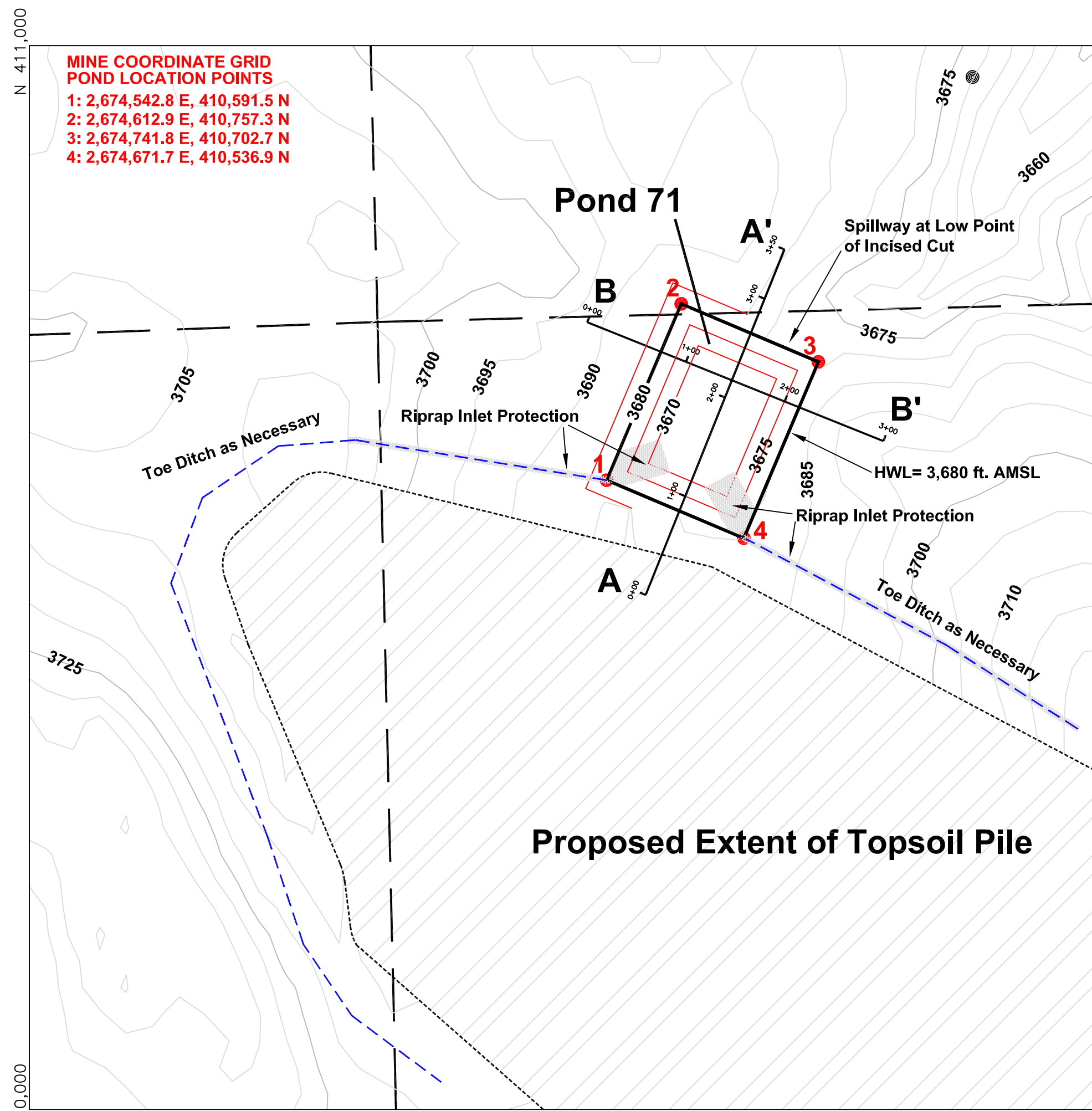


LOCATION MAP

SCALE: 1"=1,000'
C.I. = 5'



PLAN VIEW

SCALE: 1"=100'
C.I. = 5'

POND 71 DRAINAGE AREA DATA

DRAINAGE AREA = 25.5 acres
LONGEST WATERCOURSE = 2,485 ft.
RUNOFF CURVE NUMBER = 90
BASIN RELIEF = 100 ft.
SOILS = HYDROLOGIC SOILS GROUP C
VEGETATION = STRIPPED AND TOPSOIL STOCKPILE

RUNOFF ESTIMATES TO POND 71

RAINFALL DISTRIBUTION = SCS TYPE II
PRECIPITATION (10yr-24hr) = 2.19 in.
PEAK Q (10yr-24hr.) = 30.79 cfs
VOLUME (10yr-24hr.) = 2.17 ac.-ft.
PRECIPITATION (25yr-24hr) = 2.65 in.
PEAK Q (25yr-24hr.) = 40.66 cfs
VOLUME (25yr-24hr.) = 2.88 ac.-ft.
DESIGN METHOD = SCS RUNOFF CURVE #
METHOD & SCS TRIANGULAR HYDROGRAPH METHOD - SEDCAD4

POND 71 REQUIRED CAPACITY

SEDIMENT CAPACITY
(0.02 ac-ft per DISTURBED ac) = 0.51 ac-ft
25YR-24HR RUNOFF VOLUME = 2.88 ac-ft
TOTAL REQUIRED CAPACITY = 3.39 ac-ft

SPILLWAY HYDRAULICS

THIS STRUCTURE IS ENTIRELY INCISED AND HAS NO EMBANKMENT ABOVE THE HIGH WATER ELEVATION TO PROTECT.

INLET DETAILS

THIS STRUCTURE IS ENTIRELY INCISED, RUNOFF INFLOW WILL BE DIRECTED INTO THE POND VIA TOPSOIL PILE TOE DITCHES. POND INTERIOR SLOPES WILL BE RIPRAP PROTECTED AS NECESSARY WHERE TOE DITCHES DISCHARGE.

NOTES:

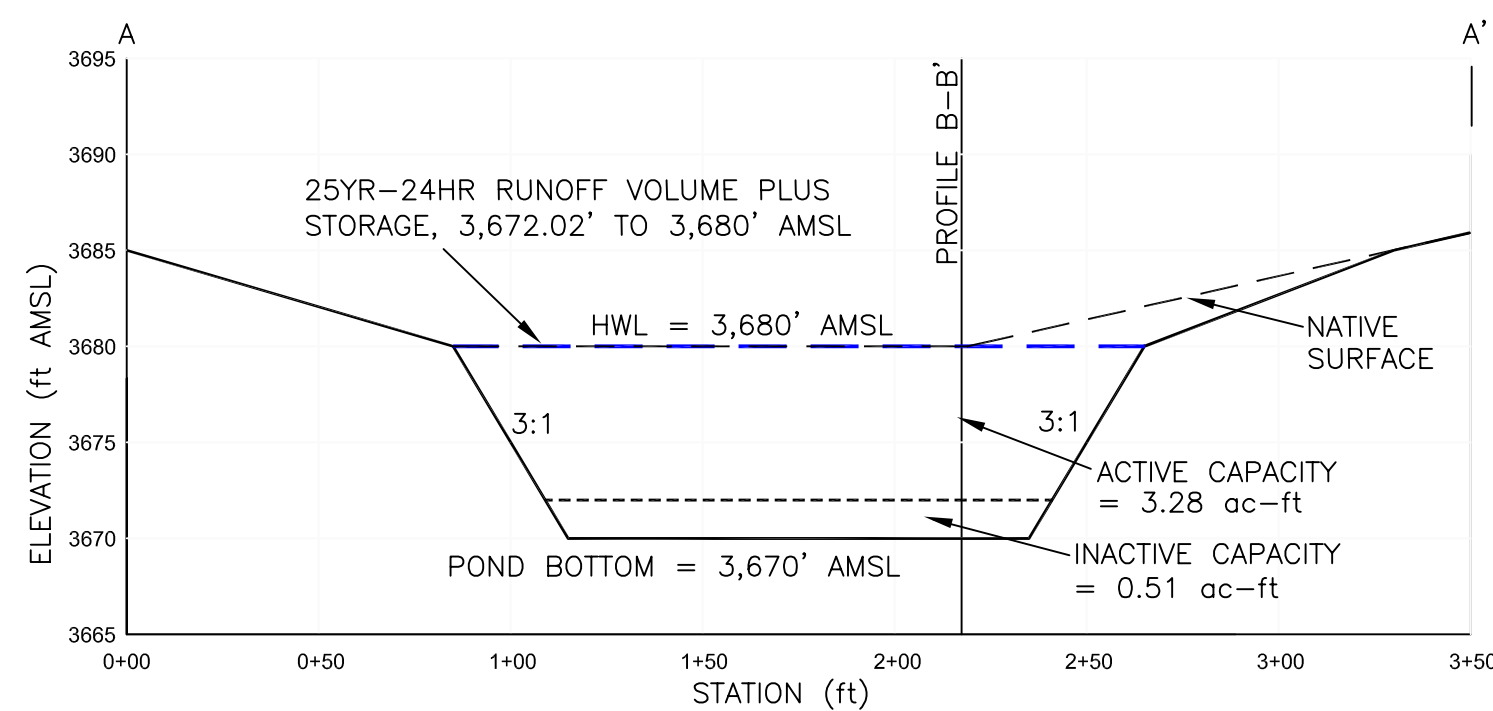
POND 71 IS LOCATED AT MINE COORDINATES 410,707 N, 2,674,731 E, PRIMARILY IN THE NW 1/4 OF THE NW 1/4 OF SECTION 31, T40E, R8S.

POND 71 RECEIVES SURFACE RUNOFF WATER FROM PIT STRIPPING AND THE TOPSOIL PILE DRAINAGE AREA AS SHOWN. THE POND OUTLET (AS NEEDED) IS AT THE LOW POINT OF THE INCISED POND CUT AT THE NORTHEASTERN END OF THE POND IN THE NATIVE WATERWAY, AT: LAT. 45.095990 DEG. AND LON. -106.887615 DEG., APPROXIMATELY 400 FEET SOUTHEAST OF THE NORTHWEST CORNER OF SECTION 31 AS SHOWN.

POND 71 IS TO BE CONSTRUCTED FULLY INCISED TO THE HIGH WATER ELEVATION WITHIN NATIVE TOPOGRAPHY NORTHEAST OF PIT STRIPPING AND TOPSOIL PLACEMENT. THE POND WILL BE EXCAVATED TO A MINIMUM DEPTH OF 3,670' AMSL. THE ESTIMATED EXCAVATION TO COMPLETE THE RESERVOIR IS 7,000 BANK CUBIC YARDS.

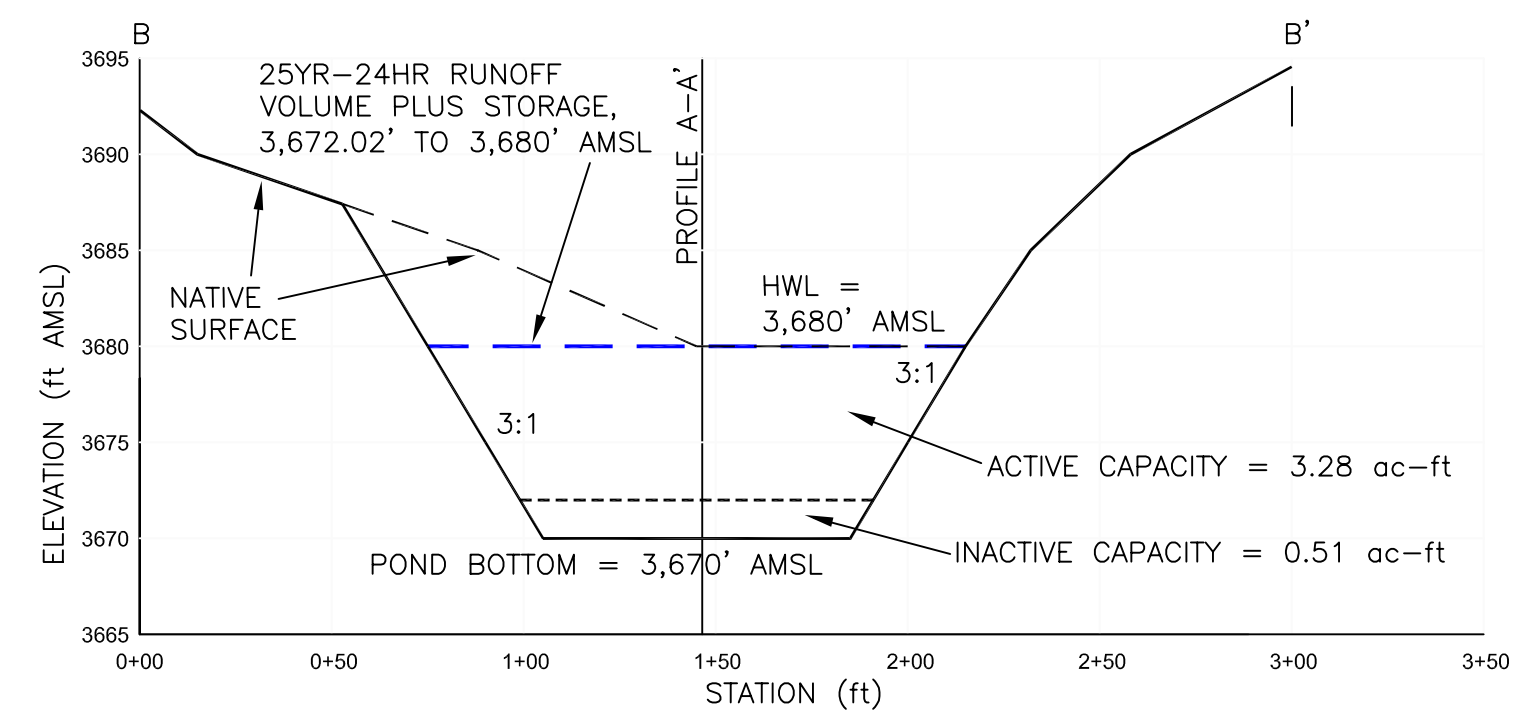
THE POND OUTLET TO THE NATIVE CHANNEL IS AT THE LOW POINT OF THE INCISED CUT. THE POND WILL BE OPERATED WITH AN INACTIVE CAPACITY OF 0.51 AC.-FT. THE INACTIVE CAPACITY WILL BE USED FOR STORAGE OF A SEDIMENT VOLUME EQUAL TO 0.02 AC.-FT FOR EACH ACRE OF DISTURBANCE WITHIN THE POND DRAINAGE AREA. THE 25YR-24HR STORM EVENT RUNOFF IS MODELED TO BE 2.88 AC.-FT. THE REQUIRED CAPACITY OF THE POND IS 3.39 AC.-FT. THE DESIGN CAPACITY FOR POND 71 IS 3.79 AC.-FT. ACTIVE CAPACITY WILL BE USED TO CONTAIN AND MANAGE UP TO THE 25YR-24HR STORM EVENT RUNOFF WATER VOLUME PLUS 0.40 AC.-FT OF PRE OR POST EVENT RUNOFF STORAGE.

THE PROPOSED POND 71 INCISED LAYOUT CONFIGURATION PROVIDES THE REQUIRED CAPACITY USING A 120 FOOT BY 80 FOOT RECTANGULAR BOTTOM AREA (AT 3,670' AMSL) AND A 180 FOOT BY 140 FOOT RECTANGULAR TOP AREA (AT 3,680' AMSL) WITH 3:1 INTERIOR POND SLOPES.



POND PROFILE A-A'

SCALE: H: 1"=50',
V: 1"=10'



POND PROFILE B-B'

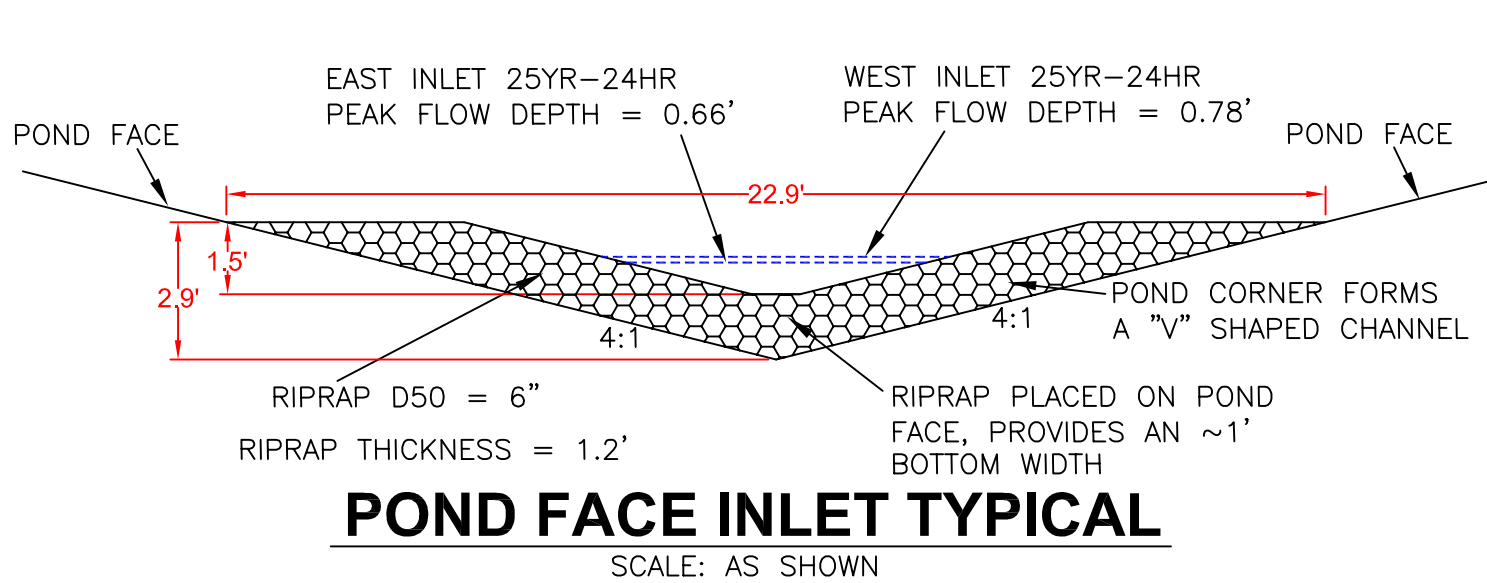
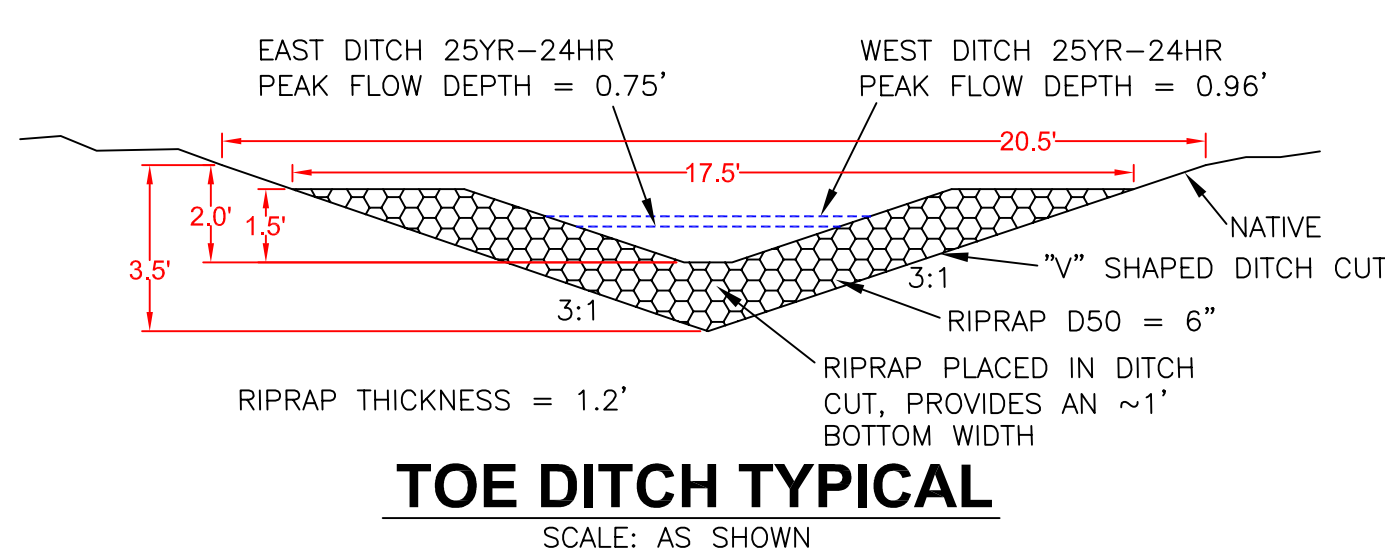
SCALE: H: 1"=50',
V: 1"=10'

WEST RIPRAP INLET DITCH HYDRAULICS

BOTTOM WIDTH = 1 ft (pond face)
BOTTOM WIDTH = 1 ft (toe ditch)
SIDE SLOPES = 4:1 (pond face)
SIDE SLOPES = 3:1 (toe ditch)
MAXIMUM SLOPE = 24% (pond face)
TOE DITCH SLOPE = 10.5%
10YR-24HR PEAK FLOW = 18.72 cfs
10YR-24HR PEAK FLOW DEPTH = 0.70 ft (pond face)
10YR-24HR PEAK FLOW DEPTH = 0.82 ft (toe ditch)
25YR-24HR PEAK FLOW = 24.72 cfs
25YR-24HR PEAK FLOW DEPTH = 0.78 ft (pond face)
25YR-24HR PEAK FLOW DEPTH = 0.96 ft (toe ditch)
25YR-24HR MAXIMUM VELOCITY = 7.72 fps
RIPRAP METHOD = PADER SEDCAD-4
RIPRAP Dmin = 3 in.
RIPRAP D50 = 6 in.
RIPRAP Dmax = 9 in.

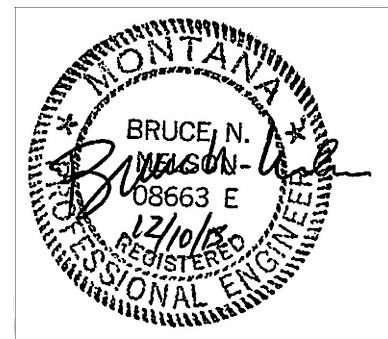
EAST RIPRAP INLET DITCH HYDRAULICS

BOTTOM WIDTH = 1 ft (pond face)
BOTTOM WIDTH = 1 ft (toe ditch)
SIDE SLOPES = 4:1 (pond face)
SIDE SLOPES = 3:1 (toe ditch)
MAXIMUM SLOPE = 24% (pond face)
TOE DITCH SLOPE = 10.5%
10YR-24HR PEAK FLOW = 12.08 cfs
10YR-24HR PEAK FLOW DEPTH = 0.57 ft (pond face)
10YR-24HR PEAK FLOW DEPTH = 0.66 ft (toe ditch)
25YR-24HR PEAK FLOW = 15.95 cfs
25YR-24HR PEAK FLOW DEPTH = 0.66 ft (pond face)
25YR-24HR PEAK FLOW DEPTH = 0.75 ft (toe ditch)
25YR-24HR MAXIMUM VELOCITY = 6.64 fps
RIPRAP METHOD = PADER SEDCAD-4
RIPRAP Dmin = 3 in.
RIPRAP D50 = 6 in.
RIPRAP Dmax = 9 in.



CERTIFICATE OF ENGINEER

I, Bruce N. Nelson of Sheridan, Wyoming, hereby certify that this map and drawings were prepared by myself or under my direct supervision using topographic base maps prepared for Spring Creek Mine LLC dated 10/13 and that they correctly represent the facilities and conditions described in the accompanying application.



BRUCE N. NELSON, P.E. No. 8663 E

Prepared by:



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PHONE: (307) 672-3793



SPRING CREEK MINE
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PHONE: (406) 757-2581

DATE	REVISION
BY	

Sediment Control
Pond 71

DESIGN	RWH	DRAWN	RWH	DATE	12/09/13	SHEET	1	OF	1
SCALE	as shown	CONTOUR INTERVAL	as shown	FILE NUMBER		SP-71	Pond.dwg		