

WATER PERMIT NO. 1712-1

Name of Applicant: Francis & Connie Connolly

Address: 10533 Riedy Road, Lemmon SD 57638

Phone: 605 374-3976

Amount of Water Claimed: 53.4 acre-feet

Total Acres: NA

Source of Water Supply: runoff

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

County: Perkins

Type of Waste Disposal System:

Location: 8 miles southeast of Lemmon

PRIORITY

Date Received: 2-3-00

Fee: \$150

Corrected Application Received: 2-14-00

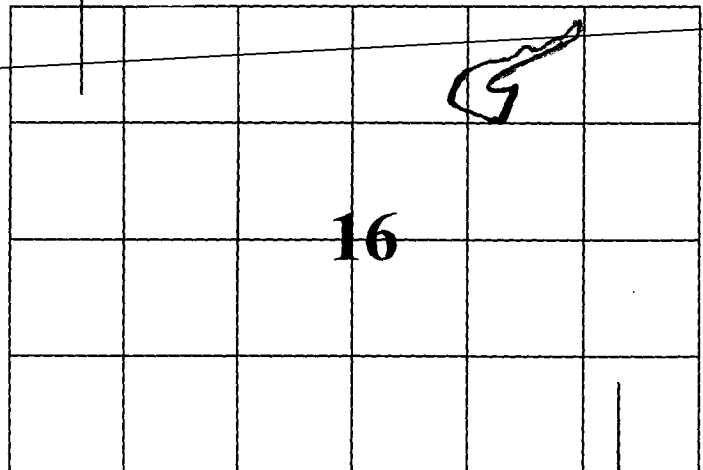
Period of Annual Use: January 1 – December 31

Remarks: repair of Riedy Dam

Diversion Point: NE ¼ NE ¼ Sec 16-T22N-R17W

Water Impounded: N ½ NE ¼

Sec 16-T22N-R17W



Depth of Well: NA

Well Driller: :

Remarks:

Type of Map: topo

Prepared by: Timothy G Schaal

Reviewed and the Number Assigned on: 2-14-00

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 1712-1**

Date of first receipt of application February 3, 2000.

Date of return to applicant for corrections, amendments or changes February 4, 2000.

Date of receipt of corrected application February 14, 2000.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1712-1 to Francis & Connie Connolly, 10533 Riedy Road, Lemmon SD 57638 authorizing the construction of the dam and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 1712-1 authorizes impoundment of 54.0 acre-feet of water from runoff in a existing dam (known as Riedy Dam) located in the NE ¼ NE ¼ Section 16 with water impounded in the N ½ NE ¼ Section 16; all in T22N-R17E.
2. The water appropriated shall be used for the purpose of supplying water for fish & wildlife propagation, recreational and domestic use and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 1712-1 is March 24, 2000.
5. The date from which applicant may claim right is February 3, 2000.
6. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

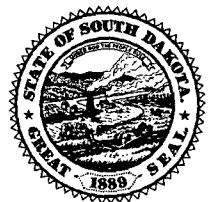
1. Water Permit No. 1712-1 authorizes a dam with storage capacity of 54 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

WATER MANAGEMENT BOARD

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

APR 10 2000

date



FORM 2: Application for uses other than irrigation
(type or print)

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

No. 1712-1 Hydrologic Unit 10130303
Basin Grand River
Newspaper The Lemmon Leader, Lemmon, SD
(office use only)



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

Check use of water:

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

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

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

- Name of Applicant Francis & Connie Connolly Phone 605-374-3976
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 10533 Riedy Road Lemmon State SD 57638
(Street, RR, or Box) (City) (Zip Code)
- Amount of water claimed _____ *CFS or _____ **GPM 54.0 ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (***Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Runoff
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) _____
NE1/4 SEC 16 T22N-R17E Water Impounded: N1/2 NE1/4
Sec. 16 - T22N-R17E County Perkins
- County or counties where water will be used Perkins
- Annual period during which water is to be used Jan. 1 thru Dec. 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)
Existing concrete chute emergency spillway has deteriorated and uneconomical to repair. A new vegetated emergency spillway has been established on the north end of the dam. The dam is an old WPA structure but no water right has ever been applied for on this structure.

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

STATE OF SOUTH DAKOTA)

County of PERKINS)^{SS}

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

Signed _____

Subscribed and sworn to before me this 29 day of Jan 2000

Connie J. Horgan
Notary Public

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

2. Wastewater Disposal System Information

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

3. Dugout Information

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

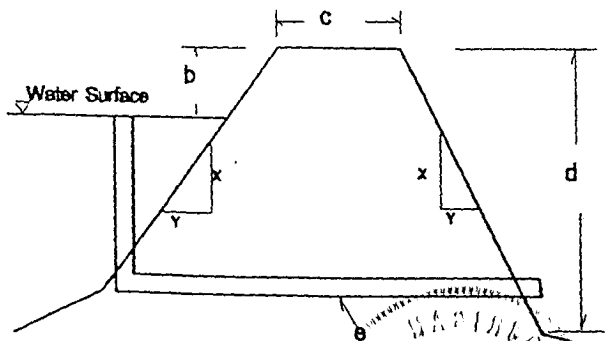
4. Water Storage Dams

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

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

Thomas D. Ver Helst
NRCS
1847 5th Ave.,, South
Belle Fourche, SD 57717

- b) Freeboard 5.0'
- c) Crest Width 12.0'
Crest Length 500'
- d) Height 19'
- e) Primary Outlet Capacity N/A
If pipe, diameter _____
- f) Secondary Spillway Capacity 1156 cfs
Spillway Width 75'
- g) X & Y Slope
Upstream 3:1
Downstream 2:1
- h) Surface Area of Impoundment 13.4 Ac.
- i) Storage 53.4 Acre Feet
- j) Drainage Area Above Dam 3647 Acres



RECEIPT

Water Rights Program

South Dakota Department of Environment and Natural Resources

Nº 416385

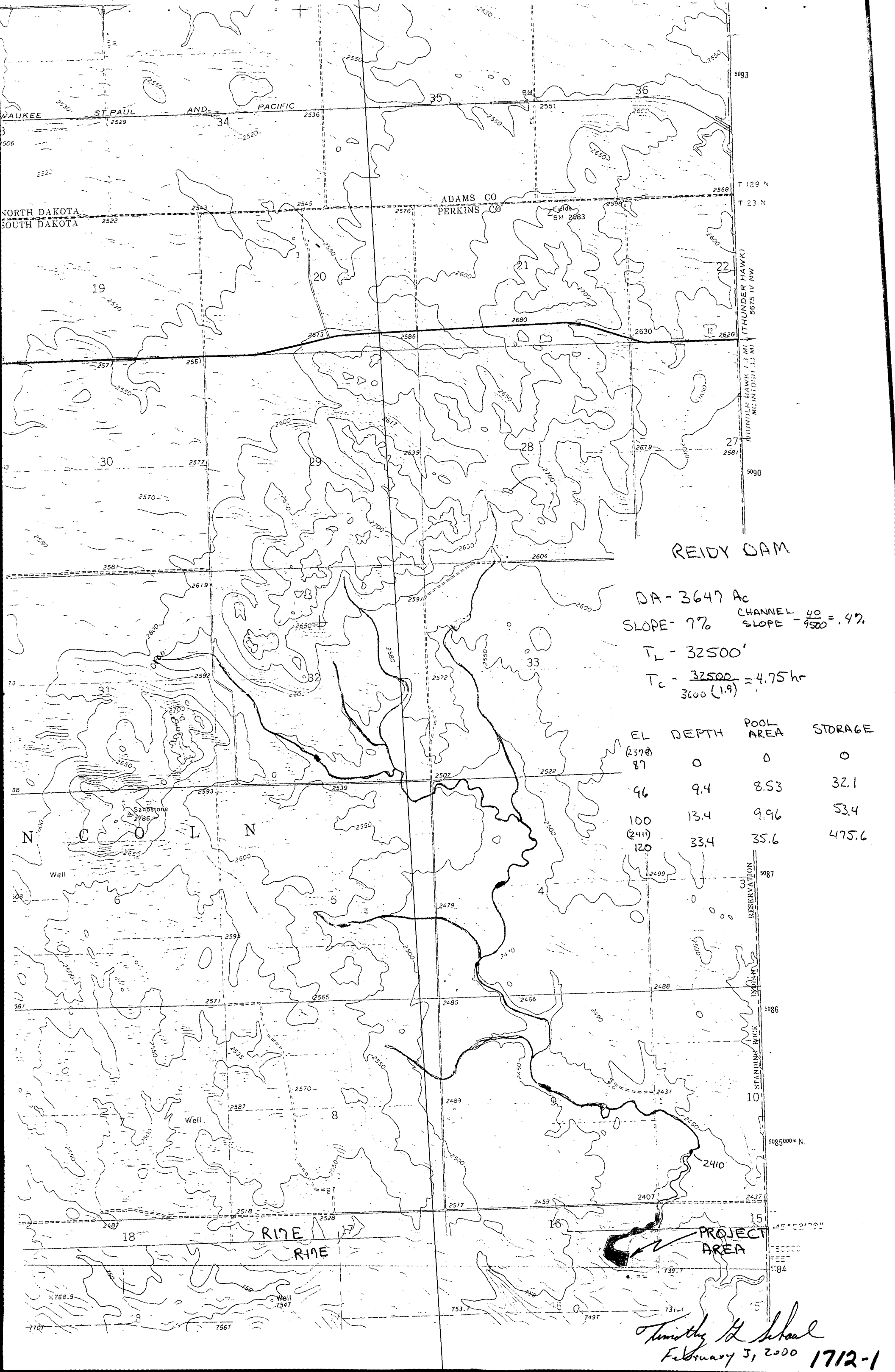
Pierre, February 14, 2000

RECEIVED OF Francis & Constance Connolly, 10533 Riedy Rd., Lemmon, SD 57638
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>1712-1</u> to Appropriate Water, to construct and to put water to beneficial use _____	150	00
Fee for Application for Permit No. _____ to Appropriate Water, for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>1712-1</u>	50	00
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for _____		

(Any Other Work Provided by Law)	Total	200 00

By Harland Ebel 
Chief Engineer



REIDY DAM

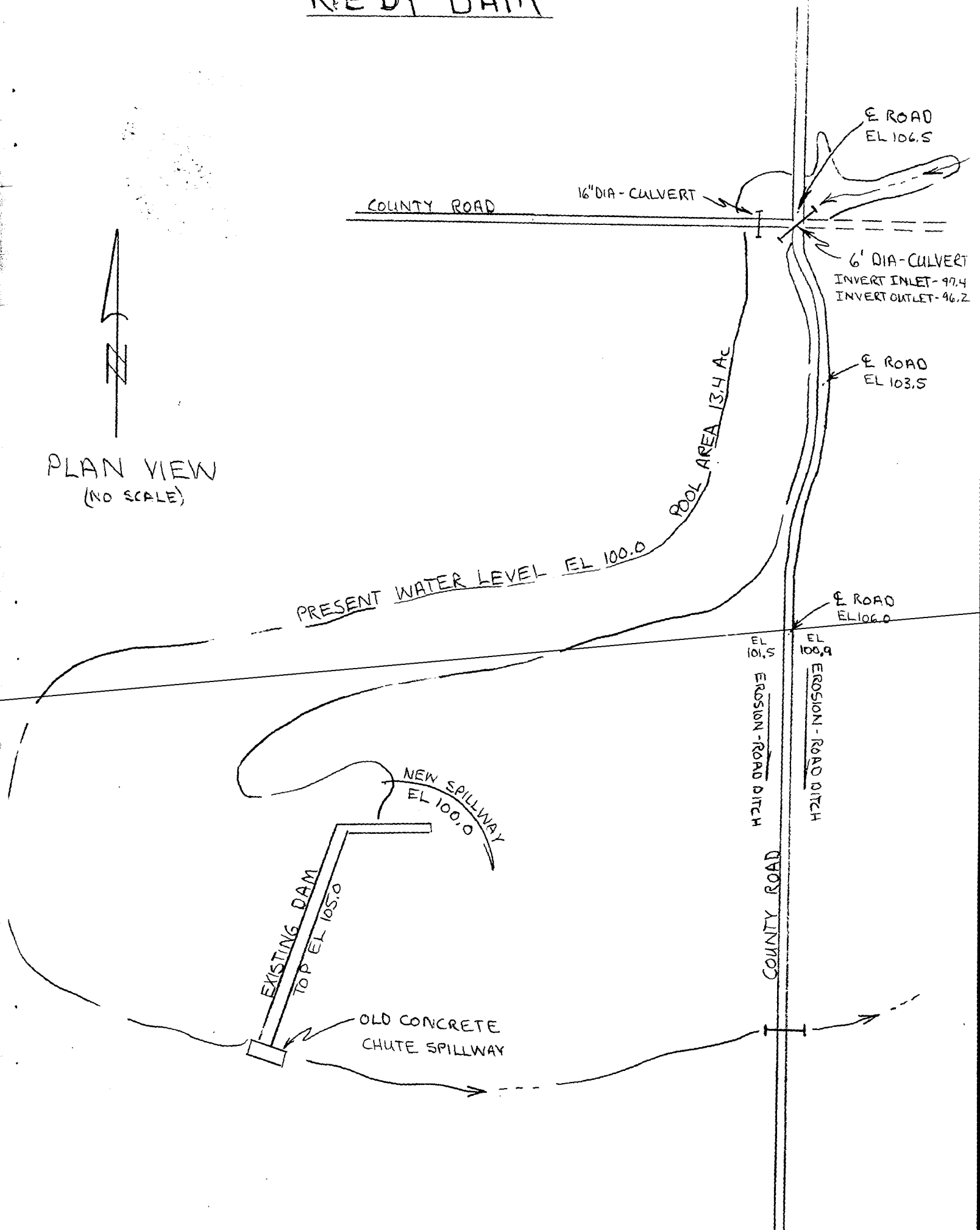
DA-3647 Ac
SLOPE- 7% $\text{CHANNEL} - \frac{40}{9500} = .4\%$
 $T_L - 32500'$
 $T_c - \frac{32500}{3600 (1.9)} = 4.75 \text{ hr}$

EL	DEPTH	POOL AREA	STORAGE
(2378) 87	0	0	0
96	9.4	8.53	32.1
100 (241) 120	13.4	9.96	53.4
	33.4	35.6	475.6

Timothy H. School
February 3, 2000 1712-1

RIE DY DAM

PLAN VIEW
(NO SCALE)



Water Permit Application # 1712-1
Riedy Dam
ID No. 924

Top of Dam Elev. - 105
* Spillway Elev. - 100 } HT = 19 ft.
Dis. Top Elev. - 86

Cat. 3 - Low Hazard Dam

Normal Storage Capacity = 54
Max Storage Capacity = 150

* Breached dam - Repaired
in 1999 by blocking off
breached P. Spillway. Owner
agreed to lower 2nd Spillway
to Elev. 99

HT x Max. Capacity = $19 \times 150 = 2850 < 3000 \therefore$ 25 year
Min. Spillway Design

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

DA = 5.7 mi²
Slope = 165 ft/mi
Si = 2.66

$$\begin{aligned} Q_{25} &= 83.4 A^{.65} S^{.46} S_i^{-.67} \\ &= 83.4 (5.7)^{.65} (165)^{.46} (2.66)^{-.67} \\ &= 83.4 (2.84) (9.456) (0.492) \\ &= \underline{1110 \text{ cfs}} \end{aligned}$$

$$\begin{aligned} Q_{100} &= 132 A^{.65} S^{.46} S_i^{-.67} \\ &= 132 (5.7)^{.65} (165)^{.46} (2.66)^{-.67} \\ &= 132 (2.84) (9.456) (0.492) \\ &= \underline{2150 \text{ cfs}} \end{aligned}$$

Spillway Flow

$$\begin{aligned} Q &= C L H^{3/2} \\ &= 2.6 (75) (5)^{1.5} \\ &= \underline{2180 \text{ cfs}} \end{aligned}$$

NRCS Annual Yield

DA = 3647, CN = 78, ISO = 1 1/2

Section 74:02:08:09

* Dam repaired in 1999

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

$$\begin{aligned} 80\% \text{ chance} &= 0.14 \\ 0.14 \times 3647^{1/2} &= \underline{42 \text{ Ac.-Ft.}} \end{aligned}$$

$$\begin{aligned} 50\% \text{ chance} &= 0.36 \\ 0.36 \times 3647^{1/2} &= \underline{110 \text{ Ac.-Ft.}} \end{aligned}$$

$$\begin{aligned} 10\% \text{ chance} &= 1.7 \\ 1.7 \times 3647^{1/2} &= \underline{516 \text{ Ac.-Ft.}} \end{aligned}$$

DAMS2.....COMPUTATIONS COMPLETE

1

SUMMARY TABLE 1

DAMS2 VERSION 01/01/90

WATERSHED ID			RUN DATE				RUN TIME		
REJDY DA			01/10/**				13:47:18		
>>>	SITE ID	SUBWS ID	SUBWS DA (SQ MI)	CURVE NO.	TC (HRS)	TOTAL DA (SQ MI)	TYPE DESIGN	STRUC CLASS	<<<
	WEIS	01	5.70	78.	4.75	5.70	378CR	A1	
PASS NO.	DIA/ WIDTH (IN/FT)	ES CREST ELEV (FT)	BTM WIDTH (FT)	MAX HP (FT)	MAX ELEV (FT)	YARDAGE EMB (CY)	OE/B* (AF/FT)	EXIT* VELOCITY (FT/SEC)	TYPE HYD
1	.0	100.00	75.00	4.00	104.00	0.	6.7	11.34	MINIMUM ES

* OE/B AND EXIT VELOCITY ARE BASED ON THE ROUTED HYDROGRAPH AND WILL NOT RELATE TO THE MAX. ELEV. (TOP OF DAM), WHICH IS SET BY MINIMUM DESIGN CRITERIA.

DAMS2.....SUMMARY TABLE 1 COMPLETED

SCS DAMS2 VERSION 01/01/90
RIEDY DA FILES

INPUT = RIEDY
OUTPUT = RIEDY.out

DATED 01/10/** 13:47:18

NOTE: Existing dam has an emergency spillway elevation of 100.0 and a 75' width. Top elevation is at 105.0, therefore dam is already 1.0 feet higher than the top elevation of 104.0 needed for the freeboard hydrograph. TVH



1DAMS2 XEQ 01/10/** STRUCTURE SITE ANALYSIS COMPUTER PROGRAM
REV 01/01/90 SCS TECHNICAL RELEASE 48, (USER MANUAL) DATED JAN. 1990
TIME 13:47:18

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

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

DAMS2 01/01/90 RIEDY DAM REPAIR PERKINS CO., SD
STRUCTURE WEIS MULTI-PURPOSE DAM CLASS B SEC16 T23N-R17E
87 0.0
96 32.1
100 105 53.4 150
120 475.6

ENDTABLE

WSDATA 2A101 AC 78 3647 4.75
PDIRECT 3.7 3.7
POOLDATA ELEV 100.0 100.0
ESCREST ELEV 100.0
ESDATA 01 100 0.025 3 0.03 4
BTMWIDTH FEET 75

ENDTABLE

COMMENT 25YR 24HR. EMER.SPWHY STORM, 25 YR FBH

COMMENT 378 SPECS.

GO, DESIGN 6 TYPE2 378 24

ENDJOB

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

1DAMS2 XEQ 01/10/**

REV 01/01/90 REPAIR PERKINS CO., SD WSID = REIDY DA

25YR 24HR. EMER.SPWHY STORM, 25 YR FBH

378 SPECS.

1DAMS2

XEQ 01/10/** REPAIR PERKINS CO., SD WSID= RIEDY

DA

REV 01/01/90 MULTI-PURPOSE DAM CLASS B SEC16 T23N-R17E SUBW= 01
TIME 13:47:18 SITE = WEIS PASS= 1 PAGE= 1

***** BASIC DATA *****

HUMID- SUBHUMID CLIMATE AREA DESIGN CLASS A1 =LT 3000

STORM DISTRIBUTION-PSH 24 HOUR TYPE II RAINFALL DISTRIBUTION

STORM DISTRIBUTION USED FOR EMERGENCY SPILLWAY IS;
SCS DESIGN STORM RAINFALL DISTRIBUTION. (CHAPTER 21 NEH4 AND SCS TR-60)

PRECIP.- Q-PS1 DAY Q-PS10 DAY P-ES P-FB
.00 .00 3.70 3.70



WSDATA-	CN	DA-SM	TC/L	-/H
	78.00	5.70	4.75	.00
SITEDATA-	PERM POOL	CREST PS	FP SED	QRF
	100.00	100.00	.00	.00
	BASEFLOW	INITIAL EL	EXTRA VOL.	
	.00	.00	.00	
PSDATA-	NO. COND.	COND L	D/W	-/H
	.00	.00	.00	.00
	PS N	KE	WEIR L	TW EL
	.000	.00	.00	.00
	2ND STG	ORF H	ORF L	START ES
	.00	.00	.00	.00
CRESTS-	ES1	ES2	ES3	ES4
	100.00	.00	.00	.00
				ES5
				.00
EMG DATA-	SIDE SLOPE	EXIT N	EXIT SLOPE	
	3.00	.030	.040	
EMG DATA-	ES TYPE	ES LENGTH	ES ENTRANCE N	
	1	100	.025	
BTM WIDTH-	BW1	BW2	BW3	BW4
	75.00	.00	.00	.00
				BW5
				.00



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

EMG ID CODE	01	ELEVATION INCREMENT (FT)= 1.000	
DISCHARGES-Q1	Q2	Q3	Q4
2.010	6.861	13.569	21.796
Q5	Q6	Q7	Q8
31.246	41.780	53.301	65.754
Q9	Q10	Q11	Q12
79.042	93.114	107.941	123.488

1DAMS2 -----
 XEQ 01/10/** REPAIR PERKINS CO., SD WSID= RIEDY
 DA
 REV 01/01/90 MULTI-PURPOSE DAM CLASS B SEC16 T23N-R17E SUBW= 01
 TIME 13:47:18 SITE = WEIS PASS= 1 PAGE= 2

PERM POOL	100.00 FT	53.4 ACFT	.00 AC	.0 CFS
CREST PS	100.00 FT	53.4 ACFT	.00 AC	.0 CFS

```
EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 11.34 FT/SEC
EXIT SLOPE   = .040 FT/FT
FLOW DEPTH   = 1.292
```

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
SCS-FBH	75.0	103.00	116.7	.0	3.00	63.3

PEAK - CFS DISCHARGE =	Q-PS .0	Q-ES 1155.5	Q-TOT 1155.5
---------------------------	------------	----------------	-----------------

	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	1.90	7.55	.011	.015

	DURATION FLOW HRS	ATTACK OE/B ACFT/FT	SUMMATION VEL**2 DELTA T (FT/SEC)**2 HRS
EMERGENCY SPILLWAY----	20.4	6.7	789.9

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

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 11.34 FT/SEC
EXIT SLOPE = .040 FT/FT
FLOW DEPTH = 1.292

***** ES378 RUN - MINIMUM DEPTH, DESIGN FLOW TO TOP OF DAM, REQUIRED FOR THIS PASS. NEW TOP OF DAM ELEVATION = 104.00

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
MINIMUM ES	75.0	104.00	137.8	.0	4.00	84.4

PEAK - CFS DISCHARGES =	Q-PS .0	Q-ES 1827.9	Q-TOT 1827.9
----------------------------	------------	----------------	-----------------

	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	2.55	8.67	.010	.013

1DAMS2....JOB NO. 1 COMPLETE

RIEDY DA REPAIR PERKINS CO., SD

0 SUBWATERSHED(S) ANALYZED

1 STRUCTURE(S) ANALYZED

2 HYDROGRAPHS ROUTED AT LOWEST SITE

0 TRIALS TO OBTAIN BOTTOM WIDTH FOR SPECIFIED VELOCITY(S)





OFFICE OF
Perkins County Highway Department

BOX 158
BISON, SOUTH DAKOTA 57620

605-244-5629
FAX (605)244-7289



December 14, 1999

Francis Connolly
10533 Riedy Road
Lemmon, SD 57638

Dear Mr. Connolly,

It was a pleasure to meet you last week. I would like to welcome you and your wife to Perkins County. It's refreshing to meet someone who has chosen our fine community to call home, especially after upon hearing that you have lived in the more so called pristine areas of this country. After seeing our young people grow and move away, never to return to good old South Dakota, it's really nice to have new faces in our community.

In regard to your visit last week, concerning the higher water elevation caused by the dam repair work done last summer which has resulted to cause water to back up against a public highway and into a culvert under the road, I would like to make the following observations and suggestions.

After visiting with you and Bob Drown, and learning of the details of the proposed lowering of the water level in the dam, I am optimistic at this time that there will hopefully be no damage to the road. I am however concerned about the water which is backed into the culvert. This will cause the culvert to rust out and deteriorate at an accelerated rate. My other concern is that by having the culvert half full of water, what effect this will have on the actual flowing capacity of the culvert during times of heavy creek runoff.

At this time I would encourage you to do anything possible to lower the water elevation what ever amount you can feasibly reach, without jeopardizing the integrity of the dam structure itself. If that means lowering the water a foot or so that's great, but please keep in mind the more you can lower it, the better off it will be for the road.



At this time Perkins County will closely monitor this particular situation and will only take action if we determine that damage is occurring to the road and culvert as a result of the higher water elevation or if it starts to pose as a safety hazard to the traveling public. I would be more than willing to work with you and any agency involved in solving this problem.

If you have any questions or comments, please feel free to call me anytime at 244-5629.

Sincerely yours,

Allan G. Bonnema

Allan G. Bonnema
Perkins County Highway Department



FRANCIS J. AND CONSTANCE M. CONNOLLY
10533 RIEDY ROAD
LEMMON, SOUTH DAKOTA 57638

January 28, 2000

Water Rights Division
Joe Foss Building
523 E. Capitol
Pierre SD 57501-3181



Attention: Tim Schaal, P.E. Natural Resources Engineer

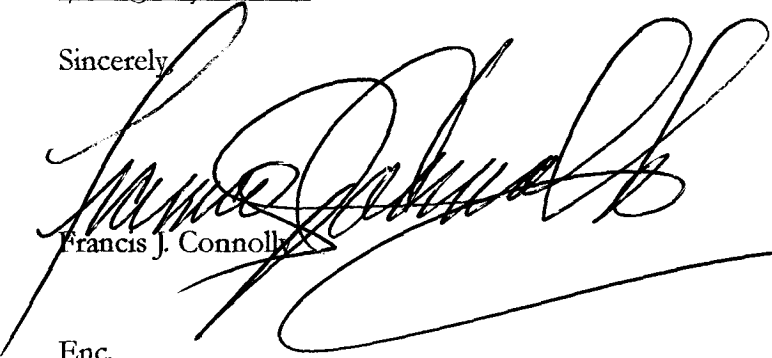
Dear Tim:

Enclosed you will find the application for permit to appropriate water within the State of South Dakota, and an engineering report prepared by Thomas D. Ver Helst of the NRCS. I have also included a letter from Allan G., Bonnema, Perkins County Highway Superintendent, as we agreed on at our December meeting.

The corrections on the paperwork are to correct the spelling of Riedy. As soon as the weather and frost level permits, we will have the spillway lowered to the elevation agreed on at the December meeting.

If I have omitted any information you need or if you have any questions regarding this application, please feel free to contact me at 605-374-3976 or you can e-mail me at fjconn@sd.cybernex.net.

Sincerely,


Francis J. Connolly

Enc.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

February 4, 2000

Francis & Connie Connolly
10533 Riedy Road
Lemmon SD 57638

Dear Mr. & Mrs. Connolly:

Thank you for submitting the *Application for a Permit to Appropriate Water* for the Riedy Dam.

The application filing fee is \$150. In addition to the application filing fee, the Water Rights Program collects the \$50 licensing fee at the time of filing. A total fee of \$200 is required.

If you have any questions, please contact me.

Sincerely, _____

Karen Schlaak

Karen Schlaak
Water Rights Program
605 773-3352



February 11, 2000

Department of Environment
And Natural Resources
February 11, 2000
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181

Attn: Ms. Karen Schlaak
Water Rights Program

Dear Ms. Schlaak:

Enclosed please find our check for \$200 which covers the application filing fee of \$150 and the Water Rights Program licensing fee of \$50.

If you have any questions, please call us.

Sincerely,

A handwritten signature in cursive script, appearing to read "Constance M. Connolly".

Constance M. Connolly
10533 Riedy Rd.
Lemmon, SD 57638
Phone: 605-374-3976
E-mail: fjconn@sd.cybernex.net

Enc:

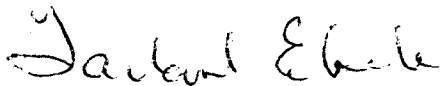
**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1712-1, Francis and Connie Connolly**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 1712-1, Francis and Connie Connolly, 10533 Riedy Road, Lemmon SD 57638.

The Chief Engineer is recommending APPROVAL of Application No. 1712-1 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. Water Permit No. 1712-1 authorizes a dam with storage capacity of 54 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

See report on application for additional information.



Garland Erbele, Chief Engineer

February 23, 2000

REPORT ON
WATER PERMIT APPLICATION NO. 1712-1
Francis & Connie Connolly
February 18, 2000

Water Permit Application No. 1712-1 has been filed by Francis & Connie Connolly to impound 54 acre-feet of water from runoff in an existing dam know as Riedy Dam (ID No. 942). The dam is located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 16-T22N-R17E, in Perkins County. The application also requests impoundment of sufficient water to maintain the reservoir at the outlet elevation. The water will be used for livestock watering , fish and wildlife propagation, and recreation.

Discussion:

Riedy Dam is classified as a small size Category 3, Low Hazard dam. Riedy Dam had failed through the primary spillway structure and was considered breached for several years. The dam was recently repaired by blocking off the breached spillway structure, and leaving the existing earthcut secondary spillway as the primary spillway. The entrance to the earthcut spillway is partially obstructed with a small berm. Eliminating the primary spillway resulted in a higher than normal reservoir level, which backed water upstream to a County road and culvert. The Connolly's have agreed to remove the remainder of the berm in the spillway entrance, which should lower the reservoir level to about elevation 99 (local datum). The Perkins County Highway Department submitted a letter, dated December 14, 1999, indicating their approval of the dam repair, especially with the lower reservoir level.

Riedy Dam is 19 feet high with a normal storage capacity of 54 acre-feet with a reservoir level at the spillway elevation, and a maximum storage capacity of 150 acre-feet with a reservoir level at the top of dam elevation. A dam of this size and hazard classification is required to have a minimum spillway design capable of passing a 25-year frequency event.

The dam has a 75 foot wide earthcut spillway with 5 feet of available freeboard as the primary spillway. The dam has a drainage area of 3647 acres (5.7 square miles). A 25-year frequency event will produce a peak runoff of approximately 1110 cfs and a 100-year frequency event will produce a peak runoff of approximately 2150 cfs. The 75 foot wide earthcut spillway has a capacity of approximately 2180 cfs.

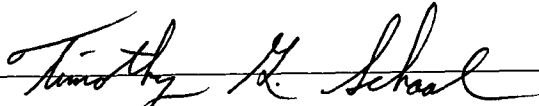
The annual yield for this drainage area with a 10 percent chance of occurrence, or 1 out of 10 years, is expected to be 516 acre-feet. The annual yield with a 50 percent chance of occurrence, or 1 out of 2 years, is expected to be 110 acre-feet and the annual yield with a 80 percent chance of occurrence, or 8 out of 10 years, is expected to be 42 acre-feet.

Riedy Dam is located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 16-T22N-R17W on East Thunder Hawk Creek, about six miles upstream of its confluence with Thunder Hawk Creek. The Department of Game, Fish & Parks holds Water Right No. 609-1 for East Lemmon Dam, which is located on

Thunder Hawk Creek about one mile below the confluence with East Thunder Hawk Creek, and about 3 miles upstream of the confluence of Thunder Hawk Creek and the Grand River. Both Riedy Dam and East Lemmon Dam are WPA dams which were originally constructed in the 1930's. East Lemmon Dam has a drainage area of approximately 88 square miles, and approval of Water Permit No. 1712-1 should have little effect on East Lemmon Dam and Water Permit No. 609-1. There are no other existing Water Rights/permits on East Thunder Hawk Creek or Thunder Hawk Creek between Riedy Dam and the Grand River.

Conclusions:

1. Riedy Dam was repaired without approval of plans and specifications prepared by a registered Professional Engineer; however, it has a spillway capacity that exceeds standards.
2. Water Permit Application No. 1712-1 should be approved since unappropriated water is available and approval should not have any adverse effect on existing Water Permits/Rights.
3. If approved, the low flow bypass requirement for downstream domestic use should be a qualification on Water Permit Application No. 1712-1.



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

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
www.state.sd.us/denr

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

February 28, 2000

Francis & Connie Connolly
10533 Riedy Road
Lemmon, SD 57638

Dear Mr. and Ms. Connolly:

Water Permit Application No. 1712-1 for fish and wildlife propagation and recreation 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 Lemmon Leader printed at Lemmon, SD (Ph # (605) 374-3751). 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 ~~payment~~ of your Notice of Hearing and to arrange for ~~the publisher~~ publication to occur twenty days before the ~~the~~ Proof of Publication. We must receive Proof of Publication before action can be

*Goes out
on Monday*

Sincerely,


Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

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



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

February 28, 2000

The Lemmon Leader
P.O. Box 180
Lemmon, SD 57638-0180

ATTENTION: Legal Public Notice

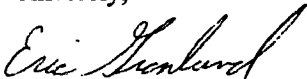
Enclosed is a Notice of Hearing on Application No. 1712-1 to Appropriate Water to be published twice. Please publish the first notice on March 7, 2000, with the second publication 7 days later.

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 APPLICANTS are Francis & Connie Connolly, 10533 Riedy Road, Lemmon, SD 57638 (Ph # (605) 374-3976).

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

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

Sincerely,


Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

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

No. 1712-1

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

Date _____

We are in receipt of your letter of February 27, 2000, enclosing Notice of Hearing to Appropriate Water by Application No. 1712-1 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 March 7, 2000, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 1712-1 to Appropriate Water

Notice is given that Francis & Connie Connolly, 10533 Riedy Road, Lemmon SD 57638 has filed an application for a water permit to impound 54.0 acre-feet of water from runoff in a existing dam (known as Riedy Dam) located in the NE ¼ NE ¼ Section 16 with water impounded in the N ½ NE ¼ Section 16; all in T22N-R17E. This application requests impoundment of sufficient water to maintain water to the outlet elevation and is to be used to provide habitat for fish and wildlife propagation, recreational, and domestic use.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1712-1 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider the application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by March 24, 2000.

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

Affidavit of Publication

STATE OF SOUTH DAKOTA

}
}ss:
}

COUNTY OF PERKINS



I, Ann Williams,
being the first duly sworn under oath say: The Lemmon
Leader is a legal weekly newspaper of general circulation
as required by South Dakota Code of Nineteen Hundred
Thirty-Nine, and any acts amendatory thereto, published
by the Leader Publishing Co., Inc. in Lemmon, in said
county and state, and has been such legal newspaper
during the time hereinafter mentioned; that during all of
said time as an employee or officer of said newspaper I
have had personal knowledge of the facts stated in this
affidavit; that the advertisement headed:

Notice of Application No. 1712-1

a printed copy of which is hereto attached, was printed and
published in said newspaper for two successive
weeks upon the following dates, to-wit:

March 7, 14, 2000

that the full amount of the fees charged for publishing the
same to-wit: the sum of 43.58 inures
solely to the benefit of the publishers of said newspaper;
that no agreement or understanding for any division of
this sum has been made with any other person; and that no
part of said sum has been agreed to be paid to any person
whomsoever.

NOTICE OF APPLICATION NO. 1712-1 to Appropriate Water

Notice is given that Francis and Connie
Connolly, 10533 Riedy Road, Lemmon, SD
57638 has filed an application for a water
permit to impound 54.0 acre-feet of water
from runoff in a existing dam (known as
Riedy Dam) located in the NE1/4NE1/4
Section 16 with water impounded in the
N1/2NE1/4 Section 16; all in T22N-R17E.
This application requests impoundment of
sufficient water to maintain water to the out-
let elevation and is to be used to provide
habitat for fish and wildlife propagation,
recreational and domestic use.

Pursuant to SDCL 46-2A-2, the Chief
Engineer recommends APPROVAL of Ap-
plication No. 1712-1 because 1) un-
appropriated water is available, 2) exist-
ing rights will not be unduly impaired,
3) it is a beneficial use of water, and 4) it is
in the public interest. In accordance with
SDCL 46-2A-23, the Chief Engineer will act
on the application, as recommended, un-
less a petition is filed opposing the appli-
cation or the applicant files a petition con-
testing the Chief Engineer's recommenda-
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BOTH the applicant and Chief Engineer.
The applicant must file a petition con-
testing the Chief Engineer's recommenda-
tion. The Chief Engineer's address is "Wa-
ter Rights Program, Foss Building, 523 E.
Capitol, Pierre, SD 57501 (605 773-3352)"
and the applicant's mailing address is given
above. A petition filed by either an inter-
ested person or the applicant must be filed
by March 24, 2000.

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 sup-
porting the application and the signature
and mailing address of the petitioner or the
petitioner's legal counsel, if legal counsel
is obtained. Contact Eric Gronlund at the
above Water Rights Program address to
request copies of information pertaining to
this application. Nettie H. Myers, Secre-
tary, Department of Environment and Natu-
ral Resources.

(Pub. March 7, 14, 2000)

Subscribed and sworn to before me this 27th day
of March, 2000.

Alice Gustafson
Notary Public, South Dakota

(Seal)

My Commission Expires
February 7, 2005



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

APR 10 2000

Francis & Connie Connolly
10533 Riedy Road
Lemmon, SD 57638

Dear Mr. and Ms. Connolly:

Enclosed is Water Permit No. 1712-1 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

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

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

Sincerely,

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

enclosures

Permit No. 1712-1
Grand River - Water District

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

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

I have this day, April 23, 2003, made a thorough examination of the water use system constructed by Francis & Connie Connolly of 10533 Riedy Road, Lemmon, SD 57638 holder of Permit No. 1712-1, bearing the priority of February 3, 2000 authorizing the storage of 54 acre-feet of the waters of runoff for fish & wildlife propagation purposes, in Perkins County.

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

A. Works used to divert the water:

19 ft. high earthen dam with 75 ft. wide earthcut spillway

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

N/A

C. Works used to apply water to beneficial use:

19 ft. high earthen dam with 75 ft. wide earthcut spillway

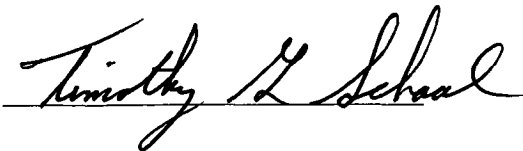
The system is in the following condition good. The point of diversion is located 1400 ft. south & 700 ft. west of the NE corner of Sec. 16-T22N-R17W (E ½ NE ¼). The works are capable of storing 54 acre-feet of water which is to be used for fish & wildlife propagation. Water has been put to beneficial use to the maximum extent as follows:

19 ft. high earthen dam with 75 ft. wide earthcut spillway

and the license should be issued for 54 acre-feet of storage.

Applicable permit qualifications have been complied with: Yes X

Exceptions to compliance are: none Date Report Completed: May 19, 2003



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

REPORT ON INSPECTION OF PERMIT NO. 1712-1

Other permit(s) associated with the project: XXXX

DATE OF INSPECTION: April 23, 2003

NAME & ADDRESS OF INSPECTION CONTACT/ Francis Connolly
RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE: owner

NAME & ADDRESS OF PERMIT HOLDER: Francis & Connie Connolly, 10533 Riedy Road,
Lemmon, SD 57638

DIVERSION POINT LEGAL LOCATION: 1400 ft. south & 700 ft. west of the NE corner of
Sec. 16-T22N-R17W (E ½ NE ¼).

DAM INFORMATION:

- 1) Height to crest 19 ft. feet
- 2) Height to primary spillway N/A feet
- 3) Height to secondary spillway 13 feet
- 4) Crest width 12 feet
- 5) Crest length 500 feet
- 6) Spillway length XXX feet
- 7) Spillway width 75 feet
- 8) Approx. storage (Normal) 54 acre-feet
- 9) Approx. storage (Maximum) 150 acre-feet
- 10) Date constructed: 1934 (Repaired in 1999)

PERMIT QUALIFICATIONS AND REGULATIONS:

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

Water Permit Application No. 1712-1



0 0.25 0.5 1 Miles

South Dakota Department of
Environment and Natural Resources



Protecting South Dakota's Tomorrow ... Today



Timothy G. Schaal

Timothy G. Schaal, P.E. 5/19/03
Natural Resources Engineer Specialist
Water Rights Program

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 1712-1

(1) Francis and Connie Connolly, 10533 Riedy Road, Lemmon SD 57638 made Application No. 1712-1, February 3, 2000 for a water permit to impound 54 acre feet of water from runoff, Perkins County, South Dakota for fish and wildlife propagation, recreational use and livestock watering purposes. Permit No. 1712-1, with a priority date of February 3, 2000 was approved March 24, 2000 and issued to the applicants for diversion of water with construction of the described water supply system and the application to beneficial use of water completed.

This dam is commonly known as Riedy Dam.

(2) The water supply system has been completed and water applied to beneficial use in accordance with South Dakota State Law. Pursuant to South Dakota Codified Law 46-5-30.1, the holders and/or owners of Water Right No. 1712-1 are issued a license, bearing a priority date of February 3, 2000, to impound 54 acre feet of water.

The location of the storage dam (spillway) is 1,400 feet south and 700 feet west of the northeast corner of Section 16-T22N-R17W (E ½ NE ¼).

(3) This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Permit No. 1712-1, including the following now applicable qualifications:

- Water Permit No. 1712-1 ~~authorizes a dam~~ with storage capacity of 54 acre feet of water and sufficient ~~water annually~~ to maintain the water level to the outlet elevation.
- Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

Garland Erbele

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

JUN 13 2003

date





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

JUN 13 2003

1712-1

Francis and Connie Connolly
10533 Riedy Road
Lemmon SD 57638

Dear Mr. and Ms. Connolly:

Enclosed is Water License No. 1712-1. This is the final water right document completing your process of obtaining a Water Right.

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

Sincerely,

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

enclosures