

WATER PERMIT NO. 168⁶~~5~~-1

Name of Applicant: Bob Samuelson

Address: PO Box 69, Faith SD 57626

Phone: 605 739-3231

Amount of Water Claimed: 116.4 AF

Total Acres: NA

Source of Water Supply: dry draw

Water to be used for: fish & wildlife propagation and livestock

County: Meade

Type of Waste Disposal System: NA

Location: 6 miles south of Faith

PRIORITY Date Received: 3-31-1999

Fee: \$50

Corrected Application Received: 4-15-1999

Period of Annual Use: January 1 – December 31

Remarks:

Diversion Point: located in the corner of
SE ¼ SW ¼ & SW ¼ SE ¼ Sec 2 and NE ¼
NW ¼, NW ¼ NE ¼ Sec 11; all in T11N-R17E

Water Impounded: NW ¼ NE ¼ Sec 11 and
W ½ SE ¼ Sec 2; all in T11N-R17E

Depth of Well: NA

Well Driller:

Remarks:

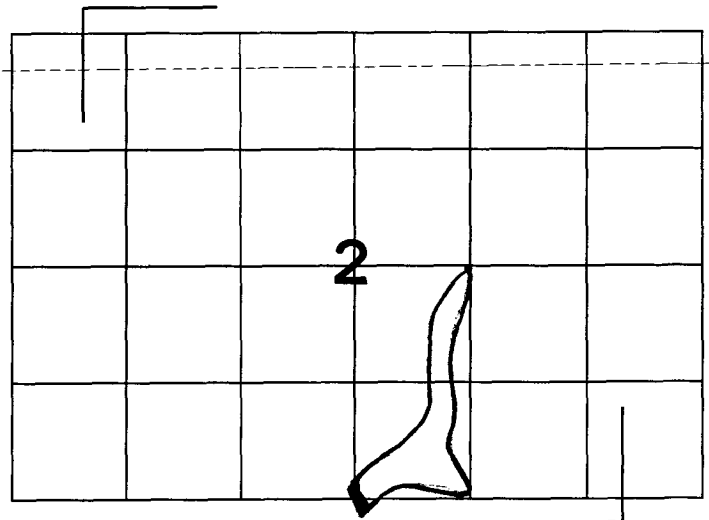
Type of Map: topo

Prepared by: Dennis Ellefson, NRCS

Reviewed and the Number Assigned on: 4-16-1999

By: Karen Schlaak

Notice of Hearing - date to intervene: _____



**SOUTH DAKOTA
WATER PERMIT NO. 1686-1**

Date of first receipt of application March 31, 1999.

Date of return to applicant for corrections, amendments or changes April 6, 1999.

Date of receipt of corrected application April 15, 1999.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1686-1 to Bob Samuelson, PO Box 69, Faith SD 57626 authorizing the reconstruction of a dam the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 1686-1 authorizes impoundment of 116.4 acre-feet of water from a dry draw by reconstructing a dam located in the corner of the SE ¼ SW ¼, SW ¼ SE ¼ Section 2 and NE ¼ NW ¼, NW ¼ NE ¼ Section 11 with water impounded in the NW ¼ NE ¼ Section 11 and W ½ SE ¼ Section 2; all in T11N-R17E.
2. The water appropriated shall be used for the purpose of supplying water for fish and wildlife propagation and livestock water purposes and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 1686-1 is July 12, 1999.
5. The date from which applicant may claim right is March 31, 1999.
6. ~~One-fifth of the construction is to be completed on or before January 12, 2002.~~
7. All construction is to be completed on or before July 12, 2004.
8. Water is to be put to beneficial use on or before July 12, 2008.
9. 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. 1686-1 authorizes a dam with storage capacity of 116.4 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.

WATER MANAGEMENT BOARD

By: John Hatch
John Hatch, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

AUG 6 1999
date



Mail to:
Water Rights Division
Foss Building
525 E Capitol
Pierre SD 57501-3181
605 773-3352

(type or print)

No. 1685-1 Hydrologic Unit 10/20/13
Basin Lower Cheyenne
Newspaper Faith Independent, Faith, SD
(office use only)



Application For Permit To Appropriate Water Within The State Of South Dakota

Check use of water:

☐ Municipal ☐ Suburban Housing ☐ Recreational ☐ Institutional
☐ Rural Water System ☐ Commercial ☒ Fish & Wildlife ☐ Geothermal Heat
☐ Domestic ☐ Industrial ☐ Other livestock
(over 18 gpm)

Type of Application: ☒ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
(check one) ☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____
☐ Amendment/Correction to Permit No. _____

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

- Name of Applicant Bob Samuelson Phone 605-739-3231
Mailing Address P.O. Box 69 Faith State S.D. 58626
(Street, RR, or Box) (City) (Zip Code)
- Amount of water claimed _____ *CFS or _____ **GPM 116.4 ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Dry Draw
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) located in the corner of the
SE 1/4 SW 1/4, SW 1/4, S-2 T-11N R-17E & NE 1/4 NW 1/4, NW 1/4 NE 1/4 sec. 11-T11N-R 17E
Water Impounded: NW 1/4 NE 1/4 sec. 11 & W 1/2 SE 1/4 sec. 2, T11N-R17E County Meade
- County or counties where water will be used Meade
- Annual period during which water is to be used _____ year long January 1 - December 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

Structure will be earthfill, with 14ft. top, 3:1 U.S., 2:1 D.S.

170 ft. emergency spillway

950 ac. drainage

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)

STATE OF SOUTH DAKOTA)

County of Meade)^{ss}

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

Signed Bob Samuelson

Subscribed and sworn to before me this 30th day of March 19 99

M. M. Ruston
Notary Public

Comm Expires 2-14-2001

Supplemental Information

(Complete applicable portions only)

(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 Thickness _____ 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. Dugout Information

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

3. Water Storage Dams

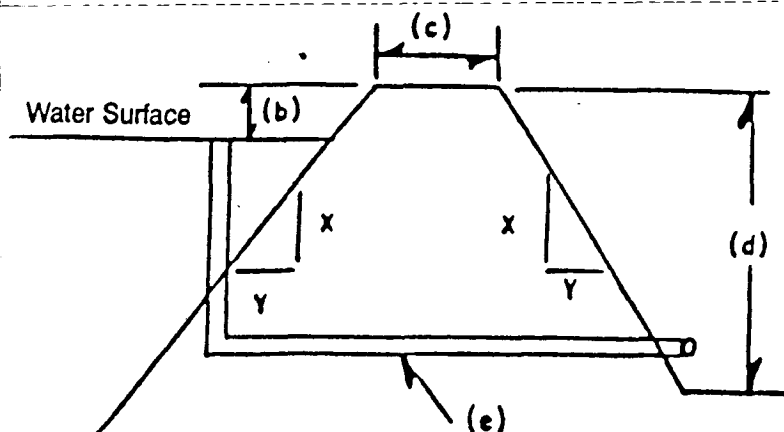
If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

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

Natural Resources Conservation Service

P.O. Box 399 Faith, S.D. 57424
605-967-2181

- b) Freeboard 3'
- c) Crest Width 14'
Crest Length 530'
- d) Height 27'
- e) Primary Outlet Capacity NA
If pipe, diameter NA
- f) Secondary Spillway Capacity 510 cfs
Spillway Width 170'
- g) X & Y Slope
Upstream 3:1
Downstream 2:1
- h) Surface Area of Impoundment 12.5
- i) Storage 116.4 Acre Feet
- j) Drainage Area above Dam 950 Acres



RECEIPT

Water Rights Program

South Dakota Department of Environment and Natural Resources

N^o 416099

Pierre, _____ April 15, 1999

RECEIVED OF Samuelson Ranch, P.O. Box 69, Faith, SD 57626
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>1686-1</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>1686-1</u>	50	00
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for _____		

(Any Other Work Provided by Law)	Total	200 00

By John Hatch
Chief Engineer

D: E N. R.



CONSTRUCTION SPECIFICATIONS

for

BOB SAMUELSON

S-2 T-11N R-17E

POND - Game Fish & Parks

Prepared by:

USDA-NATURAL RESOURCES CONSERVATION SERVICE

N. R. C. S.

Assisting:

TRI-County

Conservation District

USDA

**Natural Resources Conservation Service
Cultural Resources Inventory Data Form
Form SD-SSC-1 8/97**

NRCS personnel must be at ASK level IV (full completion of National Cultural Resources 8 Module Training) to conduct and document cultural re: inventories. Inventories must be conducted with pedestrian transects, spaced maximum 100FT.

Field Office: FAITH

Inventory Size: 1000'X 3000'
Ground Visibility: 15%

Conservation Practice: POND GAME, FISH & PARKS

Inventory Date(s): 12-8-98

Personnel: D. ELLEFSON

Surveyed Area: SW4, SE4, S-2 T-11N R-17E

Cultural Resources Located? ☒ **NO-** Circle, Sign below. Do not compete more of form
YES- Fill in Site Report Form Below.

Signature(s):

CR Site Location: T- N/S R- E/W; Section- 1/4s

Owner: BOB SAMUELSON
Town:

Address:
Phone/Fax:

Site Size: ft.N-S ft.E-W

Artifacts/Features (Circle all Located):			Arrowheads	Beads	Bone
Bottle-Glass	Bridge	Cabin/House	CCA/WPA	Charcoal	
Concrete	Dam	Earth lodge	Fence	Flakes	Fossil
Foundation	Grave	Lumber	Mine/Quarry	Monument	
Depression	Mound	Offering	Pottery	Railroad	Rock Art
Rock Pile/Alignment	Rubber Tires	Stone Circle	Wagon Trail		
Well	Window-Glass				

Other Information:

Signature(s):

Attach USGS map showing practice location APE, access route and cultural site.
Send copy to Resource Specialist. Copy to appropriate Field Office file.
For Cultural resources, attach photos and send copy to appropriate FCRC.

Client : BOB SAMUELSON

By: DE

Date: 12-15-98

County : MEADE NE

State: SD

Checked: _____

Date: _____

Practice: POND S-2 T-11N R-17E

Drainage Area : 950 Acres
 Curve Number : 75
 Watershed Length : 10000 Feet
 Watershed Slope : 6 Percent
 Time of Concentration: 1.58 Hours
 Rainfall Type : II

Storm Number	1	2	3	4	5	6	7
Frequency (yrs)	1	2	5	10	25	50	100
24-Hr Rainfall (in)	1.6	1.8	2.5	2.7	3.4	3.8	4.4
Ia/P Ratio	0.42	0.37	0.27	0.25	0.20	0.18	0.15
Runoff (in)	0.20	0.29	0.65	0.77	1.23	1.52	1.97
Unit Peak Discharge (cfs/acre/in)	0.260	0.292	0.351	0.358	0.377	0.385	0.394
Peak Discharge (cfs)	50	80	217	262	442	556	739

EFM-2 ESTIMATING RUNOFF AND PEAK DISCHARGE
Curve Number Computation

VERSION 1.10

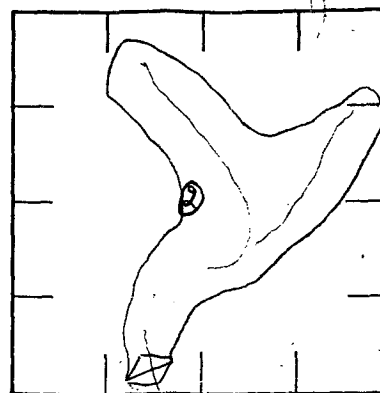
Client : BOB SAMUELSON By: DE Date: 01-01-97
County : MEADE NE State: SD Checked: Date:
Practice: POND GF&P S-2 T-11N R-17E

COVER DESCRIPTION	A	Hydrologic Soil Group		
		B	C	D
		Acres (CN)		
OTHER AGRICULTURAL LANDS				
Pasture, grassland or range good	-	120(61)	340(74)	490(80)
Total Area (by Hydrologic Soil Group)		<u>120</u>	<u>340</u>	<u>490</u>

TOTAL DRAINAGE AREA: 950 Acres

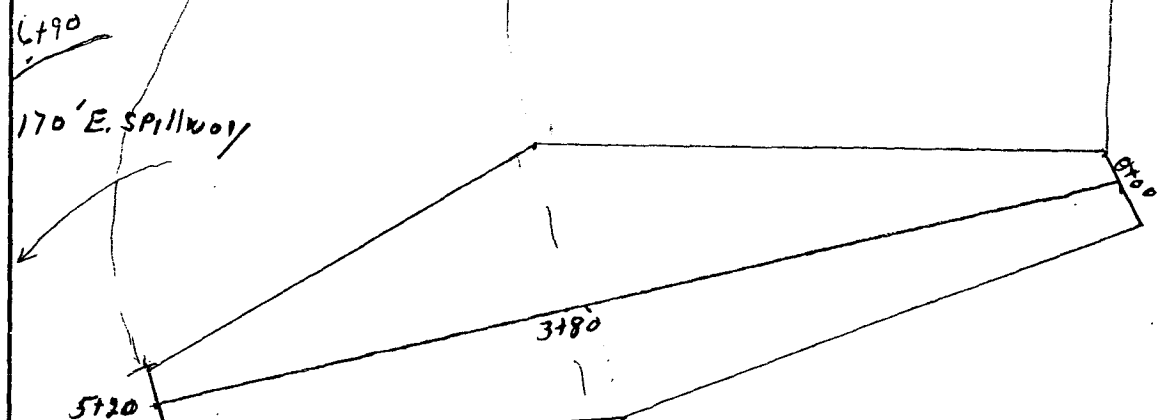
WEIGHTED CURVE NUMBER: 75

DRAINAGE AREA	ANNUAL YIELD	PEAK RUNOFF	EMERG. SPLY. CAPACITY	WATER DEPTH	SURFACE AREA	SEDIMENT STORAGE	TOTAL STORAGE
ACRES	AC.FT.	25-YR.	C.F.S.	FEET	ACRES	AC.FT.	AC.FT.
950	15.8	97.4	510	24"	12.5	3.64	116.4



Sec. 2 T. 11N R. 17E
Meade County

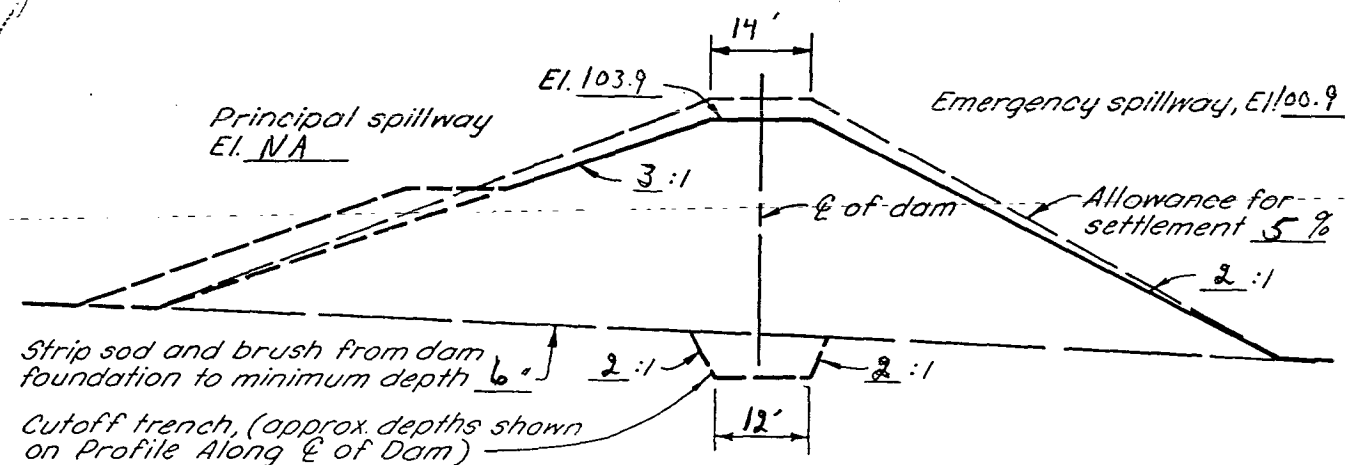
Pool AREA
12.5 surface Ac.
24' Depth
1164 Ac. FT Storage



~~SKETCH PLAN OF DAM AND RESERVOIR AREA~~

Approximate scale $1'' = 100'$

REFERENCE: GUIDE PLAN NO. 1.0

[illegible]

TYPICAL CROSS SECTION OF DAM

S.D. CONSTRUCTION AND MATERIAL SPECIFICATIONS:

SD-4 STRIPPING
SD-5 EXCAVATION
SD-7S EARTH Fill CLASS-5
SD-10 Salvaging & Spreading Topsoil
SD-2 Clearing & Grubbing

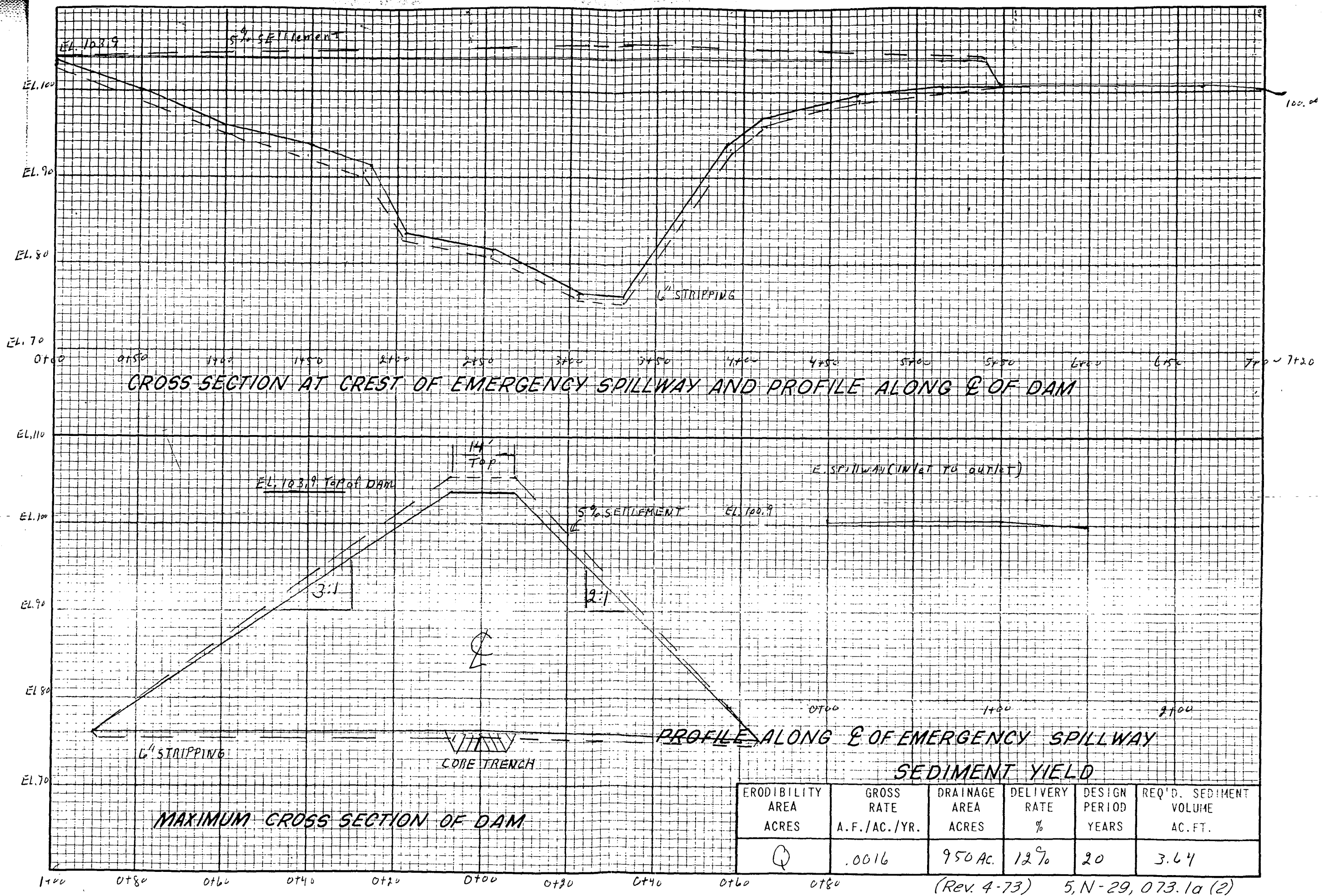
EARTH DAM

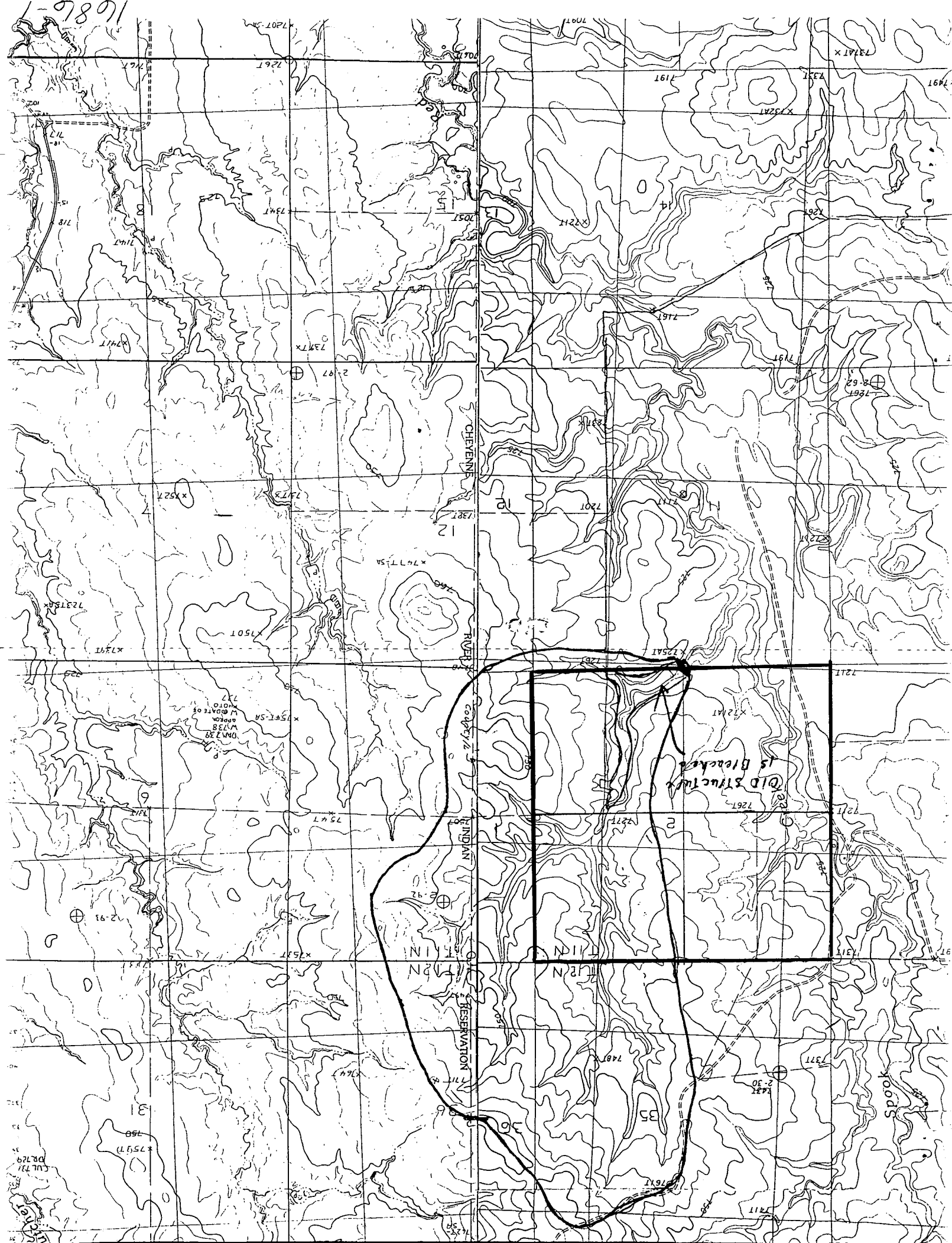
OPERATOR: BOB SAMUELSON

CONSERVATION DISTRICT: TAI-COUNTY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Date		Approved by.....	
Designed	12. C. C. 12-11-98	Title.....	
Drawn	25. C. C. 12-14-98	Title.....	
Traced.....		Sheet	Drawing No.
		No	
Checked		of	





PES Review

Water Permit Application No. 1686-1
Bob Samuelson

Top of Dam Elev. - 103.9
Spillway Elev. - 100.9
D/S Toe Elev. - 76.9

Cat. 3 - Low Hazard Dam

Ht. = 27 ft.

Normal Storage Capacity - 116.4 Ac-Ft
Max Storage Capacity - 131.5 Ac-Ft

No Int. Capacity or Eff Ht. - $27 \times 131.5 = 3550 > 3000 \therefore$ 50 year
Frequency Minimum Spillway Design

From USGS WRI 80-80 "Tech. for Est. Flood Peaks ... in SD"

$DA = 950 A_c = 1.48 m.^2$
Slope = 100 ft/mi.
SI = 2.50

$$Q_{50} = 106 A^{.63} S^{.45} S_i^{-.69}$$

$$= 106 (1.48)^{.63} (100)^{.45} (2.50)^{-.69}$$

$$= 106 (1.28) (7.94) (0.53)$$

$$= \underline{570 \text{ cfs}}$$

$$Q_{100} = 132 A^{.65} S^{.46} S_i^{-.67}$$

$$= 132 (1.48)^{.65} (100)^{.46} (2.50)^{-.67}$$

$$= 132 (1.29) (8.31) (0.54)$$

$$= \underline{765 \text{ cfs}}$$

Secondary Spillway Flow

$$Q = CLH^{3/2} \quad C = 2.6 \quad L = 170'$$

$$H = 3'$$

$$= (2.6)(170)(3)^{1.5}$$

$$= \underline{2300 \text{ cfs}}$$

NRCS Annual Yield

$DA = 950 A_c \quad CN = 75 \quad ISO = 2.0$

Section 74:02:08:09

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

80% chance = 0.13
 $0.13 \times 950/12 = \underline{10 \text{ Ac-Ft.}}$

50% chance = 0.35
 $0.35 \times 950/12 = \underline{28 \text{ Ac-Ft.}}$

10% chance = 1.8
 $1.8 \times 950/12 = \underline{142 \text{ Ac-Ft.}}$

1DAMS2 XEQ 04/05/99 STRUCTURE SITE ANALYSIS COMPUTER PROGRAM
REV 01/01/90 SCS TECHNICAL RELEASE 48, (USER MANUAL) DATED JAN. 1990
TIME 14:21:01

***** THIS PROGRAM IS IN TEST STATUS *****

***** 80-80 LIST OF INPUT DATA *****

DAMS2 01/01/90 SAMUELSON WILDLIFE POND MEADE CO. S.D.
STRUCTURE SAMUELSON S-2 T-11N R-17E

76.9	0.0
86.9	15.0
94.0	40.8
96.0	80.5
100.9	116.4
103.9	131.5

$DA = 1.48 \text{ m}^2$

Elev-Capacity



ENDTABLE						
WSDATA	2A101	AC	80.0	950	1.0	
PDIRECT			2.0		3.8	
POOLDATA	ELEV		100.9	100.9	2.0	
PSDATA	1		100.9	100.9	.012	1.0
PSINLET			100.9	100.9		
ESCREST	ELEV			100.90		
ESDATA	01		100	.035	3	.035
BTMWIDTH	FEET		100	150	170	1.0
COMMENT			PRELIMINARY RUN ON 378 DAM			
COMMENT						
COMMENT						
COMMENT			25 YR. 24HR. EMERGENCY SPILLWAY			
COMMENT			FREEBOARD SAME AS 25YR. STORM			
GO,DESIGN			TYPE2	24	TYPE2	378 24HR
ENDJOB						

***** MESSAGE - DRAINAGE AREA FROM WSDATA CONTROL BEING CONVERTED FROM
ACRES TO SQUARE MILES FOR COMPUTATION PURPOSES.

***** WARNING - GIVEN PRINCIPAL SPILLWAY MANNINGS N-VALUE (*****)
SHOULD BE VERIFIED.

1DAMS2 XEQ 04/05/99
REV 01/01/90 WILDLIFE POND MEADE CO. S.D. WSID = AMUELSON

PRELIMINARY RUN ON 378 DAM

25 YR. 24HR. EMERGENCY SPILLWAY

FREEBOARD SAME AS 25YR. STORM

1DAMS2 -----
XEQ 04/05/99 WILDLIFE POND MEADE CO. S.D. WSID= AMUELSON
REV 01/01/90 S-2 T-11N R-17E SUBW= 01
TIME 14:21:01 SITE = SAMUE PASS= 1 PAGE= 1

***** BASIC DATA *****
HUMID- SUBHUMID CLIMATE AREA DESIGN CLASS A1 =LT 3000

Low Hazard

STORM DISTRIBUTION-PSH 24 HOUR TYPE II RAINFALL DISTRIBUTION

STORM DISTRIBUTION ESH...24 HOUR TYPE II RAINFALL DISTRIBUTION

PRECIP.-	P-PS1 DAY 2.00	P-PS10 DAY .00	P-ES 3.80	P-FB 3.80
WSDATA-	CN 80.09	DA-SM .08	TC/L 1.00	-/H .00
SITEDATA-	PERM POOL 100.90	CREST PS 100.90	FP SED 2.00	QRF .00
	BASEFLOW .00	INITIAL EL .00	EXTRA VOL. .00	
PSDATA-	NO. COND. 1.00	COND L 100.90	D/W 100.90	-/H .00
	PS N 121.000	KE 100.90	WEIR L 100.90	TW EL .00
	2ND STG .00	ORF H .00	ORF L .00	START ES .00
CRESTS-	ES1 .00	ES2 100.90	ES3 .00	ES4 .00
				ES5 .00
EMG DATA-	SIDE SLOPE 3.00	EXIT N .035	EXIT SLOPE .010	
EMG DATA-	ES TYPE 1	ES LENGTH 100	ES ENTRANCE N .035	
BTM WIDTH-	BW1 100.00	BW2 150.00	BW3 170.00	BW4 .00
				BW5 .00

***** NOTE - THIS IS ONLY A PRELIMINARY EMG RATING CURVE OF DISCHARGE/FT
OF WIDTH AND DOES NOT INCLUDE SIDESLOPE CORRECTION OR
REVISED RATING USING ACTUAL EMG. CONFIGURATION.

EMG ID CODE	01	ELEVATION INCREMENT (FT)= 1.000	
DISCHARGES-Q1	Q2	Q3	Q4
1.636	5.995	12.254	20.106
Q5	Q6	Q7	Q8
29.223	39.456	50.682	62.907
Q9	Q10	Q11	Q12
75.952	89.833	104.492	119.851

1DAMS2 -----
 XEQ 04/05/99 ILDLIFE POND MEADE CO. S.D. WSID= AMUELSON
 REV 01/01/90 S-2 T-11N R-17E SUBW= 01
 TIME 14:21:01 SITE = SAMUE PASS= 1 PAGE= 2

PERM POOL	100.90 FT	116.4 ACFT	.00 AC	.0 CFS
CREST PS	100.90 FT	116.4 ACFT	.00 AC	.0 CFS
SED ACCUM	100.90 FT	116.4 ACFT	.00 AC	.0 CFS
STARTING E	100.90 FT	116.4 ACFT	.00 AC	.0 CFS

***** MINIMUM DEPTH USED FOR ES378 RUN-CREST PS TO CREST EMG.

SCS-PSH	D= 24.00 HR	P= 2.00 IN	Q= .57 IN	DA = .08 SM
	TC= 1.00 HR	CN= 80.09	VOL= 2.4 ACFT	

PEAK = 13.4 CFS, AT 12.5 HRS.

ROUTED RESULTS - HYD TYPE EMAX VOL-MAX AMAX QMAX
SCS-PSH 101.90 FT 121.4 ACFT .00 AC 1.1 CFS

PS STORAGE 5.0 ACFT BETWEEN ES CREST AND SED ACCUM ELEVATIONS

DRAWDOWN (DDT) TEST 100.90 FT 116.4 ACFT .00 CFS
CONTROL IS .000 DETENTION STORAGE

TIME = 4.51 DAYS, TO .0 CFS (LIMIT = 10.00 DAYS)

1DAMS2

XEQ 04/05/99 ILDLIFE POND MEADE CO. S.D. WSID= AMUELSON
REV 01/01/90 S-2 T-11N R-17E SUBW= 01
TIME 14:21:01 SITE = SAMUE PASS= 1 PAGE= 3

ES CREST 101.90 FT 121.4 ACFT .00 AC 1.1 CFS

PS STORAGE 5.0 ACFT BETWEEN ES CREST AND SED ACCUM ELEVATIONS

STARTING E 100.90 FT 116.4 ACFT .00 AC .0 CFS

EFFECTIVE HEIGHT(H)= 99.9 FEET, PRODUCT = 12131. (H * STORAGE AT CREST EMG.)

INPUT DESIGN CLASS = A1 =LT 3000

***** MESSAGE - NCPS 378 CRITERIA DOES NOT APPLY WHEN THE EFFECTIVE HEIGHT
IS OVER 35 FEET OR THE PRODUCT IS 3000 OR GREATER

SCS-ESH D= 24.00 HR P= 3.80 IN Q= 1.88 IN DA = .08 SM
TC= 1.00 HR CN= 80.09 VOL= 7.8 ACFT

PEAK = 50.5 CFS, AT 12.5 HRS.

SCS-FBH D= 24.00 HR P= 3.80 IN Q= 1.88 IN DA = .08 SM
TC= 1.00 HR CN= 80.09 VOL= 7.8 ACFT

PEAK = 50.5 CFS, AT 12.5 HRS.

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
SCS-ESH	100.0	101.93	121.6	.0	.03	.1

PEAK - CFS DISCHARGE =	Q-PS	Q-ES	Q-TOT
	1.1	4.1	5.3

	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	.04	1.12	.056	.090

	DURATION FLOW HRS	ATTACK OE/B ACFT/FT	SUMMATION VEL**2 DELTA T (FT/SEC)**2 HRS
EMERGENCY SPILLWAY----	10.6	.0	2.4

***** MESSAGE - ES378 CRITERIA USED BUT EMERGENCY SPILLWAY NOT BASED
ON RETARDANCE.

EXIT CHANNEL FLOW SUBCRITICAL: MAX VELOCITY= 4.20 FT/SEC
EXIT SLOPE = .010 FT/FT

DRAWDOWN USING FREEBOARD STORM FOLLOWS, STARTING AT ELEVATION 101.90 FT. 4

DRAWDOWN (DDT) TEST 100.90 FT 116.4 ACFT .00 CFS
CONTROL IS .000 DETENTION STORAGE

TIME = 2.47 DAYS, TO .0 CFS (LIMIT = 10.00 DAYS)

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
SCS-FBH	100.0	101.93	121.6	.0	.03	.1

PEAK - CFS DISCHARGE = Q-PS 1.1 Q-ES 4.1 Q-TOT 5.3

	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	.04	1.12	.056	.090

	DURATION FLOW HRS	ATTACK OE/B ACFT/FT	SUMMATION VEL**2 DELTA T (FT/SEC)**2 HRS
EMERGENCY SPILLWAY----	10.6	.0	2.4

***** MESSAGE - ES378 CRITERIA USED BUT EMERGENCY SPILLWAY NOT BASED ON RETARDANCE.

EXIT CHANNEL FLOW SUBCRITICAL: MAX VELOCITY= 4.20 FT/SEC
EXIT SLOPE = .010 FT/FT

***** ES378 RUN - MINIMUM FLOW IN EMG. SPILLWAY FROM TR60
USING FORMULA WITHOUT 200 CFS MINIMUM LIMIT. *****

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
MINIMUM ES	100.0	102.31	123.5	.0	.41	2.1

PEAK - CFS DISCHARGE = Q-PS 1.1 Q-ES 67.4 Q-TOT 68.6

	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	.24	2.78	.029	.040

***** ES378 RUN - MINIMUM DEPTH, CREST EMG TO TOP OF DAM IS 2.00 FT
NEW TOP OF DAM ELEVATION = 103.90

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
MINIMUM ES	100.0	103.90	131.5	.0	2.00	10.1

PEAK - CFS DISCHARGES = Q-PS 1.1 Q-ES 618.2 Q-TOT 619.3

	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	1.05	5.72	.018	.024

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
SCS-ESH	150.0	101.92	121.5	.0	.02	.1

PEAK - CFS Q-PS Q-ES Q-TOT
DISCHARGE = 1.1 4.6 5.7

CRITICAL CRITICAL CRITICAL 25% OF
DEPTH VELOCITY SLOPE-S/C S/C
EMERGENCY FT FT/SEC FT/FT FT/FT
SPILLWAY---- .03 1.02 .062 .082

DURATION ATTACK SUMMATION
FLOW OE/B VEL**2 DELTA T
EMERGENCY HRS ACFT/FT (FT/SEC)**2 HRS
SPILLWAY---- 10.6 .0 1.7

***** MESSAGE - ES378 CRITERIA USED BUT EMERGENCY SPILLWAY NOT BASED
ON RETARDANCE.

EXIT CHANNEL FLOW SUBCRITICAL: MAX VELOCITY= 4.38 FT/SEC
EXIT SLOPE = .010 FT/FT

DRAWDOWN USING FREEBOARD STORM FOLLOWS, STARTING AT ELEVATION 101.90 FT.

DRAWDOWN (DDT) TEST 100.90 FT 116.4 ACFT .00 CFS
CONTROL IS .000 DETENTION STORAGE

TIME = 2.47 DAYS, TO .0 CFS (LIMIT = 10.00 DAYS)

ROUTED BTM WIDTH MAX ELEV VOL-MAX AREA-MAX EMG. HP VOL-ES
RESULTS FT FT ACFT AC FT ACFT
SCS-FBH 150.0 101.92 121.5 .0 .02 .1

PEAK - CFS Q-PS Q-ES Q-TOT
DISCHARGE = 1.1 4.6 5.7

CRITICAL CRITICAL CRITICAL 25% OF
DEPTH VELOCITY SLOPE-S/C S/C
EMERGENCY FT FT/SEC FT/FT FT/FT
SPILLWAY---- .03 1.02 .062 .082

DURATION ATTACK SUMMATION
FLOW OE/B VEL**2 DELTA T
EMERGENCY HRS ACFT/FT (FT/SEC)**2 HRS
SPILLWAY---- 10.6 .0 1.7

***** MESSAGE - ES378 CRITERIA USED BUT EMERGENCY SPILLWAY NOT BASED
ON RETARDANCE.

EXIT CHANNEL FLOW SUBCRITICAL: MAX VELOCITY= 4.38 FT/SEC
EXIT SLOPE = .010 FT/FT

***** ES378 RUN - MINIMUM FLOW IN EMG. SPILLWAY FROM TR60
USING FORMULA WITHOUT 200 CFS MINIMUM LIMIT. *****

ROUTED BTM WIDTH MAX ELEV VOL-MAX AREA-MAX EMG. HP VOL-ES
RESULTS FT FT ACFT AC FT ACFT
MINIMUM ES 150.0 102.17 122.8 .0 .27 1.4

PEAK - CFS Q-PS Q-ES Q-TOT
DISCHARGE = 1.1 67.4 68.6

CRITICAL CRITICAL CRITICAL 25% OF
DEPTH VELOCITY SLOPE-S/C S/C
EMERGENCY FT FT/SEC FT/FT FT/FT
SPILLWAY---- .18 2.43 .032 .043

***** ES378 RUN - MINIMUM DEPTH, CREST EMG TO TOP OF DAM IS 2.00 FT

NEW TOP OF DAM ELEVATION = 103.90

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
MINIMUM ES	150.0	103.90	131.5	.0	2.00	10.1

PEAK - CFS DISCHARGES =	Q-PS 1.1	Q-ES 917.9	Q-TOT 919.0
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	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	1.04	5.74	.018	.024

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
SCS-ESH	170.0	101.92	121.5	.0	.02	.1

PEAK - CFS DISCHARGE =	Q-PS 1.1	Q-ES 4.7	Q-TOT 5.9
------------------------	-------------	-------------	--------------

	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	.03	.99	.064	.091

	DURATION HRS	ATTACK OE/B ACFT/FT	SUMMATION VEL**2 DELTA T (FT/SEC)**2 HRS
EMERGENCY SPILLWAY----	10.6	.0	1.6

***** MESSAGE - ES378 CRITERIA USED BUT EMERGENCY SPILLWAY NOT BASED ON RETARDANCE.

EXIT CHANNEL FLOW SUBCRITICAL: MAX VELOCITY= 4.43 FT/SEC
EXIT SLOPE = .010 FT/FT

DRAWDOWN USING FREEBOARD STORM FOLLOWS, STARTING AT ELEVATION 101.90 FT.

DRAWDOWN (DDT) TEST 100.90 FT 116.4 ACFT .00 CFS
CONTROL IS .000 DETENTION STORAGE

TIME = 2.47 DAYS, TO .0 CFS (LIMIT = 10.00 DAYS)

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
SCS-FBH	170.0	101.92	121.5	.0	.02	.1

PEAK - CFS DISCHARGE =	Q-PS 1.1	Q-ES 4.7	Q-TOT 5.9
------------------------	-------------	-------------	--------------

	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	.03	.99	.064	.091

	DURATION HRS	ATTACK OE/B ACFT/FT	SUMMATION VEL**2 DELTA T (FT/SEC)**2 HRS
EMERGENCY SPILLWAY----	10.6	.0	1.6

***** MESSAGE - ES378 CRITERIA USED BUT EMERGENCY SPILLWAY NOT BASED ON RETARDANCE.

7

EXIT CHANNEL FLOW SUBCRITICAL: MAX VELOCITY= 4.43 FT/SEC
EXIT SLOPE = .010 FT/FT

***** ES378 RUN - MINIMUM FLOW IN EMG. SPILLWAY FROM TR60
USING FORMULA WITHOUT 200 CFS MINIMUM LIMIT. *****

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
MINIMUM ES	170.0	102.14	122.6	.0	.24	1.2
PEAK - CFS DISCHARGE =		Q-PS 1.1	Q-ES 67.4	Q-TOT 68.6		
EMERGENCY SPILLWAY----		CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT	
		.17	2.34	.033	.045	

***** ES378 RUN - MINIMUM DEPTH, CREST EMG TO TOP OF DAM IS 2.00 FT
NEW TOP OF DAM ELEVATION = 103.90

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
MINIMUM ES	170.0	103.90	131.5	.0	2.00	10.1
PEAK - CFS DISCHARGES =		Q-PS 1.1	Q-ES 1037.8	Q-TOT 1038.9		
EMERGENCY SPILLWAY----		CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT	
		1.04	5.75	.018	.024	

1DAMS2 -----
XEQ 04/05/99 ILDLIFE POND MEADE CO. S.D. ----- WSID= AMUELSON
REV 01/01/90 S-2 T-11N R-17E SUBW= 01
TIME 14:21:01 SITE = SAMUE PASS= 1 PAGE= 4

ES CREST 100.90 FT 116.4 ACFT .00 AC .0 CFS

PS STORAGE .0 ACFT BETWEEN ES CREST AND SED ACCUM ELEVATIONS

STARTING E 100.90 FT 116.4 ACFT .00 AC .0 CFS

EFFECTIVE HEIGHT(H)= 98.9 FEET, PRODUCT = 11512. (H * STORAGE AT CREST EMG.)

INPUT DESIGN CLASS = A1 =LT 3000

***** MESSAGE - NCPS 378 CRITERIA DOES NOT APPLY WHEN THE EFFECTIVE HEIGHT
IS OVER 35 FEET OR THE PRODUCT IS 3000 OR GREATER

SCS-ESH D= 24.00 HR P= 3.80 IN Q= 1.88 IN DA = .08 SM
TC= 1.00 HR CN= 80.09 VOL= 7.8 ACFT

PEAK = 50.5 CFS, AT 12.5 HRS.

SCS-FBH D= 24.00 HR P= 3.80 IN Q= 1.88 IN DA = .08 SM
TC= 1.00 HR CN= 80.09 VOL= 7.8 ACFT

PEAK = 50.5 CFS, AT 12.5 HRS.

***** ERROR(81) - IN COMPUTING PRINCIPAL SPILLWAY RATING CURVE -HEAD ON
ORIFICE, WEIR, OR PIPE IS NEGATIVE OR ZERO
CHECK STRUCTURE TAILWATER INPUT -- RUN STOPPED.

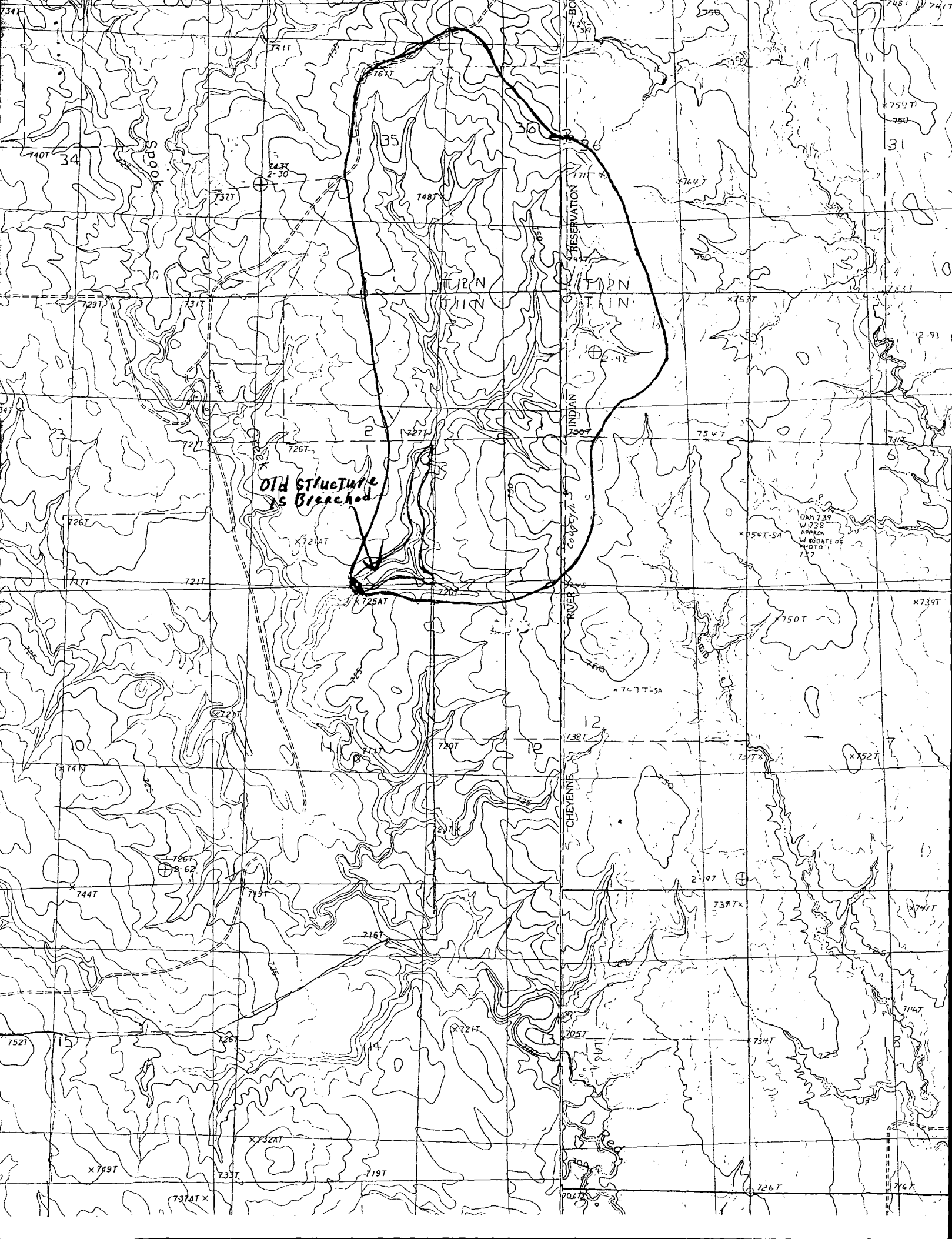
8
***** ERROR OCCURRED BETWEEN RATING TABLE POINTS 2 AND 10,
WITH COEFFICIENT = ***** AND EXPONENT = 1.500,
HEAD IS BETWEEN ELEVATIONS 100.90 FT AND 100.90 FT.

DAMS2.....SUMMARY TABLE 1 COMPLETED

SCS DAMS2 VERSION 01/01/90
AMUELSON FILES

INPUT = WEISS
OUTPUT = WEISS.OUT

DATED 04/05/99 14:21:01





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

April 6, 1999

Bob Samuelson
PO Box 69
Faith SD 57626

Dear Mr. Samuelson:

Thank you for submitting the *Application for a Permit to Appropriate Water* for a 116.4 acre-feet storage dam. The application filling fee is \$150.00 and the licensing fee is \$50.00 (\$200.00 total).

Upon receipt of the fee, further processing of the application will continue. If you have any questions, please contact me.

Sincerely,

Karen Schlaak
Water Rights Program
605 773-3352



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

June 17, 1999

Bob Samuelson
PO Box 69
Faith, SD 57626

Dear Mr. Samuelson:

We have reviewed the plans and specifications for the repair of your dam located in the S ½ of Section 2-T11N-R17E, in Meade County. The plans and specifications as submitted are approved. Approval of the plans and specifications does not authorize construction of the dam. Construction may not begin until Water Right Application No. 1686-1 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 Samuelson Dam will be classified as a small size Category 3, Low Hazard dam with a dam height of 27 feet and a normal storage capacity of 116.4 acre-feet and a maximum storage capacity of 132 acre-feet.

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

Sincerely,

Gale N. Selken, P.E.
Natural Resources Engineer IV
for John Hatch, Chief Engineer
Water Rights Program
(605) 773-3352

c: Dennis Ellefson, NRCS, Faith

REPORT ON
WATER PERMIT APPLICATION NO. 1686-1
Bob Samuelson
June 11, 1999

Water Permit Application No. 1686-1 has been filed by Bob Samuelson to impound 116.4 acre-feet of water from runoff by reconstructing a dam located in the S $\frac{1}{2}$ of Section 2 and the N $\frac{1}{2}$ of Section 11-T11N-R17E, in Meade County. The water will be used for fish and wildlife production and livestock watering.

Discussion:

The reconstructed dam will be classified as a Category 3, Low Hazard dam. The repair project has been designed by the Natural Resources Conservation Service (NRCS). The plans and specifications have been reviewed and approved; however, construction of the dam can not begin until Water Permit Application No. 1686-1 is approved.

The Samuelson Dam will be 27 feet high with a normal storage capacity of 116.4 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 132 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 50 year frequency event.

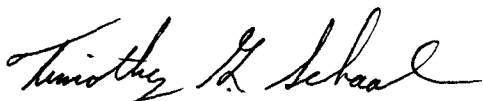
The dam has a drainage area of 1.48 square miles. A 50-year frequency event for this drainage area produces a peak runoff of approximately 570 cfs, a 100-year frequency event produces a peak runoff of approximately 765 cfs. The dam is designed to have a 170 foot wide earthcut spillway with 3 feet of available freeboard. The earth spillway has a maximum spillway capacity of approximately 2300 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 10 acre-feet. The annual yield with a 50 percent chance of occurrence, or 1 out of 2 years, is expected to be 28 acre-feet and the annual yield with a 10 percent chance, or 1 out of 10 years, is expected to be 142 acre-feet.

The Samuelson Dam is located in the S $\frac{1}{2}$ of Section 2 and the N $\frac{1}{2}$ of Section 11-T11N-R17E on an unnamed tributary to the Spook Creek about one mile upstream of its confluence with Beaver Creek. There are no existing Water Permits/Rights located on the unnamed tributary or Spook Creek between the dam and the Beaver Creek. Water Right No. 237-1 is located on Beaver Creek in Section 30-T11N-R18E, about three miles downstream of the dam. Water Right No 237-1 was issued to Dean and Judith Johnson with a priority date of September 21, 1951, and appropriates 1.3 cfs from Beaver Creek (no dam) to irrigate 97 acres. The drainage area above this project is approximately 70 square miles. Approval of Water Right Application No. 1686-1 should not have any adverse effect on Water Right No. 237-1.

Conclusions:

1. Water Permit Application No. 1686-1 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 downstream domestic use should be a qualification on Water Permit Application No. 1686-1.



Timothy G. Schaal, P.E.
Natural Resources Engineer III

Approved by:



Gale N. Selken, P.E.
Natural Resources Engineer IV

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1686-1, Bob Samuelson**

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. 1686-1, Bob Samuelson, PO Box 69, Faith SD 57626.

The Chief Engineer is recommending APPROVAL of Application No. 1686-1 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. 1686-1 authorizes a dam with storage capacity of 116.4 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.

See report on application for additional information.

for Eric Gronlund
JOHN HATCH, Chief Engineer
June 15, 1999



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

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

June 17, 1999

Bob Samuelson
P.O. Box 69
Faith, SD 57626

Dear Mr. Samuelson:

Water Permit Application No. 1686-1 for fish and wildlife propagation and livestock has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice of hearing has been sent to the Publisher of the Faith Independent printed at Faith, SD (Ph # (605) 967-2161). For your information, a copy of the notice, the recommendation of the Chief Engineer and a 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 of Hearing and to arrange for payment. Early contact with the paper can eliminate delays. The publisher has been instructed to publish your notice once each week for two consecutive weeks with the last publication to occur twenty days before the board meeting. The newspaper has 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

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.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

June 17, 1999

Faith Independent
Box 38
Faith, SD 57626-0038

ATTENTION: Legal Public Notice

Enclosed is a Notice of Hearing on Application No. 1686-1 to Appropriate Water to be published twice. Please publish the first notice on June 23, 1999, with the second publication 7 days later.

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 Bob Samuelson, P.O. Box 69, Faith, SD 57626 (Ph # (605) 739-3231).

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
Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CU T HERE-----

No. 1686-1

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

Date _____
We are in receipt of your letter of June 17, 1999, enclosing Notice of Hearing to Appropriate Water by Application No. 1686-1 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper

NOTICE OF APPLICATION NO. 1686-1 to Appropriate Water

Notice is given that Bob Samuelson, PO Box 69, Faith SD 57626 has filed an application for a water permit to impound 116.4 acre-feet of water from a dry draw by reconstructing a dam located in the corner of the SE $\frac{1}{4}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 2 and NE $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 11 with water impounded in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 11 and W $\frac{1}{2}$ SE $\frac{1}{4}$ Section 2; all in T11N-R17E. This application requests impoundment of sufficient water to maintain water at the outlet elevation. The water will be used to provide habitat for fish & wildlife propagation and livestock water.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1686-1 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 the 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 the 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 recommendation 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 July 12, 1999.

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. Nettie H. Myers, Secretary, Department of Environment and Natural Resources.

Notary Public, Meade County
My Commission Expires
July 11, 2001



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

AUG 6 1999

Bob Samuelson
P.O. Box 69
Faith, SD 57626

Dear Mr. Samuelson:

Enclosed is Water Permit No. 1686-1 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.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

Permit No. 1686-1
Lower Cheyenne River - Water District

Report Of Examination Of Works And/Or Application of Water To Beneficial Use

TO: Chief Engineer, Water Rights Program, DENR, Foss Bldg., Pierre, SD 57501

I have this day, September 16, 1999, made a thorough examination of the water use system constructed by Bob Samuelson of PO Box 69, Faith, SD 57626 holder of Permit No. 1686-1, bearing the priority of March 31, 1999 authorizing the storage of 116.4 acre-feet of the waters of runoff for fish & wildlife propagation and livestock use purposes, in Meade County.

I have to report on the conditions of the same as follows:

A. Works used to divert the water:

27 ft. high earth dam with 116.4 acre-feet storage capacity

B. Works used to transport water to place of use:

N/A

C. Works used to apply water to beneficial use:

27 ft. high earth dam with 116.4 acre-feet storage capacity

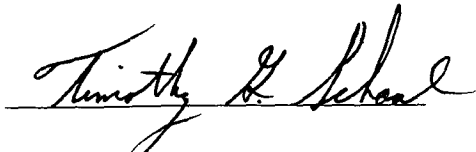
The system is in the following condition Good. The point of diversion is located 2640 feet west of the SE corner of Sec. 2-T11N-R17E. The works are capable of storing 116.4 acre-feet of water which is to be used for fish & wildlife propagation and livestock use. Water has been put to beneficial use to the maximum extent as follows:

27 ft. high earth dam with 116.4 acre-feet storage capacity

and the license should be issued for 116.4 acre-feet of storage.

Applicable permit qualifications have been complied with: Yes X

Exceptions to compliance are: none Date Report Completed: March 9, 2000



Timothy G. Schaal, P.E.
Natural Resources Engineer
DENR, Water Rights Program

REPORT ON INSPECTION OF PERMIT NO. 1686-1

Other permit(s) associated with the project: XXXX

DATE OF INSPECTION: September 16, 1999

NAME & ADDRESS OF INSPECTION CONTACT/ Bob Samuelson

RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE: owner

NAME & ADDRESS OF PERMIT HOLDER: Bob Samuelson, PO Box 69, Faith, SD 57626

DIVERSION POINT LEGAL LOCATION: 2640 feet west of the SE corner of Sec. 2-T11N-R17E

DAM INFORMATION:

- 1) Height to crest 27 feet
- 2) Height to primary spillway 24 feet
- 3) Height to secondary spillway N/A
- 4) Crest width 14 feet
- 5) Crest length 530 feet
- 6) Spillway length XXX feet
- 7) Spillway width 170 feet
- 8) Approx. storage (Normal) 116.4 acre-feet
- 9) Approx. storage (Maximum) 131 acre-feet
- 10) Date constructed: 1999

PERMIT QUALIFICATIONS AND REGULATIONS:

- 1) Soil and water permit lands agree with lands being irrigated and lands listed on permit N/A
- 2) Special qualifications to permit being abided by yes
- 3) All structures, wells and lands on map yes
- 4) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period N/A



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

March 13, 2000

1686-1

Bob Samuelson
P.O. Box 69
Faith, SD 57626

Dear Mr. Samuelson:

The investigation of your water use system was conducted on September 16, 1999, by Timothy G. Schaal, staff engineer. The investigation included the extent of application of water to beneficial use, as developed under Water Permit No. 1686-1. Your final water right document, the Water License, can now be issued.

Statutes require that we charge a \$50.00 fee for the investigation and issuance of the Water License. Upon receipt of the \$50.00 fee from you, we will begin processing your Water License.

**Please remit fee to:
Department of Environment & Natural Resources
Water Rights Program
523 E. Capitol
Pierre, SD 57501-3181**

Sincerely,

Cheryl F. Frost
Secretary
Water Rights Program
(605) 773-3352

NOTE: On check or money order, please specify your permit number. This will insure proper handling of the fee.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

April 17, 2000

1686-1

Bob Samuelson
Samuelson Ranch
PO Box 69
Faith, SD 57626

Dear Mr. Samuelson:

Enclosed is your check that you sent in for payment of the investigation and issuance of Water License No. 1686-1.

On March 13, 2000, we sent you a letter requesting the fee. The letter was a mistake and should not have been sent. When reviewing your water permit file, I found a receipt in the file dating back to April, 1999. The receipt shows that you paid the application fee of \$150.00 and the license fee of \$50.00. No further fees are necessary.

I apologize for the error and am returning your check #2201 in the amount of \$50.00. As a normal business procedure, your check was stamped on the back "for deposit only" as soon as the mail was opened. Please be assured that the check was not cashed.

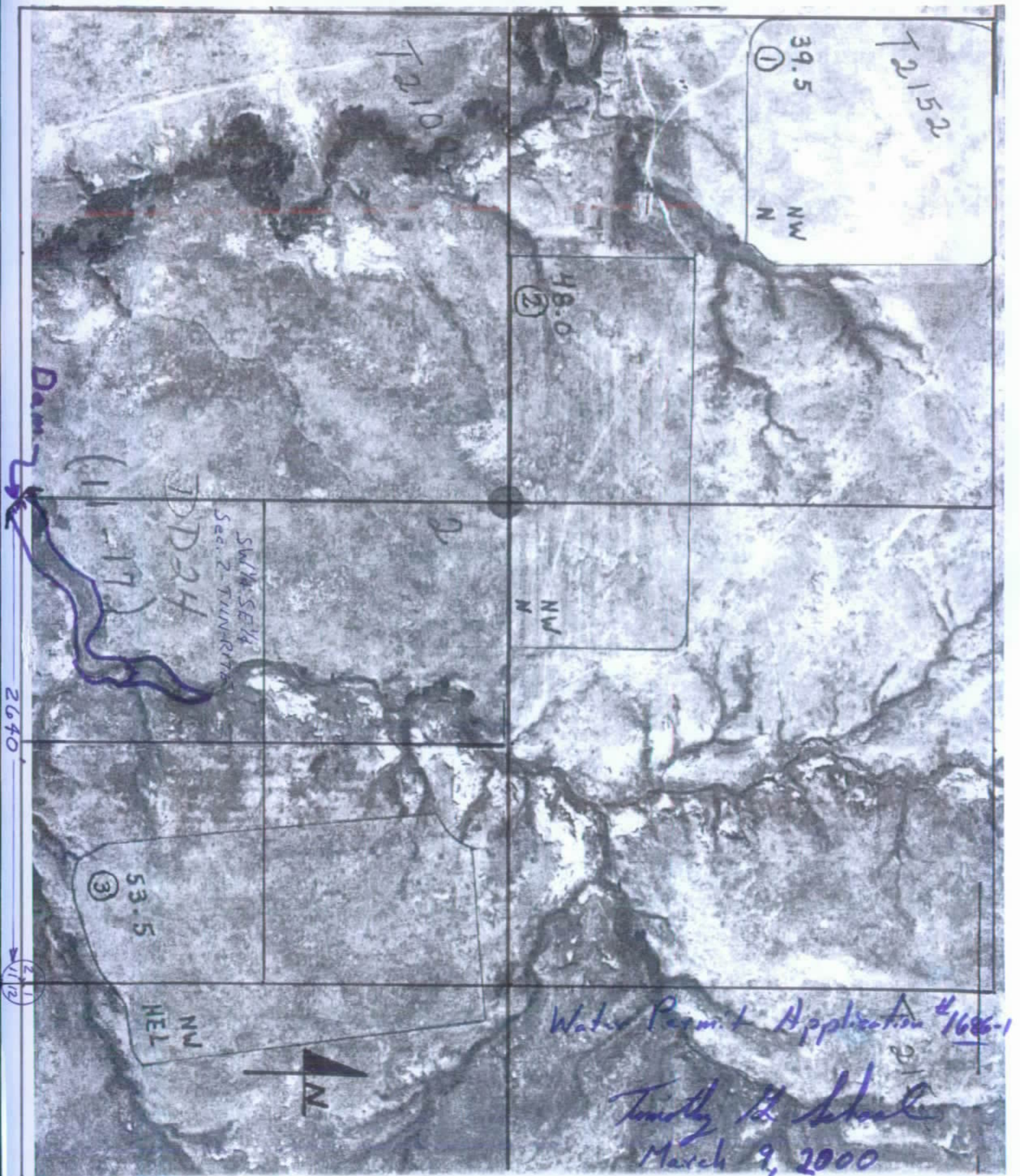
Your water license is being processed and should be issued very soon. Thank you for your patience and if you have any questions, please get in touch with me.

Sincerely,

Genny McMath
Environmental Scientist
Water Rights Program
(605) 773-3352

enclosure: check # 2201

MAP NOT TO SCALE
THIS IS NOT AN OFFICIAL WETLAND MAP



Water Permit Application #1686-1

Timothy H. Shuck
March 9, 2000

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 1686-1

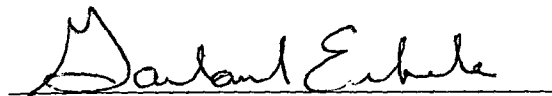
(1) Bob Samuelson, PO Box 69, Faith, SD 57626-0069 made Application No. 1686-1, March 31, 1999 for a water permit authorizing impoundment of 116.4 acre feet of water from a dry draw by reconstructing a dam located in Meade County, South Dakota. The water would be impounded for the purpose of fish and wildlife propagation and livestock water use. Permit No. 1686-1, with a priority date of March 31, 1999 was approved July 12, 1999 and issued to the applicant for diversion of water with construction of the storage dam to be completed on or before July 12, 2004 and for the application to beneficial use of said water on or before July 12, 2008.

An investigation was conducted on September 16, 1999. Construction of the storage dam and placement of water to beneficial use was completed prior to the investigation.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the storage dam and is entitled to impound 116.4 acre feet of water for beneficial use with sufficient water annually to maintain the water level to the outlet elevation. The location of the storage dam (spillway) is 2,640' W of the SE corner of Section 2, T11N, R17E.

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use.

(4) Pursuant to South Dakota Water Law 46-5-30.1 Bob Samuelson, PO Box 69, Faith, SD 57626-0069 the holder and/or owner of Water Right No. 1686-1 is issued a license to appropriate water, the right to impound 116.4 acre feet of water from a dry draw with sufficient water annually to maintain the water level to the outlet elevation. The storage dam located as specified in (2) of this license impounds water for the purpose of fish and wildlife propagation and livestock water use. This license, with a priority date of March 31, 1999, is subject to any limitations or qualifications listed in Water Right No. 1686-1 and subject to South Dakota State Law.



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

MAY 08 2000

date





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

MAY 08 2000

1686-1

Bob Samuelson
P.O. Box 69
Faith, SD 57626-0069

Dear Mr. Samuelson:

Enclosed is Water License No. 1686-1. Water License No. 1686-1 is the final document which completes the process of obtaining a water right.

As long as you use the water beneficially, as stated in the Water License, State Water Laws provide that you have a continuing right to use the water.

Sincerely,

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

gm
enclosures