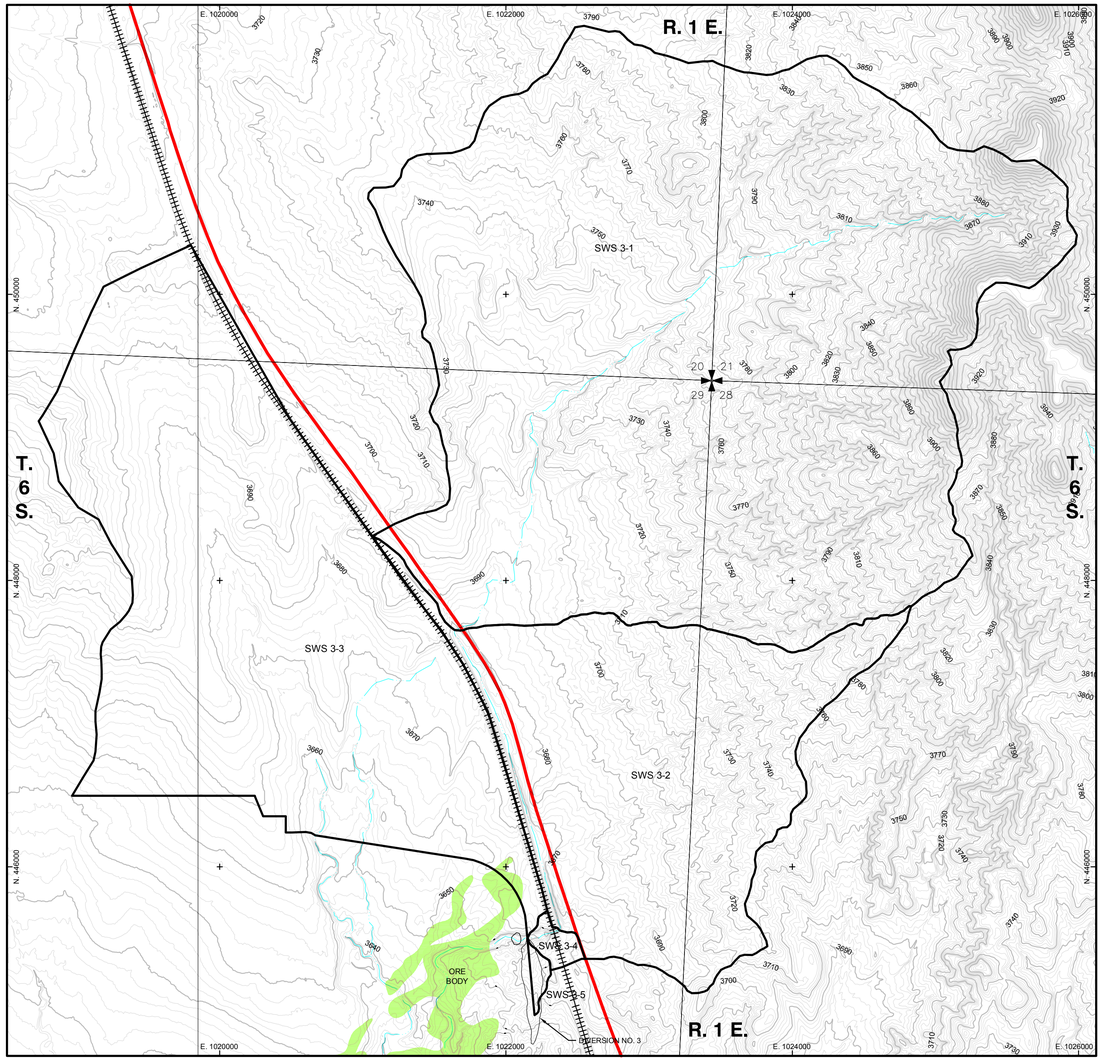
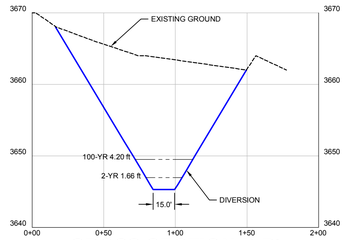


DRAINAGE AREA
SCALE: 1" = 500'

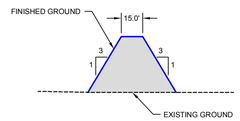


CROSS SECTION B-B'
SCALE: HORZ. 1" = 50', VERT. 1" = 10'

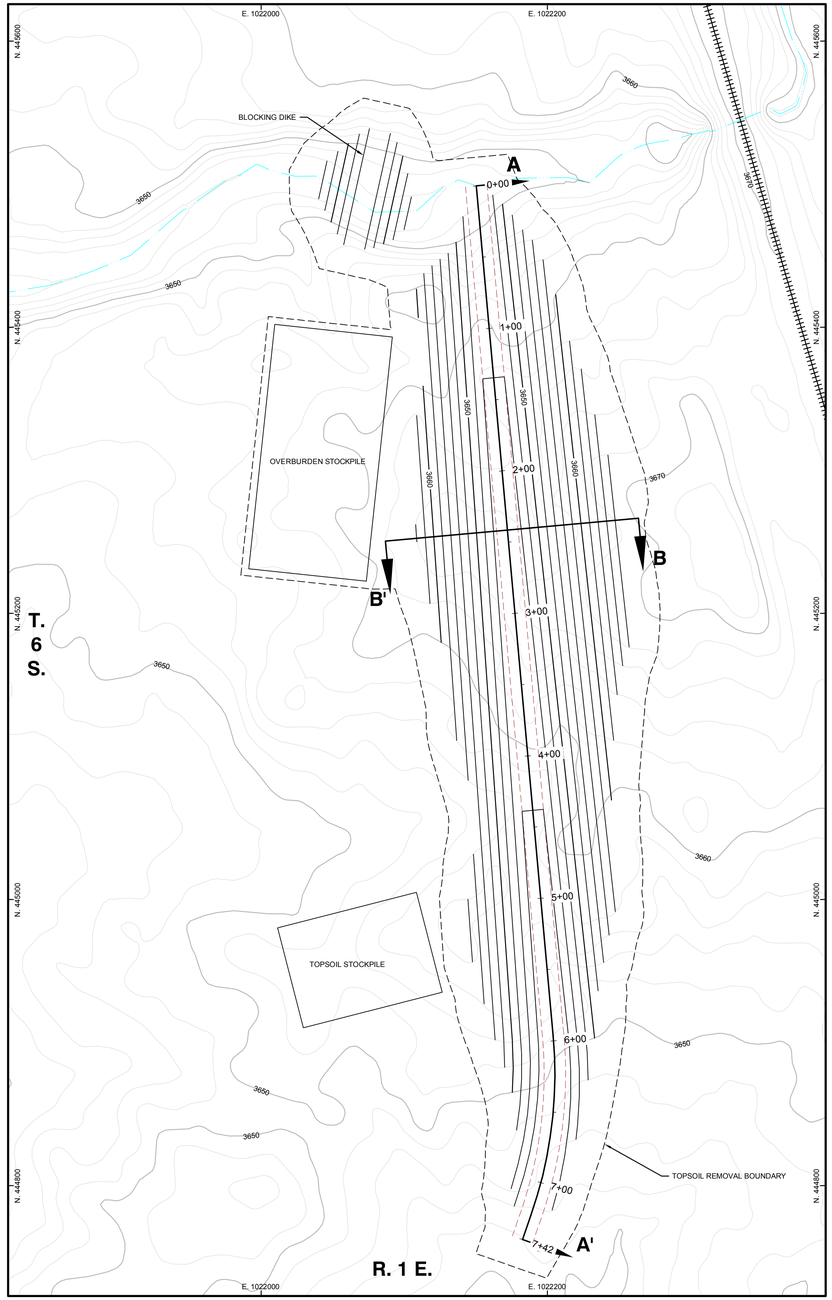
DIVERSION CROSS SECTION

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

2-yr, 6-hr				100-yr, 24-hr			
Q =	158.8 cfs	A =	33.13 ft^2	Q =	926.4 cfs	A =	116.08 ft^2
n =	0.030	WP =	25.49 ft	n =	0.030	WP =	41.59 ft
S =	0.0066 ft/ft	R =	1.30 ft	S =	0.0066 ft/ft	R =	2.79 ft
b =	15 ft	V =	4.79 fps	b =	15 ft	V =	7.98 fps
		Yn =	1.66 ft			Yn =	4.20 ft



BLOCKING DIKE CROSS SECTION
NOT TO SCALE

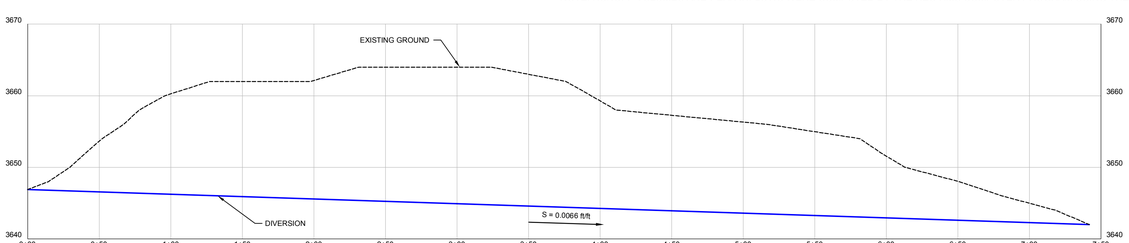


SITE PLAN
SCALE: 1" = 50'

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)
3-1	0.537	78	37.14	1.45	117.0	14.1	4.8	534.9	86.6
3-2	0.172	78	19.00	1.45	21.0	1.9	4.8	228.1	23.3
3-3	0.285	79	27.37	1.45	31.4	3.6	4.8	314.6	39.8
3-4	0.003	78	6.63	1.45	0.7	0.0	4.8	6.3	0.4
3-5	0.002	78	5.75	1.45	0.5	0.0	4.8	4.4	0.3
TOTAL	0.715	-	-	1.45	158.8	19.7	4.8	926.4	150.4

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



SECTION A-A' DIVERSION PROFILE
SCALE: HORZ. 1" = 50', VERT. 1" = 10'

LEGEND
- COUNTY ROAD
- RAILROAD
- ORE BODY

This plate is provided to fulfill the requirements of ARSD 74:29:02:11(9).

CONSULTANT: WWC ENGINEERING

REVISIONS				
#	DRAWN	CHECKED	APPROVED	DATE

SIGNATURE OF PREPARER

REF

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

PLOT DATE: 27 September 2012 | DATE: 27 September 2012
DRAWN: DAVE C. JOHNSON | PDF FILE
PREPARER: DALE E. BROWN | CAD FILE: K:\Powertech\11270\DWGS\DIV_3_EXHIBIT.dwg
COORDS: NAD 27, South Dakota State Plane South (feet)

POWERTECH (USA) INC.

Plate 5.3-11

Diversion No. 3

Dewey-Burdock Project

K:\Powertech\11270\DWGS\DIV_3_EXHIBIT.dwg 9/27/2012 11:06:01 AM dcjoh