# MONTANA FISH, WILDLIFE & PARKS **Somer's Beach State Park Interim Improvements Project** FWP # 7216803

## Near Somers, Montana



## **Location Map**

No Scale

	MONTANA FISH, DESIGN AND <u>MAILING ADDRESS:</u> PO BOX 200701 HELENA, MT 59620 TEL 406.841.4000 FAX 406.841.4004 fwp.mt.gov/Doing B	, WILDLIFE AND PAF CONSTRUCTION <u>PHYSICAL ADDRE</u> 1522 9th AVE 0-0701 HELENA, MT 59 Business/Design&Construc	KS N : <u>SS:</u> №UE 9601	A2Z ENC MAILING ADDI 138 EAST CE KALISPELL, M TEL 406.755. FAX 406.755 a2z-engine	SINEERING, PLLC R <u>ess:</u> NTER STREET, SUITE A ONTANA 59901 7888 7880 sering.com	DRAWING INDESheet 1 of 16Project Area Location / LimitsSheet 2 of 16Project Area Location / LimitsSheet 3 of 16Existing Conditions SiteplanSheet 4 of 16Overall Site ImprovementsSheet 5 of 16Roadway/Parking Plan & ProfileSheet 6 of 16Roadway/Parking Plan & ProfileSheet 7 of 16Roadway/Parking Plan & ProfileSheet 8 of 16Road & Parking Details
Roł Dr. Ma Chi	bert Smith, PE 4-4-22 AWN BY: DATE: tt Nerdig, PE 4-4-22 ECKED BY: DATE:	APPROVED BY: DATE:	APPROVE	ED BY: DATE:	Montana Fish, Wildlife & Parks	Cover Sheet Somer's Beach State Park - Interim In

North

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## **Vicinity Map**









## Keyed Notes for Siteplan:

- A. Existing Somers Road
- B. Existing Pickleville Lane
- C. Work site access point
- Limits of disturbance D.
- E. Contractor staging and materials storage area
- F. Contractor personnel parking
- G. B.N.S.F. Property (see note)

## Construction Limits Notes:

This exhibit shows the limits of contractor access and disturbance.

### Re-vegetation Seed Mix Note:

Contractor shall utilize the native grass seed mix available at C.H.S. Kalispell and sold as "Valley Mix". Seed shall be, at a minimum, broadcast spread at 25 lbs per acre.

## Disturbed Areas Note:

Area to be reclaimed, finish graded, raked and seeded include stormwater ditches, construction access point(s) and all other disturbed areas not intended to be graveled or asphalted.

## B.N.S.F. Property Note:

Under no circumstances shall the contractor enter, cross or affect the adjacent B.N.S.F. property.

## Brush & Tree Trimming Note:

The existing trees and brush found SW of the new approach currently limit the site distance for vehicles turning out onto Somers Stage Road. Contractor shall trim the trees and brush back as directed by the project engineer to allow for about 300 feet of site distance to detect NE bound vehicles from the stopped location at the new approach.



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Montana Fish, Project Area Location / Limits Wildlife @ Parks, Somer's Beach State Park - Interim Improvements Project







## Keyed Notes for Siteplan: Existing Somers Road Α. B. Existing Pickleville Lane С. Existing monitoring wells D. Existing water main Existing fire hydrant E. F. Existing sanitary sewer main Existing sanitary sewer manhole G. H. Existing mailboxes Proposed paved approach J. Proposed graveled roadway К. Proposed graveled parking area L. Proposed graveled turn-around area M. Proposed 2-rail wooden fenceline N. Ο. Proposed entrance gate Ρ. Proposed walking trail (not included in this project) Q. Proposed 2-post klosk \$ pay station (to be provided by FWP and installed by contactor) R. Proposed graveled pad for "portapottys" S. Proposed boulders, see note below Proposed stop sign Т U. Proposed directional sign Boulders Note: Contractor to collect 30" - 40" rip rap boulders from the Park and place as indicated on plans. The boulders are located at the south end of Burnell Avenue. Contractor will be provided a key to the gate for access. The location of the boulders will be shown at the prebid meeting. R Scale: 100 200 Montana Fish, Overall Site Improvements Wildlife & Parles Somer's Beach State Park - Interim Improvements Project DRAWN BY: DATE REVISED BY: DATE: APPROVED BY: DATE:

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General Notes:

- I. Utility locations shown on plans are for informational purposes only. It is contractor's responsibility, under state law, to verify the presence, location and depth of all existing utilities.
- 2. Any survey monuments (including property pins) disturbed by the contractor shall be replaced by a State licensed surveyor at contractor's expense.
- 3. Trenching and excavation are hazardous. Contractor shall take all necessary precautions to protect workers and comply with the Occupational Safety \$ Health Administration's established standards for such work, found in 29 CFR Part 1926 subpart P.
- 4. It is the contractor's responsibility to verify that all necessary permits and approvals are in place prior to beginning work. Contractor is advised that the owner (MT FWP) has obtained a county road approach permit. Contractor will be responsible for fulfilling the requirements of that permit. See the specifications for a copy of the permit.
- 5. Costs \$ coordination of testing constructed improvements are contractor's responsibility.
- 6. All public improvements shall be constructed and tested in accordance with the latest edition of the Montana Public Works Standard Specifications and State law. The construction plans are intended to work in conjunction with the above mentioned standards.



### Keyed Notes for Roadway Plan and Profile:

### Existing paved Somer's Road Α.

- B. Existing property boundary line
- C. Existing cluster mailbox location (do not disturb or block)
- D. Existing fire hydrant location (do not disturb or block)
- Existing buried water main (do not disturb) E.
- F. Existing sewer manhole location (do not disturb)
- G. Existing buried sewer main (do not disturb)
- H. Existing sewer main easement
- Existing monitoring wells (do not disturb)
- Proposed 25 ft edge of asphalt radu J.
- К. Proposed fenceline
- Sta  $\pm 10+75$  Saw-cut edge of road surface and begin construction of paved L. approach, match edge of existing road, elevation =  $\pm 2910.0$
- Sta 10+93, 11 ft left \$ 29 ft right Install new 30 ft wide gate, set NE post 11 ft Μ. left of CL, set SW post 29 ft right of CL
- Ν. Sta 10+95 - Beginning of vertical curve #1, CL elevation = 2909.51
- Sta 11+00, 8 ft left \$ 16 ft right End of 25 ft approach radii, roadway width is 24 О. feet total
- Ρ Sta 11+15.00 - End of approach pavement, beginning of gravel surfacing
- Sta | | +20 Vertical curve #1, K=16.67, Length = 50 ft, PVI elevation = Q. 2909.014, Adjusted PVI elevation = 2908.83
- Sta 11+45 End of vertical curve #1, CL elevation = 2907.76, Beginning of vertical R. curve #2
- S. Sta 11+50.43 Point of curvature, begin horizontal curve #1, 100 ft radius curve right
- Sta 11+50.43, 8 ft left Left edge of roadway horizontal curve right having a 108 Τ. foot radius, ends at 13+07.51
- U. Sta 11+59.93, 16 ft right Transition right edge of roadway from 16 feet to 8 feet right of CL with an 84 foot radius horizontal curve right, ends at 13+07.51
- V. Sta 12+20 Vertical curve #2, K=28.571, Length = 150 ft, PVI elevation =2904.014, Adjusted PVI elevation = 2905.00
- W. Sta 12+95 End of vertical curve #2, CL elevation = 2904.20
- Sta 13+07.51 Point of tangency, end of horizontal curve #1, roadway width is 16 Х feet total being 8 feet left of CL and 8 ft right of CL
- Y. Sta 13+65.22 Transition left edge of roadway from 8 feet to 12 feet left of CL with a 92 foot radius horizontal curve left, ends at 14+71.05
- Z. Sta 13+69.86 Point of curvature, begin horizontal curve #2, 100 ft radius curve left
- AA. Sta 13+69.86, 8 ft right Right edge of roadway horizontal curve left having a 108 foot radius at 8 feet right of CL, ends at 14+73.73
- AB. Sta 13+75 Beginning of vertical curve #3, CL elevation = 2904.40
- Existing centerline ground surface profile a.
- Existing centerline ground surface elevation b.
- Proposed road centerline surface profile С.
- Proposed road centerline surface elevation d.
- Proposed roadside swale check dam locations, typical е.



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## Keyed Notes for Roadway Plan and Profile:

- Α. Existing property boundary line
- B. Existing sewer manhole location (do not disturb)
- C. Existing buried sewer main (do not disturb)
- D. Existing sewer main easement
- Existing monitoring wells (do not disturb) E.
- Proposed fenceline F.
- Proposed 10 ft wide by 20 ft deep parking spaces, typical G.
- Proposed precast concrete parking wheel block, typical Η.
- Proposed boulder location, typical 1.
- Sta 13+75 Beginning of vertical curve #3, CL elevation = 2904.40 L.
- M. Sta 14+22 Existing sanitary sewer manhole, 18 ft right, raise manhole lid as necessary to prevent inflow from ditchline, grade around manhole lid to direct drainage flows away
- N. Sta 14+71.05, 12 ft left End of left side transition and curve
- Sta 14+73.73 Point of tangency, end horizontal curve #2 О.
- Sta 14+73.73, 8 ft right End of right side curve Ρ.
- Sta 14+99.50 Begin right side 10 ft x 20 ft parking spaces, 28 ft right of CL Q.
- Sta 15+00 Vertical curve #3, K=125, Length = 250 ft, PVI elevation = R. 2904.714, Adjusted PVI elevation = 2904.09
- S. Sta 15+69.81 Point of curvature, begin horizontal curve #3, 75 ft radius curve right
- Sta 15+69.81, 12 ft left Left edge of roadway horizontal curve left having a 63 ft Τ. radius, ends at 16+81.31
- U. Sta 15+70.05, 28 ft right Transition right edge of parking from 28 ft right to 32 ft right of CL with a 107 ft horizontal curve right, ends at 16+85.33
- V. Sta 16+25 End of vertical curve #3, CL elevation = 2902.53
- W. Sta 16+81.31 Point of tangency, end of horizontal curve #3
- X. Sta 16+81.31, 12 ft left End of left side curve
- Y. Sta 16+85.33, 32 ft right End of right side curve
- Z. Sta 16+85.40 Begin left side 10 ft x 20 ft parking spaces, 32 ft left of CL
- a. Existing centerline ground surface profile
- Existing centerline ground surface elevation b.
- Proposed road centerline surface profile С.
- d. Proposed road centerline surface elevation
- e. Proposed roadside swale check dam locations, typical







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### Keyed Notes for Roadway Plan and Profile:

- A. Existing property boundary line
- B. Proposed fenceline
- Proposed 10 ft wide by 20 ft deep parking spaces, typical С.
- Proposed precast concrete parking wheel block, typical D.
- Proposed boulder location, typical E.
- F. Proposed klosk / pedestrian area
- N. Sta 16+85.40 Begin left side 10 ft x 20 ft parking spaces, 32 ft left of CL
- O. Sta 17+40 Vertical point of inflection, no vertical curve
- Sta 18+05.40 End of left side parking spaces, transition from 32 ft Ρ. left to 12 ft left
- Q. Sta 18+41.02 CL & CL Intersection point, CL elevation = 2899.25
- Sta 18+75.40 End of right side parking spaces, transition from 32 ft R. right to 12 ft right
- S. Sta 18+79.02 - Point of curvature, being horizontal curve #4, 38 ft radius left
- Τ. Sta 18+79.02, 12 ft left - Left edge of roadway horizontal curve left having a 26 ft radius, makes a full circle to form center island
- U. Sta 18+79.02, 12 ft right Right edge of roadway horizontal curve right having a 50 ft radius, ends at 20+59.09, transitions to a 25 ft radius where it meets itself
- V. Sta 18+85 Beginning of vertical curve #4, CL elevation = 2898.70
- W. Sta 19+20 Vertical curve #4, K=29.42, Length = 70 ft, PVI elevation = 2898.264, Adjusted PVI elevation = 2898.47
- X. Sta 19+55 End of vertical curve #4, CL elevation = 2898.66
- Y. Sta 20+58.09 Point of tangency, end of horizontal curve #4
- Z. Sta 20+64.09 Vertical point of inflection, no vertical curve
- AA. Sta 20+96.09 CL & CL Intersection point, CL elevation = 2899.25, end of construction
- a. Existing centerline ground surface profile
- Existing centerline ground surface elevation Ь.
- Proposed road centerline surface profile С.
- Proposed road centerline surface elevation d.
- e. Proposed roadside swale check dam locations, typical

Note to Contractor: The Island Inside of the turn-around shall rise up to a height of approximately 24 inches above the road edge at the center.



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## Drive and Parking Area - Centerline of Horizontal Alignment Information

No.	Туре	P Parameter C	Length	Radius	Direction	Start Station	End Station	Delta angle	Chord length	Pass Through Point1	Pass Through Point2	Degree of Curvature by Arc
1	Line	🔒 Two points	150.433		S31º 49' 12.92"E	10+00.00'	11+50.43'			(816519.9307,1431907.9026',0.0000')	(816651.9731', 1431695.1081',0.0000')	
2	Curve	A Radius	157,080'	100.000'		11+50.43	13+07.51 <sup>r</sup>	90.0000 (d)	141.421	(816611.6428',1431704.5524',0.0000')		57.2958 (d)
3	Line	A Two points	62.347	1,400 K. W. B. B. P. S.	S58° 10' 47,08'W	13+07.51	13+69.86			(816651.9731', 1431695. 1081', 0.0000')	(816465.4488',1431579.3669',0.0000')	
4	Curve	A Radius	103,869	100.000'		13+69,86	14+73,73	59.5123 (d)	99.262	(816478.8060',1431572.1375',0.0000')	Construction of the second sec	57.2958 (d)
5	Line	A Two points	96.077		S1° 19' 57.32"E	14+73.73	15+69.81 <sup>r</sup>			(816465.4488',1431579.3669',0.0000')	(816470.6161',1431357.2344',0.0000')	
6	Curve	A Radius	111.505	75.000'		15+69,81	16+81.31 <sup>r</sup>	85,1836 (d)	101.516	(816489.9732',1431375.8780',0.0000')		76.3944 (d)
7	Line	A Two points	197.710'	94.5-5 5,00 87.6	S86° 30' 58, 14"E	16+81.31	18+79.02			(816470.6161',1431357.2344',0.0000')	(816736.7795', 14313'41.0305', 0.0000')	10 17 10
8	Curve	A Three points	179.071	38.000'		18+79.02	20+58,09'	270.0000 (d)	53,740'	(816736.7795',1431341.0305',0.0000')	(8 16767.5419', 1431404.1479', 0.0000')	150.7784 (d)
9	Line	A Two points	80.896		S3° 29' 01.86"W	20+58.09	21+38,99'			(816701.1589',1431381.2694',0.0000')	(816696.2431',1431300.5234',0.0000')	

## Drive and Parking Area - Centerline of Vertical Alignment Information

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No.	<b>PVI</b> Station	<b>PVI Elevation</b>	Grade In	Grade Out	A (Grade Change)	Profile Curve Type	Profile Curve Length	K Value	Curve Radius	Asymmetric Length 1	Asymmetric Length 2	Lock
1	10+70.70'	2910.000		-2.00%								ef
2	11+20.00'	2909.014	-2.00%	-5.00%	3.00%	Crest	50.000'	16.667	1666,667			ef 1
3	12+20.00'	2904.014	-5.00%	0.25%	5.25%	Sag	150.000'	28.571	2857, 143'			ef.
4	15+00.00'	2904.714	0.25%	-1.75%	2,00%	Crest	250.000'	125.000	12500.000'			ef.
5	17+40.00'	2900.514	-1.75%	-1.25%	0.50%							ef.
6	19+20.00'	2898.264	-1,25%	1.13%	2,38%	Sag	70.000'	29,420	2942,006			mî (
7	20+64.09	2899.891	1.13%	-2.00%	3,13%							<b>m</b>
8	20+96.09	2899.251	-2.00%									<b>m</b>



Parking Space Sign Post Mounting Details Not to Scale





6



- Keyed Notes for Siteplan: A. Existing property line & fence
- B. Proposed graveled drive for turn-aroundC. Proposed graveled parking space
- D.
- Proposed graveled ADA parking space Proposed graveled ADA parking space aisle Proposed fencing E.
- F.
- G. Proposed trail to shoreline (by others)H. Proposed graveled pedestrian area,
- contractor shall use same cross section and construction as the road and driveway areas
- Proposed klosk \$ pay station (to be provided ١. by FWP and installed by contactor) Proposed porta-potty pad location for two J.
- units (porta-potty units to be provided by separate FWP contract with local vendor) Proposed ADA parking space sign

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- К.
- Proposed ADA aisle space sign 1
- M. Proposed concrete wheelstop blocks
- N. Proposed boulder delineators O. Proposed keep right sign









## Sign Post Detail

Not to Scale

- Signpost Specifications
- Use pressure treated timbers for all sign Ι. posts
- 2. Coat all posts with preservative for all drilled holes and cut surfaces.
- 3. Use cadmium plated or galvanized steel for all bolts, nuts & washers.
- 4. Place bolts to not interfere with sign lettering. Paint bolt heads to match sign.
- 5. Center sign post panels to post, overhang panels 3" beyond posts for double post installations. Extend all posts 3" above sign panels.
- 6. Post shall embed into ground a minimum of 36".



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Two-Rail Wooden Fence Installation Details Not to Scale

Fencing Notes:

- Posts shall be nominal 6" diameter 6 ft long with CCA preservative treatment
- Posts shall be tan / brown in color ٠
- •
- Posts shall be embedded 24" into ground and have 48" of exposure Posts shall be installed on a typical ten (10) foot center to center spacing Post top shall be cut at 30° angle toward rear of fence, then coated with CCA preservative
- treatment
- Rails shall be 4 inch diameter 10.5 foot long with CCA treatment
- Top rail shall be installed to leave at least G" of exposed post above rail •
- Bottom rail shall be installed 18" center to center below top rail •
- Rails shall be installed on parking lot side of posts •
- Rails shall be face screwed to post with 2 screws (in pre-drilled hole) at each end butted together. • Rails shall alternate butt joints from post to post ٠
- Cut rail ends shall be coated with CCA preservative treatment
- Rails shall be tan / brown in color. Fence ends terminated at last post with no slope or corner .
- . Screws shall be exterior grade at least 6" in length
- . Fence clear opening for trail shall be 36 inches



Montana Tish. Various Improvements Details Wildlife & Parks Somer's Beach State Park - Interim Improvements Project

Boulders Note: Contractor to collect 30" - 40" rip rap boulders from the Park and place as indicated on plans. The boulders are located at the south end of Burnell Avenue. Contractor will be provided a key to the gate for access. The location of the boulders will be shown at the prebid meeting.

13 SHEE<sup>7</sup> of 16 Two-Gate Entrance Installation Details Not to Scale

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- Pipe Gate Notes:
- 2. Gate shall be fabricated with  $\frac{1}{4}$ " fillet welds.
- 3. Gate shall be painted brown to match MT FWP standard brown
- found at Lone Pine State Park. Contractor shall match those gates in
- any standard details not provided herein. 5. Steel caps for gate posts shall be welded to post and ground smooth.
- 6. Posts for gate and stops to be standard steel well casing.
- 7. Gate and all posts to be finished with polyurethane paint.
- 8. All welds to be ground smooth.



I. Gate shall be constructed of 2"Ø and 3"Ø schedule 40 steel tubing.

4. Gate details as shown are derived from examination of existing gates

SHEET:





## Coordinate - Circle centerpoint N: |43|378.96 E: 816739.0887 Coordinate - CL curve midpoint N: |43|404.|5 E: 816767.5419 Coordinate - CL PC N: |43|34|.03 E: 816736.7795 Coordinate - Fence N: |43|285.|8 E: 816798.4995 16 SHEET of 6