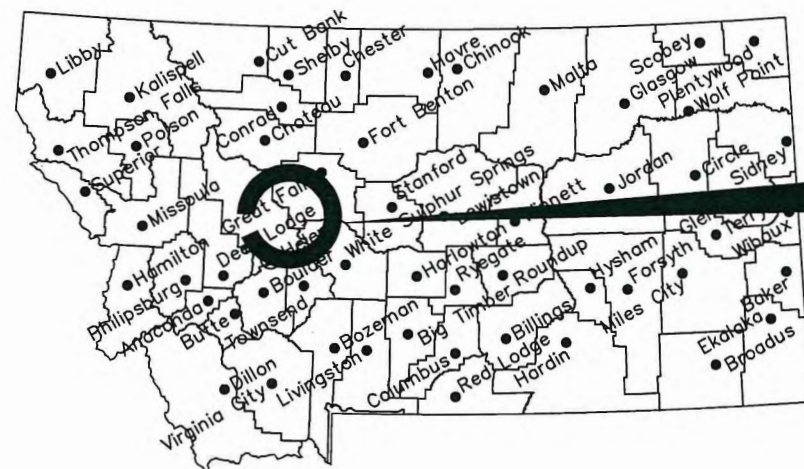


MONTANA FISH, WILDLIFE & PARKS

# Beartooth Wildlife Management Area 2022 Boundary Fence Rebid

near Wolf Creek, MT

FWP # 7215401

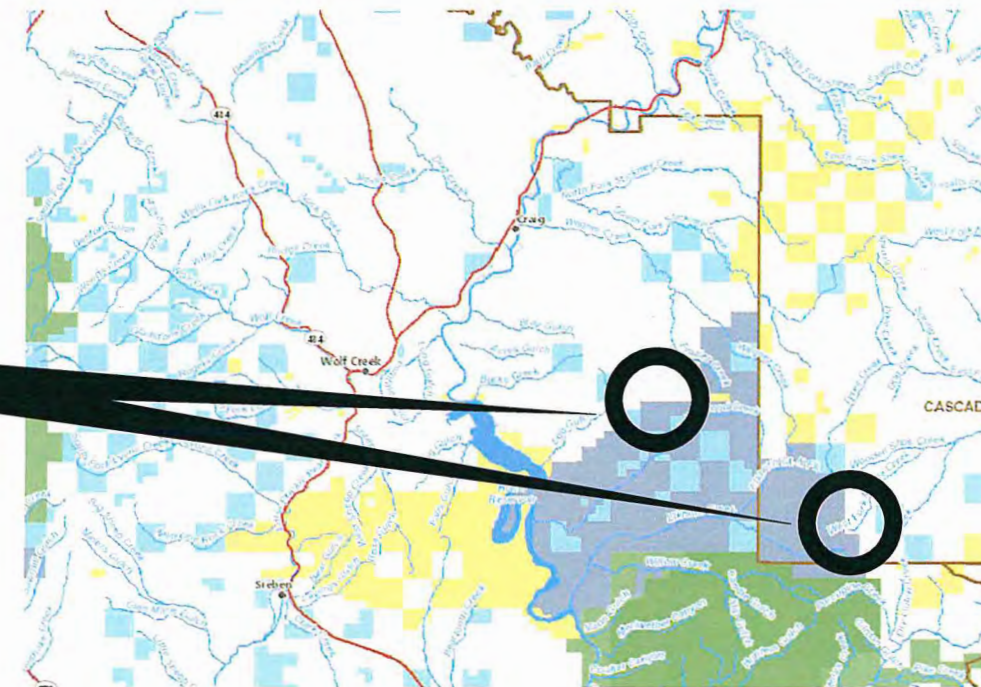


**Location Map**

No Scale

**Project  
Location**

**North**



**Vicinity Map**

No Scale

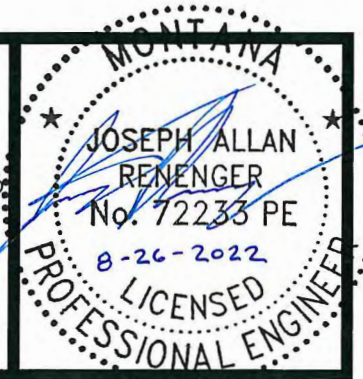
MONTANA FISH, WILDLIFE AND PARKS  
DESIGN AND CONSTRUCTION

MAILING ADDRESS: PO BOX 200701  
HELENA, MT 59620-0701  
TEL 406.841.4000  
FAX 406.841.4004  
<https://fwp.mt.gov/aboutfwp/design-and-construction>

PHYSICAL ADDRESS: 1522 9th AVENUE  
HELENA, MT 59601

## DRAWING INDEX

- |   |                        |      |                     |
|---|------------------------|------|---------------------|
| 1 | COVER                  | 7    | WIRE FENCE DETAILS  |
| 2 | SUMMARY                | 8    | GATE/STREAM DETAILS |
| 3 | FULL SITE PLAN         | 9-11 | FENCELINE PHOTOS    |
| 4 | NW SITE PLAN           |      |                     |
| 5 | EAST SITE PLAN - NORTH |      |                     |
| 6 | EAST SITE PLAN - SOUTH |      |                     |



J. RENENGER 8/24/2022  
DRAWN BY: DATE:  
P. JAGODA 8/24/2022  
CHECKED BY: DATE:

APPROVED BY: DATE:  
APPROVED BY: DATE:

APPROVED BY: DATE:  
APPROVED BY: DATE:



MONTANA FISH,  
WILDLIFE & PARKS

145

**COVER**  
BEARTOOTH WMA 2022 BOUNDARY FENCE

SHEET: 1 of 11

Estimated Quantities - Beartooth WMA 2022 Boundary Fence

LOCATION	LF			EA				
	Remove Fence	4- Wire Boundary Fence	Wood Post and Rail Fence	2 Post Panel	3 Post Panel	5 - Post Panel	16' Wire Gate	Stream Crossing
A to B	3715	3665	50	10	5	1	1	
C to D	5984	5984		12	6		3	1
D to E	11336	11336		16	13	1	5	
F to G	2264	2264		6	4		2	
H to I	3882	3882		11	2		3	
<b>Total</b>	<b>27181</b>	<b>27131</b>	<b>50</b>	<b>55</b>	<b>30</b>	<b>2</b>	<b>14</b>	<b>1</b>

**NOTES:**

1. ACCESS FOR EQUIPMENT IS DIFFICULT OR IMPOSSIBLE IN SOME PORTIONS OF FENCE LINE.
2. CONTRACTOR MAY NOT BEGIN WORK BEFORE MAY 20 AND MUST SUSPEND WORK ON SEPTEMBER 1.
3. THE CONTRACTOR IS REQUIRED TO NOTIFY AND COORDINATE ALL WORK WITH FWP PROJECT MANAGER.
4. SUBMITTALS ARE REQUIRED FOR ALL MATERIALS USED ON THE PROJECT
5. ALL EXTRANEIOUS WORK/COSTS TO COMPLETE THE WORK SHALL BE INCLUDED AND BE CONSIDERED TO FULL PAYMENT AS PER COST PROPOSAL.
6. CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE FWP PROPERTY OR NEIGHBORS. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR TO SATISFACTION OF PROJECT MANAGER.
7. EQUIPMENT USED SHALL NOT LEAK FLUIDS. IT SHALL BE POWER WASHED BEFORE HAULING TO SITE AND EXAMINED BY PROJECT MANAGER
8. EQUIPMENT AND MATERIALS SHALL BE STAGED IN AREAS APPROVED BY THE PROJECT MANGER.
9. CONTRACTOR SHOULD ATTEMPT TO LIMIT ALL TRAVEL TO DESIGNATED ACCESS ROADS OR FENCE LINE.
10. UNLESS OTHERWISE NOTED, CONTRACTOR SHOULD INSTALL FENCE IN PREVIOUS FENCE LOCATION.
11. **FENCE SECTION A TO B INCLUDES REMOVAL OF SOME PORTIONS OF JACK LEG FENCE. A STANDARD FOUR WIRE BOUNDARY FENCE WILL BE INSTALLED IN THIS LOCATION.** REMOVAL OF JACK LEG FENCE PORTIONS WILL BE PAID UNDER REMOVE FENCE AT UNIT BID PRICE.

J. RENENGER 8/24/2022  
 DRAWN BY: DATE:  
 P. JAGODA 8/24/2022  
 CHECKED BY: DATE:

REVISED BY: DATE:  
 APPROVED BY: DATE:

APPROVED BY: DATE:  
 APPROVED BY: DATE:

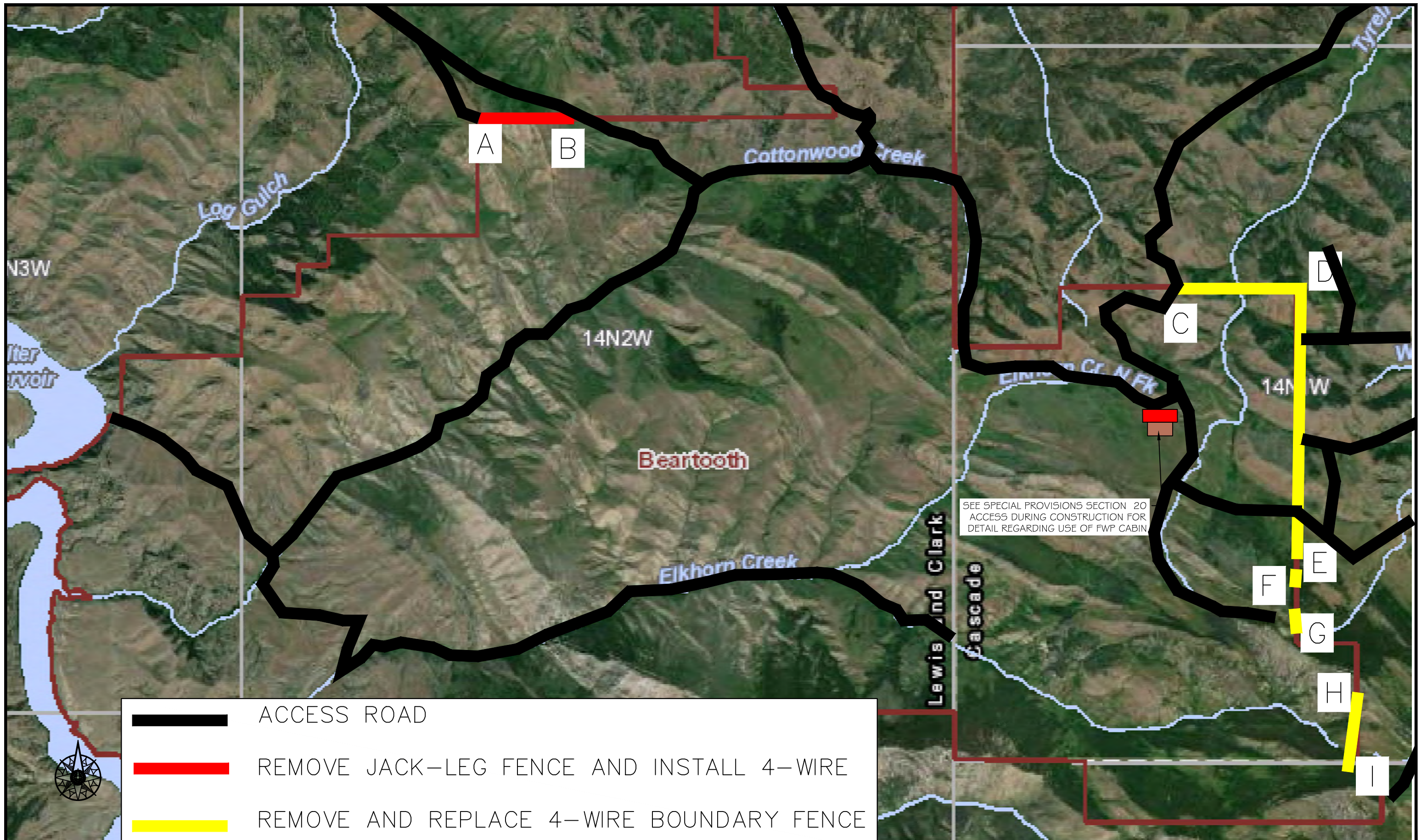





**MONTANA FISH,  
 WILDLIFE & PARKS**

**SUMMARY**  
 BEARTOOTH WMA 2022 BOUNDARY FENCE

SHEET: 2 of 11





	ACCESS ROAD
	REMOVE JACK-LEG FENCE AND INSTALL 4-WIRE
	REMOVE AND REPLACE 4-WIRE BOUNDARY FENCE

SEE SPECIAL PROVISIONS SECTION 20  
ACCESS DURING CONSTRUCTION FOR  
DETAIL REGARDING USE OF FWP CABIN

J. RENENGER 8/24/2022  
DRAWN BY: DATE:  
P. JAGODA 8/24/2022  
CHECKED BY: DATE:

REVISED BY: DATE:  
APPROVED BY: DATE:

APPROVED BY: DATE:  
APPROVED BY: DATE:

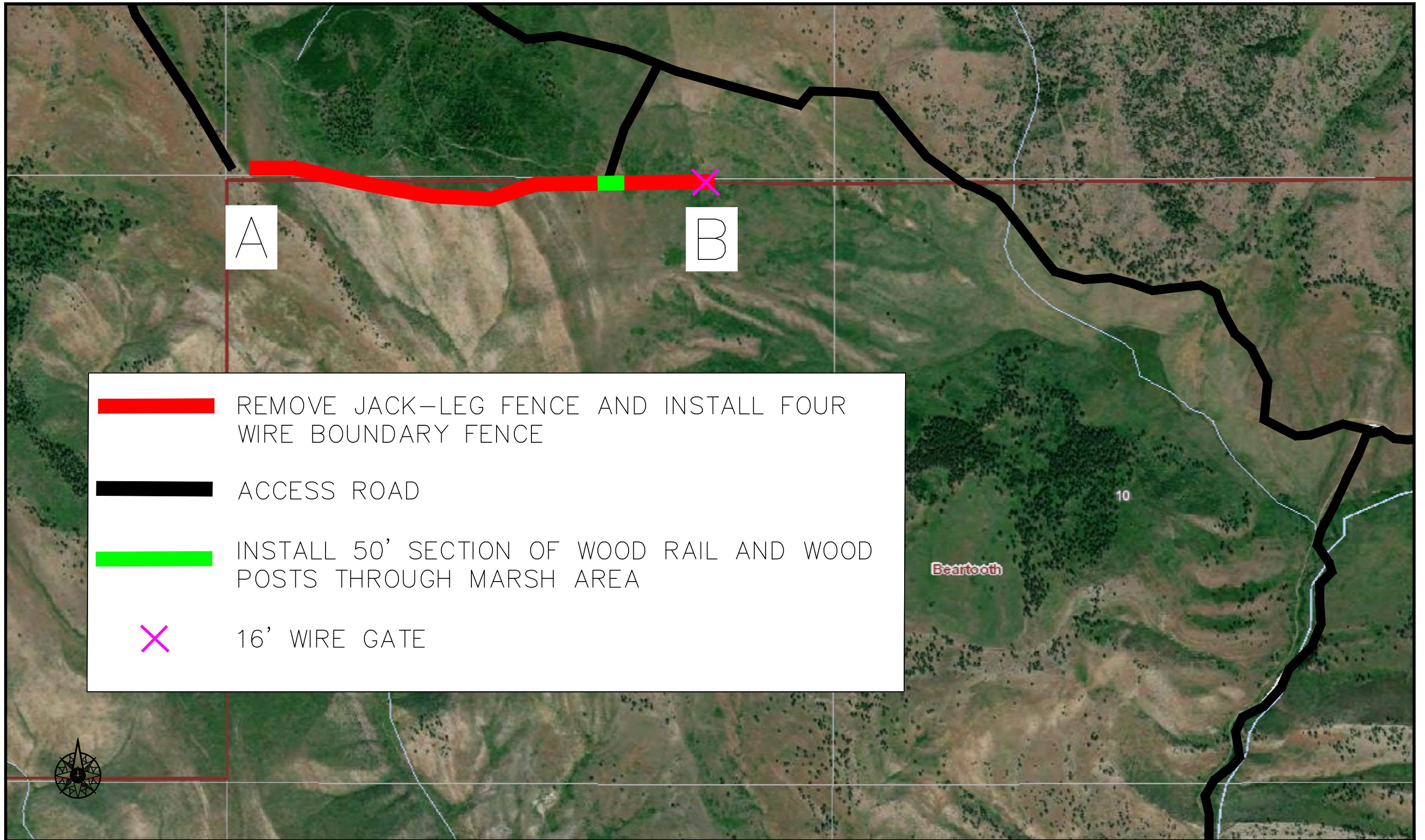






**MONTANA FISH,  
WILDLIFE & PARKS**

**FULL SITE PLAN**  
**BEAR TOOTH WMA 2022 BOUNDARY FENCE**

SHEET: 3  
of 11





 REMOVE JACK-LEG FENCE AND INSTALL FOUR WIRE BOUNDARY FENCE  
 ACCESS ROAD  
 INSTALL 50' SECTION OF WOOD RAIL AND WOOD POSTS THROUGH MARSH AREA  
 16' WIRE GATE

J. RENENGER 3/2/2022  
 DRAWN BY: DATE:  
 P. JAGODA 3/20/2022  
 CHECKED BY: DATE:

REVISED BY: DATE:  
 APPROVED BY: DATE:

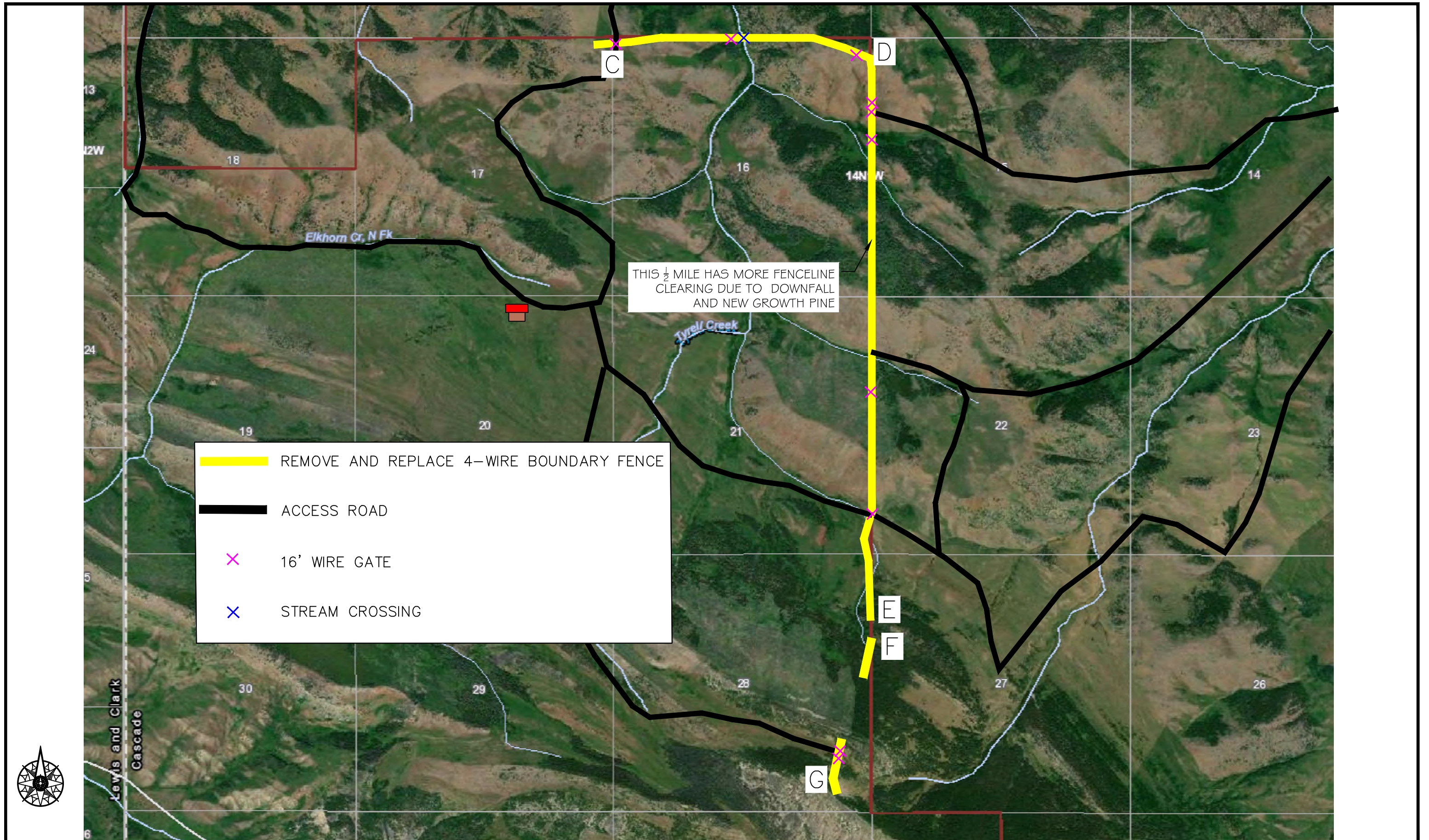
APPROVED BY: DATE:  
 APPROVED BY: DATE:



**NW SITE PLAN**  
**BEARTOOTH WMA 2022 BOUNDARY FENCE**

SHEET: 4  
 of 11





- REMOVE AND REPLACE 4-WIRE BOUNDARY FENCE
- ACCESS ROAD
- X 16' WIRE GATE
- X STREAM CROSSING

THIS 1/2 MILE HAS MORE FENCELINE CLEARING DUE TO DOWNFALL AND NEW GROWTH PINE

J. RENENGER 8/24/2022  
 DRAWN BY: DATE:  
 P. JAGODA 8/24/2022  
 CHECKED BY: DATE:

REVISED BY: DATE:  
 APPROVED BY: DATE:

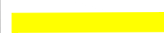


APPROVED BY: DATE:  
 APPROVED BY: DATE:



**EAST SITE PLAN - NORTHERN LEG**  
**BEARTOOTH WMA 2022 BOUNDARY FENCE**





	REMOVE AND REPLACE 4-WIRE BOUNDARY FENCE
	ACCESS ROAD
	16' WIRE GATE

J. RENENGER	3/2/2022
DRAWN BY:	DATE:
P. JAGODA	3/20/2022
CHECKED BY:	DATE:

REVISOR:	DATE:
APPROVED BY:	DATE:

APPROVED BY:	DATE:
APPROVED BY:	DATE:

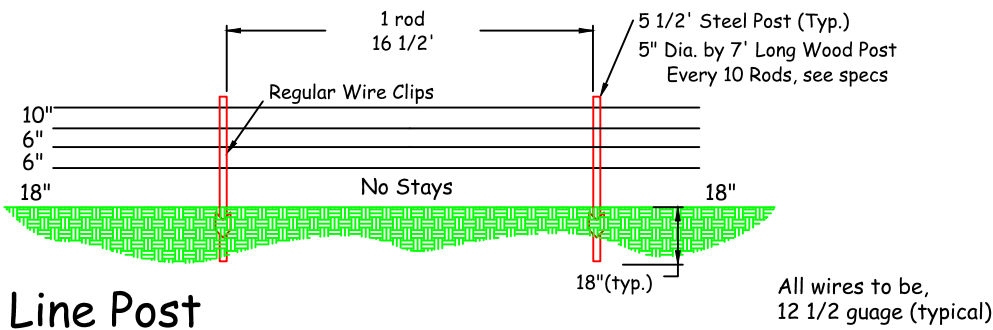


**MONTANA FISH,  
WILDLIFE & PARKS**

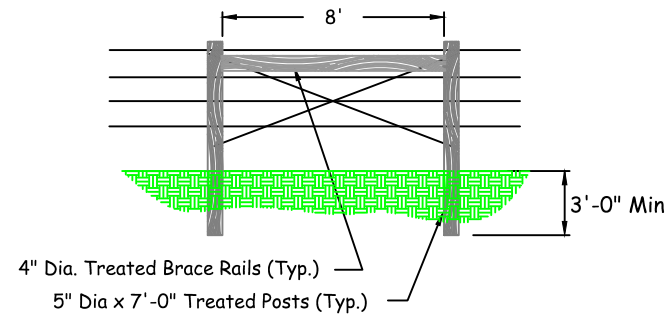
**EAST SITE PLAN - SOUTHERN LEG**  
BEARTOOTH WMA 2022 BOUNDARY FENCE



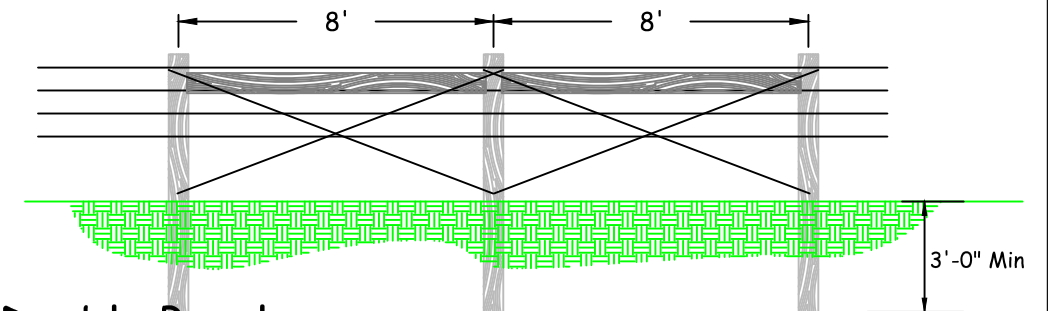
4-Wire Spacing Application  
2 strand Barbed, Top and Bottom Smooth



**Line Post**

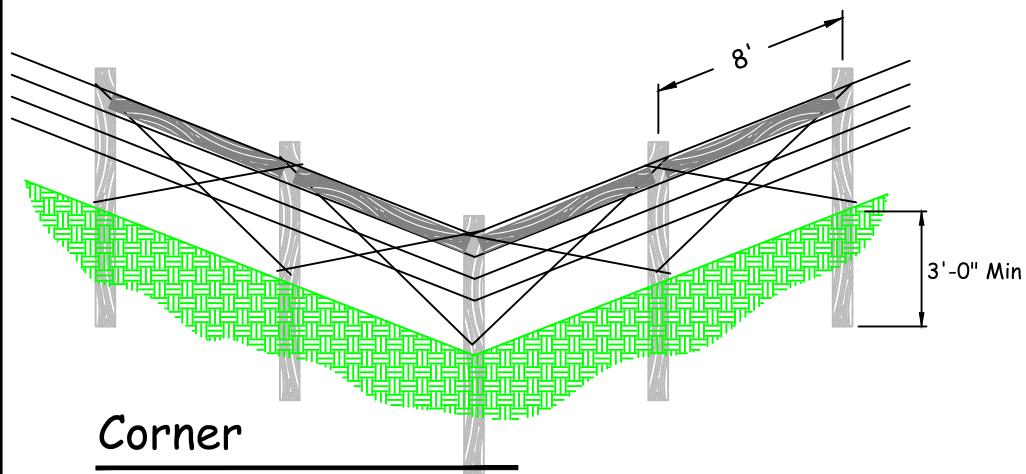


**Single Panel**

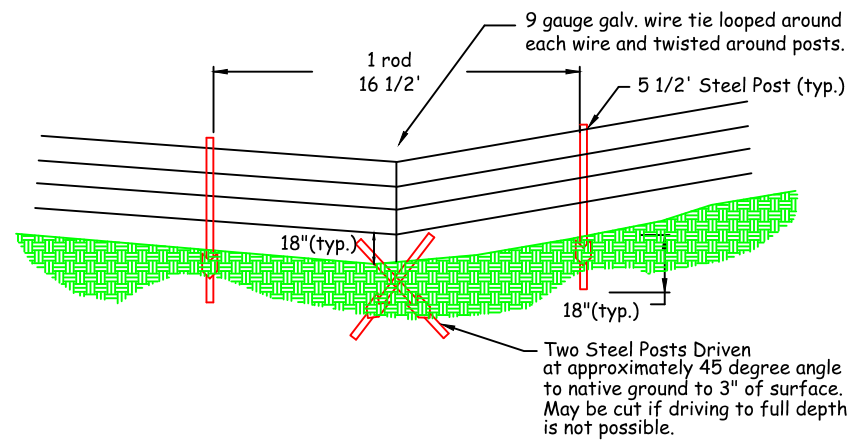


**Double Panel**

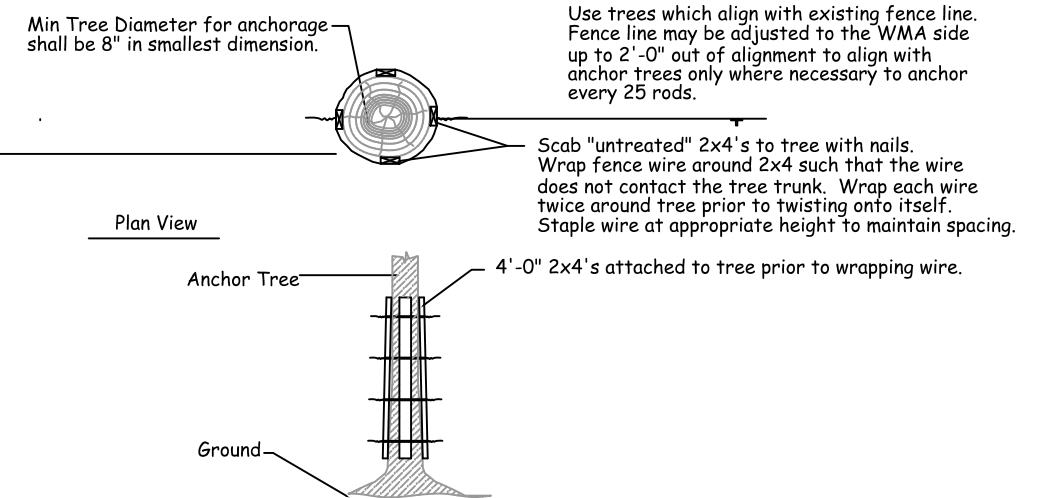
Wire spacing as shown in typical fence detail.



**Corner**



**Typical Deadman Anchor Detail**



J. RENENGER 3/2/2022  
DRAWN BY: DATE:  
P. JAGODA 3/20/2022  
CHECKED BY: DATE:

REVISED BY: DATE:  
APPROVED BY: DATE:

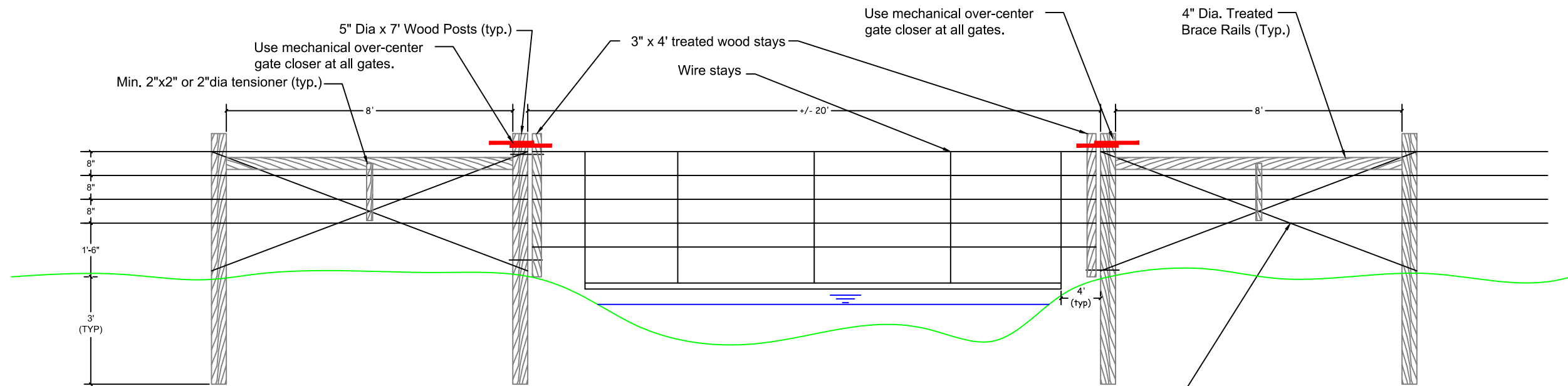
APPROVED BY: DATE:  
APPROVED BY: DATE:



**MONTANA FISH,  
WILDLIFE & PARKS**

**FOUR STRAND WIRE DETAILS**  
BEAR TOOTH WMA 2022 BOUNDARY FENCE

SHEET: 7 of 11



5" Dia x 7' Wood Posts (typ.)  
 Use mechanical over-center gate closer at all gates.  
 Min. 2"x2" or 2"dia tensioner (typ.)

3" x 4' treated wood stays  
 Wire stays

Use mechanical over-center gate closer at all gates.

4" Dia. Treated Brace Rails (Typ.)

8"  
 8"  
 8"  
 1'-6"  
 3'  
 (TYP)

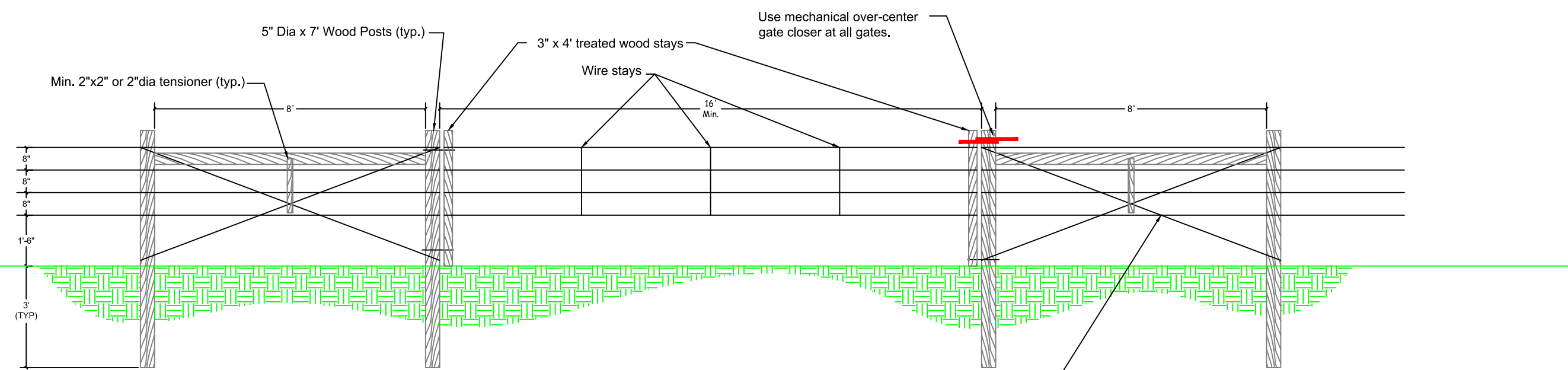
+/- 20'

Notes:  
 Extend stays to bottom wire attached to posts, creating a hinge point to pass debris  
 Thread bottom wires of stream crossing through 1.5" PVC pipe between stays  
 Bottom wire to be 1 ft above water elevation

Use 9 ga. brace wire each direction to form cross at brace panel as shown.

## stream crossing

\* All Wire to be Two-Strand Barbless Wire



5" Dia x 7' Wood Posts (typ.)  
 Min. 2"x2" or 2"dia tensioner (typ.)

3" x 4' treated wood stays  
 Wire stays

Use mechanical over-center gate closer at all gates.

8"  
 8"  
 8"  
 1'-6"  
 3'  
 (TYP)

16'  
 Min.

Use 9 ga. brace wire each direction to form cross at brace panel as shown.

## 16' Gate Detail

\* All Wire to be Two-Strand Barbless Wire

J. RENENGER 3/2/2022  
 DRAWN BY: DATE:  
 P. JAGODA 3/20/2022  
 CHECKED BY: DATE:

REVISED BY: DATE:  
 APPROVED BY: DATE:

APPROVED BY: DATE:  
 APPROVED BY: DATE:



**MONTANA FISH,  
 WILDLIFE & PARKS**

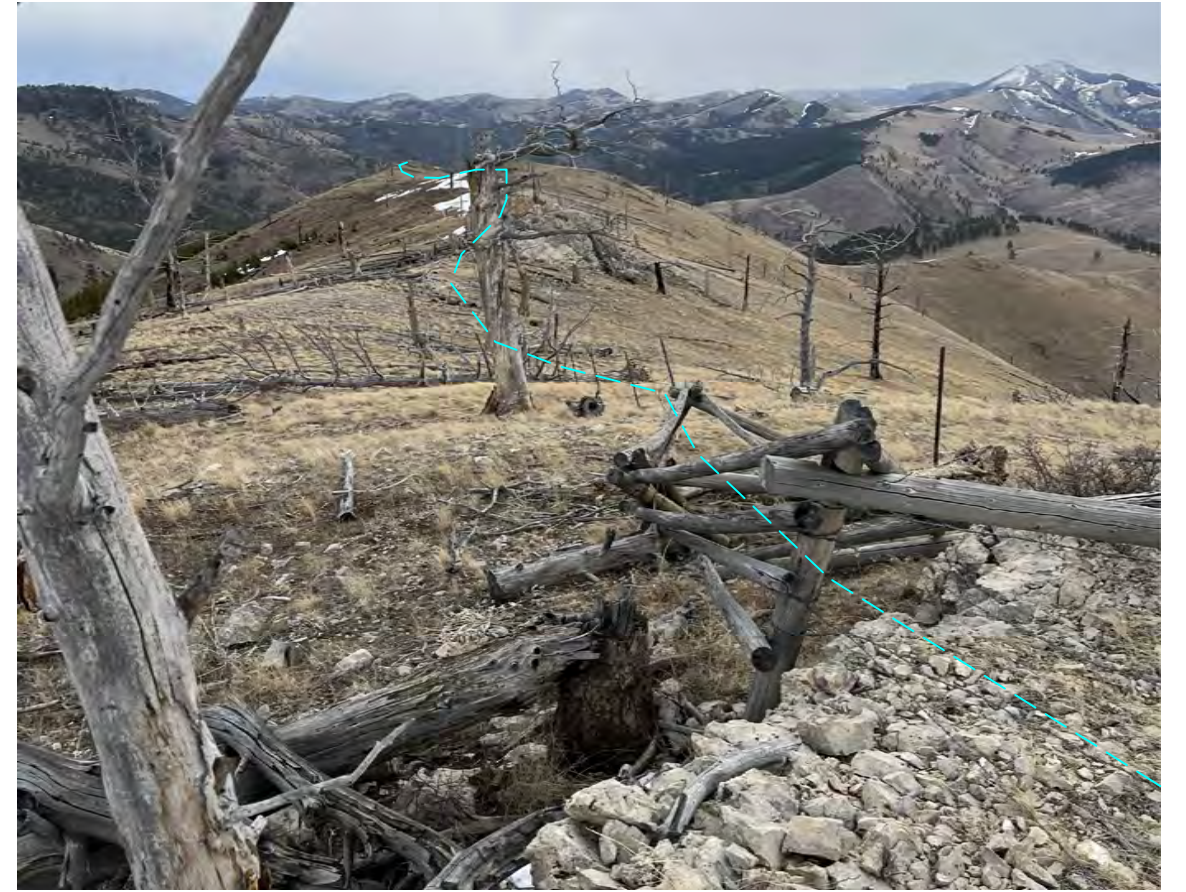
**GATE AND STREAM CROSSING DETAILS**  
 BEAR TOOTH WMA 2022 BOUNDARY FENCE

SHEET: 8 of 11





TOP LEFT: FENCE SECTION A TO B, AT POINT A



TOP RIGHT: FENCE SECTION A TO B, ALONG THE UPPER RIDGE



BOTTOM LEFT: FENCE SECTION A TO B, WOOD RAIL LOCATION. LOOKING DOWN AT LOCATION B.



BOTTOM RIGHT: CABIN LOCATED IN COW CAMP AREA. CABIN IS AVAILABLE FOR CONTRACTOR'S USE

J. RENENGER 3/2/2022  
 DRAWN BY: DATE:  
 P. JAGODA 3/20/2022  
 CHECKED BY: DATE:

REVISED BY: DATE:  
 APPROVED BY: DATE:

APPROVED BY: DATE:  
 APPROVED BY: DATE:



**MONTANA FISH,  
 WILDLIFE & PARKS**

153

**FENCELINE PHOTOS**  
 BEAR TOOTH WMA 2022 BOUNDARY FENCE

SHEET: 9 of 11





TOP LEFT: FENCE SECTION C TO D, AT TOP OF HILLSIDE.



TOP RIGHT: FENCE SECTION C TO D, THROUGH TYRELL CREEK DOTTED LINE SHOWS APPROXIMATE ROUTE OF FENCE.



BOTTOM LEFT: OVERALL VIEW OF FENCE SECTION D TO E AND F TO G. DOTTED LINES SHOW APPROXIMATE ROUTE.



BOTTOM RIGHT: FENCE SECTION D TO E. LOOKING NORTH AT SECTION 22 GATE.

J. RENENGER 3/2/2022  
 DRAWN BY: DATE:  
 P. JAGODA 3/20/2022  
 CHECKED BY: DATE:

REVISED BY: DATE:  
 APPROVED BY: DATE:

APPROVED BY: DATE:  
 APPROVED BY: DATE:



**MONTANA FISH,  
 WILDLIFE & PARKS**

154

**FENCELINE PHOTOS**  
 BEAR TOOTH WMA 2022 BOUNDARY FENCE

SHEET: 10  
 of 11





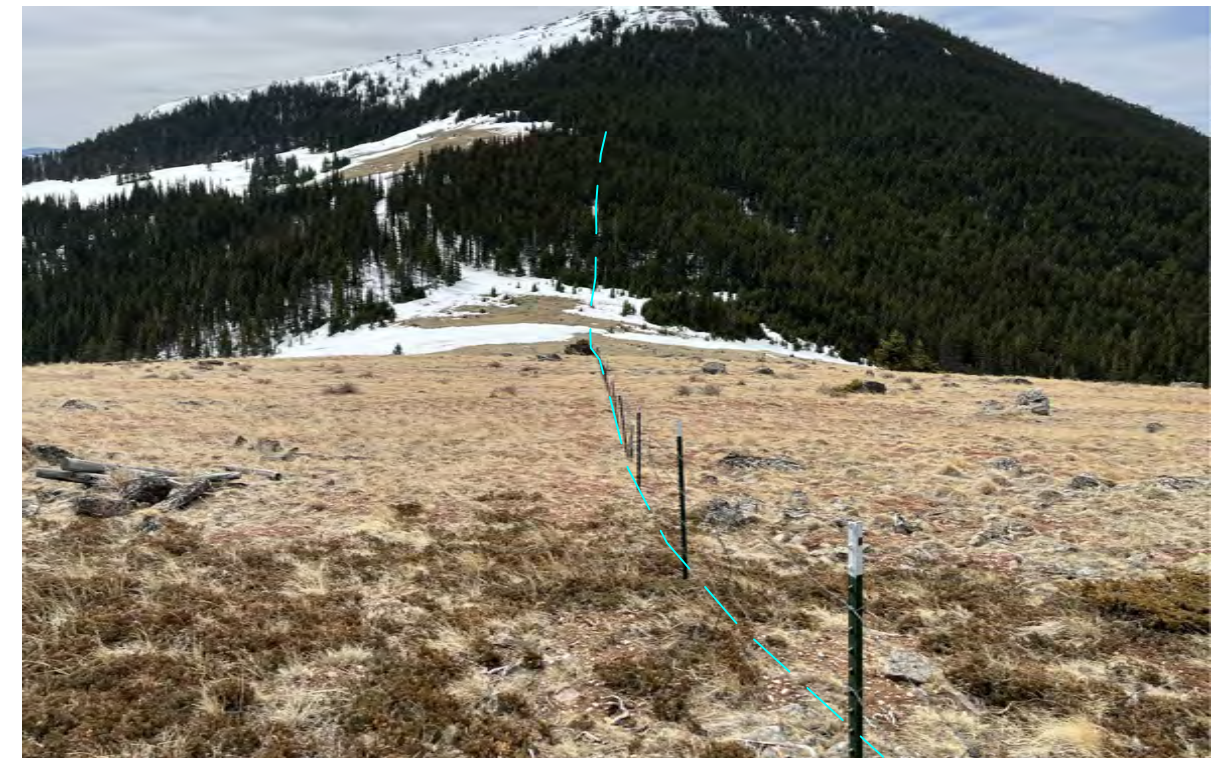
TOP LEFT: FENCE SECTION JUST NORTH OF E. LOOKING SOUTH TOWARDS SHELLROCK RIDGE. FENCE CONTINUES ON IN LOW SPOT BEFORE STOPPING AT BASE OF OPEN STEEP HILLSIDE.



TOP RIGHT: FENCE SECTION H TO I, ALONG THE UPPER RIDGE. FROM LOWER ACCESS ROADS.



BOTTOM LEFT: FENCE SECTION H TO I, LOOKING AT POINT H



BOTTOM RIGHT: FENCE SECTION H TO I, LOOKING AT POINT I IN TIMBER.

J. RENENGER 3/2/2022  
 DRAWN BY: DATE:  
 P. JAGODA 3/20/2022  
 CHECKED BY: DATE:

REVISED BY: DATE:  
 APPROVED BY: DATE:

APPROVED BY: DATE:  
 APPROVED BY: DATE:



**MONTANA FISH,  
 WILDLIFE & PARKS**

155

**FENCELINE PHOTOS**  
 BEAR TOOTH WMA 2022 BOUNDARY FENCE

SHEET: 11  
 of 11