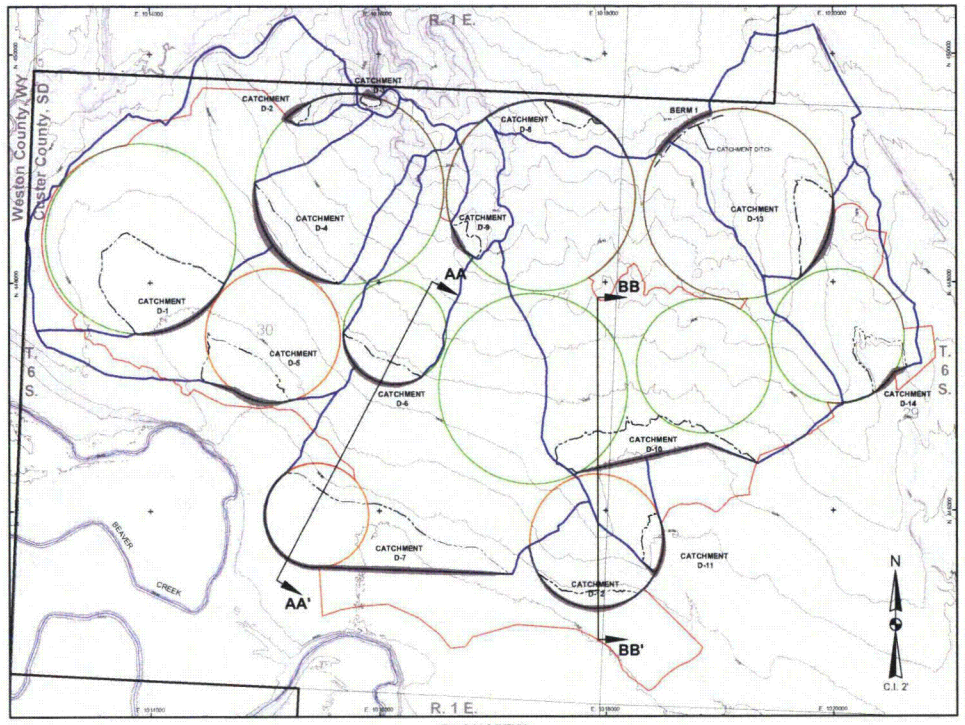
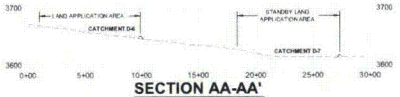


PLAN VIEW

Feet
0 250 500 1,000 1,500 2,000
0 125 250 500
Meters

LEGEND
- PERMIT BOUNDARY
- PRIMARY LAND APPLICATION AREA
- STANDBY LAND APPLICATION AREA
- DRAINAGE BOUNDARY
- GENERAL CATCHMENT BOUNDARY
- MAXIMUM WATER LEVEL
- CATCHMENT BERM FOOTPRINT

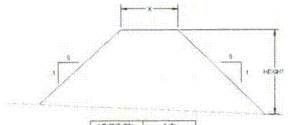


SECTION AA-AA'

SCALE: HORZ. 1" = 500', VERT. 1" = 100'

SECTION BB-BB'

SCALE: HORZ. 1" = 500', VERT. 1" = 100'



HEIGHT (FT)	X (ft)
≤6	5
6.8	15
8.10	10
>10	15

TYPICAL CATCHMENT BERM SECTION

NTS

CATCHMENT D-1 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3636.5	0.04			0.00
3640.5	0.69	0.37	0.19	0.19
3642.5	1.41	1.05	0.53	0.72
3644.0	2.32	1.86	0.83	1.55
3645.5	3.46	2.88	1.44	2.99
3647.0	5.27	4.37	2.14	5.13
3648.5	6.88	6.08	2.98	8.22
3650.0	8.84	7.87	3.84	12.16
3651.5	11.13	9.99	4.90	17.16
3654.0	13.76	12.45	6.23	23.39

CATCHMENT D-2 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3679.5	0.00			0.00
3680.0	0.04	0.02	0.01	0.01
3680.5	0.08	0.06	0.03	0.04
3681.0	0.17	0.13	0.06	0.10
3681.5	0.17	0.17	0.08	0.18
3682.0	0.23	0.20	0.10	0.27
3682.5	0.27	0.25	0.13	0.40
3683.0	0.33	0.30	0.15	0.55
3683.5	0.38	0.35	0.18	0.73
3684.0	0.44	0.41	0.21	0.94

CATCHMENT D-3 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3703.5	0.01			0.00
3704.0	0.05	0.02	0.01	0.01
3704.5	0.06	0.04	0.02	0.03
3705.0	0.07	0.06	0.03	0.06
3705.5	0.10	0.08	0.05	0.11
3706.0	0.14	0.12	0.06	0.17
3706.5	0.17	0.16	0.08	0.25
3707.0	0.20	0.19	0.10	0.35
3707.5	0.24	0.22	0.11	0.46
3708.0	0.28	0.26	0.13	0.59

CATCHMENT D-4 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3659.0	0.00			0.00
3660.0	0.19	0.10	0.10	0.10
3661.0	0.54	0.37	0.37	0.47
3662.0	1.16	0.85	0.85	1.32
3663.0	1.87	1.52	1.52	2.84
3664.0	2.65	2.26	2.26	5.10
3665.0	3.47	3.06	3.06	8.16

CATCHMENT D-5 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3631.0	0.00			0.00
3631.5	0.04	0.02	0.01	0.01
3632.0	0.23	0.14	0.07	0.08
3632.5	0.40	0.32	0.16	0.24
3633.0	0.63	0.52	0.26	0.50
3633.5	0.93	0.78	0.39	0.89
3634.0	1.43	1.18	0.59	1.48
3634.5	1.91	1.67	0.84	2.32
3635.0	2.34	2.13	1.07	3.39
3635.5	2.82	2.58	1.29	4.68
3636.0	3.39	3.11	1.56	6.24
3636.5	4.06	3.74	1.87	8.11
3637.0	4.84	4.47	2.24	10.35
3637.5	5.64	5.24	2.62	12.97

CATCHMENT D-6 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3654.0	0.00			0.00
3654.5	0.09	0.05	0.03	0.03
3655.0	0.25	0.17	0.09	0.12
3655.5	0.45	0.35	0.18	0.31
3656.0	0.79	0.62	0.32	0.63
3656.5	1.17	0.98	0.49	1.12
3657.0	1.81	1.49	0.75	1.87
3657.5	1.97	1.89	0.95	2.82
3658.0	2.27	2.12	1.06	3.88
3658.5	2.71	2.49	1.25	5.13

CATCHMENT D-7 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3618.5	0.46			0.00
3620.0	3.88	2.17	1.09	1.09
3620.5	5.49	4.69	2.36	3.44
3621.0	7.12	6.31	3.16	6.60
3621.5	9.38	8.24	4.12	10.77
3622.0	13.56	11.96	5.78	16.55
3622.5	15.36	14.46	7.23	23.78
3623.0	16.92	16.14	8.07	31.86
3623.5	18.41	17.67	8.84	40.69
3624.0	20.02	19.22	9.61	50.30
3624.5	21.12	20.57	10.29	60.59
3625.0	22.06	21.59	10.80	71.39

CATCHMENT D-8 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3700.0	0.00			0.00
3700.5	0.08	0.04	0.02	0.02
3701.0	0.13	0.11	0.05	0.07
3701.5	0.34	0.24	0.12	0.19
3702.0	0.81	0.58	0.29	0.48
3702.5	0.67	0.74	0.37	0.85
3703.0	0.83	0.75	0.38	1.23
3703.5	1.02	0.93	0.47	1.70
3704.0	1.24	1.14	0.57	2.27

CATCHMENT D-9 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3681.5	0.01			0.00
3682.0	0.05	0.03	0.02	0.02
3682.5	0.11	0.08	0.04	0.06
3683.0	0.19	0.15	0.08	0.14
3683.5	0.28	0.24	0.12	0.26
3684.0	0.42	0.35	0.18	0.44
3684.5	0.52	0.47	0.24	0.68
3685.0	0.64	0.58	0.29	0.97
3685.5	0.77	0.71	0.36	1.33
3686.0	0.94	0.86	0.43	1.76

CATCHMENT D-10 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3649.5	0.01			0.00
3650.0	0.29	0.15	0.08	0.08
3650.5	1.03	0.66	0.33	0.41
3651.0	1.77	1.40	0.70	1.11
3651.5	2.66	2.22	1.11	2.21
3652.0	3.63	3.15	1.58	3.79
3652.5	4.43	4.03	2.01	5.81
3653.0	5.09	4.76	2.38	8.19
3653.5	6.80	5.95	2.98	11.17
3654.0	8.15	7.48	3.74	14.91

CATCHMENT D-11 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3636.5	0.02			0.00
3638.0	0.19	0.10	0.05	0.05
3639.5	0.31	0.25	0.13	0.18
3640.0	0.54	0.43	0.22	0.40
3640.5	0.78	0.66	0.33	0.73
3641.0	1.02	0.90	0.45	1.17
3641.5	1.26	1.15	0.58	1.75
3642.0	1.65	1.47	0.74	2.49

CATCHMENT D-12 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3634.5	0.02			0.00
3635.0	0.09	0.06	0.03	0.03
3635.5	0.19	0.14	0.07	0.10
3636.0	0.40	0.30	0.15	0.25
3636.5	0.66	0.53	0.27	0.52
3637.0	0.88	0.77	0.39	0.91
3637.5	1.01	0.95	0.47	1.38
3638.0	1.21	1.11	0.56	1.94
3638.5	1.39	1.30	0.72	2.66
3639.0	1.61	1.50	0.75	3.41
3639.5	2.01	1.81	0.91	4.32

CATCHMENT D-13 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3661.5	0.00			0.00
3662.0	0.20	0.10	0.05	0.05
3662.5	0.43	0.32	0.16	0.21
3663.0	0.63	0.53	0.27	0.48
3663.5	0.80	0.72	0.36	0.84
3664.0	0.99	0.89	0.45	1.29
3664.5	1.16	1.08	0.54	1.83
3665.0	1.32	1.24	0.62	2.45
3665.5	1.49	1.41	0.70	3.15
3666.0	1.67	1.58	0.79	3.94
3666.5	2.31	1.99	0.99	4.93
3667.0	2.80	2.56	1.28	6.22
3667.5	3.30	3.05	1.52	7.74
3668.0	3.83	3.56	1.78	9.52
3668.5	4.38	4.11	2.06	11.58

CATCHMENT D-14 AREA CAPACITY TABLE

ELEVATION (ft)	AREA (sq)	AVG. AREA (sq)	CAPACITY (ac-ft) INCR	CAPACITY (ac-ft) ACCUM
3668.0	0.21			0.00
3668.5	0.39	0.30	0.15	0.15
3667.0	0.68	0.53	0.26	0.41
3667.5	0.79	0.73	0.36	0.78
3668.0	1.14	0.97	0.48	1.26
3668.5	1.43	1.29	0.65	1.90
3669.0	1.73	1.58	0.79	2.68
3669.5	2.03	1.88	0.94	3.62
3670.0	2.40	2.22	1.11	4.73
3670.5	2.91	2.66	1.33	6.06
3671.0	3.59	3.15	1.58	7.64

NOTES:
1. INACTIVE CAPACITY IS THE AVAILABLE STORAGE CAPACITY FOR EACH CATCHMENT AREA ALLOWING ADEQUATE FREEBOARD CAPACITY FOR THE 100-YEAR, 24-HOUR STORM RUNOFF.
2. THE GENERAL CATCHMENT BOUNDARY THAT IS SHOWN IS THE SAME AS SHOWN ON OTHER FIGURES IN THIS APPLICATION. THE ACTUAL BOUNDARY WILL VARY DEPENDING UPON THE FINAL DESIGN OF THE CATCHMENT AREAS. THE CONCEPTUAL CATCHMENT AREA DESIGN SHOWN ON THIS PLATE IS WITHIN THE GENERAL CATCHMENT BOUNDARY.

Dewey Land Application Catchment Summary

Catchment Designation	Drainage Area (sq mi)	Drainage Area (mi²)	2-Year Runoff Volume (acre-ft)	100-Year Runoff Volume (acre-ft)	Catchment Area (acres)	Catchment Capacity (acre-ft)	Catchment Height (ft)	2-Year Depth (ft)
D-1	98.41	0.16	3.04	19.16	13.76	71.38	3.8	2.0
D-2	7.85	0.00	0.33	0.82	0.46	0.94	7.3	3.0
D-3	1.38	0.00	0.22	0.55	0.28	0.58	9.3	3.0
D-4	30.26	0.05	0.85	5.30	1.47	8.26	9.0	3.0
D-5	30.18	0.05	1.32	9.76	5.64	32.97	7.5	3.3
D-6	29.01	0.05	0.95	6.10	7.71	4.93	5.6	2.5
D-7	109.98	0.18	3.04	19.53	22.06	71.38	3.8	2.0
D-8	8.17	0.01	0.19	1.22	1.26	2.17	5.4	1.5
D-9	9.28	0.01	0.19	1.22	0.94	1.76	8.0	2.0
D-10	135.43	0.21	4.60	23.68	9.87	86.39	3.7	3.0
D-11	9.93	0.02	0.38	2.44	1.65	2.89	4.8	1.5
D-12	11.84	0.02	0.38	2.44	1.03	3.17	5.0	2.0
D-13	30.60	0.05	1.32	9.76	4.38	30.61	7.5	3.0
D-14	72.45	0.00	0.65	6.10	3.19	7.64	6.3	2.0
		Total	17.64	133.20	75.80	186.95		

Notes:
1. Overflow from Catchment D-9 will be routed to Catchment D-5.
2. Overflow from Catchment D-10 will be routed to Catchment D-7.

#	DRAWN	CHECKED	APPROVED	DATE

REVISIONS

POWERTECH (USA) INC.

Plate 5.4-1
Conceptual Catchment Area Design
Dewey Land Application Area
Dewey-Burdock Project

PLOT DATE: 3 July 2012
DRAWN: DCJ
CHECKED:
DATE: 3 July 2012
XREF FILE:
CAD FILE: K:\Powertech\12001GWGIS\CATCHMENT_PONDS.dwg
COORD: NAD 27, South Dakota State Plane South (feet)