

Considered: _____

WATER PERMIT NO. 1566-1

Phone: 739-5201

Name of Applicant: Jack Freeman

Post Office Address: Box 70, Faith SD 57262

Amount of Water Claimed: 0.39 cfs

Total Acres: 27.8

Source of Water Supply: runoff

Water to be used for: irrigation

County: Ziebach

About 12 S, 11W miles _____ of Dupree

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved _____ Subject to _____

F.F. & C/.L. Adopted _____ Not Approved _____ Deferred _____

PRIORITY _____ Date Received: 9-23-92 Fee: \$150. Remarks _____

Corrected Application Received 11-3-92 Period of Annual Use June 1 - Sept 30

WATER QUALITY APPROVAL RECEIVED 11-6-92 APPROVED/CONDITIONAL (Circle one)

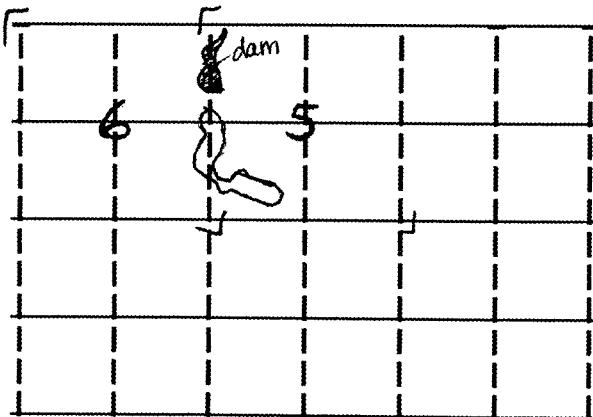
WI-1 Description same as Application YES _____ NO _____ REMARKS _____

Diversion Point: SW 1/4 NW 1/4 Sec 5-T10N-R19E

Land to be Irrigated: SW 1/4 NW 1/4, SW 1/4

Sec 5; SE 1/4 NE 1/4, NE 1/4 SE 1/4 Sec 6;

all in T10N-R19E



Well Log: Driller: _____ Licensed YES _____ NO _____

Depth of Well: _____ REMARKS _____

Type of Map: topo PREPARED BY: Tom Verhelst Reviewed and the Number

Assigned on 11-9-92 By Karen Schlaak

**SOUTH DAKOTA
WATER PERMIT NO. 1566-1**

Date of first receipt of application September 23, 1992.

Date Soil/Water Compatibility Permit received November 6, 1992.

Date of return to applicant for corrections, amendments or changes September 29, 1992.

Date of receipt of corrected application November 3, 1992.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1566-1 to Jack Freeman, Box 70, Faith SD 57626 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. 1566-1 appropriates 0.39 cubic feet of water per second from a storage dam (115 acre feet storage capacity) located in the SW 1/4 NW 1/4 Section 5 with water to be impounded in the W 1/2 NW 1/4 Section 5 and the E 1/2 NE 1/4 Section 6; all in T10N-R19E. The 27.8 acres to be irrigated are located in the SW 1/4 NW 1/4, SW 1/4 Section 5 and the SE 1/4 NE 1/4, NE 1/4 SE 1/4 Section 6; all in T10N-R19E. Water will also be used for livestock watering and wildlife purposes.
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: June 1 - September 30 for irrigation use and January 1 - December 31 for impounded water used for livestock watering and wildlife purposes.
3. The date from which applicant may claim right is September 23, 1992.
4. The date of approval of Permit No. 1566-1 is January 6, 1993.
5. One-fifth of the construction is to be completed on or before July 6, 1995.
6. All construction is to be completed on or before January 6, 1998.
7. Water is to be put to beneficial use on or before January 6, 2002.
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. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

(continued)

2. This permit is approved subject to the irrigation water use questionnaire being submitted each year.
3. Approval of Permit No. 1566-1 authorizes storage of up to 115.1 acre-feet of water annually.

WATER MANAGEMENT BOARD

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

MAR 5 1993
date

(See instructions)

No. 1566-1 Hydrologic Unit 10/20/13
Basin Lower Cheyenne
Newspaper West River Progress, Gettysburg

Application For Soil/Water Compatibility Permit and Permit To Appropriate Water

Type of Application: ☒ New ☐ Vested Right ☐ Amend Permit No. _____
☐ Change Acreage ☐ Change diversion point(s) ☒ Add diversion point(s)
☐ Add Acreage ☐ Increase diversion rate ☐ Other _____



Name of Applicant Jack Freeman Phone No. 739-5201
Post Office Address Box 70 Faith State SD 57626
(Street, RR or Box) (City) Zip Code

Acres of water claimed (c.f.s.) .39 Total acres irrigated 27.8

3. Source of Water supply Surface runoff stored in dam.

4. Location of point of diversion 2000 feet south of the northwest corner of section five T10N-R19E

County Ziebach

5. Counties where water will be used Ziebach

6. Annual period during which water is to be used June/thru September 30 for irrigation use

7. List below each forty acre subdivision, or lot, or fraction thereof and show number of acres to be irrigated in each.

Land Description	No. Acres Irr.	Land Description	No. Acres Irr.
SW $\frac{1}{4}$, NW $\frac{1}{4}$ Sec5 T10N-R19E	6	SE $\frac{1}{4}$, SW $\frac{1}{4}$ Sec5 T10N-R19E	5
NW $\frac{1}{4}$, SW $\frac{1}{4}$ Sec5 T10N-R19E	10	SE $\frac{1}{4}$, NE $\frac{1}{4}$ Sec6 T-10N-R19E	.6
NE $\frac{1}{4}$, SW $\frac{1}{4}$ Sec5 T10N-R19E	2	NE $\frac{1}{4}$, SE $\frac{1}{4}$ Sec 6 T-10N- R19E	1.2
SW $\frac{1}{4}$, SW $\frac{1}{4}$ Sec5 T10N-R19E	3		

Attach sheet if more space is needed

8. Type of Irrigation: Gravity: XX Towline: _____ Center Pivot: _____ Gun: _____ Other: _____ (Specify) _____

9. Crops to be Irrigated: Alfalfa

10. Give a description of proposed project. (Attach sheet if more space is needed)
Older existing dam breeched in 1987 and was not repaired at that time. The plan is to repair the dam now and store water for livestock, wild-life, and irrigation purposes. The irrigation area corresponds to some of the same acreage as described in water permit #580-1. A 24" dia. principal spillway will be used with the top and emergency spillway elevations remaining the same as the old dam.

Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach maps, soil information and any other technical information.

STATE OF SOUTH DAKOTA)
County of Ziebach)^{ss}

I, Jack Freeman, the applicant, certify that I have read this application and examined the attached maps, that the water sample, if needed, has been taken by the required procedures and has not been adulterated or tampered with and is truly representative of the water to be used, and that the matters stated in this application are true and correct.

Signed Jack Freeman

Subscribed and sworn to before me this 21st day of Sept. 1992

Ardeella Feist
Notary Public

Comm. exp: 7-11-93

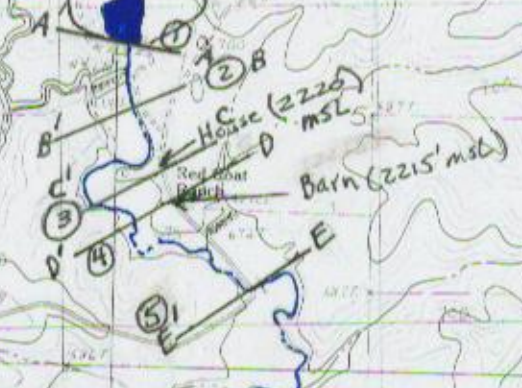
Drainage Area
= 2067
acres
or
3.23 mi²

Main channel slope
= 33' / miles

Soil Infiltration
Index = 2.50

PERMIT APPLICATION
No. 1566-1
JACK FREEMAN
LIZIEBACH CO., SOUTHERN
DIVISION

1" = 2000'
CI = 5m
(16.4')



GCT 11/12/92

Supplemental Information

(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 of Water (ground surface to water level) _____
- g) Distance to nearest existing domestic well:
On applicants property _____ On property owned by others _____

2. Dugout Information Estimates

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

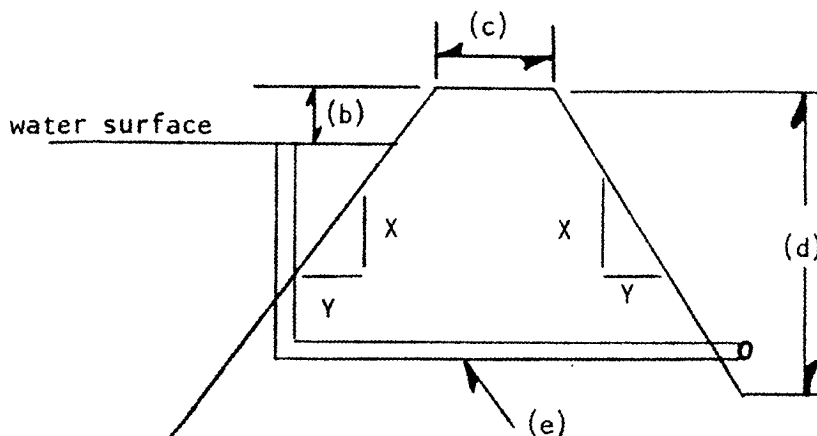
3. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below. The locations of each dam should 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

Soil Conservation Service
HCR 30, Box 34 Belle Fourche, SD
892-2782

- b) Freeboard _____ 5.0' _____
- c) Crest Width _____ 16' _____
Crest Length _____ 236' _____
- d) Height _____ 25' _____
- e) Outlet Dimensions:
Pipe diameter _____ 24" _____
Spillway width _____ 132' _____
- f) X & Y Slope
Upstream _____ 3:1 SS _____
Downstream _____ 2.5:1 SS _____



Surface Area of Impoundment 20.0 Ac.

Storage _____ 115.1 _____ acre feet

Drainage area above dam 2247Ac.

Jack L. Luman
Signature of Applicant

RECEIPT

413447

Division of Water Rights

South Dakota Department of Environment and Natural Resources

Pierre, _____, September 29, 19 92

RECEIVED OF Jack Freeman, Red Coat Ranch, Box 70, Faith, SD 57626

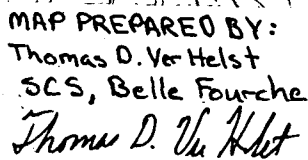
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>1566-1</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. _____		
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for _____		

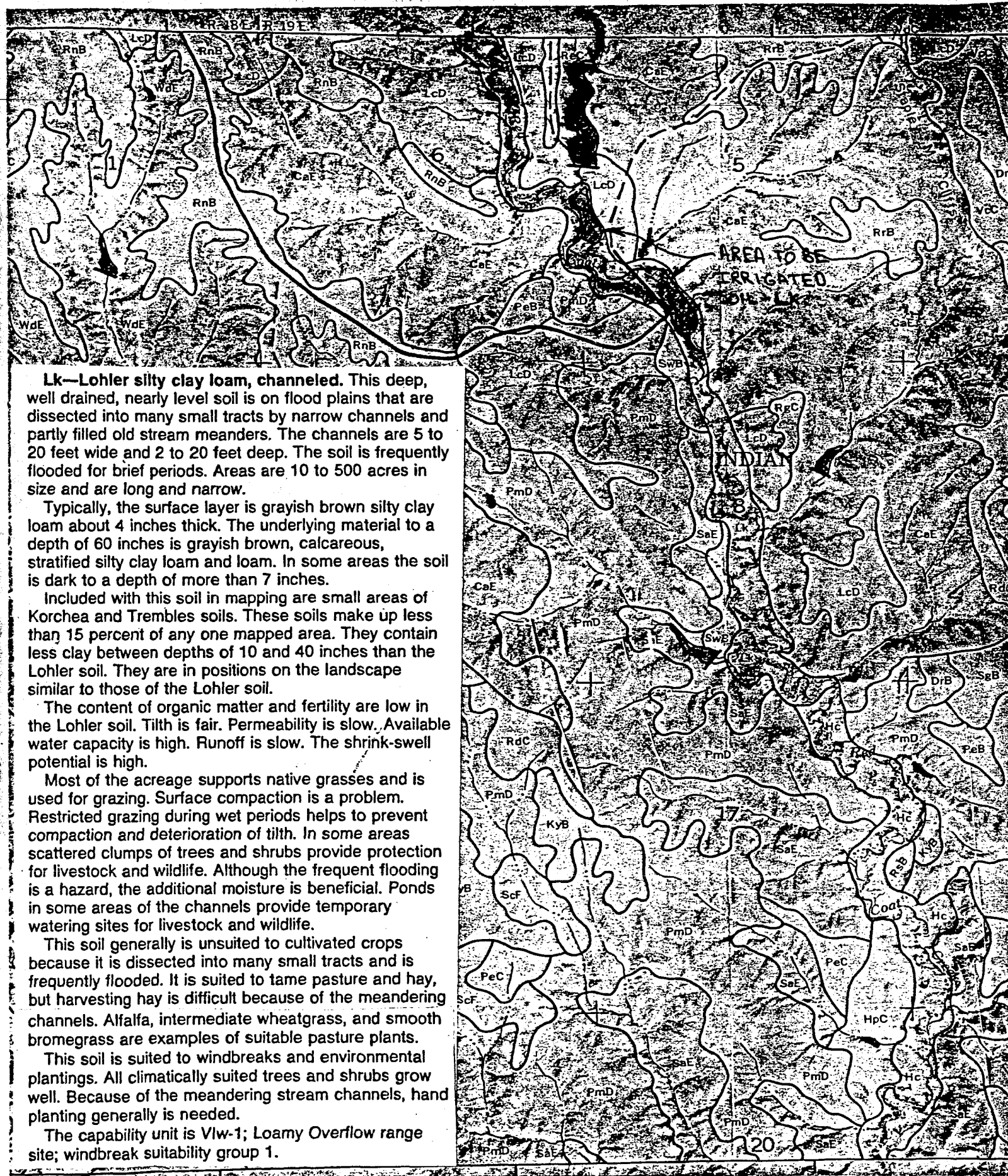
(Any Other Work Provided by Law)	Total	150 00

By John Hatch
Chief Engineer

277







Department of Agriculture
WI#1
5/87

SOIL/WATER COMPATIBILITY PERMIT
Division of Conservation

Office Use Only

4736

WR#

OWNERS NAME: FREEMAN, JACK

OWNERS ADDRESS: BOX 70

FAITH, SD 57626

COUNTY LAND LOCATED IN: ZIEBACH PHONE: 739-5201

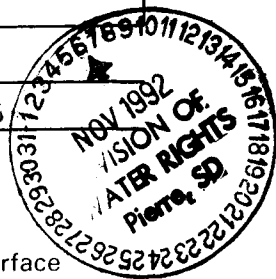
LEGAL DESCRIPTION:

☐ Well

☒ Surface

1. LOCATION 2000' S of the NW corner of 5-T10N-R19E

Depth _____



Legal Description	Acres	Legal Description	Acres
SW $\frac{1}{4}$ NW $\frac{1}{4}$ 5-T10N-R19E	6.0	SE $\frac{1}{4}$ SW $\frac{1}{4}$ 5-T10N-R19E	5.0
NW $\frac{1}{4}$ SW $\frac{1}{4}$ 5-T10N-R19E	10.0	SE $\frac{1}{4}$ NE $\frac{1}{4}$ 6-T10N-R19E	.6
NE $\frac{1}{4}$ SW $\frac{1}{4}$ 5-T10N-R19E	2.0	NE $\frac{1}{4}$ SE $\frac{1}{4}$ 6-T10N-R19E	1.2
SW $\frac{1}{4}$ SW $\frac{1}{4}$ 5-T10N-R19E	3.0		

2. TYPE OF IRRIGATION: GRAVITY: XX TOWLINE: _____ CENTER PIVOT: _____ GUN: _____ OTHER: (Specify) _____

3. CROPS TO BE IRRIGATED: ALFALFA

WATER QUALITY:

4. WATER SAMPLE NUMBER: Surface Runoff

7. ADJUSTED (SAR): _____

5. SALINITY (EC X 10⁶): _____

8. PERCENT SODIUM: _____

6. SODIUM (SAR): _____

Requirements:

A water sample shall be taken when the dam has water in it pursuant to R.S.D 12:01:05:06.

A buffer strip of permanent vegetation shall be maintained along Red Coat Creek. This area shall not be irrigated.

The maximum allowable limits of salt and sodium buildup in the profile at the root zone (upper 12 inches of the soil profile) at the beginning of the growing season apply. They become applicable upon the issuing of a Soil and Water Compatibility Permit by the Division, or the Commission.

Director, Division of Conservation

NOVEMBER 5, 1992

Date

XX APPROVED

____ DISAPPROVED

____ WAIVER

XX REQUIREMENTS

Soil/water permits will be recorded by the Department of Agriculture, with the County Register of Deeds.

P&S Review 11/13/92 GCT

Application No. 1566-1 Jack Freeman

Top Dam Elev. = 2291.5

Primary Spillway Elev = 2286.5

Emergency Spillway Elev = 2288.0

Effective ht X Int. Storage

18' x 148.1 ac. ft

= 2666 < 3000

Max. Storage = 290.3 acre-feet

Intermediate Storage = 148.1 "

Normal Storage = 115.1 "

∴ use 25 yr.
frequency event

From USGS "Technique for estimating Flood peaks" (pp 3-4)

$$Q_{25} = 83.4 A^{0.60} S^{0.44} S_i^{-0.42}$$

where

A = drainage area upstream in mi^2 = 3.23

S = Main channel slope, ft/mi = 33

S_i = Soil infiltration index, inches = 2.50 (p. 23)

$$Q_{25} = 83.4 (3.23)^{0.60} (33)^{0.44} (2.50)^{-0.42}$$

$$Q_{25} = 83.4 (2.02) (4.66) (.681)$$

$$Q_{25} = \underline{534.6} \text{ cfs flow during 25 yr frequency}$$

Capacity of Primary Spillway and Emergency Spillway at crest of dam

- ① Primary Spillway $\rightarrow$ 100' of 24" diameter SDR32.5 PVC pipe
Use Eq. P324 SCS Engineering Field Manual:

$$Q = a \sqrt{\frac{2gH}{1 + K_m + K_p \cdot L}}$$

where:

$a =$ X-sect. ~~where~~ area of pipe $= 3.14 \text{ ft}^2$

$g =$ accel. due to gravity $= 32.2 \text{ ft/s}^2$

$H =$ Elev. difference from water surface to outlet elev. @

center of pipe $= \pm 16.5'$

$K_m = K_e + K_b =$ frictional losses

from Pg 3-89
Ex. 3-8
SCS

$\rightarrow K_e = 0.50$ for sharp-cornered entrance

$K_b = 0$ Coeff. minor losses

$\therefore K_m = 0.50$

$L = 100' =$ length of pipe

$K_p =$ head loss coefficient $= \underline{0.0124}$

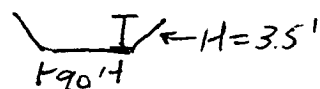
$$\therefore Q = 3.14 \text{ ft}^2 \sqrt{\frac{2(32.2)(16.5)}{1 + 0.5 + (0.0124)(100')}} = \underline{\underline{68 \text{ cfs}}}$$

Emergency Spillway

$$Q = CLH^{3/2} \text{ (Broad-crested Weir)}$$

where

(over) $\rightarrow$



$Q = \text{flow (cfs)}$

$C = \text{weir coefficient} = \underline{2.6}$

$L = \text{width} = 90'$

$H = h_t = 3.5'$

$$Q = 2.6 (90') (3.5')^{3/2} = \underline{1532 \text{ cfs}} \quad \begin{array}{l} \text{Capacity} \\ \text{Emergency Spillway} \end{array}$$

$$\text{Total Capacity} = 68 \text{ cfs} + 1532 \text{ cfs} = \underline{\underline{1600 \text{ cfs}}} \\ (\text{E.S.} + \text{P.S.})$$

$$\begin{array}{ccc} 1600 \text{ cfs} > 535 \text{ cfs} & \therefore & \underline{\text{OK}} \\ \text{Capacity} & \text{25yr frequency} & \\ & \text{flow} & \end{array}$$

Section 74:02:08:09 Review

- 1) Topo Map - ok
- 2) Dam Axis profile - ok
- 3) Dam X-Section - ok
- 4) Area Capacity Curve - ok
- 5) Detailed drawings of outlet - ok
- 6) Spillway Rating Curve - ok
- 7) Plans on spillway structure - ok
- 8) Specifications - ok
- 9) EPP - ok

X-Section #4 @ Home of Jack Freeman, NO. 1566-1 GCT

Elev (msl)

2560' O/S RIVER DISTANCE

± ROM DAM

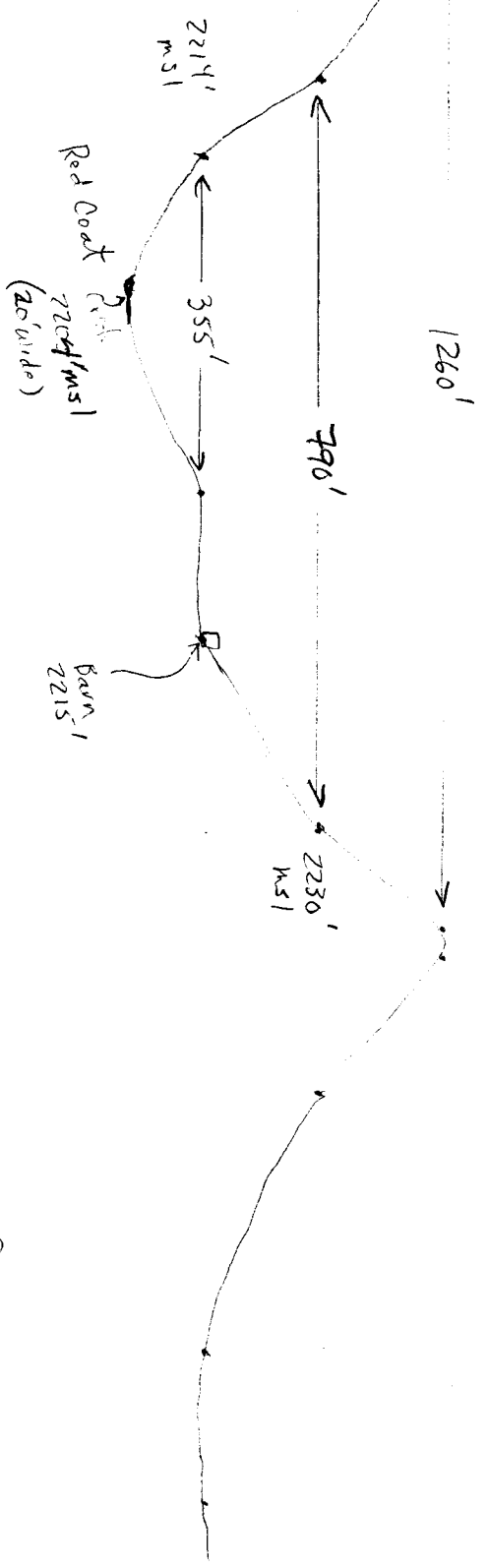
(0.493 miles)

(ft) (m)

2310
2300
2290
2280
2270
2260
2250
2240
2230
2220
2210
2200
2190

0'

0'



42.381 50 SHEETS 5 SQUARE
42.382 100 SHEETS 5 SQUARE
42.389 200 SHEETS 5 SQUARE
NATIONAL

Scale 1" = 200' Hor
1" = 25' Vert

X-Section #5 Jan 1990 No. 1566-1

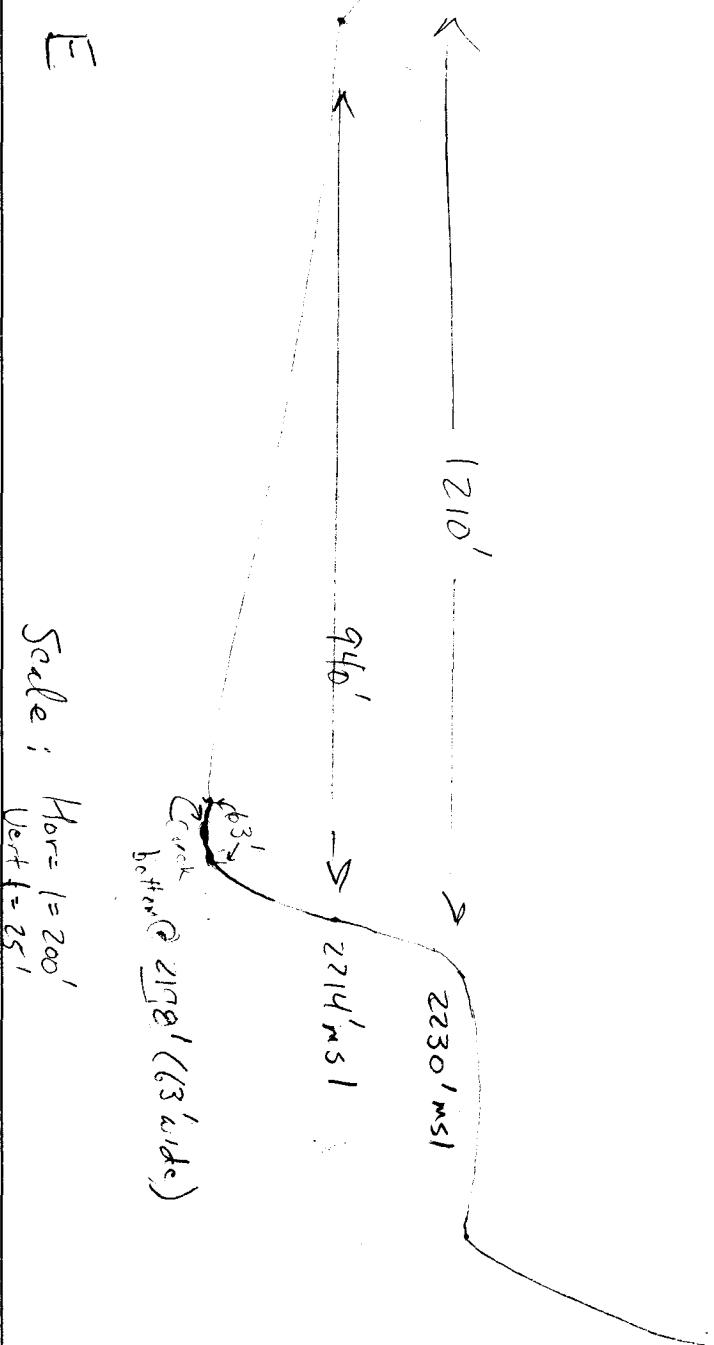
GCT 11/18/92

4643' 013 (RIVER DIST)

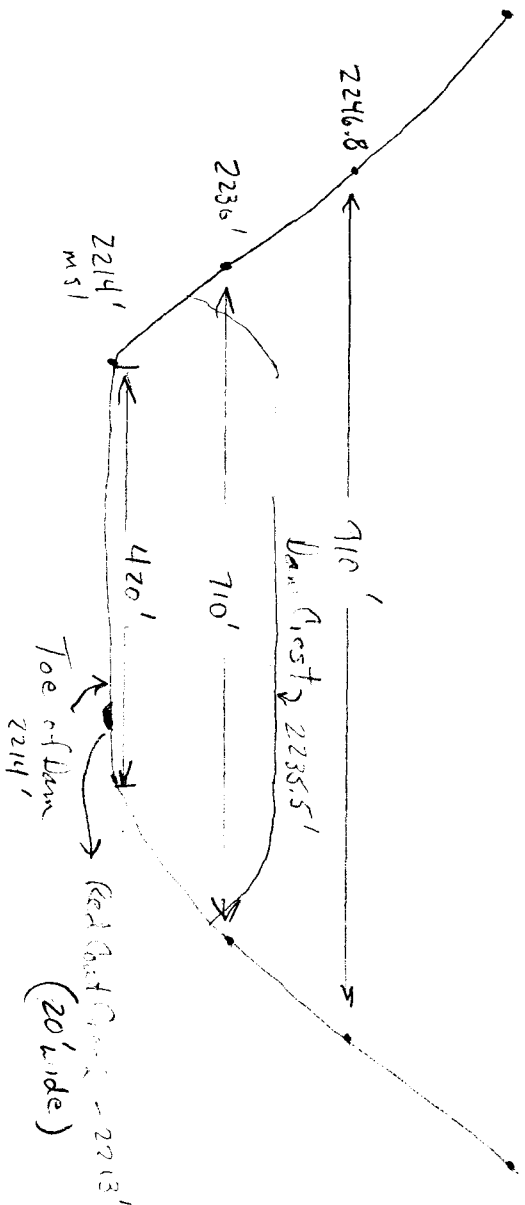
FROM DAM (0.893 m b.)

Elev (ft) MSL

2280
695 m (m)
2270
690 m
2260
685 m
2250
680 m
2240
675 m
2230
670 m
2220
665 m
2210
660 m
2200
655 m
2190
650 m



X-SECTION #1 Jan 1990. N/A 1996-1 AT 0/5 TOE OF DAM



Scale
Horizontal 1" = 200'
Vertical 1" = 25'

Elev. (msl)
Feet
2280
2270
2260
2250
2240
2230
2220
2210
2200

67.3m
67.3m
67.3m
67.3m
67.3m
67.3m
67.3m
67.3m
67.3m

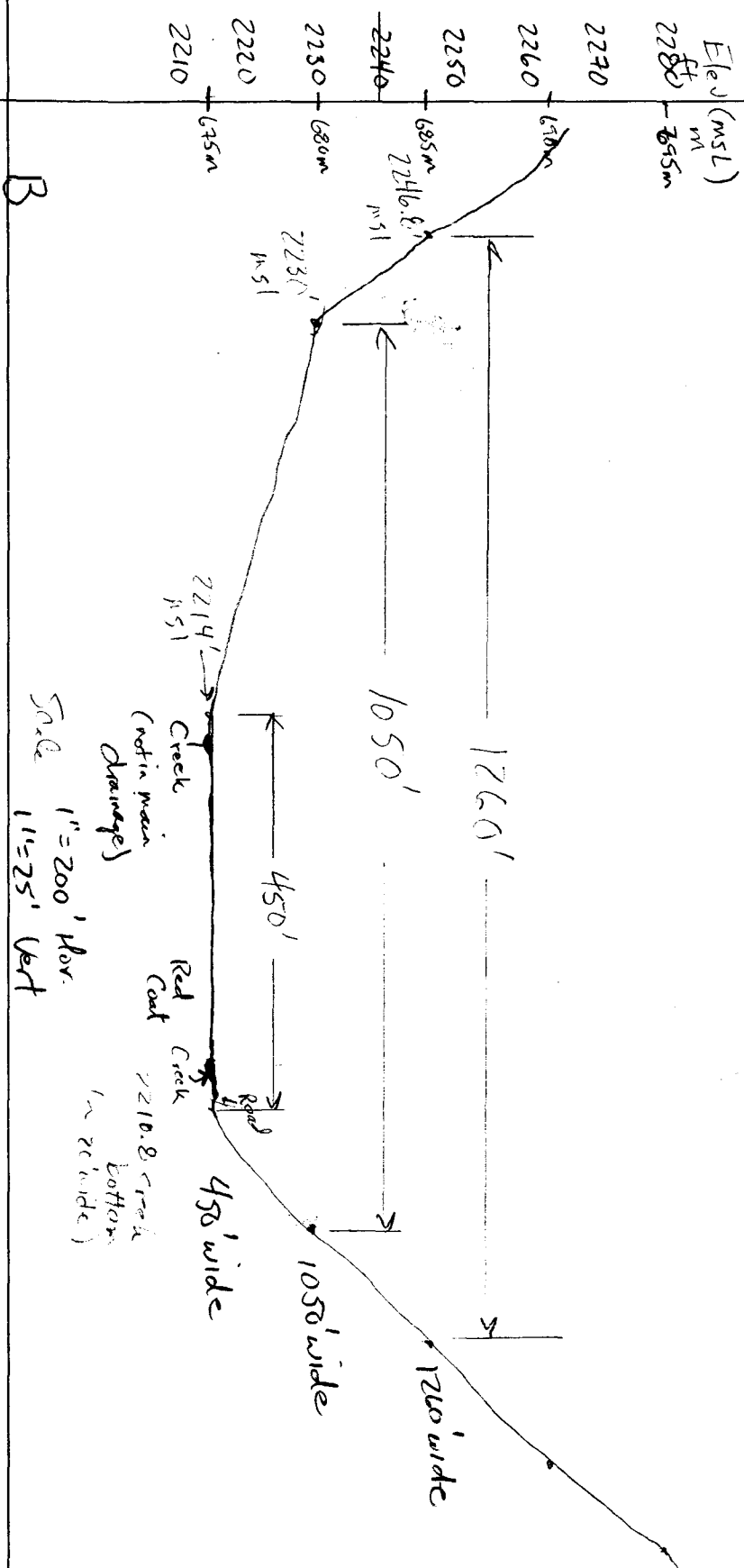
11/17/92

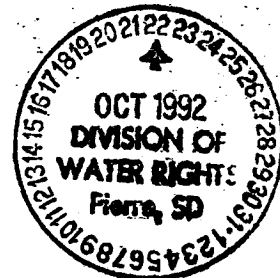
X-Section #2, Jack Freeman NO. 1526-1

GCT

620' D/S PROPOSED
(RIVER BARRAGE)

Slope = 16' / 46'





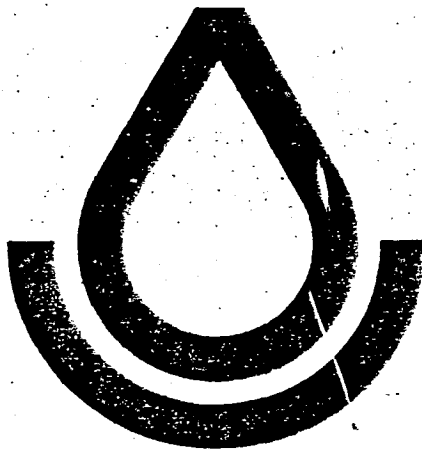
CONSTRUCTION SPECIFICATIONS

for

DAM REPAIR

JACK FREEMAN

ZIEBACH CO.



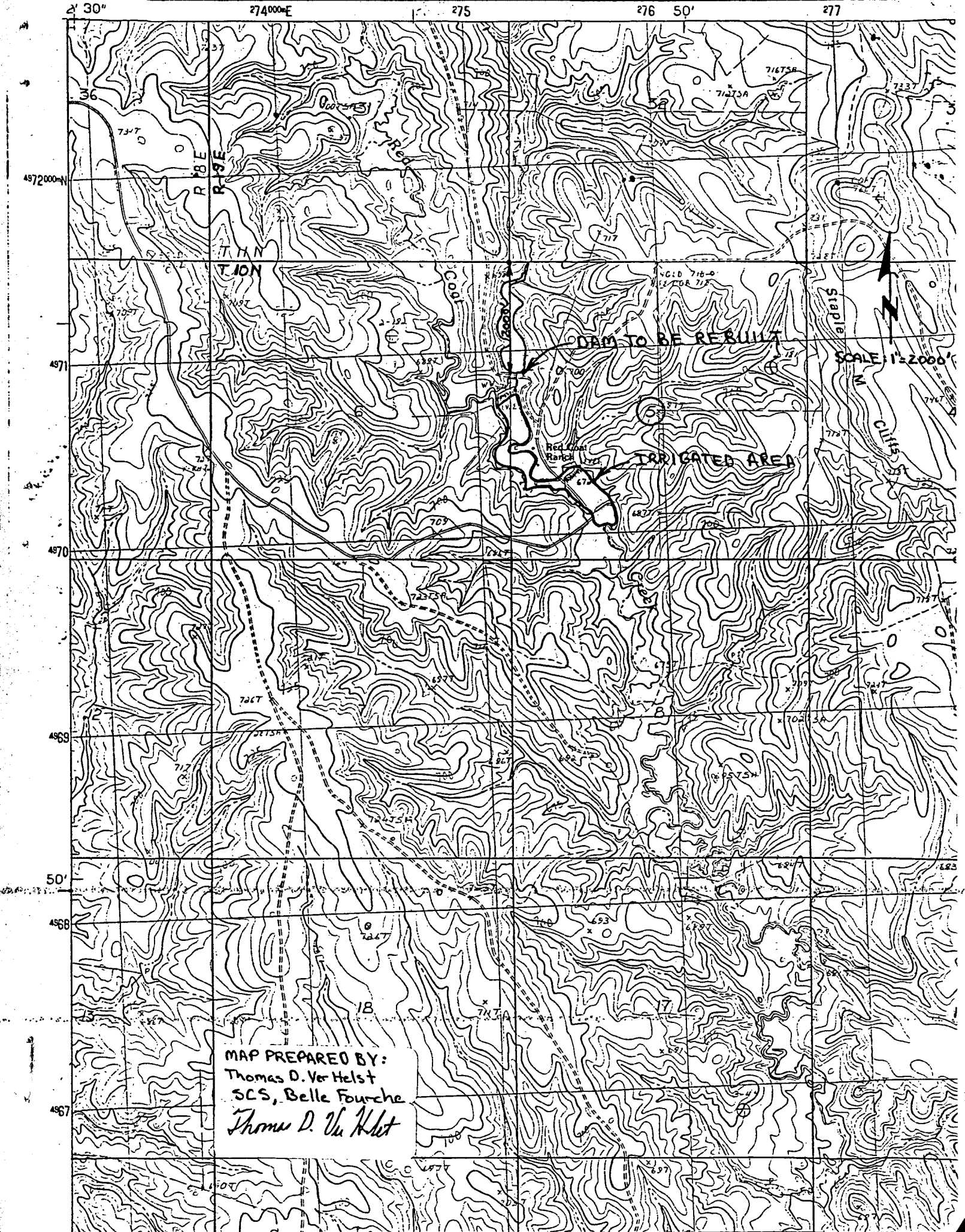
Prepared by:

USDA, SOIL CONSERVATION SERVICE

A.O.

Assisting:

ZIEBACH Conservation District



STATE		PROJECT <u>Jack Freeman Dam Repair</u>		
BY <u>T. Ver Helst</u>	DATE <u>9/92</u>	CHECKED BY	DATE	JOB NO.
SUBJECT <u>Dam Design</u>				SHEET <u>1</u> OF <u>1</u>

	PRINCIPLE SPILLWAY EL. 86.5	EMERGENCY SPILLWAY EL. 88.0	TOP OF FILL EL. 91.5
DEPTH-FT	16.5	18	21.5
SURFACE AREA-AC.	20.0	23.5	30.0
STORAGE FACTOR	.35	.35	.45
STORAGE Ac-Ft	115.1	148.1	290.3



SCS REQUIREMENTS

Size - Small
Category - Class a
Min Spw Design -
 $115 \text{ ac-ft} > 50 \text{ ac-ft}$
 $\therefore 50 \text{ yr} - 24 \text{ hr storm}$
Principal Spw Design -
 $5 \text{ yr} - 24 \text{ hr storm}$

DENR REQUIREMENTS

Size - Small
Category - 3
Min Spw Design -
 $18' \times 148.1 = 2665.8 < 3000$
 $\therefore 25 \text{ yr storm}$

DOWNSTREAM HAZARD POTENTIAL

Jack Freeman House (Red Coat Ranch)
NW⁴ SW⁴ SEC 5 T10N-R19E
Jack Freeman Barn
NW⁴ SW⁴ SEC 5 T10N-R19E

Footings Elevation - 2220

Footings Elevation - 2215

Bottom of Watercourse (Red Coat Creek)
NW⁴ SW⁴ SEC 5 T10N-R19E

Elevation - 2202

1DAMS2 XEQ 09/17/92 STRUCTURE SITE ANALYSIS COMPUTER PROGRAM
 REV 01/01/90 SCS TECHNICAL RELEASE 48, (USER MANUAL) DATED JAN. 1990
 TIME 13:57:38

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

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

DAMS2	01/01/90	Freeman	Freeman Dam- Ziebach County, SD.
STRUCTURE	Freeman	Trial #1	09/17/92 T.VerHelst(378 Design)
		85.5	82.0
		86.0	98.0
P.S. Crest El.		86.5	112.0
		87.0	124.0
E.S Crest El.		88.0	156.0
		89.0	191.0
		90.0	230.0
		91.0	270.0
Top of Fill El.		91.5	295.0
		95.0	460.0

ENDTABLE

WSDATA	2A101	AC	80	2247	2.04	
PDIRECT			2.8		4.30	4.30
POOLDATA	ELEV		86.5	86.5		
PSDATA	1		100	24	0.009	70.00
PSINLET	ELEV		1.0	20.0		
ESCREST	ELEV			88.0		
ESDATA	1		200	0.03	3	0.035 12
BTMWIDTH	FEET		30	50	70	90
COMMENT	This is a 378 design for a drop inlet routing a 5-yr 24hr					
COMMENT	storm for the principal spillway and a 50yr 24hr storm					
COMMENT	for the emergency spillway. (TVH 09/17/92)					
COMMENT						
COMMENT						
COMMENT						
COMMENT						
GO, DESIGN L		TYPE2			TYPE2 378 24	
ENDJOB						

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

1DAMS2 XEQ 09/17/92
 REV 01/01/90 Freeman Dam- Ziebach County, SD. WSID = Freeman

This is a 378 design for a drop inlet routing a 5-yr 24hr
 storm for the principal spillway and a 50yr 24hr storm
 for the emergency spillway. (TVH 09/17/92)

1DAMS2

XEQ 09/17/92 Freeman Dam- Ziebach County,SD.

REV 01/01/90 Trial #1 09/17/92 T.VerHelst(378 Design)

TIME 13:57:38

SITE = Freem

PASS= 1

WSID= Freeman

SUBW= 01

PAGE= 1

HUMID- SUBHUMID CLIMATE AREA

BASIC DATA

DESIGN CLASS A1 =LT 3000

STORM DISTRIBUTION-PSH 24 HOUR TYPE II RAINFALL DISTRIBUTION

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

PRECIP.-	P-PS1 DAY 2.80	P-PS10 DAY .00	P-ES 4.30	P-FB 4.30
WSDATA-	CN 80.00	DA-SM 3.51	TC/L 2.04	-/H .00
SITEDATA-	PERM POOL 86.50	CREST PS 86.50	FP SED .00	QRF .00
	BASEFLOW .00	INITIAL EL .00	EXTRA VOL. .00	
PSDATA-	NO. COND. 1.00	COND L 100.00	D/W 24.00	-/H .00
	PS N .009	KE 1.00	WEIR L 20.00	TW EL 70.00
	2ND STG .00	QRF H .00	QRF L .00	START ES .00
CRESTS-	ES1 .00	ES2 88.00	ES3 .00	ES4 .00
				ES5 .00
EMG DATA-	SIDE SLOPE 3.00	EXIT N .035	EXIT SLOPE .120	
EMG DATA-	ES TYPE 1	ES LENGTH 200	ES ENTRANCE N .030	
BTM WIDTH-	BW1 30.00	BW2 50.00	BW3 70.00	BW4 90.00
				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	1	ELEVATION INCREMENT (FT)= 1.000		
DISCHARGES-Q1	Q2	Q3	Q4	
1.426	5.426	11.354	18.870	
Q5	Q6	Q7	Q8	
27.695	37.682	48.680	60.712	
Q9	Q10	Q11	Q12	
73.553	87.243	101.711	116.877	

1DAMS2

XEQ 09/17/92 Freeman Dam- Ziebach County,SD.

REV 01/01/90 Trial #1 09/17/92 T.VerHelst(378 Design)

TIME 13:57:38

SITE = Freem

PASS= 1

WSID= Freeman

SUBW= 01

PAGE= 2

SCS-ESH D= 24.00 HR P= 4.30 IN Q= 2.29 IN DA = 3.51 SM
 TC= 2.04 HR CN= 80.00 VOL= 429.1 ACFT

PEAK = ~~1513.5~~ CFS, AT 13.3 HRS.

SCS-FBH D= 24.00 HR P= 4.30 IN Q= 2.29 IN DA = 3.51 SM
 TC= 2.04 HR CN= 80.00 VOL= 429.1 ACFT

PEAK = 1651.5 CFS, AT 13.3 HRS.

 RATING TABLE DEVELOPED, SITE = Freem
 BY PROGRAM FOR PS AND EMG SPILLWAYS

RATING TABLE NUMBER 2

	ELEV FEET	Q-TOTAL CFS	Q-PS CFS	VOLUME AC-FT	AREA ACRE
1	86.50	.00	.00	112.00	.00
2	86.76	8.18	8.18	118.22	.00
3	87.02	23.15	23.15	124.59	.00
4	87.28	42.52	42.52	132.89	.00
5	87.54	65.47	65.47	141.18	.00
6	87.90	86.18	66.18	152.89	.00
7	88.27	86.86	66.86	165.41	.00
8	88.63	67.52	67.52	178.22	.00
9	89.00	68.18	68.18	191.03	.00
10	89.37	68.84	68.84	205.30	.00
11	89.73	69.48	69.48	219.58	.00
12	90.10	70.13	70.13	233.95	.00
13	90.46	70.76	70.76	248.59	.00
14	90.69	81.00	71.15	257.66	.00
15	90.92	91.40	71.51	266.73	.00
16	91.33	110.44	72.24	286.32	.00
17	91.83	164.60	73.08	310.33	.00
18	92.73	309.20	74.58	353.10	.00
19	93.87	587.71	76.42	406.55	.00
20	95.00	969.16	78.21	460.00	.00

FULL CONDUIT FLOW, ELEV = 87.54 F

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
SCS-ESH	30.0	92.92	361.9	.0	2.46	113.3

PEAK - CFS DISCHARGE	Q-PS	Q-ES	Q-TOT
74.9	280.4	355.2	

EMERGENCY SPILLWAY----	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
	1.33	6.19	.017	.022

EMERGENCY SPILLWAY----	DURATION FLOW HRS	ATTACK OE/B ACFT/FT	SUMMATION VEL**2 DELTA T (FT/SEC)**2 HRS
	18.8	5.8	1163.2

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

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 11.57 FT/SEC
 EXIT SLOPE = .120 FT/FT
 FLOW DEPTH = .751

RATING TABLE DEVELOPED, SITE = Freem
BY PROGRAM FOR PS AND EMG SPILLWAYS

RATING TABLE NUMBER 9

	ELEV FEET	Q-TOTAL CFS	Q-PS CFS	VOLUME AC-FT	AREA ACRE
1	86.50	.00	.00	112.00	.00
2	86.76	8.18	8.18	118.22	.00
3	87.02	23.15	23.15	124.59	.00
4	87.28	42.52	42.52	132.89	.00
5	87.54	65.47	65.47	141.18	.00
FULL CONDUIT FLOW, ELEV = 87.54 FT					
6	87.59	65.61	65.61	143.04	.00
7	87.65	65.72	65.72	144.89	.00
8	87.71	65.83	65.83	146.74	.00
9	87.77	65.94	65.94	148.59	.00
10	87.83	66.04	66.04	150.44	.00
11	87.88	66.15	66.15	152.30	.00
12	87.94	66.26	66.26	154.15	.00
13	88.00	66.36	66.36	156.00	.00
14	88.35	112.23	67.01	168.25	.00
15	88.70	158.44	67.64	180.50	.00
16	89.33	321.01	68.77	203.87	.00
17	90.10	630.59	70.13	234.00	.00
18	91.50	1519.72	72.53	295.00	.00
19	93.25	3068.89	75.42	377.50	.00
20	95.00	5071.71	78.21	460.00	.00

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
SCS-ESH	90.0	90.75	259.8	.0	2.75	103.8
PEAK - CFS DISCHARGE =		Q-PS 71.2	Q-ES 285.4	Q-TOT 1006.7		
		CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT	
EMERGENCY SPILLWAY----		1.47	6.73	.016	.022	
		DURATION FLOW HRS	ATTACK OE/B ACFT/FT	SUMMATION VEL**2 DELTA T (FT/SEC)**2 HRS		
EMERGENCY SPILLWAY----		15.1	3.3	735.4		

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

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 12.52 FT/SEC
EXIT SLOPE = .120 FT/FT
FLOW DEPTH = .808

DRAWDOWN USING FREEBOARD STORM FOLLOWS, STARTING AT ELEVATION 88.00 FT.

DRAWDOWN (DDT) TEST 86.50 FT 112.0 ACFT .00 CFS
CONTROL IS .000 DETENTION STORAGE

TIME = 2.81 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	90.0	90.75	259.8	.0	2.75	103.8
PEAK - CFS DISCHARGE =		Q-PS 71.2	Q-ES 285.4	Q-TOT 1006.7		
		CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT	
EMERGENCY SPILLWAY----		1.47	6.73	.016	.022	
		DURATION FLOW HRS	ATTACK OE/B ACFT/FT	SUMMATION VEL**2 DELTA T (FT/SEC)**2 HRS		
EMERGENCY SPILLWAY----		15.1	3.3	735.4		

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

CONSTRUCTION SPECIFICATION

SD-4 STRIPPING

4.1 SCOPE

The work shall consist of removing topsoil and other undesirable materials from borrow areas and foundations of structures and earth fills.

4.2 GENERAL

The stripping excavation shall extend to a depth sufficient to expose subsoil reasonably free of roots and other perishable material. Excavated earth material deemed satisfactory by the technician shall be used for earth fill. All waste material shall be disposed of in areas shown on the drawings or as directed by the technician. Stripped material suitable for topsoil shall be stockpiled and respread over disturbed areas as directed by the technician.

4.3 STRIPPING FOUNDATIONS

Stripping excavation shall extend to consolidated subsoil and shall be to reasonably smooth surfaces free of unconsolidated or loose soil. Unless otherwise shown on the drawings, foundation slopes shall be excavated to one to one, or flatter slopes.

4.4 STRIPPING BORROW AREAS

The areas from which borrow is to be taken shall be stripped to sufficient depth to expose material suitable for the earth fill.

CONSTRUCTION SPECIFICATION

SD-5 EXCAVATION

5.1 SCOPE

The work shall consist of all excavations to the lines and grades as shown on the drawings and the use and disposal of the excavated materials.

5.2 CLASSIFICATION

Common excavation shall be defined as the excavation of all materials that can be removed and transported by heavy duty construction equipment having a power rating of at least 200 net peak flywheel horsepower 1/, and includes boulders and loose rock less than 1 cu. yd. in volume.

Rock excavation shall be defined as the excavation of all hard compacted or cemented materials requiring blasting or larger equipment than defined under common excavation, including boulders and loose rock 1 cu. yd. or greater in volume.

5.3 USE OF EXCAVATED MATERIALS

Excavated materials deemed satisfactory by the technician shall be used for earth or rock fill to the extent needed.

5.4 DISPOSAL OF WASTE MATERIAL

All surplus or waste material shall be disposed of in areas shown on the drawings or as directed by the technician, and left in a neat, sightly condition and sloped to provide drainage.

5.5 BRACING AND SHORING

Excavated surfaces too steep to be stable shall be supported to prevent soil movement. The contractor shall furnish, place, and subsequently remove the supports.

5.6 STRUCTURE AND TRENCH EXCAVATION

Structure or trench excavation shall be approved by the technician before any structure, pipe, or earth fill is placed in the excavation.

5.7 BORROW EXCAVATION

When quantities of suitable materials obtained from specified excavations are insufficient to construct specified fills.

1/ D8 Caterpillar or equivalent

additional materials shall be obtained from the designated borrow area as directed by the technician.

Borrow pits shall be excavated and finely dressed in a manner to eliminate steep or unstable side slopes or other hazardous or unsightly conditions.

5.8 BLASTING

The transportation, handling, storage, and use of dynamite and other explosives shall be directed by a person of proven experience and ability in blasting operations.

Blasting shall be done in such a way as to prevent damage to the work or unnecessary fracturing of the foundation.

CONSTRUCTION SPECIFICATION

SD-7S EARTH FILL-CLASS S

7S.1 SCOPE

The work shall consist of the construction of compacted earth fills where the amount of compaction is to be controlled by a method type of specification.

7S.2 MATERIALS

All fill materials shall be obtained from required excavations and designated borrow areas. The selection, blending, routing and disposition of materials shall be subject to approval by the technician.

Fill materials shall not contain frozen material, sod, brush, roots, or other perishable materials, or rocks larger than 8 inches in diameter. Fill shall not be placed on a frozen surface.

7S.3 FOUNDATION PREPARATION

After stripping (see stripping specification), the foundation shall be scarified or plowed to a minimum depth of 4 inches. The entire foundation area shall then be compacted by the process used on the fill.

7S.4 PLACEMENT

All foundation excavations 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 materials differing substantially from surrounding material.

Fill, adjacent to structures, shall be placed in a manner that will prevent damage to the structures and allow the structures to assume the backfill loads gradually and uniformly. Equipment weighing more than 400 pounds shall not be operated within 2 feet of any structure.

Fill shall be placed in approximately equal horizontal layers. Fill layer thicknesses shall not exceed 9 inches for machine compaction or 4 inches for hand compaction (including hand directed power tampers adjacent to structures).

7S.5 MOISTURE CONTENT

The fill material shall have a moisture content that when kneaded in the hand will form a ball which does not easily crumble when struck sharply with a pencil or which does not crumble when pressed between the hands.

If the soil is too wet, it will yield free water when kneaded in the hand. The fill may have to be wetted or dried to achieve proper moisture control.

7S.6 COMPACTION (CLASS S)

The fill shall be compacted by one of the following methods.

- a. By routing the hauling and spreading equipment such that all points of the fill is traversed by at least one tread track of the loaded equipment, parallel to the centerline of the fill.
- b. By at least two passes of a tamping (sheepfoot) roller weighing at least 100 pounds per square inch of bearing area.

Fill adjacent to structures shall be compacted to a density equivalent to that of the surrounding fill by means of hand tamping or manually directed power tampers or plate vibrators. Heavy equipment shall not be operated within 2 feet of any structure.

Compaction of fill adjacent to concrete structures shall not be started until the following time limits have elapsed after placement of the concrete.

<u>Structure</u>	<u>Time Interval</u>
Walls and counterforts	14 days
Conduits and Spillway Risers (cast in place)	14 days
Conduits, precast, cradled	2 days
Conduits, precast, bedded	1 day
Anti-seep Collars and Cantilever pipe props	3 days

CONSTRUCTION SPECIFICATION

SD-9 DRAIN FILL AND FILTER

9.1 SCOPE

The work shall consist of furnishing and placing drain fill and filter sands or gravels.

9.2 MATERIALS

a. Quality

Aggregates shall be sand, gravel, or crushed stone, composed of clean, hard, durable mineral particles free from organic matter, clay balls, soft particles or other substances that would interfere with their free draining properties.

Not more than 5 percent of the material may be crushed limestone, not more than 15 percent may be flat, elongated particles, and not more than 5 percent may be finer than a No. 200 sieve.

b. Gradation

The aggregates shall meet the following gradation requirements unless otherwise specified in the plans.

<u>Size</u>	<u>% Finer</u>
3"	100%
1"	90-100%
#4	50- 85%
#50	10- 40%
#200	0- 5%

9.3 BASE PREPARATION

Surfaces on which drain fill will be placed shall be as undisturbed as possible (do not scarify), and will be free of standing water during placement of the fill. Care shall be taken to prevent trench walls from sliding.

9.4 PLACEMENT

Material shall be placed in uniform, approximately 6-inch thick layers. Extreme care shall be taken to assure uniformity of the drain fill, and to prevent segregation or contamination of the drain fill with foreign matter. When collector pipes are included in drains, the fill materials shall be placed in a manner to avoid displacing the pipe.

CONSTRUCTION SPECIFICATION

SD-10 SALVAGING AND SPREADING TOPSOIL

10.1 SCOPE

The work shall consist of salvaging topsoil from borrow pits or other excavations and spreading it in the designated areas to the specified depths.

10.2 QUALITY OF TOPSOIL

Topsoil shall consist of friable soil reasonably free of grass, roots, weeds, sticks, stones, or other foreign materials.

10.3 EXCAVATION

Topsoil shall be removed after clearing and grubbing and removing vegetation and shall be stockpiled at locations approved by the technician. Objectionable materials shall be removed and buried, or disposed of, at locations approved by the technician.

10.4 SPREADING

Spreading shall not be done when the ground or topsoil is frozen, excessively wet or otherwise in a condition detrimental to the work. Surfaces to be covered shall be lightly scarified just prior to the spreading operation.

All earth fills not to be submerged shall be covered with topsoil to a depth of 6 to 18 inches measured normal to the surface of the fill and placed to the neat lines shown on the drawings.

After placement is completed, the topsoil surface shall be left in a condition that will permit seeding equipment to be operated without excessive smoothing.

CONSTRUCTION SPECIFICATION

SD-12A CONCRETE (CLASS 3500)

12A.1 SCOPE

The work shall consist of furnishing, forming, placing, finishing, and curing portland cement concrete.

12A.2 MATERIALS

Concrete shall be composed of cement, fine and coarse aggregate, and an air-entraining admixture. Additives such as salt, or calcium chloride or other anti-freeze compounds, shall not be added to the mix. Other additives may be added only upon the written permission of the technician.

- a. Portland Cement shall conform to the requirements of ASTM Specification C 150 or C 175, Type II or IIA and shall be low alkali, unless otherwise specified on the plans.

Cement that is partially hydrated or otherwise damaged shall not be used.

- b. Aggregates shall conform to the requirements of ASTM Specification C 33. Fine aggregates shall be as indicated in ASTM C-33. Coarse aggregates shall be size number 467 (1½ in. to No. 4 sieve) unless otherwise specified on the drawings.

Aggregates which are known to have a slight potential reactivity with alkalis in cement may be used if low alkali cement is used and if approved by the technician.

The aggregates shall be handled in a manner to prevent contamination and segregation.

- c. Water shall be clean and free from harmful chemicals (suitable for drinking).
- d. Air-entraining admixtures shall conform to the requirements of ASTM Specification C 260. If air-entraining cement is used, any additional air-entraining admixture shall be of the same type as that used in the cement.
- e. Preformed expansion joint filler, when specified, shall be the bituminous type conforming to ASTM Specification D-994.
- f. Curing Compound - Used for spraying on concrete surfaces to retard the loss of water during the curing process, shall be white pigmented or have a fugitive dye and meet requirements of ASTM C 309 for Type 2 or Type 1 with a fugitive dye as specified on the drawings or dictated by daily temperatures (See Sec. 12A.21).

The material shall not have been frozen or otherwise damaged or contaminated.

12A.3 DESIGN OF THE CONCRETE MIX

The contractor or person in charge of construction will be responsible for the design of the concrete mix. Prior to placement of concrete, a statement of materials and mix proportions (including admixtures, if any) that is to be used, shall be furnished the technician for approval.

Approval of the concrete mix for the quality and strength of concrete desired will be based on the following minimum criteria:

- a. All concrete shall have a minimum compressive strength of 3500 pounds per square inch at 28 days.
- b. The mix shall contain at least 6 bags of cement per cubic yard of concrete.
- c. Not more than 6 gallons of water shall be used per bag of cement including free water in the aggregate.
- d. The concrete shall have an air-entrainment content (by volume) of between 4 and 7 percent unless otherwise specified.

The consistency of the concrete shall be such as to allow it to be worked into place without segregation. Unless otherwise specified, the slump shall be between 2 and 4 inches.

12A.4 INSPECTION AND TESTING

The following tests will be performed by the methods indicated.

<u>Test</u>	<u>Method (ASTM designation)</u>
Sampling	C 172
Slump Test	C 143
Air Content	C 231 or C 173
Compression Test Specimens	C 31 or C 42
Compressive Strength	C 39 or C 42

For each strength test of specimens made according to ASTM Designation C 31, 3 standard test specimens shall be made. The test result shall be the average of the strengths of the 3 specimens, except that if one specimen in the test shows evidence of improper sampling, molding or testing, it shall be discarded and the strengths of the remaining 2 specimens shall be averaged. Should more than one specimen representing a test show such defects, the entire test shall be discarded.

The technician shall have free entry to the plant and equipment furnishing concrete. Proper facilities shall be provided for the technician to inspect materials, equipment and processes and to obtain samples of the ingredients and concrete. All tests and inspections will be conducted so as not to interfere unnecessarily with the manufacture and delivery of the concrete.

12A.5 HANDLING AND MEASURING MATERIALS

Materials shall be stored and handled in a manner that will prevent degradation, segregation, contamination or intermixing of materials before measurement.

Scales for weighing aggregates and cement shall be beam or springless dial type, clean and operating within 1 percent accuracy.

All materials entering into the concrete shall be mechanically measured by weight except the air-entraining admixture and water which may be measured by volume.

12A.6 MIXERS AND MIXING

Concrete may be furnished by batch mixing at the site of the work or by ready-mix methods.

Mixers shall be capable of thoroughly mixing the concrete ingredients into a uniform mass within the specified mixing time and of discharging the mix without segregation. Each mixer or agitator shall bear a manufacturer's rating plate indicating the rated capacity and recommended speeds of rotation, and shall be operated in accordance with these recommendations.

Concrete shall be uniform and thoroughly mixed when delivered to the work.

No mixing water in excess of the amount called for by the job mix shall be added to the concrete at any time without the approval of the technician.

a. Batch mixing at the site

For concrete mixed at the site of the work with paving mixers or stationary construction mixers, the time of mixing after all cement and aggregates are in the mixer drum shall be not less than 1 1/2 minutes.

The batch shall be so charged into the mixer that some water will enter in advance of the cement and aggregates and all mixing water shall be introduced into the drum before one-fourth of the mixing time has elapsed.

Controls shall be provided to insure that the batch cannot be discharged until the required mixing time has elapsed.

Truck mixers and agitators shall be equipped with revolution counters by which the number of revolutions of the drum or blades may be readily verified.

When ready-mixed concrete is furnished, the Contractor may be required to furnish the Engineer a statement of delivery ticket showing the time of loading, the revolution counter reading at the time of loading and the quantities of materials used for each load of concrete.

b. Truck-mixed concrete

When concrete is mixed in a truck mixer loaded to its maximum capacity, the number of revolutions of the drum or blades at mixing speed shall be not less than 70 nor more than 100. If the batch is at least 1/2 cubic yard, less than maximum capacity, the number of revolutions at mixing speed may be reduced to not less than 50. Mixing in excess of 100 revolutions shall be at the speed designated by the manufacturer of the equipment as agitating speed. The mixing operation shall begin within 30 minutes after the cement has been added to the aggregates and the water shall be added during mixing. When mixing is begun during or immediately after charging, a portion of the mixing water shall be added ahead of, or with, the other ingredients.

12A.7 FORMS

Forms shall be wood, plywood, steel or other approved material and shall be mortar tight. The forms and associated falsework shall be substantial and unyielding and shall be constructed so that the finished concrete will conform to the specified dimensions and contours. Form surfaces shall be smooth and free from holes, dents, sags, or other irregularities. Forms shall be coated with a nonstaining form oil before being set into place. Bolts and rods used for internal ties shall be so arranged that the metal will not be less than 1" from the surface when the forms are removed. Forms may not be embedded in the concrete. Wire ties will not be permitted except when approved in writing.

All permanently exposed concrete edges shall be chamfered 3/4" unless otherwise indicated on the drawings.

12A.8 PREPARATION OF FORMS AND SUBGRADE

Prior to placement of concrete, the forms, reinforcing, and subgrade shall be free of chips, sawdust, debris, water, ice, snow, extraneous oil, mortar or other harmful substances or coatings. Rock surfaces shall be cleaned by wire brushing, wet sand-blasting, air water jets or other means satisfactory to the technician. Earth surfaces shall be firm and damp before placing concrete. Placement of concrete on mud, dried earth, uncompacted fill or frozen subgrade will not be permitted. Items to be embedded in concrete shall be positioned accurately and anchored firmly.

12A.9 CONVEYING

The maximum length of time between introduction of the cement to the mix and placement of the concrete in the forms shall not exceed 1-1/2 hours for concrete temperatures below 85°F. or 45 minutes for concrete temperatures above 85°F. Concrete shall not be dropped more than 5 feet vertically unless suitable equipment is used to prevent segregation.

12A.10 PLACING

Concrete shall not be placed until the subgrade, forms, and steel reinforcement have been inspected and approved.

The person responsible for construction shall have all equipment and materials required for curing, available at the site ready for use before placement of concrete.

The technician shall be notified of the time when concrete will be poured and given adequate time to inspect and approve the reinforcing steel, forms, subgrade, curing preparation, vibrating equipment and plans for placement.

The depositing of concrete shall be regulated so that concrete may be consolidated with a minimum of lateral movement, segregation, laitance, or honey-combing. Temporary stays and braces shall be removed when no longer needed.

12A.11 LAYERS

Slab concrete shall be placed to design thickness in one continuous layer. Formed concrete shall be placed in horizontal layers not more than 20 inches thick. Successive layers shall be placed at a fast enough rate to prevent the formation of "cold joints." If a successive layer cannot be placed in a timely manner a standard type construction joint shall be constructed between the layers, and unfinished ends of partial layers shall be formed by a vertical bulkhead.

12A.12 CONSOLIDATION

Each concrete layer shall be completely consolidated by spading, hand tamping, or mechanical vibrators as necessary to insure smooth, dense concrete along form surfaces, in corners and around embedded items, without segregation or laitance. Vibration shall extend into the previously placed layers of fresh concrete at all points, to insure effective bond between layers.

The use of vibrators to transport concrete in the forms or conveying equipment will not be permitted.

Vibration shall not be applied directly to the reinforcement steel, forms, or to concrete that has hardened.

12A.13 CONSTRUCTION JOINTS

Construction joints shall be made at the locations shown on the drawings, or as approved by the technician.

Where a feather edge would be produced at a construction joint, as in the top surface of a sloping wall, an insert form shall be used so that the resulting edge thickness on either side of the joint is not less than 6 inches.

In walls and columns as each lift is completed, the top surfaces shall be immediately and carefully protected from any condition that might adversely affect the hardening of the concrete.

Steel tying and form construction adjacent to concrete in place shall not be started until the concrete has cured at least 12 hours. New concrete shall not be placed until the hardened concrete has cured at least 12 hours.

Surfaces of construction joints shall be cleansed of all unsatisfactory concrete, laitance, coatings, stains, or debris by washing and scrubbing with a wire brush or wire broom or by other means approved by the technician. The surfaces shall be kept moist for at least one hour prior to placement of new concrete.

12A.14 EXPANSION AND CONTRACTION JOINTS

Expansion and contraction joints shall be made only at locations shown on the drawings. Exposed edges on these joints shall be carefully tooled or chamfered and shall be free of mortar and concrete.

Preformed expansion joint filler shall be held firmly in the correct position as the concrete is placed and shall be left exposed for its full length with clean and true edges.

12A.15 REMOVAL OF FORMS

Forms shall not be removed without approval of the technician and in such a way as to prevent damage to the concrete.

Forms shall not be removed before the expiration of the following minimum time intervals after placement of the concrete, exclusive of days when the minimum temperature of air adjacent to the concrete is below 40°F.

<u>Element</u>	<u>Time</u>
Beams, arches, decks Inside forms of conduits, risers	14 days
Outside forms of conduits, risers, small structures	3 days
Columns, bearing walls	7 days
Non Bearing walls	24 hours

12A.16 FINISHING FORMED SURFACES

Immediately after removal of the forms: (a) All fins, and irregular projections which in the judgment of the technician affects appearance or function shall be removed; (b) All forms, bolts, and ties shall be removed, to a depth at least 1 inch below the surface of the concrete. The cavities produced by form ties and all other holes of similar size and depth shall be thoroughly cleansed and shall be carefully packed with a dry-pack mortar mixed not richer than 1 part cement to 3 parts sand passing #16 sieve. All other holes and cavities shall be filled solid with mortar after thoroughly wetting the hole.

Patching mortar shall be thoroughly compacted into place to form a dense, well-bonded unit, and free from shrinkage cracks. All patched areas shall be cured.

12A.17 FINISHING UNFORMED SURFACES

All exposed surfaces of the concrete shall be accurately screeded to grade and then wood float finished, except slip form lining which is finished by travel of the form.

Excessive floating or troweling while the concrete is soft will not be permitted. The addition of dry cement or water to the surface of the screeded concrete also will not be permitted.

All exposed concrete edges and joints shall be chamfered or finished with molding tools.

12A.18 CURING

Concrete shall be prevented from drying for a period of at least 7 days after placement. Exposed surfaces shall be kept continuously moist for the entire period or until curing compound is applied. Wood forms (except plywood) left in place during the curing period shall be kept wet. Formed surfaces shall be kept wet until patching or repairs are made. Curing compound may not be used on areas which are to be bonded to other concrete or mortar. Curing compound when used shall be sprayed on the moist concrete structure as soon as free water has disappeared, but shall not be applied to any surface until patching, repairs, and finishing of that surface are completed.

The curing compound shall be thoroughly mixed immediately before applying, and shall be applied at a uniform rate of not less than one gallon per 150 square feet of surface. It shall form a uniform, continuous, adherent film over the entire surface.

Curing compound shall not be applied to surfaces requiring bond with concrete remaining to be placed, construction joints, reinforcing steel, and other embedded items.

Surfaces subjected to heavy rainfall or running water within 3 hours after the compound has been applied or surfaces damaged by subsequent construction operations during the curing period shall be resprayed in the same manner as the original application.

12A.19 REMOVAL OR REPAIR

Concrete that is honey combed, damaged, or otherwise defective shall be removed or repaired as directed by the technician.

Prior to starting repair work the technician's approval of the plan for affecting repair shall be obtained.

12A.20 CONCRETING IN COLD WEATHER

Concreting shall not be mixed or placed when the daily minimum atmospheric temperature is less than 40°F. unless facilities are provided to prevent the concrete from freezing. The use of accelerators or anti-freeze compounds shall not be allowed.

12A.21 CONCRETING IN HOT WEATHER

The contractor shall apply effective means to maintain the temperature of the concrete below 90°F. during mixing, conveying and placing. Concrete surfaces exposed to the air shall be kept continuously wet for the first 24 hours of the curing period, and thereafter or until curing compound is applied. White pigmented curing compound shall be used when the daily maximum temperature during the curing period exceeds 90°F.

CONSTRUCTION SPECIFICATION

SD-13 STEEL REINFORCEMENT

13.1 SCOPE

The work shall consist of furnishing and placing steel reinforcement for reinforced concrete.

13.2 MATERIALS

All reinforcement shall be free from all flaky rust, oil, grease, paint, mill scale, or other foreign substance.

Steel bar reinforcement shall be deformed billet steel conforming to either ASTM specification A 15 Intermediate Grade or A 615 Grade 40.

Welded Steel wire fabric reinforcement shall conform to the requirements of ASTM Specification A 185.

13.3 CUTTING AND BENDING

Reinforcing bars may be mill or field cut or bent. All bends shall be made without heating and in accordance with standard practices. (See American Concrete Institute Standard 315). Bars with kinks, cracks, or improper bends will be rejected.

13.4 SPLICING BAR REINFORCEMENT

Unless otherwise specified on the drawings, splices of reinforcing bars shall provide an overlap equal to at least 30 times the diameter of the smaller bar in the splice but not less than 12 inches.

Welded wire fabric shall be overlapped one full mesh (not counting cut portions) and tied as necessary to keep the fabric in place during pouring.

13.5 PLACING

All reinforcement shall be placed as shown on the drawings, and shall be supported and tied in a manner assuring that it will not be moved during concrete placement. Tack welding of bars will not be allowed. Dimensions shown on the plans, indicating concrete cover, are the clear distance from the concrete surface to the reinforcing steel.

Reinforcement hangers and supports shall be of a type and used in such a manner that they will not be exposed or contribute to discoloration and deterioration of the concrete. On structures exceeding one cu. yd. in volume, concrete shall not be placed until the reinforcement has been inspected and approved by the technician.

CONSTRUCTION SPECIFICATION

SD-28 SEEDING

28.1 SCOPE

The work shall consist of furnishing all labor, equipment, and materials for seeding a permanent grass mixture on the areas shown on the drawings.

28.2 GENERAL

The seeding and related operations shall be performed at such times as designated below.

Dates: _____

28.3 FERTILIZER

The fertilizer, where required, shall be a regular commercial fertilizer (including liquid form) meeting the requirements of the applicable state laws, and shall be in such physical condition to insure uniform application over the area to be fertilized. Rates of application per acre shall be as specified below. Organic fertilizers may be used when specifically authorized.

Types and Rates: _____

28.4 SEED

The required seed species, variety, or seed source, and the required rate of seeding are designated below. Documentation will be provided showing that the seed meets the current state seed laws for sale of seed. The seed must be planted within one year of the date of its latest germination test.

28.5 PREPARATION OF SEEDBED

The entire area to be seeded shall be reasonably smooth and firm and all washes and gullies shall be filled to conform to the desired cross section before actual seedbed preparation is begun. At this stage of the operation, the fertilizer, if required, shall be applied uniformly and incorporated into the top 3 inches of the soil with suitable tillage equipment. The Contractor shall suspend operations when the soil is too wet or too dry.

28.6 COVER CROP

For spring seeding of a grassed waterway immediately after final shaping, a protective cover crop should be seeded as stated below (example, oats at the rate of 1.5 bushels per acre, or milo at a rate of 9 pounds per acre). Clip the cover in late boot stage, leaving a 6-10 inch stubble. Then seed the grass mix between approximately August 1 and September 1.

28.7 NURSE CROP

When waterway construction is completed after approximately August 1 and soil moisture is adequate for germination, the grass mix will be seeded at the same time as an oats nurse crop. The seeding rate for oats should be one-half of normal rate as specified below.

28.8 SOWING THE SEED

Unless otherwise specified, the seeding operation shall be performed immediately after preparation of the seedbed. The seed shall be drilled or broadcast with approved types of equipment that will insure uniform distribution of the seed.

When a grassed waterway is seeded, all machinery operations will be performed by traveling in a figure eight or serpentine pattern for the entire width of the seeded portion of the waterway. All operations in the center portion of the waterway will be at a skew to the direction of flow.

28.7 MULCHING

Grassed waterways should be mulched and/or netted when seeding cannot be accomplished before approximately September 1.

The required mulching shall be performed as soon as possible after seeding unless otherwise specified. The mulch shall be applied uniformly over the area. The type, rate, and methods of anchoring shall be as specified below.

MATERIAL SPECIFICATION

SD-55-PLASTIC PIPE

55.1 SCOPE

This specification covers the quality of PVC, PE, and ABS plastic pipe as specified on the drawings.

55.2 MATERIAL QUALITY

The compound used in manufacturing the pipe shall meet the requirements of one of the following materials:

- a. Polyvinyl Chloride (PVC) shall meet requirements of ASTM D-1784.

<u>Material</u>	<u>Code Classification</u>	<u>Designation</u>
Type I, Grade 1	12454-B	PVC 1120
Type I, Grade 2	12454-C	PVC 1220
Type II, Grade 1	14333-D	PVC 2110, PVC 2112, PVC 2116

- b. Acrylonitrile-Butadiene-Styrene (ABS) shall meet requirements of ASTM D-1788.

<u>Material</u>	<u>Code Classification</u>	<u>Designation</u>
Type I, Grade 2	5-2-2	ABS 1208, ABS 1210
Type I, Grade 3	3-5-5	ABS 1316
Type II, Grade 1	4-4-5	ABS 2112

- c. Polyethylene (PE) shall meet requirements of ASTM D-1248.

<u>Material</u>	<u>Code Classification</u>	<u>Designation</u>
Grade P14, Class C	IC-P14	PE 1404
Grade P23, Class C	IIC-P23	PE 2305, PE 2306
Grade P33, Class C	IIIC-P33	PE 3306
Grade P34, Class C	IVC-P34	PE 3406

The pipe shall be homogeneous throughout and free from visible cracks, holes, foreign inclusion, or other defects. The pipe shall be as uniform as commercially practicable in color, density, and other physical properties.

55.3 PIPE REQUIREMENTS

Pipe shall meet the requirements of the applicable ASTM specifications for the material as follows:

a. Polyvinyl Chloride (PVC)

1. PVC High Pressure Irrigation Pipe

(IPS) Iron Size Pipe; (SDR) Standard Dimension Ratio

D-1785 - Poly (vinyl chloride)(PVC) Plastic Pipe,
Schedules 40, 80, and 120

D-2241 - Poly (vinyl chloride)(PVC) Plastic Pipe,
(SDR-PR)

D-2672 - Bell-End Poly (vinyl chloride)(PVC) Pipe

D-2740 - Poly (vinyl chloride)(PVC) Plastic Tubing

2. PIP (Plastic Irrigation Pipe) - sized pipe shall meet the requirements of ASTM D-2241.

(a) The outside diameter, wall thicknesses, and tolerances given in Table 2 of SCS National Engineering Standard 430-DD for High Pressure Pipe (80 psi +) or 430-EE for Low Pressure Pipe

(b) The sustained pressure test shall not be required.

(c) The burst pressure tests shall be performed in accordance with the procedures listed in ASTM D-2241 or D-2282 and meet the applicable requirements given in these ASTMs or those listed in SCS National Engineering Handbooks for the SDR's currently not included in ASTM D-2241 or D-2282.

b. Acrylonitrile-Butadiene-Styrene (ABS)

(IPS) Iron Size Pipe in (SDR) Standard Dimension Ratio

D-1527 - Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe,
Schedules 40 and 80.

D-2282 - Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe,
(SDR-PR)

PIP (Plastic Irrigation Pipe) - sized pipe shall meet the requirements of ASTM D-2282 with the exceptions noted above for PIP (PVC).

c. Polyethylene (PE)

- D-2104 - Polyethylene (PE) Plastic Pipe, Schedule 40
- D-2239 - Polyethylene (PE) Plastic Pipe (SDR-PR)
- D-2447 - Polyethylene (PE) Plastic Pipe, Schedules 40 and 80
Based on Outside Diameter
- D-2737 - Polyethylene (PE) Plastic Tubing
- D-3035 - Polyethylene (PE) Plastic Pipe (SDR-PR) Based on
Controlled Outside Diameter

55.4 FITTING AND COUPLER REQUIREMENTS

a. High Pressure Pipe (80 psi or greater)

All fittings and couplers shall meet or exceed the same strength requirements as that of the pipe and be made of material that is recommended for use with the pipe.

Listed below are the ASTM standard specifications for fittings presently suitable for use with IPS-sized pipe and inside diameter controlled PE pipe covered by this specification.

- D-2466 - Socket-type Poly (vinyl chloride)(PVC) Plastic Pipe Fittings, Schedule 40.
- D-2467 - Socket-type Poly (vinyl chloride)(PVC) Plastic Pipe Fittings, Schedule 80.
- D-3036 - Poly (vinyl chloride)(PVC) Plastic Line Couplings, Socket-type.
- D-2468 - Socket-type Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe Fittings, Schedule 40.
- D-2469 - Socket-type Acrylonitrile-Butadiene-Styrene (ABS) Plastic Fittings, Schedule 80.
- D-2609 - Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe.
- D-2610 - Butt Fusion Polyethylene (PE) Plastic Pipe Fittings, Schedule 40 (for IPS pipe).
- D-2611 - Butt Fusion Polyethylene (PE) Plastic Pipe Fittings, Schedule 80 (for IPS pipe).
- D-2683 - Socket-type Polyethylene Fittings for SDR 11.0 Polyethylene Pipe.
- D-3139 - Standard Specification for Plastic Pressure Pipe using Flexible Elastomeric Seals.

Plastic Irrigation Pipe (PIP) shall be furnished with belled ends or separate couplers and fittings which are suitable for joining

the pipe and appurtenances by solvent cement, rubber gaskets, or other methods recommended by the pipe manufacturer. Such fittings and joints shall be capable of withstanding working pressure equal to or greater than that for the pipe.

1. Solvent Cement Joints

Solvent for solvent cement joints shall conform to ASTM Specification D-2564 for PVC pipe and fittings, and D-2235 for ABS pipe and fittings.

Solvent cement joints shall be used and constructed in accordance with the recommendations of the pipe manufacturer.

Field manufacture or fabrication of belled end joints will not be allowed. The stab or spigot end of the pipe shall be marked with suitable depth markers.

2. Rubber Gasket Joints

Rubber gasket joints shall conform to ASTM Specification D-3139 or SDR requirements on pressure rating of the pipe. The stab or spigot end of the pipe shall be marked with suitable depth markers.

b. Low Pressure Irrigation Pipe

All fittings and couplers shall equal or exceed the same pressure rating of the pipe with which they are used. They shall be made of material that is recommended for use with the pipe.

The pipe shall be furnished with belled ends or separate couplers and fittings which are suitable for joining the pipe and appurtenances by means of a solvent cement joint, rubber gaskets type joint, or other methods recommended by the pipe manufacturer. Bell-ends, sleeves, or plastic fittings shall be made from the same type of plastic material as the pipe.

Fittings or belled ends for solvent cement joints shall have tapered sockets with socket lengths of at least 40 percent of the inside diameter of the pipe or 3 inches, whichever is greater. Sleeves for clamp-type joints shall provide a minimum of 4 inches of overlap between the sleeve and the pipe or fitting.

1. Solvent Cement Joints

Solvent for solvent cement joints shall conform to ASTM

2. Rubber Gasket Joints

Rubber gasket joints shall conform to the following and to SCS National Engineering Standard 430-EE:

- (a) Push-On Type - A joint in which an elastomeric (rubber) ring gasket is compressed in the annular space between a bell end or socket and spigot end of pipe.
- (b) Mechanical Joint - A joint in which a seal or gasket is compressed by application of pressure through a mechanical device. The pipe spigot shall have a wall thickness sufficient to withstand without deformation or collapse the compressive force exerted when the fitting is tightened.
- (c) Lubricant - If required, shall be suitable for lubricating the parts of the joints in the assembly. The lubricant shall have no deteriorating effects on the gasket and pipe materials.

c. Potable Use Pipeline

Pipelines specified on the drawings for use as potable water lines shall be constructed with "National Sanitation Foundation" (NSF) approved materials.

All fittings and couplers shall meet or exceed the same strength requirements as that of the pipe and be made of material that is recommended for use with the pipe. ASTM Standard Specifications for fittings and joint sealing requirements acceptable for use with portable water pipelines shall be as provided in part 55.4a of this specification.

55.5 PIPE MARKING REQUIREMENTS

Pipe specified for use on any pipeline project shall be labeled in the manner as provided by the applicable ASTM Specification and shall carry the following markings:

- a. Nominal pipe size (example 2 in.)
- b. Type of plastic pipe material prescribed by the designation code for the pipe being used (example PVC 1120, ABS 2110, PE 2305).

- c. Pipe pressure designation by one of the following:
1. Standard Dimension Rate (SDR) - SDR17, SDR21, etc.
 2. Schedule -40, 80, 120, etc.
 3. Pressure rating in pounds per square inch for water at 23°C (73°F.) - 120 psi, 120T psi, etc.
- d. ASTM Designation of pipe being used (example ASTM D-2241).
- e. Manufacturer's name (or trademark) and code number.
- f. National Sanitation Foundation Marking (NSF) if pipe is to transport portable water.
- g. For ABS pipe - pipe produced by simultaneous multiple coextrusion shall be marked "Coe X".

RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1566-1, Jack Freeman

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Environment and Natural Resources concerning Water Permit Application No. 1566-1, Jack Freeman, Box 70, Faith, SD 57626.

The Chief Engineer is recommending APPROVAL of Application No. 1566-1 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. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.
2. This permit is approved subject to the irrigation water use questionnaire being submitted each year.
3. Approval of Permit No. 1566-1 authorizes storage of up to 115.1 acre-feet of water annually.

See report on application for additional information.



JOHN HATCH, Chief Engineer
November 23, 1992

Report on Application No. 1566-1
Jack Freeman
November 12, 1992

Application No. 1566-1 intends to appropriate 0.39 cubic feet of water per second from a storage dam (115.1 acre-feet storage capacity) located in the SW1/4 NW1/4 Section 5 with water to be impounded in the W1/2 NW1/4 Section 5 and the E1/2 NE1/4 Section 6; all in T10N-R19W. The 27.8 acres to be irrigated are located in the SW1/4 NW1/4, SW1/4 Section 5 and the SE1/4 NE1/4, NE1/4 SE1/4 Section 6; all in T10N-R19E. Water will also be used for livestock watering and wildlife purposes.

Discussion

The embankment of the dam is 21.5 feet high with a storage capacity of 115.1 acre-feet at the primary spillway. The intermediate storage capacity is 148.1 acre-feet at the emergency spillway and the maximum storage capacity is 290.3 acre-feet at the crest of the dam. The SCS predicted that the Freeman home and barn would not be inundated if the dam should breach and recommended a Category 3, Small size Dam classification. Based on the Simplified Dam Break Model Version: 7/88-1 results, the Division of Water Rights (Safety of Dams engineers) concurs with the SCS classification as a Category 3, Small size Dam. The spillway is required to have a minimum capacity capable of passing a 25 year frequency event.

The plans and specifications have been reviewed for this project. The drainage area of the proposed dam is approximately 3.23 square miles (2067 acres) and a twenty-five year frequency event will produce a peak runoff of 535 cfs. The dam is designed with a 24" primary spillway and a 90' wide emergency spillway. The total spillway capacity is 1600 cfs for both the primary and secondary spillways.

The dam will be located on a tributary to Red Coat Creek approximately 6 miles north of Red Scaffold, SD. Mr. Freeman has the only water permit on the drainage for Red Coat Creek. Water availability should not be a problem.

Conclusions

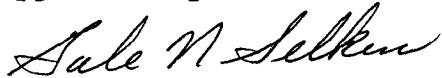
1. Water is available from the Red Coat Creek drainage.
2. Existing Water Rights will not be impaired.

3. If approved, the low flow bypass requirement for downstream domestic use should be a qualification on Water Permit No. 1566-1.



Gregory C. Johnston
Natural Resources Engineer II

Approved by:



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



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

September 29, 1992

Jack Freeman
Box 70
Faith SD 57626

Dear Mr. Freeman:

In regard to your water permit application received on September 23, 1992, the following information needs to be submitted in order to process your application.

A written preliminary risk assessment of the downstream hazard potential needs to be provided to aid in determining the hazard classification of the proposed dam (see enclosed Safety of Dams Rules Sections 74:02:08:05 and 74:02:08:05.01). The hazard classification for the dam (Category 1, 2 or 3) needs to be known in order to determine what provisions of the Safety of Dams Rules will apply to this dam.

An assessment of the downstream hazard potential is to consist of a list of properties downstream from the dam (homes, roads, dams and other structures) with the potential affects of a dam failure to these properties. The legal descriptions of these downstream properties and the elevation above the waterway need to be included in the assessment. The risk assessment needs to be prepared by an engineer as defined in the Safety of Dams rules. Mr. Verhelst should be able to assist with the risk assessment. Plans and specifications for the dam will also be needed pursuant to Safety of Dams Rules Chapter 74:02:08.

On the topograph map, please outline the lands to be irrigated. The lands must correspond with those listed on the application.

On the application, Item No. 2 you indicate the amount of water claimed to be 0.74 cfs. Under State Statutes you are allowed 1 cubic feet of water per second (cfs) for each 70 acres irrigated. This would mean that you are allowed 0.37 cfs for the 26 acres to be irrigated. Please let us know if you concur with this change.

The water permit application can not be considered until the application is complete and a soil/water permit is obtained from the Department of Agriculture. Upon receipt of the above, further processing of your application will continue. If you have any questions, please contact this office.

Sincerely,

Karen Schlaak
Natural Resources Analyst
605 773-3352

enclosure

cc: Tom Verhelst, Soil Conservation Service



Jack Freeman
Box 70
Faith, SD 57626

October 19, 1992

Karen Schlaak
Dept. of Environment & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181

Karen,

The following items are in response to your September 29, 1992 letter requesting more information on my planned dam repair(SEC 5, T10N-R19E).

- 1) concurrence with .37 cfs for 26 acres of irrigation
- 2) topographic map with outlined irrigated lands
- 3) written preliminary risk assessment
- 4) plans & specifications for the dam

I believe all the information you are requesting is enclosed in the following material prepared by Tom Ver Helst of the Soil Conservation Service. If there are any further questions concerning these matters contact me at 739-5201.

Jack Freeman



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

October 22, 1992

Jack Freeman
Box 70
Faith SD 57626



Dear Mr. Freeman:

We have received your letter dated October 19, 1992, along with the topographic map, preliminary risk assessment and the plans and specifications for the dam.

It would appear that some of the lands to be irrigated, as outlined on the topographic map, are located in Section 6. If this is the case, the lands to be irrigated in Section 6 need to be added on Item No. 7 of the application. If you do not intend to irrigate land located in Section 6, then the topographic map needs to be corrected. The application and the map must correspond.

The water permit application can not be considered until the application is complete and a soil/water permit is obtained from the Department of Agriculture. Upon receipt of the above, further processing of your application will continue. If you have any questions, please contact this office.

Sincerely,

Karen Schlaak
Natural Resources Analyst
605 773-3352

enclosure

cc: Tom Verhelst, Soil Conservation Service

hope this addition
brings everything
current

Thank you
Jack Lerman





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

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

November 25, 1992

Jack Freeman
Box 70
Faith, SD 57626

Dear Mr. Freeman:

Water Permit Application No. 1566-1 for irrigation use 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 West River Progress printed at Gettysburg, SD (Ph # 365-5145). 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

November 25, 1992

West River Progress
Box 0
Gettysburg, SD 57442

ATTENTION: Legal Department

Enclosed is a Notice of Hearing on Application No. 1566-1 to be published twice. Please publish the first notice on December 3, 1992, 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 Jack Freeman, Box 70, Faith, SD 57626 (Ph # 739-5201).

A copy of BOTH publications must be SENT to the WATER RIGHTS DIVISION. IMMEDIATELY return the FIRST publication with the FIRST Transmittal form on the bottom of this page. The first copy is needed to check the publication for errors so any corrections can be made in the second publication. Publication errors can invalidate the public notice and cause the applicant costly delays.

Please be sure the SECOND publication is returned IMMEDIATELY with the enclosed Proof of Publication form. DO NOT WAIT until the end of the month or the billing cycle. No action may be taken on the permit application until proof of publication has been received.

Sincerely,

Eric Gronlund
Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

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

FIRST TRANSMITTAL NOTICE

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

No. _____

Date _____

We are in receipt of your letter of _____ enclosing Notice of Hearing to
Appropriate Water by Application No. _____ which was first published in our issue
of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name _____

Newspaper _____

Instruction to Newspaper - Publish first Notice on December 3, 1992, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 1566-1 to Appropriate Water

Notice is given that Jack Freeman, Box 70, Faith, SD 57626 has filed an application for a water permit to appropriate 0.39 cubic feet of water per second from a storage dam (115 acre-feet storage capacity) located in the SW 1/4 NW 1/4 Section 5 with water to be impounded in the W 1/2 NW 1/4 Section 5 and the E 1/2 NE 1/4 Section 6; all in T10N-R19E. The 27.8 acres to be irrigated are located in the SW 1/4 NW 1/4, SW 1/4 Section 5 and the SE 1/4 NE 1/4, NE 1/4 SE 1/4 Section 6; all in T10N-R19E. Water will also be used for livestock watering and wildlife purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1566-1 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. Unless a petition is filed opposing the application or the applicant files a petition contesting the chief engineer's recommendation, the Water Management Board will NOT CONDUCT a HEARING to consider this application and the chief engineer will issue the permit as recommended. Petitions filed in support of the application will NOT require the Board to hear the application.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Division, 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 December 21, 1992. 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.

For purposes of publishing 1) the notice of hearing on Application No. 1566-1 and 2) the chief engineer's recommendation, a meeting at the Division of Water Rights office to hear this application is scheduled for December 30, 1992, at 9:00 am in Room 413, Joe Foss Building, 523 E Capitol, Pierre SD. If this application is opposed or the recommendation is contested, the December 30, 1992, hearing date will be rescheduled for a regularly scheduled Board meeting. Notice of the time and place of the rescheduled hearing before the Board will be given by First Class Mail to the applicant and persons filing petitions. Anyone not filing a petition, but interested in attending the hearing, may contact the Division of Water Rights to confirm a hearing date and location. The December 30, 1992, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by December 21, 1992.

If a hearing is held, the Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing. Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by December 21, 1992, at the above Water Rights Division address to request copies of information pertaining to this application, to assure access to the hearing by the handicapped or to obtain an interpreter for the hearing impaired.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15. Robert E. Roberts, Secretary, Department of Environment and Natural Resources.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

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

November 30, 1992

Jack Freeman
Box 70
Faith, SD 57626

Dear Mr. Freeman:

On November 25, 1992, a notice of hearing was been sent to the Publisher of the West River Progress printed at Gettysburg, SD (Ph # 365-5145). The notice was returned to this office because the paper had an address change. Therefore, the notice has again been sent to the West River Progress to be published on December 10, 1992. 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

November 30, 1992

West River Progress
PO Box 190
Gettysburg, SD 57442-0190

ATTENTION: Legal Department

Enclosed is a Notice of Hearing on Application No. 1566-1 to be published twice. Please publish the first notice on December 10, 1992, 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 Jack Freeman, Box 70, Faith, SD 57626 (Ph # 739-5201).

A copy of BOTH publications must be SENT to the WATER RIGHTS DIVISION. IMMEDIATELY return the FIRST publication with the FIRST Transmittal form on the bottom of this page. The first copy is needed to check the publication for errors so any corrections can be made in the second publication. Publication errors can invalidate the public notice and cause the applicant costly delays.

Please be sure the SECOND publication is returned IMMEDIATELY with the enclosed Proof of Publication form. DO NOT WAIT until the end of the month or the billing cycle. No action may be taken on the permit application until proof of publication has been received.

Sincerely,

Eric Gronlund
Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

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

FIRST TRANSMITTAL NOTICE

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

No. _____

Date _____

We are in receipt of your letter of _____ enclosing Notice of Hearing to
Appropriate Water by Application No. _____ which was first published in our issue
of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name

Newspaper

Instruction to Newspaper - Publish first Notice on December 10, 1992, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 1566-1 to Appropriate Water

Notice is given that Jack Freeman, Box 70, Faith, SD 57626 has filed an application for a water permit to appropriate 0.39 cubic feet of water per second from a storage dam (115 acre-feet storage capacity) located in the SW 1/4 NW 1/4 Section 5 with water to be impounded in the W 1/2 NW 1/4 Section 5 and the E 1/2 NE 1/4 Section 6; all in T10N-R19E. The 27.8 acres to be irrigated are located in the SW 1/4 NW 1/4, SW 1/4 Section 5 and the SE 1/4 NE 1/4, NE 1/4 SE 1/4 Section 6; all in T10N-R19E. Water will also be used for livestock watering and wildlife purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1566-1 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. Unless a petition is filed opposing the application or the applicant files a petition contesting the chief engineer's recommendation, the Water Management Board will NOT CONDUCT a HEARING to consider this application and the chief engineer will issue the permit as recommended. Petitions filed in support of the application will NOT require the Board to hear the application.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Division, 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 December 28, 1992. 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.

For purposes of publishing 1) the notice of hearing on Application No. 1566-1 and 2) the chief engineer's recommendation, a meeting at the Division of Water Rights office to hear this application is scheduled for January 6, 1993, at 9:00 am in Room 413, Joe Foss Building, 523 E Capitol, Pierre SD. If this application is opposed or the recommendation is contested, the January 6, 1993, hearing date will be rescheduled for a regularly scheduled Board meeting. Notice of the time and place of the rescheduled hearing before the Board will be given by First Class Mail to the applicant and persons filing petitions. Anyone not filing a petition, but interested in attending the hearing, may contact the Division of Water Rights to confirm a hearing date and location. The January 6, 1993, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by December 28, 1992.

If a hearing is held, the Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing. Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by December 28, 1992, at the above Water Rights Division address to request copies of information pertaining to this application, to assure access to the hearing by the handicapped or to obtain an interpreter for the hearing impaired.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15. Robert E. Roberts, Secretary, Department of Environment and Natural Resources.



PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of Ziebach) ss

I, Jack L. Stoner

certify that the attached printed Notice was
taken from the West River Progress

printed and published in Dupree

County of Ziebach and State of

South Dakota. The notice was published in
the newspaper on the following two dates:

December 10, 1992

December 17, 1992

Cost of Printing: \$63.52

Jack L. Stoner
(Signature)

Publisher
(Title)

12/28/1992
(Date Signed)

NOTICE OF HEARING ON APPLICATION NO. 1566-1 TO APPROPRIATE WATER

Notice is given that Jack Freeman, Box 70, Faith, SD 57626 has filed an application for a water permit to appropriate 0.39 cubic feet of water per second from a storage dam (115 acre-feet storage capacity) located in the SW 1/4 NW 1/4 Section 5 with water to be impounded in the W 1/2 NW 1/4 Section 5 and the E 1/2 NE 1/4 Section 6; all in T10N-R19E. The 27.8 acres to be irrigated are located in the SW 1/4 NW 1/4, SW 1/4 Section 5 and the SE 1/4 NE 1/4, NE 1/4 SE 1/4 Section 6; all in T10N-R19E. Water will also be used for livestock watering and wildlife purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1566-1 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.

Unless a petition is filed opposing the application or the applicant files a petition contesting the chief engineer's recommendation, the Water Management Board will NOT CONDUCT a HEARING to consider this application and the chief engineer will issue the permit as recommended. Petitions filed in support of the application will NOT require the Board to hear the application.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Division, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above.

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For purposes of publishing
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1) approve,
2) approve with qualifications,
3) defer, or
4) deny this application based on the facts presented at the public hearing. Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by December 28, 1992, at the above Water Rights Division address to request copies of information pertaining to this application, to assure access to the hearing by the handicapped or to obtain an interpreter for

the hearing impaired.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

Robert E. Roberts, Secretary,
Department of Environment and
Natural Resources.

(Published in the West River Progress, Dec. 10 and 17, 1992.)



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

MAR 5 1993

Jack Freeman
Box 70
Faith, SD 57626

Dear Mr. Freeman:

Enclosed is Water Permit No. 1566-1 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Also enclosed is Form 10, Notice of Completion of Works and Application of Water to Beneficial Use, which you are to complete and submit to the Chief Engineer when you have completed the system and/or have put the water to beneficial use. An inspection can then be scheduled so that the Water License may be issued, thus completing your acquisition of a Water Right.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Division
605 773-3352

enclosures

PLEASE NOTE: Certain changes can be made in your permit within the five year construction period, usually without affecting the priority date provided an application to amend your permit is made within the five year period - i.e. changes in location or number of diversion points (wells) or location of land to be irrigated. Well locations for wells into the same aquifer can be moved up to 660 feet without application.

Applications to amend a permit after the five year construction period will be assigned a new priority date. Applications to change water sources, to add lands or increase original diversion rates, if approved will usually receive the date of the new application as a priority date regardless of the five year construction period.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 16, 2002

NOTICE

TO: JACK FREEMAN, BOX 70, FAITH, SD 57626

FROM: Ron Duvall, Natural Resources Engineer
for Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 2001 Irrigation Questionnaire(s)

Our records indicate that the 2001 Irrigation Questionnaire(s) has not been submitted for Permit No(s) 1566-1. The request for the Questionnaire was dated October 12, 2001. The Water Management Board has directed that owners of water permits who have not submitted the 2001 Irrigation Questionnaire(s) be given notice of permit violation and a hearing to be held by the Board. The hearing is to determine what action is to be taken for violation of Water Permit No(s) 1566-1 qualification:

"This permit is approved subject to the Irrigation Water Use Questionnaire being submitted each year."

The hearing will be held at 10:00 am, March 13, 2002 in the Visitor Center (west side of Capitol Lake), 650 E Capitol, Pierre, SD, and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant to Chapter 1-26. According to SDCL 46-1-12, the Board may suspend a permit for a period of up to one year for the first violation of a permit qualification or up to three years for a second violation, or cancel a permit for a third violation. Following the hearing, the Water Management Board can:

1. Suspend or cancel Permit No(s) 1566-1 in accordance with applicable provisions of SDCL 46-1-12;
2. Postpone any action; or
3. Take no action.

The hearing is an adversary proceeding. The permit owner has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

If the questionnaire(s) is(are) received in this office on/or before March 8, 2002, you will no longer be in violation of your permit and your name will be deleted from the Board agenda. If you have questions or need assistance in completion of the irrigation questionnaire(s), please contact Genny McMath at (605) 773-3352.

NOTE: Please contact the Water Rights Program, Joe Foss Building, 523 E Capitol, Pierre, SD (605-773-3352) to assure access to the meeting room for the handicapped or to obtain an interpreter for the hearing impaired.

1566-1

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

JACK FREEMAN
BOX 70
FAITH SD 57626

COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly)

Jack Freeman

B. Date of Delivery

1-17-02

C. Signature

X Jack Freeman

☐ Agent☐ AddresseeD. Is delivery address different from item 1? ☒ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail

C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

2.

7001 2510 0004 4797 4357

PS Form 3811, July 1999

Domestic Return Receipt

102595-00-M-0952



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 28, 2002

1566-1

Jack Freeman
Box 70
Faith SD 57626

Dear Mr. Freeman:

I am writing to acknowledge receipt of your 2001 irrigation questionnaire. You may disregard the January 16, 2002, "Notice" concerning reporting requirements for Water Permit No. 1566-1.

The information was received in our office prior to the Water Management Board meeting and your name has been deleted from the agenda.

If you have any questions, please contact me.

Sincerely,

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



1566-1

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

January 24, 2006

NOTICE

TO: JACK FREEMAN, BOX 70, FAITH, SD 57626

FROM: Ron Duvall, Natural Resources Engineer
for Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 2005 Irrigation Questionnaire(s)

Our records indicate that the 2005 Irrigation Questionnaire(s) has not been submitted for Permit No(s) 1566-1. The request for the Questionnaire was dated October 28, 2005. The Water Management Board has directed that owners of water permits who have not submitted the 2005 Irrigation Questionnaire(s) be given notice of permit violation and a hearing to be held by the Board. The hearing is to determine what action is to be taken for violation of Water Permit No(s) 1566-1 qualification:

"This permit is approved subject to the Irrigation Water Use Questionnaire being submitted each year."

The hearing will be held at 10:30 am, March 2, 2006 in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre, SD and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant to Chapter 1-26. According to SDCL 46-1-12, the Board may suspend a permit for a period of up to one year for the first violation of a permit qualification or up to three years for a second violation, or cancel a permit for a third violation. Following the hearing, the Water Management Board can:

1. Suspend or cancel Permit No(s) 1566-1 in accordance with applicable provisions of SDCL 46-1-12;
2. Postpone any action; or
3. Take no action.

The hearing is an adversary proceeding. The permit owner has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

If the questionnaire(s) is(are) received in this office on/or before **February 24, 2006**, you will no longer be in violation of your permit and your name will be deleted from the Board agenda. If you have questions or need assistance in completion of the irrigation questionnaire(s), please contact Genny McMath at (605) 773-3352.

NOTE: Please contact the Water Rights Program, Joe Foss Building, 523 E Capitol, Pierre, SD (605-773-3352) to assure access to the meeting room for the handicapped or to obtain an interpreter for the hearing impaired.



Track & Confirm

Current Status

You entered 2303 2160 0000 0799 4916

Your item was delivered at 3:55 pm on January 27, 2006 in FAITH, SD 57626. The item was signed for by J FREEMAN.

[Shipment Details >](#)

Notification Options

▶ Track & Confirm by email

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▶ Request Proof of Delivery

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U.S. Postal Service Signature Confirmation™ Receipt

SIGNATURE CONFIRMATION NUMBER:
2303 2160 0000 0799 4916

JACK FREEMAN
BOX 70
FAITH SD 57626

Waiver of Signature ☐ YES ☐ NO

Postmark
Here

POSTAL CUSTOMER:

Keep this receipt. For Inquiries:
Access internet web site at
www.usps.com®
or call 1-800-222-1811

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☐ First-Class Mail® parcel
☐ Package Services parcel

PS Form 382, May 2002

(See Reverse)



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

February 1, 2006

1566-1

Jack Freeman
Box 70
Faith SD 57626

Dear Mr. Freeman:

I am writing to acknowledge receipt of your 2005 irrigation questionnaire. You may disregard the January 24, 2006, "Notice" concerning reporting requirements for Water Permit No. 1566-1.

The information was received in our office prior to the Water Management Board meeting and your name has been deleted from the agenda.

If you have any questions, please contact me.

Sincerely,

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

1566-1

The reason for late return of this questionnaire is that I suffered a heart surgery in October 2020 that required relocation of residence to Rapid City, SD and neglected to monitor mail at the Faith address. Please change to new address:

Jack Freeman
1800 Shaver St.
Apt 107
Rapid City, SD 57702

Jack Freeman

RECEIVED

DEC 21 2020

WATER RIGHTS
PROGRAM