

WATER PERMIT NO. 6871-3

Name of Applicant: **Platte Colony**

Address: **35271 270th St, Platte SD 57369-6007**

Phone: **605 726-3142**

Amount of Water Claimed: **7.29 cfs**

Total Acres: **510 acres**

Source of Water Supply: **49.4 AF storage dam**

Water to be used for: **irrigation**

County: **Charles Mix**

Type of Waste Disposal System:

Location: **20 miles northwest of Platte**

PRIORITY Date Received: **6-20-07**

Application/License Fee: **\$450**

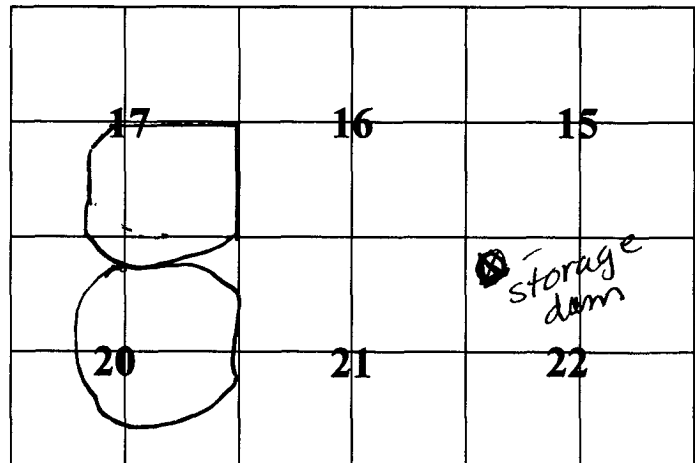
Corrected Application Received: **7-18-07**

Period of Annual Use: **May 1 – September 30**

Remarks:

Diversion Point: **NW ¼ Sec 22-T100N-R70W**

Land to be Irrigated: **SE ¼, W ½ SW ¼ Sec 17**
and E ½ Sec 20; all in T100N-R70W



Depth of Well: **NA**

Well Driller:

Remarks:

Type of Map: **topo**

Prepared by: **Mark Larson, PE**

Reviewed and the Number Assigned on: **7-18-07**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

FORM 2: Application for irrigation in South Dakota

(type or print)

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	No. <u>6871-3</u> (office use only)	Hydrologic Unit <u>10140101</u>
	Basin <u>Missouri River</u>	
	Newspaper <u>Platte Enterprise</u>	<u>POB 546</u>
	<u>605-337-3101</u>	<u>Platte 57369</u>

RECEIVED
JUN 20 2007
WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water For Irrigation

Type of Application: ☒ New ☐ Vested Right ☐ Amendment/Correction to Permit No. _____

(Use predates Mar 2, 1955)

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)

- Name of Applicant Platte Colony Hutterian Brethren Phone (605) 726-3142
(check one) ☒ Owner ☐ Tenant lessee
Mailing Address 35271 270th Street Platte State SD 57369-6007
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed 7.29 *CFS or 3280 **GPM 44 ***AF Total Acreage 510 Ac.
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Runoff from drainage basin.
- Location of point of diversion (example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W) County Charles Mix
1 dam in NW 1/4 section 22-T100N-R70W
- County or counties where water will be used Charles Mix
- Annual period during which water is to be used May to September
- List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
<u>SE 1/4 + W 1/2 of SW 1/4 of Sec. 17 T100N R70W</u>	<u>280</u>	<u>See attached sheet</u>	
<u>E 1/2 of Sec 20 T100N R70W</u>	<u>230</u>		
<u>E 1/2 W 1/2</u>			

8. Give a description of the project. (Attach sheet if more space is needed)

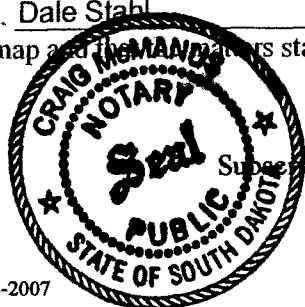
A dam is proposed to be built in the NW 1/4 of section 22-T100N-R70W. Water stored in this reservoir will be used to irrigate cropland.

STATE OF SOUTH DAKOTA) SS

County of Charles Mix)

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

I, Dale Stahl, the applicant, certify that I have read this application, have examined the attached map and the statements stated are true and that I intend, and am able to complete the necessary construction.

Applicant's signature Platte Hutterian Brethren Dale StahlSubscribed and sworn to before me this 8 day of June 2007

Craig McManus
Notary Public signature

Breakdown of Acreage for Water Permit Application No. 6871-3

This breakdown of acreage was prepared by Eric Gronlund on July 19, 2007 using ArcMap based on the map submitted with the application

The acreage breakdown is as follows:

all in T100N, R70W

Legal	acres	Legal	acres
NW ¼ SE ¼ Sect. 17	40	NE ¼ NW ¼ Sect. 20	16
NE ¼ SE ¼ Sect. 17	40	SE ¼ NW ¼ Sect. 20	18
SW ¼ SE ¼ Sect. 17	40	NW ¼ SE ¼ Sect. 20	40
SE ¼ SE ¼ Sect. 17	40	NE ¼ SE ¼ Sect. 20	37
NE ¼ SW ¼ Sect. 17	16	SW ¼ SE ¼ Sect. 20	17
SE ¼ SW ¼ Sect. 17	40	SE ¼ SE ¼ Sect. 20	9
NW ¼ NE ¼ Sect. 20	39	NE ¼ SW ¼ Sect. 20	20
NE ¼ NE ¼ Sect. 20	25	SE ¼ SW ¼ Sect. 20	1
SW ¼ NE ¼ Sect. 20	40		
SE ¼ NE ¼ Sect. 20	32		
		Total	510

**SOUTH DAKOTA
WATER PERMIT NO. 6871-3**

Date of first receipt of application June 20, 2007.

Date of return to applicant for corrections, amendments or changes June 20, 2007.

Date of receipt of corrected application February 26, 2008.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 6871-3 to Platte Colony, c/o Dale Stahl, 35271 270th St, Platte SD 57369 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 6871-3 authorizes impoundment of 44 acre-feet of water from run-off by constructing a dam located in the NW $\frac{1}{4}$ Section 22-T100N-R70W. This permit appropriates 7.29 cubic feet of water per second from the dam to irrigate 510 acres located in the SE $\frac{1}{4}$, W $\frac{1}{2}$ SW $\frac{1}{4}$ Section 17 and E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$ Section 20; all in T100N-R70W.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: January 1 – December 31 (storage dam) and May 1 – September 30 (irrigation use).
3. The date from which applicant may claim right is February 26, 2008.
4. The date of approval of Permit No. 6871-3 is April 21, 2008.
5. One-fifth of the construction is to be completed on or before October 21, 2010.
6. All construction is to be completed on or before April 21, 2013.
7. Water is to be put to beneficial use on or before April 21, 2017.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. Water Permit No. 6871-3 authorizes a dam with a storage capacity of 44 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: Garland Erbele

Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

MAY 16 2008
date



(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter _____ Depth _____
- b) Casing Type _____ Diameter _____ Thickness _____
- c) Screen Type _____ Diameter _____ Thickness _____
- d) Gravel Pack _____ Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material _____
- f) Depth to Water (ground surface to water level) _____
- g) Distance to nearest existing domestic well:
- On applicants property _____ On property owned by others _____

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) _____
- b) System Capacity (gallons) _____ Year Constructed _____
- c) Connected to the City of _____ Sanitary System _____

3. Dugout Information

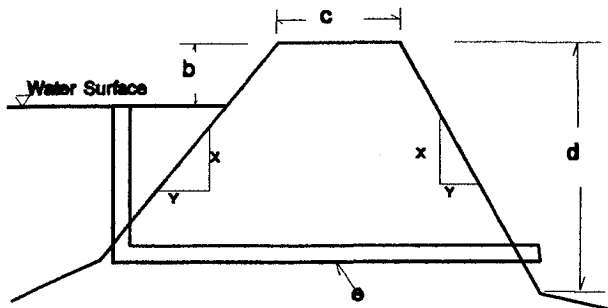
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:

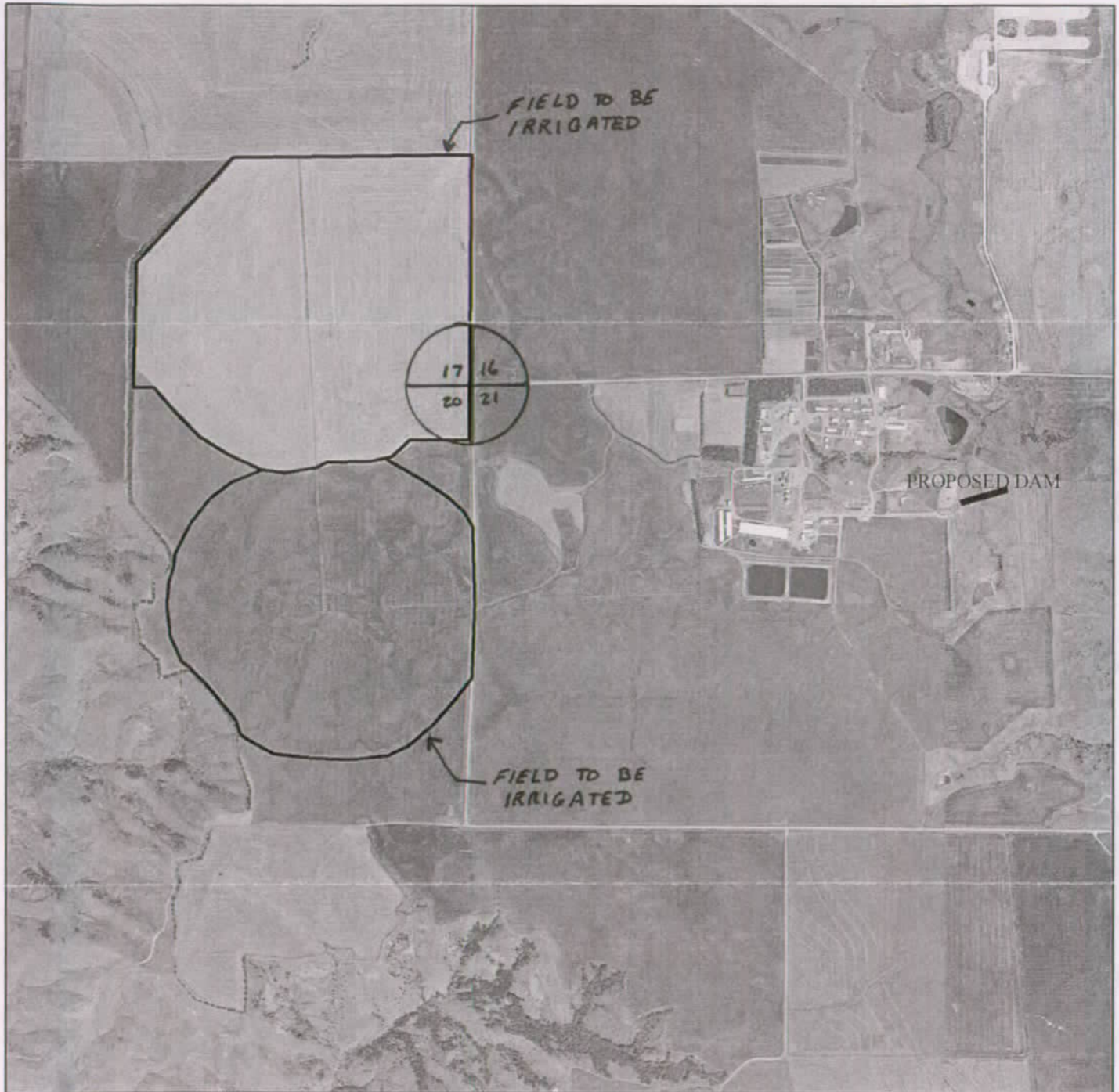
Dakota Environmental, Inc.
PO Box 636
Huron, SD 57350



- b) Freeboard _____ 5ft
- c) Crest Width _____ 30ft
- Crest Length _____ 465ft
- d) Height _____ 28ft
- e) Primary Outlet Capacity _____ 730cfs
- If pipe, diameter _____ 2-48"
- f) Secondary Spillway Capacity _____ 870cfs
- Spillway Width _____ 30ft
- g) X & Y Slope _____ 5:1
- Upstream _____ 5:1
- Downstream _____ 5:1
- h) Surface Area of Impoundment _____ 7.84
- i) Storage _____ 49.4 _____ Acre Feet
- j) Drainage Area Above Dam _____ 185.2 _____ Acres

PLATTE COLONY DAM

IRRIGATED FIELDS



NOT TO SCALE



RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 7/18, 20 07

RECEIVED OF Platte Hutterian Brethern 35271 270th St Platte SD 57369

The following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>16871-3</u> to Appropriate Water, to construct and to put water to beneficial use	125	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	125 00

No.

03097

By

Charles Erbe

Chief Engineer

[Signature]

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date July 9, 20 07

RECEIVED OF Platte Hutterian Brethern 35271 270th St Platte SD 57369

The following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>6871-3</u> to Appropriate Water, to construct and to put water to beneficial use	125	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)		
TOTAL	125	00

No.

03090

By

Harold Erbe

Chief Engineer

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 6/20, 20 07

RECEIVED OF PLATTE HUTTERIAN BRETHERN 35271 270TH ST PLATTE SD 57369

The following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>6871-3</u> to Appropriate Water, to construct and to put water to beneficial use	150	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>6871-3</u>	50	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	200 00

No.

03074

By

Leland Erbe

Chief Engineer

Dakota Environmental Consultants, Inc.

Engineers...Hydrogeologists...Geologists...Remedial Specialists

"Yours for a cleaner Earth"

May 31, 2007

RECEIVED

JUN - 1 2007

WATER RIGHTS
PROGRAM

Tim Schaal
SD DENR
523 E Capitol
Pierre, South Dakota 57501

RE: Proposed Irrigation Dam
Platte Colony, Charles Mix County
DEC Project #21001

Dear Mr. Schaal:

Submitted herewith for your review and approval are two copies of plans and specifications for the construction of an irrigation dam at the above referenced project site.

The proposed site is located in the NW ¼ of Section 22, T100N, R70W. The proposed dam will be used to store water for irrigation purposes. Work to be done at the site includes, but is not limited to, topsoil removal, subsoil excavation for the cutoff trench, placement of compacted fill and rock rip rap, spillway construction, erosion control through silt fencing or straw bales, and seeding. All property contiguous to the dam site and flood zone behind the dam is owned by Platte Colony. The flood zone consists of a 7.84 acre area behind the dam. The property contiguous to the dam site includes 185.24 acres behind the dam as outlined on the area map on plan sheet 2.

We hope the included materials are adequate for approval of this application. As always, please feel free to contact us if you have any questions or require additional information.

Sincerely,



Brian Friedrichsen, PE
Senior Engineer

5/30/07

**PLATTE COLONY DAM
VOLUME CALCULATIONS**

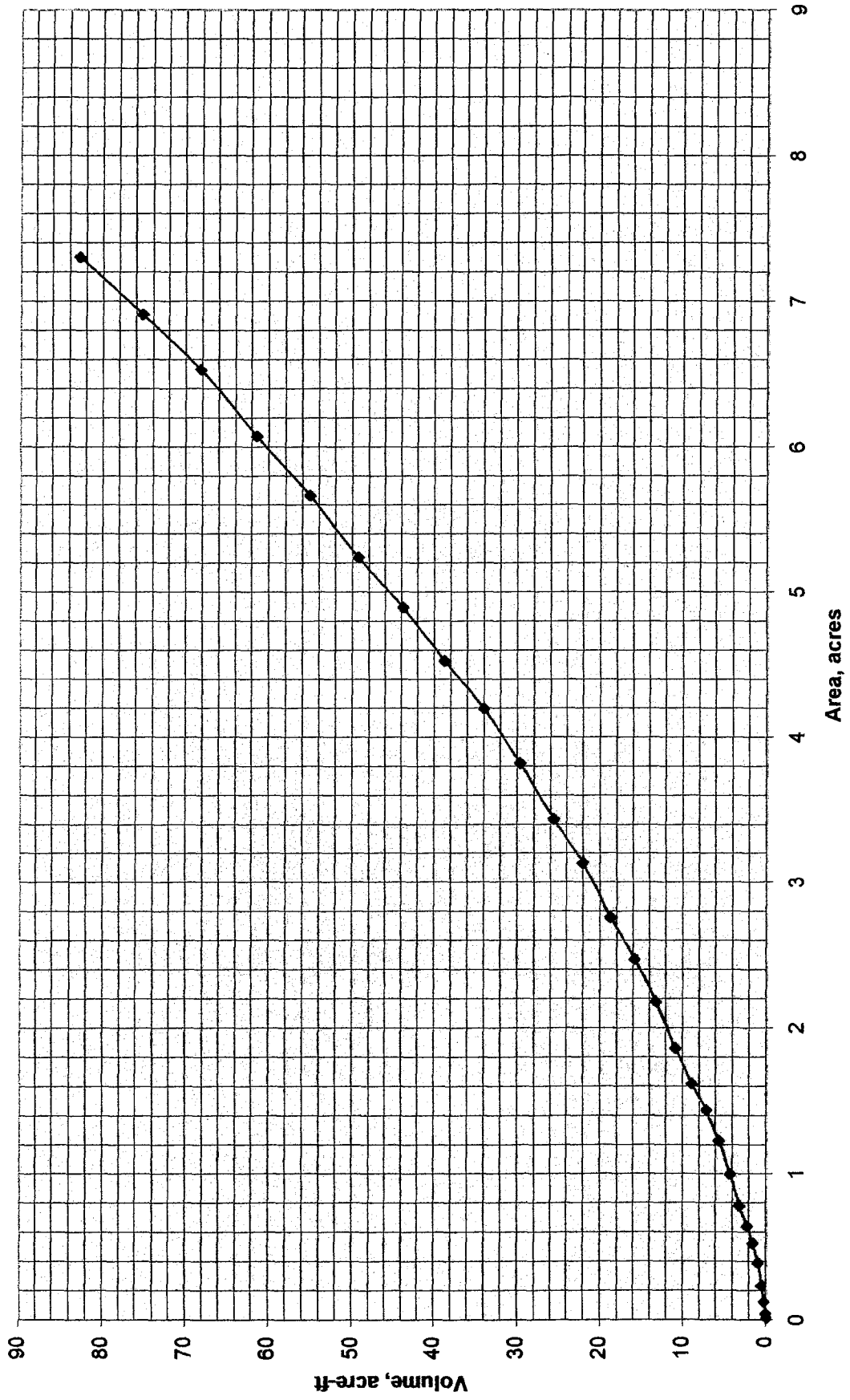
Elevation	Area, square feet
77.00 (DAM BOTTOM)	461
78.00	1,842
79.00	5,287
80.00	10,269
81.00	17,006
82.00	22,884
83.00	27,904
84.00	33,932
85.00	43,525
86.00	53,444
87.00	62,564
88.00	70,421
89.00 (EVAPORATION MIDPOINT)	81,013
90.00	94,856
91.00	107,567
92.00	120,094
93.00	136,505
94.00	149,778
95.00	166,440
96.00	182,793
97.00	197,130
98.00	213,260
99.00	228,186
100.00 (MAXIMUM OPERATING LEVEL)	246,809
101.00	264,585
102.00	284,419
103.00	300,948
104.00	318,041
105.00 (TOP OF DAM)	341,621

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JUN - 1 2007
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PROGRAM

	Volume of Interval, cubic feet
Dam Bottom	1,151
Top of Residual Volume	388,664
Evaporation Midpoint	1,760,520
Maximum Operating Level	1,462,208
Top of Dam	
23.04 Annual Precipitation, inches	
4.4 25 year, 24 hour Storm, inches	
38 Annual Evaporation, inches	
25 year / 24 hour Storm Volume, cubic feet	125,261
Annual Precipitation Volume, cubic feet	655,912
Annual Evaporation Volume, cubic feet	256,541
Net Storage Available, cubic feet	1,749,812



Area vs Volume



5/30/07

PLATTE COLONY DAM DISCHARGE CAPACITY CALCULATIONS

2 - 48" DIA. PIPE

Perimeter =	25.12 ft		
		DEPTH OVER SPILLWAY INLET	Q (cfs)
$V_{full} =$	29.091 fps	0.5	365.38
		1	730.77
$Q_{full} =$	730.77 cfs		

Pipe Flow			
Pipe Diameter =	48 in.	Wetted Perimeter:	360 degrees
Slope =	6.5 %		
Manning Coef. =	0.013		
Mannings			
	$V = (1.486/n) * R^{2/3} S^{1/2}$	=	29.091 fps

		DEPTH OVER SPILLWAY INLET	Q (cfs)
		0.5	276.2531
		1	869.564
30' WEIR		1.5	1669.033
Mannings	$Q = AV = (1.486/n) AR^{2/3} S^{1/2}$	2	2597.385
		2.5	3593.287
		3	4612.635



DEC

Platte
Dam
Charles Mix County, South Dakota

Hydrograph Peak/Peak Time Table (Trial #3) **48" DIA. PIPE**

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 25-Yr (cfs) (hr)
------------------------------------	--

SUBAREAS

Pond	29.23 12.00
------	----------------

Basin	279.48 12.50
-------	-----------------

REACHES

Pond	279.48 12.50
Down	119.81 13.22

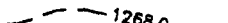
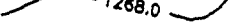
OUTLET	121.58
--------	--------

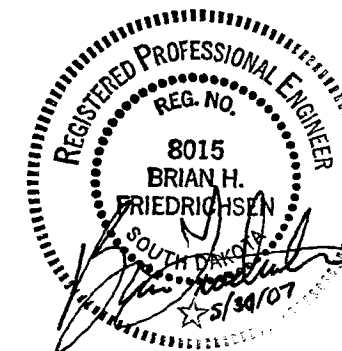
PLATTE COLONY IRRIGATION DAM PLANS AND SPECIFICATIONS ISSUED MAY 30, 2007

OWNER: PLATTE COLONY
ADDRESS: 35271 270TH STREET
PLATTE, SD 57369-6007
PHONE: (605) 726-3142
PROJECT: 21001
LOCATION: NW 1/4 OF SECTION 22, T-100-N, R-70-W
COUNTY: CHARLES MIX

SHEET INDEX	
DWG. NO.	DESCRIPTION
1	TITLE PAGE
2	AREA/VICINITY MAP
3	DAM PLAN
4	DAM PROFILE
5	DAM SECTIONS
6	GENERAL NOTES & SPECIFICATIONS

LEGEND

	CONCRETE		CULVERT
	ROCK		MW MONITORING WELL
	SELECT GRANULAR FILL		POWER POLE
	EXISTING EARTH	_____	PROPERTY LINE
	COMPACTED FILL	_____	DRAINAGE SWALE
	TOPSOIL		EXISTING CONTOUR LINE
	WETLAND		PROPOSED CONTOUR LINE
	CLEANOUT		BM BENCHMARK OR CONTROL POINT
	DEPTH MARKER LOCATION		X 1270.00 NEW SPOT ELEVATION
	SPLASH PAD		SBx SOIL BORING
	RESIDENCE		ELEVATION
			FENCE
			SECTION NO. SECTION TAKEN FROM DRAWING NO.
			SECTION LOCATED ON DRAWING NO.

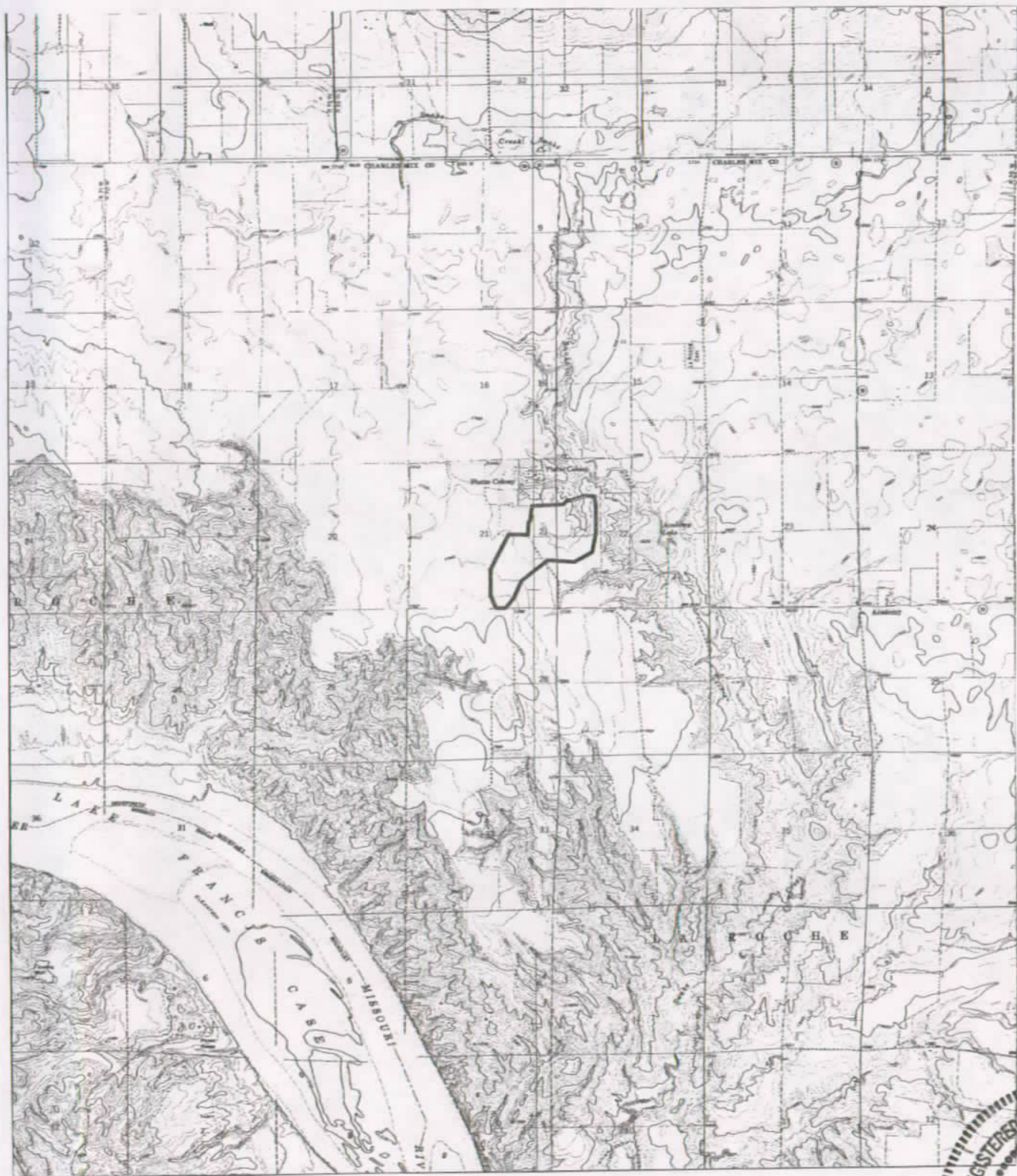


Brian H. Friedrichsen, P.E.

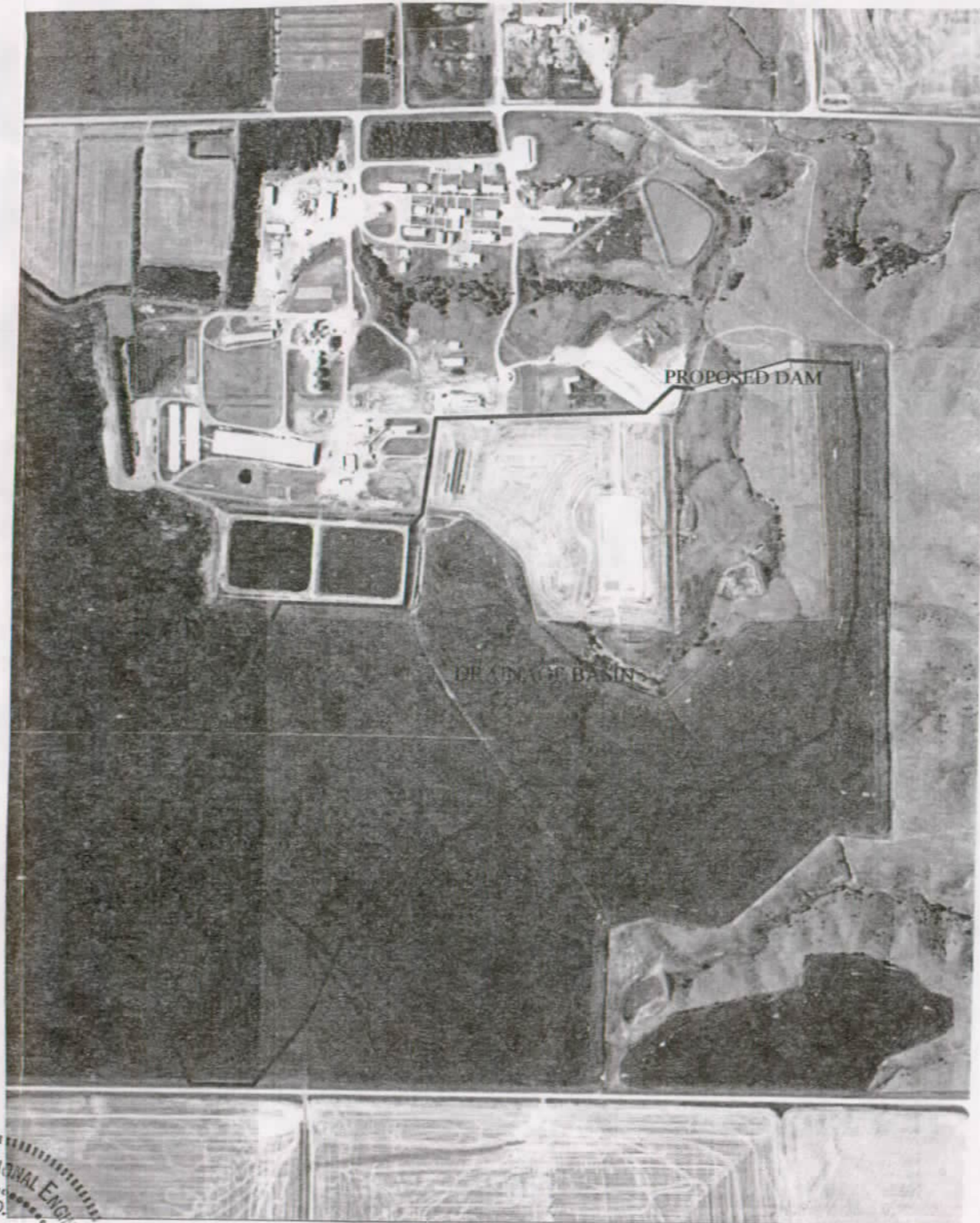
I hereby certify that these plans were prepared by me, or prepared under my direct supervision; and that I am a duly Registered Professional Engineer under the Laws of the State of South Dakota.

TITLE PAGE	REV.	DATE	DESCRIPTION	BY	CHECKED
		5/30/07	MEL		BF
PLATTE COLONY DAM					
DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED					
					
JOB NO: 21001					
SCALE: NOT TO SCALE					
DWG: 1					

P.O. BOX 636 HURON, SD 57350 605-352-5610



VICINITY MAP
1" = 5,000'



AREA MAP
1" = 800'



JOB NO:

21001

SCALE:

AS NOTED

DWG:

2

AREA/VICINITY MAP

PLATTE COLONY DAM

DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED

DESCRIPTION

DRAWN:

MEL

REV.

DATE

5/30/07

BY

CHKD

CHECKED:

BF

P.O. BOX 636 HURON, SD 57350 605-352-5610

NORTH

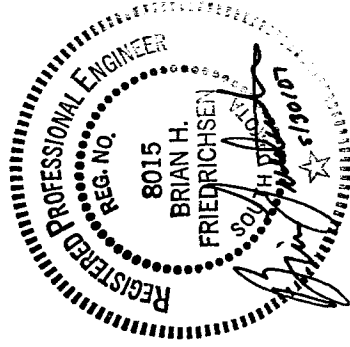
ROCK RIP RAP
SPLASH PAD

SPILLWAY OUTLET

PLACE SPILLWAY
PARALLEL WITH
EXISTING CHANNEL

SPILLWAY INLET

EXISTING CHANNEL



JOB NO:

21001

SCALE:

1"=120'

DWG:

3

DAM PLAN

PLATTE COLONY DAM

DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED

P.O. BOX 636 HURON, SD 57350

605-352-5610

REV.

DATE

DESCRIPTION

BY

CHKD

DATE

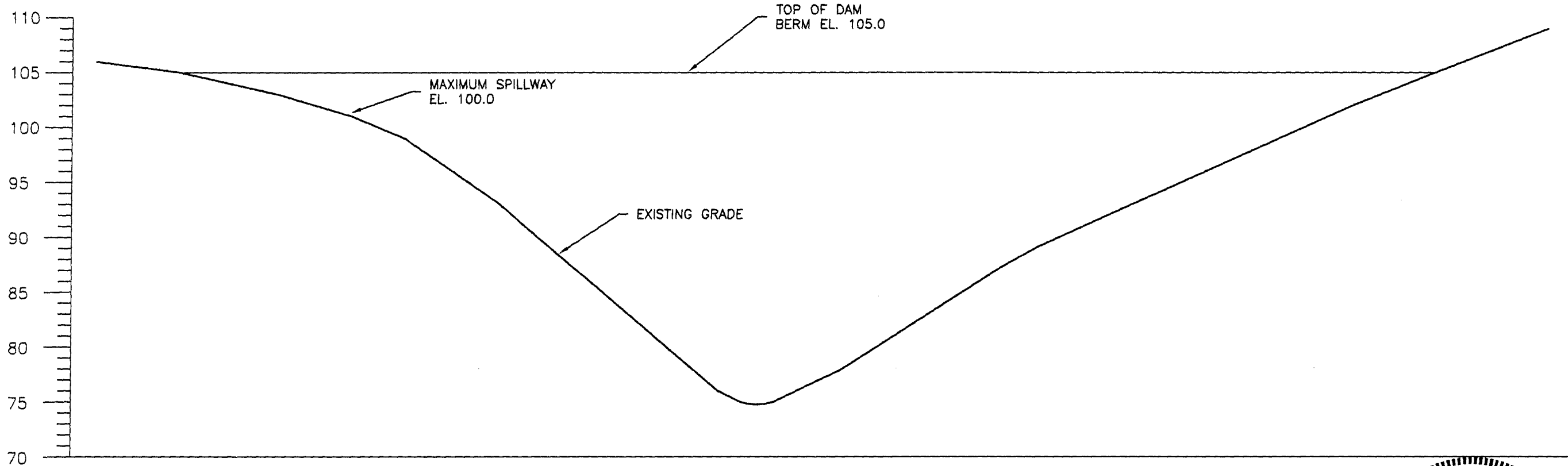
5/30/07

DRAWN

MEL

CHECKED

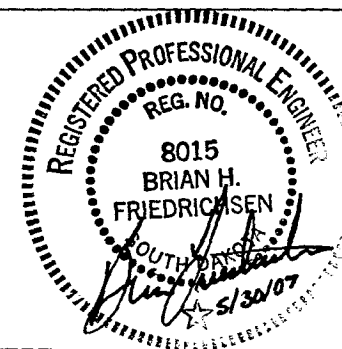
BF



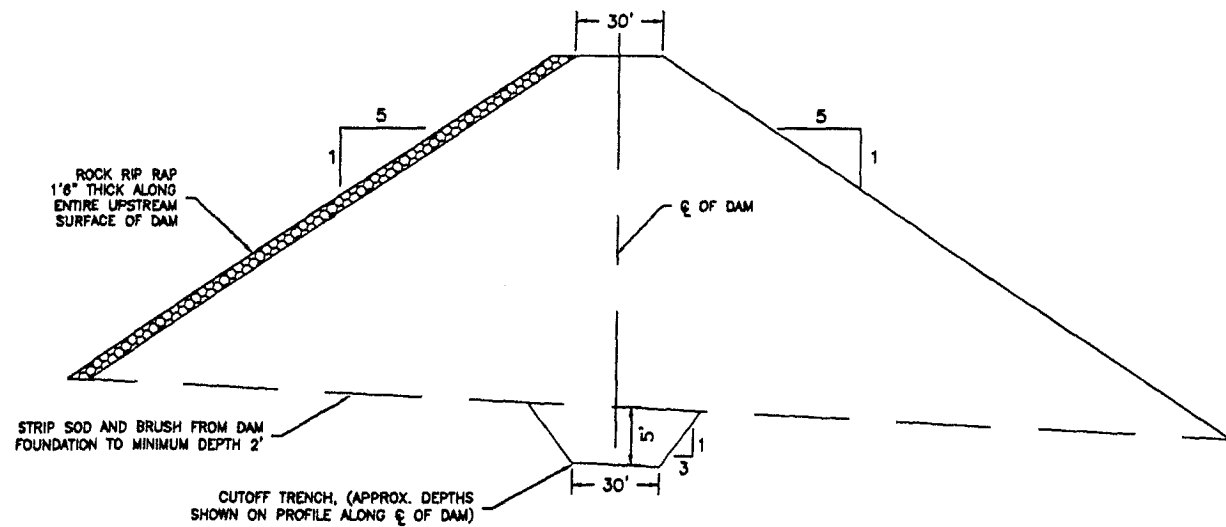
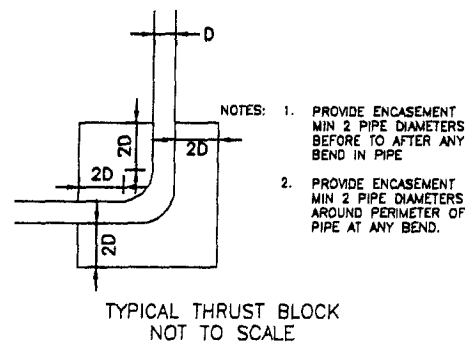
A3
4

CL DAM PROFILE

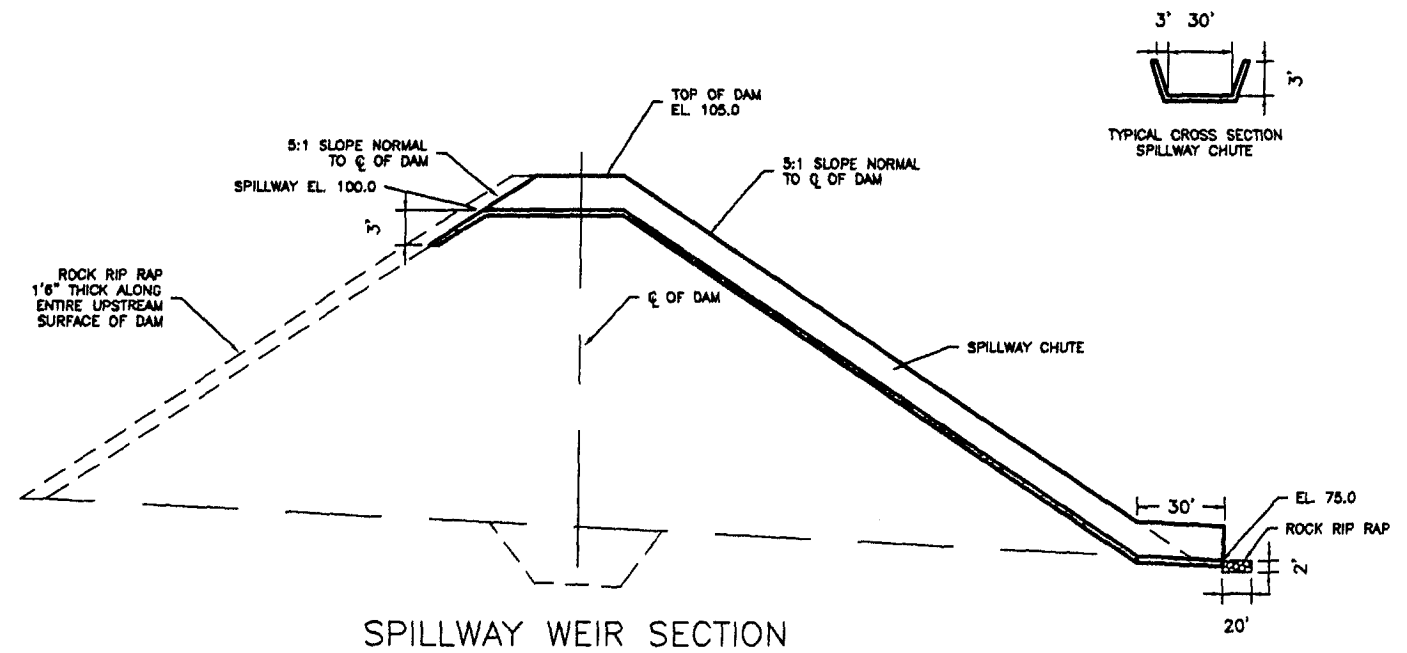
VERTICAL: 1"=10'
HORIZONTAL: 1"=40'



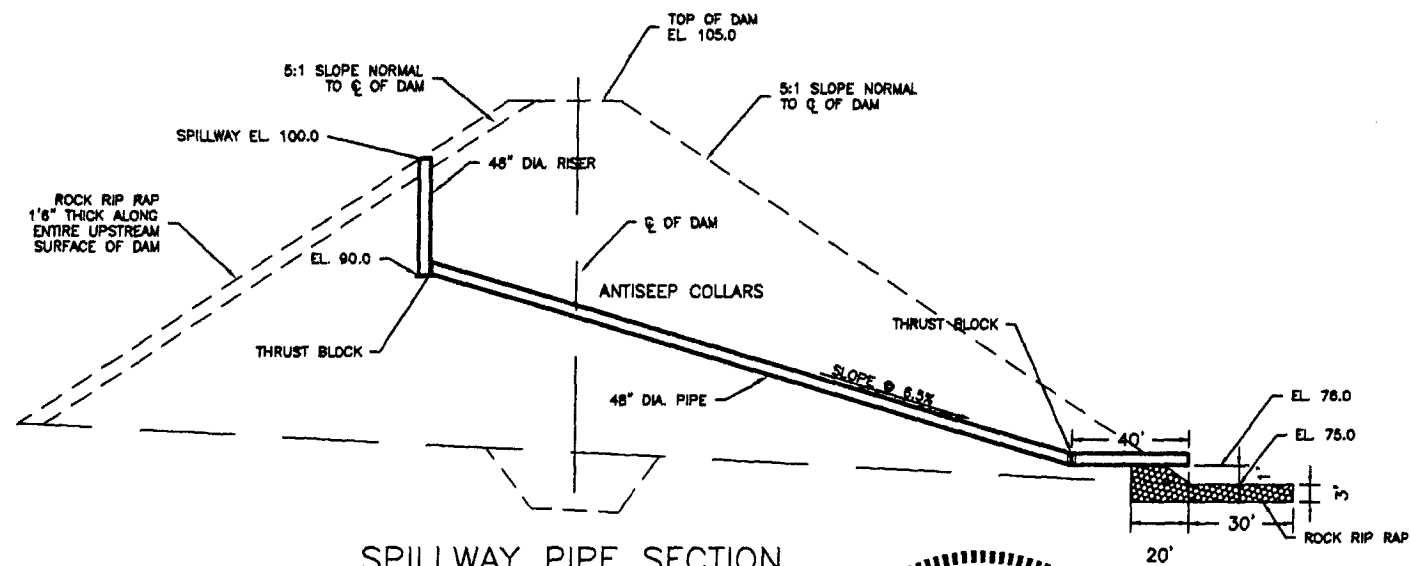
DAM PROFILE		REV.	DATE	DESCRIPTION	BY	CHKD
PLATTE COLONY DAM			5/30/07	DRAWN: MEL	CHECKED: BF	
DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED		P.O. BOX 636 HURON, SD 57350 605-352-5610				
		JOB NO: 21001				
SCALE:		AS NOTED				
DWG:		4				



TYPICAL CROSS SECTION OF DAM



SPILLWAY WEIR SECTION



SPILLWAY PIPE SECTION



	JOB NO: 21001					DWC: 5					
	SCALE: NOT TO SCALE										
	DAM SECTIONS PLATTE COLONY DAM										
	DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED P.O. BOX 636 HURON, SD 57350 605-352-5610										

1. NO VARIATION FROM THESE PLANS IS AUTHORIZED WITHOUT PRIOR APPROVAL OF ENGINEER. THE BUILDER IS TO ADVISE ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY INCONSISTENCY OR DISCREPANCY IN THESE PLANS WITH FIELD CONDITIONS OR PLANS PROVIDED BY OTHERS.

2. Any new water supply wells placed on the site must be a minimum of 150 feet from the closest point of any waste holding structure including manure pits. Any new well must be a minimum of 50 feet from the closest point of a sewer line.

3. Strip topsoil and vegetation from all areas under structures and embankments. Stripping excavation shall extend to a depth sufficient to expose subsoil reasonably free of roots and other perishable material. Excavated earth material determined to be satisfactory by the Engineer shall be used for earth fill or topsoil. Stripped material suitable for topsoil shall be stockpiled and spread, as specified in these specifications.

4. Stripping excavation for foundations shall extend to consolidated subsoil and shall be left as reasonably smooth surfaces free of unconsolidated or loose soil. In most soils we recommend that at least a 1:1 lateral oversize be maintained in excavating below footing grade. In soft clay and swamp deposits we generally recommend a 2:1 or even 3:1 lateral oversize.

5. The final 4 inches directly beneath the slabs shall be a fine draining granular material with less than 5% of soil material by weight passing a standard #200 sieve and compacted as specified for backfill.

6. Excavated soils consisting of loams and clay shall be deemed satisfactory for earth fill to the extent needed. Sandy soil shall be blended to provide for earth fills, or be wasted as directed by the Engineer. The selection, blending, routing, and disposition of material shall be the responsibility of the Contractor and subject to approval by the Engineer. Fill materials shall contain no frozen material, ice, snow, sod, brush, roots or other perishable materials, or rocks larger than four inches in diameter. No fill shall be placed on a frozen surface.

7. Prior to placement of fill, the entire area to receive fill shall be rolled with heavy equipment (such as a loaded end-dump) and inspected to identify any unsuitable soils that require removal. Unsuitable materials shall be overexcavated to a depth of 2 feet. After stripping or overexcavating, the foundation shall be loosened thoroughly by scarifying or discing to a minimum depth 6 inches. The entire foundation area shall then be compacted to the density and at the moisture specified for the fill.

8. All foundation excavation and/or preparation shall be completed before placing fill. The fill shall be placed such that the distribution of materials is essentially uniform throughout the entire fill and is free from lenses, pockets, streaks, or layers of material differing substantially from surrounding material.

9. Fill shall be placed within specified moisture contents. When material deposited on the fill is too dry, water may be added to the fill material in the borrow area, or after material has been brought onto the fill. If moisture is added to the fill, uniform moisture distribution shall be obtained by discing, blading or other approved methods.

10. Compaction of fill adjacent to concrete columns, walls or flatwork shall not be started until seven days have elapsed after placement of the concrete. Walls shall be laterally supported by slats, flooring, or other adequate permanent bracing prior to backfilling.

11. Density and moisture content of the fill will be tested during the course of the work following the methods described in ASTM D2216, ASTM D1556, or equivalent. The engineer shall be notified two days prior to the need for performance of compaction tests. Testing shall be performed at the following rates:

- Earthliners: A minimum of 4 per lift for areas up to two (2) acres. Provide an additional 2 tests per lift for each additional acre.
- Earthfill: A minimum of one compaction test for every 5000 cu. yd.

If a compaction test fails to meet the required level of compaction, the Contractor shall be responsible for the cost of re-testing after the area has been recompacted.

12. In lieu of conducting density tests on the completed liner, there shall be a minimum of two permeability tests conducted on the completed liner. For ponds larger than two acres, one permeability test shall be conducted for each acre of liner. The locations of the tests must be random and equally distributed over the liner bottom and inside embankments. All liner shall demonstrate an in-place permeability not to exceed 1.0×10^{-7} centimeters/second.

13. Builder is responsible to manage the routing and stockpiling of material for the clay liner. It is anticipated the native clay soils within 15 feet of the existing surface will be suitable for use as liner material. As early as possible during excavation, field evaluation of the quality of the native clay soil in the vicinity of the bottom liner should be performed with the engineer to verify its adequacy. The contractor shall stockpile choice clay materials during the progress of excavation to ensure the availability of a suitable volume and quality of liner material.

14. When in-place native soils are used as for compacted liner, excavate beyond the design bottom an additional twelve inches. The next six inch layer shall be scarified and recompacted. Additional six inch lifts of select material will be placed and compacted to reach the specified liner thickness. When imported clay material is used for a liner, overexcavate beyond the design bottom by the liner thickness. The entire liner subgrade area shall be rolled to identify any unsuitable soils that require removal. Following overexcavation, six inch lifts of select material will be placed and compacted to reach the specified liner thickness of 18 inches.

15. Seed disturbed and topsoiled areas using Fairway Crested Wheatgrass at 15#/acre, or Smooth Bromegrass at 20#/acre. Apply seed when soil is not wet, using a grass drill at a depth of 1/4 to 3/4 inch, or with other approved types of equipment that will ensure a uniform distribution of the seed. Areas with slopes steeper than 4:1 shall be mulched with straw or hay and anchored by use of a mulching machine or netting.

16. Unless otherwise specified on the plans, the fill shall be compacted to the following specifications. Maximum density shall be determined by ATSM-D-698, Standard Proctor Test.

	% maximum dry density	moisture range about optimum %	max. lift thickness	total liner thickness
Embankment	90%	-2 to +2	12"	-
Structural fill beneath slabs	95%	-2 to +2	8"	-
Clay liner	95%	-2 to +2	6"	18"

17. All concrete work shall conform to the American Concrete Institute's "Building Code Requirements for Structural Concrete" (ACI 318). During hot weather (80° F and above), comply with ACI 305 "Hot Weather Concreting". During cold weather (40° F and below), comply with ACI 306 "Cold Weather Concreting."

18. Concrete Materials and Testing:

- a) All concrete shall have 3/4 inch maximum aggregate size. Provide a mix with a slump of 4 inches +/- 1 inch. Do not exceed a water/cementitious materials ratio of 0.45. Water reducing admixtures may be used at the discretion of the contractor.
- b) Concrete shall use Type II cement and be furnished with proper admixture to obtain 5% +/- 1% air entrainment.
- c) Concrete shall develop a minimum 28 day strength of 4000 psi.
- d) Provide quality assurance testing in accordance with the following requirements. Submit the results of all tests to the Engineer along with the completed and signed Certification Form. Testing will be wholly the responsibility of the contractor/building.
- e) Collect concrete test cylinders in accordance with ASTM C31. Test cylinders may be taken either at the batch plant (assure materials are

thoroughly mixed, at least 1½ minutes after all water and cementitious materials have been introduced), or in the field. Test cylinders shall be made in sets of two. At least one set of two cylinders shall be taken each day concrete is placed. Procurement of test cylinders may be waived upon specific approval of the engineer when less than 40 cubic yards is placed in a given day.

Obtain at least the following numbers of test cylinders per pen:

two sets of 2 cylinders (four total) from concrete for slabs; and

one set of 2 cylinders (two total) from the concrete for walls.

Test sets of cylinders in accordance with ASTM C39 at 7 and 28 days.

19. Calcium Chloride accelerators will not be allowed.

20. Steel for footings, walls, and floors shall be ASTM A615, Grade 40.

21. All steel shall be lapped 36 bar diameters at splices unless noted otherwise. Splices shall be staggered at least 3 feet. Splices occurring at the same location shall be at least 6 bars apart.

22. Standard concrete cover of bars shall be as follows, unless noted otherwise:

- a) Where earth formed: 3 inches
- b) Where exposed to earth or weather: 2 inches

23. Provide suitable chairs, spacers, or bolsters to support all reinforcing. Accessories shall be as specified in the latest edition of "Concrete Reinforcing Steel Institute Handbook." Maximum spacing of accessories shall be 5'-0". All accessories shall have galvanized or plastic feet. For slabs on grade, use supports with sand plates or horizontal runners if needed. No aluminum items shall be embedded.

24. Install all construction or control (contraction) joints as called for on the drawings or as approved by the engineer. At a minimum, in slabs install control joints with spacing between joints at 50' maximum intervals. Joints shall be spaced to provide approximately equal square regions (max. 1.5:1 length:width ratio). Joints shall be pre-formed, or sawed within 12 hours of concrete placement, and sealed with a polysulfide or urethane sealant designed for submerged applications, such as Vulkem 116, Manufactured by Mamaco International, or approved equal. Install sealant in accordance with the manufacturer's recommendations including use of any primers, bond breaker, backer rod, curing treatments or other accessories or procedures.

25. Concrete construction shall be planned to minimize the number of construction joints. Except at corners, the location of all construction joints in walls and floor slabs, and the layout of slab control (contraction) joints, shall be reviewed with and approved by the engineer prior to construction.

26. All construction joints in and between floor slabs and exterior walls shall be provided with waterstop. Provide Waterstop RX 102, as manufactured by American Colloid Corp., or polyvinyl chloride waterstop, style #703 as manufactured by Greenstreak or approved equal. Install waterstop in accordance with manufacturer's recommendations on the manure side of reinforcing steel, near the middle of the of the wall or slab section, and as shown on the detail drawings. Maintain specified concrete cover over waterstop and reinforcing steel.



	JOB NO: 21001		SCALE: NOT TO SCALE		DWG: 6	
	GENERAL NOTES & SPECS					
PLATTE COLONY DAM						
REV. DATE		DESCRIPTION DRAWING		BY CHECKED:		CHECKED DATE
		5/30/07		MEL		BF
P.O. BOX 636 HURON, SD 57350 605-352-5610						

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JUN 20 2007

WATER RIGHTS
PROGRAM

Dakota Environmental Consultants, Inc.

Engineers...Hydrogeologists...Geologists...Remedial Specialists

"Yours for a cleaner Earth"

May 31, 2007

Eric Gronlund
SD DENR
523 E Capitol
Pierre, South Dakota 57501

RE: Proposed Irrigation Dam
Platte Colony, Charles Mix County
DEC Project #21001

Dear Mr. Gronlund:

Submitted herewith for your review and approval is an application for Water Permit for Irrigation, calculations, and plans and specifications to build a dam.

The proposed site is located in the NW ¼ of Section 22, T100N, R70W. The proposed dam will be used to store water for irrigation purposes. Work to be done at the site includes, but is not limited to, topsoil removal, subsoil excavation for the cutoff trench, placement of compacted fill and rock rip rap, spillway construction, erosion control through silt fencing or straw bales, and seeding. All property contiguous to the dam site and flood zone behind the dam is owned by Platte Colony. The flood zone consists of a 7.84 acre area behind the dam. The property contiguous to the dam site includes 185.24 acres behind the dam as outlined on the area map on plan sheet 2.

We hope the included materials are adequate for approval of this application. As always, please feel free to contact us if you have any questions or require additional information.

Sincerely,



Brian Friedrichsen, PE
Senior Engineer

5/30/07

PLATTE COLONY DAM VOLUME CALCULATIONS

Elevation	Area, square feet
77.00 (DAM BOTTOM)	461
78.00	1,842
79.00	5,287
80.00	10,269
81.00	17,006
82.00	22,884
83.00	27,904
84.00	33,932
85.00	43,525
86.00	53,444
87.00	62,564
88.00	70,421
89.00 (EVAPORATION MIDPOINT)	81,013
90.00	94,856
91.00	107,567
92.00	120,094
93.00	136,505
94.00	149,778
95.00	166,440
96.00	182,793
97.00	197,130
98.00	213,260
99.00	228,186
100.00 (MAXIMUM OPERATING LEVEL)	246,809
101.00	264,585
102.00	284,419
103.00	300,948
104.00	318,041
105.00 (TOP OF DAM)	341,621

	Volume of Interval, cubic feet
Dam Bottom	1,151
Top of Residual Volume	388,664
Evaporation Midpoint	1,760,520
Maximum Operating Level	1,462,208
Top of Dam	
23.04 Annual Precipitation, inches	
4.4 25 year, 24 hour Storm, inches	
38 Annual Evaporation, inches	
25 year / 24 hour Storm Volume, cubic feet	125,261
Annual Precipitation Volume, cubic feet	655,912
Annual Evaporation Volume, cubic feet	256,541
Net Storage Available, cubic feet	1,749,812



DEC

Platte
Dam
Charles Mix County, South Dakota

Hydrograph Peak/Peak Time Table (Trial #3) **48" DIA. PIPE**

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 25-Yr (cfs) (hr)
------------------------------------	--

SUBAREAS

Pond	29.23 12.00
------	----------------

Basin	279.48 12.50
-------	-----------------

REACHES

Pond	279.48 12.50
Down	119.81 13.22

OUTLET	121.58
--------	--------

5/30/07

PLATTE COLONY DAM DISCHARGE CAPACITY CALCULATIONS

2 - 48" DIA. PIPE

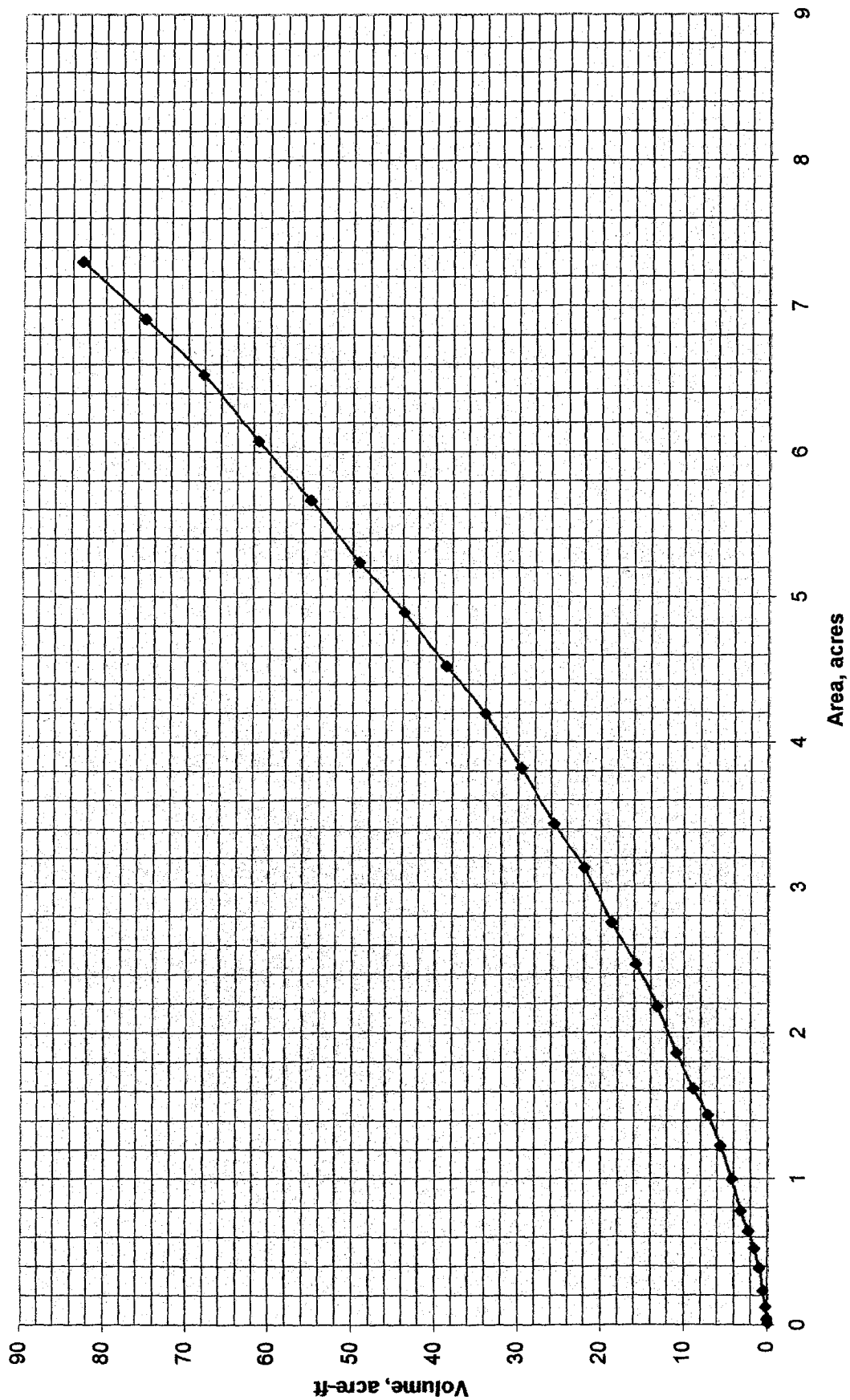
Perimeter =	25.12 ft	DEPTH OVER SPILLWAY INLET	Q (cfs)
$V_{full} =$	29.091 fps	0.5	365.38
$Q_{full} =$	730.77 cfs	1	730.77

Pipe Flow			
Pipe Diameter =	48 in.	Wetted Perimeter:	360 degrees
Slope =	6.5 %		
Manning Coef. =	0.013		
Mannings			
$V = (1.486/n) * R^{2/3} S^{1/2}$		=	29.091 fps

30' WEIR	DEPTH OVER SPILLWAY INLET	Q (cfs)
	0.5	276.2531
	1	869.564
	1.5	1669.033
Mannings	2	2597.385
	2.5	3593.287
	3	4612.635
$Q = AV = (1.486/n) AR^{2/3} S^{1/2}$		



Area vs Volume





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

June 20, 2007

Brian Friedrichsen
Dakota Environmental Consultants, Inc.
PO Box 636
Huron SD 57350

RE: Platte Colony Water Permit Application

Dear Mr. Friedrichsen:

Thank you for submitting the *Application for a Permit to Appropriate Water for Irrigation* from a storage dam. As I stated in our phone conversation, the following is required to complete the application.

- Complete Item #2 Amount of water claimed. State Statutes limit diversions to 1 cubic feet of water per second (cfs) for each 70 acres irrigated. This would mean that maximum amount allowed for irrigation of 185.24 acres would be approximately 2.65 cfs or 1200 gallons per minute.
- Complete Item #7 listing the legal description of the lands to be irrigated.
- A map signed by you outlining the acreage to be irrigated. This needs to match the lands described on Item #7.
- We have received the \$200.00 application/license filing fee. The fee based on the 185.24 acres will be \$325.00. Please submit an additional \$125.00.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak

Karen Schlaak
Water Rights Program
605 773-3352
karen.schlaak@state.sd.us

enclosure



Dakota Environmental Consultants, Inc.

Engineers...Hydrogeologists...Geologists...Remedial Specialists

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July 6, 2007

Karen Schlaak
SD DENR – Water Rights Program
523 E Capitol
Pierre, South Dakota 57501

RE: Proposed Irrigation Dam
Platte Colony, Charles Mix County
DEC Project #21001

Dear Ms. Schlaak:

The following material is being submitted for your review in response to a letter we received dated June 20, 2007 for the above referenced project.

In item #2 the amount of water claimed has been clarified to fulfill the needs of the acreage to be irrigated. For item #7, legal descriptions have been given of the fields to be irrigated and a map has been included to show the location of said fields. The producer has also included a check for the remaining fee of \$125.00.

We hope the included and previously submitted materials are adequate for approval of this application. As always, please feel free to contact us if you have any questions or require additional information.

Sincerely,

Brian Friedrichsen, PE
Senior Engineer



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

July 10, 2007

Brian Friedrichsen
Dakota Environmental Consultants, Inc.
PO Box 636
Huron SD 57350

RE: Platte Colony Water Permit Application

Dear Mr. Friedrichsen:

We have received the additional information you submitted regarding the Platte Colony water permit application. Several items need to be addressed before we can continue to process the application.

Enclosed is the map submitted with the application. The map needs to reference a section corner and the total 510 acres to be irrigated needs to be outlined. Also, the map needs to be signed by you.

Regarding the amount of water claimed, State Statutes limit diversions to 1 cubic feet of water per second (cfs) for each 70 acres irrigated. This would mean that the colony is allowed approximately 7.29 cfs or 3280 gallons per minute to irrigate 510 acres. Please make the necessary changes.

Also, you deleted the 49.4 acre-feet of storage amount for the dam. What is the acre-feet storage amount that the applicant would like to request?

Since the number of acres to be irrigated has been changed from 185.24 to 510 acres, the application/license filing fee will be \$450.00. A total of \$325.00 has been submitted. An additional \$125.00 is required.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak
Water Rights Program
605 773-3352
karen.schlaak@state.sd.us

enclosure

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JUL 18 2007

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July 12, 2007

Karen Schlaak
SD DENR – Water Rights Program
523 E Capitol
Pierre, South Dakota 57501

RE: Proposed Irrigation Dam
Platte Colony, Charles Mix County
DEC Project #21001

Dear Ms. Schlaak:

The following material is being submitted for your review in response to a letter we received dated July 10, 2007 for the above referenced project.

Submitted herewith is a signed map of the fields and dam locations, as well as an updated Application for Permit to Appropriate Water for Irrigation. The producer has also included a check for the remaining fee of \$125.00.

We hope the included and previously submitted materials are adequate for approval of this application. As always, please feel free to contact us if you have any questions or require additional information.

Sincerely,



Mark E. Larson, PE
Project Engineer

Water Rights Division -DENR
Conversation or File Documentation

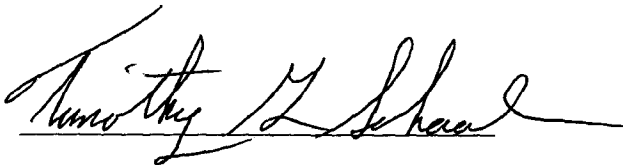
NAME OF PERSON OR FILE: Platte Colony

ADDRESS: 35271 270th Street COUNTY: Charles MixXXXX

DATE: September 26, 2007 TELEPHONE: XXXXXXXX

RE: phone call to Brian Friedrichsen, Dakota Environmental Consultants, Inc. (352-5610)

I called Brain today to remind him that I called him back on August 3, 2007 needing some more information on the Platte Colony dam associated with Water Permit Application No. 6871-3. I needed more or better information on the dam's storage capacity (elevation/capacity data) and elevations and types and sizes of the primary & secondary spillway, etc. before I could approve the P&S and process the Water Permit Application. He indicated they were very busy and were in the process of trying to provide us with that information as soon as they could. I told him I would file doc. our conversation incase the Colony inquired about their application.

A handwritten signature in black ink, reading "Timothy G. Schaal". The signature is written in a cursive style with a horizontal line underneath the name.

Timothy G. Schaal, P.E.
Natural Resources Engineering Specialist
Water Rights Program

RECEIVED

OCT - 3 2007

WATER RIGHTS
PROGRAM



Dakota Environmental Consultants, Inc.

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October 2, 2007

Tim Schaal
SD DENR
523 E Capitol
Pierre, South Dakota 57501

RE: Proposed Irrigation Dam
Platte Colony, Charles Mix County
DEC Project #21001

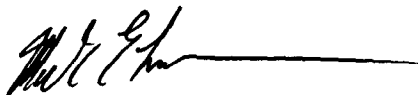
Dear Mr. Schaal:

Submitted herewith for your review and approval are two copies of plans and specifications for the construction of an irrigation dam at the above referenced project site. These materials are being resubmitted in full as per your request in our recent phone conversation.

The proposed site is located in the NW ¼ of Section 22, T100N, R70W. The proposed dam will be used to store water for irrigation purposes. Work to be done at the site includes, but is not limited to, topsoil removal, subsoil excavation for the cutoff trench, placement of compacted fill and rock rip rap, spillway construction, erosion control through silt fencing or straw bales, and seeding. All property contiguous to the dam site and flood zone behind the dam is owned by Platte Colony. The flood zone consists of a 7.84 acre area behind the dam. The property contiguous to the dam site includes 185.24 acres behind the dam as outlined on the area map on plan sheet 2.

We hope the included materials are adequate for approval of this application. As always, please contact us if you have any questions or require additional information.

Sincerely,



Mark E. Larson, PE
Project Engineer

5/30/07
Rev. 10/1/07

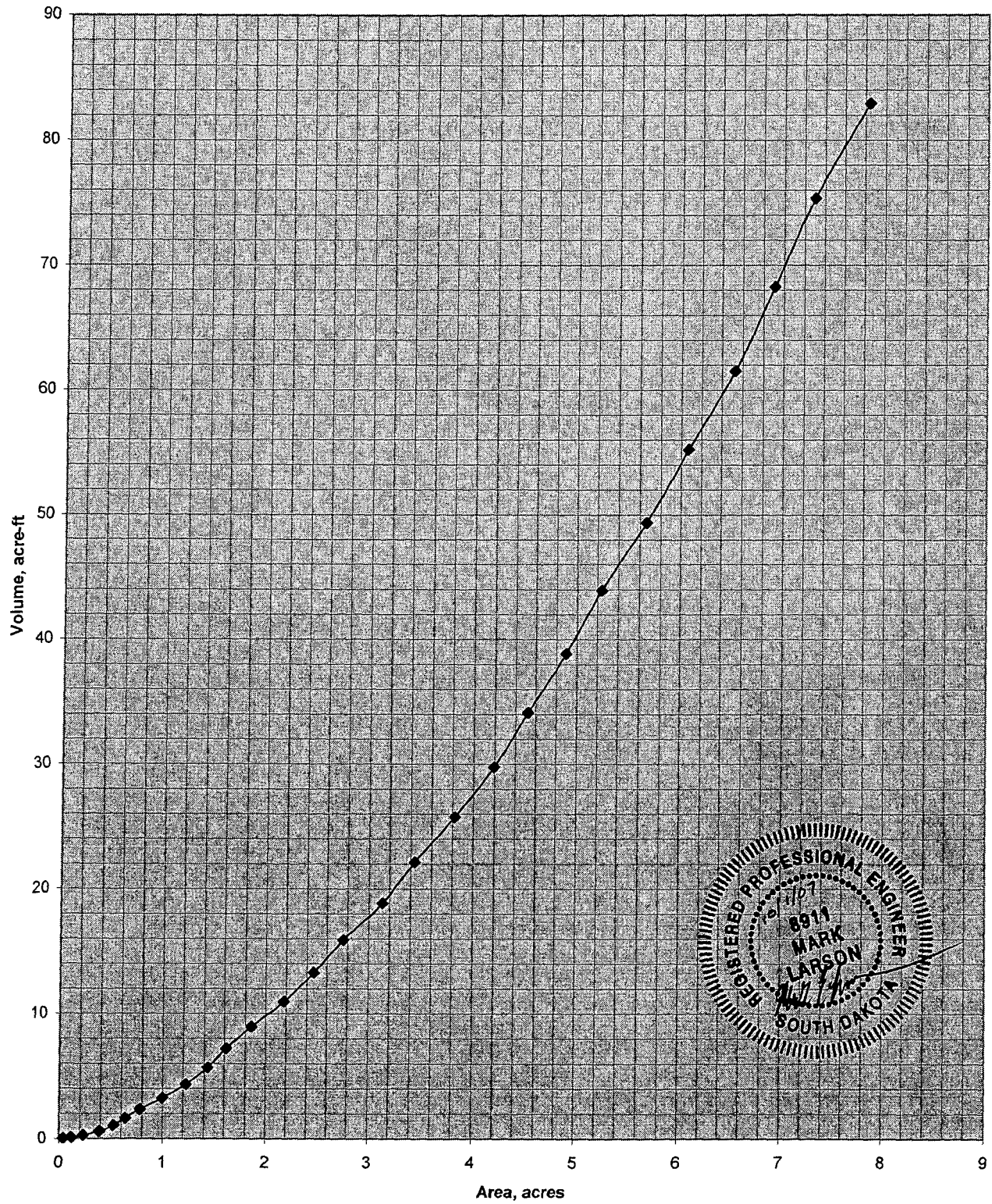
PLATTE COLONY DAM VOLUME CALCULATIONS

Elevation		Area acres	Cumulative Volume Acre-Ft
77.00	(DAM BOTTOM)	0.011	0
78.00		0.042	0.026
79.00		0.121	0.108
80.00		0.236	0.287
81.00		0.390	0.600
82.00		0.525	1.058
83.00		0.641	1.641
84.00		0.779	2.351
85.00		0.999	3.240
86.00		1.227	4.353
87.00		1.436	5.684
88.00		1.617	7.211
89.00	(EVAPORATION MIDPOINT)	1.860	8.949
90.00		2.178	10.968
91.00		2.469	13.291
92.00		2.757	15.904
93.00		3.134	18.850
94.00		3.438	22.136
95.00		3.821	25.765
96.00		4.196	29.774
97.00		4.525	34.135
98.00		4.896	38.846
99.00		5.238	43.913
100.00	(PRIMARY SPILLWAY - MAXIMUM OPERATING LEVEL)	5.666	49.365
101.00	(SECONDARY SPILLWAY)	6.074	55.235
102.00		6.529	61.537
103.00		6.909	68.256
104.00		7.301	75.361
105.00	(TOP OF DAM)	7.843	82.933

	Volume of Interval, cubic feet
Dam Bottom	
	1,151
Top of Residual Volume	
	388,664
Evaporation Midpoint	
	1,760,520
Maximum Operating Level	
	1,462,208
Top of Dam	
23.04 Annual Precipitation, inches	
4.4 25 year, 24 hour Storm, inches	
38 Annual Evaporation, inches	
25 year / 24 hour Storm Volume, cubic feet	125,261
Annual Precipitation Volume, cubic feet	655,912
Annual Evaporation Volume, cubic feet	256,541
Net Storage Available, cubic feet	1,749,812



Area vs Volume



5/30/07
Rev. 10/1/07

PLATTE COLONY DAM
DISCHARGE CAPACITY CALCULATIONS

2 - 48" DIA. PIPE

Perimeter =	25.12 ft	DEPTH OVER SPILLWAY INLET	Q (cfs)
$V_{full} =$	29.091 fps	0.5	365.38
$Q_{full} =$	730.77 cfs	1	730.77

Pipe Flow			
Pipe Diameter =	48 in.	Wetted Perimeter:	360 degrees
Slope =	6.5 %		
Manning Coef. =	0.013		
Mannings			
$V = (1.486/n) * R^{2/3} S^{1/2}$		=	29.091 fps

30' WEIR	DEPTH OVER SPILLWAY INLET	Q (cfs)
	0.5	35.2
	1	99.2
Francis	1.5	181.7
$Q = 3.33h_1^{3/2}(L - 0.2h_1)$	2	278.8
	2.5	388.3
	3	508.7



DEC

Platte
Dam
Charles Mix County, South Dakota

Hydrograph Peak/Peak Time Table (Trial #3) **48" DIA. PIPE**

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 25-Yr (cfs) (hr)
------------------------------------	--

SUBAREAS

Pond	29.23 12.00
------	----------------

Basin	279.48 12.50
-------	-----------------

REACHES

Pond	279.48 12.50
Down	119.81 13.22

OUTLET	121.58
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DEPARTMENT of ENVIRONMENT
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PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

October 5, 2007

Mark Larson, P.E.
Dakota Environmental Consultants, Inc.
PO Box 636
Huron, SD 57350

Dear Mr. Larson:

I am writing as a follow up to our phone conversation this morning regarding the plans and specifications for the dam associated with Platte Colony and their Water Permit Application No. 6871-3.

As we discussed, there are several changes to the plans that I would like to see before approving them. The secondary spillway should be moved off of the embankment grade and we discussed possibly constructing an earthcut spillway through the hillside to the east of the embankment. You will, more than likely, need fill material for the embankment and cutting the spillway would provide that. The other changes were associated with the primary spillway drop inlet structure. Typically the riser and barrel diameters are a different size, with the barrel diameter being one or two pipe sizes small than the riser, allowing for a better fit. I suggested getting some ideas regarding that from a pipe supplier. Another concern associated with the primary spillway structure would be the cutoff or seepage collar. Your design did not indicate what you had in mind there. We discussed using something similar to what the NRCS has been using.

Enclosed are a set of "As Built" plans for a dam recently constructed by the NRCS, showing the secondary spillway configuration and their sand anti seep collar (Job Plan 3.8). Also enclosed is what they have recently switched to and referring to it as a sand filter diaphragm (Job Plan 3.8-B). Either of these designs would be okay with us.

Please consider these design changes and resubmit another set of plans for approval. Another issue I forgot to mention on the phone is Hazard Classification. Please indicate the Hazard Classification the dam is designed for. If you have any questions, please feel free to let me know.

Sincerely,

Timothy G. Schaal, P.E.
Natural Resources Engineering Specialist
SD DENR, Water Right Program
(605) 773-3352

enclosures

PLATTE COLONY
IRRIGATION DAM
PLANS AND SPECIFICATIONS
ISSUED MAY 30, 2007

RECEIVED
OCT - 3 2007
WATER RIGHTS
PROGRAM

LEGEND

CONCRETE

ROCK

SELECT GRANULAR FILL

EXISTING EARTH

COMPACTED FILL

TOPSOIL

WETLAND

CLEANOUT

DEPTH MARKER LOCATION

SPLASH PAD

RESIDENCE

CULVERT

MW MONITORING WELL

POWER POLE

PROPERTY LINE

DRAINAGE SWALE

EXISTING CONTOUR LINE

PROPOSED CONTOUR LINE

BM BENCHMARK OR CONTROL POINT

X 1270.00 NEW SPOT ELEVATION

SBx SOIL BORING

ELEVATION

FENCE

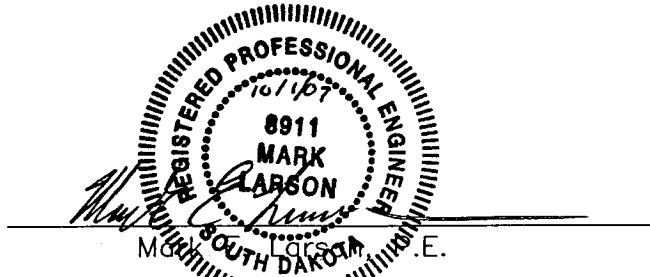
SECTION NO.

SECTION TAKEN FROM DRAWING NO.

SECTION LOCATED ON DRAWING NO.

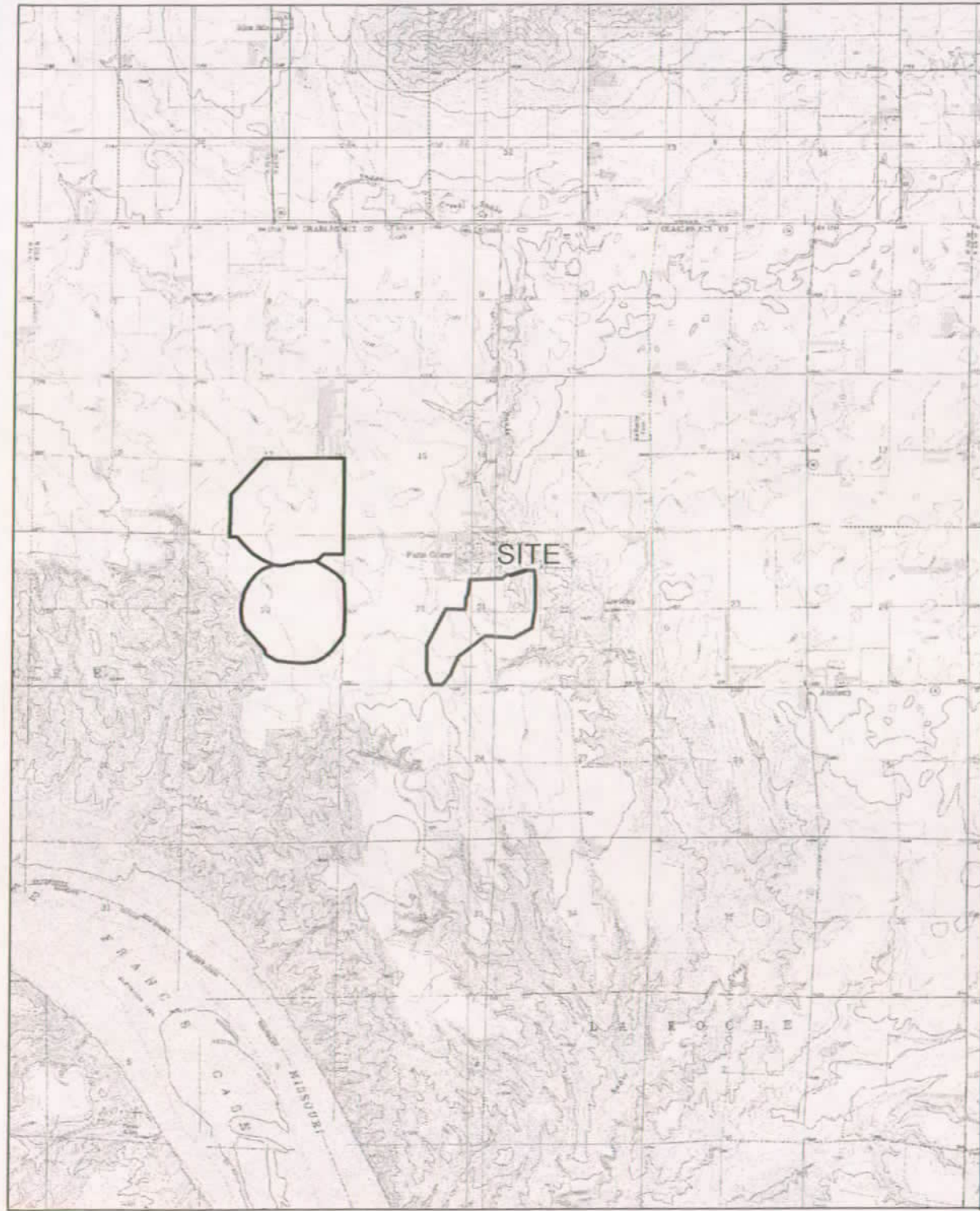
OWNER: PLATTE COLONY
ADDRESS: 35271 270TH STREET
PLATTE, SD 57369-6007
PHONE: (605) 726-3142
PROJECT 21001
LOCATION: NW 1/4 OF SECTION 22, T-100-N, R-70-W
COUNTY: CHARLES MIX

SHEET INDEX	
DWG. NO.	DESCRIPTION
1	TITLE PAGE
2	AREA/VICINITY MAP
3	DAM PLAN
4	DAM PROFILE
5	DAM SECTIONS
6	GENERAL NOTES & SPECIFICATIONS

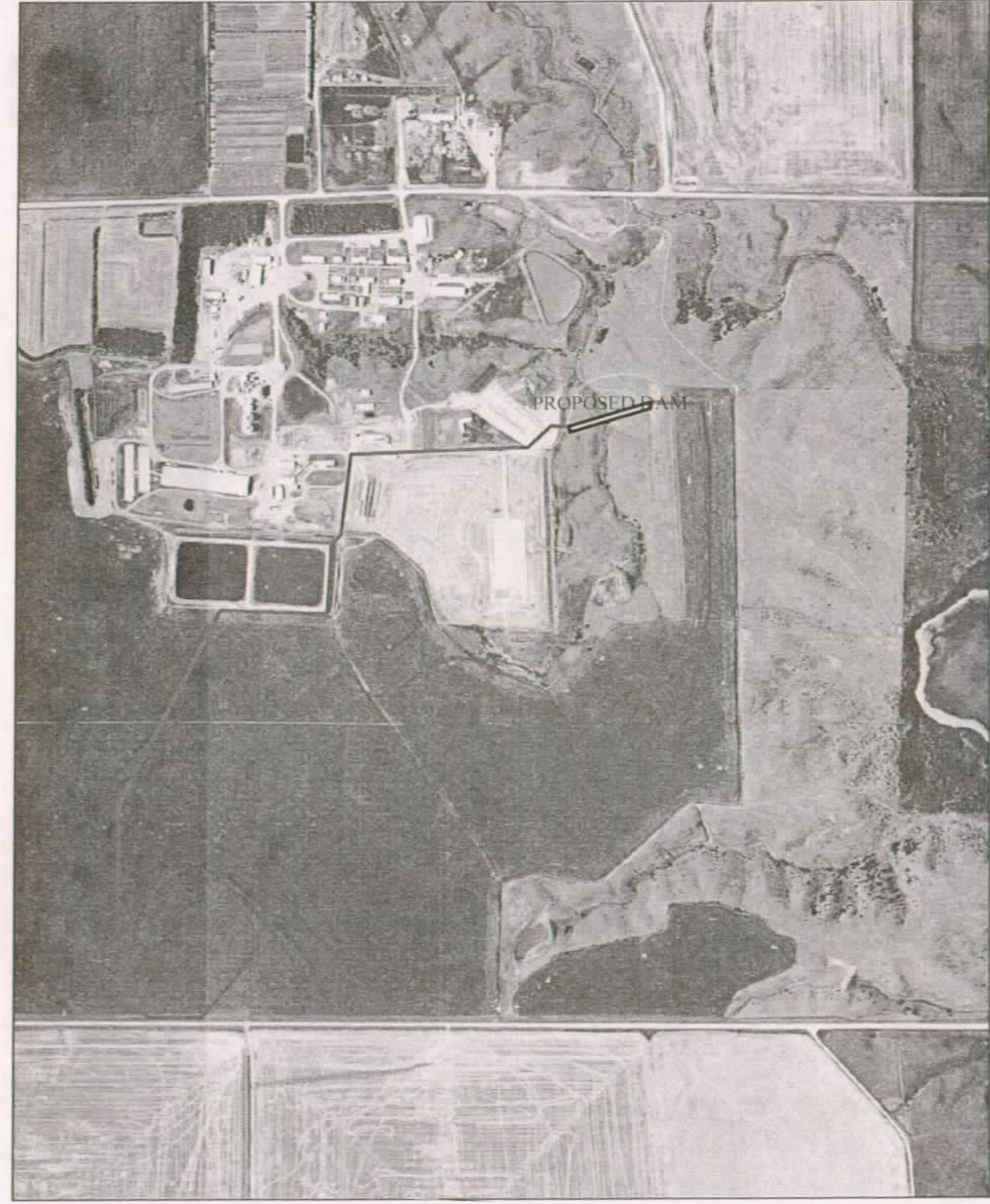


I hereby certify that these plans were prepared by me, or prepared under my direct supervision; and that I am a duly Registered Professional Engineer under the Laws of the State of South Dakota.

1	10/1/07	REV. DATE	RESUBMITTAL CHANGES	MEL	BY	BF	CHKO
			DESCRIPTION				
			DRAWN:	5/30/07			
			CHECKED:	MEL			
			BF				
TITLE PAGE							P.O. BOX 636 HURON, SD 57350 605-352-5610
PLATTE COLONY DAM							
DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED							
							
JOB NO:							
21001							
SCALE:							
NOT TO SCALE							
DWG:							
1							



VICINITY MAP
1" = 5,000'



AREA MAP
1" = 800'



JOB NO:
21001
SCALE:
AS NOTED
DWG:
2

AREA/VICINITY MAP		10/1/07	RESUBMITTAL CHANGES	MEL	BF
REV.	DATE	DESCRIPTION	BY	CHKD	
1	5/30/07	DATE: 5/30/07	DRAWN: MEL	CHECKED: BF	
DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED					
P.O. BOX 636 HURON, SD 57350 605-352-5610					

NORTH

ROCK RIP RAP
SPLASH PAD

SPILLWAY OUTLET

PLACE SPILLWAY
PARALLEL WITH
EXISTING CHANNEL

PRIMARY AND SECONDARY
SPILLWAY INLET

EXISTING CHANNEL



JOB NO:

21001

SCALE:

1"=120'

DWG:

3

DAM PLAN

PLATTE COLONY DAM

DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED

P.O. BOX 636 HURON, SD 57350 605-352-5610

1

10/1/07

SPILLWAY ELEVATIONS

MEL

BF

DESCRIPTION

BY

CHKO

DATE:

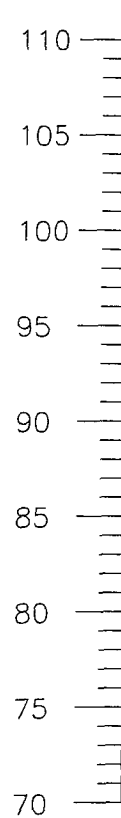
5/30/07

DRAWN:

MEL

CHECKED:

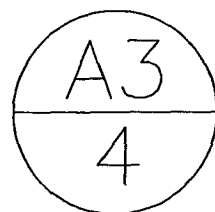
BF



MAXIMUM SPILLWAY
EL. 100.0

TOP OF DAM
BERM EL. 105.0

EXISTING GRADE



CL DAM PROFILE

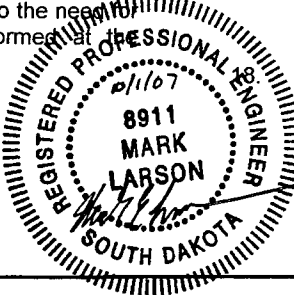
VERTICAL: 1"=10'
HORIZONTAL: 1"=40'



DAM PROFILE	10/1/07	RESUBMITTAL CHANGES	MEL	BF
	REV.	DESCRIPTION	BY	CHKD
PLATTE COLONY DAM	DATE:	5/30/07	DRAWN: MEL	CHECKED: BF
DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED	P.O. BOX 636 HURON, SD 57350 605-352-5610			
	JOB NO: 21001			
SCALE:	AS NOTED			
DWG:	4			

GENERAL NOTES/SPECIFICATIONS

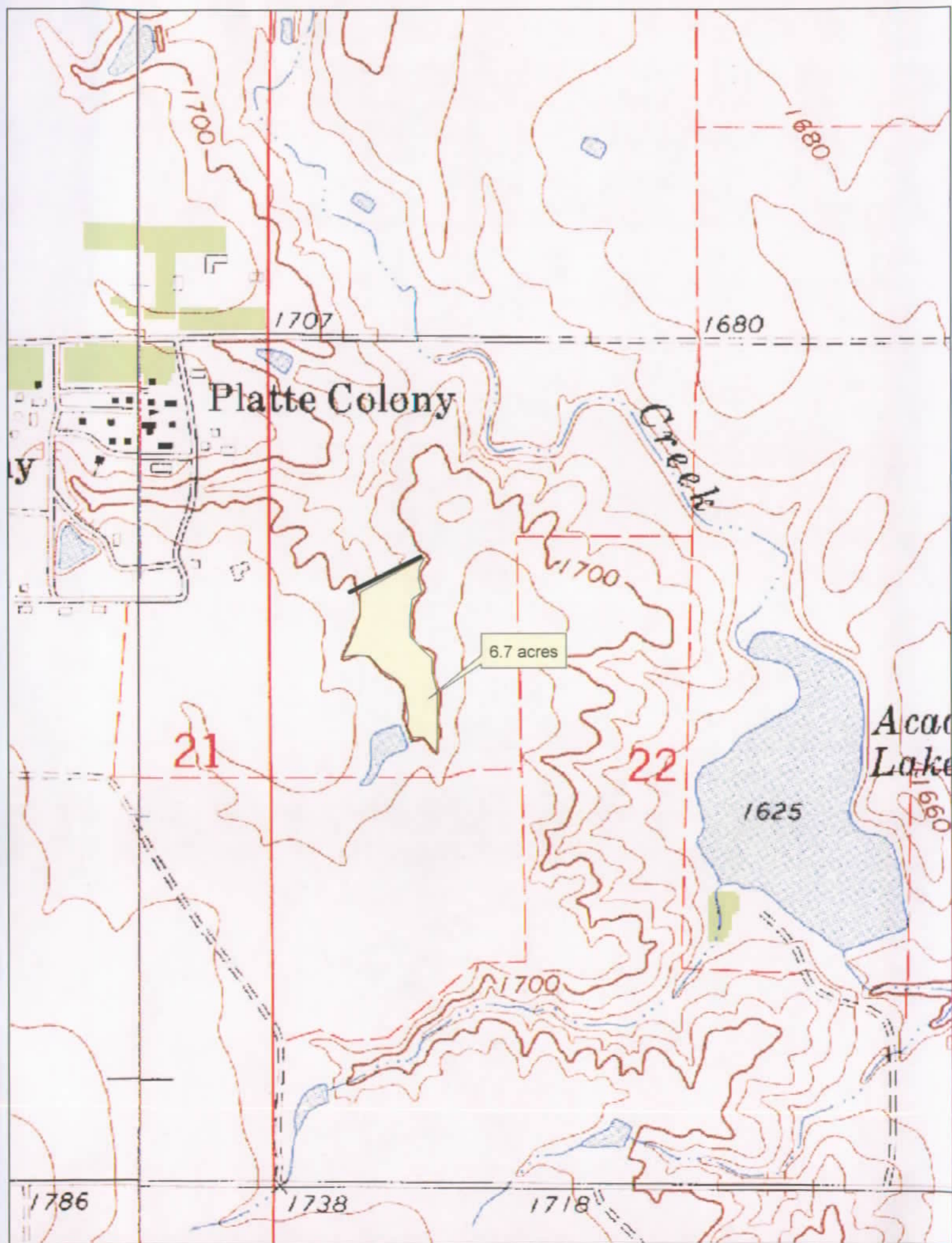
1. NO VARIATION FROM THESE PLANS IS AUTHORIZED WITHOUT PRIOR APPROVAL OF ENGINEER. THE BUILDER IS TO ADVISE ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY INCONSISTENCY OR DISCREPENCY IN THESE PLANS WITH FIELD CONDITIONS OR PLANS PROVIDED BY OTHERS.
2. Any new water supply wells placed on the site must be a minimum of 150 feet from the closest point of any waste holding structure including manure pits. Any new well must be a minimum of 50 feet from the closest point of a sewer line.
3. Strip topsoil and vegetation from all areas under structures and embankments. Stripping excavation shall extend to a depth sufficient to expose subsoil reasonably free of roots and other perishable material. Excavated earth material determined to be satisfactory by the Engineer shall be used for earth fill or topsoil. Stripped material suitable for topsoil shall be stockpiled and spread, as specified in these specifications.
4. Stripping excavation for foundations shall extend to consolidated subsoil and shall be left as reasonably smooth surfaces free of unconsolidated or loose soil. In most soils we recommend that at least a 1:1 lateral oversize be maintained in excavating below footing grade. In soft clay and swamp deposits we generally recommend a 2:1 or even 3:1 lateral oversize.
5. The final 4 inches directly beneath the slabs shall be a fine draining granular material with less than 5% of soil material by weight passing a standard #200 sieve and compacted as specified for backfill.
6. Excavated soils consisting of loams and clay shall be deemed satisfactory for earth fill to the extent needed. Sandy soil shall be blended to provide for earth fills, or be wasted as directed by the Engineer. The selection, blending, routing, and disposition of material shall be the responsibility of the Contractor and subject to approval by the Engineer. Fill materials shall contain no frozen material, ice, snow, sod, brush, roots or other perishable materials, or rocks larger than four inches in diameter. No fill shall be placed on a frozen surface.
7. Prior to placement of fill, the entire area to receive fill shall be rolled with heavy equipment (such as a loaded end-dump) and inspected to identify any unsuitable soils that require removal. Unsuitable materials shall be overexcavated to a depth of 2 feet. After stripping or overexcavating, the foundation shall be loosened thoroughly by scarifying or discing to a minimum depth 6 inches. The entire foundation area shall then be compacted to the density and at the moisture specified for the fill.
8. All foundation excavation and/or preparation shall be completed before placing fill. The fill shall be placed such that the distribution of materials is essentially uniform throughout the entire fill and is free from lenses, pockets, streaks, or layers of material differing substantially from surrounding material.
9. Fill shall be placed within specified moisture contents. When material deposited on the fill is too dry, water may be added to the fill material in the borrow area, or after material has been brought onto the fill. If moisture is added to the fill, uniform moisture distribution shall be obtained by discing, blading or other approved methods.
10. Compaction of fill adjacent to concrete columns, walls or flatwork shall not be started until seven days have elapsed after placement of the concrete. Walls shall be laterally supported by slats, flooring, or other adequate permanent bracing prior to backfilling.
11. Density and moisture content of the fill will be tested during the course of the work following the methods described in ASTM D2216, ASTM D1556, or equivalent. The engineer shall be notified two days prior to the need for performance of compaction tests. Testing shall be performed at the following rates:



- a) Earthen liners: A minimum of 4 per lift for areas up to two (2) acres. Provide an additional 2 tests per lift for each additional acre.
- b) Earthfill: A minimum of one compaction test for every 5000 cu. yd.
- If a compaction test fails to meet the required level of compaction, the Contractor shall be responsible for the cost of re-testing after the area has been recompacted.
12. In lieu of conducting density tests on the completed liner, there shall be a minimum of two permeability tests conducted on the completed liner. For ponds larger than two acres, one permeability test shall be conducted for each acre of liner. The locations of the tests must be random and equally distributed over the liner bottom and inside embankments. All liner shall demonstrate an in-place permeability not to exceed 1.0 x 10⁻⁷ centimeters/second.
13. Builder is responsible to manage the routing and stockpiling of material for the clay liner. It is anticipated the native clay soils within 15 feet of the existing surface will be suitable for use as liner material. As early as possible during excavation, field evaluation of the quality of the native clay soil in the vicinity of the bottom liner should be performed with the engineer to verify its adequacy. The contractor shall stockpile choice clay materials during the progress of excavation to ensure the availability of a suitable volume and quality of liner material.
14. When in-place native soils are used as for compacted liner, excavate beyond the design bottom an additional twelve inches. The next six inch layer shall be scarified and recompacted. Additional six inch lifts of select material will be placed and compacted to reach the specified liner thickness. When imported clay material is used for a liner, overexcavate beyond the design bottom by the liner thickness. The entire liner subgrade area shall be rolled to identify any unsuitable soils that require removal. Following overexcavation, six inch lifts of select material will be placed and compacted to reach the specified liner thickness of 18 inches.
15. Seed disturbed and topsoiled areas using Fairway Crested Wheatgrass at 15#/acre, or Smooth Bromegrass at 20#/acre. Apply seed when soil is not wet, using a grass drill at a depth of 1/4 to 3/4 inch, or with other approved types of equipment that will ensure a uniform distribution of the seed. Areas with slopes steeper than 4:1 shall be mulched with straw or hay and anchored by use of a mulching machine or netting.
16. Unless otherwise specified on the plans, the fill shall be compacted to the following specifications. Maximum density shall be determined by ATSM-D-698, Standard Proctor Test.
- | | % maximum dry density | moisture range about optimum % | max. lift thickness | total liner thickness |
|-------------------------------|-----------------------|--------------------------------|---------------------|-----------------------|
| Embankment | 90% | -2 to +2 | 12" | - |
| Structural fill beneath slabs | 95% | -2 to +2 | 8" | - |
| Clay liner | 95% | -2 to +2 | 6" | 18" |
17. All concrete work shall conform to the American Concrete Institute's "Building Code Requirements for Structural Concrete" (ACI 318). During hot weather (80° F and above), comply with ACI 305 "Hot Weather Concreting". During cold weather (40° F and below), comply with ACI 306 "Cold Weather Concreting."
- Concrete Materials and Testing:
- a) All concrete shall have 3/4 inch maximum aggregate size. Provide a mix with a slump of 4 inches +/- 1 inch. Do not exceed a water/cementitious materials ratio of 0.45. Water reducing admixtures may be used at the discretion of the contractor.
- b) Concrete shall use Type II cement and be furnished with proper

- admixture to obtain 5% +/- 1% air entrainment.
- c) Concrete shall develop a minimum 28 day strength of 4000 psi.
- d) Provide quality assurance testing in accordance with the following requirements. Submit the results of all tests to the Engineer along with the completed and signed Certification Form. Testing will be wholly the responsibility of the contractor/building.
- e) Collect concrete test cylinders in accordance with ASTM C31. Test cylinders may be taken either at the batch plant (assure materials are thoroughly mixed, at least 1½ minutes after all water and cementitious materials have been introduced), or in the field. Test cylinders shall be made in sets of two. At least one set of two cylinders shall be taken each day concrete is placed. Procurement of test cylinders may be waived upon specific approval of the engineer when less than 40 cubic yards is placed in a given day.
- Obtain at least the following numbers of test cylinders per pen:
- two sets of 2 cylinders (four total) from concrete for slabs; and
- one set of 2 cylinders (two total) from the concrete for walls.
- Test sets of cylinders in accordance with ASTM C39 at 7 and 28 days.
19. Calcium Chloride accelerators will not be allowed.
20. Steel for footings, walls, and floors shall be ASTM A615, Grade 40.
21. All steel shall be lapped 36 bar diameters at splices unless noted otherwise. Splices shall be staggered at least 3 feet. Splices occurring at the same location shall be at least 6 bars apart.
22. Standard concrete cover of bars shall be as follows, unless noted otherwise:
- a) Where earth formed: 3 inches
- b) Where exposed to earth or weather: 2 inches
23. Provide suitable chairs, spacers, or bolsters to support all reinforcing. Accessories shall be as specified in the latest edition of "Concrete Reinforcing Steel Institute Handbook." Maximum spacing of accessories shall be 5'-0". All accessories shall have galvanized or plastic feet. For slabs on grade, use supports with sand plates or horizontal runners if needed. No aluminum items shall be embedded.
24. Install all construction or control (contraction) joints as called for on the drawings or as approved by the engineer. At a minimum, in slabs install control joints with spacing between joints at 50' maximum intervals. Joints shall be spaced to provide approximately equal square regions (max. 1.5:1 length:width ratio). Joints shall be pre-formed, or sawed within 12 hours of concrete placement, and sealed with a polysulfide or urethane sealant designed for submerged applications, such as Vulkem 116, Manufactured Mameco International, or approved equal. Install sealant in accordance with the manufacturer's recommendations including use of any primers, bond breaker, backer rod, curing treatments or other accessories or procedures.
25. Concrete construction shall be planned to minimize the number of construction joints. Except at corners, the location of all construction joints in walls and floor slabs, and the layout of slab control (contraction) joints, shall be reviewed with and approved by the engineer prior to construction.
26. All construction joints in and between floor slabs and exterior walls shall be provided with waterstop. Provide Waterstop RX 102, as manufactured by American Colloid Corp., or polyvinyl chloride waterstop, style #703 as manufactured by Greenstreak or approved equal. Install waterstop in accordance with manufacturer's recommendations on the manure side of reinforcing steel, near the middle of the of the wall or slab section, and as shown on the detail drawings. Maintain specified concrete cover over waterstop and reinforcing steel.

GENERAL NOTES & SPECS	10/1/07	RESUBMITTAL CHANGES	MEL	BF
	REV.	DATE	BY	CHKD
	DATE	5/30/07	DRAWN	MEL
	CHECKED	BF		
PLATTE COLONY DAM		P.O. BOX 636 HURON, SD 57350 605-352-5610		
DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED				
		JOB NO: 21001		
SCALE:		NOT TO SCALE		
DWG:		6		







6.7 acres

5/30/07
Rev. 10/1/07

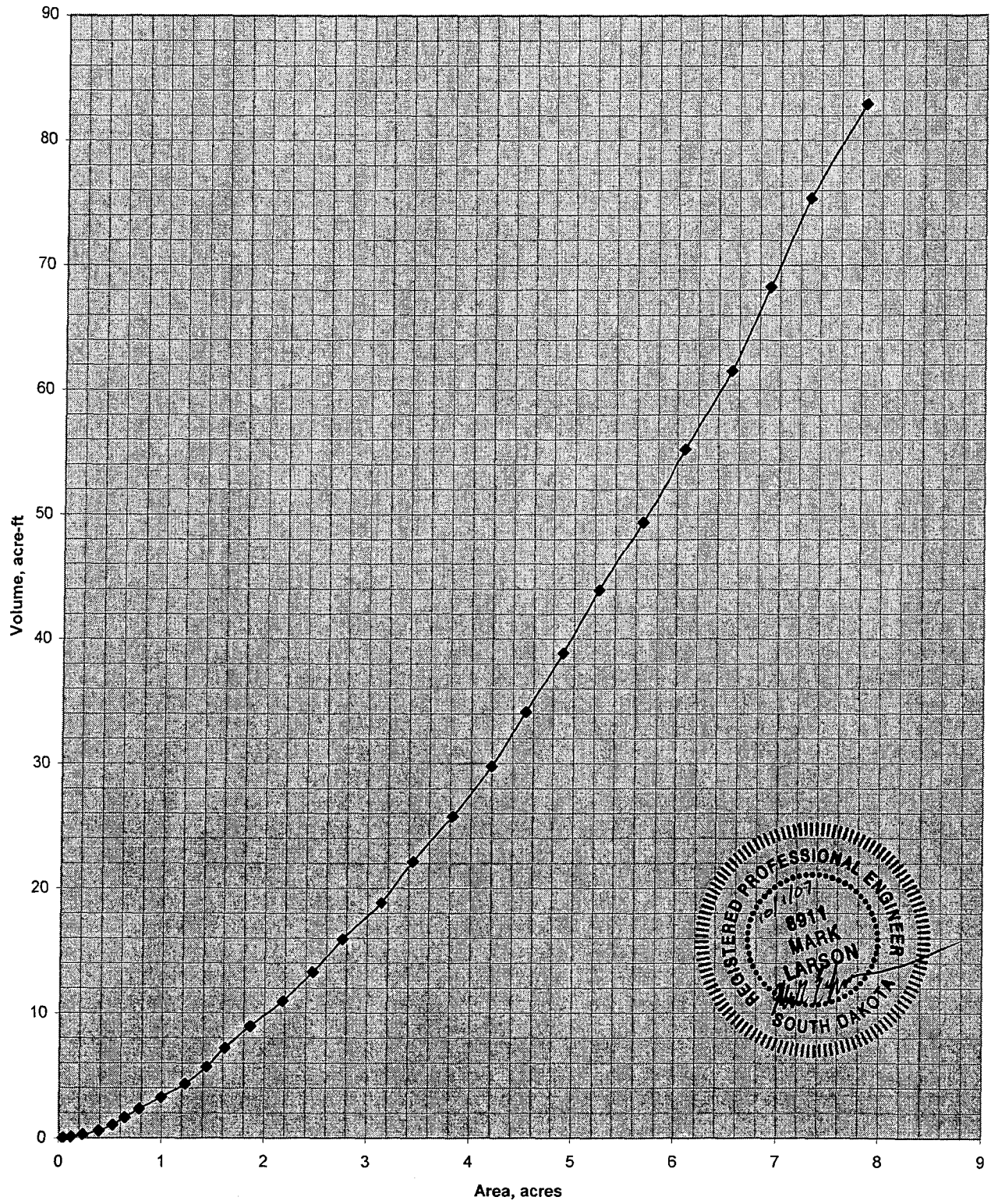
**PLATTE COLONY DAM
VOLUME CALCULATIONS**

Elevation	Area acres	Cumulative Volume Acre-Ft
77.00 (DAM BOTTOM)	0.011	0
78.00	0.042	0.026
79.00	0.121	0.108
80.00	0.236	0.287
81.00	0.390	0.600
82.00	0.525	1.058
83.00	0.641	1.641
84.00	0.779	2.351
85.00	0.999	3.240
86.00	1.227	4.353
87.00	1.436	5.684
88.00	1.617	7.211
89.00 (EVAPORATION MIDPOINT)	1.860	8.949
90.00	2.178	10.968
91.00	2.469	13.291
92.00	2.757	15.904
93.00	3.134	18.850
94.00	3.438	22.136
95.00	3.821	25.765
96.00	4.196	29.774
97.00	4.525	34.135
98.00	4.896	38.846
99.00	5.238	43.913
100.00 (PRIMARY SPILLWAY - MAXIMUM OPERATING LEVEL)	5.666	49.365
101.00 (SECONDARY SPILLWAY)	6.074	55.235
102.00	6.529	61.537
103.00	6.909	68.256
104.00	7.301	75.361
105.00 (TOP OF DAM)	7.843	82.933

	Volume of Interval, cubic feet
Dam Bottom	
	1,151
Top of Residual Volume	
	388,664
Evaporation Midpoint	
	1,760,520
Maximum Operating Level	
	1,462,208
Top of Dam	
23.04 Annual Precipitation, inches	
4.4 25 year, 24 hour Storm, inches	
38 Annual Evaporation, inches	
25 year / 24 hour Storm Volume, cubic feet	125,261
Annual Precipitation Volume, cubic feet	655,912
Annual Evaporation Volume, cubic feet	256,541
Net Storage Available, cubic feet	1,749,812



Area vs Volume



5/30/07
Rev. 10/1/07

PLATTE COLONY DAM
DISCHARGE CAPACITY CALCULATIONS

2 - 48" DIA. PIPE

Perimeter =	25.12 ft	DEPTH OVER SPILLWAY INLET	Q (cfs)
$V_{full} =$	29.091 fps	0.5	365.38
$Q_{full} =$	730.77 cfs	1	730.77

Pipe Flow

Pipe Diameter = 48 in. Wetted Perimeter: 360 degrees
Slope = 6.5 %
Manning Coef. = 0.013

Mannings

$$V = (1.486/n) * R^{2/3} S^{1/2} = 29.091 \text{ fps}$$

30' WEIR

	DEPTH OVER SPILLWAY INLET	Q (cfs)
	0.5	35.2
	1	99.2
Francis	1.5	181.7
$Q = 3.33h_1^{3/2}(L - 0.2h_1)$	2	278.8
	2.5	388.3
	3	508.7



DEC

Platte
Dam
Charles Mix County, South Dakota

Hydrograph Peak/Peak Time Table (Trial #3) **48" DIA. PIPE**

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 25-Yr (cfs) (hr)
------------------------------------	--

SUBAREAS

Pond	29.23 12.00
------	----------------

Basin	279.48 12.50
-------	-----------------

REACHES

Pond	279.48 12.50
Down	119.81 13.22

OUTLET	121.58
--------	--------



Dakota Environmental Consultants, Inc.

Engineers...Hydrogeologists...Geologists...Remedial Specialists

"Yours for a cleaner Earth"

February 25, 2008

Tim Schaal
SD DENR
523 E Capitol
Pierre, South Dakota 57501

RECEIVED
FEB 26 2008
WATER RIGHTS
PROGRAM

RE: Proposed Irrigation Dam
Platte Colony, Charles Mix County
DEC Project #21001

Dear Mr. Schaal:

Submitted herewith for your review and approval are two copies of plans and specifications for the construction of an irrigation dam at the above referenced project site. These materials are being resubmitted in full.

The proposed site is located in the NW ¼ of Section 22, T100N, R70W. The proposed dam will be used to store water for irrigation purposes. Work to be done at the site includes, but is not limited to, topsoil removal, subsoil excavation for the cutoff trench, placement of compacted fill and rock rip rap, spillway construction, erosion control through silt fencing or straw bales, and seeding. All property contiguous to the dam site and flood zone behind the dam is owned by Platte Colony. The flood zone consists of a 7.84 acre area behind the dam. The property contiguous to the dam site includes 185.24 acres behind the dam as outlined on the area map on plan sheet 2.

We hope the included materials are adequate for approval of this application. As always, please contact us if you have any questions or require additional information.

Sincerely,

Mark E. Larson, PE
Project Engineer

P&S Review

Water Permit Application No. 6871-3
Platte Colony

Top of Dam Elev. - 82
2nd Spillway Elev. - 78
P. Spillway Elev. - 76
D/S Emb. Toe Elev. - 50

Cat. 3 - Low Hazard Dam

Ht. = 32

Normal Storage Capacity - 44 A.-Ft
Int. Storage Capacity - 55
Max. Storage Capacity - 83

Int Capacity x Eff Ht. = $55 \times 28 = 1400 < 3000 \therefore 25 \text{ yr}$
Minimum Spillway Design

From USGS WRI #98-4055 "Tech for Est. Peak Flows ... in 50"
Region D CN = 75
D/A = 185 ac = 0.29 mi.²

$$Q_{15} = 676 CA^{.585}$$

$$= 676 (0.29)^{.585}$$

$$= \underline{328 \text{ cfs}}$$

$$Q_{100} = 1270 CA^{.663}$$

$$= 1270 (0.29)^{.663}$$

$$= \underline{560 \text{ cfs}}$$

Secondary Spillway Capacity

$$Q = CLH^{3/2}$$

$$= 2.6 (30) (4)^{1.5}$$

$$= \underline{625 \text{ cfs}}$$

C = 2.6
L = 30 ft
H = 4

Section 74:02:08:09

1. Topo Map - OK
2. Dam Axis Profile - OK
3. Dam Axis X-Sec - OK
4. Area Capacity - OK
5. Outlet Details - OK
6. Spillway Rating - OK
7. Spillway Details - OK
8. Specs - OK
9. EPP - N/A Cat 3 - OK

NRCS Annual Yield

DA = 185 Ac = 0.29 mi.²
ISO = 2 1/2 CN = 75

80% chance = 0.18
 $0.18 \times 185^{1/2} = \underline{3 \text{ A.-Ft}}$

50% chance = 0.46
 $0.46 \times 185^{1/2} = \underline{7 \text{ A.-Ft}}$

10% chance = 2.3
 $2.3 \times 185^{1/2} = \underline{35 \text{ A.-Ft}}$

PLATTE COLONY DAM

PLANS AND REPORTS

February 19, 2008

RECEIVED

FEB 26 2008

WATER RIGHTS
PROGRAM

DEC Project No. 21001

Producer: Platte Hutterian Brethren, Inc.
Dale Stahl, Secretary

Address: 35271 270th Street
Platte, SD 57369-6007

Phone: (605) 726-3142

Project Location: NW ¼ of Section 22, T-100-N, R-70-W, Charles Mix County, SD



DAKOTA ENVIRONMENTAL, INC.

Environmental Engineers...Hydrogeologists...Geologists...Remedial Specialists

"Yours for a cleaner Earth"

1122 21st SW PO Box 636
Huron, SD 57350
1-800-888-0423

2/19/08

**PLATTE COLONY DAM
QUANTITIES AND HYDROLOGY**

TABLE OF QUANTITIES		
ITEM	UNIT	QUANTITY
Excavation		
Core Trench	Cu. Yd.	872.2
Unsuitable Material Removal	Cu. Yd.	85.0
Emergency Spillway	Cu. Yd.	1419.9
Earthfill Class S	Cu. Yd.	34000
Seeding	Acre	2.18
48" dia. X 6' deep concrete drop structure	Each	1
36" dia. PVC (Schedule 60 MIN.) or Polymer Coated CMP 16 ga.	Lin. Ft.	230
4" Perforated PVC (Schedule 40 MIN.)	Lin. Ft.	20
4" Non-Perforated PVC (Schedule 40 MIN.)	Lin. Ft.	145
Fine Drainfill	Cu. Yd.	35

Hydraulic Data

Drainage Area	185.24	Acres	
Time of Concentration	1.807	Hours	
Runoff Curve Number	87		
Principle Spillway, 2 yr/24 hr Rainfall	2.4	Inches	
Emergency Spillway, 25 yr/24 hr Rainfall	4.4	Inches	
Principle Spillway Discharge	42.25	CFS	
Emergency Spillway Discharge	159.74	CFS	
Crest of Normal Pool	5.238	Acres	43.913 Ac-Ft
Crest of Emergency Spillway	6.074	Acres	55.235 Ac-Ft
Top of Dam	7.843	Acres	82.933 Ac-Ft



5/30/07
Rev. 10/1/07
Rev. 2/19/08

PLATTE COLONY DAM VOLUME CALCULATIONS

Elevation		Area acres	Cumulative Volume Acre-Ft
54.00	(DAM BOTTOM)	0.011	0
55.00		0.042	0.026
56.00		0.121	0.108
57.00		0.236	0.287
58.00		0.390	0.600
59.00		0.525	1.058
60.00		0.641	1.641
61.00		0.779	2.351
62.00		0.999	3.240
63.00		1.227	4.353
64.00		1.436	5.684
65.00		1.617	7.211
66.00	(EVAPORATION MIDPOINT)	1.860	8.949
67.00		2.178	10.968
68.00		2.469	13.291
69.00		2.757	15.904
70.00		3.134	18.850
71.00		3.438	22.136
72.00		3.821	25.765
73.00		4.196	29.774
74.00		4.525	34.135
75.00		4.896	38.846
76.00	(PRIMARY SPILLWAY - MAXIMUM OPERATING LEVEL)	5.238	43.913
77.00		5.666	49.365
78.00	(EMERGANCY SPILLWAY)	6.074	55.235
79.00		6.529	61.537
80.00		6.909	68.256
81.00		7.301	75.361
82.00	(TOP OF DAM)	7.843	82.933

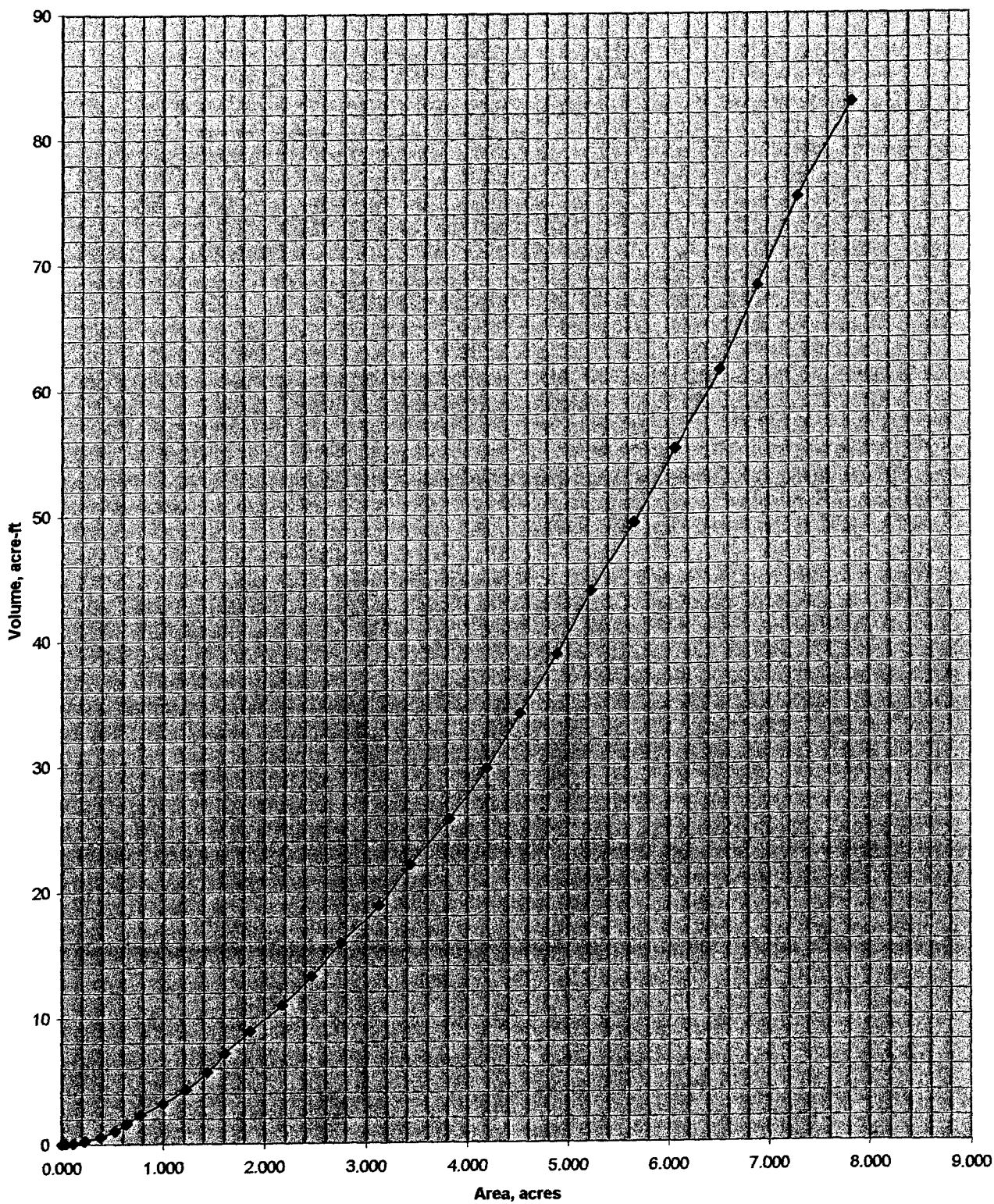
	Volume of Interval, cubic feet
Dam Bottom	1,151
Top of Residual Volume	388,664
Evaporation Midpoint	1,523,023
Maximum Operating Level	493,195
Emergancy Spillway Level	1,206,511
Top of Dam	
23.04 Annual Precipitation, inches	
4.4 25 year, 24 hour Storm, inches	
38 Annual Evaporation, inches	
25 year / 24 hour Storm Volume, cubic feet	125,261
Annual Precipitation Volume, cubic feet	655,912
Annual Evaporation Volume, cubic feet	256,541
Net Storage Available, cubic feet	1,512,315



2/19/08

PLATTE COLONY DAM A vs V GRAPH

Area vs Volume



DEC

Platte Colony
Dam
Charles Mix County, South Dakota

Hydrograph Peak/Peak Time Table (Trial #3) 3C''

Sub-Area or Reach Identifier	Peak Flow 2-Yr (cfs) (hr)	Peak Time (hr) by Rainfall Return Period 25-Yr (cfs) (hr)
------------------------------------	------------------------------------	--

SUBAREAS

Basin	80.45 12.99	199.47 12.95
-------	----------------	-----------------

REACHES

Reach A	80.45 12.99	199.47 12.95
Down	42.25 14.02	64.42 14.55

OUTLET	42.25	64.42
--------	-------	-------

DEC

Platte Colony
Dam
Charles Mix County, South Dakota

Hydrograph Peak/Peak Time Table (Trial #2) 30'

Sub-Area or Reach Identifier	Peak Flow 2-Yr (cfs) (hr)	Peak Time (hr) by Rainfall Return Period 25-Yr (cfs) (hr)
------------------------------------	------------------------------------	--

SUBAREAS

Basin	80.45	199.47
	12.99	12.95

REACHES

Reach A	80.45	199.47
	12.99	12.95
Down	56.30	159.74
	13.67	13.52

OUTLET	56.30	159.74
--------	-------	--------

PLATTE COLONY
IRRIGATION DAM
PLANS AND SPECIFICATIONS
ISSUED MAY 30, 2007

CONCRETE

ROCK

SELECT GRANULAR FILL

EXISTING EARTH

COMPACTED FILL

TOPSOIL

WETLAND

CLEANOUT

DEPTH MARKER LOCATION

SPLASH PAD

RESIDENCE

CULVERT

MW MONITORING WELL

POWER POLE

PROPERTY LINE

DRAINAGE SWALE

EXISTING CONTOUR LINE

PROPOSED CONTOUR LINE

BM BENCHMARK OR CONTROL POINT

X 1270.00 NEW SPOT ELEVATION

SBx SOIL BORING

ELEVATION

FENCE

SECTION NO. SECTION TAKEN FROM DRAWING NO.

SECTION LOCATED ON DRAWING NO.

OWNER: PLATTE COLONY
ADDRESS: 35271 270TH STREET
PLATTE, SD 57369-6007
PHONE: (605) 726-3142
PROJECT 21001
LOCATION: NW 1/4 OF SECTION 22, T-100-N, R-70-W
COUNTY: CHARLES MIX

SHEET INDEX	
DWG. NO.	DESCRIPTION
1	TITLE PAGE
2	AREA/VICINITY MAP
3	DAM PLAN
4	SPILLWAY PLAN (ADDED 2/19/08)
5	DAM PROFILE & SECTIONS (ADDED 2/19/08)
6	RISER & CONCRETE DETAILS (ADDED 2/19/08)
7	ANTISEEP COLLAR & SPLASHPAD (ADDED 2/19/08)
8	GENERAL NOTES & SPECIFICATIONS



Mark E. Larson, P.E.

I hereby certify that these plans were prepared by me, or prepared under my direct supervision; and that I am a duly Registered Professional Engineer under the Laws of the State of South Dakota.

TITLE PAGE

PLATTE COLONY DAM

DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED

2/19/08

10/1/07

2

1

REV.

DATE

DATE

RESUBMITTAL

RESUBMITTAL CHANGES

DESCRIPTION

DATE

5/30/07

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JOB NO:

21001

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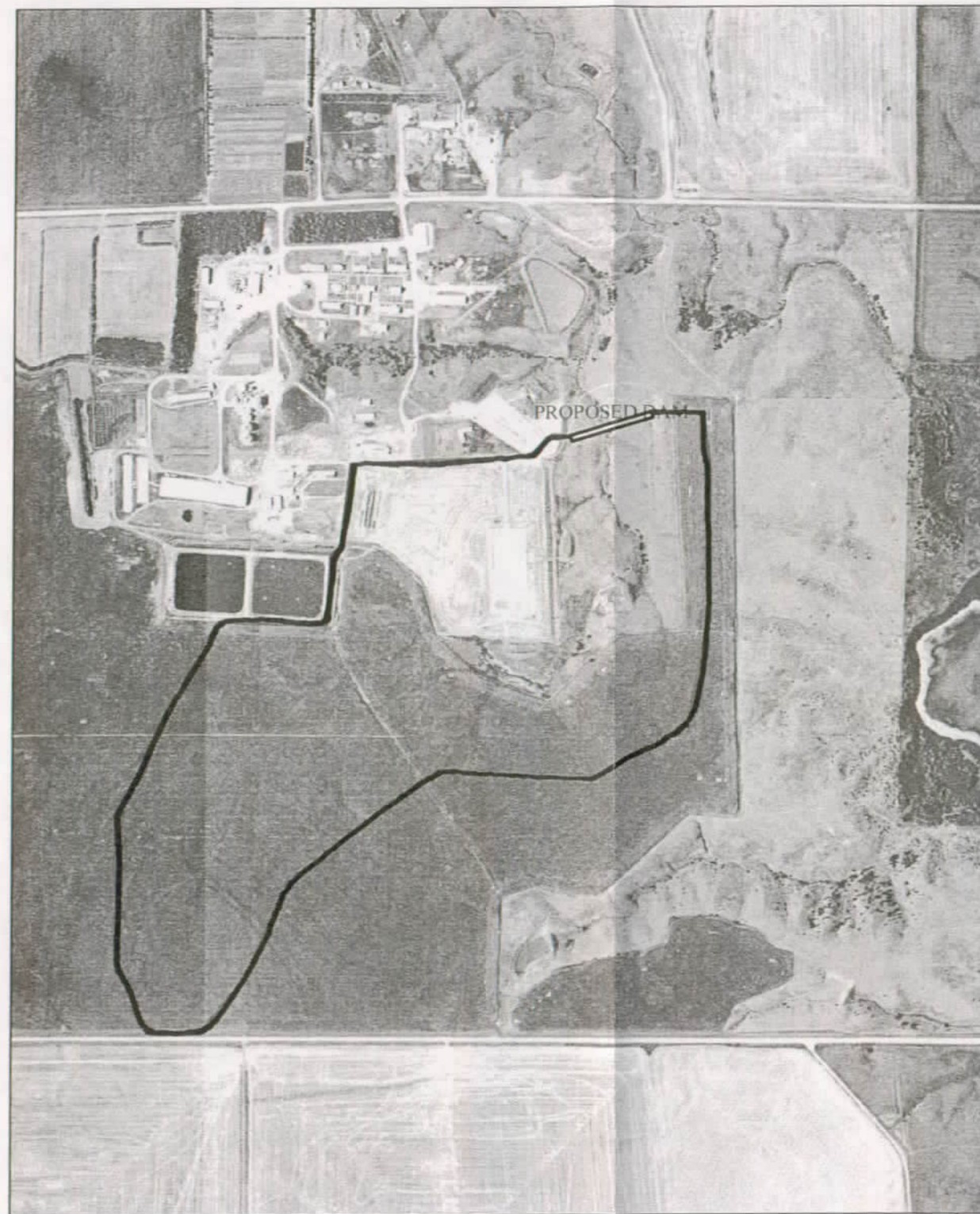
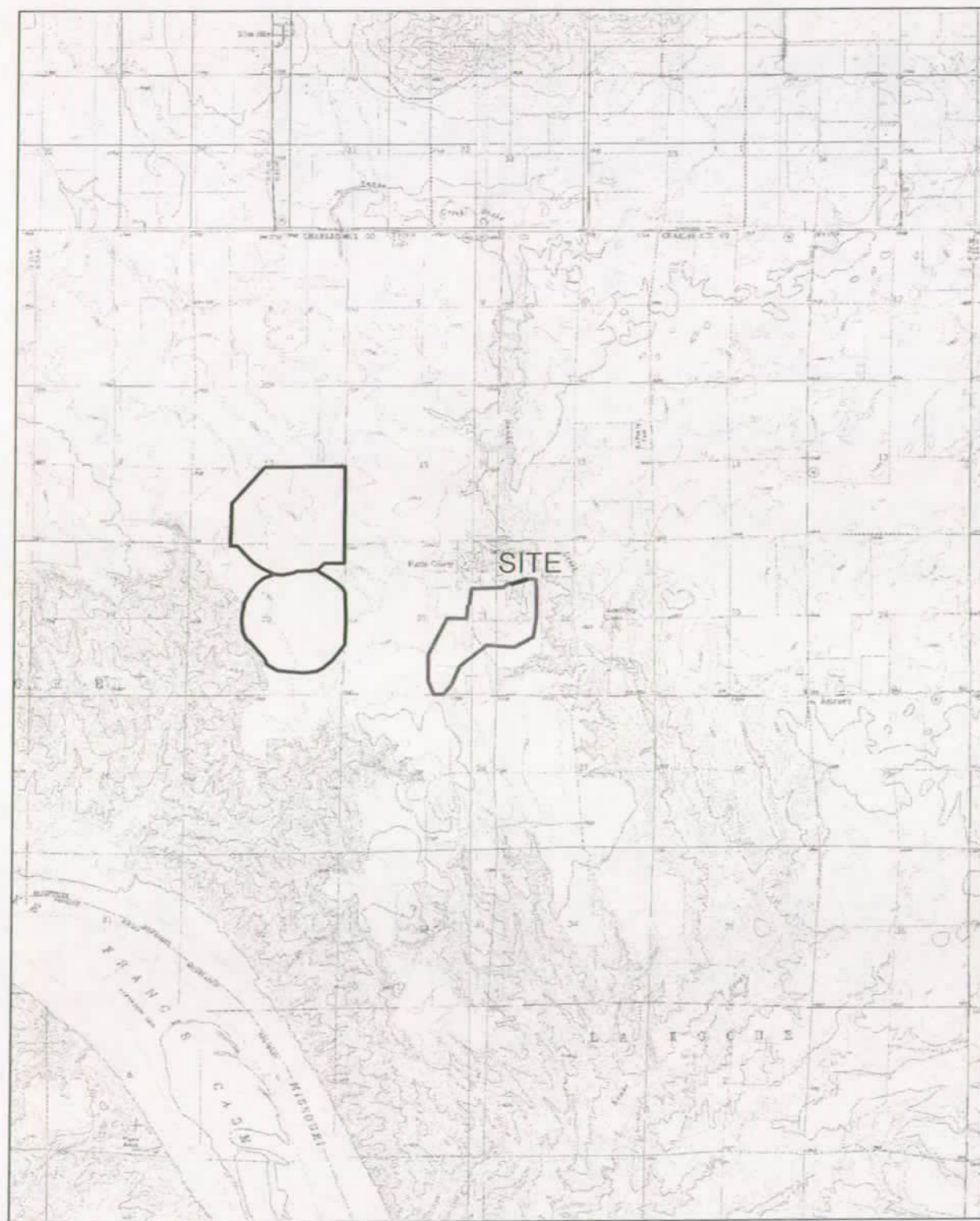
605-352-5610

SD 57350

HURON, SD

BOX 636

P.O.



JOB NO:

21001

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2

AREA/VICINITY MAP

PLATTE COLONY DAM

DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED

2 2/19/08

1 10/1/07

REV. DATE

DATE: 5/30/07

RESUBMITTAL

RESUBMITTAL CHANGES

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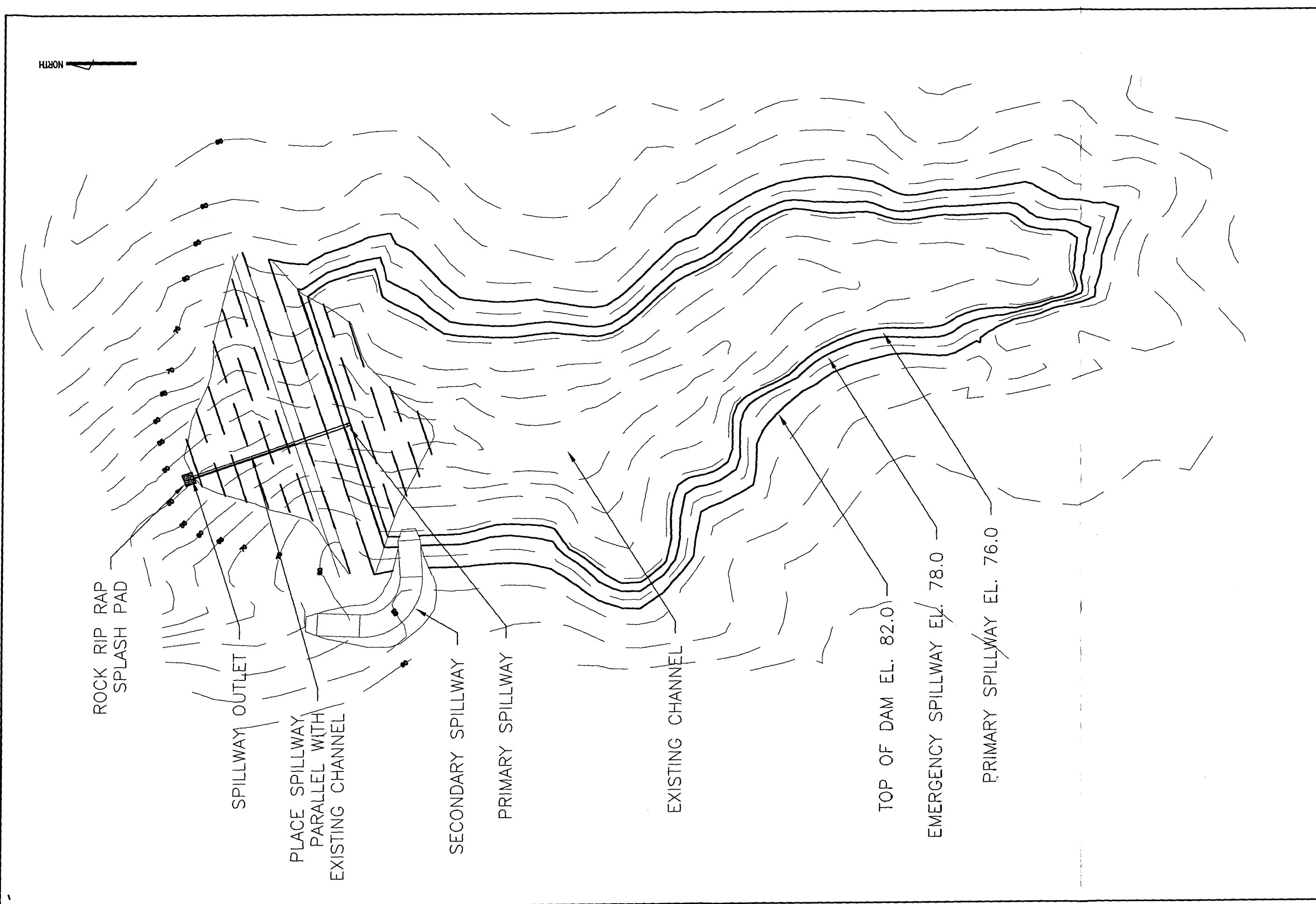
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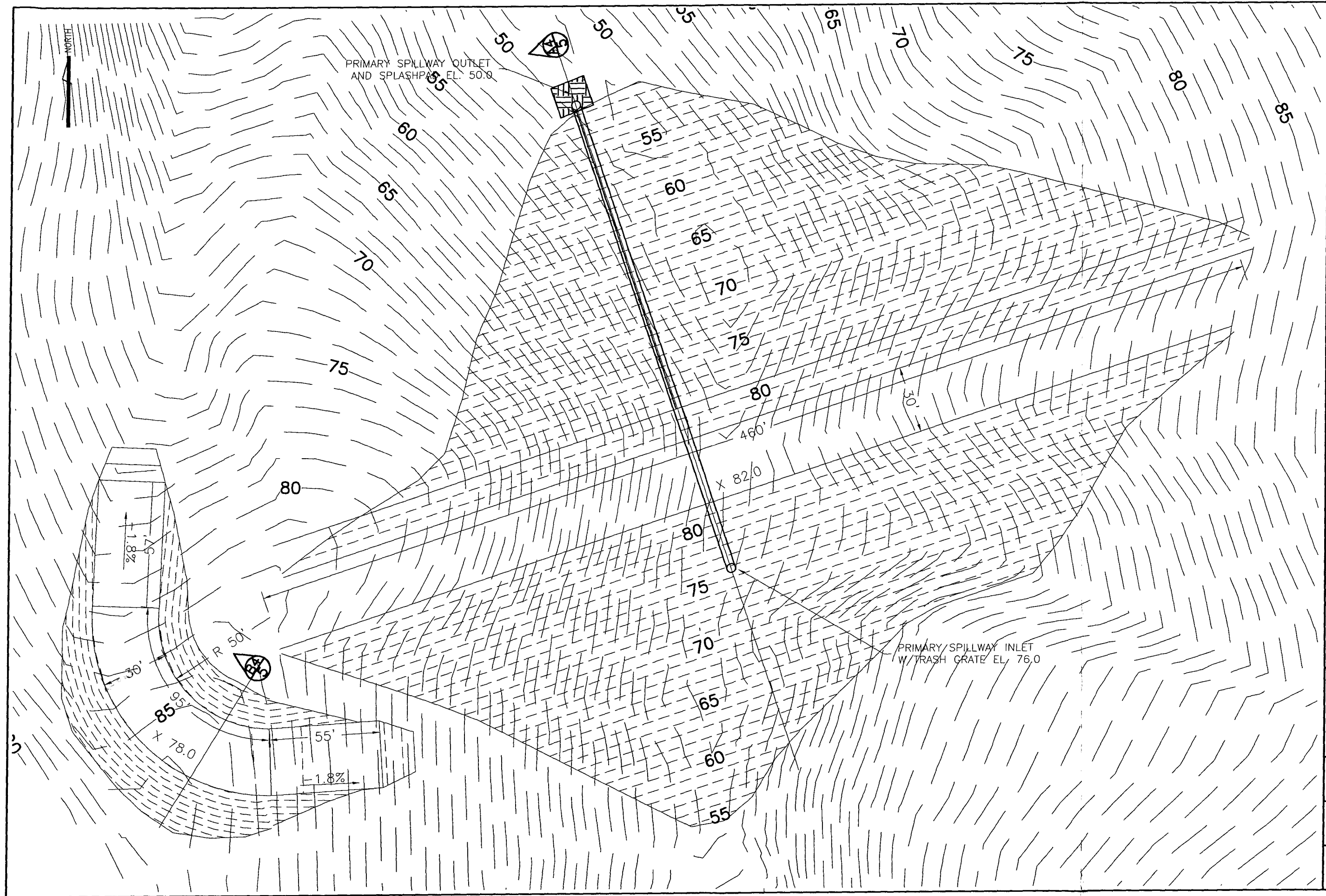
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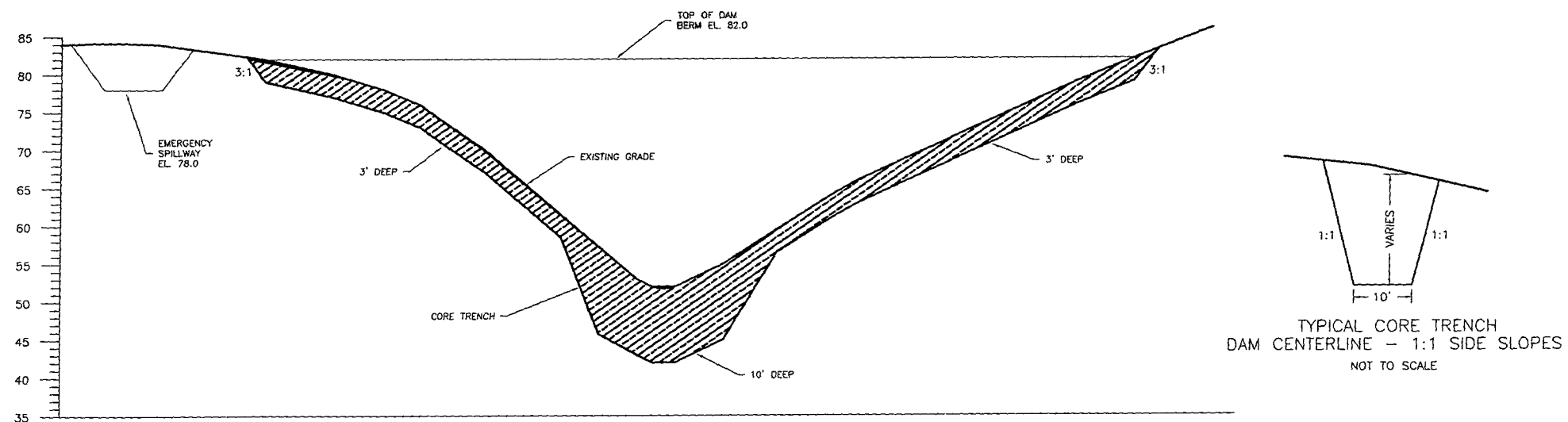
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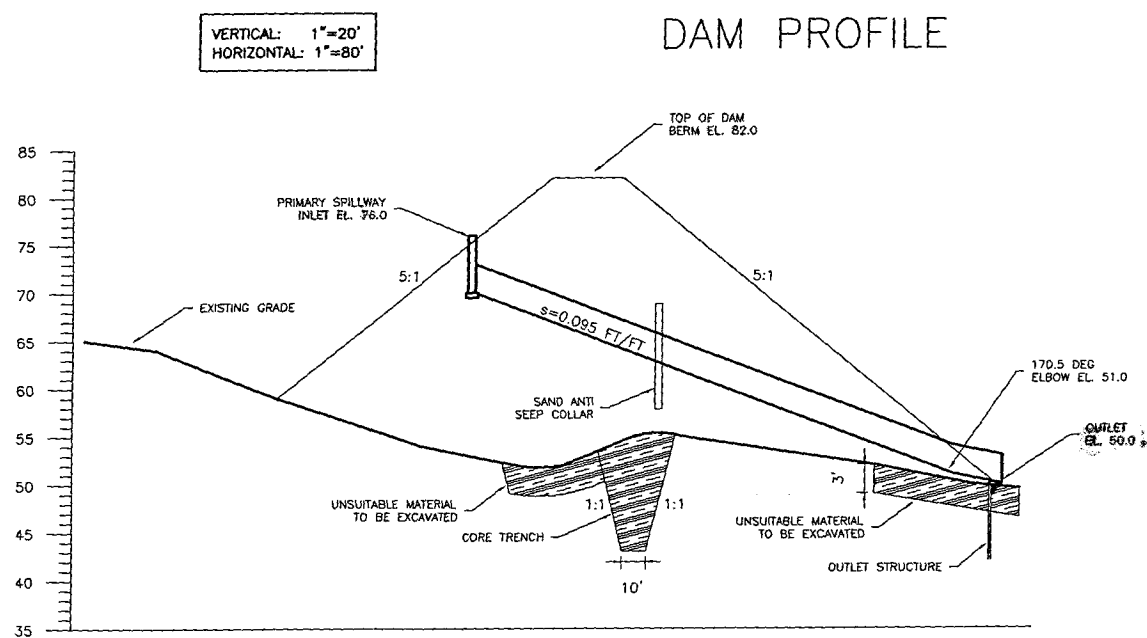
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DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED				REV. 1	DATE 10/1/07	DESCRIPTION	BY	CHKO	
				DATE 5/30/07	DRAWN: MEL	CHECKED: BF			
				P.O. BOX 636 HURON, SD 57350 605-352-5610					



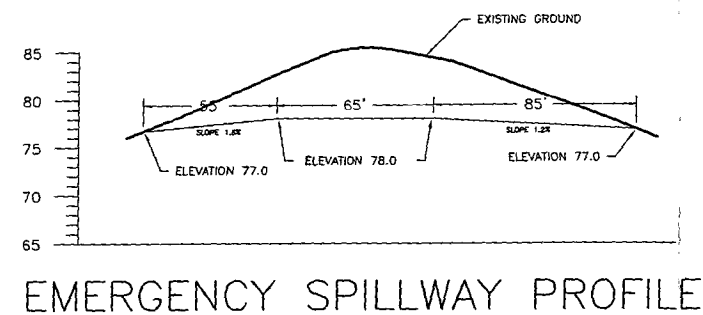
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		PLATTE COLONY DAM															
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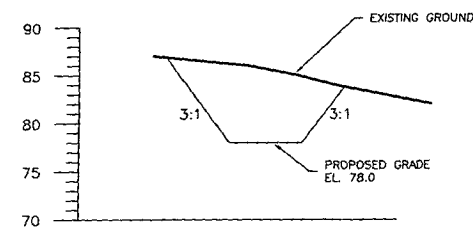
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DAM CENTERLINE - 1:1 SIDE SLOPES
NOT TO SCALE



A4
5 DAM CROSS SECTION

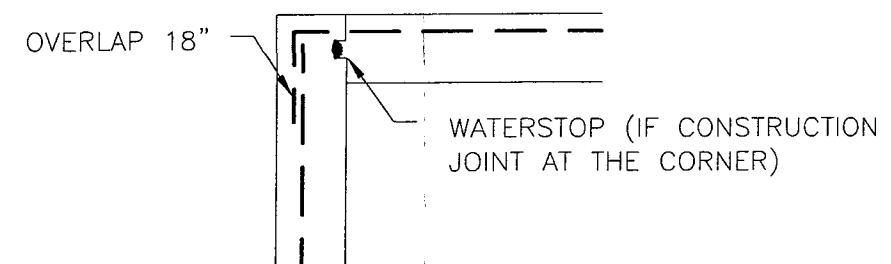
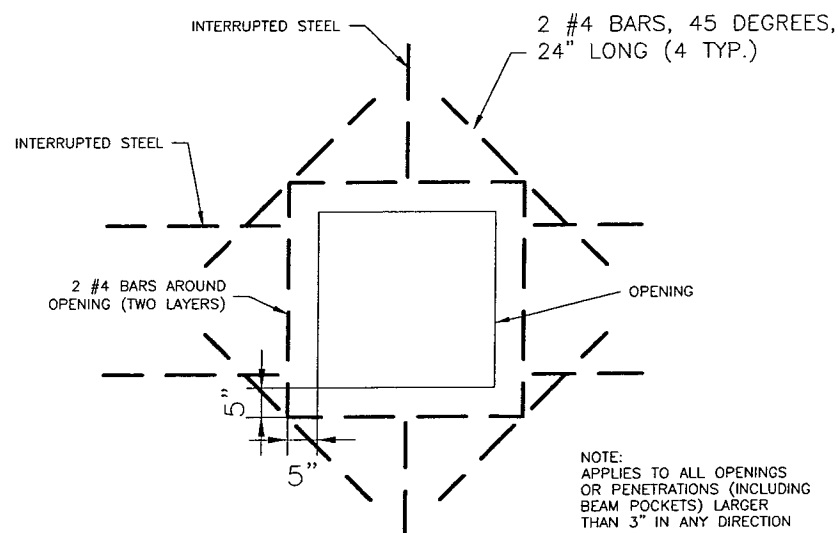
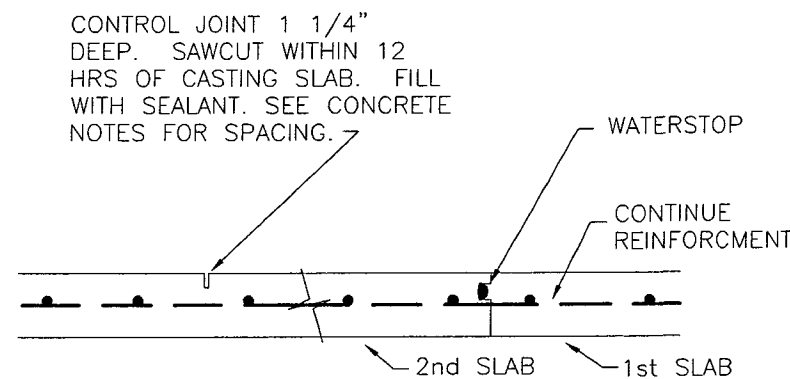
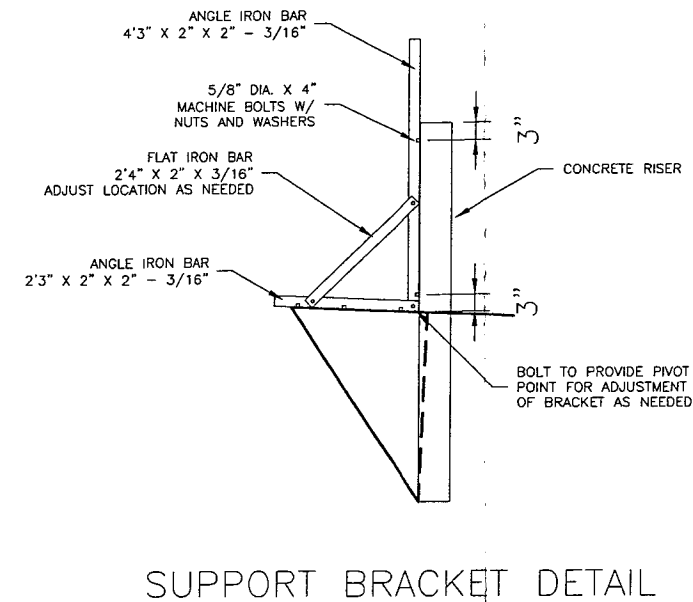
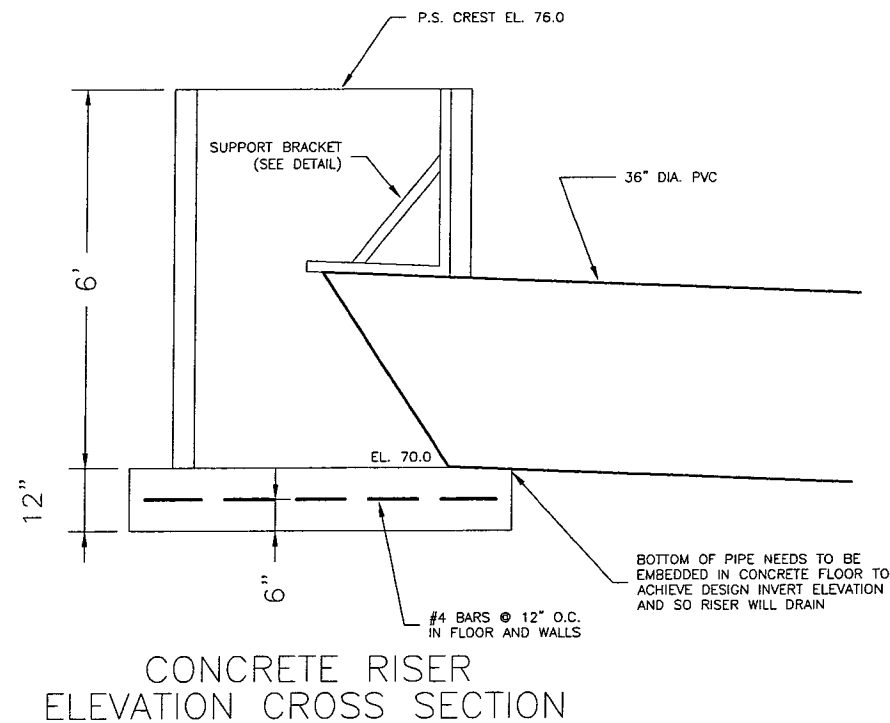
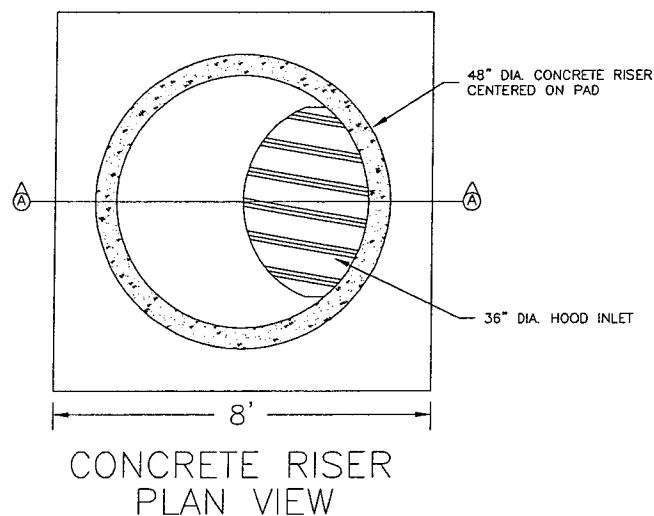


EMERGENCY SPILLWAY PROFILE

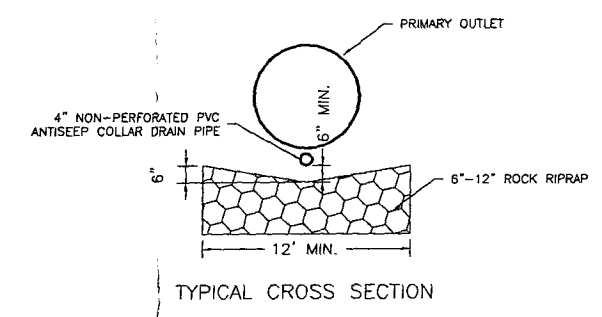
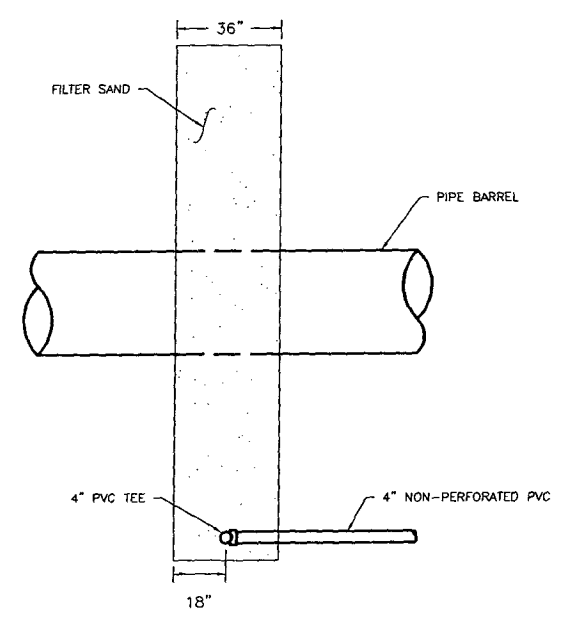
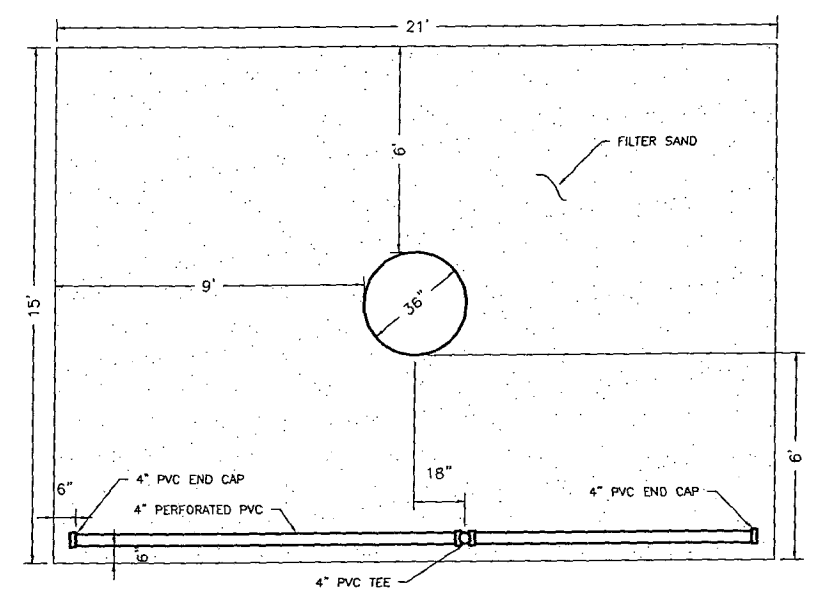
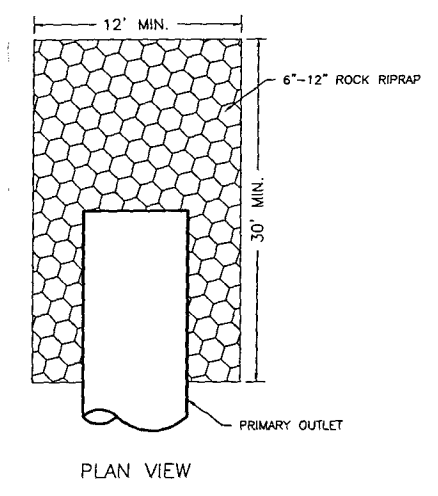
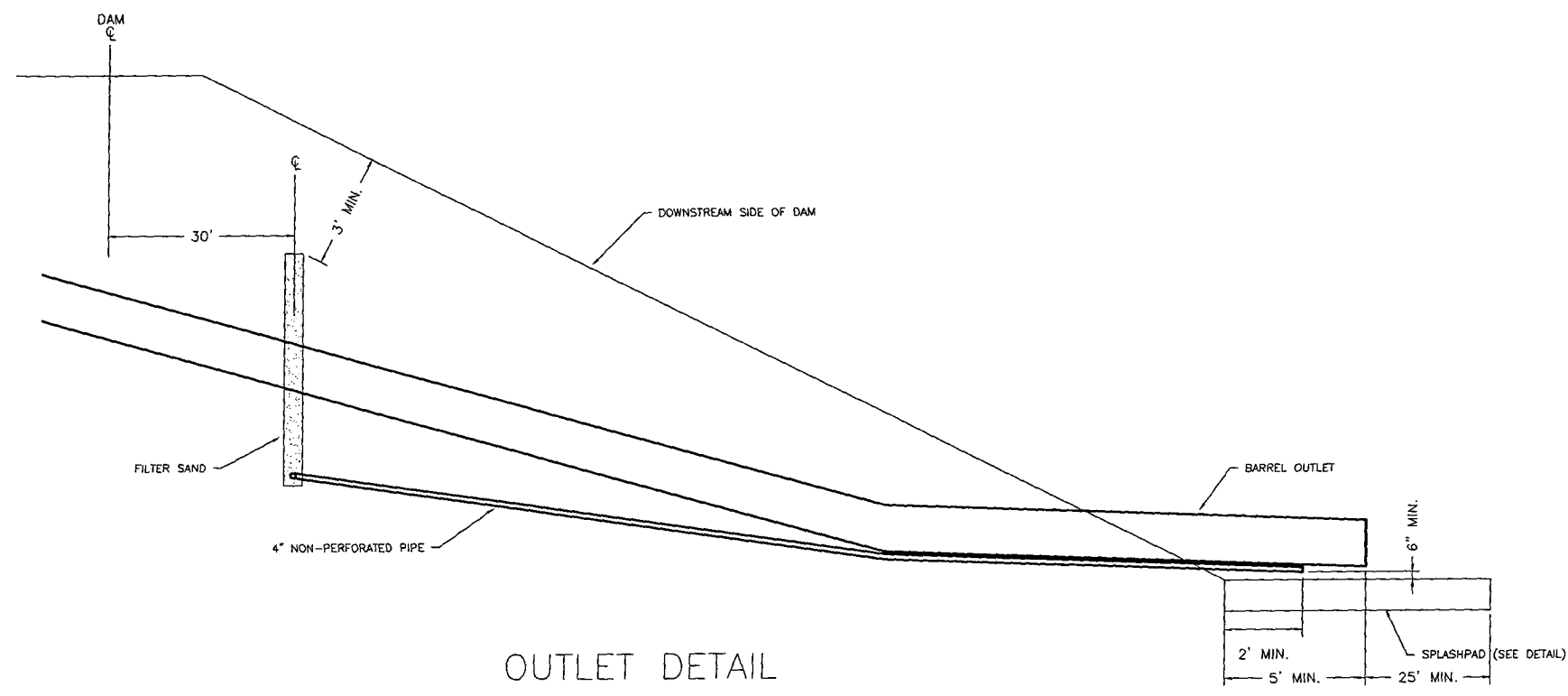


B4
5 EMERGENCY SPILLWAY CROSS SECTION

	DAM PROFILE & SECTIONS									
	REV.	DATE	DESCRIPTION				BY	CHKD		
	DATE:		2/19/08		DRAWN: MEL		CHECKED: BF			
PLATTE COLONY DAM										
DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED										
P.O. BOX 636 HURON, SD 57350 605-352-5610										
JOB NO: 21001										
SCALE: AS NOTED										
DWG: 5										



REV.	DATE	DESCRIPTION	BY	CHKD
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RISER AND CONCRETE DETAILS				
PLATTE COLONY DAM				
DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED				
P.O. BOX 636 HURON, SD 57350 605-352-5610				
				
JOB NO: 21001				
SCALE: NOT TO SCALE				
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SPLASHPAD DETAILS

ANTISEEP COLLAR DETAILS

		ANTISEEP COLLAR & SPLASHPAD											
		PLATTE COLONY DAM											
JOB NO:		21001					P.O. BOX 636 HURON, SD 57350					605-352-5610	
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												CHKD	

GENERAL NOTES/SPECIFICATIONS

1. NO VARIATION FROM THESE PLANS IS AUTHORIZED WITHOUT PRIOR APPROVAL OF ENGINEER. THE BUILDER IS TO ADVISE ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY INCONSISTENCY OR DISCREPENCY IN THESE PLANS WITH FIELD CONDITIONS OR PLANS PROVIDED BY OTHERS.
2. Any new water supply wells placed on the site must be a minimum of 150 feet from the closest point of any waste holding structure including manure pits. Any new well must be a minimum of 50 feet from the closest point of a sewer line.
3. Strip topsoil and vegetation from all areas under structures and embankments. Stripping excavation shall extend to a depth sufficient to expose subsoil reasonably free of roots and other perishable material. Excavated earth material determined to be satisfactory by the Engineer shall be used for earth fill or topsoil. Stripped material suitable for topsoil shall be stockpiled and spread, as specified in these specifications.
4. Stripping excavation for foundations shall extend to consolidated subsoil and shall be left as reasonably smooth surfaces free of unconsolidated or loose soil. In most soils we recommend that at least a 1:1 lateral oversize be maintained in excavating below footing grade. In soft clay and swamp deposits we generally recommend a 2:1 or even 3:1 lateral oversize.
5. The final 4 inches directly beneath the slabs shall be a fine draining granular material with less than 5% of soil material by weight passing a standard #200 sieve and compacted as specified for backfill.
6. Excavated soils consisting of loams and clay shall be deemed satisfactory for earth fill to the extent needed. Sandy soil shall be blended to provide for earth fills, or be wasted as directed by the Engineer. The selection, blending, routing, and disposition of material shall be the responsibility of the Contractor and subject to approval by the Engineer. Fill materials shall contain no frozen material, ice, snow, sod, brush, roots or other perishable materials, or rocks larger than four inches in diameter. No fill shall be placed on a frozen surface.
7. Prior to placement of fill, the entire area to receive fill shall be rolled with heavy equipment (such as a loaded end-dump) and inspected to identify any unsuitable soils that require removal. Unsuitable materials shall be overexcavated to a depth of 2 feet. After stripping or overexcavating, the foundation shall be loosened thoroughly by scarifying or discing to a minimum depth 6 inches. The entire foundation area shall then be compacted to the density and at the moisture specified for the fill.
8. All foundation excavation and/or preparation shall be completed before placing fill. The fill shall be placed such that the distribution of materials is essentially uniform throughout the entire fill and is free from lenses, pockets, streaks, or layers of material differing substantially from surrounding material.
9. Fill shall be placed within specified moisture contents. When material deposited on the fill is too dry, water may be added to the fill material in the borrow area, or after material has been brought onto the fill. If moisture is added to the fill, uniform moisture distribution shall be obtained by discing, blading or other approved methods.
10. Compaction of fill adjacent to concrete columns, walls or flatwork shall not be started until seven days have elapsed after placement of the concrete. Walls shall be laterally supported by slats, flooring, or other adequate permanent bracing prior to backfilling.
11. Density and moisture content of the fill will be tested during the course of the work following the methods described in ASTM D2216, ASTM D1556, or equivalent. The engineer shall be notified two days prior to the need for performance of compaction tests. Testing shall be performed at the following rates:

- a) Earthen liners: A minimum of 4 per lift for areas up to two (2) acres. Provide an additional 2 tests per lift for each additional acre.
- b) Earthfill: A minimum of one compaction test for every 5000 cu. yd.
- If a compaction test fails to meet the required level of compaction, the Contractor shall be responsible for the cost of re-testing after the area has been recompacted.
12. In lieu of conducting density tests on the completed liner, there shall be a minimum of two permeability tests conducted on the completed liner. For ponds larger than two acres, one permeability test shall be conducted for each acre of liner. The locations of the tests must be random and equally distributed over the liner bottom and inside embankments. All liner shall demonstrate an in-place permeability not to exceed 1.0 x 10⁻⁷ centimeters/second.
13. Builder is responsible to manage the routing and stockpiling of material for the clay liner. It is anticipated the native clay soils within 15 feet of the existing surface will be suitable for use as liner material. As early as possible during excavation, field evaluation of the quality of the native clay soil in the vicinity of the bottom liner should be performed with the engineer to verify its adequacy. The contractor shall stockpile choice clay materials during the progress of excavation to ensure the availability of a suitable volume and quality of liner material.
14. When in-place native soils are used as for compacted liner, excavate beyond the design bottom an additional twelve inches. The next six inch layer shall be scarified and recompacted. Additional six inch lifts of select material will be placed and compacted to reach the specified liner thickness. When imported clay material is used for a liner, overexcavate beyond the design bottom by the liner thickness. The entire liner subgrade area shall be rolled to identify any unsuitable soils that require removal. Following overexcavation, six inch lifts of select material will be placed and compacted to reach the specified liner thickness of 18 inches.
15. Seed disturbed and topsoiled areas using Fairway Crested Wheatgrass at 15#/acre, or Smooth Bromegrass at 20#/acre. Apply seed when soil is not wet, using a grass drill at a depth of 1/4 to 3/4 inch, or with other approved types of equipment that will ensure a uniform distribution of the seed. Areas with slopes steeper than 4:1 shall be mulched with straw or hay and anchored by use of a mulching machine or netting.
16. Unless otherwise specified on the plans, the fill shall be compacted to the following specifications. Maximum density shall be determined by ATSM-D-698, Standard Proctor Test.
- | | % maximum dry density | moisture range about optimum % | max. lift thickness | total liner thickness |
|-------------------------------|-----------------------|--------------------------------|---------------------|-----------------------|
| Embankment | 90% | -2 to +2 | 12" | - |
| Structural fill beneath slabs | 95% | -2 to +2 | 8" | - |
| Clay liner | 95% | -2 to +2 | 6" | 18" |
17. All concrete work shall conform to the American Concrete Institute's "Building Code Requirements for Structural Concrete" (ACI 318). During hot weather (80° F and above), comply with ACI 305 "Hot Weather Concreting". During cold weather (40° F and below), comply with ACI 306 "Cold Weather Concreting."
18. Concrete Materials and Testing:

a) All concrete shall have 3/4 inch maximum aggregate size. Provide a mix with a slump of 4 inches +/- 1 inch. Do not exceed a water/cementitious materials ratio of 0.45. Water reducing admixtures may be used at the discretion of the contractor.

b) Concrete shall use Type II cement and be furnished with proper

- admixture to obtain 5% +/- 1% air entrainment.
- c) Concrete shall develop a minimum 28 day strength of 4000 psi.
- d) Provide quality assurance testing in accordance with the following requirements. Submit the results of all tests to the Engineer along with the completed and signed Certification Form. Testing will be wholly the responsibility of the contractor/building.
- e) Collect concrete test cylinders in accordance with ASTM C31. Test cylinders may be taken either at the batch plant (assure materials are thoroughly mixed, at least 1½ minutes after all water and cementitious materials have been introduced), or in the field. Test cylinders shall be made in sets of two. At least one set of two cylinders shall be taken each day concrete is placed. Procurement of test cylinders may be waived upon specific approval of the engineer when less than 40 cubic yards is placed in a given day.
- Obtain at least the following numbers of test cylinders per pen:

two sets of 2 cylinders (four total) from concrete for slabs; and

one set of 2 cylinders (two total) from the concrete for walls.
- Test sets of cylinders in accordance with ASTM C39 at 7 and 28 days.
19. Calcium Chloride accelerators will not be allowed.
20. Steel for footings, walls, and floors shall be ASTM A615, Grade 40.
21. All steel shall be lapped 36 bar diameters at splices unless noted otherwise. Splices shall be staggered at least 3 feet. Splices occurring at the same location shall be at least 6 bars apart.
22. Standard concrete cover of bars shall be as follows, unless noted otherwise:

a) Where earth formed: 3 inches

b) Where exposed to earth or weather: 2 inches
23. Provide suitable chairs, spacers, or bolsters to support all reinforcing. Accessories shall be as specified in the latest edition of "Concrete Reinforcing Steel Institute Handbook." Maximum spacing of accessories shall be 5'-0". All accessories shall have galvanized or plastic feet. For slabs on grade, use supports with sand plates or horizontal runners if needed. No aluminum items shall be embedded.
24. Install all construction or control (contraction) joints as called for on the drawings or as approved by the engineer. At a minimum, in slabs install control joints with spacing between joints at 50' maximum intervals. Joints shall be spaced to provide approximately equal square regions (max. 1.5:1 length:width ratio). Joints shall be pre-formed, or sawed within 12 hours of concrete placement, and sealed with a polysulfide or urethane sealant designed for submerged applications, such as Vulkem 116, Manufactured Mameco International, or approved equal. Install sealant in accordance the manufacturer's recommendations including use of any primers, bond breaker, backer rod, curing treatments or other accessories or procedures.
25. Concrete construction shall be planned to minimize the number of construction joints. Except at corners, the location of all construction joints in walls and floor slabs, and the layout of slab control (contraction) joints, shall be reviewed with and approved by the engineer prior to construction.
26. All construction joints in and between floor slabs and exterior walls shall be provided with waterstop. Provide Waterstop RX 102, as manufactured by American Colloid Corp., or polyvinyl chloride waterstop, style #703 as manufactured by Greenstreak or approved equal. Install waterstop in accordance with manufacturer's recommendations on the manure side of reinforcing steel, near the middle of the of the wall or slab section, and as shown on the detail drawings. Maintain specified concrete cover over waterstop and reinforcing steel.

2		2/19/08	RESUBMITTAL	MEL	BF
1		10/1/07	RESUBMITTAL CHANGES	MEL	BF
REV.		DATE	DESCRIPTION	BY	CHKD
DATE:		5/30/07		CHECKED:	BF
GENERAL NOTES & SPECS					
PLATTE COLONY DAM					
DAKOTA ENVIRONMENTAL CONSULTANTS INCORPORATED					
					
JOB NO: 21001					
SCALE: NOT TO SCALE					
DWG: 8					
P.O. BOX 636 HURON, SD 57350 605-352-5610					

Water Rights Division -DENR
Conversation or File Documentation

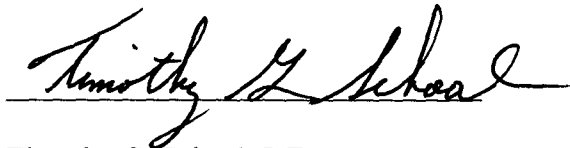
NAME OF PERSON OR FILE: Mike Larson

ADDRESS: Dakota Environmental, Inc. PO Box 636, Huron SD, 57501

DATE: February 29, 2008 TELEPHONE: 1-800-888-0423

RE: **Plate Colony Water Permit Application No. 6871-3**

I talked to Mike Larson from Dakota Environmental, Inc. today about the P&S for the proposed dam associated with Water Permit Application No. 6871-3. He forgot to include the Hazard Classification for the proposed dam and he indicated that he designed it as a Category 3, Low Hazard Dam. I told him I agreed with that and would write up a file.doc to reference that. I also told him, since they redesigned the dam; it looked like there were several changes to the application. The first change would be the storage capacity of the dam at the primary spillway elevation (and the amount applied for on the application) should be 44 acre-feet. The other change is the dam height should be changed to 32 feet high. He agreed with these changes.



Timothy G. Schaal, P.E.
Natural Resources Engineering Specialist
Water Rights Program



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 6871-3, Platte Colony**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 6871-3, Platte Colony, c/o Dale Stahl, 35271 270th Street, Platte SD 57369-6007.

The Chief Engineer is recommending APPROVAL of Application No. 6871-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. Water Permit No. 6871-3 authorizes a dam with a storage capacity of 44 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Garland Erbele, Chief Engineer
March 24, 2008

NOTE: This dam will have inadequate storage capacity for irrigation of the entire 510 acres. This permit does not authorize the diversion of wastewater from the colony's animal confinement facilities or Missouri River water authorized by Water Right No. 2503-3 to the dam.

REPORT ON
WATER PERMIT APPLICATION NO. 6871-3
Platte Colony
February 29, 2008

Water Permit Application No. 6871-3 has been filed by Platte Colony, c/o Dale Stahl, to impound 44 acre-feet of water from runoff by constructing a dam located in the NW $\frac{1}{4}$ of Section 22-T100N-R70W, in Charles Mix County. The application also requests impoundment of sufficient water to maintain water to the outlet elevation. The applicant proposes to appropriate 7.29 cubic feet per second from the dam to irrigate 510 acres located in the SE $\frac{1}{4}$, W $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 17-T100N-R70W and the E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$ of Section 20-T100N-R70W.

Discussion:

The dam will be classified as a small size, Category 3, Low Hazard dam. The dam has been designed by Dakota Environmental Consultants, Inc. The plans and specifications have been reviewed and will be approved; however, construction of the dam can not begin until Water Permit Application No. 6871-3 is approved.

The dam will be 32 feet high with a normal storage capacity of 44 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 83 acre-feet with a reservoir level at the top of dam elevation. A dam of this size and hazard classification is required to have a minimum spillway design capable of passing a 25-year frequency event.

The dam has a drainage area of 185 acres or 0.29 square miles. The dam is designed to have a 48 inch diameter concrete riser with a 36 inch CMP barrels with 6 foot of freeboard as the primary spillway and a 30 foot wide earthcut spillway with 4 feet of freeboard as the secondary spillway. A 25 year frequency event produces a peak runoff of approximately 328 cfs and a 100 year frequency event produces a peak runoff of approximately 560 cfs. The earthcut spillway will have a capacity of approximately 625 cfs.

The annual yield for this drainage area with an 80 percent chance of occurrence, or 8 out of 10 years, is expected to be 3.0 acre-feet. The annual yield with a 50 percent chance of occurrence, or 1 out of 2 years, is expected to be 7 acre-feet and the annual yield with a 10 percent chance, or 1 out of 10 years, is expected to be 35 acre-feet.

The Platte Colony Dam will be located in the NW $\frac{1}{4}$ Section 22-T100N-R70W on an unnamed tributary to Snake Creek and about one-half mile upstream of Lake Academy Dam (ID No. SD 00904). The Lake Academy Dam is a WPA dam built in 1938. It is a State-owned dam under the Office of School & Public Lands. It has a normal storage capacity of approximately 360 acre-feet of water. The Department of Game, Fish & Parks hold Vested Right Claim No. 730-3 for 135 acre-feet annually to fill the reservoir. Lake Academy Dam has a drainage area of approximately 45 square miles. The proposed Platte Colony Dam, with a drainage area of 0.29 square miles, will have little to no adverse effect on Lake Academy Dam.

The application proposes to appropriate 7.29 cubic feet of water per second from the dam to irrigate 510 acres of land located in the SE $\frac{1}{4}$, W $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 17-T100N-R70W and the E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$ of Section 20-T100N-R70W. Plate Colony also holds Water Right No. 2503-3, which appropriates 6.44 cfs of water from the Missouri River to irrigate 460 acres of land in the SE $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 17; the E $\frac{1}{2}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$, SE $\frac{1}{4}$, and the NE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 20: all in T110N-R70W.

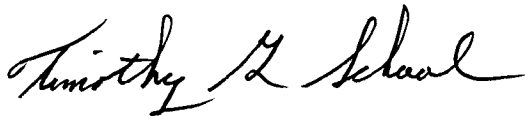
Page 2

Application No. 6871-3

Plate Colony

Conclusions:

1. Water Permit Application No. 6871-3 should be approved since unappropriated water is available and approval should not have any adverse effect on existing Water Permits/Rights.
2. If approved, the low flow bypass requirement for domestic use should be a qualification on Water Permit Application No. 6871-3.

A handwritten signature in black ink, reading "Timothy G. Schaal". The signature is written in a cursive, flowing style.

Timothy G. Schaal, P.E.

Natural Resources Engineering Specialist



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

March 25, 2008

Platte Colony
c/o Dale Stahl
35271 270th St.
Platte, SD 57369-6007

Dear Stahl:

We have reviewed the plans and specifications for your dam project located in the NW ¼ of Sec. 22-T100N-R70W, in Charles Mix County. The plans and specifications for the construction of the dam are approved. Approval of the plans and specifications does not authorize construction of the dam. The construction of the dam may not begin until Water Permit No. 6871-3 is approved.

Our review was to determine compliance with the requirements of the Water Management Board Safety of Dams Rules, Chapter 74:02:08. Approval of these plans and specifications does not release you, as owner of the dam, from the responsibility for operating and maintaining the dam in good repair to ensure the safety of the dam.

The dam will be classified as a small size Category 3, Low Hazard dam with a dam height of 32 ft. and a normal storage capacity of 44 acre-feet and a maximum storage capacity of 83 acre-feet.

If you have any questions, please feel free to contact us.

Sincerely,

Timothy G. Schaal, P.E.
Natural Resources Engineering Specialist
for Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

c: Mark Larson, Dakota Environmental Consultants, Inc.

RECEIVED

APR 14 2008

WATER RIGHTS
PROGRAM

Form 8

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

County of Charles Mix) SSI, Sharon Huizengacertify that the attached printed Notice was
takenfrom the Platte
Enterpriseprinted and published in PlatteCounty of Charles Mix andstate of South Dakota. The notice was
published

in the newspaper on the following two dates:

April 3April 10Cost of Printing \$ 41.51Sharon Huizenga
(Signature)Owner
(Title)4-11-08
(Date Signed)

LEGAL NOTICE

NOTICE OF APPLICATION NO. 6871-3
TO APPROPRIATE WATER

Notice is given that Platte Colony, c/o Dale Stahl, 35271 270th St., Platte, SD 57369-6007 has filed an application for a water permit to impound 44 acre-feet of water from run-off by constructing a dam located in the NW 1/4 Section 22-T100N-R70W. This application requests impoundment of sufficient water to maintain water to the outlet elevation. The applicant proposes to appropriate 7.29 cubic feet of water per second from the dam to irrigate 510 acres located in the SE1/4, W1/2SW1/4 Section 17 and E 1/2, E1/2W1/2 Section 20; all in T100N-R70W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 6871-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendations must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre, SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by April 21, 2008.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application.

Steven M. Pirner,
Secretary, Department of
Environment and Natural Resources)
4-3, 4-10



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

March 25, 2008

Platte Enterprise
PO Box 546
Platte SD 57369

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 6871-3 to Appropriate Water to be published twice. Please publish the first notice on April 3, 2008 with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Platte Colony, Dale Stahl, 35271 270th St, Platte SD 57369 (Ph # 605-726-3142).

Please send the Water Rights Program the first publication immediately. The publication is checked for accuracy so any corrections can be made in the second publication. You may use the form below or fax a copy of the first publication. Any fax should be sent to the attention of Karen Schlaak at (605) 773-4068. Publication errors can invalidate the public notice.

After the second publication, **please send us an affidavit or use the enclosed Proof of Publication form.** The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----

No. 6871-3

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of March 25, 2008 enclosing Notice to Appropriate Water by Application No. 6871-3 which was first published in our issue of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name

Newspaper



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT
THE NEWSPAPER RIGHT AWAY.

March 25, 2008

Platte Colony
Dale Stahl
35271 270th St
Platte SD 57369

Dear Mr. Stahl:

Water Permit Application No. 6871-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Publisher of the Platte Enterprise printed at Platte SD (Ph # 605-337-3101). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notice and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization, the publisher has been instructed to publish your notice once each week for two consecutive weeks. The newspaper has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352

c: Mark Larson, Dakota Environmental, PO Box 636, Huron SD 57350

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.

Instruction to Newspaper - Publish first Notice on April 3, 2008 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 6871-3 TO Appropriate Water

Notice is given that Platte Colony, c/o Dale Stahl, 35271 270th St, Platte SD 57369-6007 has filed an application for a water permit to impound 44 acre-feet of water from run-off by constructing a dam located in the NW $\frac{1}{4}$ Section 22-T100N-R70W. This application requests impoundment of sufficient water to maintain water to the outlet elevation. The applicant proposes to appropriate 7.29 cubic feet of water per second from the dam to irrigate 510 acres located in the SE $\frac{1}{4}$, W $\frac{1}{2}$ SW $\frac{1}{4}$ Section 17 and E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$ Section 20; all in T100N-R70W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 6871-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

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DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
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PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

MAY 16 2008

Platte Colony
c/o Dale Stahl
35271 270th St
Platte SD 57369

Dear Mr. Stahl:

Enclosed is Water Permit No. 6871-3 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

An informational sheet ? *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

Garland Erbe, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures