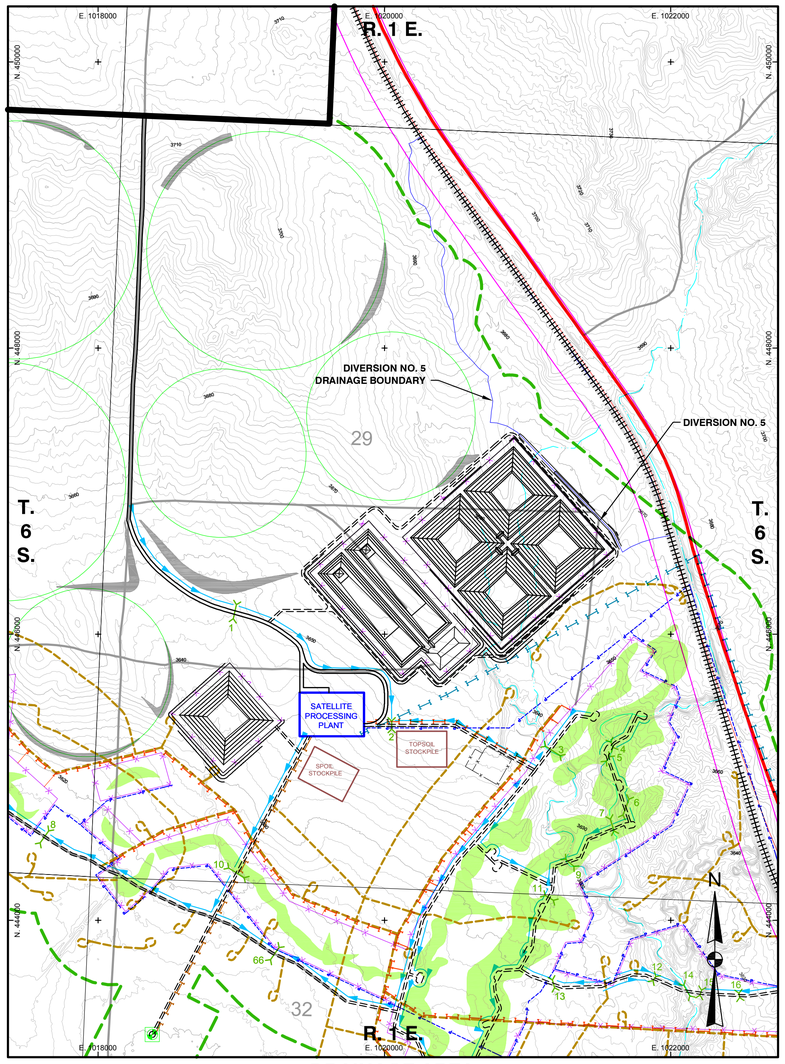
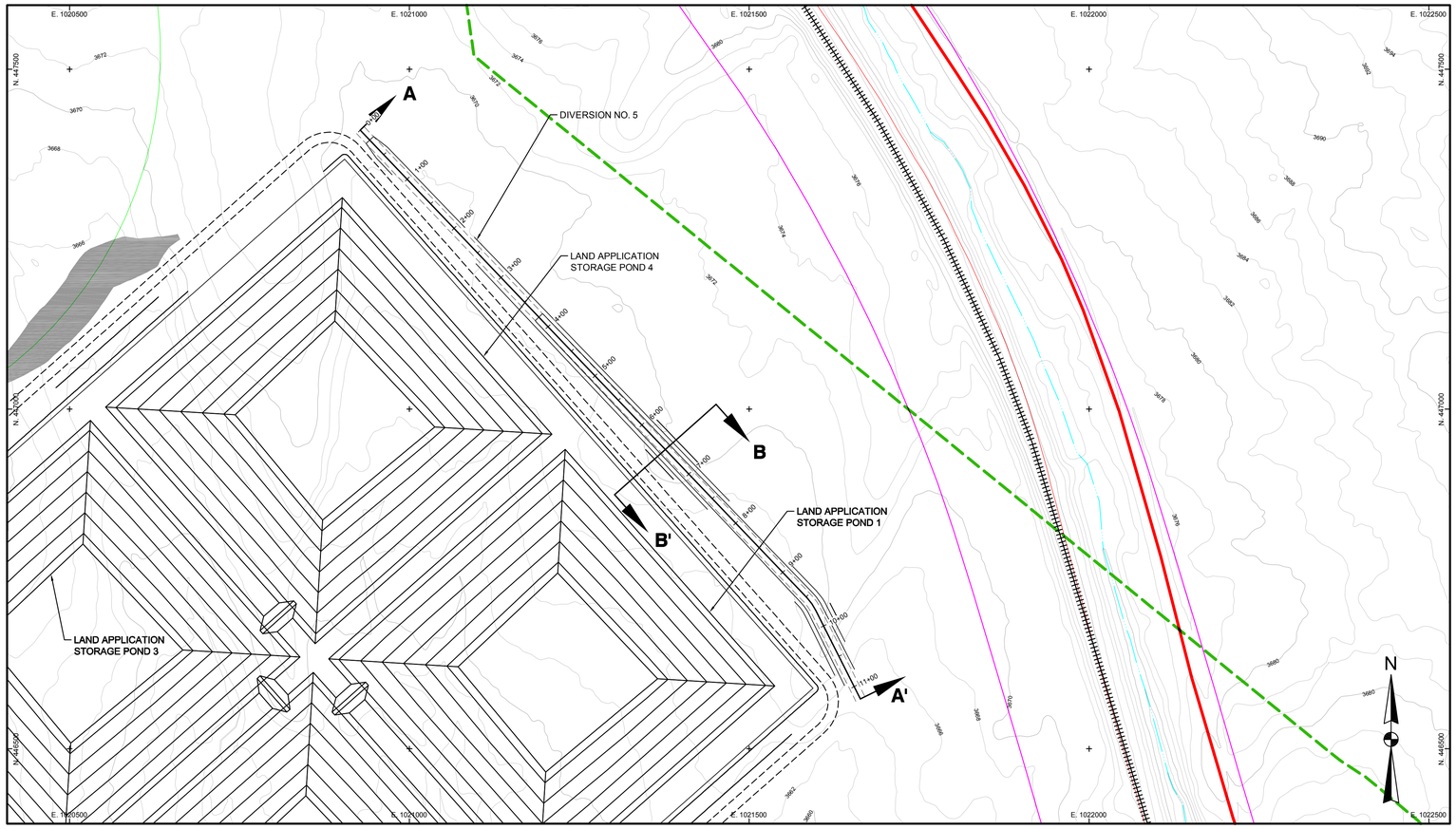
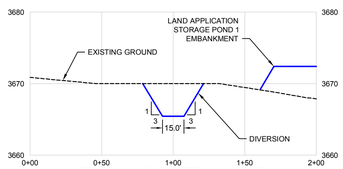


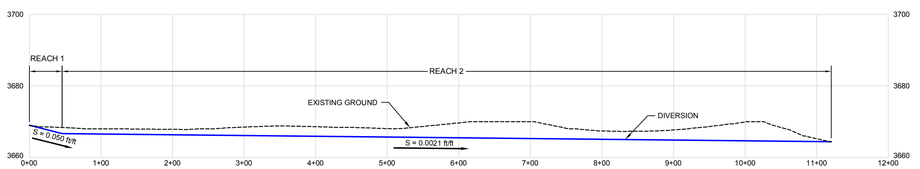
DRAINAGE AREA
SCALE: 1" = 500'
C. I. = 2'



SITE PLAN
SCALE: 1" = 100'
C. I. = VARIES



CROSS SECTION B-B'
SCALE: HORZ. 1" = 50', VERT. 1" = 10'



SECTION A-A' DIVERSION PROFILE
SCALE: HORZ. 1" = 100', VERT. 1" = 20'

DIVERSION CROSS SECTIONS

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

REACH 1

2-yr, 6-hr				100-yr, 24-hr			
Q =	8.1 cfs	A =	2.51 ft^2	Q =	62.5 cfs	A =	9.06 ft^2
n =	0.030	WP =	16.03	n =	0.030	WP =	18.45 ft
S =	0.050 ft/ft	R =	0.16 ft	S =	0.050 ft/ft	R =	0.49 ft
b =	15 ft	V =	3.22 fps	b =	15 ft	V =	6.9 fps
		Yn =	0.16 ft			Yn =	0.54 ft

REACH 2

2-yr, 6-hr				100-yr, 24-hr			
Q =	8.1 cfs	A =	6.76 ft^2	Q =	62.5 cfs	A =	25.88 ft^2
n =	0.030	WP =	17.63 ft	n =	0.030	WP =	23.58 ft
S =	0.0021 ft/ft	R =	0.38 ft	S =	0.0021 ft/ft	R =	1.10 ft
b =	15 ft	V =	1.2 fps	b =	15 ft	V =	2.41 fps
		Yn =	0.42 ft			Yn =	1.36 ft

LEGEND

- PERMIT BOUNDARY
- PROPOSED AFFECTED AREA BOUNDARY
- COUNTY ROAD
- EXISTING ROAD
- PROPOSED PRIMARY ACCESS ROAD
- PROPOSED SECONDARY ACCESS ROAD
- MAIN PIPELINE
- MADISON WELL PIPELINE
- PLANT-TO-PLANT PIPELINE
- PROPOSED LIGHT USE ROAD
- PROPOSED OVERHEAD POWER
- PROPOSED WELL FIELD FENCE
- EPHEMERAL STREAM CHANNEL
- PROPOSED ROAD DITCH
- RAILROAD
- APPROXIMATE RAILROAD RIGHT-OF-WAY
- CENTER PIVOT
- CATCHMENT BERM
- ORE BODY
- MADISON WELL
- STAGING AREA
- 3 PROPOSED CULVERT

HYDROLOGIC DESIGN STORM CALCULATIONS

SWS NO.	DRAINAGE BASIN PARAMETERS			2-YR, 6-HR STORM			100-YR, 24-HR STORM		
	DRAINAGE AREA (sq-mi)	CURVE NO. (CN)	WATERSHED LAG TIME (Min)	2-YR, 6-HR PRECIP. (in)	PEAK INFLOW (cfs)	RUNOFF VOLUME (ac-ft)	100-YR, 24-HR PRECIP. (in)	PEAK INFLOW (cfs)	RUNOFF VOLUME (ac-ft)
LA5-1	0.055	80	27.74	1.45	8.1	0.9	4.8	62.5	8.0

NOTE: RUNOFF VOLUMES AND PEAK INFLOWS WERE COMPUTED BY THE HEC-HMS COMPUTER PROGRAM USING THE SCS TYPE II RAINFALL DISTRIBUTION.

This plate is provided to fulfill the requirements of ARSD 74:29:07:09 (7).

CONSULTANT: WWC ENGINEERING

REVISIONS

#	DRAWN	CHECKED	APPROVED	DATE

REF

CHECK SCALES
If this bar does not measure 1 inch this map is not at its original scale

SIGNATURE OF PREPARER

PLOT DATE 29 March 2013 | DATE 29 March 2013

DRAWN RODNEY VENTLING | PDF FILE

PREPARER DALE E. BROWN | CAD FILE K:\Powertech\11270\DWGS\DIV-5_LA\DIV_5_EXHIBIT.dwg | COORDS NAD 27, South Dakota State Plane South (feet)

POWERTECH (USA) INC.

Plate 5.3-18

Diversion No. 5
Land Application Option

Dewey-Burdock Project

K:\Powertech\11270\DWGS\DIV-5_LA\DIV_5_EXHIBIT.dwg 3/29/2013 11:43:13 AM raven