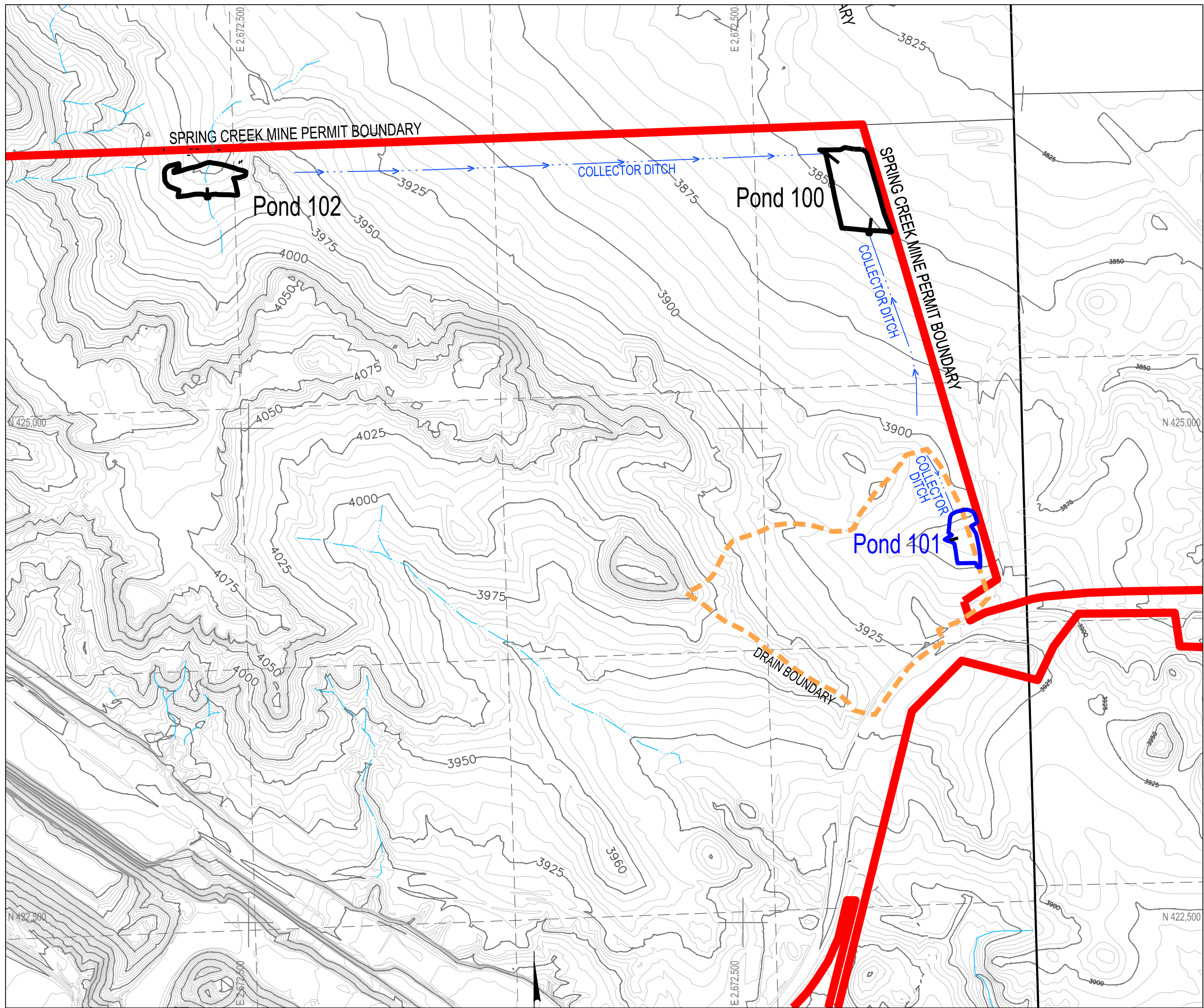
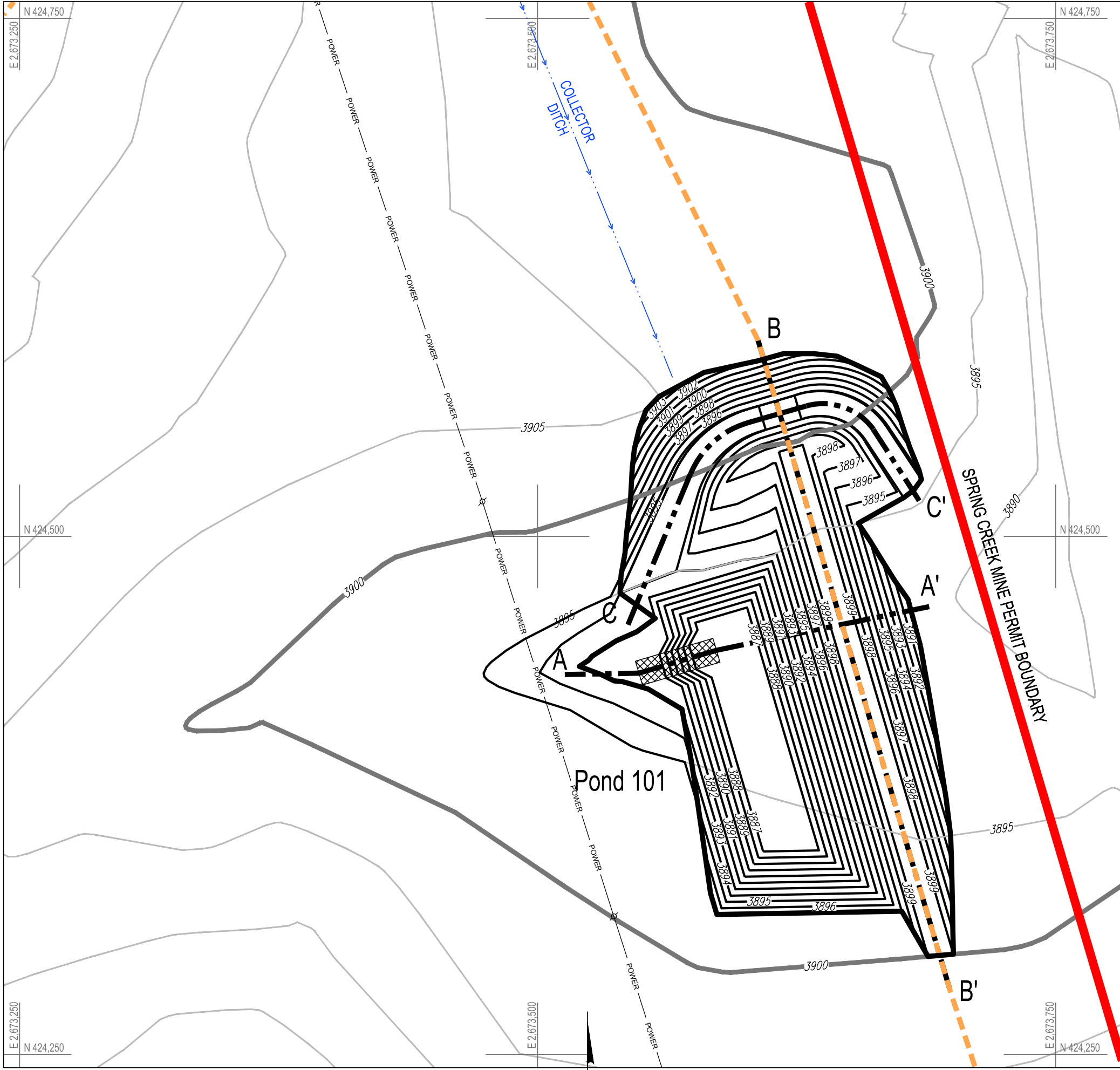
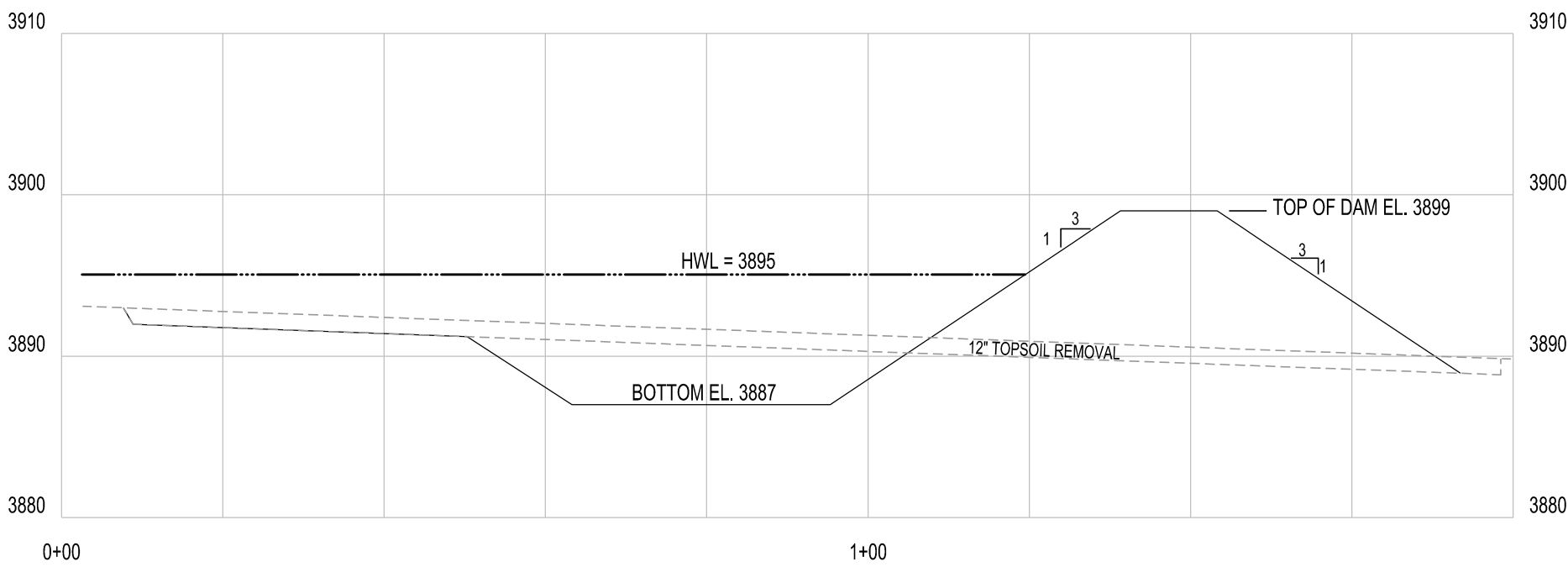




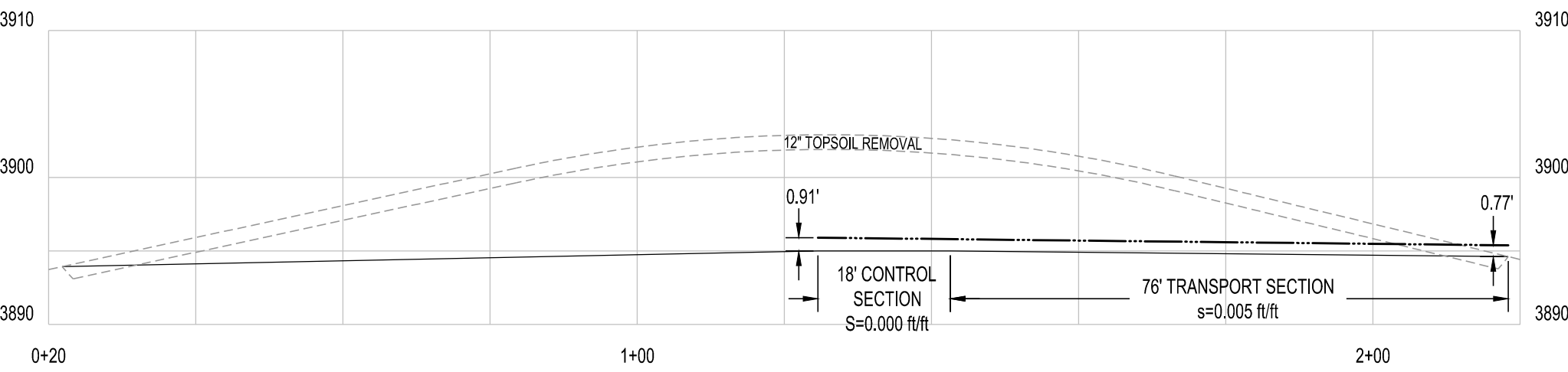
LOCATION MAP
SCALE: 1" = 500, C.I. = 5'



PLAN VIEW
SCALE: 1" = 50', C.I. = 5'



SECTION A-A'
SCALE: H: 1"=20', V: 1"=10'



SECTION C-C'
SCALE: H: 1"=20', V: 1"=10'

EMERGENCY SPILLWAY CONTROL SECTION HYDRAULICS

$$Q = CLH^3/2$$

$Q_{25-24} = 29.2$ cfs
 $C = 2.81$
 $L = 12$ ft
 $H = 0.91$ ft
 $V = 2.68$ fps

EMERGENCY SPILLWAY TRANSPORT SECTION HYDRAULICS

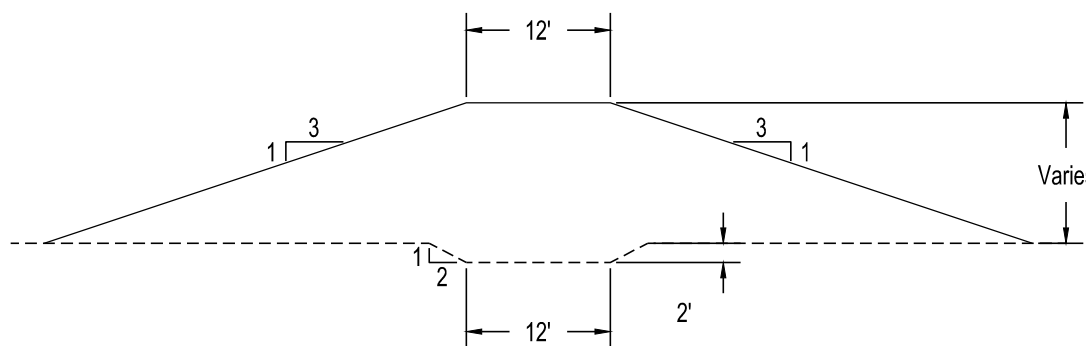
$$Q = \frac{1.49}{n} AR^{2/3} S^{1/2}$$

$Q_{25-24} = 29.2$ cfs
 $n = 0.030$
 $S = 0.005$ ft/ft
 $Z = 3$
 $b = 12$ ft
 $A = 11.06$ ft²
 $WP = 16.89$ ft
 $R = 0.65$ ft
 $V = 2.64$ fps
 $Y_n = 0.77$ ft

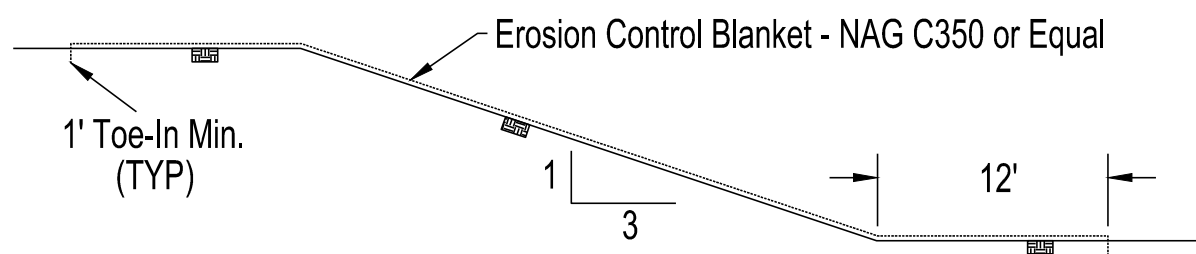
AREA CAPACITY TABLE

Elevation	Area (sf)	Area (ac)	Ave Area (ac-ft)	Incr. Cap (ac-ft)	Cum. Cap (ac-ft)
3887	3,195	0.07	0.08	0.08	0
3888	4,104	0.09	0.11	0.11	0.08
3889	5,085	0.12	0.13	0.13	0.19
3890	6,140	0.14	0.15	0.15	0.32
3891	7,268	0.17	0.18	0.18	0.47
3892	8,469	0.19	0.22	0.22	0.65
3893	10,543	0.24	0.30	0.30	0.87
3894	15,401	0.35	0.42	0.42	1.17
3895	21,473	0.49			1.59

Note: Active capacity to be used for pollution control (dust abatement)
Active capacity will be pump discharged to a water truck



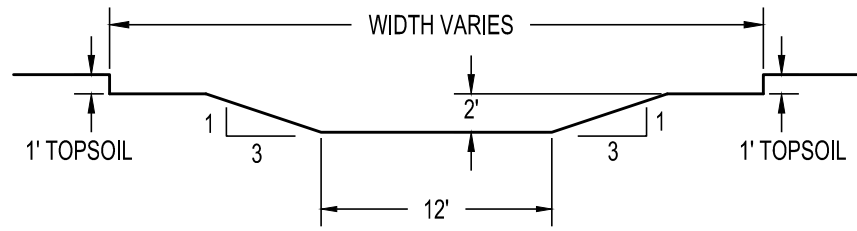
TYPICAL DAM SECTION
SCALE: 1" = 20'



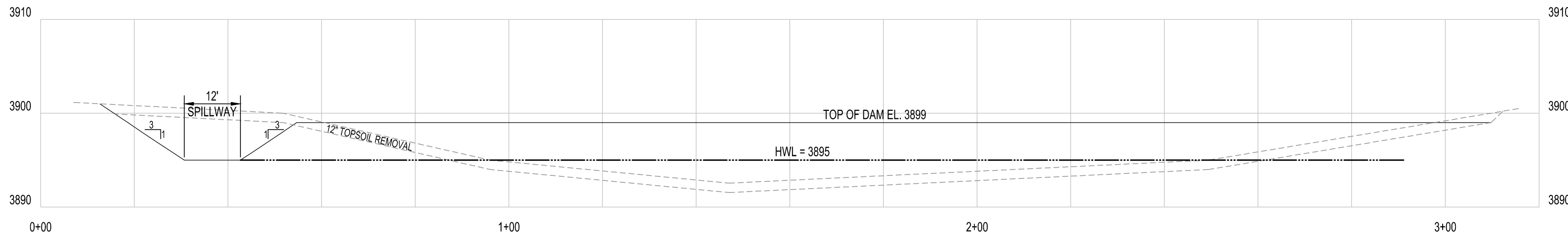
TYPICAL INLET CHANNEL PROFILE
NO SCALE



TYPICAL INLET CHANNEL SECTION
NO SCALE



TYPICAL COLLECTOR DITCH
SCALE: 1" = 10'



SECTION B-B'
SCALE: H: 1"=20', V: 1"=10'

CERTIFICATE OF ENGINEER

I, Owen Lindblom of Gillette, Wyoming, hereby certify that this map and drawings were prepared by myself or under my direct supervision using topographic maps prepared for Spring Creek Coal LLC dated 09/17 and that they correctly represent the facilities and conditions described in the accompanying application.



OWEN D. LINDBLOM, P.E. No. 36748PE

Legend

- Permit Boundary
- Drainage Boundary
- Collector Ditch
- Overhead Powerline

SEDIMENT YIELD CALCULATIONS

DISTURBED AREA (ac)	SEDIMENT VOL/AC (ac-ft)	REQUIRED STORAGE (ac-ft)
13.30	0.02	0.27

HYDROLOGIC DESIGN CALCULATIONS

HYDROLOGIC DESIGN PARAMETERS					100-YR, 24-HR STORM			25-YR, 24-HR STORM		
SOURCE AREA (sq mi)	WATERCOURSE LENGTH (mi)	ELEVATION DIFFERENCE (ft)	INFILTRATION RATE (in/hr)	CURVE NUMBER (CN)	100-YR, 24-HR PRECIPITATION (in)	PEAK INFLOW (cfs)	RUNOFF VOLUME (ac-ft)	25-YR, 24-HR PRECIPITATION (in)	PEAK INFLOW (cfs)	RUNOFF VOLUME (ac-ft)
0.037	0.284	121	0.55	77.80	3.35	45.38	1.15	2.65	29.20	0.65

NOTARY PUBLIC

SUBSCRIBED AND SWORN BEFORE ME THIS
DAY OF
NOTARY PUBLIC
RESIDING IN
MY COMMISSION EXPIRES

SPRING CREEK MINE

P.O. BOX 67
DECKER, MT 59025
(406) 757-2581



DATE	REVISION
8/28/18	Increase Capacity to Hold 100-YR, 24-HR Runoff

Sediment Control
Spring Creek Mine Pond # 101

DRAWN BY: RWC SHEET 1 OF 1 DATE: 12/04/17
SCALE: as shown FILE NUMBER: NE P4 Sediment Ponds.dwg