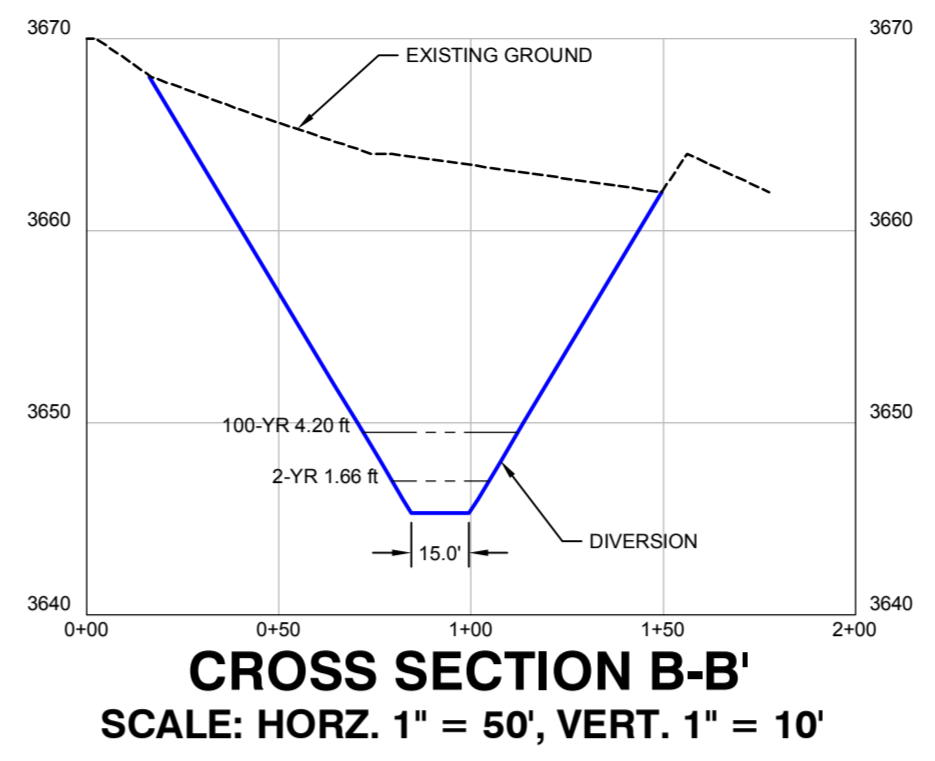


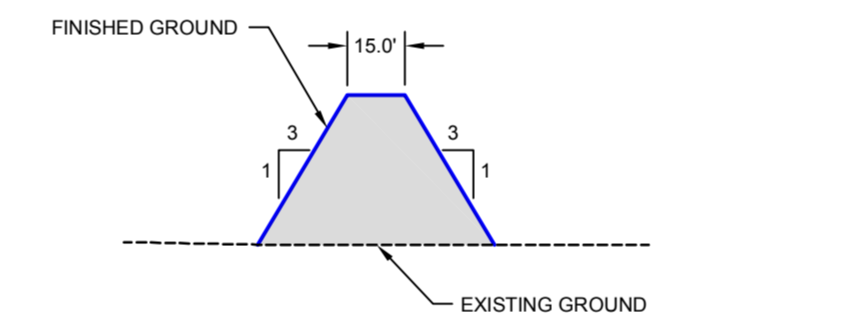
DRAINAGE AREA
SCALE: 1" = 500'



DIVERSION CROSS SECTION

$$Q = \frac{1.49}{n} AR^2 S^{1/2}$$

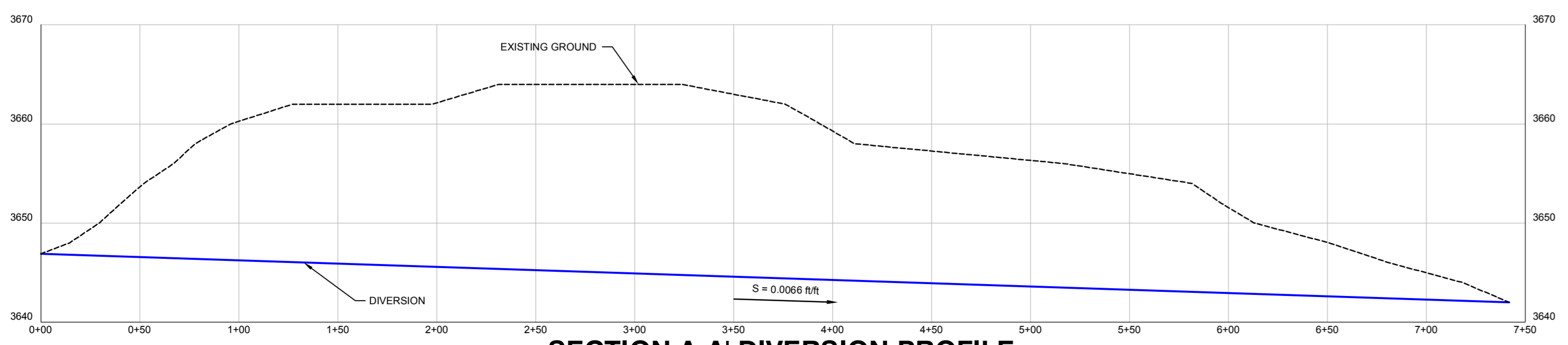
2-yr, 6-hr	A = 33.13 ft ²	100-yr, 24-hr	A = 116.08 ft ²
Q = 158.8 cfs	WP = 25.49 ft	Q = 926.4 cfs	WP = 41.59 ft
n = 0.030	R = 1.30 ft	n = 0.030	R = 2.79 ft
S = 0.0066 ft/ft	V = 4.79 fps	S = 0.0066 ft/ft	V = 7.98 fps
b = 15 ft	Yn = 1.66 ft	b = 15 ft	Yn = 4.20 ft



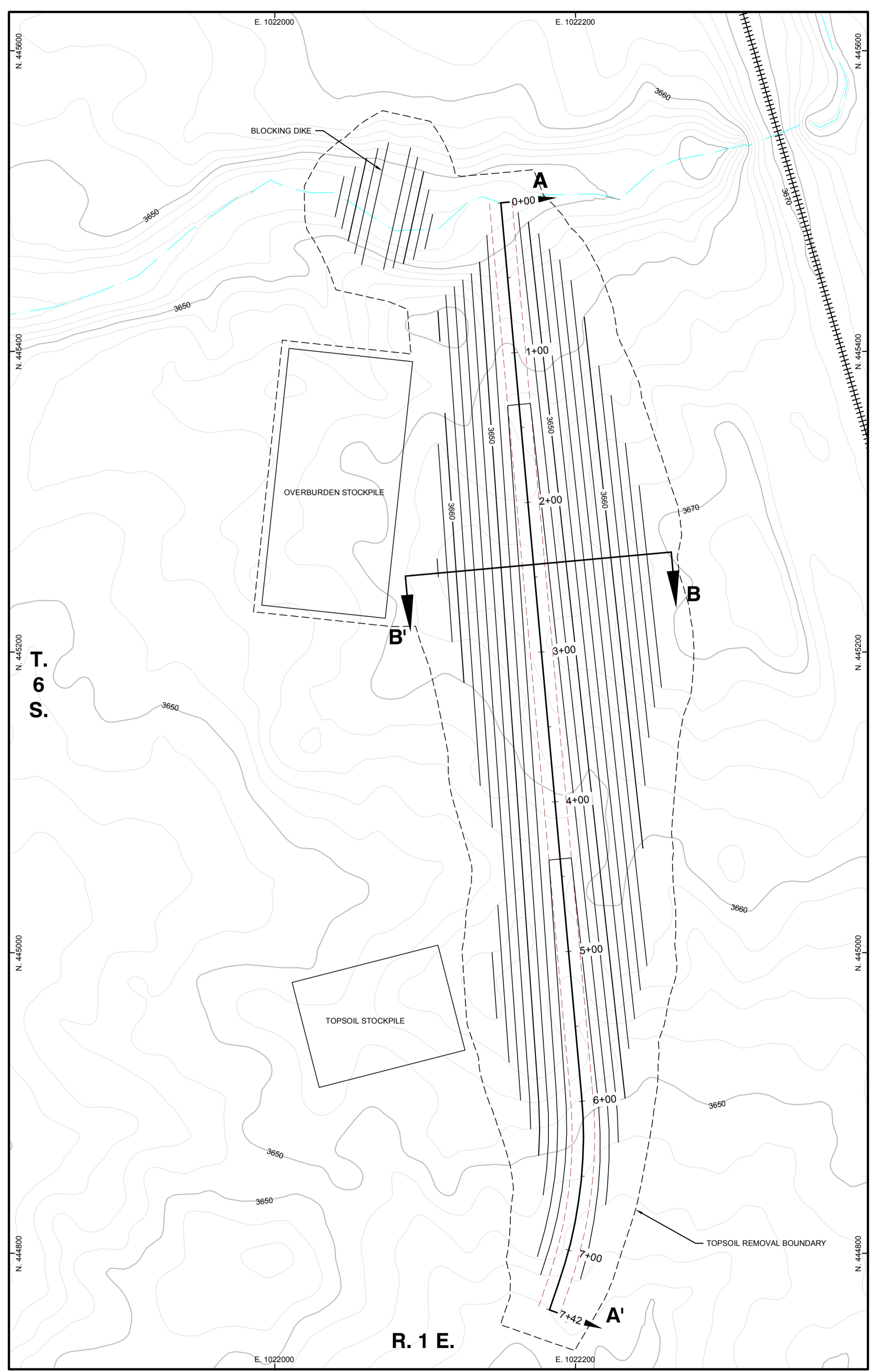
HYDROLOGIC DESIGN STORM CALCULATIONS

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.



- LEGEND**
- COUNTY ROAD
 - RAILROAD
 - ORE BODY



SITE PLAN
SCALE: 1" = 50'

This plate is provided to fulfill the requirements of ARSD 74:28:02:11(9).

CONSULTANT

REVISIONS

#	DRAWN	CHECKED	APPROVED	DATE

SIGNATURE OF PREPARER

Dale E. Brown

Powertech (USA) Inc.
Plate 5.3-11
Diversion No. 3

Dewey-Burdock Project

COORDS: NAD 27, South Dakota State Plane South (feet)

PREPARED BY: DALE E. BROWN

DATE: 27 September 2012

CAD FILE: K:\Powertech\11270\DWGS\DIV_3_EXHIBIT.dwg