COONEY STATE PARK

EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP

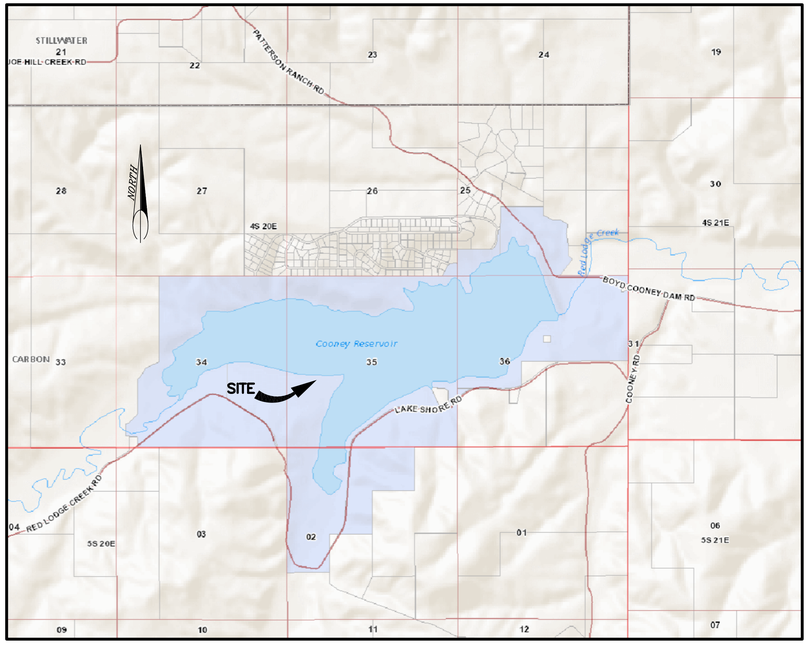
CARBON COUNTY, MONTANA

PREPARED FOR:

MONTANA FISH, WILDLIFE & PARKS
DESIGN & CONSTRUCTION SECTION
PO BOX 200701
HELENA, MT 59620

PREPARED BY:

SANDERSON STEWART
106 East Babcock
Bozeman, Montana 59715
Phone: 406.522.9876
www.sandersonstewart.com



VICINITY MAP

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E3	ELECTRICAL SITE PLAN – EAST

PROJECT SURVEY CONTROL

BM#1
2 1/2" FWP ALUMINUM CAPPED REBAR
SOUTH OF SITE
N=433647.99
E=2037334.35
ELEV. = 4364.54

BM#2
2 1/2" FWP ALUMINUM CAPPED REBAR
NORTH OF SITE
N=434561.06
E=2038083.89
ELEV. = 4256.98

BM#3
BRASS CAPPED SANDERSON STEWART REBAR
NORTHWEST OF SITE
N=434812.56
E=2036733.09
ELEV. = 4264.51

BM#4
BRASS CAPPED SANDERSON STEWART REBAR
SOUTHWEST OF SITE
N=434056.50
E=2036729.74
ELEV. = 4305.81

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stateparks.mt.gov

FOR BIDDING PURPOSES
04/09/13

SANDERSON STEWART
www.sandersonstewart.com

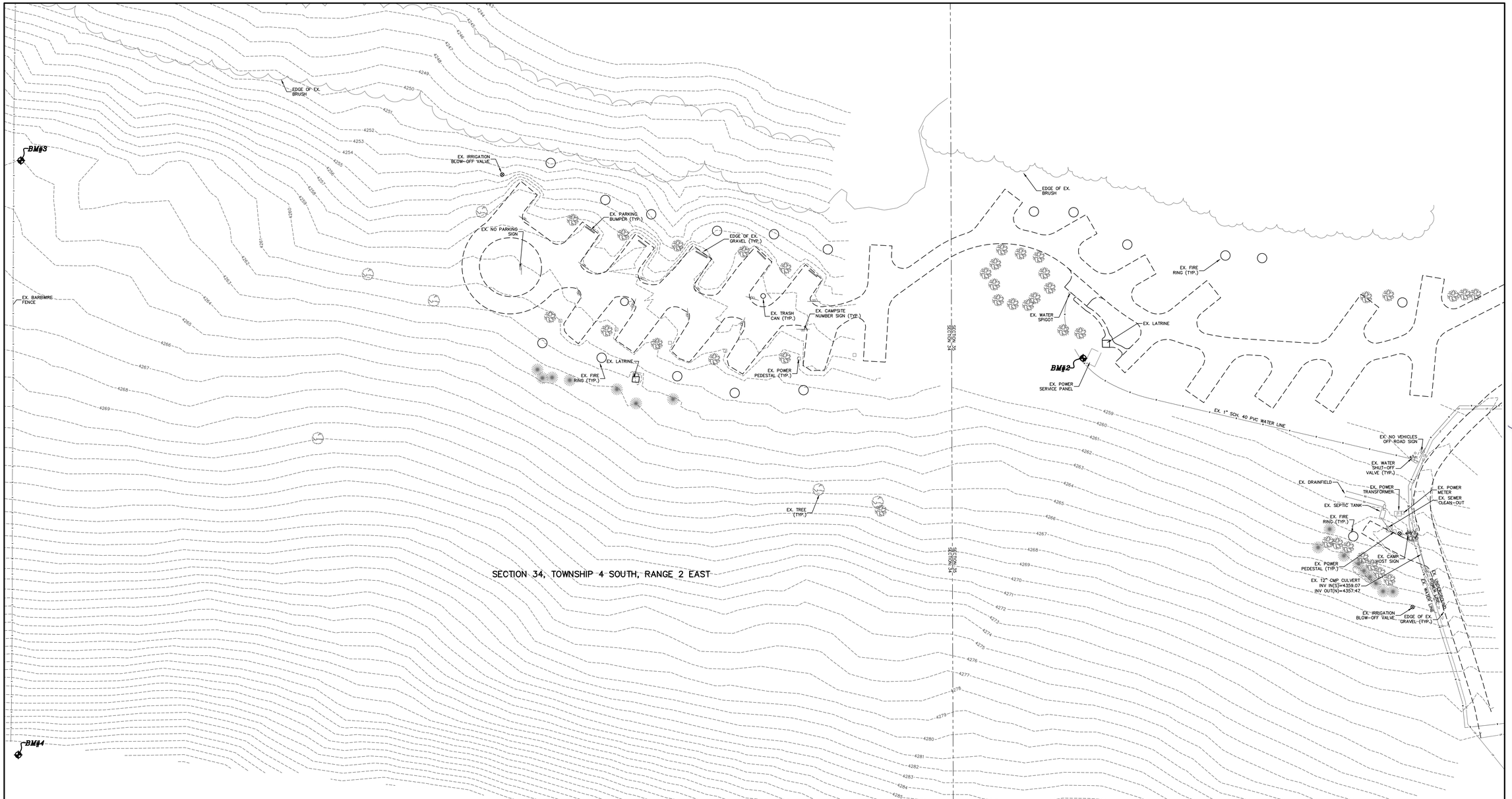
MONTANA
DANIELLE R. SCHARF
14799PE
PROFESSIONAL ENGINEER
LICENSED

COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

COVER SHEET

C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13
APPROVED BY:
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 1 OF 17



PROJECT SURVEY CONTROL

BM#1
2 1/2" FWP ALUMINUM CAPPED REBAR
SOUTH OF SITE
N=433647.99
E=2037334.35
ELEV. = 4364.54

BM#2
2 1/2" FWP ALUMINUM CAPPED REBAR
NORTH OF SITE
N=434561.06
E=2038083.89
ELEV. = 4256.98

BM#3
BRASS CAPPED SANDERSON STEWART REBAR
NORTHWEST OF SITE
N=434812.56
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ELEV. = 4264.51

BM#4
BRASS CAPPED SANDERSON STEWART REBAR
SOUTHWEST OF SITE
N=434056.50
E=2036729.74
ELEV. = 4305.81

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NORTH

60 30 0 60 120

1" = 60'

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04/09/13

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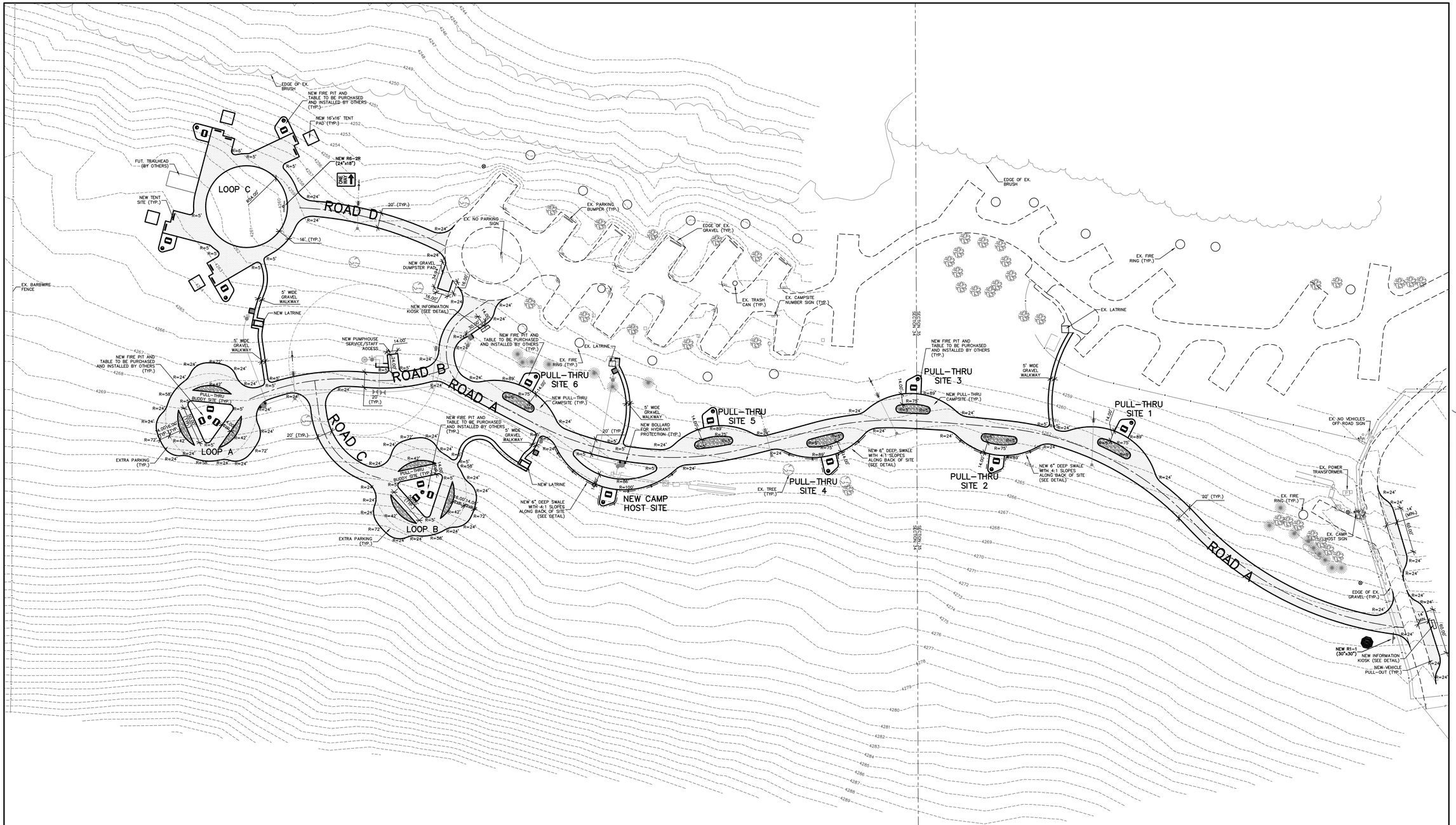
CARBON COUNTY, MONTANA

EXISTING TOPOGRAPHY

C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13
APPROVED BY:
QUALITY ASSURANCE:

SCALE: 1"=60'
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 2 OF 17



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NORTH

60 30 0 60 120

1" = 60'

RED LODGE CREEK ROAD

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04/09/13

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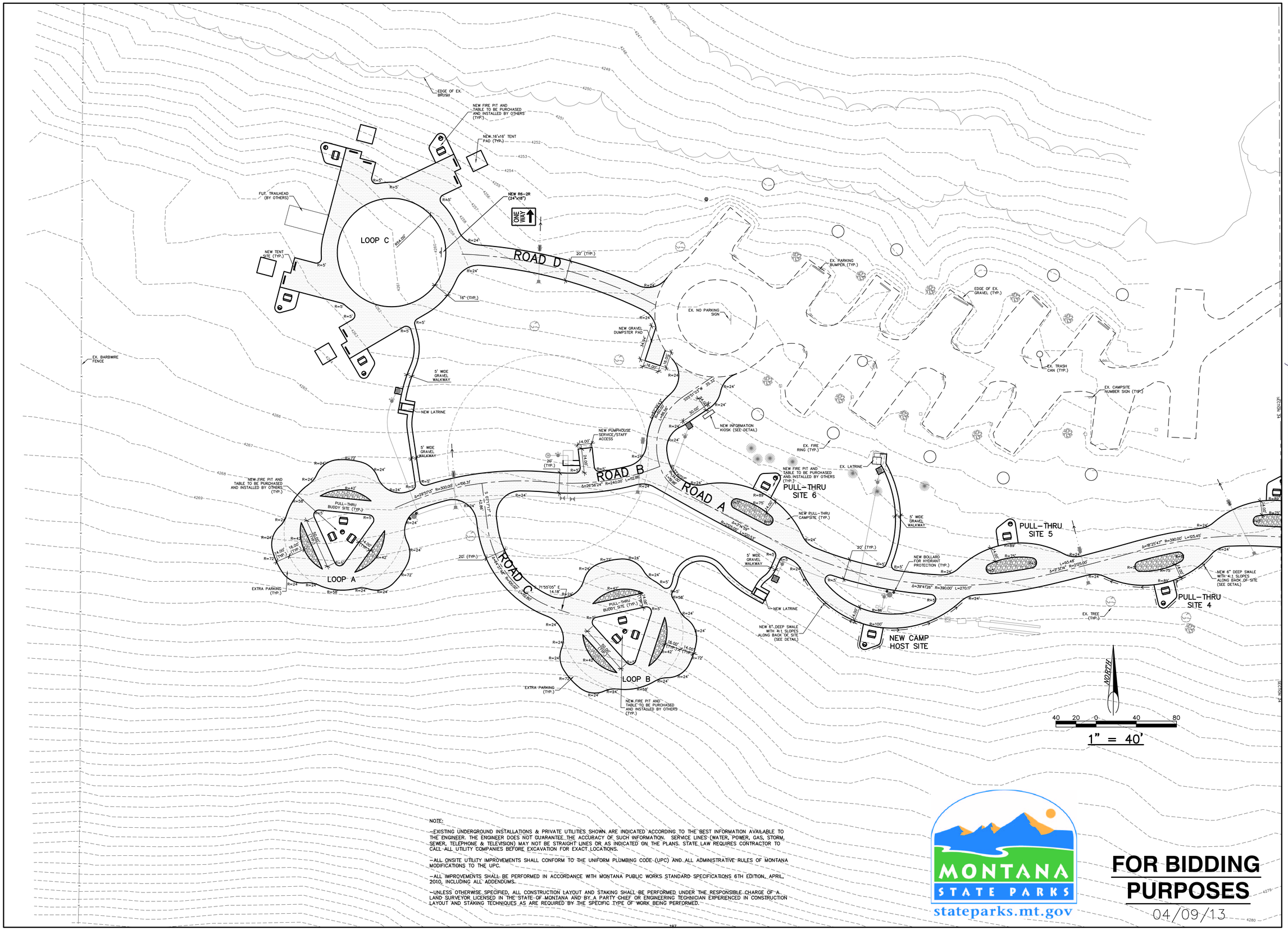
COONEY STATE PARK

EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP

CARBON COUNTY, MONTANA

OVERALL SITE LAYOUT

C.A.D.	CMK
DATE:	2/28/13
REVISIONS:	3/21/13
	4/9/13
APPROVED BY:	
QUALITY ASSURANCE:	
SCALE:	1"=60'
FILE:	COONEY_BASE
PROJECT NO.:	07056.01
SHEET	3 OF 17



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EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP

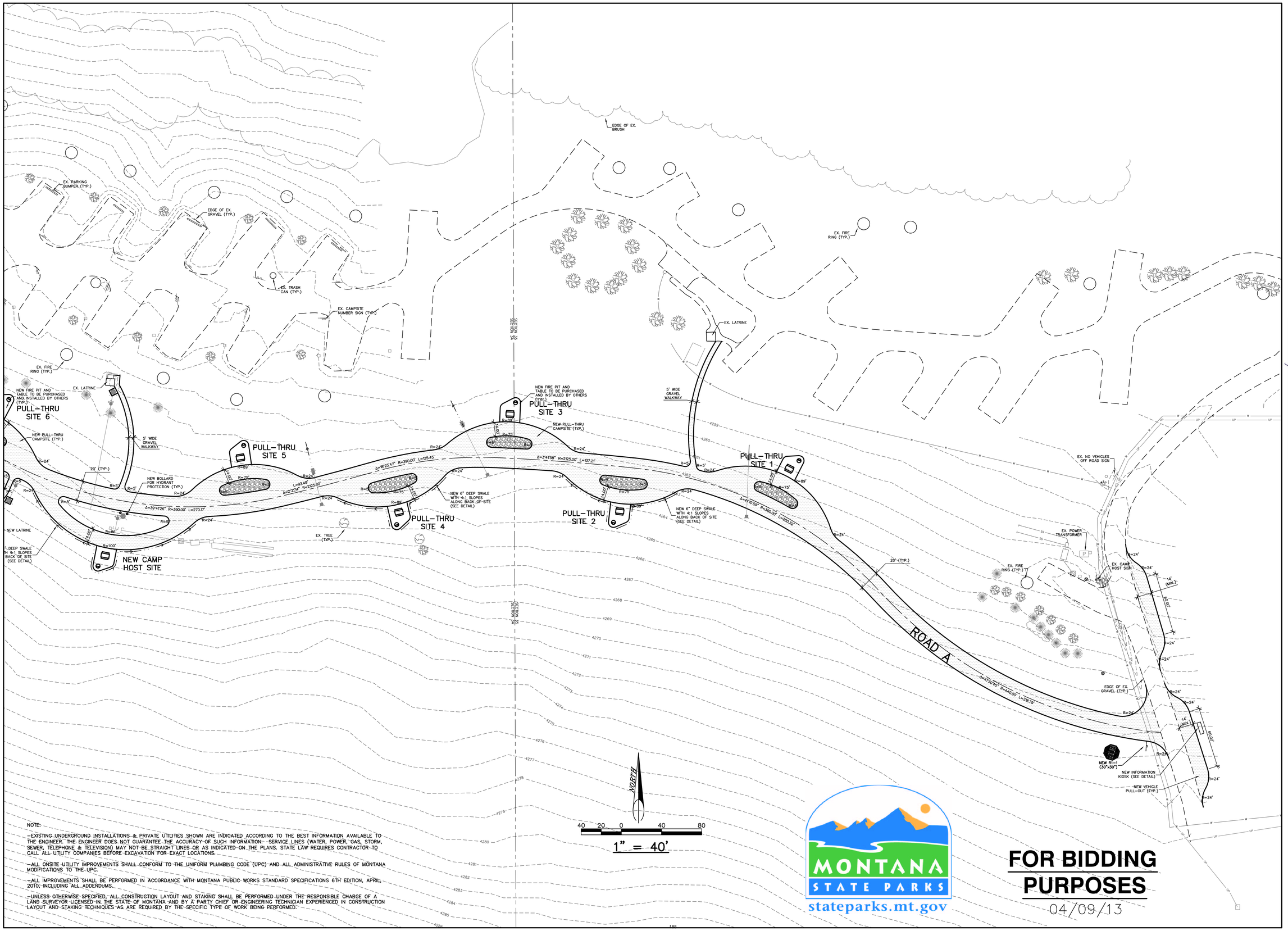
CARBON COUNTY, MONTANA

WEST HALF SITE LAYOUT

C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13

APPROVED BY:
QUALITY ASSURANCE:

SCALE: 1"=40'
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 4 OF 17



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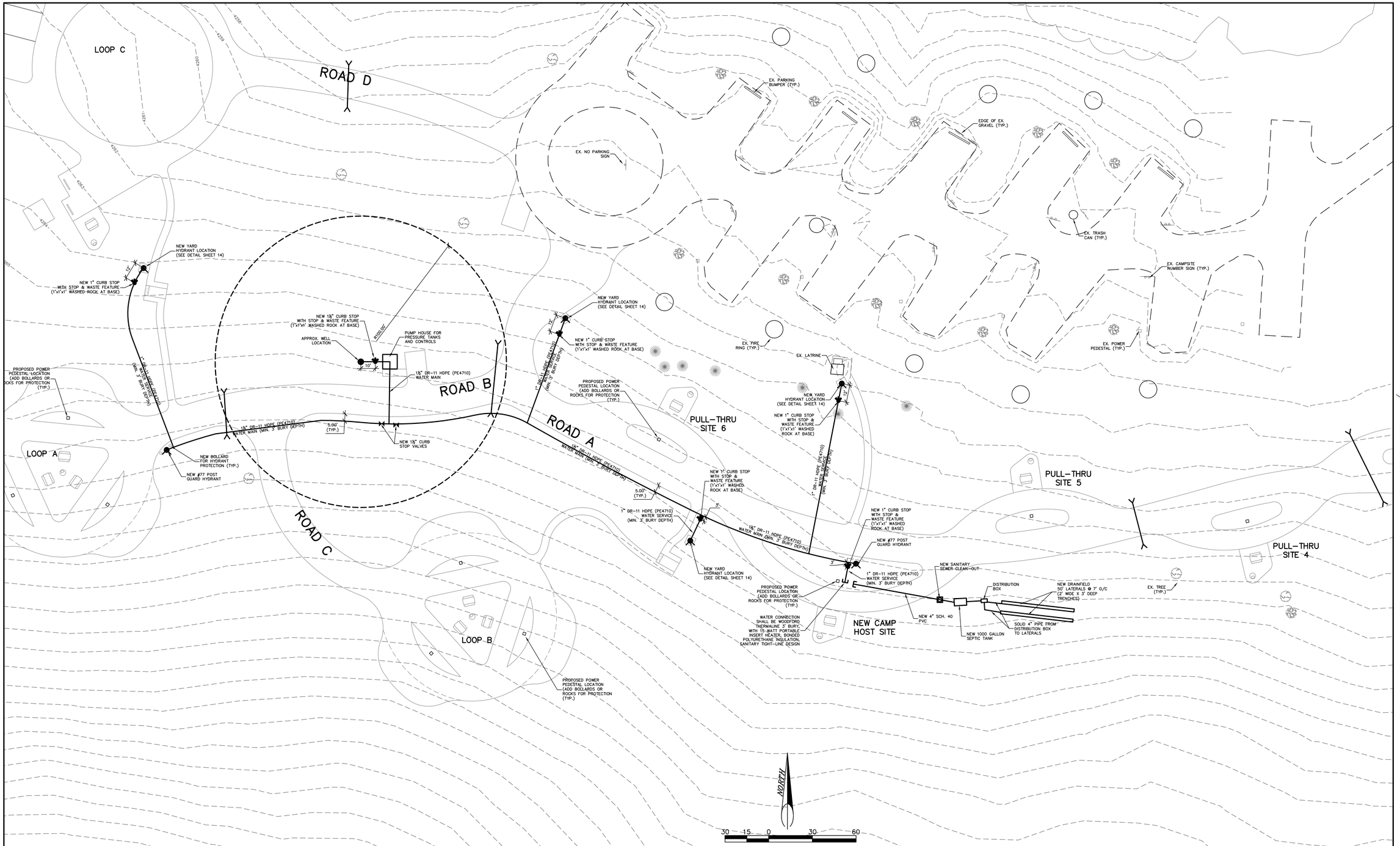
CARBON COUNTY, MONTANA

EAST HALF SITE LAYOUT

C.A.D.	CMK
DATE:	2/28/13
REVISIONS:	3/21/13
	4/9/13
APPROVED BY:	
QUALITY ASSURANCE:	

SCALE: 1"=40'
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 5 OF 17



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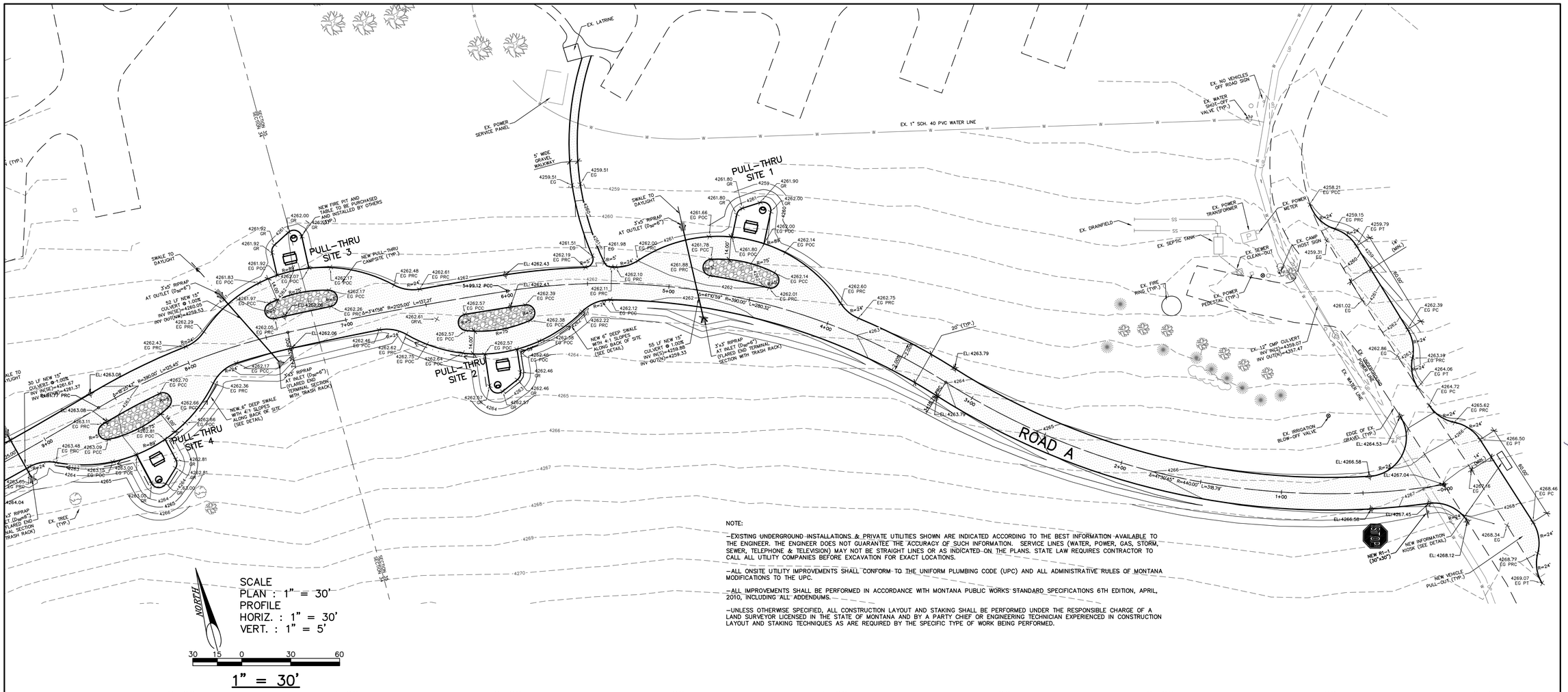
COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

SITE UTILITY PLAN

C.A.D.	CMK
DATE:	2/28/13
REVISIONS:	3/21/13
	4/9/13
APPROVED BY:	
QUALITY ASSURANCE:	
SCALE:	1"=30'
FILE:	COONEY_BASE
PROJECT NO.:	07056.01
SHEET	6 OF 17



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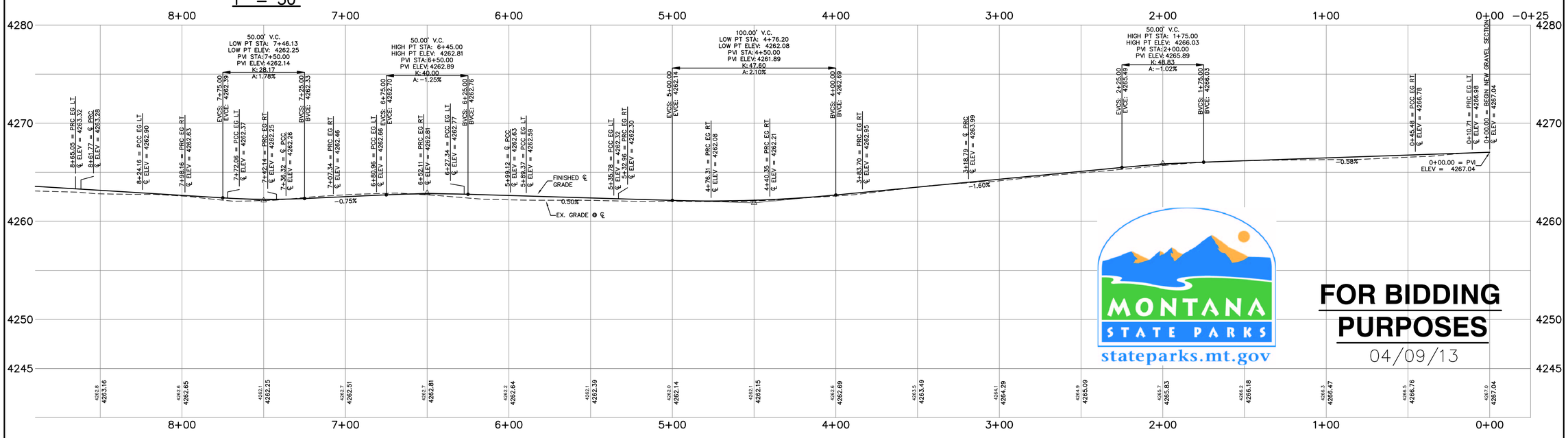

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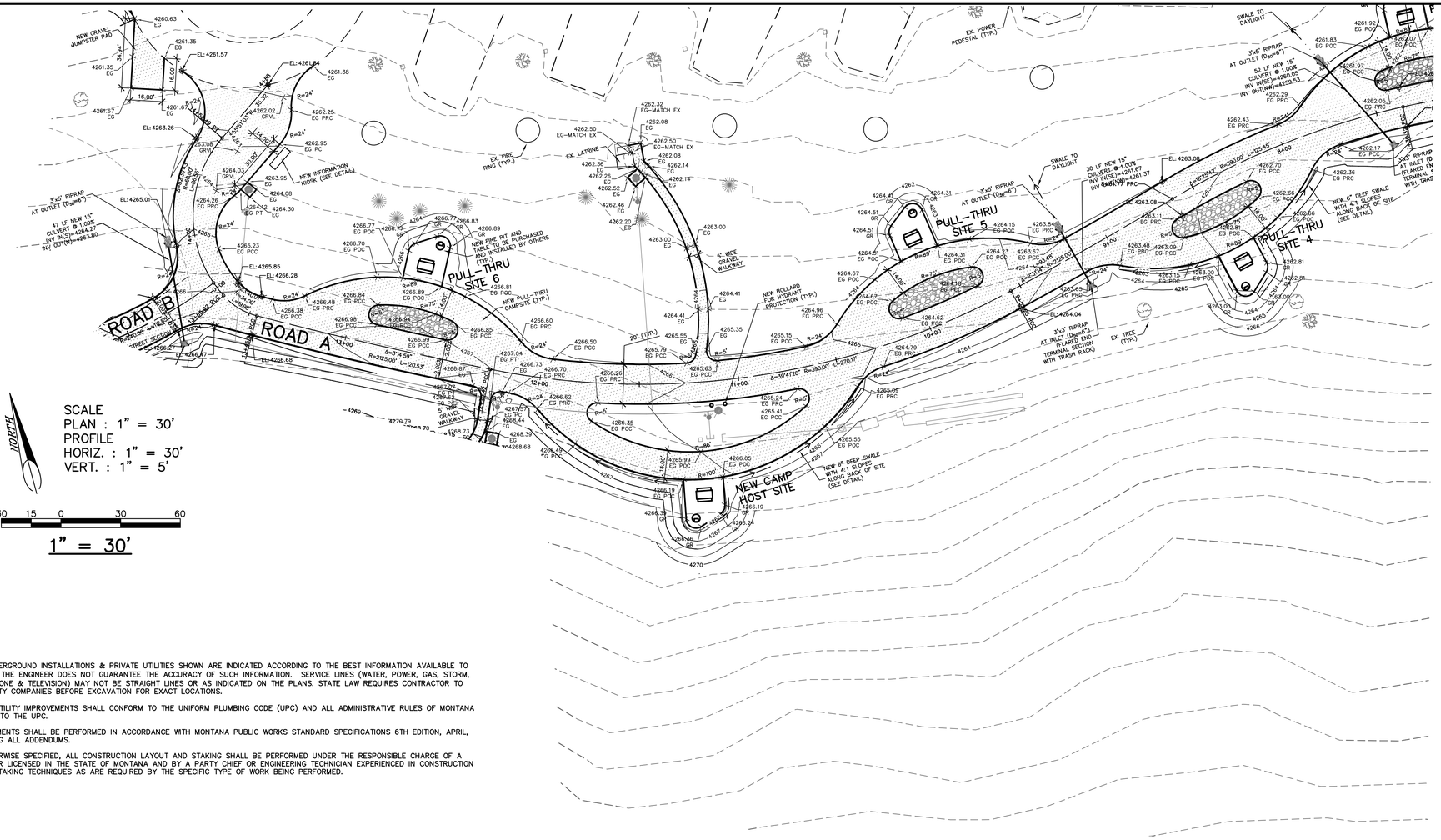
CARBON COUNTY, MONTANA

PLAN–PROFILE ROAD A STA. 0+00 TO STA. 8+00, SITE GRADING PULL THRU SITES 1–4

C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13
APPROVED BY:
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 7 OF 17



SCALE
PLAN : 1" = 30'
PROFILE
HORIZ. : 1" = 30'
VERT. : 1" = 5'

30 15 0 30 60

1" = 30'

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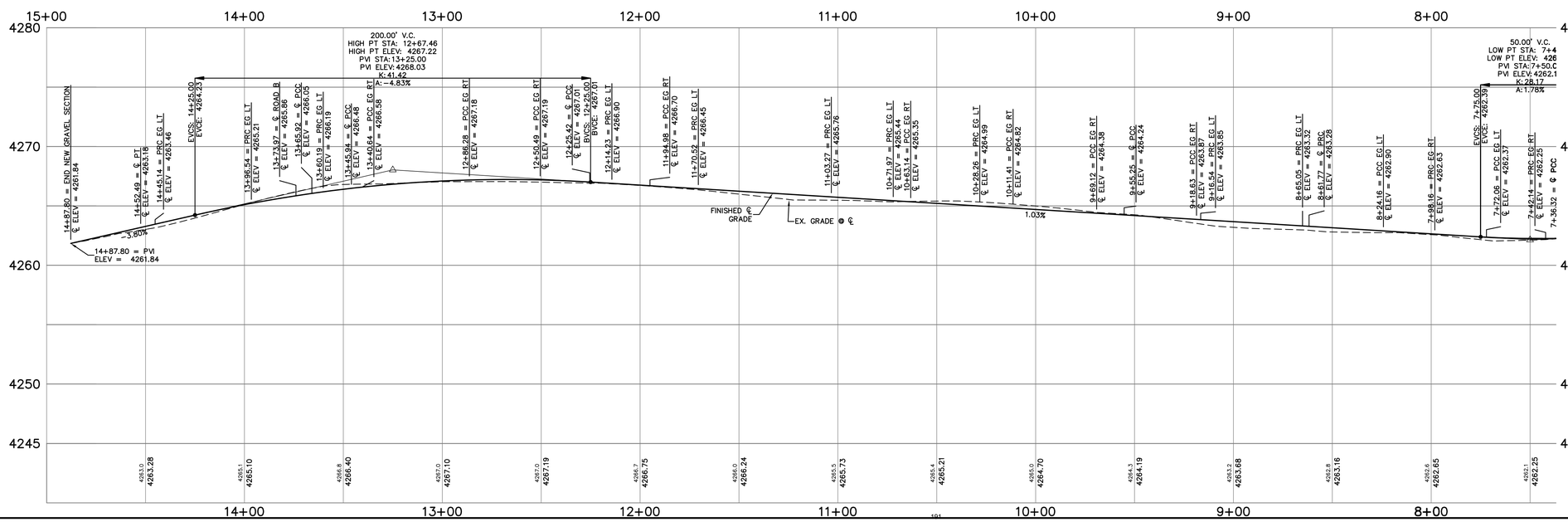

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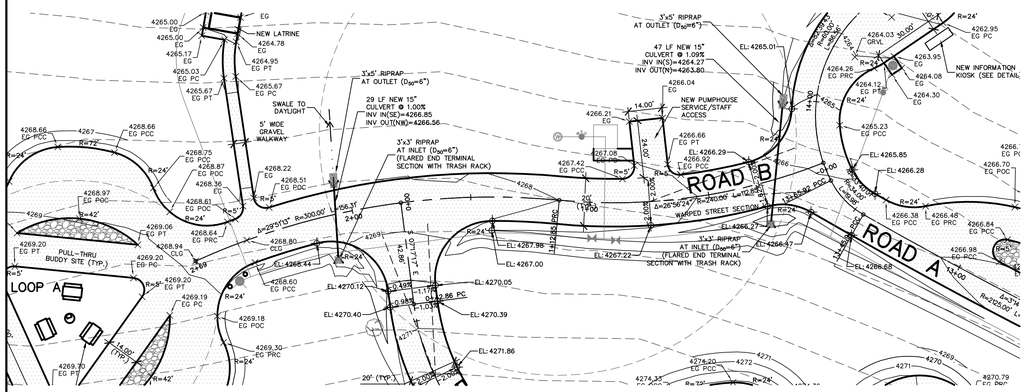
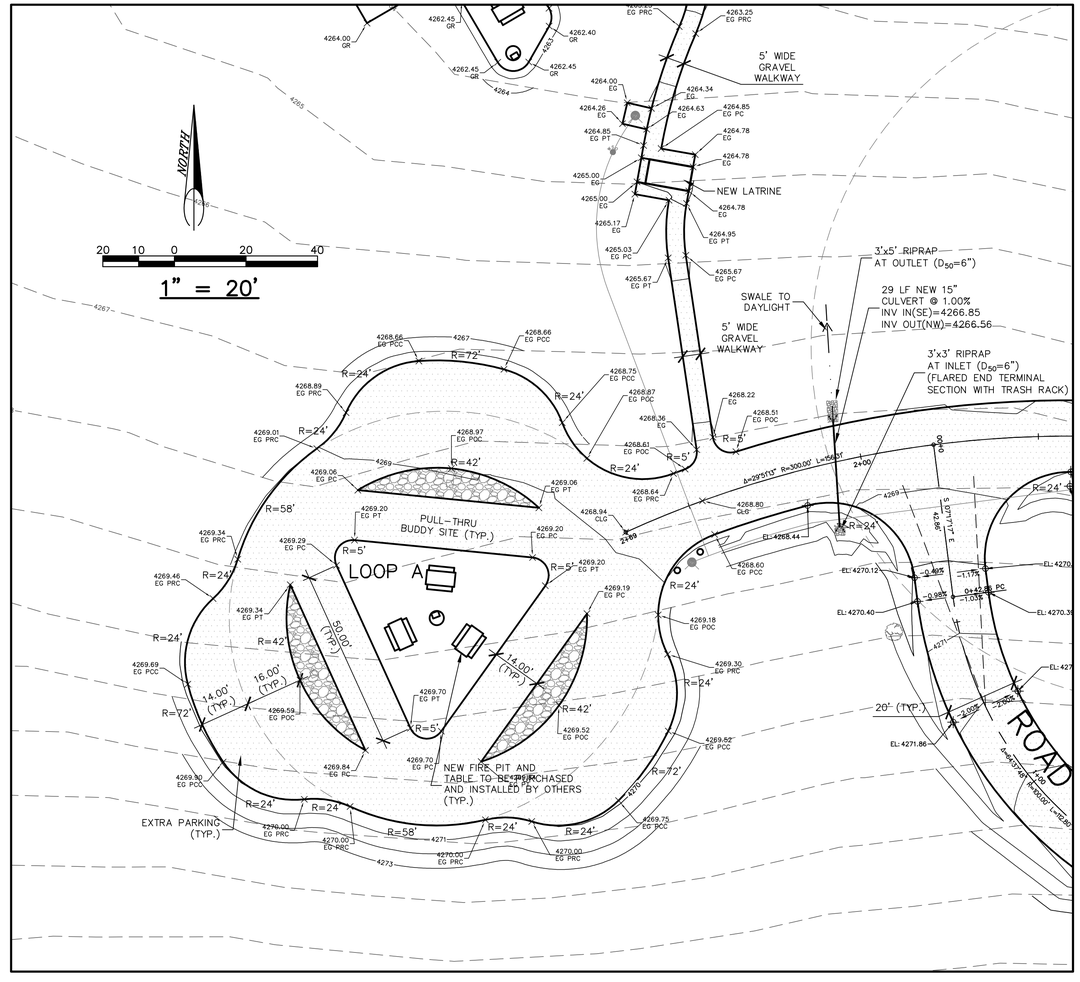
PLAN–PROFILE ROAD A STA. 8+00 TO END, SITE GRADING PULL THRU SITES 4–6

C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13

APPROVED BY:
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 8 OF 17





LOOP A GRADING PLAN

NORTH

SCALE
PLAN : 1" = 30'
PROFILE
HORIZ. : 1" = 30'
VERT. : 1" = 5'

30 15 0 30 60

1" = 30'

NOTE:

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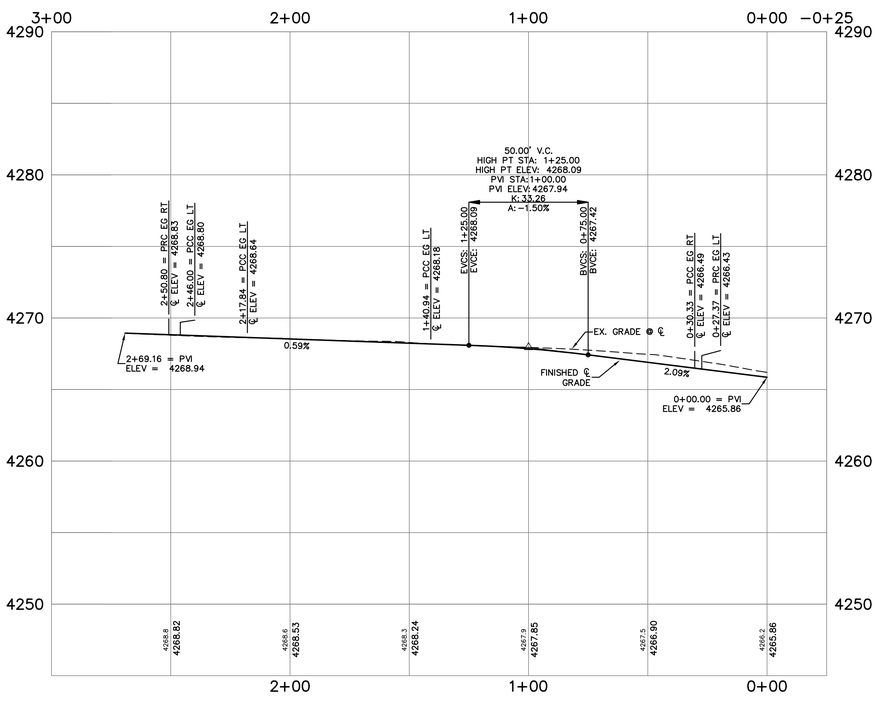

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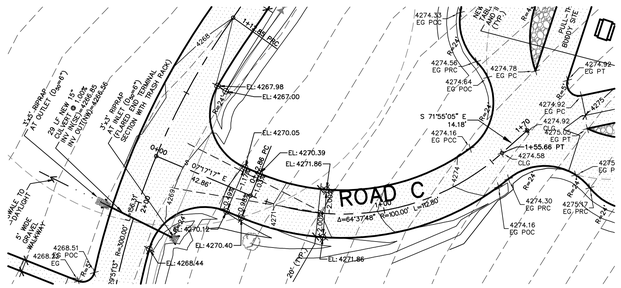
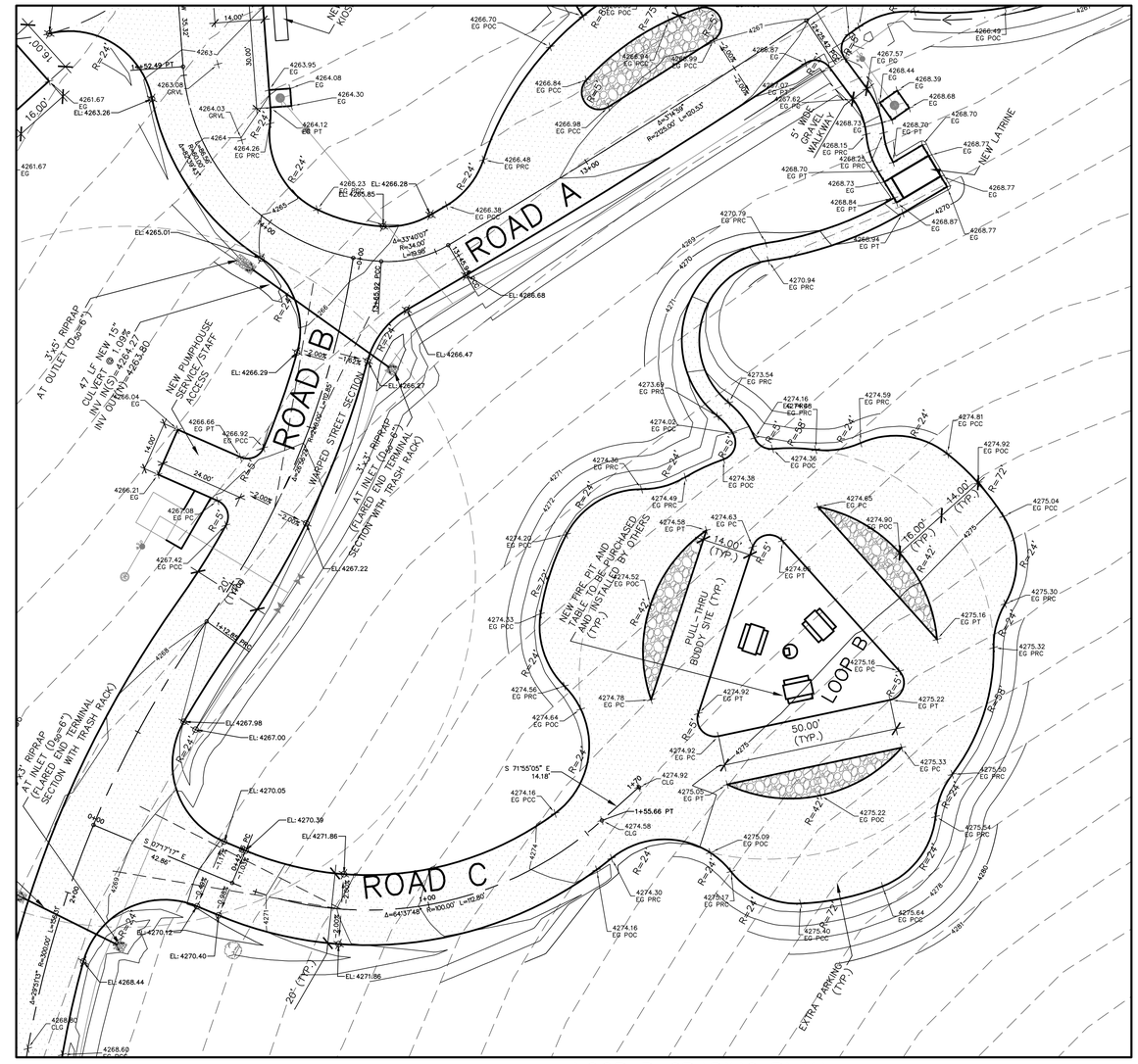
CARBON COUNTY, MONTANA

PLAN–PROFILE ROAD B, LOOP A GRADING PLAN

C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13
APPROVED BY:
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 9 OF 17





LOOP B GRADING PLAN

NORTH

20 10 0 20 40

1" = 20'

NORTH

SCALE
PLAN : 1" = 30'
PROFILE
HORIZ. : 1" = 30'
VERT. : 1" = 5'

30 15 0 30 60

1" = 30'

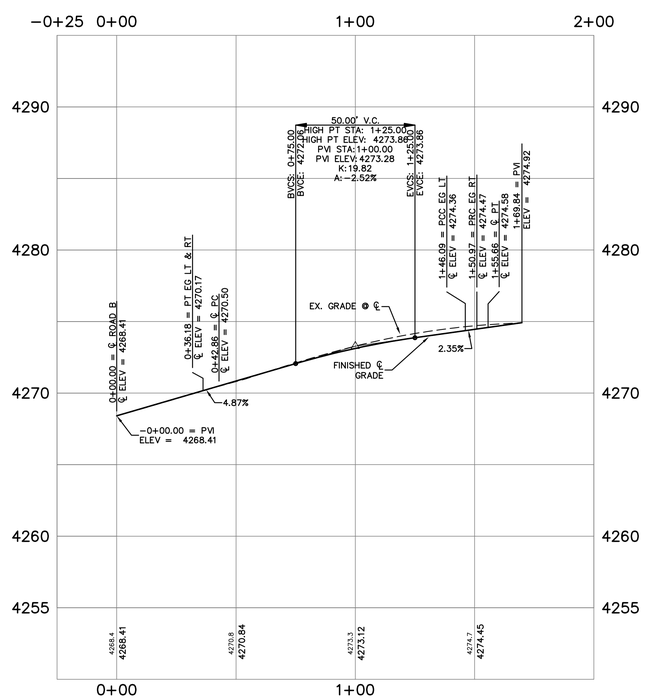
NOTE:

–EXISTING UNDERGROUND INSTALLATIONS & PRIVATE UTILITIES SHOWN ARE INDICATED ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF SUCH INFORMATION. SERVICE LINES (WATER, POWER, GAS, STORM, SEWER, TELEPHONE & TELEVISION) MAY NOT BE STRAIGHT LINES OR AS INDICATED ON THE PLANS. STATE LAW REQUIRES CONTRACTOR TO CALL ALL UTILITY COMPANIES BEFORE EXCAVATION FOR EXACT LOCATIONS.

–ALL ONSITE UTILITY IMPROVEMENTS SHALL CONFORM TO THE UNIFORM PLUMBING CODE (UPC) AND ALL ADMINISTRATIVE RULES OF MONTANA MODIFICATIONS TO THE UPC.

–ALL IMPROVEMENTS SHALL BE PERFORMED IN ACCORDANCE WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS 6TH EDITION, APRIL, 2010, INCLUDING ALL ADDENDUMS.

–UNLESS OTHERWISE SPECIFIED, ALL CONSTRUCTION LAYOUT AND STAKING SHALL BE PERFORMED UNDER THE RESPONSIBLE CHARGE OF A LAND SURVEYOR LICENSED IN THE STATE OF MONTANA AND BY A PARTY CHIEF OR ENGINEERING TECHNICIAN EXPERIENCED IN CONSTRUCTION LAYOUT AND STAKING TECHNIQUES AS ARE REQUIRED BY THE SPECIFIC TYPE OF WORK BEING PERFORMED.



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MONTANA
DANIELLE R. SCHARF
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PROFESSIONAL ENGINEER

COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

PLAN–PROFILE ROAD C, LOOP B GRADING PLAN

C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13

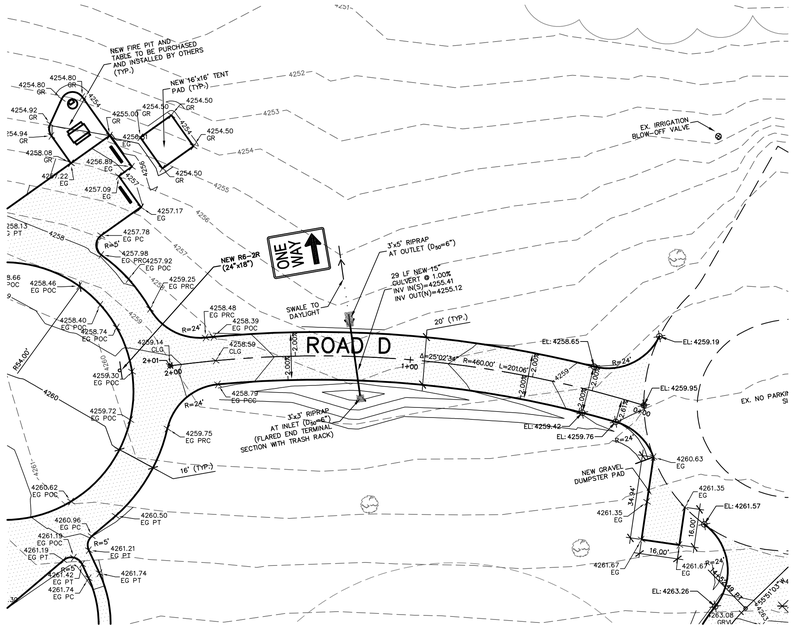
APPROVED BY:
QUALITY ASSURANCE:

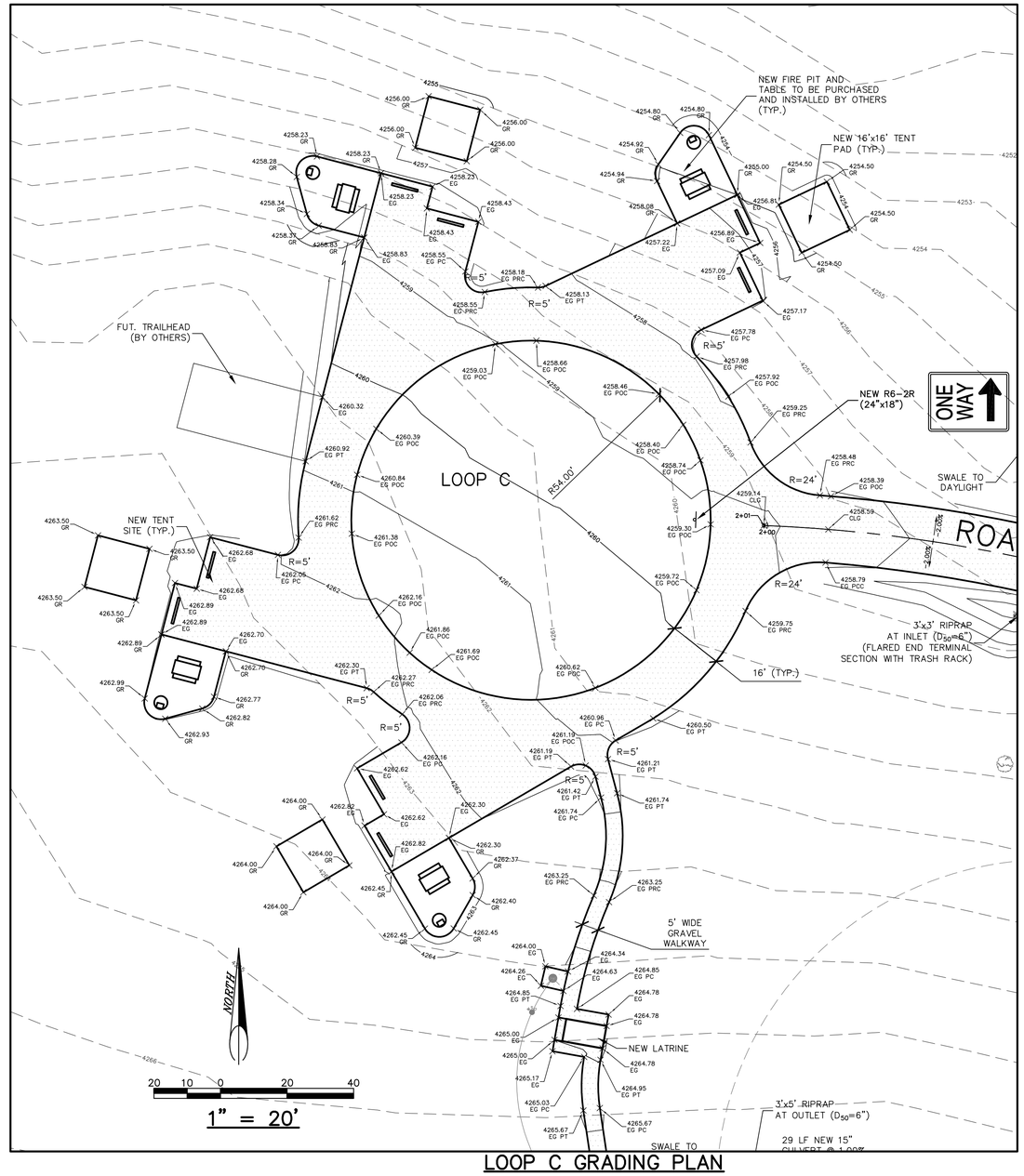
SCALE: SEE SHEET
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 10 OF 17

MONTANA STATE PARKS
stateparks.mt.gov

FOR BIDDING PURPOSES

04/09/13





LOOP C GRADING PLAN

NORTH

SCALE
PLAN : 1" = 30'
PROFILE
HORIZ. : 1" = 30'
VERT. : 1" = 5'

30 15 0 30 60

1" = 30'

NOTE:

–EXISTING UNDERGROUND INSTALLATIONS & PRIVATE UTILITIES SHOWN ARE INDICATED ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF SUCH INFORMATION. SERVICE LINES (WATER, POWER, GAS, STORM, SEWER, TELEPHONE & TELEVISION) MAY NOT BE STRAIGHT LINES OR AS INDICATED ON THE PLANS. STATE LAW REQUIRES CONTRACTOR TO CALL ALL UTILITY COMPANIES BEFORE EXCAVATION FOR EXACT LOCATIONS.

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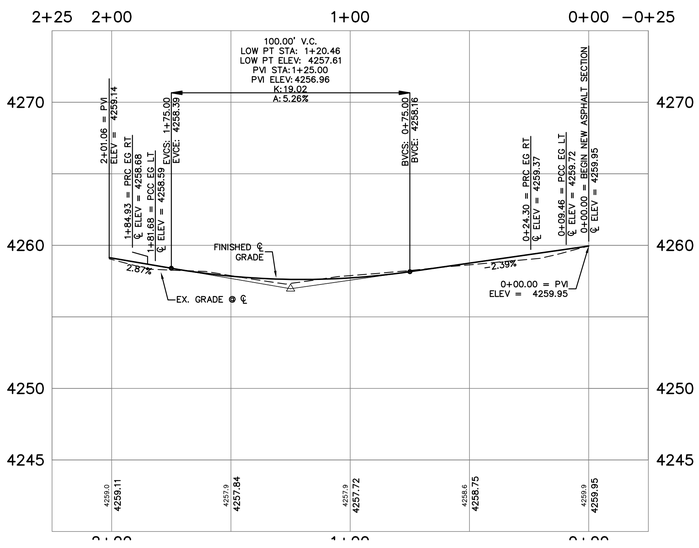

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FOR BIDDING PURPOSES
04/09/13

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MONTANA PROFESSIONAL ENGINEER
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COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

PLAN–PROFILE ROAD D, LOOP C GRADING PLAN

C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13

APPROVED BY:
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 11 OF 17

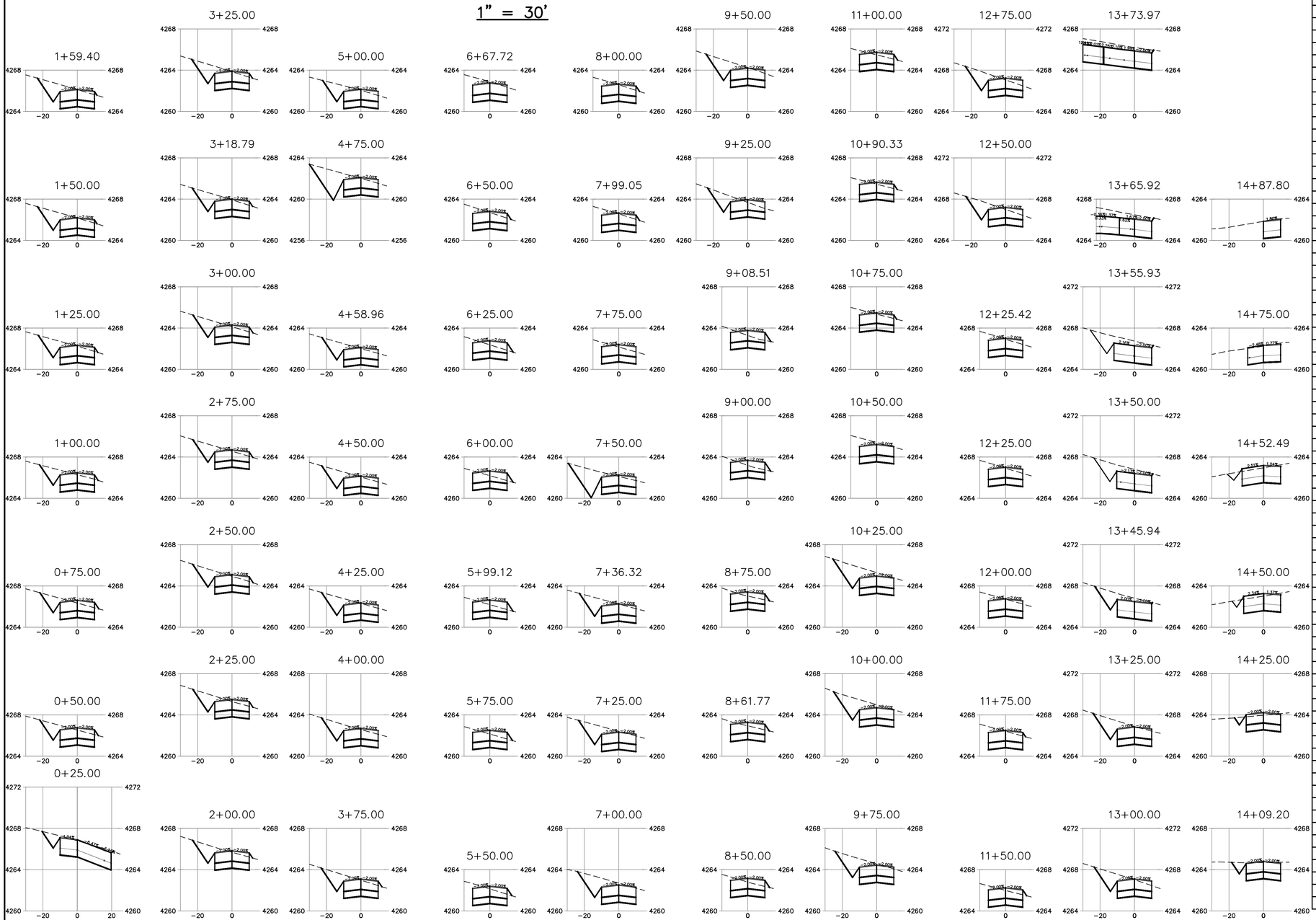
SCALE
HORIZ. : 1" = 30'
VERT. : 1" = 5'

30 15 0 30 60

1" = 30'

FOR BIDDING PURPOSES

04/09/13



Total Volume Table

Station	Fill Area	Cut Area	Fill Volume	Cut Volume	Cumulative Fill Vol	Cumulative Cut Vol
−0+00.00	0.04	25.65	0.00	0.00	0.00	0.00
0+25.00	0.00	58.53	0.02	39.05	0.02	39.05
0+50.00	0.52	41.50	0.24	46.35	0.26	85.40
0+75.00	0.67	40.24	0.54	38.23	0.79	123.63
1+00.00	0.45	42.52	0.50	38.70	1.29	162.33
1+25.00	0.38	46.03	0.37	41.42	1.67	203.75
1+50.00	0.23	48.59	0.28	44.29	1.94	248.04
1+59.40	0.22	48.87	0.08	17.15	2.02	265.19
1+75.00	0.24	48.52	0.13	28.46	2.15	293.65
2+00.00	0.39	45.24	0.28	43.89	2.43	337.54
2+25.00	0.50	44.03	0.40	41.79	2.84	379.33
2+50.00	0.53	44.91	0.47	41.64	3.30	420.97
2+75.00	0.44	45.35	0.44	42.26	3.74	463.23
3+00.00	0.51	44.34	0.43	41.98	4.17	505.22
3+18.79	0.39	47.52	0.30	32.33	4.47	537.55
3+25.00	0.35	48.62	0.08	11.05	4.56	548.60
3+50.00	0.31	50.41	0.31	45.23	4.87	593.82
3+75.00	0.48	46.52	0.37	44.27	5.24	638.10
4+00.00	0.00	45.90	0.23	42.24	5.47	680.34
4+25.00	0.00	47.40	0.00	42.66	5.47	723.00
4+50.00	0.00	46.35	0.00	42.87	5.47	765.87
4+58.96	0.00	45.78	0.00	15.09	5.47	780.96
4+75.00	0.00	64.41	0.00	32.12	5.47	813.09
5+00.00	0.00	44.95	0.00	49.68	5.47	862.77
5+25.00	0.00	41.89	0.00	39.73	5.47	902.50
5+50.00	0.81	30.43	0.38	33.21	5.85	935.71
5+75.00	1.02	28.14	0.87	27.04	6.72	962.75
5+99.12	1.28	26.48	1.06	24.32	7.78	987.07
6+00.00	1.29	26.46	0.04	0.87	7.82	987.94
6+25.00	1.29	27.65	1.19	25.05	9.02	1012.99
6+50.00	0.53	33.12	0.85	28.13	9.86	1041.13
6+67.72	0.00	37.71	0.18	23.24	10.04	1064.37
6+75.00	0.00	38.40	0.00	10.26	10.04	1074.63
7+00.00	0.00	55.29	0.00	43.37	10.04	1118.00
7+25.00	0.00	51.84	0.00	49.59	10.04	1167.59
7+36.32	0.00	48.16	0.00	20.97	10.04	1188.57
7+50.00	0.00	60.72	0.00	27.08	10.04	1215.65
7+75.00	0.00	30.66	0.00	41.64	10.04	1257.28
7+99.05	0.43	33.82	0.20	28.64	10.23	1285.93
8+00.00	0.43	33.86	0.02	1.19	10.25	1287.12
8+25.00	0.52	32.27	0.45	30.54	10.70	1317.66
8+50.00	0.82	28.49	0.63	28.05	11.33	1345.71
8+61.77	0.67	28.72	0.33	12.44	11.67	1358.15
8+75.00	0.77	27.84	0.35	13.86	12.02	1372.01
9+00.00	1.22	26.35	0.92	25.09	12.93	1397.10
9+08.51	1.30	26.15	0.40	8.27	13.33	1405.37
9+25.00	0.00	43.51	0.40	21.27	13.73	1426.64
9+50.00	0.00	52.55	0.00	44.47	13.73	1471.11
9+55.25	0.00	52.75	0.00	10.24	13.73	1481.35
9+75.00	0.00	53.82	0.00	39.51	13.73	1520.86
10+00.00	0.00	59.48	0.00	53.17	13.73	1574.03
10+25.00	0.00	61.70	0.00	56.89	13.73	1630.92
10+50.00	0.00	39.30	0.00	47.21	13.73	1678.12
10+75.00	0.29	33.08	0.13	33.58	13.86	1711.70
10+90.33	0.41	31.74	0.19	18.45	14.05	1730.15
11+00.00	0.53	30.39	0.16	11.15	14.22	1741.30
11+25.00	1.01	26.63	0.69	26.46	14.91	1767.76
11+50.00	0.53	30.58	0.69	26.55	15.60	1794.31
11+75.00	0.28	33.83	0.36	29.89	15.97	1824.21
12+00.00	0.00	34.79	0.12	31.84	16.09	1856.05
12+25.00	0.00	33.68	0.00	31.78	16.09	1887.83
12+25.42	0.00	33.61	0.00	0.52	16.09	1888.35
12+50.00	0.00	44.74	0.00	35.67	16.09	1924.02
12+75.00	0.00	45.67	0.00	41.85	16.09	1965.87
12+85.68	0.00	46.22	0.00	18.17	16.09	1984.04
13+00.00	0.00	47.77	0.00	24.93	16.09	2008.97
13+25.00	0.00	52.67	0.00	46.50	16.09	2055.47
13+45.94	0.00	53.31	0.00	41.10	16.09	2096.57
13+50.00	0.00	55.54	0.00	9.16	16.09	2105.73
13+55.93	0.00	61.27	0.00	14.57	16.09	2120.30
13+65.92	0.00	83.25	0.00	32.73	16.09	2153.03
13+73.97	0.00	83.98	0.00	29.06	16.09	2182.09
14+00.00	0.00	42.95	0.00	69.08	16.09	2251.17
14+09.20	0.00	38.11	0.00	14.30	16.09	2265.47
14+25.00	0.09	32.49	0.03	21.06	16.12	2286.53
14+50.00	0.18	34.02	0.15	31.21	16.27	2317.74
14+52.49	0.15	36.83	0.02	3.34	16.29	2321.08
14+75.00	0.00	31.51	0.06	28.49	16.35	2349.58
14+87.80	0.00	17.29	0.00	11.57	16.35	2361.14

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COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

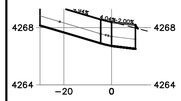
CROSS SECTIONS ROAD A

C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13

APPROVED BY:
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 12 OF 17

MONTANA STATE PARKS
stateparks.mt.gov



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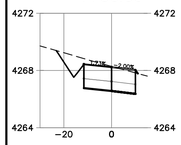

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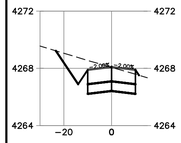

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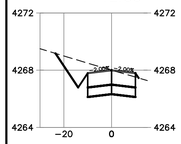

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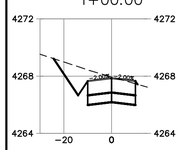

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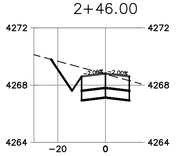

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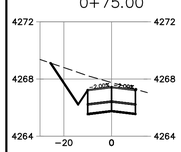

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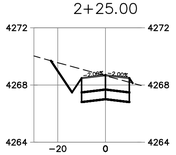

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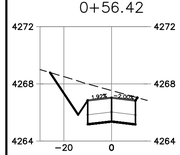

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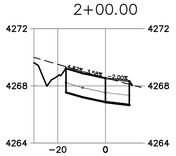

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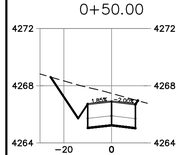

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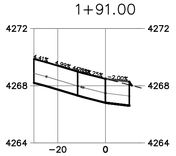

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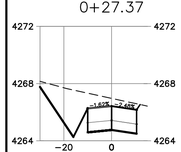

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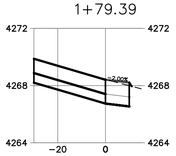
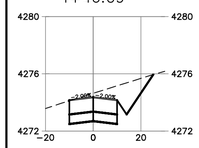


Total Volume Table

Station	Fill Area	Cut Area	Fill Volume	Cut Volume	Cumulative Fill Vol	Cun
0+27.37	0.00	86.30	0.00	0.00	0.00	0.0
0+50.00	0.00	67.09	0.00	64.27	0.00	64.
0+56.42	0.00	66.34	0.00	15.87	0.00	80.
0+75.00	0.00	61.41	0.00	43.95	0.00	124
1+00.00	0.08	53.21	0.04	53.06	0.04	177
1+12.85	0.19	49.85	0.06	24.52	0.10	201
1+25.00	0.23	48.77	0.09	22.20	0.20	223
1+50.00	0.10	47.50	0.15	44.57	0.35	268
1+75.00	0.11	66.55	0.10	52.80	0.44	321
1+79.39	0.11	65.34	0.02	10.73	0.46	331
1+91.00	0.12	66.95	0.05	28.45	0.51	360
2+00.00	0.12	57.24	0.04	20.69	0.55	381
2+25.00	0.20	47.62	0.15	48.55	0.69	429
2+46.00	0.00	47.46	0.08	36.98	0.77	466

ROAD B

1+46.09



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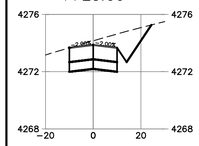

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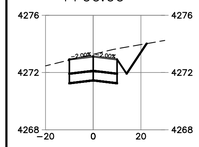

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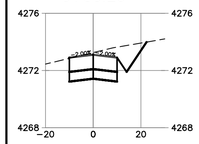

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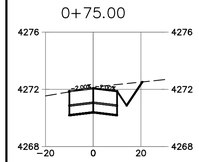

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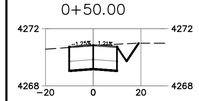

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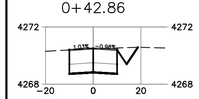

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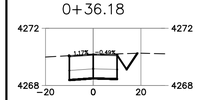
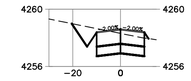


Total Volume Table

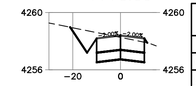
Station	Fill Area	Cut Area	Fill Volume	Cut Volume	Cumulative Fill Vol	Cumulative Cut Vol
0+36.18	0.00	38.74	0.00	0.00	0.00	0.00
0+42.86	0.00	39.18	0.00	9.64	0.00	9.64
0+50.00	0.00	39.81	0.00	10.66	0.00	20.30
0+75.00	0.00	45.36	0.00	40.53	0.00	60.83
0+99.26	0.01	51.34	0.00	45.12	0.01	105.95
1+00.00	0.00	51.59	0.00	1.41	0.01	107.35
1+25.00	0.00	58.71	0.00	53.50	0.01	160.86
1+46.09	0.00	59.75	0.00	48.76	0.01	209.61

ROAD C

1+81.68



1+75.00



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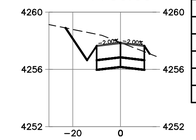

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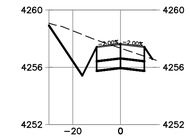

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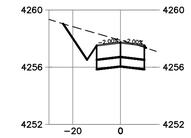
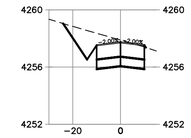
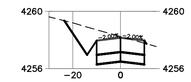


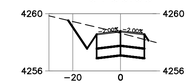
1+00.00



0+75.00



0+50.00



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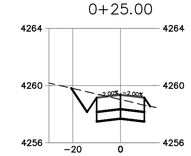

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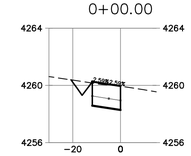

Total Volume Table

Station	Fill Area	Cut Area	Fill Volume	Cut Volume	Cumulative Fill Vol	Cumulative Cut Vol
0+00.00	0.02	23.22	0.00	0.00	0.00	0.00
0+25.00	0.65	36.78	0.32	27.45	0.32	27.45
0+50.00	0.31	43.88	0.45	37.01	0.77	64.46
0+75.00	0.08	51.82	0.18	43.86	0.96	108.31
1+00.00	0.04	54.49	0.06	48.68	1.01	156.99
1+00.53	0.05	54.44	0.00	1.07	1.02	158.06
1+25.00	1.09	61.48	0.53	51.64	1.54	209.69
1+50.00	0.44	50.40	0.73	50.90	2.27	260.59
1+75.00	0.16	42.20	0.29	42.44	2.55	303.04
1+81.68	0.35	37.74	0.06	9.89	2.62	312.92

ROAD D

SCALE
HORIZ. : 1" = 30'
VERT. : 1" = 5'

30 15 0 30 60

1" = 30'

FOR BIDDING PURPOSES

04/09/13

MONTANA STATE PARKS

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SANDERSON STEWART

www.sandersonstewart.com

MONTANA DANIELLE R. SCHARF 14799PE LICENSED PROFESSIONAL ENGINEER

COONEY STATE PARK

EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP

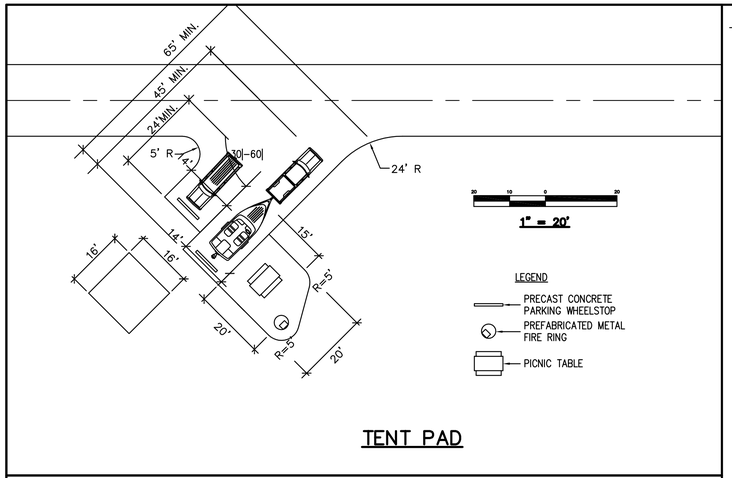
CARBON COUNTY, MONTANA

CROSS SECTIONS ROAD B, ROAD C & ROAD D

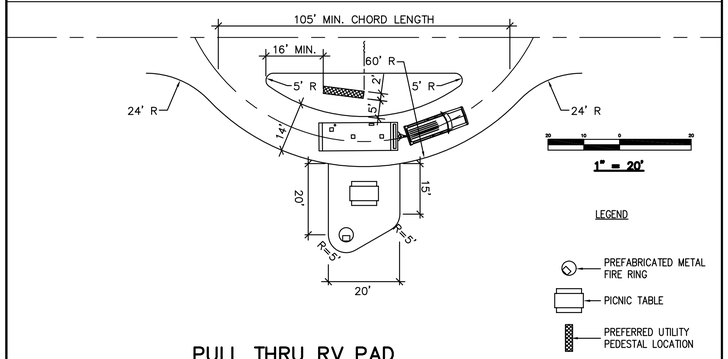
C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13

APPROVED BY:
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 13 OF 17



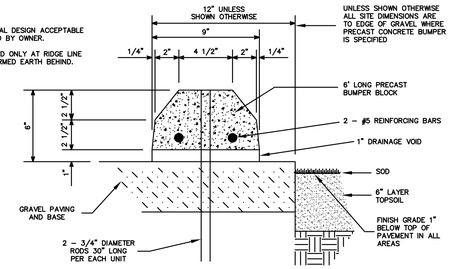
TENT PAD



PULL THRU RV PAD

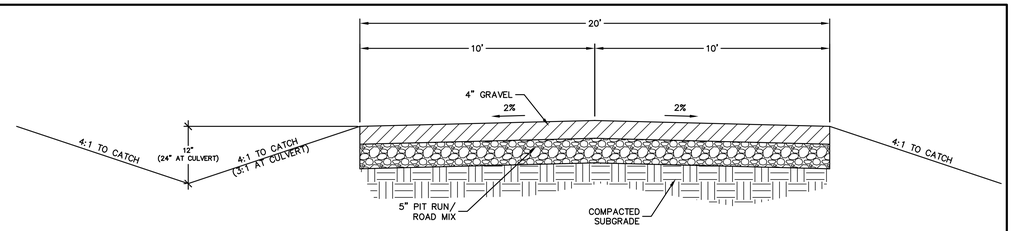
NOTES :

- SIMILAR LOCAL DESIGN ACCEPTABLE IF APPROVED BY OWNER.
- MAY BE USED ONLY AT RIDGE LINE WITH NO BERMED EARTH BEHIND.



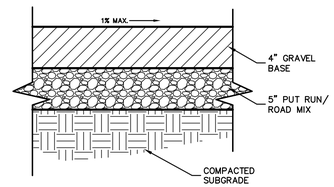
PRECAST CONCRETE BUMPER

NOT TO SCALE



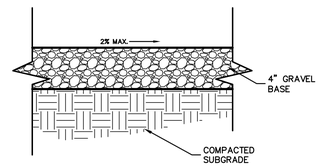
TYPICAL ROAD SECTION

NOT TO SCALE



PULL THRU RV PAD SECTION DETAIL

NOT TO SCALE



TYPICAL TRAIL SECTION DETAIL

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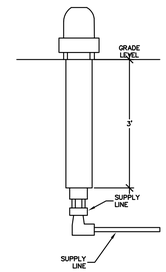
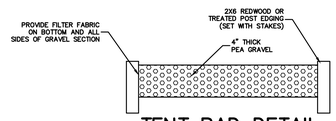


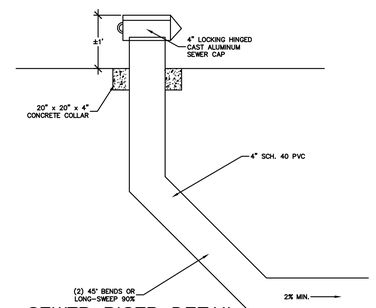
WOODFOR WATER SERVICE CONNECTION DETAIL

NOT TO SCALE



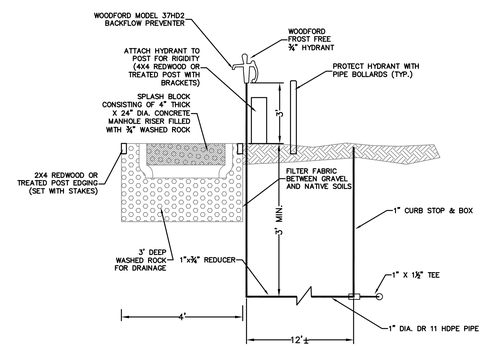
TENT PAD DETAIL

NOT TO SCALE



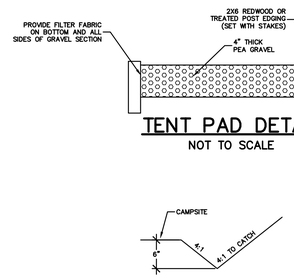
SEWER RISER DETAIL

NOT TO SCALE



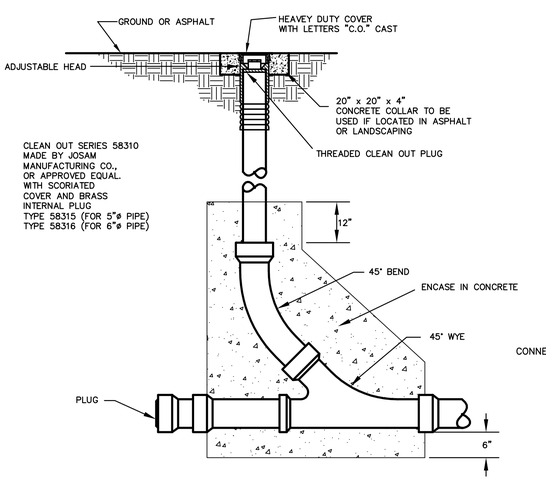
FROST FREE YARD HYDRANT

NOT TO SCALE



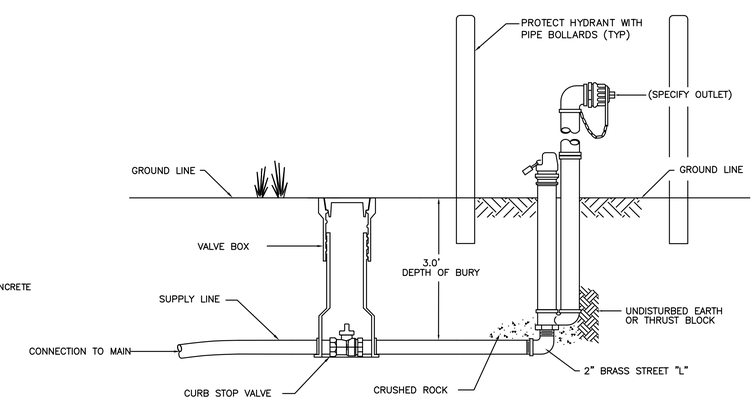
CAMP SITE SWALE DETAIL

NOT TO SCALE



SANITARY SEWER CLEAN-OUT

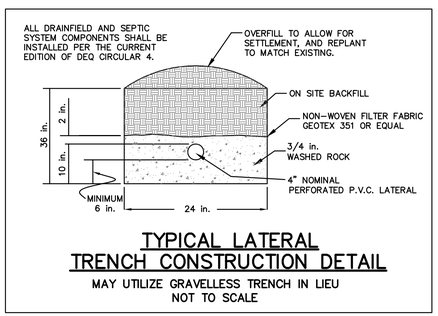
NOT TO SCALE



Post Hydrants shall be non-freezing, self draining type with a 6.5' bury. These hydrants will be furnished with a 1.5" FIP horizontal inlet, a non-turning operating rod, and shall open left. Bronze operating mechanism and aluminum plunger. design, and be servicable from above grade with no digging. The outlet shall also be bronze and be 2-1/2" NST. Hydrants shall be lockable to prevent unauthorized use as manufactured by Kupferle Foundry Co., St. Louis, MO, or approved equal.

MAINGUARD NO. 77 BLOW-OFF HYDRANT

NOT TO SCALE



TYPICAL LATERAL TRENCH CONSTRUCTION DETAIL

MAY UTILIZE GRAVELLESS TRENCH IN LIEU

NOT TO SCALE

FOR BIDDING PURPOSES

04/09/13

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SANDERSON STEWART

www.sandersonstewart.com

MONTANA PROFESSIONAL ENGINEER LICENSED DANIELLE R. SCHARF 14799PE

COONEY STATE PARK

EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP

CARBON COUNTY, MONTANA

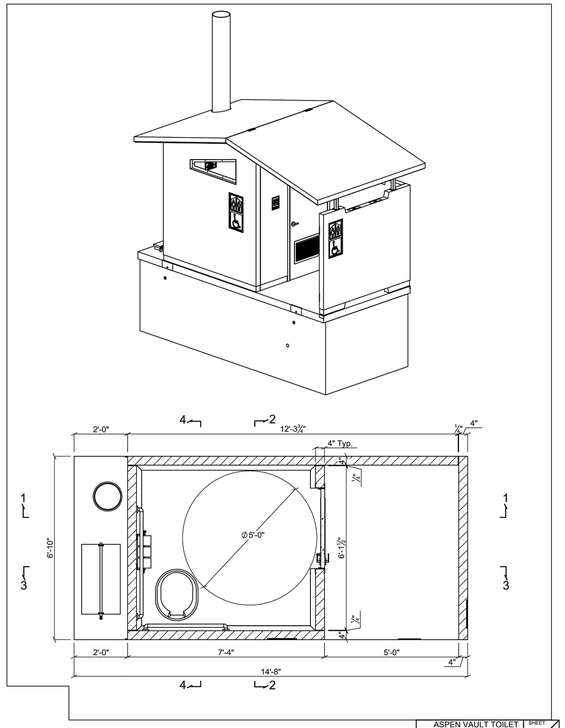
SITE DETAILS

C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13

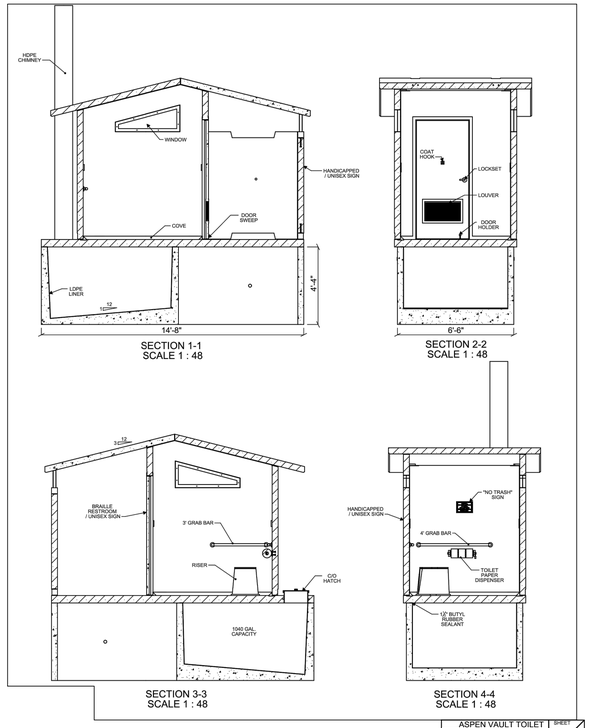
APPROVED BY:
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 14 OF 17

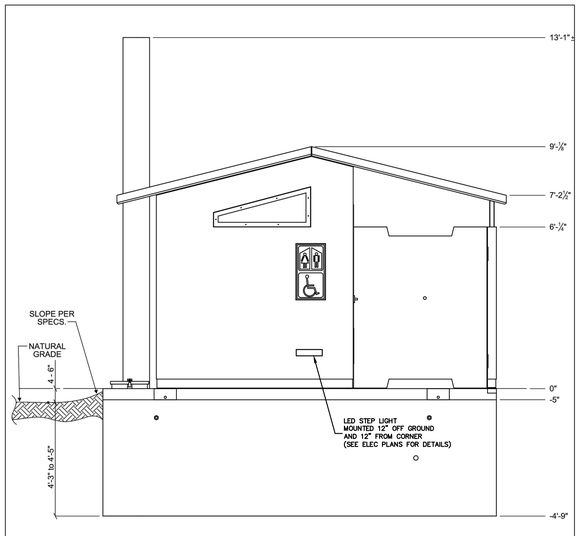
LATRINE DETAILS



ASPEN VAULT TOILET | RIGHT HAND | FULL SCREEN | 1/2012 — SHEET 1 OF 4



ASPEN VAULT TOILET | RIGHT HAND | FULL SCREEN | 1/2012 — SHEET 2 OF 4



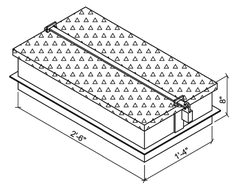
WEIGHT:

- Building - 24,000 lbs.
- Vault - 16,000 lbs.

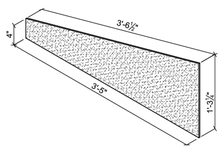
EXCAVATION:

- Vault Hole - 8' wide x 16' long x 4'-9" below desired finish floor elevation
- See specifications for additional requirements.

ASPEN VAULT TOILET | RIGHT HAND | FULL SCREEN | 1/2012 — SHEET 3 OF 4



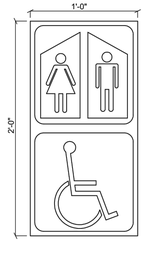
CLEANOUT HATCH



POLYCARBONATE WINDOW

BRAILLE RESTROOM SIGN

"NO TRASH" SIGN

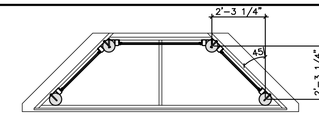


"HANDICAPPED / UNISEX" SIGN

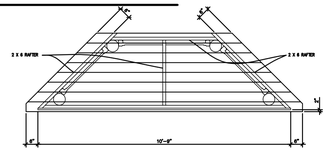
ASPEN VAULT TOILET | RIGHT HAND | FULL SCREEN | 1/2012 — SHEET 4 OF 4

PARK INFORMATION KIOSK DETAILS

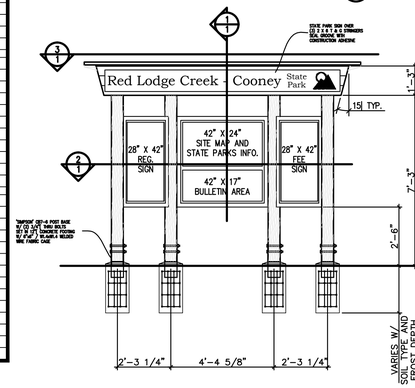
QTY.	UNIT	MATERIAL
		STEEL
1	EACH	PRE-FABRICATED STEEL CENTER FRAME
2	EACH	PRE-FABRICATED STEEL SIDE FRAME
1	EACH	PRE-FABRICATED STEEL CENTER BACK FRAME
2	EACH	PRE-FABRICATED STEEL SIDE BACK FRAME
42	L.F.	TS 2" X 2" X 3/16"
45	L.F.	L 1 1/2" X 1 1/2" X 3/16"
2	L.F.	L 4" X 2" X 3/16"
3.5	L.F.	BAR 2 1/2" X 3/16"
3.5	L.F.	BAR 2" X 3/16"
38	L.F.	BAR 1" X 3/16"
		LUMBER & ROOFING
4	EACH	6" X 6" WELDED PRESSURE TREATED PINE/FIR/LARCH POSTS
6	EACH	2 X 6 X 10' TONGUE AND GROOVE, @ SP/PINE DECKING
7	EACH	2 X 6 X 16' TONGUE AND GROOVE, @ SP/PINE DECKING
35	S.F.	30# ROOFING FELT
2	BUNDLE	OWENS-CORNING CARDIOE PRO 40 SHINGLES - BROWNWOOD COLOR
24	L.F.	GALVANIZED STEEL OR BROWN ANODIZED ALUMINUM D STYLE DRIP EDGE
8	EACH	1 X 6 X 7'-0" CEDAR PLANKS
		MISCELLANEOUS HARDWARE
4	EACH	"SIMPSON" ZD1-4 GALVANIZED STEEL POST BASE
4	EACH	"SIMPSON" A34 FRAMING ANCHOR
18	EACH	5/16"[X 3" CARRIAGE BOLT W/ WASHER AND NUT
3	EACH	5/16"[X 1 1/2" CARRIAGE BOLT W/ WASHER AND NUT
12	EACH	1/2"[X 5" LAG SCREW W/ WASHER
8	EACH	3/8"[X 3 1/2" LAG SCREW
8	EACH	3/8"[X 7 1/2" A307 MACHINE BOLTS W/ NUT
1	POUND	16d GALVANIZED BOX NAILS
1	POUND	1 1/4 GALVANIZED ROOFING NAILS
4	EACH	6 X 6 / 10 X 10 WELDED WIRE FABRIC CAGES 9"[
VARIES	CU. YD.	CONCRETE



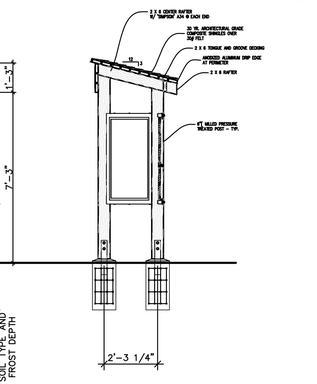
SECTION (PLAN VIEW)
SCALE: NONE



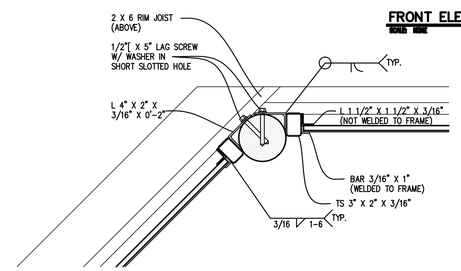
ROOF PLAN
SCALE: NONE



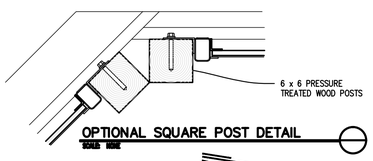
FRONT ELEVATION
SCALE: NONE



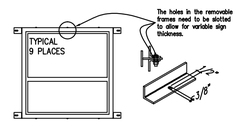
SECTION THRU KIOSK
SCALE: NONE

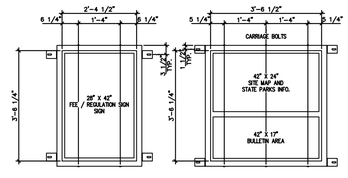


HANGER ANGLE DETAIL
SCALE: NONE

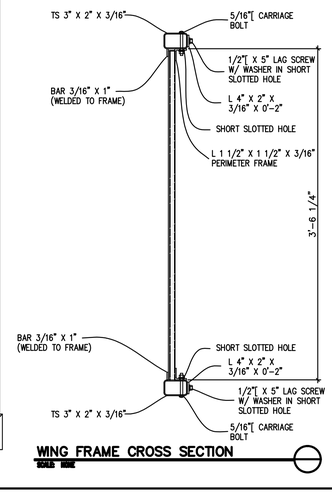


OPTIONAL SQUARE POST DETAIL
SCALE: NONE





SIGN FRAME ELEVATIONS
SCALE: NONE



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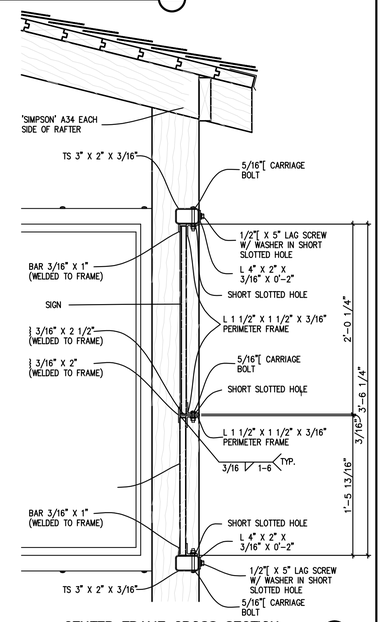

CENTER FRAME CROSS SECTION
SCALE: NONE

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FOR BIDDING PURPOSES

04/09/13

SANDERSON STEWART
www.sandersonstewart.com

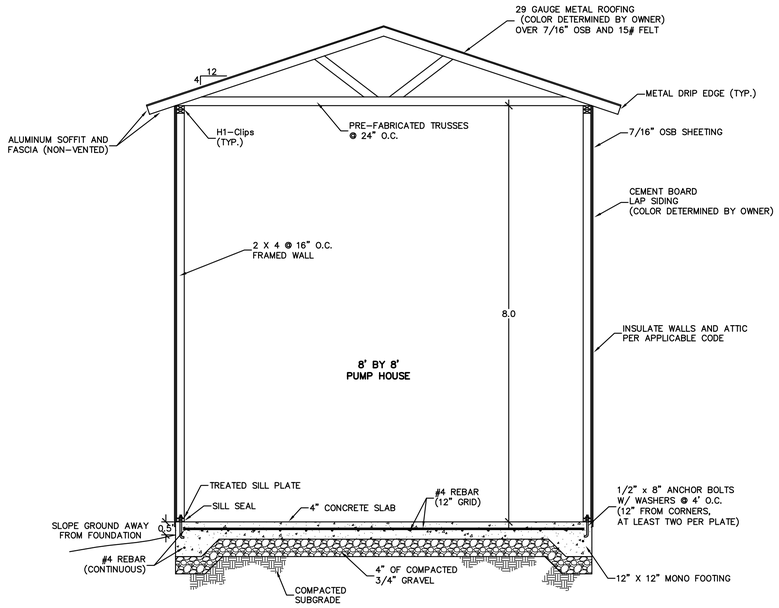
MONTANA PROFESSIONAL ENGINEER — DANIELLE R. SCHARF — 14799PE — LICENSED

COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

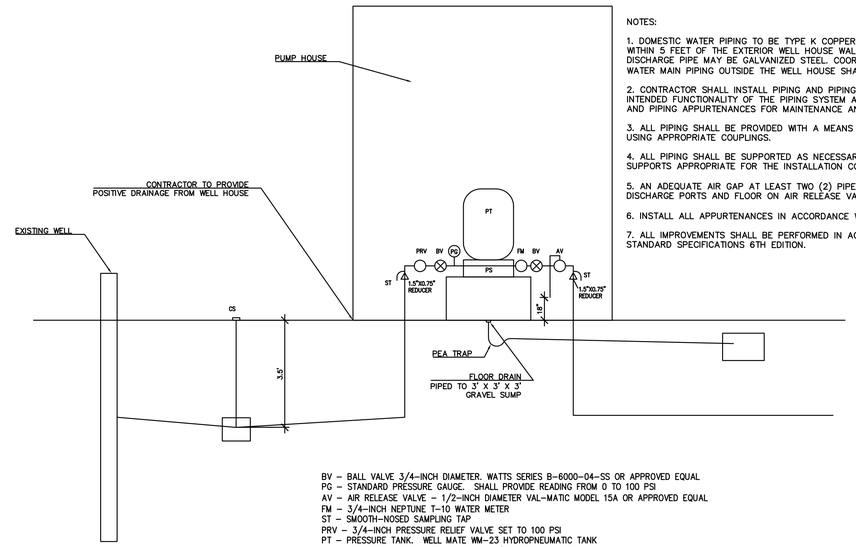
LATRINE AND INFORMATION KIOSK DETAILS

C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13, 4/9/13
APPROVED BY:
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 15 OF 17



SECTION VIEW



NOTES:

1. DOMESTIC WATER PIPING TO BE TYPE K COPPER OR SCHEDULE 80 PVC IN THE WELL HOUSE AND WITHIN 5 FEET OF THE EXTERIOR WELL HOUSE WALL WITH THE EXCEPTION OF THE 1.5-INCH WELL DISCHARGE PIPE MAY BE GALVANIZED STEEL. COORDINATE PIPING WITH PLUMBING CONTRACTOR. WATER MAIN PIPING OUTSIDE THE WELL HOUSE SHALL BE DR-11 (200 PSI) HDPE WITH PE4710 RESIN.

2. CONTRACTOR SHALL INSTALL PIPING AND PIPING APPURTENANCES IN CONFORMATION WITH THE INTENDED FUNCTIONALITY OF THE PIPING SYSTEM AND WITH ADEQUATE SEPARATION BETWEEN PIPING AND PIPING APPURTENANCES FOR MAINTENANCE AND REPAIR.

3. ALL PIPING SHALL BE PROVIDED WITH A MEANS TO EASILY DISASSEMBLE AND REASSEMBLE PIPING USING APPROPRIATE COUPLINGS.

4. ALL PIPING SHALL BE SUPPORTED AS NECESSARY BY PIPE STANCHIONS, HANGERS, OR OTHER SUPPORTS APPROPRIATE FOR THE INSTALLATION CONDITIONS.

5. AN ADEQUATE AIR GAP AT LEAST TWO (2) PIPE DIAMETERS SHALL BE PROVIDED BETWEEN DISCHARGE PORTS AND FLOOR ON AIR RELEASE VALVES.

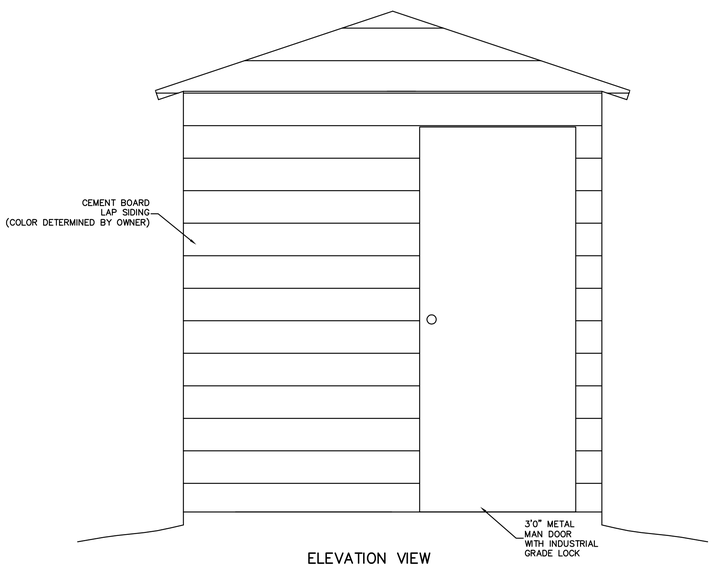
6. INSTALL ALL APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

7. ALL IMPROVEMENTS SHALL BE PERFORMED IN ACCORDANCE WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS 6TH EDITION.

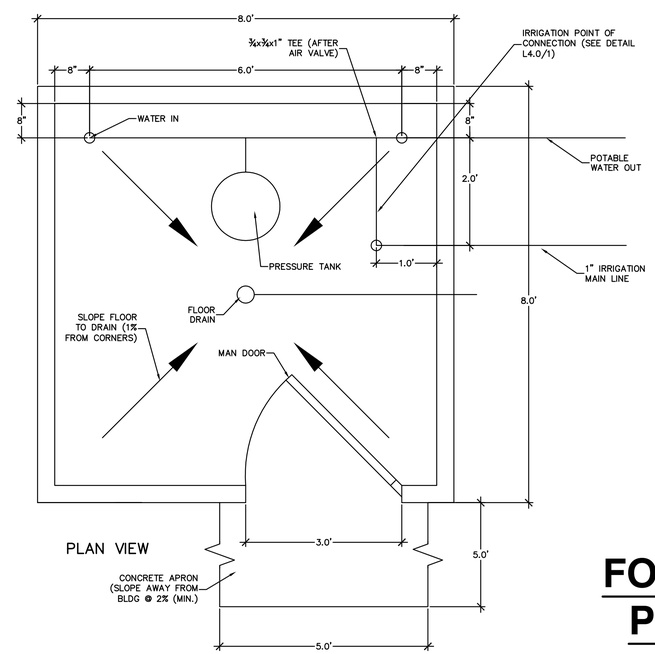
BV – BALL VALVE 3/4-INCH DIAMETER. WATTS SERIES B-6000-04-SS OR APPROVED EQUAL
PG – STANDARD PRESSURE GAUGE. SHALL PROVIDE READING FROM 0 TO 100 PSI
AV – AIR RELEASE VALVE – 1/2-INCH DIAMETER VAL-MATIC MODEL 15A OR APPROVED EQUAL
FM – 3/4-INCH NEPTUNE T-10 WATER METER
ST – SMOOTH-NOSED SAMPLING TAP
PRV – 3/4-INCH PRESSURE RELIEF VALVE SET TO 100 PSI
PT – PRESSURE TANK. WELL MATE WM-23 HYDROPNEUMATIC TANK
PS – PRESSURE SWITCH WITH 40 PSI LOW / 60 PSI HIGH SETTING
CS – CURB STOP WITH STOP & WASTE FEATURE. FURNISH A 3' X 3' X 3' WASH GRAVEL SUMP. GRADE TO LOW POINT.

PUMP DETAIL

NOTES:
- MAN DOOR HEADER SHALL BE A DOUBLE 2 x 6
- ALL CONSTRUCTION SHALL CONFORM TO 2006 IBC
- MAN DOOR SHALL BE HEAVY DUTY INSULATED METAL WITH INDUSTRIAL STRENGTH HARDWARE
- SEE ELECTRICAL DRAWINGS FOR LIGHTING, POWER, ETC.



ELEVATION VIEW



PLAN VIEW

FOR BIDDING PURPOSES

04/09/13

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DANIELLE R. SCHARF
14799PE
PROFESSIONAL ENGINEER
LICENSED

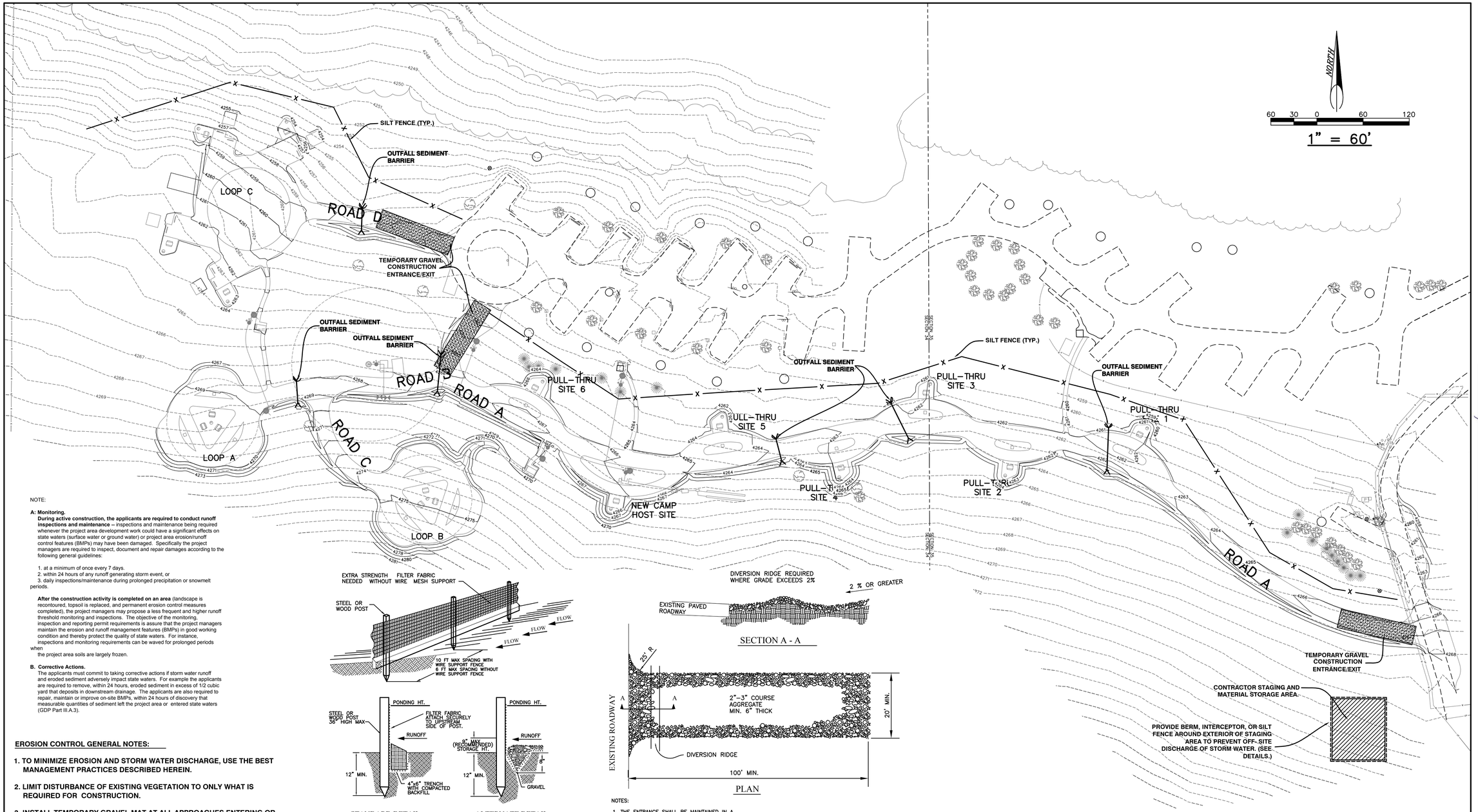
COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

PUMP HOUSE DETAILS

C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13

APPROVED BY:
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 16 OF 17



NOTE:

A: Monitoring.

During active construction, the applicants are required to conduct runoff inspections and maintenance – inspections and maintenance being required whenever the project area development work could have a significant effects on state waters (surface water or ground water) or project area erosion/runoff control features (BMPs) may have been damaged. Specifically the project managers are required to inspect, document and repair damages according to the following general guidelines:

1. at a minimum of once every 7 days.
2. within 24 hours of any runoff generating storm event, or
3. daily inspections/maintenance during prolonged precipitation or snowmelt periods.

After the construction activity is completed on an area (landscape is recontoured, topsoil is replaced, and permanent erosion control measures completed), the project managers may propose a less frequent and higher runoff threshold monitoring and inspections. The objective of the monitoring, inspection and reporting permit requirements is assure that the project managers maintain the erosion and runoff management features (BMPs) in good working condition and thereby protect the quality of state waters. For instance, inspections and monitoring requirements can be waved for prolonged periods when the project area soils are largely frozen.

B. Corrective Actions.

The applicants must commit to taking corrective actions if storm water runoff and eroded sediment adversely impact state waters. For example the applicants are required to remove, within 24 hours, eroded sediment in excess of 1/2 cubic yard that deposits in downstream drainage. The applicants are also required to repair, maintain or improve on-site BMPs, within 24 hours of discovery that measurable quantities of sediment left the project area or entered state waters (GDP Part III.A.3).

EROSION CONTROL GENERAL NOTES:

1. **TO MINIMIZE EROSION AND STORM WATER DISCHARGE, USE THE BEST MANAGEMENT PRACTICES DESCRIBED HEREIN.**
2. **LIMIT DISTURBANCE OF EXISTING VEGETATION TO ONLY WHAT IS REQUIRED FOR CONSTRUCTION.**
3. **INSTALL TEMPORARY GRAVEL MAT AT ALL APPROACHES ENTERING OR EXITING THE SITE TO PREVENT MUD FROM BEING TRACKED ONTO CITY STREETS.**
4. **PROVIDE SILT FENCE AT ALL LOCATIONS WHERE EMBANKMENT SLOPES ADJACENT TO DRAINAGE CHANNELS TRANSPORT SEDIMENTS AWAY FROM THE SITE.**
5. **PROVIDE A DIVERSION DITCH UPSLOPE OF ALL STORAGE STAGING AREAS AND CONSTRUCTION AREAS TO DIVERT STORMWATER AROUND DISTURBED AND STORAGE AREAS.**
6. **CONTRACTOR SHALL PROTECT AND MAINTAIN STORMWATER MANAGEMENT FACILITIES DURING CONSTRUCTION.**

STANDARD DETAIL
TRENCH WITH NATIVE BACKFILL

ALTERNATE DETAIL
TRENCH WITH GRAVEL

NOTE:

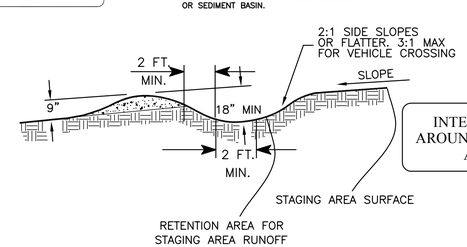
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
4. SILT FENCE SHALL MEET ALL REQUIREMENTS OF SECTION 02110 OF THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS FOR SEDIMENT CONTROL IN TABLE 1.

SILT FENCE

NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABLIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT



INTERCEPTOR AROUND STAGING AREA

NOTE:

–EXISTING UNDERGROUND INSTALLATIONS & PRIVATE UTILITIES SHOWN ARE INDICATED ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF SUCH INFORMATION. SERVICE LINES (WATER, POWER, GAS, STORM, SEWER, TELEPHONE & TELEVISION) MAY NOT BE STRAIGHT LINES OR AS INDICATED ON THE PLANS. STATE LAW REQUIRES CONTRACTOR TO CALL ALL UTILITY COMPANIES BEFORE EXCAVATION FOR EXACT LOCATIONS.

–ALL ONSITE UTILITY IMPROVEMENTS SHALL CONFORM TO THE UNIFORM PLUMBING CODE (UPC) AND ALL ADMINISTRATIVE RULES OF MONTANA MODIFICATIONS TO THE UPC.

–ALL IMPROVEMENTS SHALL BE PERFORMED IN ACCORDANCE WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS 6TH EDITION, APRIL, 2010, INCLUDING ALL ADDENDUMS.

–UNLESS OTHERWISE SPECIFIED, ALL CONSTRUCTION LAYOUT AND STAKING SHALL BE PERFORMED UNDER THE RESPONSIBLE CHARGE OF A LAND SURVEYOR LICENSED IN THE STATE OF MONTANA AND BY A PARTY CHIEF OR ENGINEERING TECHNICIAN EXPERIENCED IN CONSTRUCTION LAYOUT AND STAKING TECHNIQUES AS ARE REQUIRED BY THE SPECIFIC TYPE OF WORK BEING PERFORMED.

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FOR BIDDING PURPOSES
04/09/13

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COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

EROSION CONTROL PLAN & DETAILS

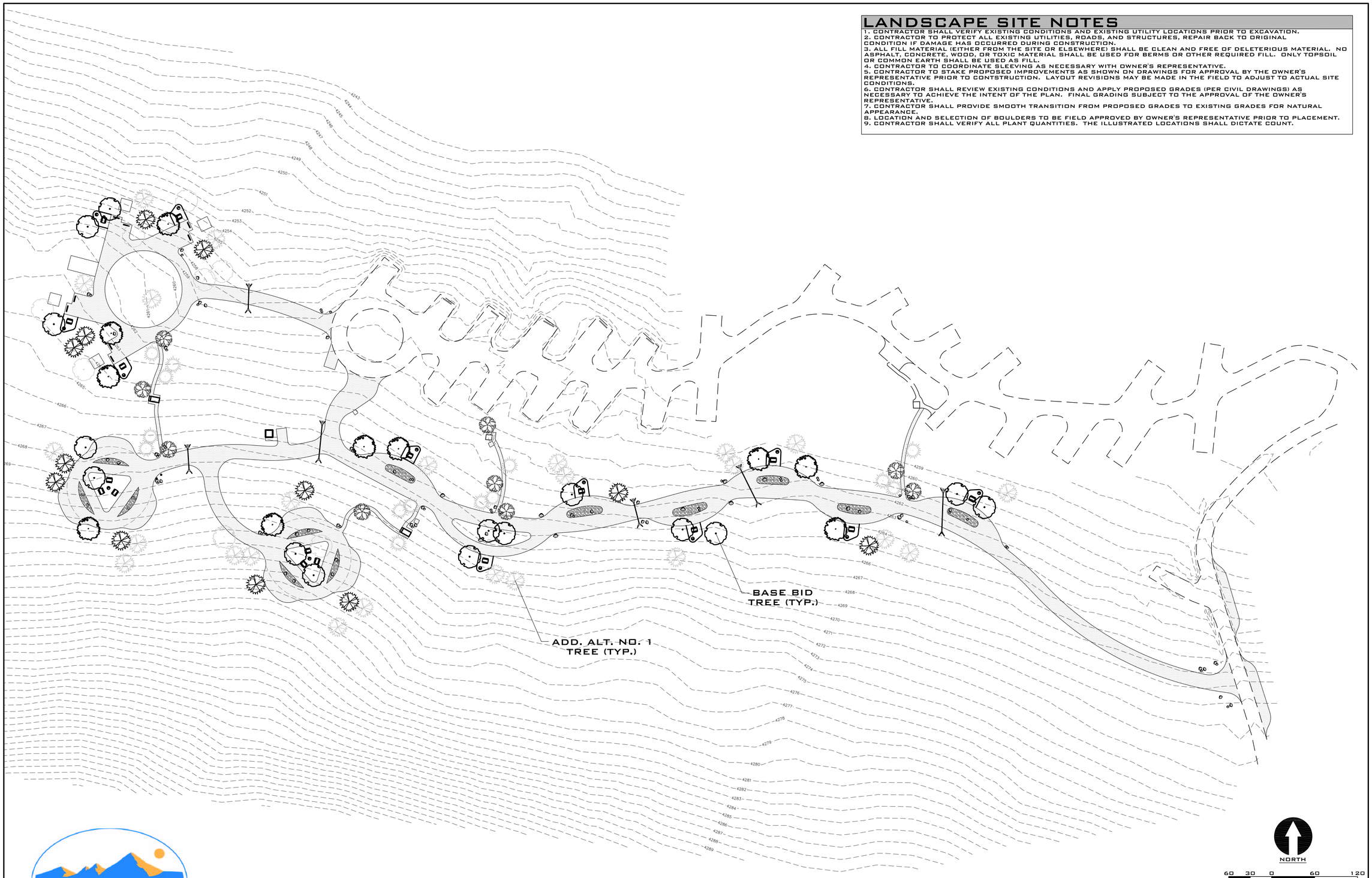
C.A.D. CMK
DATE: 2/28/13
REVISIONS: 3/21/13
4/9/13

APPROVED BY:
QUALITY ASSURANCE:

SCALE: 1"=60'
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET 17 OF 17

LANDSCAPE SITE NOTES

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
2. CONTRACTOR TO PROTECT ALL EXISTING UTILITIES, ROADS, AND STRUCTURES, REPAIR BACK TO ORIGINAL CONDITION IF DAMAGE HAS OCCURRED DURING CONSTRUCTION.
3. ALL FILL MATERIAL (EITHER FROM THE SITE OR ELSEWHERE) SHALL BE CLEAN AND FREE OF DELETERIOUS MATERIAL. NO ASPHALT, CONCRETE, WOOD, OR TOXIC MATERIAL SHALL BE USED FOR BERMS OR OTHER REQUIRED FILL. ONLY TOPSOIL OR COMMON EARTH SHALL BE USED AS FILL.
4. CONTRACTOR TO COORDINATE SLEEVING AS NECESSARY WITH OWNER'S REPRESENTATIVE.
5. CONTRACTOR TO STAKE PROPOSED IMPROVEMENTS AS SHOWN ON DRAWINGS FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO CONTSTRUCTION. LAYOUT REVISIONS MAY BE MADE IN THE FIELD TO ADJUST TO ACTUAL SITE CONDITIONS.
6. CONTRACTOR SHALL REVIEW EXISTING CONDITIONS AND APPLY PROPOSED GRADES (PER CIVIL DRAWINGS) AS NECESSARY TO ACHIEVE THE INTENT OF THE PLAN. FINAL GRADING SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
7. CONTRACTOR SHALL PROVIDE SMOOTH TRANSITION FROM PROPOSED GRADES TO EXISTING GRADES FOR NATURAL APPEARANCE.
8. LOCATION AND SELECTION OF BOULDERS TO BE FIELD APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLACEMENT.
9. CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES. THE ILLUSTRATED LOCATIONS SHALL DICTATE COUNT.



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04/09/13

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MONTANA REGISTERED LANDSCAPE ARCHITECT

L1.0
LANDSCAPE PLAN

COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

LANDSCAPE SITE PLAN

C.A.D. PAP
DATE: 3/21/13
REVISIONS:
APPROVED BY:
QUALITY ASSURANCE:

SCALE:
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET ____ OF ____

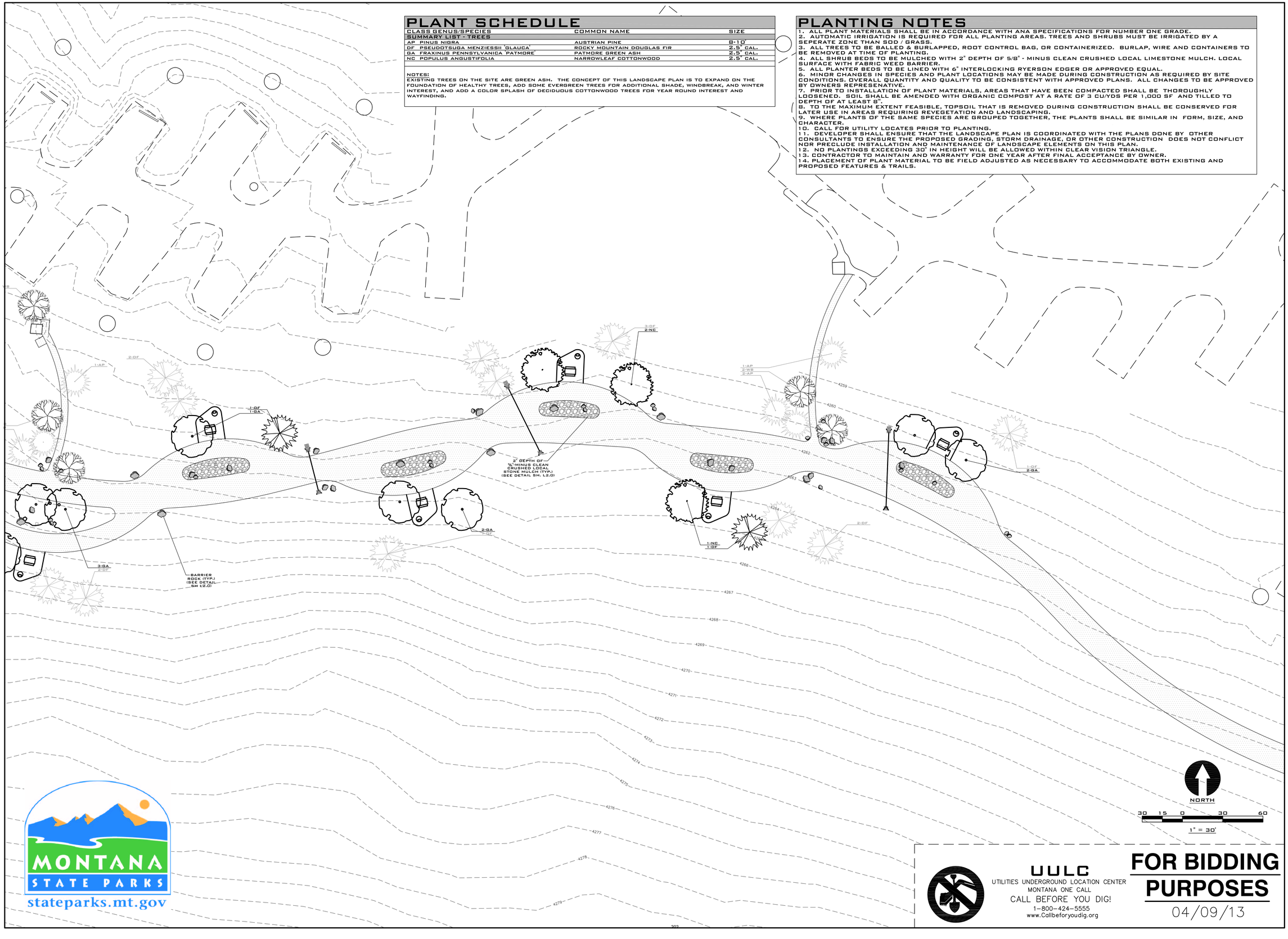
PLANT SCHEDULE

CLASS GENUS/SPECIES	COMMON NAME	SIZE
SUMMARY LIST - TREES		
AP PINUS NIGRA	AUSTRIAN PINE	8-10'
DF PSEUDOTSUGA MENZIESSII 'GLAUCA'	ROCKY MOUNTAIN DOUGLAS FIR	2.5" CAL.
GA FRAXINUS PENNSYLVANICA 'PATMORE'	PATMORE GREEN ASH	2.5" CAL.
NC POPULUS ANGUSTIFOLIA	NARROWLEAF COTTONWOOD	2.5" CAL.

NOTES:
EXISTING TREES ON THE SITE ARE GREEN ASH. THE CONCEPT OF THIS LANDSCAPE PLAN IS TO EXPAND ON THE FOUNDATION OF HEALTHY TREES, ADD SOME EVERGREEN TREES FOR ADDITIONAL SHADE, WINDBREAK, AND WINTER INTEREST, AND ADD A COLOR SPLASH OF DECIDUOUS COTTONWOOD TREES FOR YEAR ROUND INTEREST AND WAYFINDING.

PLANTING NOTES

1. ALL PLANT MATERIALS SHALL BE IN ACCORDANCE WITH ANA SPECIFICATIONS FOR NUMBER ONE GRADE.
2. AUTOMATIC IRRIGATION IS REQUIRED FOR ALL PLANTING AREAS. TREES AND SHRUBS MUST BE IRRIGATED BY A SEPERATE ZONE THAN SOD / GRASS.
3. ALL TREES TO BE BALLED & BURLAPPED, ROOT CONTROL BAG, OR CONTAINERIZED. BURLAP, WIRE AND CONTAINERS TO BE REMOVED AT TIME OF PLANTING.
4. ALL SHRUB BEDS TO BE MULCHED WITH 2" DEPTH OF 5/8" - MINUS CLEAN CRUSHED LOCAL LIMESTONE MULCH. LOCAL SURFACE WITH FABRIC WEED BARRIER.
5. ALL PLANTER BEDS TO BE LINED WITH 6" INTERLOCKING RYERSON EDGER OR APPROVED EQUAL.
6. MINOR CHANGES IN SPECIES AND PLANT LOCATIONS MAY BE MADE DURING CONSTRUCTION AS REQUIRED BY SITE CONDITIONS. OVERALL QUANTITY AND QUALITY TO BE CONSISTENT WITH APPROVED PLANS. ALL CHANGES TO BE APPROVED BY OWNERS REPRESENATIVE.
7. PRIOR TO INSTALLATION OF PLANT MATERIALS, AREAS THAT HAVE BEEN COMPACTED SHALL BE THOROUGHLY LOOSENED. SOIL SHALL BE AMENDED WITH ORGANIC COMPOST AT A RATE OF 3 CU/YDS PER 1,000 SF AND TILLED TO DEPTH OF AT LEAST 8".
8. TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION SHALL BE CONSERVED FOR LATER USE IN AREAS REQUIRING REVEGETATION AND LANDSCAPING.
9. WHERE PLANTS OF THE SAME SPECIES ARE GROUPED TOGETHER, THE PLANTS SHALL BE SIMILAR IN FORM, SIZE, AND CHARACTER.
10. CALL FOR UTILITY LOCATES PRIOR TO PLANTING.
11. DEVELOPER SHALL ENSURE THAT THE LANDSCAPE PLAN IS COORDINATED WITH THE PLANS DONE BY OTHER CONSULTANTS TO ENSURE THE PROPOSED GRADING, STORM DRAINAGE, OR OTHER CONSTRUCTION DOES NOT CONFLICT NOR PRECLUDE INSTALLATION AND MAINTENANCE OF LANDSCAPE ELEMENTS ON THIS PLAN.
12. NO PLANTINGS EXCEEDING 30" IN HEIGHT WILL BE ALLOWED WITHIN CLEAR VISION TRIANGLE.
13. CONTRACTOR TO MAINTAIN AND WARRANTY FOR ONE YEAR AFTER FINAL ACCEPTANCE BY OWNER.
14. PLACEMENT OF PLANT MATERIAL TO BE FIELD ADJUSTED AS NECESSARY TO ACCOMMODATE BOTH EXISTING AND PROPOSED FEATURES & TRAILS.



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MONTANA REGISTERED LANDSCAPE ARCHITECT

L1.1
PLANTING PLAN

COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

PLANTING PLAN - EAST

C.A.D. PAP
DATE: 3/21/13
REVISIONS:
APPROVED BY:
QUALITY ASSURANCE:

SCALE:
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET ____ OF ____

PLANT SCHEDULE

CLASS GENUS/SPECIES	COMMON NAME	SIZE
SUMMARY LIST - TREES		
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DF PSEUDOTSUGA MENZIESSII 'GLAUCA'	ROCKY MOUNTAIN DOUGLAS FIR	2.5" CAL.
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6. MINOR CHANGES IN SPECIES AND PLANT LOCATIONS MAY BE MADE DURING CONSTRUCTION AS REQUIRED BY SITE CONDITIONS. OVERALL QUANTITY AND QUALITY TO BE CONSISTENT WITH APPROVED PLANS. ALL CHANGES TO BE APPROVED BY OWNERS REPRESENATIVE.
7. PRIOR TO INSTALLATION OF PLANT MATERIALS, AREAS THAT HAVE BEEN COMPACTED SHALL BE THOROUGHLY LOOSENED. SOIL SHALL BE AMENDED WITH ORGANIC COMPOST AT A RATE OF 3 CU/YDS PER 1,000 SF AND TILLED TO DEPTH OF AT LEAST 8".
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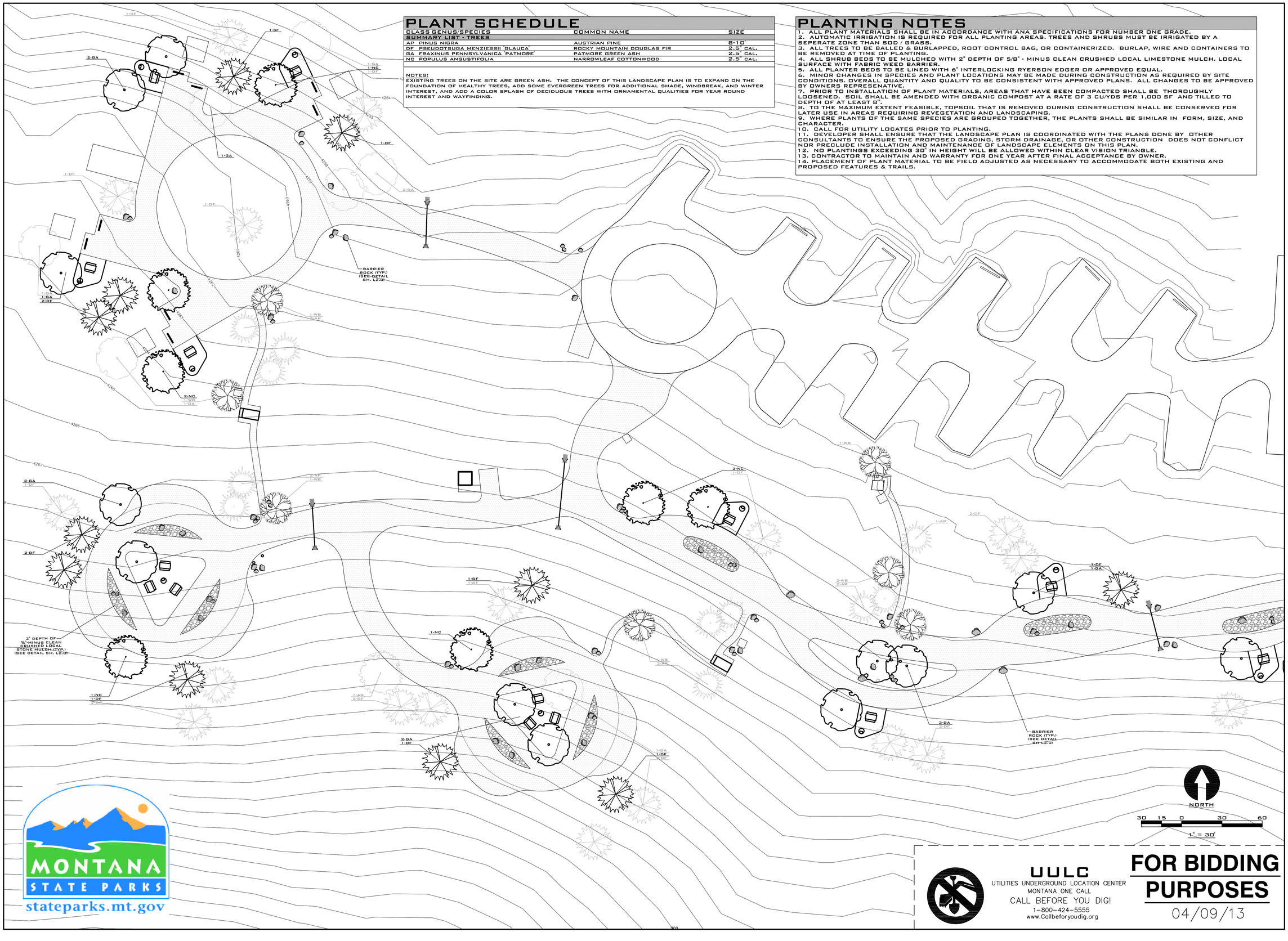

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MONTANA REGISTERED LANDSCAPE ARCHITECT

L1.2
PLANTING PLAN

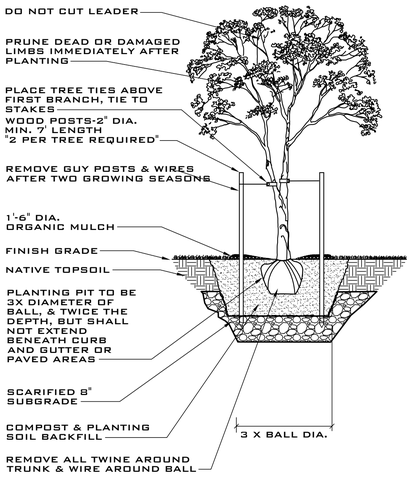
COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

PLANTING PLAN - WEST

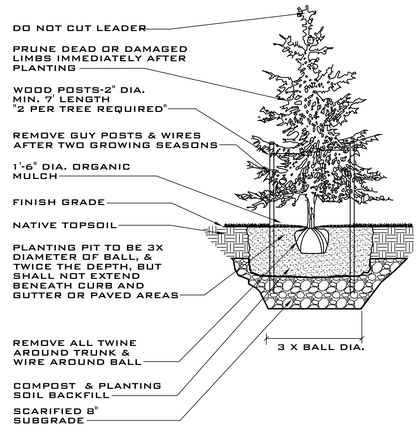
C.A.D. PAP
DATE: 3/21/13
REVISIONS:
APPROVED BY:
QUALITY ASSURANCE:

SCALE:
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET ____ OF ____

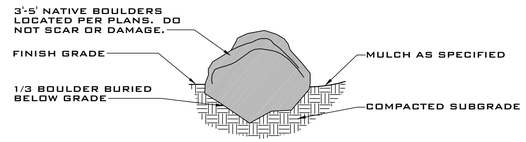
NOTES:
TREE PROTECTION FENCING TO BE INSTALLED FOR EACH TREE OR CLUSTER. FABRIC TREE PROTECTION FENCING SHALL BE A MINIMUM 5' TALL, AND EARTH TONE IN COLOR, AND ERECTED AT THE EDGE OF THE CRITICAL ROOT ZONE. SUPPORT POSTS FOR THE FENCE SHALL BE DRIVEN 2' MINIMUM INTO THE GROUND AND SPACED NO MORE THAN 10' APART.



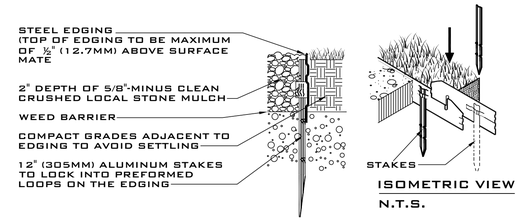
1 DECIDUOUS TREE
N.T.S.



2 CONIFEROUS TREE
N.T.S.



3 BARRIER ROCK PLACEMENT
N.T.S.



4 STONE MULCH/EDGING DETAIL
N.T.S.

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MONTANA REGISTERED LANDSCAPE ARCHITECT

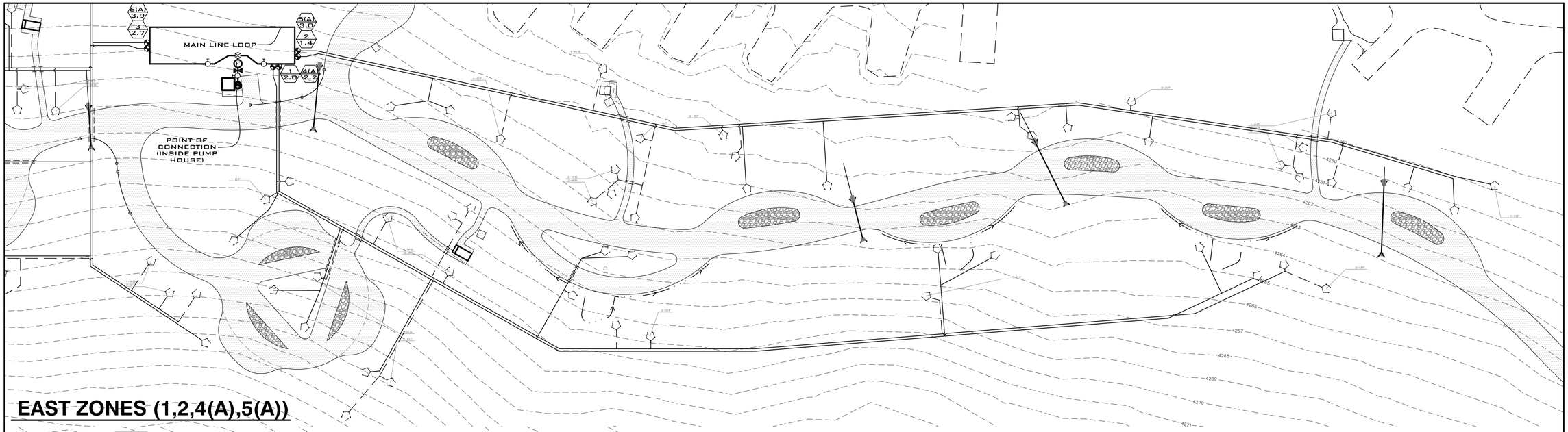
L2.0
PLANTING DETAILS

COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

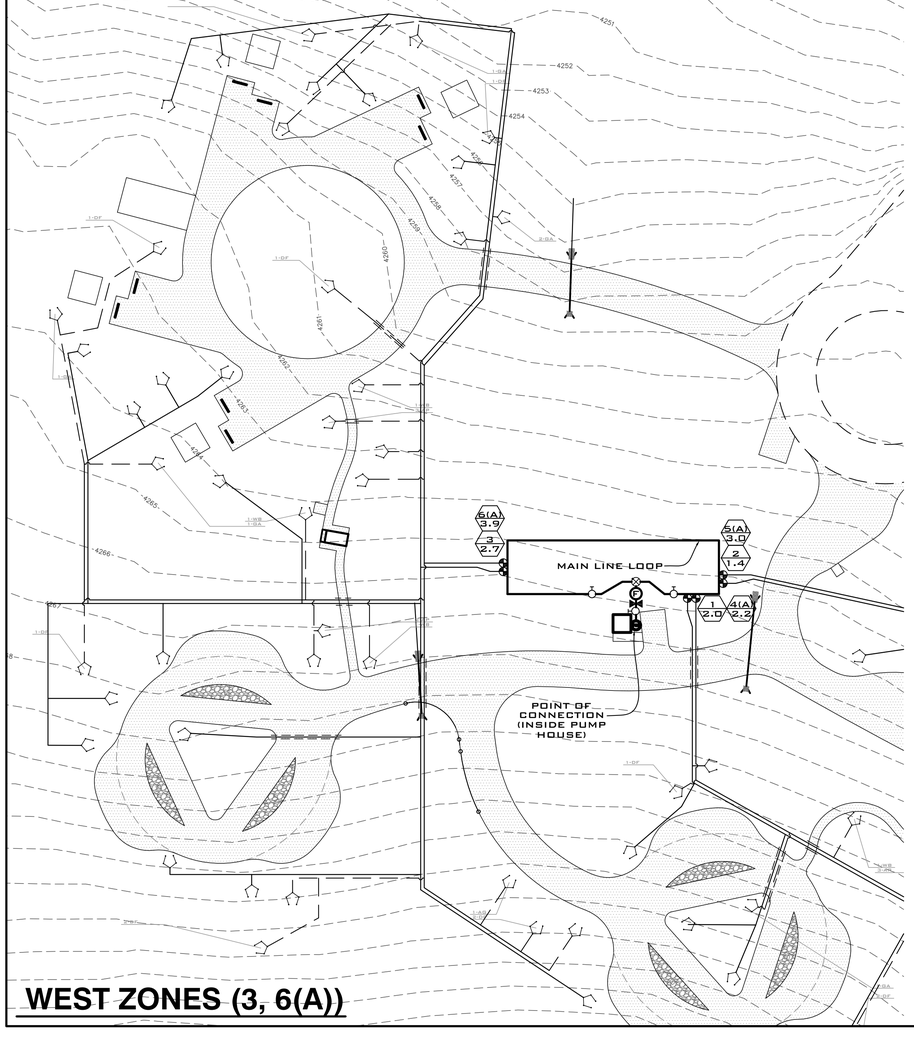
PLANTING DETAILS

C.A.D. PAP
DATE: 3/21/13
REVISIONS:
APPROVED BY:
QUALITY ASSURANCE:

SCALE:
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET ____ OF ____



EAST ZONES (1,2,4(A),5(A))



WEST ZONES (3, 6(A))

IRRIGATION NOTES

1. Irrigation well and mainline locations to be determined.
2. Design systems based on the availability and pressure of water source per manufacture's recommendations for proposed irrigation components.
3. Contractor shall coordinate point of connection, location of irrigation controller and sleeve installation with Owner's Representative.
4. Irrigation pipe shall be Schedule 40 rigid PVC conforming to ASTM D-1784 and D-2241 standard specifications.
5. Contractor shall install #14 control wire from control valves to irrigation controller. Coordinate as necessary with the electrical contractor.
6. Contractor shall provide sleeving as necessary. Sleeves shall be SCH 40, min. 4". Sleeves shall be a minimum of 2 times the diameter of the irrigation pipe or combination of pipes running through them. Coordinate sleeve installation with the General Contractor. Supply one extra sleeve per sleeve location for control wires. Contractor shall bore under all existing paving for installation of sleeves as required.
7. All trees shall have 5 drip emitters spaced evenly around tree. Minimum length of funny pipe shall be 18".
8. All remote control valves, gate valves, or globe valves, unless otherwise indicated, shall be installed in valve box. Valve box to be Amtec #10-17-106 with locking green cover or approved equal.
9. Irrigation controllers shall be 117 volt input, 26.5 volt output, and shall be Hunter or approved equal.
10. Remote control valves shall be Rainbird, Hunter or approved equal and shall be manufactured for commercial applications. All valves shall be 24 volt, with epoxy-sealed solenoid coil and throttling stem.
11. Irrigation systems shall be installed in strict accordance with all pertinent codes and regulations, referenced standards, and manufacture's recommendations.
12. All mainline piping shall be installed with minimum 18" cover. All lateral lines shall be installed with minimum 14" cover.
13. Irrigation systems shall be thoroughly flushed prior to burying fittings. Contractor shall conduct a pressure test on the system at 100 PSI for two hours. Contractor shall coordinate testing with the Owner's Representative and shall correct all leaks and retest until accepted by the Owner's Representative.
14. Irrigation systems shall be guaranteed for a period of one year from the date of acceptance by the Owner. Should any problems develop within the time specified due to inferior work or faulty materials or workmanship, they shall be corrected at Contractor's expense.
15. Contractor shall provide system startup and system winterization through the guarantee period for both systems.
16. Contractor shall provide cleanup of site to the satisfaction of the Owner and provide system orientation to the Owner/Owner's Representative.
17. This irrigation system assumes well production at 4-6 GPM at the 1" point of connection and dynamic pressure at 25 PSI. Contractor to verify pressure and flow on site prior to construction.
18. Drawings are diagrammatic in nature. Therefore, the following should be noted:
    - Although irrigation components may be shown outside of planting areas for clarity, install irrigation pipe, wiring, valves, etc. in efficient manner within boundaries.
    - Tree location shown on landscape plans take precedence over irrigation equipment and line locations. Avoid conflicts between the irrigation system, plant materials, and structures.
    - Use only standard tees and elbow fittings.

LEGEND

SYMBOL	DESCRIPTION	SIZE	MANUF.	MODEL NUMBER	NOTES
	BACKFLOW PREVENTION VALVE	LINE SIZE	HUNTER	PGV-ASV	OR APPROVED EQUAL
	GATE VALVE	LINE SIZE			OR APPROVED EQUAL
	ELECTRIC CONTROL VALVE	LINE SIZE	HUNTER	ICV SERIES	OR APPROVED EQUAL
	PRESSURE REGULATOR	LINE SIZE	HUNTER	ICZ-101-25	OR APPROVED EQUAL
	IRRIGATION MAIN - PVC	1"		SCHEDULE 40 PVC	OR APPROVED EQUAL
	BASE BID LATERAL LINE - PVC SLEEVES	1"		SCHEDULE 40 PVC	OR APPROVED EQUAL
	ADD. ALT. EMITTER LINE/EMITTERS	1"		SCHEDULE 40 PVC	OR APPROVED EQUAL
	DRIP EMITTERS (5 PER TREE)	2 GPH			OR APPROVED EQUAL
	SCREEN FILTER	1"	HUNTER	HY100	OR APPROVED EQUAL
	POINT OF CONNECTION				

X - ZONE NUMBER
X.X - GALLONS PER MINUTE

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NORTH

40 20 0 40 80
1" = 40'

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MONTANA REGISTERED LANDSCAPE ARCHITECT

L3.0
IRRIGATION PLAN

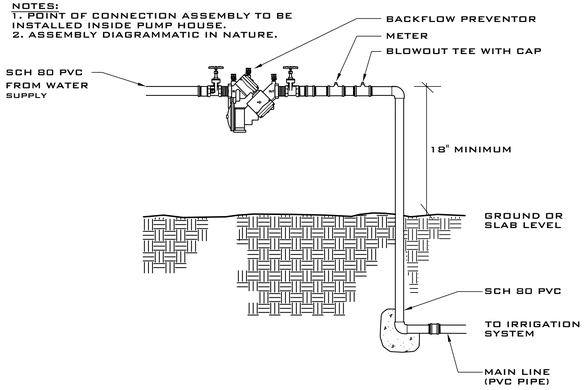
COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

IRRIGATION PLAN

C.A.D. PAP
DATE: 3/21/13
REVISIONS:
APPROVED BY:
QUALITY ASSURANCE:

SCALE:
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET ____ OF ____

NOTES:
1. POINT OF CONNECTION ASSEMBLY TO BE INSTALLED INSIDE PUMP HOUSE.
2. ASSEMBLY DIAGRAMMATIC IN NATURE.

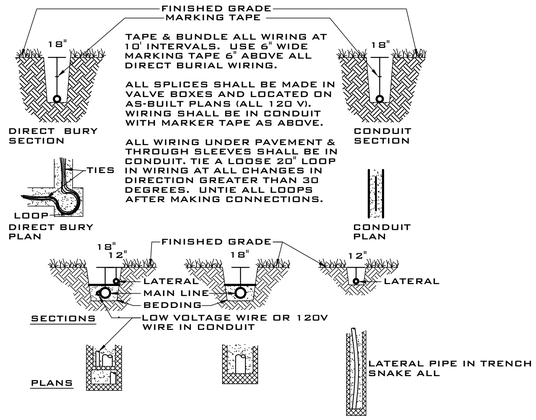


1 POINT OF CONNECTION
N.T.S.

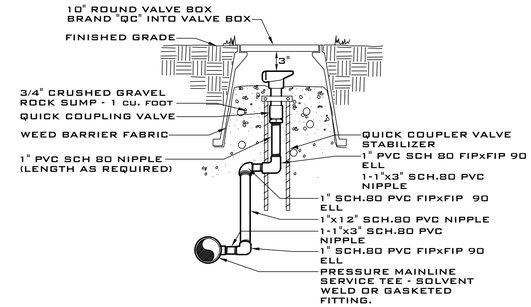
TAPE & BUNDLE ALL WIRING AT 10' INTERVALS. USE 6" WIDE MARKING TAPE 6" ABOVE ALL DIRECT BURIAL WIRING.

ALL SPLICES SHALL BE MADE IN VALVE BOXES AND LOCATED ON AS-BUILT PLANS (ALL 120 V). WIRING SHALL BE IN CONDUIT WITH MARKER TAPE AS ABOVE.

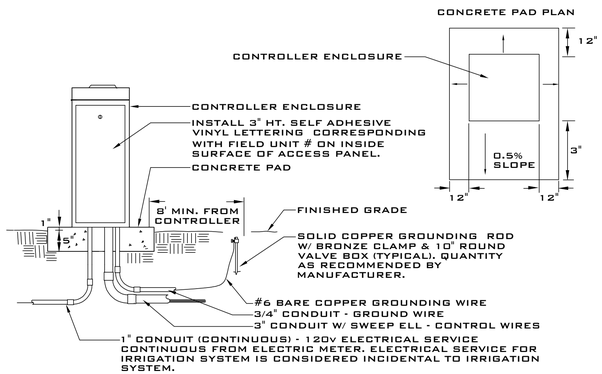
ALL WIRING UNDER PAVEMENT & THROUGH SLEEVES SHALL BE IN CONDUIT. TIE A LOOSE 20" LOOP IN WIRING AT ALL CHANGES IN DIRECTION GREATER THAN 30 DEGREES. UNTIE ALL LOOPS AFTER MAKING CONNECTIONS.



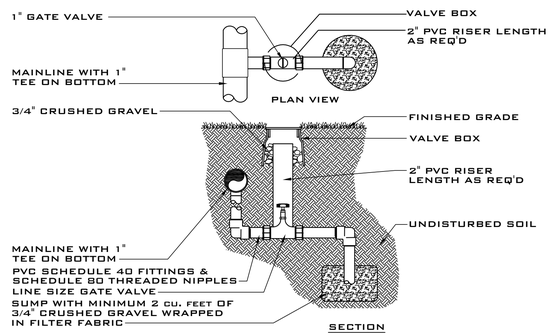
2 TRENCHING DETAILS
N.T.S.



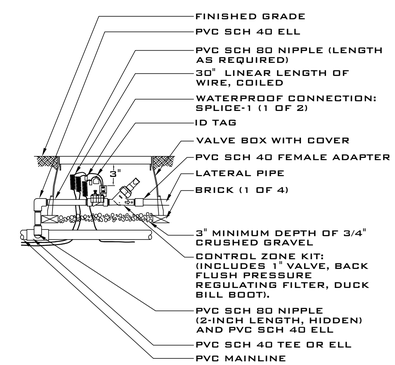
3 QUICK COUPLER VALVE
N.T.S.



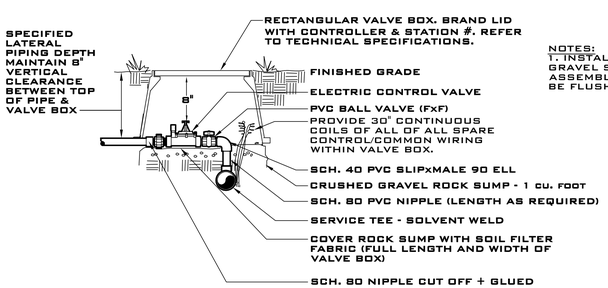
4 CONTROLLER WITH PAD
N.T.S.



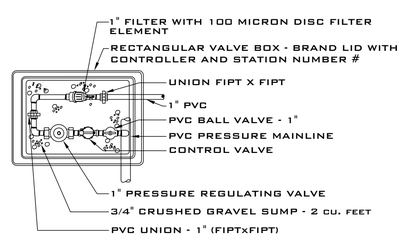
5 MANUAL DRAIN DETAIL
N.T.S.



6 1" DRIP ZONE KIT
N.T.S.

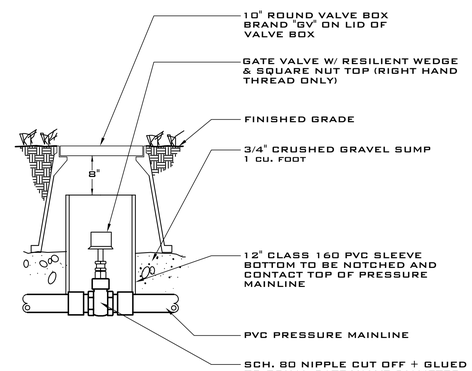


NOTES:
1. INSTALL ASSEMBLY TO REST ON GRAVEL SUMP. CONTAIN ENTIRE ASSEMBLY WITHIN BOX. VALVE BOX TO BE FLUSH WITH FINISH GRADE.



NOTES:
1. DIAMETERS OF PVC FITTINGS AND RISER SHALL EQUAL ELECTRIC CONTROL VALVE DIAMETER.
2. VALVE BOXES SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO ADJACENT SIDEWALKS AND HARD SURFACES WHERE APPLICABLE.
3. PROVIDE 4' MIN. SEPARATION BETWEEN ALL BOXES.

7 ELECTRIC CONTROL VALVE
N.T.S.



8 GATE VALVE SMALLER THAN 3"
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MONTANA REGISTERED LANDSCAPE ARCHITECT

L4.0
IRRIG. DETAILS

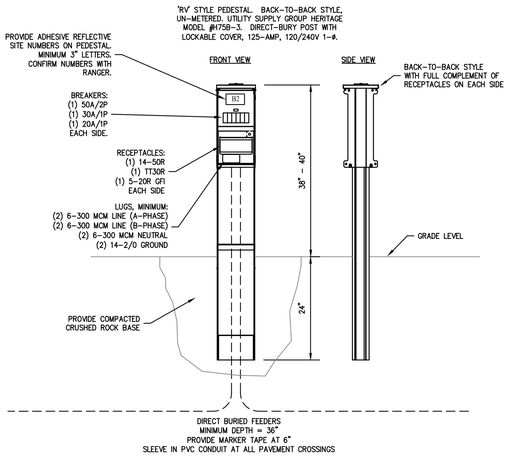
COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

IRRIGATION DETAILS

MONTANA STATE PARKS
stateparks.mt.gov

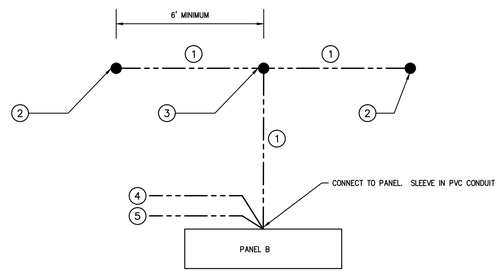
C.A.D. PAP
DATE: 3/21/13
REVISIONS:
APPROVED BY:
QUALITY ASSURANCE:

SCALE:
FILE: COONEY_BASE
PROJECT NO.: 07056.01
SHEET ____ OF ____

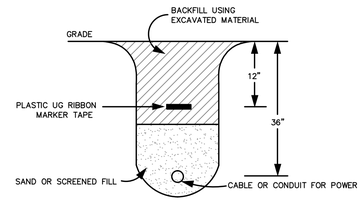


1/E1 RV PEDESTAL DETAILS
NO SCALE

1. #2/0 GROUND WIRE BURIED AT 30"
2. 10' LONG, 5/8" ø COPPERBONDED GROUND ROD (ERITECH #615800 OR EQUAL) AND CADWELD GROUND ROD CONNECTOR (ERITECH TYPE GR OR EQUAL). TOP OF ROD TO BE BELOW FINISHED GRADE.
3. 10' LONG, 5/8" ø COPPERBONDED GROUND ROD (ERITECH #615800 OR EQUAL) AND CADWELD GROUND ROD CONNECTOR (ERITECH TYPE NT OR EQUAL). TOP OF ROD TO BE BELOW FINISHED GRADE.
4. #4 TO UFER GROUND IN PUMPHOUSE FOUNDATION.
5. #2/0 GROUND TO WATER LINE (IF METALLIC) AND TO BUILDING STEEL (IF AVAILABLE)

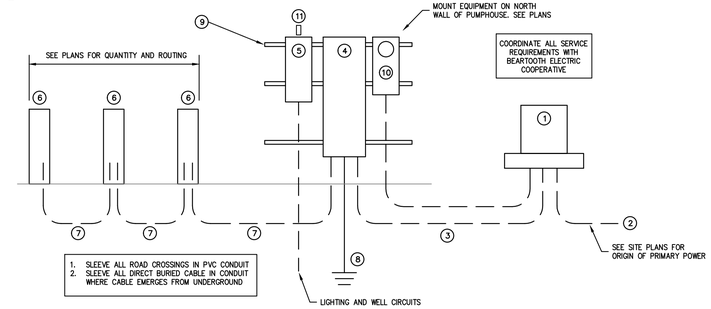


2/E1 NEW ELECTRICAL SERVICE PANEL B GROUNDING DETAIL
NO SCALE



3/E1 TRENCH DETAIL
NO SCALE

1. UTILITY TRANSFORMER & POLYMER PAD, BY UTILITY.
2. PRIMARY CABLE BY UTILITY.
3. TWO 3" PVC CONDUITS WITH THREE #350 MCM CU CONDUCTORS. ALSO PROVIDE 1" CONDUIT FROM TRANSFORMER TO METER BASE. UTILITY CT'S LOCATED IN TRANSFORMER.
4. 600-AMP NEMA 3R 120/240V 1-ø PANEL 'B', 600A MCB – SEE PANEL SCHEDULE, THIS SHEET.
5. 100-AMP NEMA 3R 120/240V 1-ø MLO PANEL 'B1' SEE PANEL SCHEDULE, THIS SHEET. CONNECT TO PANEL B WITH THREE #6, #8 GROUND, 1" EMT CONDUIT.
6. RV PEDESTAL, SEE 1/E1.
7. DIRECT-BURIED WIRE. PROVIDE SEPARATE GROUND WIRE. SEE PLANS FOR WIRE SIZES.
8. SEE DETAIL 2/E1.
9. PROVIDE GALVANIZED UNISTRUT ON SIDE OF PUMPHOUSE TO SUPPORT EQUIPMENT AND CONDUIT. PROVIDE BACKING AND SUPPORT AS REQUIRED.
10. METER BASE. COORDINATE REQUIREMENTS WITH UTILITY.
11. PHOTOCELL. METAL ENCLOSURE. CONNECT TO LATRINE LIGHTING CIRCUITS.



4/E1 SCHEMATIC - NEW ELECTRICAL SERVICE PANELS
NO SCALE

PROVIDE TRANSIENT VOLTAGE SURGE SUPPRESSION PER SPECIFICATION 16470.

Panel	ROOM	VOLTS 240/120V 2P 3W	AIC 10,000
B	MOUNTING SURFACE	BUS AMPS 600	MAIN BKR 600
	FED FROM UTILITY	NEUTRAL 100%	LUGS STANDARD
	NOTE NEMA 3R		

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	175/2	34.6	PEDESTALS	a	2	60/2	4.68	PANEL B1
3	|			b	4	|		
5	175/2	34.6	PEDESTALS	a	6	100/2	0	SPACE
7	|			b	8	|		
9	175/2	34.6	PEDESTALS	a	10	100/2	0	SPACE
11	|			b	12	|		
13	100/2	0	SPACE	a	14	100/2	0	SPACE
15	|			b	16	|		

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	2	2.5	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	2.5	3.13	(125%)	HEATING	0	0	(100%)
OTHER MOTORS	0	0	(100%)	NONCONTINUOUS	104	104	(100%)
RECEPTACLES	0.18	0.18	(50%>10)	KITCHEN EQUIP	0	0	(N/A)
				NONCOIN/DIVERSE	0	0	(N/A)
				TOTAL KVA	108	110	

BALANCED PHASE AMPS 457

PHASE BALANCE PERCENT: PHASE A 101% PHASE B 99.2%

Panel	ROOM	VOLTS 240/120V 2P 3W	AIC 10,000
B1	MOUNTING SURFACE	BUS AMPS 100	MAIN BKR MLO
	FED FROM B	NEUTRAL 100%	LUGS STANDARD
	NOTE NEMA 3R		

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1.5	LATRINE LIGHTING	a	2	20/2	2.5	WELL PUMP
3	20/1	0.68	P'HOUSE LIGHT & RECEP	b	4	|		
5	20/1	0	SPARE	a	6	20/1	0	SPARE
7	20/1	0	SPARE	b	8	20/1	0	SPARE
9	20/1	0	SPARE	a	10	20/1	0	SPARE
11	20/1	0	SPARE	b	12	20/1	0	SPARE
13	20/1	0	SPARE	a	14	20/1	0	SPARE
15	20/1	0	SPARE	b	16	20/1	0	SPARE
17	20/1	0	SPARE	a	18	20/1	0	SPARE

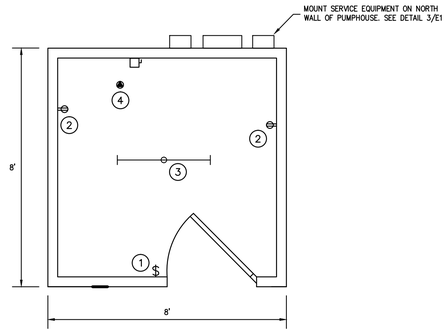
	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	2	2.5	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	2.5	3.13	(125%)	HEATING	0	0	(100%)
OTHER MOTORS	0	0	(100%)	NONCONTINUOUS	0	0	(100%)
RECEPTACLES	0.18	0.18	(50%>10)	KITCHEN EQUIP	0	0	(N/A)
				NONCOIN/DIVERSE	0	0	(N/A)
				TOTAL KVA	4.68	5.81	

BALANCED PHASE AMPS 24.2

PHASE BALANCE PERCENT: PHASE A 118% PHASE B 82.5%

GENERAL NOTES:
1. LOCATIONS SHOWN FOR ALL DEVICES ARE SCHEMATIC. COORDINATE ALL LOCATIONS WITH EQUIPMENT INSIDE PUMPHOUSE.
2. ALL WIRING IN PUMPHOUSE SHALL BE GALVANIZED EMT. USE FLEX ONLY TO CONNECT TO EQUIPMENT.
3. USE STEEL, SURFACE-MOUNTED BOXES AND COVERS.

1. LIGHT SWITCH, 20-AMP. CONNECT LIGHT AND TO CIRCUIT B1-3.
2. 20-AMP GFI RECEPTACLE. CONNECT TO CIRCUIT B1-3. LOCATE ONE RECEPTACLE NEAR IRRIGATION CONTROLLER.
3. STRIP LIGHT, 2-LAMP, 32-WATT T8, ELECTRONIC BALLAST. PROVIDE WIREGUARD.
4. PUMP EQUIPMENT FOR 1/2 HP, 230-VOLT, 1-ø WELL PUMP, PROVIDED BY OTHERS. INSTALL PUMP CONTROL BOX AND ALL ACCESSORIES. PROVIDE ALL POWER AND CONTROL WIRING AND CONDUIT. PROVIDE NEMA 1 DISCONNECT IF NOT PROVIDED WITH CONTROLS. PROVIDE 120-VOLT CIRCUIT AND SWITCH FROM PANEL B1 FOR CONTROL VOLTAGE, IF NECESSARY.



5/E1 PUMPHOUSE DETAIL
NO SCALE

EXISTING SIEMENS TYPE P2 PANEL, 120/240 1-ø, 600-AMP MCB. PROVIDE FOUR NEW 100-AMP 2P BREAKERS.

PROVIDE NEW RV PEDESTAL CIRCUITS PER SITE PLAN.

6/E1 EXISTING ELECTRICAL SERVICE PANEL
NO SCALE

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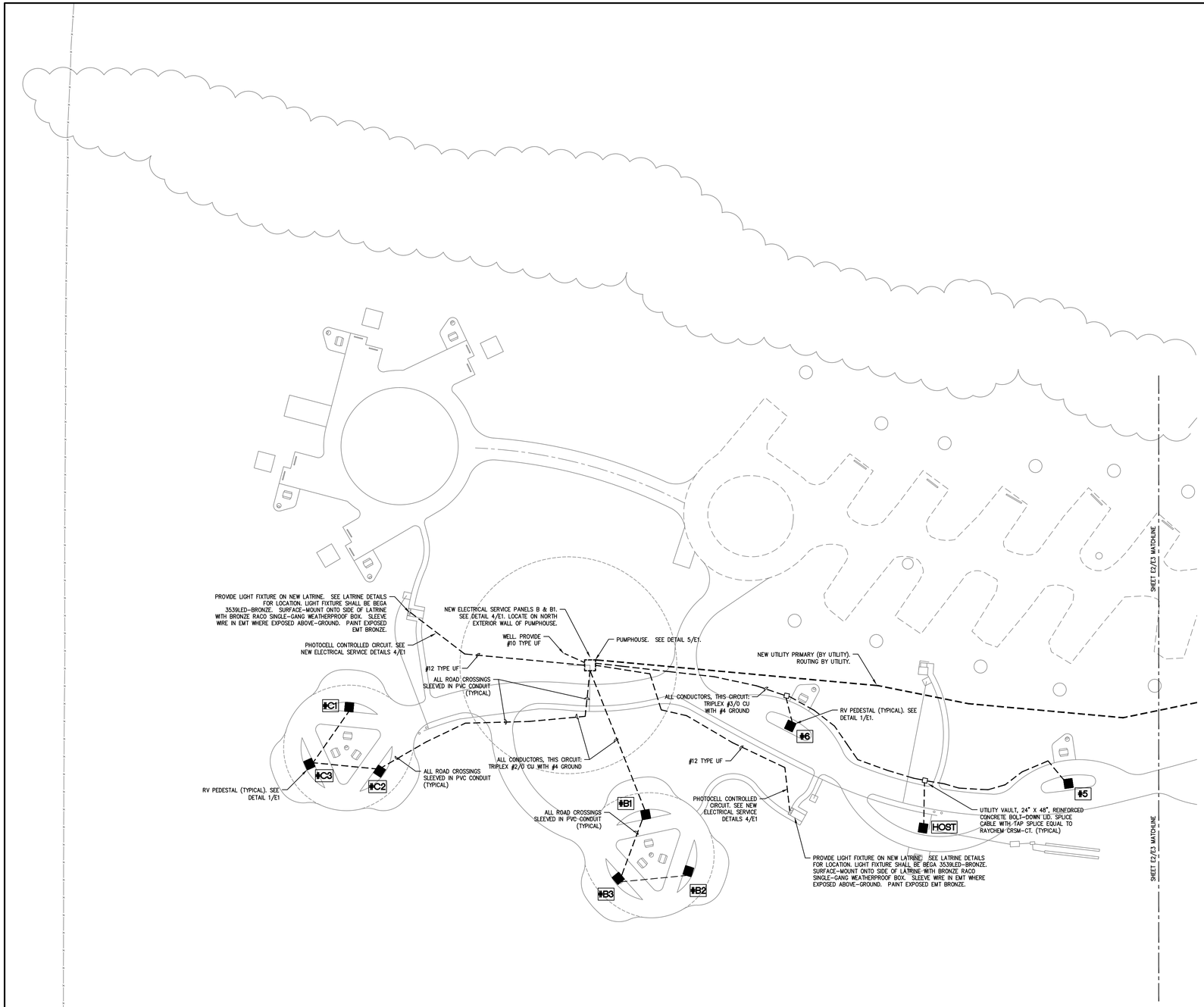
COONEY STATE PARK
EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP
CARBON COUNTY, MONTANA

ELECTRICAL LEGEND, SCHEDULES, AND DETAILS

C.A.D. RF
DATE: 4/9/13
REVISIONS:
APPROVED BY: RF
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: ELEC COVER 1
PROJECT NO.: 07056.01
SHEET E1 OF E3



1 E2 **ELECTRICAL SITE PLAN - WEST**

50 25 0 50

PLAN NORTH

MONTANA STATE PARKS

stateparks.mt.gov

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RICHARD FINN 14422PE PROFESSIONAL ENGINEER MONTANA

4/9/13

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FAX 406-259-3064

JOB NO. 12BL14043

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COONEY STATE PARK

EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP

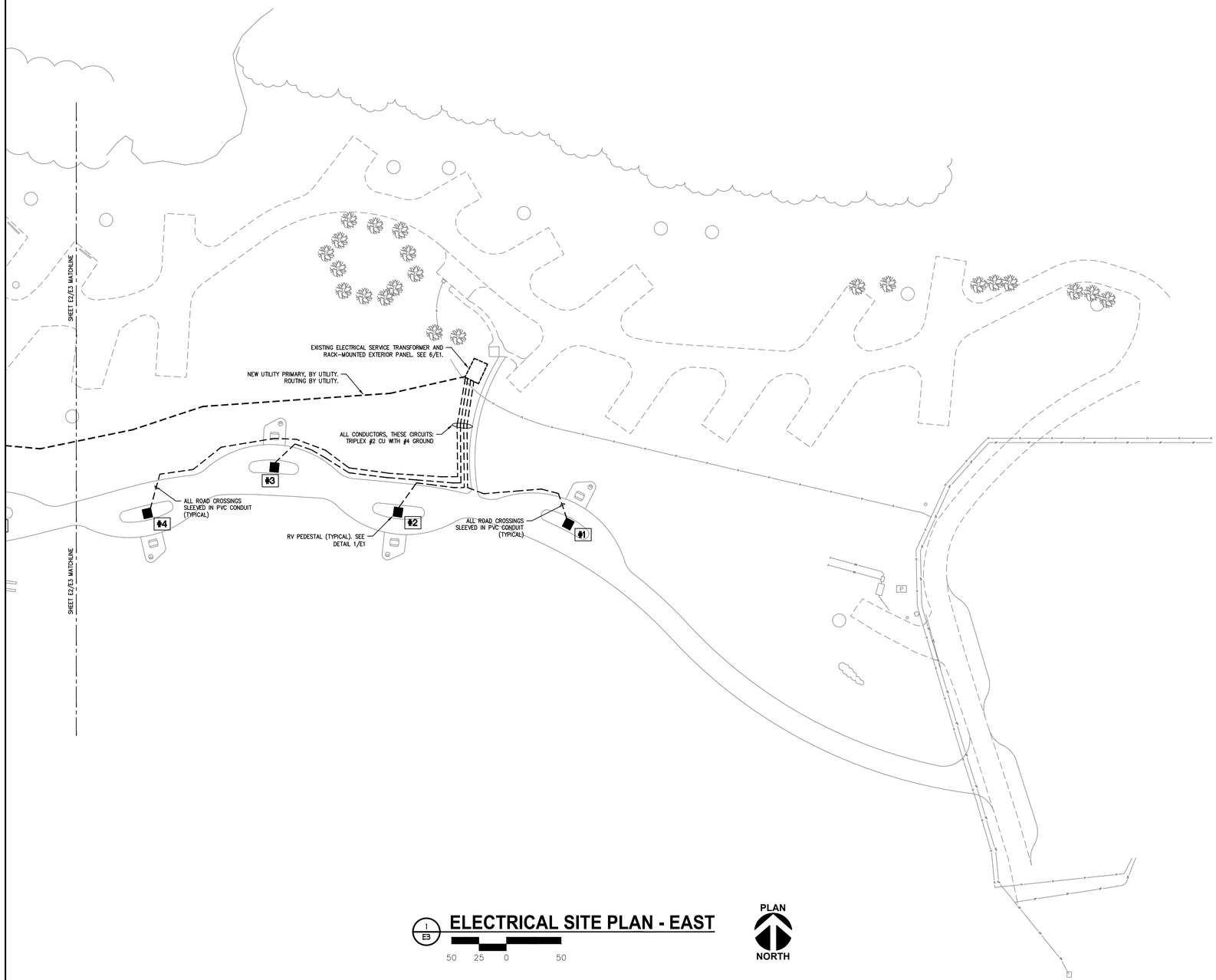
CARBON COUNTY, MONTANA

ELECTRICAL SITE PLAN – WEST

C.A.D. RF
DATE: 4/9/13
REVISIONS:

APPROVED BY: RF
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: ELEC SITE 1
PROJECT NO.: 07056.01
SHEET E2 OF E3



1 E3 **ELECTRICAL SITE PLAN - EAST**

50 25 0 50

PLAN NORTH

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COONEY STATE PARK

EXPANSION OF EXISTING RED LODGE CAMPGROUND TO INCLUDE NEW CAMP LOOP AND EXTENSION OF EXISTING CAMP LOOP

CARBON COUNTY, MONTANA

ELECTRICAL SITE PLAN – EAST

C.A.D.: RF
DATE: 4/9/13
REVISIONS:

APPROVED BY: RF
QUALITY ASSURANCE:

SCALE: SEE SHEET
FILE: ELEC SITE 1
PROJECT NO.: 07056.01
SHEET E3 OF E3