrocketed for the war effort. Before that, regulations were put in place to limit the amount of timber that could be harvested for the logging industry. These regulations included President Theodore Roosevelt's creation of the Forest Service in 1907. The two presidents preceding Roosevelt already claimed a percentage of forested acreage to be preserved, but Roosevelt greatly increased this, to the disappointment and outrage of logging companies in Idaho. Additionally, Idaho's geographic location made it more expensive to transport timber by rail in comparison with its western competitors in Oregon and Washington that used inexpensive water transport to ship timber to distant markets. By the time the Great Depression hit in 1929, the logging industry in northern Idaho was in decline. World War II brought back demand for lumber and northern Idaho continued to thrive through the 1970s.

While not as large as the timber industry, agriculture has a significant role in the economy of Boundary County. The largest agricultural commodity in the county is wheat, although other crops such as lentils, barley, and peas are also grown.

The CMWD project is located across five townships and all appear on General Land Office (GLO) maps. The GLO map for Township 62 N, Range 2 E, was surveyed between April 1893 and July 1898 and approved February 23, 1899 (http://w.w.w.glorerecords.blm.gov/ConvertedImages/Plat_38865_1.PDF). There is settlement attributed to "WC" in the NW ¼ of Section 29 but it is slightly south of the APE for the new Crossport Well. The Great Northern Railroad and Crossport Station are indicated along with a road to the north of the railroad.

The GLO map for Township 62 N, Range 1 E, was surveyed between April and July 1894 and approved February 23, 1894 (http://w.w.w.glorerecords.blm.gov/ConvertedImages/Plat_38847_1.PDF). There is settlement in the NW ¼ of Section 35 and a road in the west ½ of that section but there is nothing indicated in the vicinity of the new North Paradise Storage Tank.

The GLO map for Township 61 N, Range 1 E, was surveyed between April 1892 and September 1894 and approved May 16, 1896 (http://w.w.w.glorerecords.blm.gov/ConvertedImages/Plat_38837_1.PDF). There are trails in Section 1 and "Gimble's Sawmill" is in the NW ¼ of Section 1 but there is no evidence of settlement near the Parker Canyon Booster Station. There is no evidence of settlement near the new Kootenai Trail Booster Station. There is evidence of settlement attributed to "E. Doust" in the NW ¼ of Section 12 as well as a road but nothing in the APE for the Black Mountain Booster Station nor for the PRV.

The General Land Office (GLO) map for Township 61 N, Range 1 W was surveyed between April 1892 and September 1899 and approved May 15, 1900 (http://w.w.w.glorerecords.blm.gov/ConvertedImages/Plat_38571_1.PDF). The map shows contour lines for Round Mountain and Deep Creek is indicated by that name but there is no evidence of settlement near the Highland Booster Station or the new Highland Tank.

The GLO map for Township 60 N, Range 1 E, was surveyed between April 1892 and May 1902 and approved January 26, 1903 (http://w.w.w.glorerecords.blm.gov/ConvertedImages/Plat_38833_1.PDF). The Great Northern railroad and Naples Station are indicated, as is the Kootenai and Bonners Ferry Road to the west, but there is nothing of potential historic significance in the vicinity of the new Mountain Meadows Booster Station.

Pre-Field Research

Background information was obtained from the Idaho SHPO (Search #20232). Additional information was obtained from GLO records and other sources.

Previous Cultural Resources Studies

Archaeological investigations began in north Idaho during the 1950s as part of the Albeni Falls Dam Project and these and subsequent studies have shown that the region has been occupied by humans

for approximately 11,000 years. Most projects have been conducted for Cultural Resource Management (CRM) purposes related to developments along the major river corridors including the Kootenai River and around lakes Pend Oreille and Coeur d'Alene for pipelines, transmission lines, and highway improvements.

The CMWD locations are scattered across approximately 80 square miles so that the SHPO search for the APE was effectively ten searches. According to SHPO records there have been 56 previous cultural resource studies within the 1-mile search radius for the APE (Table 1). Some studies have been multi-state inventories, while others have been surveys for very specific undertakings such as for a single cell tower. Most for Federal agencies including the Bureau of Land Management (BLM), Panhandle National Forests (USFS), and Bonneville Power Administration (BPA) or for state agencies, especially Idaho Transportation (ITD). Other surveys have been conducted for pipelines, Boundary County, the CMWD, and other entities.

The earliest survey in the search radius was for a pipeline between British Columbia and California whose route is located in proximity to several CMWD sites including the Pressure Reducing Valve Station (PRV) and the new Mountain Meadows Booster Station; no sites were found in Idaho (Mallory 1961). Subsequent surveys along the pipeline corridor have found sites in north Idaho but the only one in the study area located well beyond the search radius (Wirth Associates 1980). A study of eight specific cathodic protection sites included only one in Idaho which was located one mile northwest of the new Crossport Well; no cultural resources were found there (Silvermoon 1992). Another pipeline survey looked at two locations including one north of the new North Paradise Valley Tank; no cultural resources found there (Ridgeway 1992). Most recently, three surveys were conducted for test sections along the pipeline 0.2 miles north and 1 mile southeast of the new Mountain Meadows Booster Station (Sackman et al. 2019a), more than 1 mile northwest of the PRV (Sackman et al. 2019 b), and more than 1 mile northeast of the PRV (Sackman et al. 2019c). None of those three surveys found cultural resources.

The first BLM survey was for an extensive land tenure project with one property located 1 mile southeast of the Highland Booster Station; no cultural resources were found (Harrison et al. 1978). The next BLM survey was for the Two Tail Peak Timber Sale which occurred in two locations with one being south of the new Crossport Well; no cultural resources were found in that location (Hudson 1985). The most recent BLM survey was for 80-acre land exchange located 0.5 miles southeast of the new Kootenai Trail Booster Station; no cultural resources were found (Conca 1989).

Sixteen surveys have been conducted for USFS projects. The first was for road construction approximately 1 mile north of the new Highland Tank; no archaeological materials were found (Womack 1977a). Multiple areas were surveyed prior to a land exchange with the nearest locations being approximately 1 mile southwest of the new Mountain Meadows Booster Station and 1 mile southeast of the Highland Booster Station; a pre-contact site (10BY36) was found near McArthur Lake but no cultural resources were found in the vicinity of the CMWD search radius (Womack 1977b). The next year a survey was conducted for a powerline 1 mile northwest of the new Highland Tank; one historic cabin with associated structures (10BY52) was found but it was beyond the search radius for the CMWD project (Mattson 1978). The Hartley Ridge Special Use survey was conducted more than 1 mile southeast of the new Mountain Meadows Booster Station; no cultural resources were found (Harp 1978).

A number of USFS surveys were conducted by a contractor for multiple projects across three states including eight timber sales and land exchanges. The nearest survey to the CMWD project area was for

the Fall Creek Land Exchange located in the Highland Flats area; the nearest property was 1 mile west of the new Highland Tank (Hudson 1978; Hudson et al. 1979). A total of 86 sites were found but none were near the CMWD project area. The Katka Ridge Timber Sale was conducted several miles south of the new Crossport Well; 10 historic sites were recorded, the nearest of which were two miles southeast of the CMWD (Campbell 1980).

The Flex-Gold Land Exchange was conducted in multiple locations across north Idaho with the only one near the CMWD project being located 0.5 miles northwest of the Pressure Reducing Valve Station; two sites were recorded, neither of which were in Boundary County (Sims 1982). The Contrary Creek Timber Sale was conducted in a contiguous 240-acre parcel located 0.5 miles south of the new Mountain Meadows Booster Station; one site, a logging camp (10BY270), was recorded 1.5 miles south of the APE (Sandberg 1984).

The Flex-Nystrom Land Exchange included three separate areas with two being well north of Bonners Ferry and the third located just over 1 mile southwest of the new Mountain Meadows Booster Station; one site was found elsewhere but no sites were found in the parcel near the APE (Prieve 1984).

Surveys were conducted for five land exchanges in three counties in north Idaho with one involving a 78-acre parcel located 1 mile southwest of the new Mountain Meadows Booster Station; three sites were noted but not recorded elsewhere and nothing was found in the vicinity of the APE (Sims 1988).

Thirteen parcels were inventoried as part of the W-I Forest Products Land Exchange with one parcel being 1 mile northwest of the new Highland Tank; no cultural resources were found but the presence of a previously recorded pre-contact site near McArthur Lake led to that parcel's being dropped from the exchange (Sims 1990). Sixteen parcels were surveyed for the Stampede Timber Sale which was located one mile south of the Highland Flats Booster Station; four sites were present in the project area with the nearest being 1.5 miles southeast of the APE (Carbonneau-Kinkaid 1994).

Eleven areas were surveyed as part of the Crown Pacific-Poker Creek Land Exchange with one area being 0.5 miles west of the Pressure Reducing Valve Station (PRV) and another on Round Mountain south of the new Highland Tank. The abandoned Deep Creek campground site was found west of the PRV but beyond the search radius; but nothing was found on Round Mountain (Sims 1996).

Eight previously surveyed and new areas were examined for the Bonners Ferry Douglas-fir Bark Beetle project with one area located one mile southeast of the new Kootenai Trail Booster Station site. One new mining site were recorded beyond the search radius for the CMWD (Sandberg 2000). The most recent USFS survey was for the Northern Lights Stampede Underground permit for a 1-acre site which was 1 mile southeast of the Highland Booster Station; no cultural resources were found (Sandberg 2007).

Six surveys have been conducted by the National Soil Conservation Service (NRCS) in the vicinity of Naples. Two wetland developments were surveyed in the Highlands Flats area west of Round Mountain; no cultural resources were found (Sandberg 1993a, 1993b). Another was conducted for a streambank stabilization project located 1 mile southwest of the new Mountain Meadows Booster Station; no cultural resources were found (Reed 2003). A more extensive study included surveys for four projects but the only one near the APE was 0.9 miles southeast of the Highland Flats Booster Station; no cultural resources were found at any of the four locations (Vrem 2013). The Doyle Streambank project was in the same vicinity; pre-recorded sites were noted in the general area but no cultural resources were found (Laundry 2014). The most recent NRCS survey was conducted for another streambank stabilization

project located 0.5 miles south of Highland Flats Booster Station; no cultural resources were found (Laundry 2016).

Ten surveys have been done for various Bonneville Power Administration (BPA) projects along transmission lines and for the restoration of areas along the Kootenai River. Early project in the study area involved testing at a pre-contact site (10BY135, Table 2) that is located 1 mile west of the new Mountain Meadows Booster Station and two miles east of the Highland Booster Station. This is the only precontact site in the study area (Gough 1984).

Three recent BPA surveys have been done for power pole replacement projects along the 43-mile line between Libby, Montana and Bonners Ferry; the line was constructed in 1950 and it has been recorded as a cultural resource in both state (21-179755 in Idaho, Table 2). The BPA transmission system was recorded as a multiple property group for the National Register of Historic Places in 2015 (Kramer 2015)The line abuts the new North Paradise Tank and is north of the new Crossport Well. One survey included a pole one mile south of the new Crossport Well; no cultural resources were found there (Herbel et al. 2013). A survey for two poles scheduled for replacement was conducted east of the new Crossport Well; no new cultural resources were found and a pre-recorded site located beyond the search radius (10BY470) could not be found and was considered to have been destroyed (Teoh and Perkins 2015). Another study included a pole in the search radius located north of the new Crossport Well; no cultural resources found there although a site was site located elsewhere (Schwab and Schwab 2019).

Six BPA surveys done in cooperation with the Kootenai Tribe for restoration projects in three habitat types along both banks of the Kootenai River; the east end of the setting is 0.5 miles north of the new Crossport Well and 1 mile north of the new North Paradise Tank. Two studies did not encounter new cultural resources (Cannell 2011, 2012) but another (Yorck 2012) recorded a historic dump (19BY562) within the search radius for the CMWD (Table 2). Several projects did not encounter new cultural resources but they did result in better definitions of site boundaries for several pre-recorded sites located west of the search radius for CMWD (Dampf et al 2014; Dampf 2016; Smith and Dampf 2017).

A similar study was done by the U.S. Fish & Wildlife Service (USFWS) for a riparian habitat restoration along Fall Creek located 0.5 miles southeast of the new Highland Flat Booster Station (Parks 1996). No cultural resources were identified.

Eight ITD projects have been conducted in the search radius since 1982. The Shearer quarry is located 0.8 miles southwest of the new Crossport Well; it was surveyed in 1982 and again in 1998 and no cultural resources were identified either time (Hudson 1982, 1998). A survey was conducted north of the Kootenai River for four waste sites, all of which were more than 1 mile north of the new North Paradise Tank; no cultural resources were identified during the survey (Hudson and Nelson 1998). A survey was conducted for the Cowley quarry located 1 mile southeast of the new Crossport Well; no cultural resources were located (Hudson 2001).

A survey for the Wood's Gravel Pit was conducted 0.5 miles southeast of the new Crossport Well; no cultural resources were found (Betts 2003). A survey was conducted prior to the replacement of the Deep Creek Bridge No. 2 located 0.8 miles northeast of Highland Booster Station (Olson et al. 2005); the bridge was recorded as site 21-17925 (Table 2). A survey was conducted prior to the replacement of Ruby Creek Bridge No. 2; the bridge was located 1 mile west of the PRV but it was not recorded due to its recent age (Sappington and Polito 2017). The most recent survey was conducted for Crossport and

Cow Creek roads located 1 mile west of the new Crossport Well (Gorman 2019); the Kootenai Dike District 15 Levee Site (21-18059) was recorded 0.2 miles north of the APE (Table 2).

The most relevant survey to the present study was conducted for the Cabinet Mountains Water District during its initial development in 1994. The survey included a filtration treatment system site, a storage area, and approximately 26 miles of waterlines between Paradise Valley and Naples (Hudson 1994). The only cultural resource recorded was the old Paradise Valley Road (10BY527, Table 2).

A segment of Kootenai Trail Road eroded and was reconstructed by Boundary County. The survey for that project began 0.1 mile south of the new Kootenai Trail Booster Station; no cultural resources were found (Mauser 2018).

A survey was conducted for improvements to the Burlington Northern Railroad prior to track widening and the construction of a second parallel track; an existing quarry was also examined (Betts 1996). Multiple locations were examined and numerous features were recorded with the nearest being 0.5 miles northwest of the new Crossport Well (Betts 1996).

A state-wide study of the saddle industry was conducted in 1991 (Morton-Keithley 1991) and the site forms were updated in 2019. One maker was in Bonners Ferry and his shop was recorded as 21-17877; it was located northwest of the new North Paradise Tank beyond the search radius for the CMWD project.

Table 1. Summary of all cultural resource surveys within the 1-mile search radius for the Cabinet Mountains Water District Project.

SHPO Report No.	Report Date	Report Title	Report Authors
1989/2476	1978	Cultural Resource Inventory of Lieu Selection Lands in Idaho.	Richard Harrison, Thomas Green, and Larcie Burnett
1990/9	1989	Tract Number LTA-5.	David Conca
2003/764	1985	Two Tail Peak Timber Sale	Lorelea Hudson
1989/1054	1980	Katka Ridge Timber Sale	Howard B. Campbell
1989/2408	1978	Hartley Ridge Special Use Permit Area	W. H. Harp
1989/2907	1978	Fall Creek Land Exchange	Lorelea Hudson
1989/2960	1979	Final report on Timber Sales Program on the Idaho Panhandle National Forests	Lorelea Hudson, Thomas Sandberg, and Tony Macleod
1989/4058	1978	Northern Lights Inc. Deep Creek Vicinity	Daniel M. Mattson
1989/5575	1984	Flex-Nystrom Land Exchange	Steve Prieve
1989/5979	1984	Contrary Creek Timber Sale	Thomas M. Sandberg
1989/6141	1982	Flex-Gold Creek Land Exchange	Cort Sims
1989/6233	1988	Panhandle N F Land Exchanges	Cort Sims
1989/7197	1977	Class A and C Special Use Permits	Bruce R. Womack
1989/7211	1977	Selected Land Exchange Areas	Bruce R. Womack
1991/473	1990	W-I Forest Products Land Exchange	Cort Sims
1994/152	1994	Stampede Timber Sale	Simone Carbonneau-Kinkaid and Tom

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			Sandberg
1997/338	1996	Crown Pacific-Poker Creek Land Exchange	Cort Sims
2001/220	2000	Bonnors Ferry Douglas Fir Bark Beetle Project	Tom Sandberg
2009/441	2007	Northern Lights Stampede Underground Permit	Tom Sandberg
1998/788	1982	Archaeological Survey of the Shearer Quarry	Lorelea Hudson
1998/878	1998	Heritage Resources Investigations of the North Bonnors Ferry to Junction US 2/US 95 Waste Sites	Lorelea Hudson and Margaret A. Nelson
1999/377	1999	North Bonnors Ferry – Jct US 2, Shearer Quarry	Lorelea Hudson
2001/530	2001	Highland Flats: Crowley Aggregate Source	Lorelea Hudson
2004/446	2002	Roscoe Ward Narrows Material Source	Laurie Mauser
2004/447	2003	Wood's District 15 Gravel Pit	Robert C. Betts
2005/805	2005	Deep Creek Bridge No. 2	Deb Olson, Nancy Renk, and Lorelea Hudson
2017/683	2017	Ruby Creek #2 Bridge	Robert Lee Sappington and Daniel J. Polito
2019/191	2019	Crossport Road and Cow Creek Road Guardrail	Jennifer Gorman
1989/2276	1984	Cultural Resource Investigations of the Bonneville Power Administration's Libby Integration Project Northern Idaho and Northwestern Montana	Stan Gough, editor
1989/3996	1961	An Archaeological Survey of Pacific Gas Transmission Company's Alberta to California Pipeline System MP 108 to MP 722	Oscar Mallory
1989/2194	1980	Western Leg – Alaska Highway Pipeline Project Cultural Resource Volume 1.	Wirth Associates
1992/1005	1992	Supplemental Survey of Cathodic Protection Sites Construction Spreads 1, 2A, 2B, 3A, and 3B	Jon M. Silvermoon
1992/363	1992	PGT-PG&E Pipeline Expansion Project Cultural Resource Survey of Compressor Station #3 near Eastport and Spread 1A Construction Yard located in Bonnors Ferry, Idaho	Nancy Ridgway
1994/21	1993	Soil Conservation Service Wetland Development Site #2/1993	Thomas M. Sandberg
1994/22	1993	Soil Conservation Service Wetland Development Site #1/1993	Thomas M. Sandberg
1995/454	1994	Cabinet Mountain Water District, Boundary County, Idaho	Lorelea Hudson
1997/563	1996	Cultural Resource Report for the Mark Gale Riparian Restoration Project	Virginia Parks
1997/568	1996	Cultural Resource Inventory Burlington Northern Crossport to Bonnors Ferry and Katka Siding Segments	Robert C. Betts and Nancy Renk
2003/443	2003	Barry Davis	William Reed
2011/558	2011	Kootenai Tribe's Kootenai River Stream Bank Restoration Project	Kevin Cannell
2012/500	2012	2012 Kootenai River Restoration Project	Kevin Cannell
2013/260	2013	Kootenai River Middle Meander and IA Extension Banks Stabilization Project	Jesse Yorck
2013/537	2013	Deep Creek WHIP Project	Darin Vrem
2013/551	2013	Libby-Bonnors Ferry #1 Wood Pole Replacement Project	Brian Herbel

2015/144	2014	Cultural Resource Investigations for the Kootenai River Restoration Project	Steven Dampf, Natalie Perrin, and Sylvia Tarman
2015/28	2014	Doyle Streambank	Sarah Laundry
2016/382	2016	2016 Cultural Resources Investigation for the Kootenai River Restoration Project	Steven Dampf
2016/550	2015	John & Jacquelyn Gale Streambank	Sarah Laundry
2016/79	2015	Cultural Survey for the 2015 Libby-Bonnors Ferry Pole Replacement Project	Melissa Teoh and Kurt Perkins
2017/310	2017	Cultural Resource Investigations for the Lower Meander Project	Lisa M. Smith and Steven Dampf
2018/695	2018	Kootenai Trail Road Repair and Culvert Replacement	Laurie Mauser
2019/146	2015	Bonneville Power Administration (BPA) Pacific Northwest Transmission Multiple Property Documentation	George Kramer
2019/253	2019	Cultural Resources Survey Report – Test Section 10 for the Gas Transmission Northwest (GTN) A Line Hydrotests Project	Adam Sackman, Brooke J. Cohen, Justin Fitzpatrick, and David A. Harder
2019/254	2019	Cultural Resources Survey Report – Test Section 11 for the Gas Transmission Northwest (GTN) A Line Hydrotests Project	Adam Sackman, Brooke J. Cohen, Justin Fitzpatrick, and David A. Harder
2019/255	2019	Cultural Resources Survey Report – Test Section 12 for the Gas Transmission Northwest (GTN) A Line Hydrotests Project	Adam Sackman, Brooke J. Cohen, Justin Fitzpatrick, and David A. Harder
2019/497	2019	Cultural Resources Inventory BPA Bell District FY 18 Priority Pole replacements in Boundary and Bonner Counties	David Schwab and D. Alex Schwab
2019/526	1991	The Saddle Industry in Idaho	Linda Morton-Keithley

Expected Cultural Resources

Fourteen sites have been previously recorded within a 1-mile radius of the APE (Table 2). Most sites are along permanent water sources including the Kootenai River and Deep Creek. Most sites are historic, with the exception of one pre-contact site (10BY135), and most of them are linear sites associated with transportation so that they distinct and would not be found within the CMWD project areas. The APE is in a rural setting away from historic communities so that no evidence of historic settlement is expected. Similarly, the APE is not adjacent to a permanent water source so that pre-contact sites are not expected although a pre-contact site associated with a resource such as a lithic outcrop could be encountered.

Table 2. Summary of all recorded cultural resources within the 1-mile search radius for the Cabinet Mountains Water District Project.

Site #	Site Name/type	National Register Eligibility	Proximity to APE
10BY135	Pre-contact campsite	Not evaluated	0.8 miles west of the new Mountain Meadows Booster Station
10BY515 / 21-17032	Spokane International Railroad	Individually eligible	0.5 miles west of the PRV; 0.4 miles west of the new Mountain Meadows Booster Station
10BY516 / 21-17931	US Highway 95	Individually eligible	0.6 miles southeast of the PRV; 0.4 miles west of the new Mountain Meadows Booster Station
10BY522 / 21-17942	Great Northern Railway	Individually eligible	0.2 miles north of the new Crossport Well; 0.5 miles northwest of the PRV; 0.9 miles east of the Highland Booster Station
10BY527	Old Paradise Valley Road	Individually eligible	0.3 miles northwest of the new North Paradise Tank
10BY562	Historic scatter	Not eligible	0.3 northwest of the new Crossport Well
10BY570	Twentymile Road	Not eligible	0.5 miles north of the new Mountain Meadows Booster Station
21-17925	Deep Creek Bridge No.2	Individually eligible	0.9 miles northeast of the Highland Booster Station
21-17975	Bonnars Ferry Substation Transmission Line	Individually eligible	0.5 miles south of the new Crossport Well and 0.1 miles south of the new North Paradise Tank, and 0.5 miles north of the Parker Canyon Booster Station
10BY443 / 21-17884	Bonnars Ferry Lumber Mill	Individually eligible	0.7 miles northwest of the new Crossport Well
21-18029	Bonnars Ferry Substation	Not eligible	0.3 miles west of the new North Paradise Tank
21-18033	US-95 Trail Creek Bridge	Not eligible	0.9 miles southwest of the new Mountain Meadows Booster Station
21-18040	Schoolhouse Road, Trail Creek, Naples Bridge	Not eligible	0.9 miles southwest of the new Mountain Meadows Booster Station
21-18059	Kootenai Dike District 15 Levee	Individually eligible	0.2 miles north of the new Crossport Well

Field Methodology

The author met Jeremy Davy, Chief Operator, CMWD, in Bonners Ferry on 2 June 2020 and followed him to the Crossport wellhouse and office. We discussed the various aspects of the project and agreed to focus on planned and potential ground-disturbing construction at each of the ten project areas. Most of the potential acreage has been narrowed down to specific locations and we agreed not to examine those portions of properties where no construction is being planned. Mr. Davy indicated the location of the new well and the author recorded a GPS point and photographed it (Figure 8). Mr. Davy indicated that the CMWD might need to construct a new office building at the northwest part of their yard and we walked over to that area. Mr. Davy indicated the location of the potential structure and the author photographed it and recorded a GPS point in the center (Figure 9). This procedure was followed at all subsequent locations.

We then drove to the existing Parker Canyon Booster Station located on the west side of Parker Canyon Road (Figure 10). The CMWD plans to acquire a rectangular 2-acre parcel to the south of the station. Within that new parcel there will be two ground-disturbing activities. First a replacement booster station will be constructed and then a new storage tank will be constructed. The author made intensive north-south transects across the property at 10-m intervals; GPS points and photographs were taken of the corners of the property and at the center of the new tank (Figures 11-13).

We continued on to the new Kootenai Trail (or Cow Creek) Booster Station which will be constructed on Kootenai Trail Road in a setting where no current facilities exist. Kootenai Trail Road makes a sharp turn in this location and three locations are being considered but the actual APE is less than 1 acre and the footprint of the booster station will be 100 feet x 100 feet (Figures 14-16). Intensive north-south transects at 10-m intervals were conducted at all three potential sites.

The existing Black Mountain Booster Station and tank are located within a fenced enclosure on approximately 2 acres at the end of a private road. No ground-disturbing construction is currently being planned but some upgrades could occur to the existing facilities and two drainage areas below the fence could be improved in the future. We began at the parking area at the northwest corner of the property, walked the entire perimeter, and then examined two drainage locations below the site (on the north side). GPS points and photographs were taken at the four corners and at the two drainage outlets (Figures 17-18).

We then drove to the new North Paradise Tank which will be constructed on the north side of Blue Sky Road in a setting where no current facilities exist. We parked on the south side of Blue Sky Road and Mr. Davy indicated where the access road will begin (Figure 19). We walked northeast to the vicinity of the tank, recorded points and photographed the vicinities of the four corners, and then returned to the starting point (Figures 20-21).

The next location was the existing Pressure Reducing Valve Station (PRV) which is located in an existing underground chamber on the east side of Pleasant Valley Loop (Figure 22). The PRV is powered by solar energy which has proven to be unreliable. The planned improvements will not involve ground disturbance with the exception of obtaining a more reliable power source from a nearby power line. The author walked from the PRV to the power pole and took photographs and GPS points.

We then drove to the new Mountain Meadows Booster Station which will be constructed on Mountain Meadows Road at the southeast corner of the intersection with Green Pasture Road (Figure 23). Approximately 4.26 acres were initially considered but the planned station will have a footprint of less

than an acre or approximately 100 feet x 100 feet. The author conducted intensive east-west transects at 10-m intervals and also recorded GPS points and took photographs at the four corners (Figure).

The next location was the existing Highland Booster Station at the northwest corner of the junction of Round Mountain Road with Highland Flats Road (Figure 24). All three possible corners are being considered but the actual the replacement booster station will be less than 1 acre and the footprint will be 100 feet x 100 feet. We examined all three potential sites; GPS points and photographs were taken at all four corners at all three potential locations (Figures 24-27).

We then drove west on Highland Flats Road to an unnamed private road (Figures 28-31) that provides access to communication facilities on Round Mountain. We drove up the road to a sharp bend in the road and parked the vehicles. We walked up and down two potential sites for the tank; GPS points and photographs were taken at all four corners of each site (Figures 31-36). We then walked down the access road to Highland Flats Road and then walked back up to the starting point. We drove the vehicles to Highland Flats Road and the author left his vehicle at that intersection. Mr. Davy drove the author to Highland Flat Booster Station; from that point he walked west along the route of the waterline back to the access road (Figures 37-41) and that concluded the fieldwork.

Results

An intensive cultural resource survey was conducted across all ten sites within the APE. There are no pre-recorded sites in the APE and no sites were encountered during the survey.

Isolates/Noted but not recorded

There were no isolates. There were no features or artifacts that were noted but not recorded.

Management Recommendations

There were no pre-recorded sites in the APE and no sites were found during an intensive surface survey. The project will have no effect on any known cultural resources. There are no threats to any known or suspected cultural resources within the APE. No further investigations are recommended. If any potential cultural resources are discovered during construction all work will cease in that vicinity until the State Historic Preservation Office, the Kootenai Tribe of Idaho, and author can be consulted.

Determination of Effects

Overall, project actions will result in No Historic Properties Affected.

Avoidance, Minimization, or Mitigation Options

As no historic properties will be affected, no avoidance, minimization, or mitigation options are recommended.

Conclusions

There have been numerous cultural resource surveys in the vicinity of the APE, including one for the initial construction of the CMWD in 1994. Thirteen historic sites and one pre-contact site have been recorded within the 1-mile search radius of the APE but none of those sites are in areas that are within, or are abutting, the APE. An intensive survey of all ten areas within the APE was conducted and no cultural resources were found. Based on background research and fieldwork there are no known or suspected cultural resources in the APE and it is recommended that construction of CMWD proceed as planned.

The project will use federal funds and is therefore an undertaking subject to compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

To comply with Section 106, this report evaluates whether the proposed project would affect any historic properties within the APE. There are no pre-existing sites in the APE. An intensive cultural resource survey and subsurface testing was conducted throughout the length of the APE. The project area has been disturbed by the construction of the existing highway, access roads, utilities, and other impacts. No cultural resources were identified within the APE. Project actions will have NO EFFECT on Historic Properties.

References

Betts, Robert C.

- 2003 *Wood's District 15 Gravel Pit (ITD Source BY-77c), Boundary County, Idaho.* Northwest Archaeological Associates, Inc. NWA Report ID03-07. Seattle.

Betts, Robert C. and Nancy Renk

- 1996 *Burlington Northern Railroad Cultural Resource Survey, Crossport to Banners Ferry and Katka Sidings Segments, Boundary County, Idaho.* Northwest Archaeological Associates, Inc. Seattle.

Boone, Lalia

- 1988 *Idaho Place Names: A Geographical Dictionary.* The University of Idaho Press, Moscow.

Campbell, Howard B.

- 1980 *Cultural Resource Inventory of the Katka Ridge Timber Sale.* Idaho Panhandle National Forests.

Cannell, Kevin G.

- 2011 *A Cultural Resources Survey of the Kootenai River Habitat Restoration Project, Boundary County, Idaho.* Project No. ID2010005. Bonneville Power Administration. Portland.

- 2012 *Cultural Resources Survey for the Kootenai River Restoration Project.* Project No. ID 2012 001. Bonneville Power Administration. Portland.

Carbonneau-Kinkaid, Simone and Tom Sandberg

- 1993 *Heritage Site Inventory of the Stampede Timber Sale.* Report No. 93-IP-6-23. Idaho Panhandle National Forests.

Chatters, James C.

- 1998 Environment. In *Plateau*, Volume 12, Handbook of North American Indians. Edited by Deward E. Walker, Jr., pp. 29-48. Smithsonian Institution, Washington, DC.

Conca, David

- 1989 *Tract Number LTA-5.* Bureau of Land Management Project No. Id6-89-40. Coeur d'Alene.

Dampf, Steven

- 2016 *2016 Cultural Resource Investigations for the Kootenai River Restoration Project, Boundary County, Idaho.* Heritage Research Associates, Inc. Spokane.

Dampf, Steven, Natalie Perrin, and Sylvia Tarman

- 2014 *Cultural Resource Investigations for the Kootenai River Restoration Project, Boundary County, Idaho.* Heritage Research Associates, Inc. Spokane.

Elders of the Kootenai Nation

- 2010 *A Century of Survival*, second edition. Published by the Kootenai Tribe of Idaho, P O Box 1269, Bonners Ferry.

General Land Office (GLO)

- 2020 General Land Office records maps for Township 62 N, Range 2 E, approved February 23, 1899 http://www.glorerecords.blm.gov/ConvertedImages/Plat_38865.

- 2020 General Land Office records maps for Township 62 N, Range 2 E, approved February 23, 1894 http://www.glorerecords.blm.gov/ConvertedImages/Plat_38847.

- 2020 General Land Office records maps for Township 62 N, Range 2 E, approved May 16, 1896
http://www.glorerecords.blm.gov/ConvertedImages/Plat_38837.
- 2020 General Land Office records maps for Township 62 N, Range 2 E, approved May 15, 1900
http://www.glorerecords.blm.gov/ConvertedImages/Plat_38571.
- 2020 General Land Office records maps for Township 62 N, Range 2 E, approved January 26, 1903
http://www.glorerecords.blm.gov/ConvertedImages/Plat_38833.

Gorman, Jennifer

- 2019 *Crossport Road and Cow Creek Road Guardrail*. Gorman Preservation Associates.
Spokane.

Gough, Stan, editor

- 1984 *Cultural Resources Investigations of the Bonneville Power Administration's Libby Integration Project, Northern Idaho and Northwestern Montana*. Eastern Washington University Reports in Archaeology and History 100-29. Cheney.

Harp, H. W.

- 1978 *Hartley Ridge Special Use Permit Area Archeological Survey (78-85)*. Idaho Panhandle National Forests.

Harrison, Richard, Thomas Green, and Larcie Burnet

- 1978 *State Lieu Land Inventory*. Bureau of Land Management Project No. id6-78-33. Coeur d'Alene.

Herbel, Brian, Natalie Perrin, and Weber Greiser

- 2013 *Cultural Resource Inventory for the Libby-Bonnors Ferry #1 Wood Pole Replacement Project, Lincoln County, Montana, and Boundary County, Idaho*. Heritage Research Associates, Inc. Missoula.

Hudson, Lorelea

- 1978 *Fall Creek Land Exchange*. Idaho Panhandle National Forest.
- 1985 *Two Tail Peak Timber Sale*. Bureau of Land Management, Coeur d'Alene District Project No. Id6-85-59. Coeur d'Alene.
- 1994 *Cabinet Mountains Water District, Boundary County, Idaho*. Northwest Archaeological Associates, Inc. Seattle.
- 1998 *Heritage Resources Investigations of Shearer Quarry, Boundary County, Idaho*. Northwest Archaeological Associates, Inc. NWAA Report ID98-14. Seattle.
- 2001 *Heritage Resources Investigations of the Cowley Quarry, Boundary County, Idaho*. Northwest Archaeological Associates, Inc. NWAA Project Reports ID01-02. Seattle.

Hudson, Lorelea, and Margaret A. Nelson

- 1998 *Heritage Resources Investigations of the North Bonners Ferry to Junction US 2/US 95 Waste Sites, Boundary County, Idaho*. Northwest Archaeological Associates, Inc. NWAA Report ID98-08. Seattle.

Hudson, Lorelea, Thomas Sandberg, and Tony MacLeod

- 1979 *A Final report of Archaeological (Cultural Resource) Surveys for the Timber Sale Program on the Idaho Panhandle National Forests*. Cultural Resource Consultants, Sandpoint.

Kramer, George

- 2015 *Bonneville Power Administration (BPA) Pacific Northwest Transmission System*. National Register of Historic Places Multiple Property Documentation Form. Ashland.

Laundry, Sarah

- 2013 *Doyle Streambank*. Natural Resources Conservation Service Report No. NRCS-14-8882. Boise.
- 2016 *John & Jacquelyn Gale Streambank*. Natural Resources Conservation Service Report No. NRCS-16-9300. Boise.

Lewis, Reed S.

- 2002 Boundary County, Idaho in geology maps of Idaho. *Digital Atlas of Idaho*. <https://digitalatlas.cose.isu.edu/main/sitdxfr.htm>.

Mattson, Daniel M.

- 1978 *Archaeological Survey (78-82), Northern Lights Inc. Deep Creek Vicinity*. Idaho Panhandle National Forests.

Mauser, Laurie

- 2018 *Kootenai Trail Road Repair and Culvert Replacement, Boundary County, Idaho*. Report to HMM Engineering for Boundary County. Bonners Ferry.

Morton-Keithley, Linda

- 1991 *The Saddle Industry in Idaho*. Idaho State Historical Society. Boise.

Olson, Deborah, Nancy F. Renk, and Lorelea Hudson

- 2005 *Heritage Resources Investigations of Deep Creek Bridge No. 2, Boundary County, Idaho*. Northwest Archaeological Associates, Inc. NWAA Project No. ID 04-15. Seattle.

Parks, Virginia

- 1996 *Cultural Resource Report for the Mark Gale Riparian Restoration Project Boundary County, Idaho*. U.S. Fish and Wildlife Service. Portland.

Prieve, Steve

- 1984 *Cultural Resource Inventory of the Flex-Nystrom Land Exchange*. Report No. 84-IP-7-61. Idaho Panhandle National Forests.

Reed, William G.

- 2003 *Barry Davis*. Natural Resources Conservation Service Report No. NRCS-03-4392. Boise.

Roll, Tom E. and Steven Hackenberger

- 1998 Prehistory of the Eastern Plateau. In *Plateau*, Volume 12, Handbook of North American Indians. Edited by Deward E. Walker, Jr., pp. 120-137. Smithsonian Institution, Washington, DC.

Sackman, Adam, Brooke J. Cohen, Justin Fitzpatrick, and David A. Harder

- 2019a *Cultural Resources Survey Report – Test Section 10 for the Gas Transmission Northwest (GTN) A Line Hydrotests Project, Boundary County, Idaho*. Plateau Archaeological Investigations, LLC. Pullman.
- 2019b *Cultural Resources Survey Report – Test Section 11 for the Gas Transmission Northwest (GTN) A Line Hydrotests Project, Boundary County, Idaho*. Plateau Archaeological Investigations, LLC. Pullman.

- 2019c *Cultural Resources Survey Report – Test Section 12 for the Gas Transmission Northwest (GTN) A Line Hydrotests Project, Boundary County, Idaho.* Plateau Archaeological Investigations, LLC. Pullman.
- Sandberg, Thomas M.
- 1984 *Cultural Resource Inventory of the Contrary Creek Timber Sale.* Report No. 84-IP-7-10. Idaho Panhandle National Forests.
- 1993a *Soil Conservation Service Wetland Development Site #1/1993.* Idaho Panhandle National Forests.
- 1993b *Soil Conservation Service Wetland Development Site #2/1993.* Idaho Panhandle National Forests.
- 2000 *Heritage Site Inventory of the Bonners Ferry Douglas-fir Bark Beetle Project.* Report No. 00-IP-7-3. Idaho Panhandle National Forests.
- Sappington, Robert Lee and Daniel J. Polito
- 2017 *Ruby Creek #2 Bridge, Boundary County.* Report to LHTAC, Boise.
- Schwab, David, and D. Alex Schwab
- 2019 *Cultural Resources Inventory for Bell District FY18 Priority Pole Replacements in Boundary and Bonner Counties, Idaho.* Ethnotech.
- Silvermoon, Jon M.
- 1992 *Supplemental Survey of Cathodic Protection Sites Construction Spreads 1, 2A, 2B, 3A, and 3B Idaho, Washington, and Oregon.* Infotech Research, Inc. Fresno.
- Sims, Cort
- 1982 *Cultural Resource Inventory of the Flex-Gold Creek Land Exchange.* Report No. 82-IP-6-3. Idaho Panhandle National Forests.
- 1988 *Cultural Resource Inventory of the Idaho Panhandle National Forest Land Exchanges 1988.* Report No. 88-IP-O-32. Idaho Panhandle National Forests.
- 1990 *Cultural Resource Inventory of the W-I Forest Products Land Exchange.* Report No. 90-IP-7-18. Idaho Panhandle National Forests.
- 1996 *Heritage Site Inventory of the Crown Pacific-Poker Creek Land Exchange.* Report No. 96-IP-7-17. Idaho Panhandle National Forests.
- Smith, Lisa M. and Steven Dampf
- 2017 *Cultural Resource Investigations for the Lower Meander Project, Boundary County, Idaho.* Heritage Research Associates, Inc. Missoula and Spokane.
- Teoh, Melissa L. and Kurt Perkins
- 2015 *Cultural Survey for the 2015 Libby-Bonners Ferry Pole Replacement Project in Boundary County, Idaho.* Project No. ID-2015-029. Bonneville Power Administration. Portland.
- Vrem, Darin
- 2013 *2013 Deep Creek WHIP Projects.* Natural Resources Conservation Service Report No. NRCS-13-8578. Boise.
- Wirth Associates
- 1980 *Western Leg – Alaska Highway Pipeline Project: Cultural Resources, Volume 1.* With Associates, Inc.

Womack, Bruce R.

1977 *Class A and C Special Use Permits.* Idaho Panhandle National Forests.

1977 *Cultural Resource Surveys, Selected Land Exchange Areas.* Idaho Panhandle National Forests.

Yorck, Jesse

2012 *A Cultural Resources Survey for the Kootenai River Middle Meander and 1A Extension Banks Stabilization Project, Boundary County, Idaho.* Project No. ID 2012 009. Bonneville Power Administration. Portland.

Appendix. Maps and Photographs of the Cabinet Mountains Water District Project.

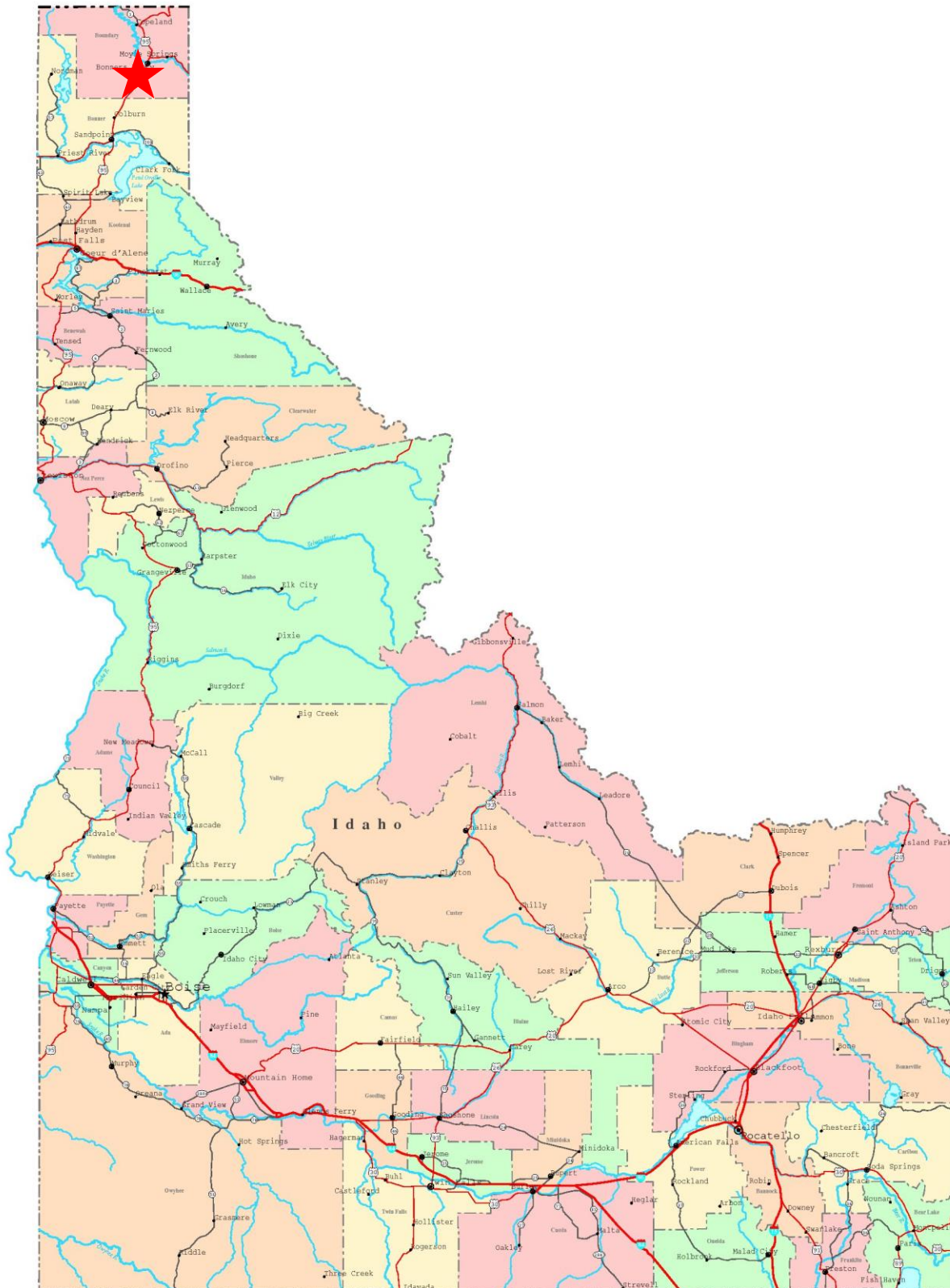
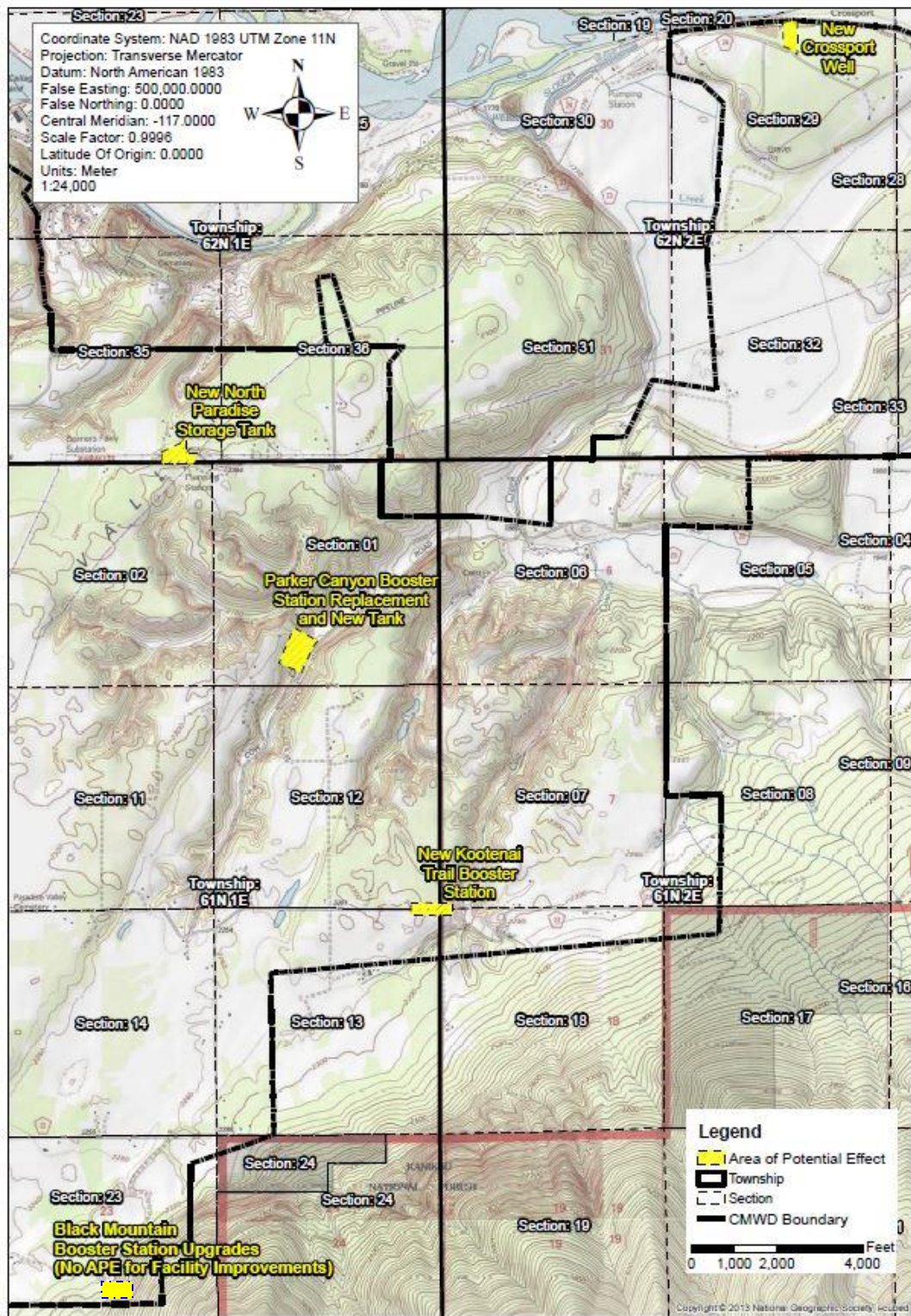


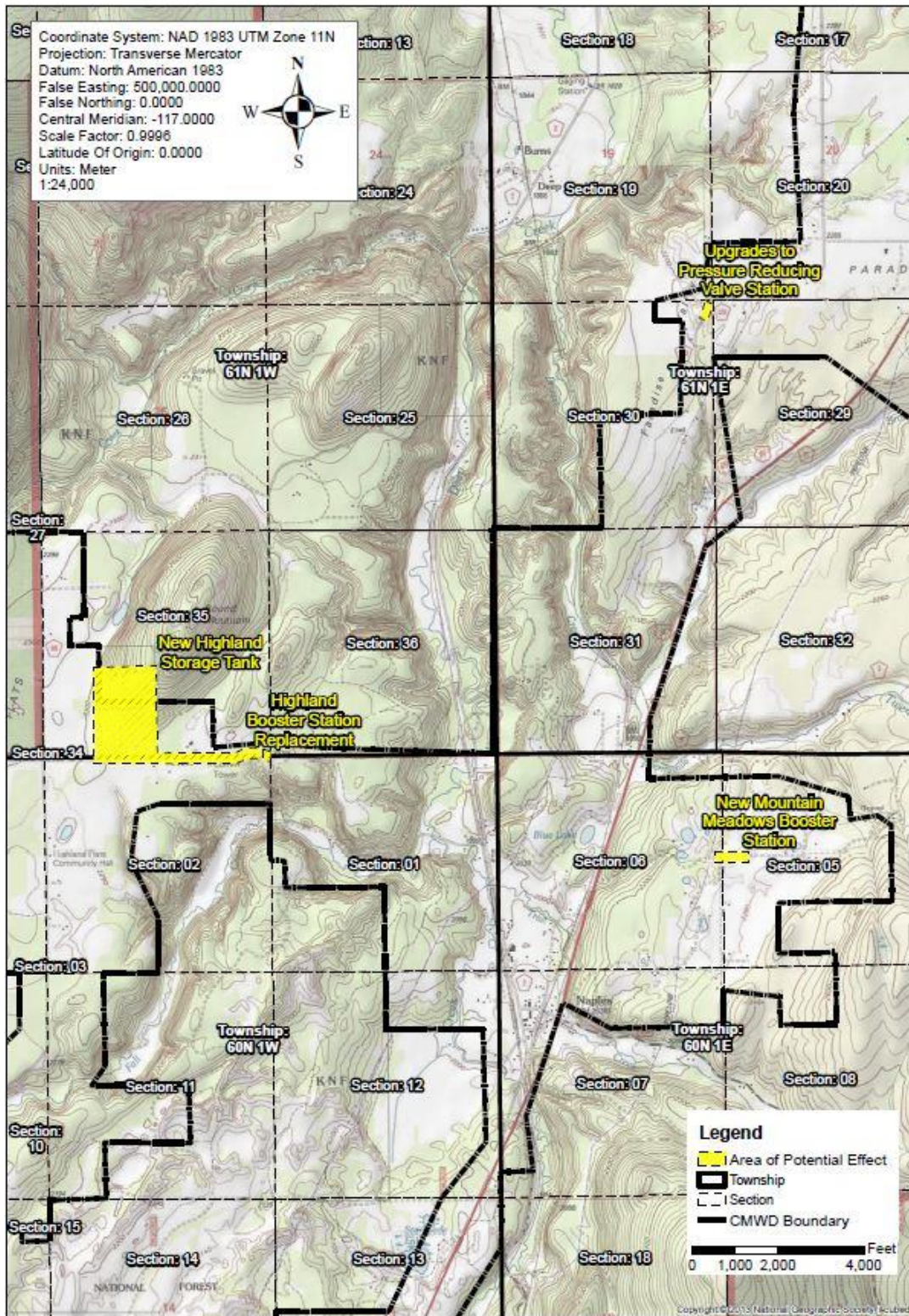
Figure 1. Location of the Cabinet Mountains Water District Project (indicated by the red star).



**CMWD Environmental Assessment
Cultural Resource Survey, APE Map**

CMWD, ID
JUNE 2020

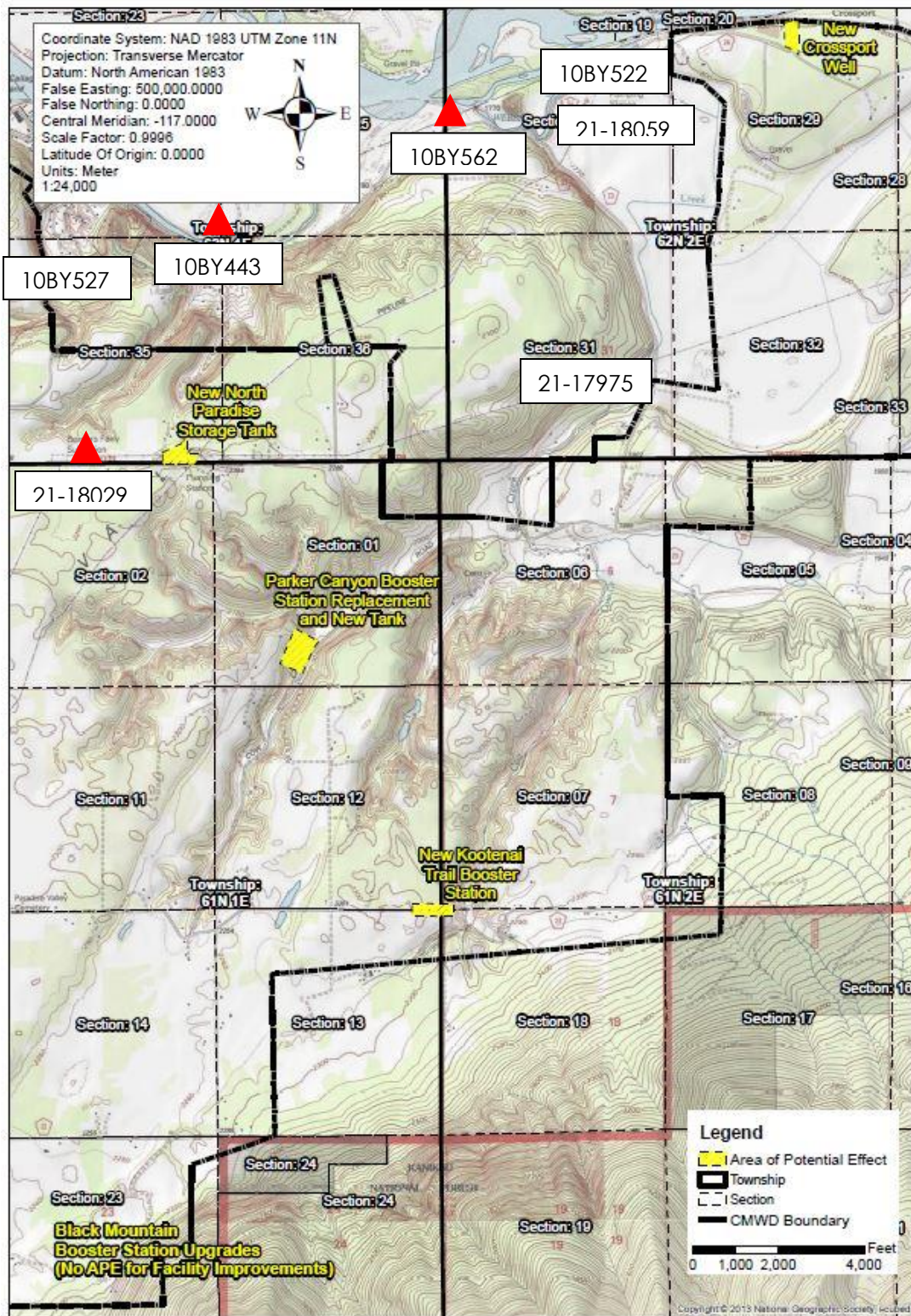
Figure 2. Map of the north half of the APE for the Cabinet Mountain Water District Project. The individual project areas are indicated in yellow. Adapted from the Bonners Ferry, ID and Moyie Springs, ID quadrangle maps.



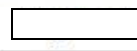
CMWD Environmental Assessment
Cultural Resource Survey, APE Map

CMWD, ID
JUNE 2020

Figure 3. Map of the south half of the APE for the Cabinet Mountain Water District Project. The individual project areas are indicated in yellow. Adapted from the Bonners Ferry, ID and Naples, ID quadrangle maps.

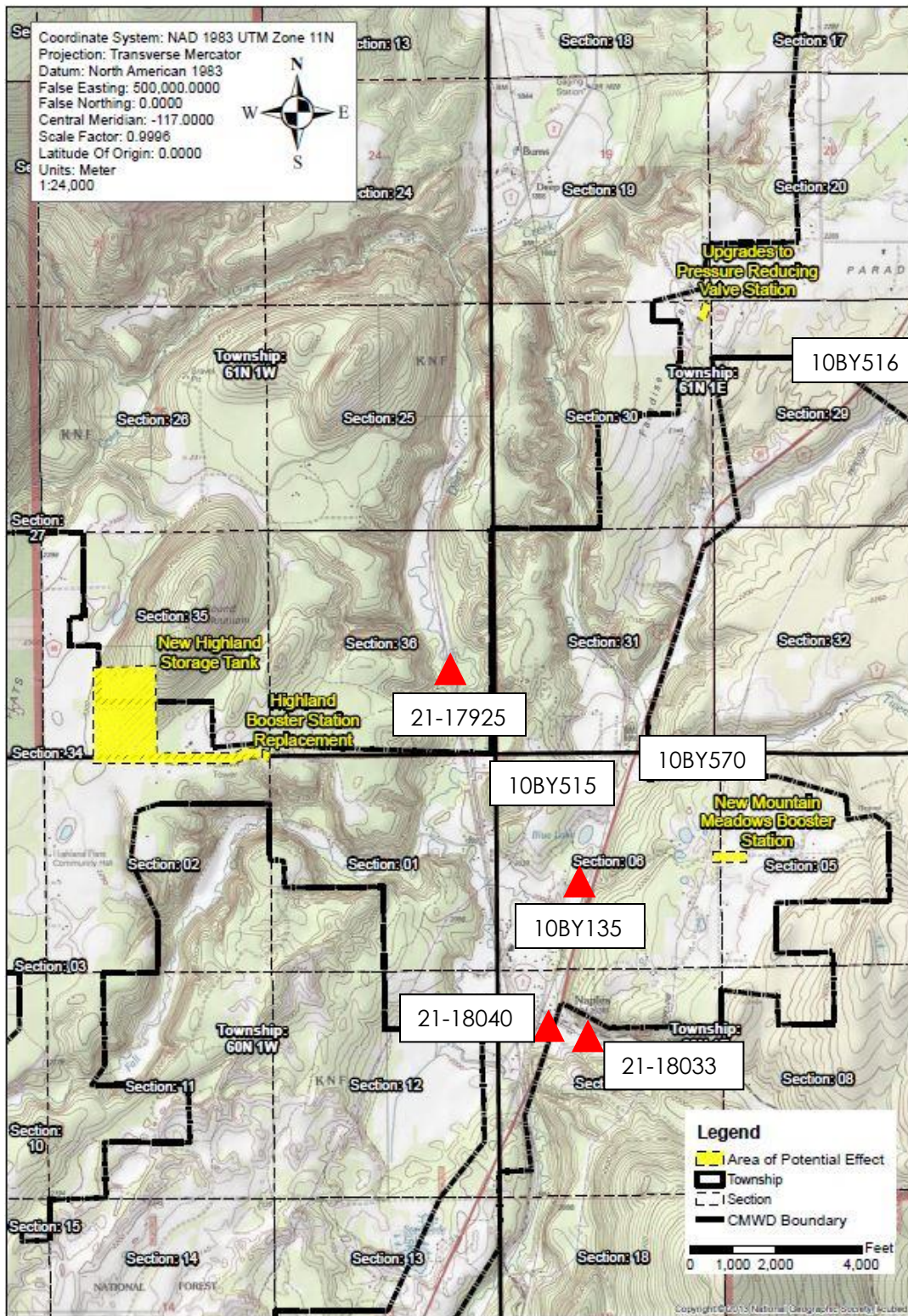


CMWD Environmental Assessment
Cultural Resource Survey, APE Map



CMWD, ID
JUNE 2020

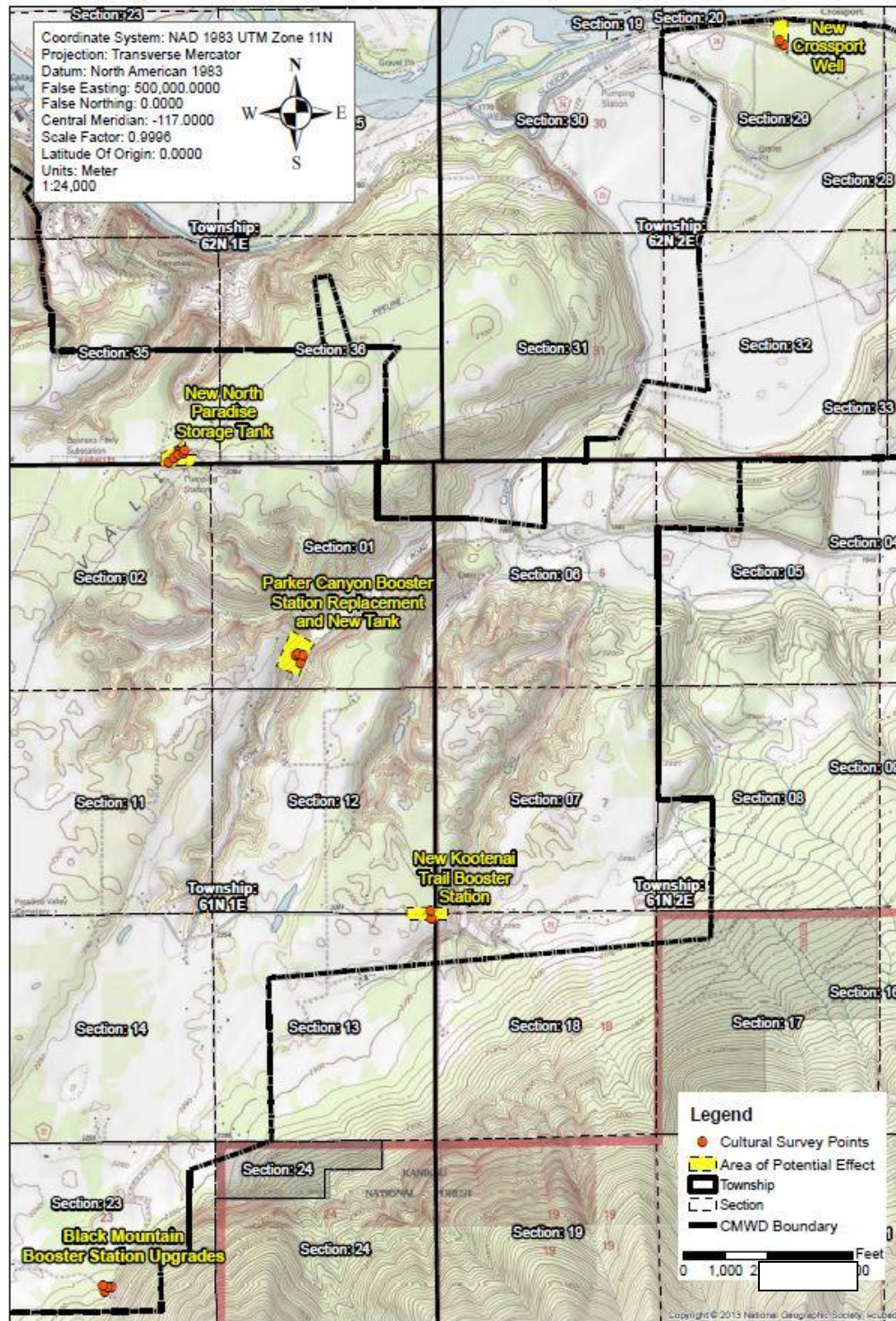
Figure 4. Location of all previously recorded archaeological and historic sites within the 1-mile search radius for the north half of the Cabinet Mountain Water District APE (adapted from SHPO search 20232).



CMWD Environmental Assessment
Cultural Resource Survey, APE Map

CMWD, ID
JUNE 2020

Figure 5. Location of all previously recorded archaeological and historic sites within the 1-mile search radius for the south half of the Cabinet Mountain Water District APE (adapted from SHPO search 20232).

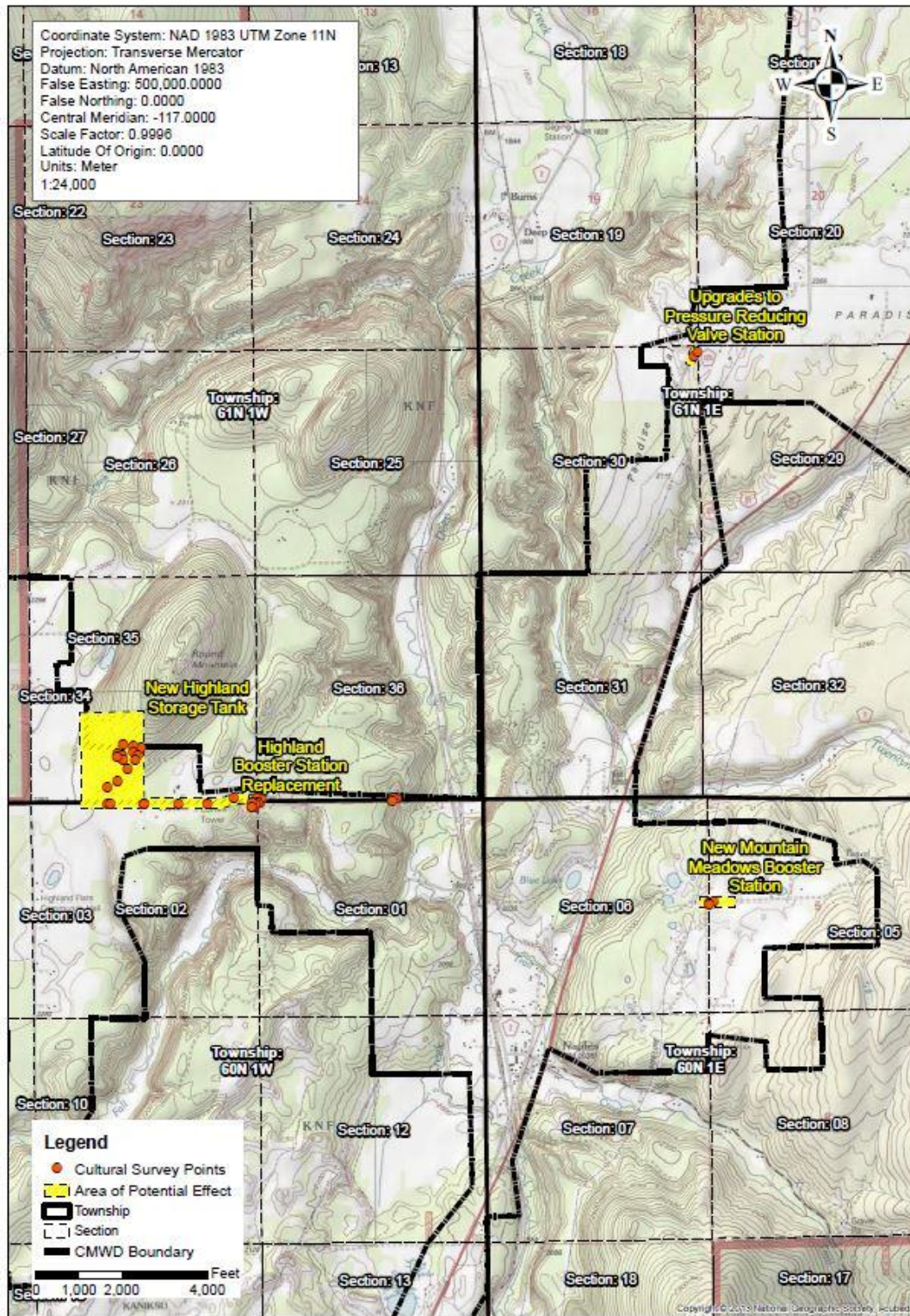


CMWD Environmental Assessment
Cultural Resource Survey Map

Figure 2

CMWD, ID
JUNE 2020

Figure 6. Location of all GPS points recorded during the archaeological survey for the north half of the Cabinet Mountain Water District (indicated by the solid red circles).



CMWD Environmental Assessment
Cultural Resource Survey Map

CMWD, ID
JUNE 2020

Figure 7. Location of all GPS points recorded during the archaeological survey for the south half of the Cabinet Mountain Water District (indicated by the solid red circles).



Figure 8. Photograph of the Cabinet Mountain Water District Project area taken at the existing Crossport wellhouse/office building. The new well will be located in the vicinity of Jeremy Davy who is standing to the left of the building. The view is to the west.



Figure 9. Photograph of the Cabinet Mountain Water District Project area taken in the vicinity of the existing Crossport wellhouse office building. Jeremy Davy is standing in the approximate center of the location where a future office building may be constructed. The view is to the northwest.



Figure 10. Photograph of the Cabinet Mountain Water District Project area taken at the existing Parker Canyon Booster Station. The property addition including the new booster station and new well are to the left of this building. The view is to the west.



Figure 11. Photograph of the Cabinet Mountain Water District Project area taken south of the Parker Canyon booster station. Most of the new property is visible in the foreground and center of the photograph; the new tank will be constructed at the base of the hillside to the left of building. The view is to the northwest.



Figure 12. Photograph of the Cabinet Mountain Water District Project area taken at the Parker Canyon Booster Station (at the left). Most of the new property is visible in the foreground and center of the photograph; the new tank will be constructed at right center. The view is to the east.



Figure 13. Photograph of the Cabinet Mountain Water District Project area taken at the Parker Canyon Booster Station. Jeremy Davy is standing in the approximate center of where the new tank will be constructed. The view is to the southeast.



Figure 14. Photograph of the Cabinet Mountain Water District Project area taken in the southwest quadrant of the New Kootenai Trail Booster Station. Three locations are being considered. Jeremy Davy is standing in the approximate center of the southwest location. The view is to the northeast.



Figure 15. Photograph of the Cabinet Mountain Water District Project area taken in the northwest quadrant of the New Kootenai Trail Booster Station. Jeremy Davy is standing in the approximate center of the northwest location. The view is to the south.



Figure 16. Photograph of the Cabinet Mountain Water District Project area taken in the southeast quadrant of the New Kootenai Trail Booster Station. Jeremy Davy is standing in the approximate center of the southeast location. The view is to the south.



Figure 17. Photograph of the Cabinet Mountain Water District Project area taken at the existing Black Mountain Tank and Booster Station. Jeremy Davy is standing near the northwest corner of the tank. The view is to the southeast.



Figure 18. Photograph of the Cabinet Mountain Water District Project area taken at the existing Black Mountain Tank and Booster Station. Jeremy Davy is standing at the drainage outlet that may be improved in the future. The view is to the southeast.



Figure 19. Photograph of the Cabinet Mountain Water District Project area taken at beginning of the access road to the new North Paradise Storage Tank. Blue Sky Road is in the foreground. The view is to the north.



Figure 20. Photograph of the Cabinet Mountain Water District Project area taken along the access road to the new North Paradise Storage Tank. Jeremy Davy is standing near the southwest corner of the tank which will be constructed behind him. The view is to the northeast.



Figure 21. Photograph of the Cabinet Mountain Water District Project area taken in the vicinity of the new North Paradise Storage Tank. Jeremy Davy is standing near the northwest corner of the tank which will be constructed behind him. The view is to the southwest.



Figure 22. Photograph of the Cabinet Mountain Water District Project area taken at the PRV. The new power source will be brought to this point from the existing power pole in the left center background. Pleasant Valley Loop is at the left. The view is to the north.



Figure 23. Photograph of the Cabinet Mountain Water District Project area taken at the northwest corner of the new Mountain Meadows Booster Station (behind Jeremy Davy). The view is to the southeast.



Figure 24. Photograph of the Cabinet Mountain Water District Project area taken at the southeast corner of the existing Highland Meadows Booster Station. The new booster station will be constructed in this vicinity. Highland Flats Road is in the foreground; Round Mountain Road is at the right. The view is to the north.



Figure 25. Photograph of the Cabinet Mountain Water District Project area taken at the existing Highland Meadows Booster Station. Highland Flats Road is in the foreground. The new booster station will be constructed in this vicinity; the three potential locations are in the alfalfa field to the left, in the trees in the left background, or to the right of Highland Flats Road. The view is to the east.



Figure 26. Photograph of the Cabinet Mountain Water District Project area taken at the existing Highland Meadows Booster Station. Highland Flats Road is in the foreground. The new booster station will be constructed in this vicinity; one of the three potential locations is in the alfalfa field to the left and another is in the trees behind Jeremy Davy. The view is to the north.



Figure 27. Photograph of the Cabinet Mountain Water District Project area taken at the existing Highland Meadows Booster Station. Highland Flats Road is in the foreground. The new booster station will be constructed in this vicinity; one of the three potential sites is among the trees behind Jeremy Davy. The view is to the south.



Figure 28. Photograph of the Cabinet Mountain Water District Project area taken at the junction of the access road to the Highland Tank (behind Jeremy Davy). Highland Flats Road is in the foreground. The view is to the north. Note that the following photographs are in order going up the access road toward the Highland Tank site.



Figure 29. Photograph of the Cabinet Mountain Water District Project area taken near lower end of the access road to the Highland Tank site. The view is to the northeast.



Figure 30. Photograph of the Cabinet Mountain Water District Project area taken where the access road forks to the two potential tank sites. Jeremy Davy is on the less developed road to the eastern site. The view is to the southwest.



Figure 31. Photograph of the Cabinet Mountain Water District Project area taken where the access road forks to the two potential tank sites. Jeremy Davy is at the upper end of the access road near the southwest corner of the eastern site. The tank site is within the forest to the right. The view is to the southwest.



Figure 32. Photograph of the Cabinet Mountain Water District Project. Jeremy Davy is standing in the vicinity of the northeast corner of the eastern site. The view is to the southeast.

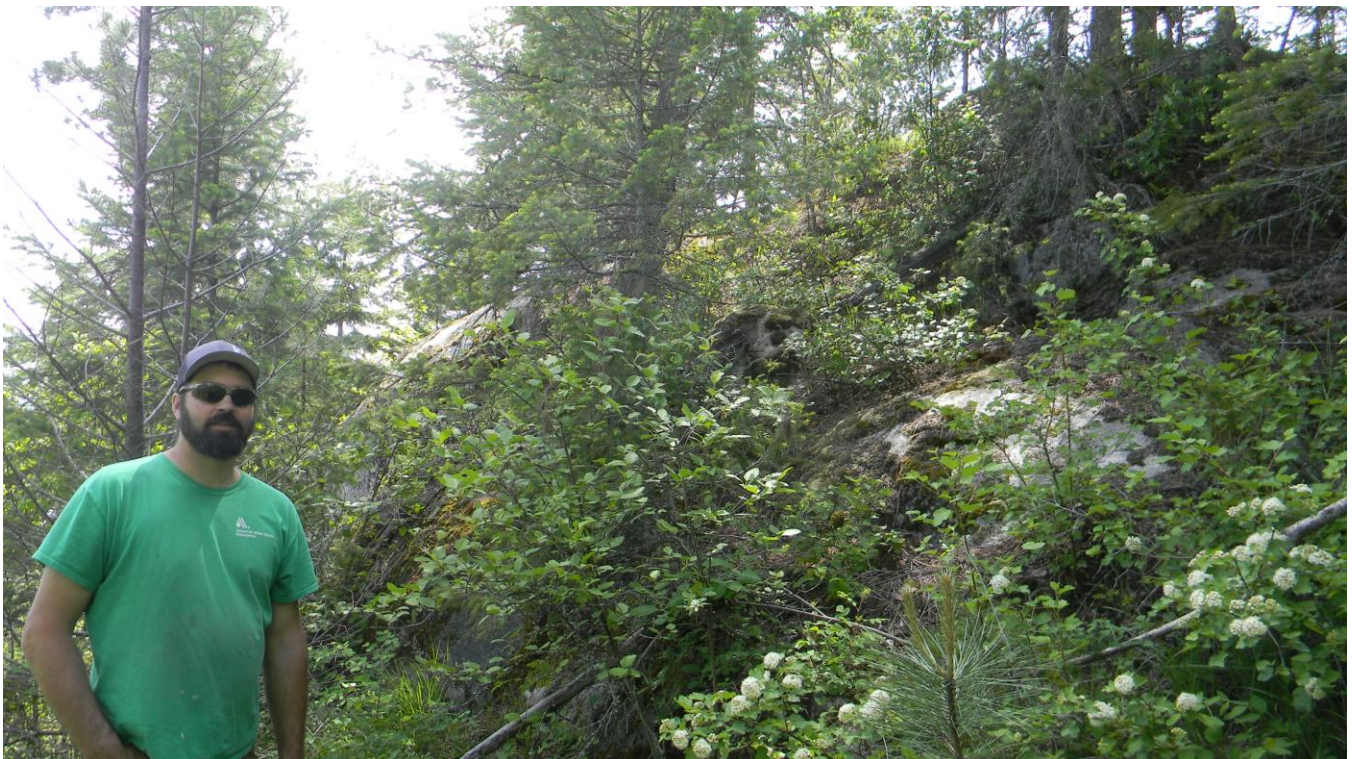


Figure 33. Photograph of the Cabinet Mountain Water District Project. Jeremy Davy is standing in the vicinity of the northwest corner of the eastern site. The view is to the southeast.



Figure 34. Photograph of the Cabinet Mountain Water District Project. Jeremy Davy is standing in the vicinity of the northwest corner of the western site. The view is to the southeast.



Figure 35. Photograph of the Cabinet Mountain Water District Project. Jeremy Davy is standing in the vicinity of the northeast corner of the western site. The view is to the southeast.



Figure 36. Photograph of the Cabinet Mountain Water District Project. Jeremy Davy is standing on the main access road in the vicinity of the southwest corner of the western site. The view is to the southeast.



Figure 37. Photograph of the Cabinet Mountain Water District Project taken along the waterline route between the Highland Booster Station and access road to the new Highland Tank. Highland Flats Road is at the left. The view is to the west.



Figure 38. Photograph of the Cabinet Mountain Water District Project taken along the waterline route between the Highland Booster Station and the access road to the new Highland Tank. Highland Flats Road is at the left. The view is to the west.



Figure 39. Photograph of the Cabinet Mountain Water District Project taken along the waterline route between the Highland Booster Station and access road to the new Highland Tank. Highland Flats Road is at the left. The view is to the west.



Figure 40. Photograph of the Cabinet Mountain Water District Project taken along the waterline route between the Highland Booster Station and the access road to the new Highland Tank. Highland Flats Road is at the left. The view is to the west.



Figure 41. Photograph of the Cabinet Mountain Water District Project taken along the waterline route between the Highland Booster Station and the access road to the new Highland Tank (in the foreground). Highland Flats Road is at the right. The view is to the east.

APPENDIX G

RECORD OF SELECTED ALTERNATIVES



Meeting Agenda

Project Name: Cabinet Mountain Water District Facilities Planning Study **Date:** 07/30/19
Project No.: 218168 - 002 **Meeting No.:** 3
Owner: Cabinet Mountains Water District **Prepared By:** Kyle Meschko
Meeting Purpose: Capital Improvement Plan

Attendees:

Ed Katz – CMWD	Kyle Meschko – Keller Associates
Jeremy Davy - CMWD	James Bledsoe – Keller Associates
George Schrems - CMWD	Mike Galante – Keller Associates
Chris Lewandowski- CMWD	

Item No.	Description
1	<p>Goals of this meeting Develop consensus on preferred improvements in order to refine projects/costs to bond for</p>
2	<p>Items completed to date:</p> <ul style="list-style-type: none"> • Summarized planning criteria for system • Documented existing conditions evaluation and recommended improvements • Completed existing conditions hydraulic model calibration checks • Evaluated fire flow delivery / storage / hydrant coverage • Recap Identified current and future needs for supply, distribution and storage (see figure) • Evaluated alternative solutions • Prepared draft Capital Improvement Plan • Hydrant Evaluation (see figure) <p>Comments:</p>

3 **Alternative Analysis** (see handout/cost sheets)

Parker Canyon Tank Alternatives	
Description	Capital Cost
Parker Canyon Tank (210,000 gal) and Parallel Booster Station	\$ 1,573,000
Parker Canyon Tank (210,000 gal) and Remove and Replace Booster Station	\$ 2,038,000
Parker Canyon Tank (260,000 gal) and Parallel Booster Station	\$ 1,642,000
Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	\$ 2,107,000

Storage Alternatives			
Alternative 1: 3 Tanks and Small Booster		Alternative 2: 4 Tanks	
Description	Cost	Description	Cost
Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	\$ 2,107,000	New 210,000 gallon Parker Canyon Tank and Booster Station Upgrades (Remove and Replace Booster Station)	\$ 2,038,000
Highland Flats Tank (200,000 gal)	\$ 1,370,000	Highland Flats Tank (200,000 gal)	\$ 1,370,000
North Paradise Elevated Tank (300,000 gal)	\$ 2,192,000	North Paradise Elevated Tank (200,000 gal)	\$ 1,935,000
Kootenai Trail Booster	\$ 285,000	Cow Creek Tank (150,000 gal)	\$ 1,343,000
Total Cost	\$ 5,954,000	Total Cost	\$ 6,686,000

Supply Alternatives			
Description	Capital Cost	20 Year O&M	Total Cost Life Cycle Analysis Cost
Alternative 1: Additional Crossport Well	\$ 877,000	\$ 796,000	\$ 1,673,000
Alternative 2: Cow Creek Well	\$ 2,051,000	\$ 1,844,000	\$ 3,895,000
Alternative 3: New Well at Site TBD	\$ 1,405,000	\$ 898,000	\$ 2,303,000

Comments:

4 **Draft Capital Improvement Plan**

- Projects ranked in order of priority
- Costs incorporate – Contingency, Engineering, Bonding & Insurance, Admin, Easements
- Costs include 25%-30% planning level construction contingencies.
- Costs based on RS Means, bid results, similar projects, supplier quotes, & engineer input

See associated CIP figure and future demands/improvements figure.
See cost breakout sheets for projects and alternative projects.

CMWD

Capital Improvements Projects

Water System Capital Improvement Plan - Priority Improvements & Replacement Budget		
ID	Project	Est. Cost (2019 Dollars)
Priority 1 Improvements		
W1.1	Alternative 1: Additional Crossport Well	\$877,000
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	\$2,107,000
T1.2	Highland Flats Tank (200,000 gal)	\$1,370,000
T1.3	North Paradise Elevated Tank (300,000 gal)	\$2,192,000
1.1	Highland Booster Replacement	\$586,000
1.2	Pump Station Improvements - Black Mountain Booster	\$179,000
1.3	Mountain Meadows Rd. Booster	\$285,000
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	\$62,000
1.5	Kootenai Trail Booster	\$285,000
CI	Crossport Well Facility Improvements	\$168,000
CI	Black Mountain Tank/Booster Improvements	\$103,000
<i>Total Priority 1 (rounded)</i>		\$8,214,000
Priority 2 Improvements		
2.1	Brown Creek Road Distribution Improvements	\$490,000
2.2	Naples Zone US-2 Loop	\$698,000
2.3	Quail Drive Distribution Improvements	\$220,000
2.4	Blue Sky Distribution Improvements	\$1,315,000
CI	Priority 2 - Existing Facilities Improvements	\$460,000
<i>Total Priority 2 (rounded)</i>		\$3,183,000
Priority 3 Improvements		
3.1	Highland Flats Road and McArthur Lake Road Distribution Improvements	\$2,083,000
3.2	South Highlands Distribution Improvements	\$68,000
3.3	Roman Nose Dr Distribution Improvements	\$483,000
3.4	South Naples Distribution Improvements	\$2,796,000
3.5	Frontier Village Distribution Improvements	\$423,000
3.6	Northeast Paradise Distribution Improvements	\$1,498,000
3.7	Coyote Way Distribution Improvements	\$450,000
3.8	Pinnacle Circle Distribution Improvements	\$695,000
3.9	Cottage Lane Distribution Improvements	\$293,000
3.10	Grumpy Lane Distribution Improvements	\$291,000
3.11	Northeast Paradise Distribution Improvements	\$594,000
<i>Total Priority 3 (rounded)</i>		\$9,674,000
Total Priority 1, 2 & 3 Improvement Costs		\$21,071,000
Annual Replacement Budget		
	Water Distribution Lines	\$286,000
	Fire Hydrants	\$25,000
	Water Meters	\$13,000
	Well Facilities	\$21,000
	Booster Facilities	\$26,000
	Storage Facilities	\$12,000
Total Annual Replacement Budget Costs		\$383,000

Notes*

- 1) Timing depends on when growth occurs. Development participation anticipated.
- 2) The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our opinion of probable costs at this time and is subject to change as the project design matures. Keller Associates has no control over variances in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies. Keller Associates cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs presented herein.

Why are they higher than previous study?

Ways to reduce money:

- Reduce or phase emergency storage duration \$\$\$
- Simplify Highland Flats Booster improvements \$250K
- Use bolted steel tanks for Highland Flats approx. capital savings ~10-15% capital cost
- Reduce or phase pipeline improvements

Replacement Budget

- Why should we be proactive with a replacement budget?
- 2027 loan payment portion turns into replacement budget.
- System unique needs

4 **Estimated Rates Associated with Project costs**

In general, for every \$1M increase in total project costs the rates would increase approximately \$4/user/month. This assumes no other grants or funding sponsors this project. There are a variety of different funding avenues we could also pursue such as CDBG and Army Corps.

What's a typical average user water rate?

<i>CABINET MOUNTAINS WATER DISTRICT - BOND AND USER RATE COST SCENARIOS</i>							
Total Connections	921						
CMWD Current Base Rate (month)	\$	45.00					
Current debt services on \$2M (month) included in base	\$	16.70					
Capital Improvement Costs Low	\$	5,300,000					
Capital Improvement Costs Mid	\$	7,300,000					
Capital Improvement Costs High	\$	8,300,000					
IDEQ Principal forgiveness	\$	127,874					
Est. Additional O&M	\$	30,000					
CMWD Cash Contribution	\$	200,000					
<i>2027</i> Already received IDEQ 30 year loan at 1.75% with \$127,874 principal forgiveness not used							
Capital Improvement Costs Low \$5,300,000.00							
<i>40-year USDA Loan at 3.5% Interest Rate w 25% grant+ IDEQ Principal Forgiveness</i>							
Project Name	Total Capital Cost	Grant Funds	Amount Financed	Estimated Debt	Additional O&M	Annual Debt Service + O&M	Rate Increase
Water System Improvements	\$5,300,000	\$1,420,905.50	\$3,879,095	\$181,647	\$30,000	\$211,647	\$19.15
<i>40-year USDA Loan at 3.5% Interest Rate w 35% grant+ IDEQ Principal Forgiveness</i>							
Water System Improvements	\$5,300,000	\$1,938,118.10	\$3,361,882	\$157,428	\$30,000	\$187,428	\$16.96
Capital Improvement Costs Mid \$7,300,000.00							
<i>40-year USDA Loan at 3.5% Interest Rate w 25% grant+ IDEQ Principal Forgiveness</i>							
Water System Improvements	\$7,300,000	\$1,920,905.50	\$5,379,095	\$251,888	\$30,000	\$281,888	\$25.51
<i>40-year USDA Loan at 3.5% Interest Rate w 35% grant+ IDEQ Principal Forgiveness</i>							
Water System Improvements	\$7,300,000	\$2,638,118.10	\$4,661,882	\$218,303	\$30,000	\$248,303	\$22.47
Capital Improvement Costs Hi \$ 8,300,000							
<i>40-year USDA Loan at 3.5% Interest Rate w 25% grant+ IDEQ Principal Forgiveness</i>							
Water System Improvements (initial installation only)	\$8,300,000	\$2,170,906	\$6,129,095	\$287,009	\$30,000	\$317,009	\$28.68
<i>40-year USDA Loan at 3.5% Interest Rate w 35% grant+ IDEQ Principal Forgiveness</i>							
Water System Improvements (without Contingency)	\$8,300,000	\$2,988,118.10	\$5,311,882	\$248,741	\$30,000	\$278,741	\$25.22
30 Year IDEQ							
<i>30-year IDEQ @ 1.75% Interest Rate + IDEQ Principal Forgiveness</i>							
Water System Improvements (initial installation only)	\$5,300,000	\$127,874	\$5,172,126	\$223,073	\$30,000	\$253,073	\$22.90

Comments:

5	<p>Next Steps / Schedule</p> <ul style="list-style-type: none">a. Following this meeting – Keller to make project changes from feedback and provide updated project list and costs to CMWD by August 12b. August 13 – CMWD Board meeting to select proposed projects/amount to bond for.c. September 16 – Bond application due. CMWD to wrap up election resolution 4 weeks prior (~August 16th) <p>Public outreach and meetings –</p>
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Cabinet Mtns. Water District
Board of Directors
Minutes – July 30th, 2019

1. Project/Facility Plan Meeting called to order at 1:15pm. Roll Call-Present:

Ed Katz	George Schrems
Jeremy Davy	Chris Lewandowski
Deborah Youngwirth	Kyle Meschko
James Bledsoe	Mike Galante

2. New Business

- a. Summary of Planning Meeting Design Decisions – this meeting was set to develop a consensus on preferred improvements in order to refine projects/costs to bond for:
 1. Summarized planning criteria for system – Kyle Meschko summarized the planning criteria used. Max day usage and peak hour pressure is what the planning has been based on.
 2. Documented existing conditions evaluation and recommended improvements
 3. Completed existing conditions hydraulic model calibration checks
 4. Evaluated fire flow delivery / storage / hydrant coverage – this was evaluated with the understanding that it would be a phased in approach.
 5. Recap identified current and future needs for supply, distribution and storage
 6. Evaluated alternative solutions
 7. Prepared draft Capital Improvement Plan
 8. Hydrant Evaluation – for rural setting, International Fire Code for hydrants is 1,000-foot radius between hydrants. That seems a little excessive for the district and would add much more additional maintenance and repair to the system.

- b. Alternative Analysis –
 1. Looked at four alternative solutions for Parker Canyon Tank: (1) 210,000 gal Parallel Booster Station, (2) 210,000 gal Remove and replace booster station, (3) 260,000 gal Parallel Booster Station, and (4) 260,000 gal Remove and Replace Booster Station. Taking a booster station offline is not really an option at this time. The cost to go with 260,000 gal versus 210,000 gal is not substantial and would make sense to go with the larger.
 2. Two storage alternatives were considered: (1) 3 Tanks and Small Booster (260,000 gal Parker Canyon Tank, 200,000 gal Highland Flats Tank, 300,000 gal North Paradise Elevated Tank, and a Kootenai Trail Booster); (2) 4 Tanks (210,000 gal Parker Canyon Tank and Booster Station Upgrades – Remove and Replace Booster Station, 200,000 gal Highland Flats Tank, 200,000 gal North Paradise Elevated Tank, and 150,000 gal Cow Creek Tank). Keller recommends Alternative 1.
 3. Three Supply alternatives were considered: (1) Additional Crossport Well, (2) Cow Creek Well, and (3) New Well at Site TBD. Keller recommends alternative 1.

- c. Draft Capital Improvement Plan – projects were presented in order of priority. Costs incorporate contingency, engineering, bonding & insurance, admin and easements. Costs include a 25%-30% planning level construction contingencies. Costs are based on RS Means, bid results, similar projects, supplies quotes and engineer input. Additional items of less

significance were presented as part of an annual replacement budget. Keller would like the group to take the next week or two to review the information further and be ready to make decisions on what projects will be selected to include in the bond. Rates were discussed and the increase that would be necessary to support capital costs and three different thresholds. The rate increases varied from \$16.96 to \$28.68 per month based on current max users and in consideration of funding through USDA and DEQ. There may be other grants and assistance that could also be available as well.

d. Next Steps/Schedule

1. Following this meeting – Keller will make project changes from feedback and provide updated project list and costs to CMWD by August 12, 2019.
 2. August 13th – CMWD Board meeting to select proposed projects/amounts to bond for.
 3. September 16th – Bond application due. CMWD to wrap up election resolution 4 weeks prior (~August 16th)
 4. Public outreach and meetings – the board would like to see about 4 of these public outreach meetings prior to the bond vote. Keller will be able to assist with these. These meetings will be scheduled for a date after the passing of the bond resolution in August.
- e. The board will hold a special meeting at 5pm on Wednesday, August 7th, 2019 at the Office of Youngwirth, Davis & Associates located at 7193 Main St, Bonners Ferry, Idaho. This meeting will be to further discuss the Priority 1 Improvement lists to determine which items can be cut from the list if anything.

Ed Katz motioned to adjourn, George Schrems seconded, motion carried.

Next Project/Facility Plan meeting to be held: TBD at the Office of Youngwirth, Davis & Associates, located at 7193 Main St, Bonners Ferry, Idaho.

From: Kyle Meschko <kmeschko@Kellerassociates.com>
Sent: Thursday, August 1, 2019 1:40 PM
To: idahokatz@gmail.com; Jeremy Davy <jeremy@cmwd.org>; schremsge@icloud.com
Cc: Deborah Youngwirth <deborah@ydacpa.com>; James Bledsoe <jbledsoe@Kellerassociates.com>;
Mike Galante <mgalante@Kellerassociates.com>
Subject: CMWD - Alternative CIP

All,

Thanks for your time and input at our Tuesday meeting. Per our meeting CMWD requested Keller show another option for Priority 1 improvements that was more affordable. The first table is what was presented in our meeting for \$8.2M. The second table is a revised priority 1 improvements table for CMWD discussion. Note while the second option is significantly more affordable there is concern with some of those facilities and using band aids to keep them functional such as highland flats booster station.

Water System Capital Improvement Plan - Priority 1 Improvements		
ID	Project	Est. Cost (2019 Dollars)
<i>Priority 1 Improvements</i>		
W1.1	Alternative 1: Additional Crossport Well	\$877,000
T1.1.2	Parker Canyon Tank (260,000 gal) and Remove and Replace Booster Station	\$2,107,000
T1.2	Highland Flats Tank (200,000 gal)	\$1,370,000
T1.3	North Paradise Elevated Tank (300,000 gal)	\$2,192,000
1.1	Highland Booster Replacement	\$586,000
1.2	Pump Station Improvements - Black Mountain Booster	\$179,000
1.3	Mountain Meadows Rd. Booster	\$285,000
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	\$62,000
1.5	Kootenai Trail Booster	\$285,000
CI	Crossport Well Facility Improvements	\$168,000
CI	Black Mountain Tank/Booster Improvements	\$103,000
<i>Total Priority 1 (rounded)</i>		\$8,214,000

The differences below are:

- Parker Booster station utilizes existing booster and a new booster (parallel) instead of replacing existing booster station with a brand new one.
- Highland flats booster station only gets new pumps (misc. piping) and backup generator instead of completely replacing
- We have eliminated Condition Improvement (CI) projects for Crossport Well and Black Mtn/Booster facilities

Water System Capital Improvement Plan - Priority 1 Improvements		
ID	Project	Est. Cost (2019 Dollars)
<i>Priority 1 Improvements</i>		
W1.1	Alternative 1: Additional Crossport Well	\$877,000
T1.1.4	Parker Canyon Tank (260,000 gal) and Parallel Booster Station	\$1,642,000
T1.2	Highland Flats Tank (200,000 gal)	\$1,370,000
T1.3	North Paradise Elevated Tank (300,000 gal)	\$2,192,000
1.1A	Highland Booster Minor Upgrades	\$211,000
1.3	Mountain Meadows Rd. Booster	\$285,000
1.4	Naples Pressure Reducing / Pressure Sustaining Valve	\$62,000
1.5	Kootenai Trail Booster	\$285,000
<i>Total Priority 1 (rounded)</i>		\$6,924,000

Please let me know if you need anything else prior to your meeting next week. As a reminder we will need CMWD to select the projects and total amount to bond for.

Thanks,



KYLE MESCHKO, PE

Project Manager

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kellerassociates.com

Cabinet Mtns. Water District
Board of Directors
Minutes – August 7th, 2019

1. Special Meeting called to order at 5pm. Roll Call-Present:

John Martling	Ed Katz
George Schrems	Rick Staats
Karen Glazier (Excused)	Jeremy Davy
Chris Lewandowski	Deborah Youngwirth

2. New Business

- a. Ed Katz summarized the recommendations made by the engineers for alternatives to consider. Keller recommended two scenarios to consider for project lists. The first would be a bond amount of \$8,214,000.00 and the revised recommendation would be \$6,924,00.00. The board discussed that there may be grants and loan forgiveness that may also help pay which would reduce the amount passed through to users. The board also recognized that regardless of the amount passed at bond, it does not necessarily have to be spent if alternatives are found that may reduce costs to achieve the same upgrade goals desired. Rick Staats motioned to approve requesting a bond in the amount of \$8.214mil, George Schrems seconded, motion carried.

Ed Katz motioned to adjourn, John Martling seconded, motion carried.

Next regular board meeting to be held on Tuesday, August 13th, 2019 at 5pm at the Office of Youngwirth, Davis & Associates, located at 7193 Main St, Bonners Ferry, Idaho.