

WATER PERMIT NO. 2639-2

Name of Applicant: **Robert Cannon**

Address: **PO Box 2086, Rock Springs WY 82902**

Phone: **307 350-4756**

Amount of Water Claimed: **83 AF**

Total Acres: **NA**

Source of Water Supply: **Mill Iron Creek**

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

County: **Lyman**

Type of Waste Disposal System:

Location: **10 miles south of Presho**

PRIORITY

Date Received: **10-29-08**

Application/License Fee: **\$200**

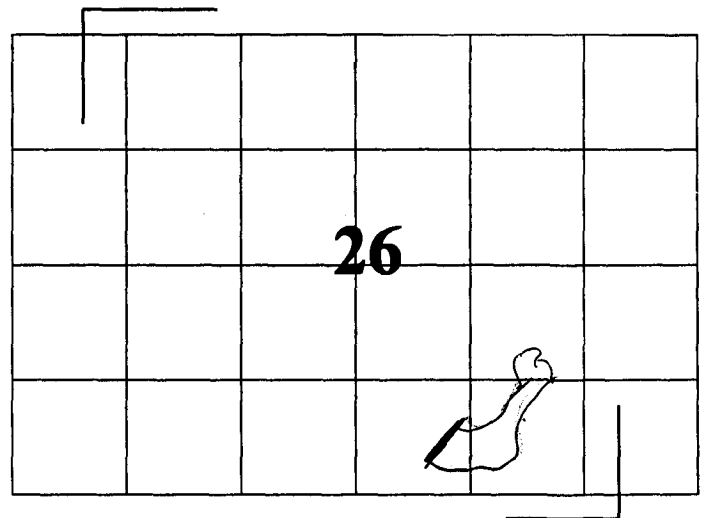
Corrected Application Received:

Period of Annual Use: **January 1 – December 31**

Remarks: **reconstruction of breached dam**

Diversion Point: **SW ¼ SE ¼ Sec 26-T104N-R77W**

Water Impounded: **SW ¼ SE ¼ & E ½ SE ¼ Sec
26-T104N-R77W**



Depth of Well: **NA**

Well Driller:

Remarks:

Type of Map: **aerial**

Prepared by: **Dave Konechne, PE**

Reviewed and the Number Assigned on: **10-30-08**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

SD EForm - 1585 V2
FORM 2: Application for uses other than irrigation
(type or print)

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	No. <u>2639-3</u>	(office use only) Hydrologic Unit <u>10140204</u>
	Basin <u>White River</u>	
	Newspaper <u>Lyman Co. Herald PO Box 518</u>	
	<u>605-895-6397</u>	<u>Phesha 57568</u>

RECEIVED
OCT 29 2008
WATER RIGHTS
PROGRAM

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

Check use(s) of water:

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

Type of Application: (check one)
☒ **New** ☐ **Vested Right** (Use predates Mar 2, 1955) ☐ **Future Use Reservation**
☐ **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 Robert Cannon Phone (307) 350-4756
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address P.O. Box 2086, Rock Springs State WY 82902
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed _____ *CFS or _____ **GPM _____ 83 ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Mill Iron Creek
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Lyman
Dam Site - SE1/4 SW1/4 Sec 26, T104N, R77W Water impounded: SW1/4 SE 1/4 & E 1/2 SE 1/4
SW1/4 SE 1/4 Sec 26 T104N R77W
- County or counties where water will be used Lyman
- Annual period during which water is to be used Year Around Jan 1 - 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)

Reconstruction of a breached dam. Principal spillway is at elevation 1798 (water level). The dam will be a shallow dam (6 ft depth) but will back water over 23 acres. A 12" dia draw down pipe at inlet elevation 1793.2 will be installed. There will be a 10 ft berm on the upstream side at elevation 1798 to protect the fill from wind & wave erosion.

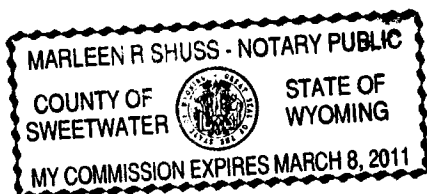
STATE OF ~~SOUTH DAKOTA~~ Wyoming SS
County of Lyman Sweetwater

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

I, Robert Cannon, 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.

Applicant's signature Robert Cannon

Subscribed and sworn to before me this 28th day of October 20 08



Marleen R Shuss
Notary Public signature

**SOUTH DAKOTA
WATER PERMIT NO. 2639-2**

Date of first receipt of application October 29, 2008.

The Water Management Board approved Water Permit No. 2639-2 on July 8, 2009 for Robert Cannon, PO Box 2086, Rock Springs WY 82902 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. 2639-2 authorizes impoundment of 83 acre-feet of water from Mill Iron Creek by reconstructing a dam located in the SW 1/4 SE 1/4 Section 26 with water impounded in the SW 1/4 SE 1/4, E 1/2 SE 1/4 Section 26; all in T104N-R77W.
2. The water appropriated shall be used for fish and wildlife propagation, recreational use and livestock water purposes and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date from which applicant may claim right is October 29, 2008.
5. One-fifth of the construction is to be completed on or before January 8, 2012.
6. All construction is to be completed on or before July 8, 2014.
7. Water is to be put to beneficial use on or before July 8, 2018.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

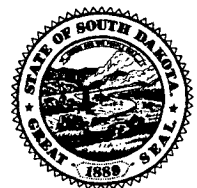
1. Water Permit No. 2639-2 authorizes a dam with a storage capacity of 83.0 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

WATER MANAGEMENT BOARD

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

SEP 24 2009

date



Supplemental Information

(Complete applicable portions only)

(type or print in ink)

1. Well Information - Proposed Construction

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

2. Wastewater Disposal System Information

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

3. Dugout Information

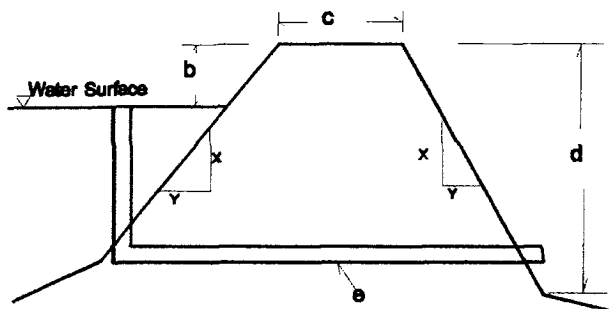
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

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

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

Konechne Engineering
104 Capitol Hill Dr.
Pierre, SD 57501

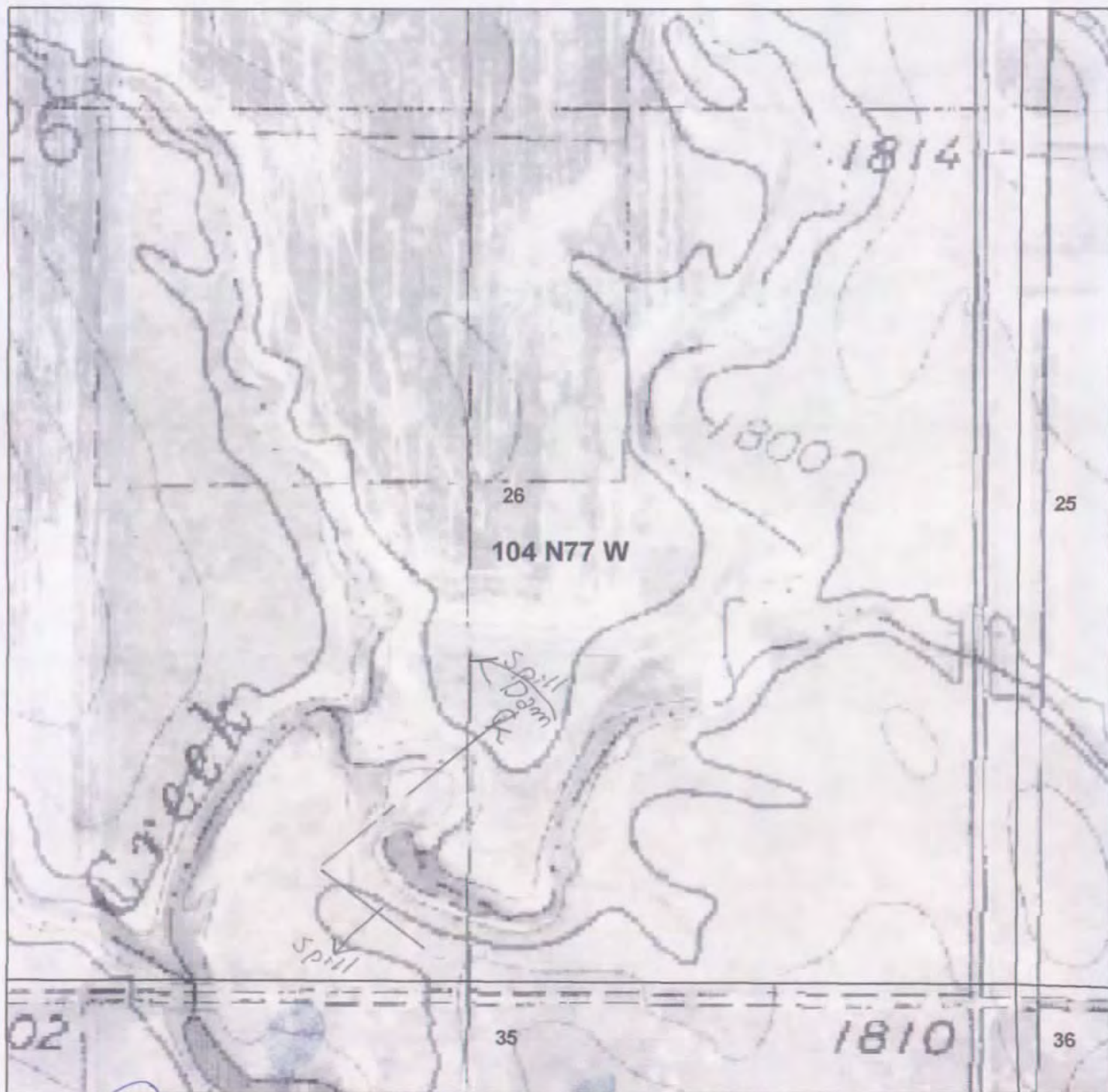


- b) Freeboard _____ 6.5 ft
- c) Crest Width _____ 12 ft
- Crest Length _____ 1117 ft
- d) Height _____ 12.5 ft
- e) Primary Outlet Capacity _____ 355 cfs
- If pipe, diameter _____ 60"
- f) Secondary Spillway Capacity _____ 1455 cfs
- Spillway Width _____ 200 ft
- g) X & Y Slope _____ 3:1
- Upstream _____ 3:1
- Downstream _____ 3:1
- h) Surface Area of Impoundment _____ 23Ac
- i) Storage _____ 83.0 Acre Feet
- j) Drainage Area Above Dam _____ 10,752 Acres

Conservation Plan Map

Field Office: Kennebec

Agency: NRCS

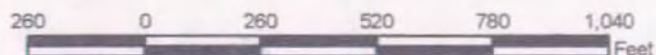


Dave Knecht PE

Robert Cannon

1 inch equals 425 feet

10-29-08

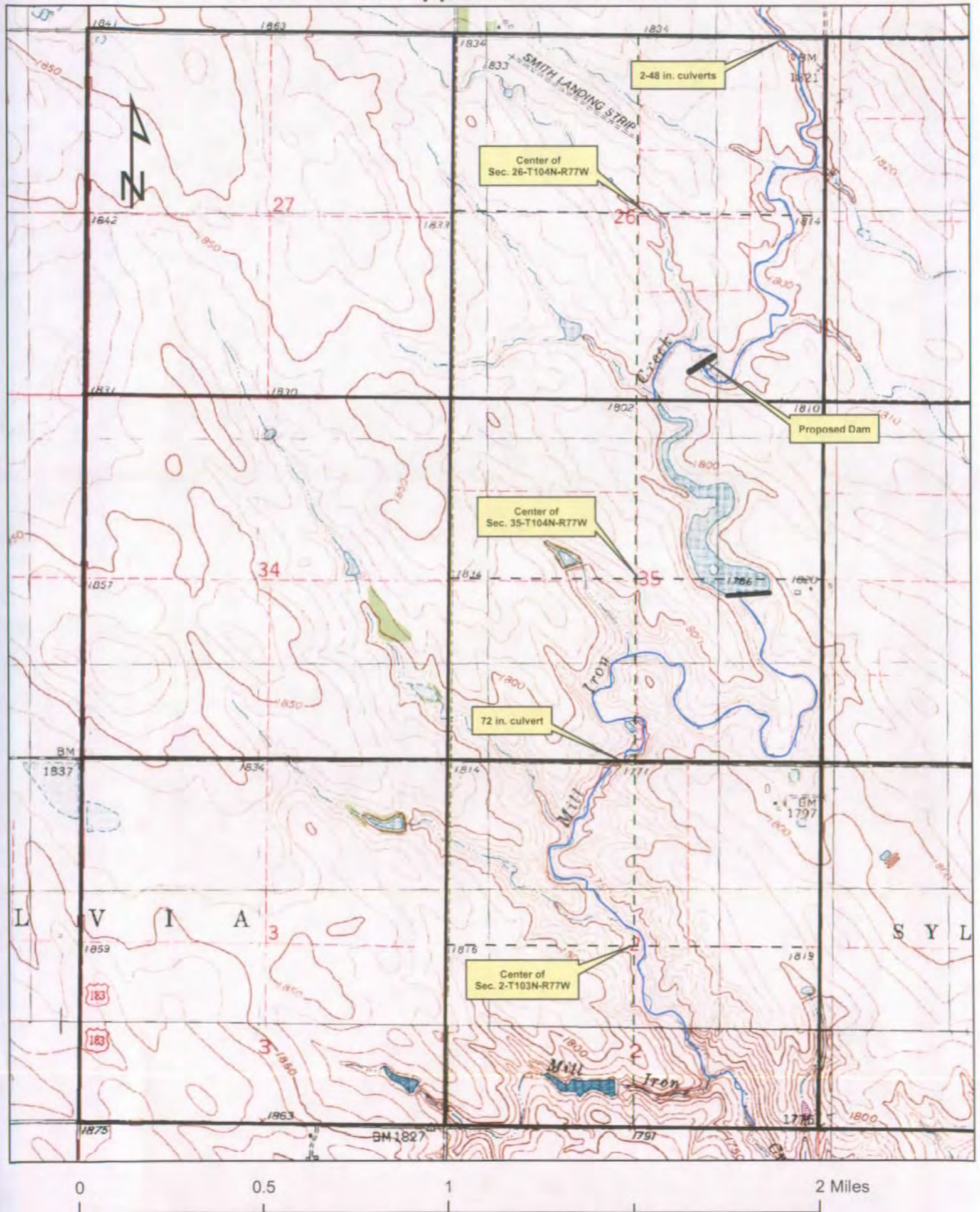


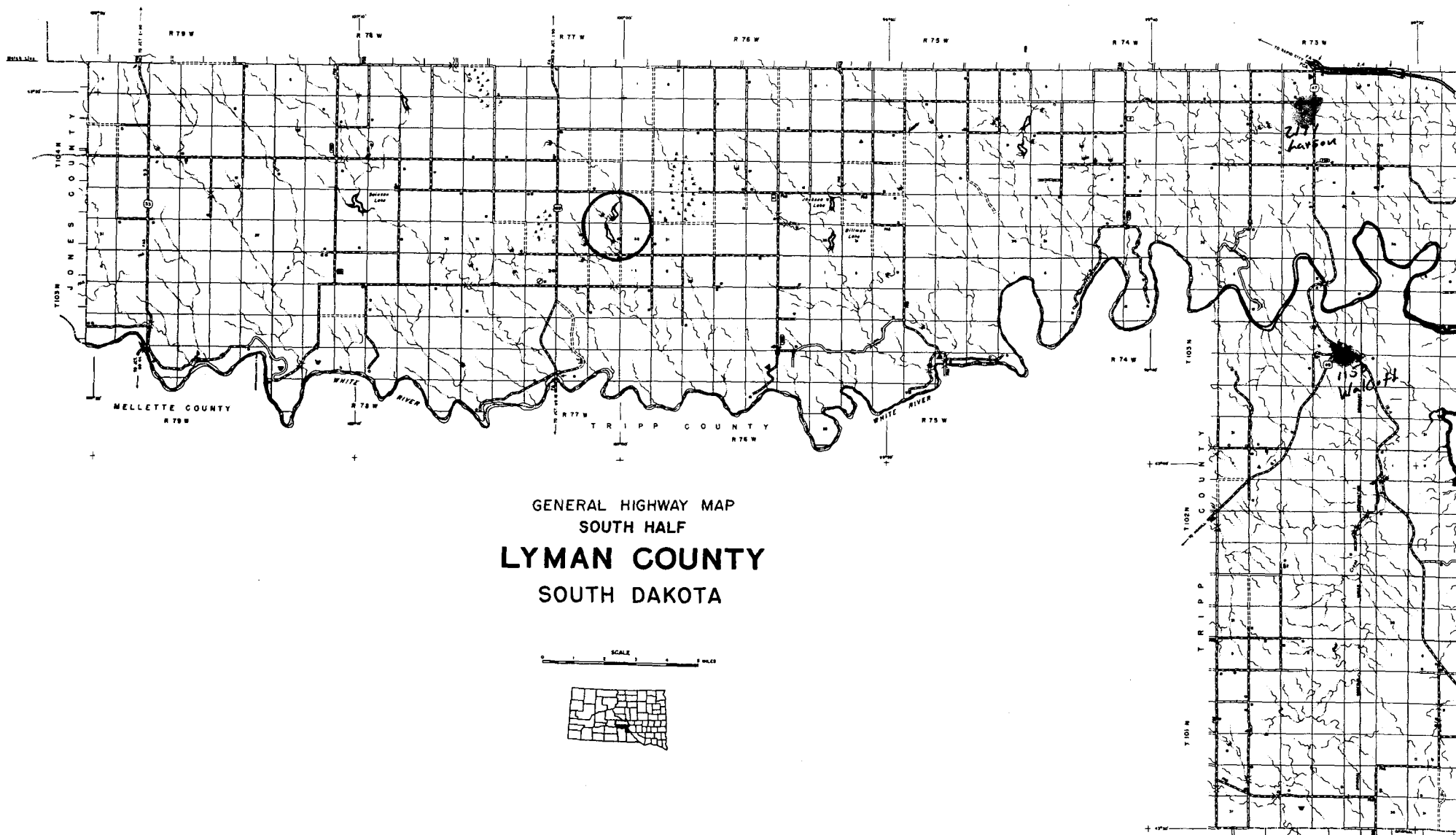
Location Map
Water Permit Application No. 2639-2



Location Map

Water Permit Application No. 2639-2





GENERAL HIGHWAY MAP
SOUTH HALF
LYMAN COUNTY
SOUTH DAKOTA

SCALE 0 1 2 3 4 5 MILES



RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 10/29, 20 08

RECEIVED OF Robert D Cannon 750 Riverview Dr Green River WY 82935

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

Fee for Application for Permit No. <u>2639-2</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>2639-2</u>	50	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law) TOTAL	200	00

No.

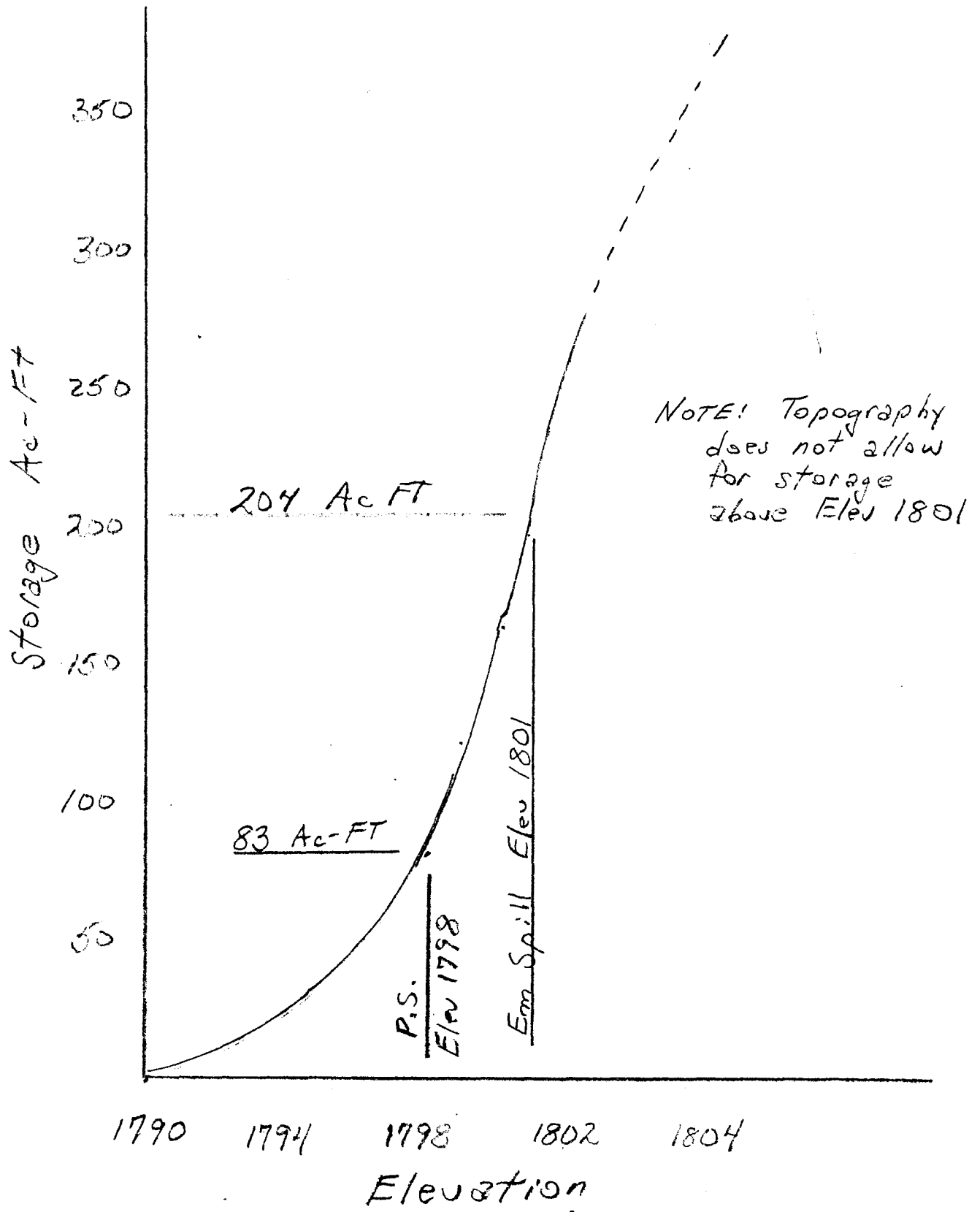
03780

By

Stanley Erskell
Chief Engineer

Robert Cannon

SE SW Sec 26, T104 N, R77 W



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OCT 29 2008

WATER RIGHTS
PROGRAM

1*****

SITES XEQ 10/17/2008 WATER RESOURCE SITE ANALYSIS COMPUTER PROGRAM
VER 2000 (USER MANUAL - DATED MAY 2001)
TIME 14:24:23

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

SITES 05/01/2000 Robert Cannon - sec26,104,77 16.8 H5

SAVMOV 0 101

SAVMOV 101 1 1

STRUCTURE

1790 0
1793 6.1
1795 13.3
1798 23
1801 55.4
1804 100

ENDTABLE

WSDATA 5A1 AC 70 10752 33264 .1

PDIRECT 3.5 .00 4.20

POOLDATA ELEV 1798 1798 1790 1790 SC

PSINLET 1 21.98

PSDATA 1 80 60 .025 89

ASDATA 41 50 150 3 .05 2

ASINSURF 41 .035

ASINLET 41 0.0 0.0 50 0.0 3

150 10

ENDTABLE

ASEXSURF 41 .035

.65 0

3

2 0

.02

ENDTABLE

ASEXIT 41 N 100

BTMWIDTH FEET 200

GRAPHICS 1

GO,DESIGN HL TYPE2 24 TYPE2378 24

SAVMOV 2 101 1

ENDJOB

**** MESSAGE - ALTERNATE STRUCTURE ID (S 1) BEING USED
SINCE USER DID NOT INPUT AN ID.

**** MESSAGE - ALTERNATE SUBWATERSHED ID (A) BEING USED SINCE
USER DID NOT INPUT AN ID.

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

1SITES _____

XEQ 10/17/2008 Robert Cannon - sec26,104,77 WSID=

VER 2000
TIME 14:24:23 SITE = S 1 SUBW= A
PASS= 1 PART= 1

***** BASIC DATA *****
CLIMATE AREA - NOT DEFINED DESIGN CLASS A1 = LT 3000.

STORM DISTRIBUTION-PSH 24 HOUR TYPE II RAINFALL DISTRIBUTION

STORM DISTRIBUTION AUX. -24 HOUR TYPE II RAINFALL DISTRIBUTION

PRECIP. - P-PS,1-DAY P-PS,10-DAY P-SD P-FB
3.50 0.00 0.00 4.20

WSDATA - CN DA-SM TC/L -/H QRF
70.00 16.80 33264.00 0.10 0.00

SITEDATA- PERM POOL CREST PS FP SED VALLEY FL 378?
1798.00 1798.00 0.00 1790.00 YES

BASEFLOW INITIAL EL EXTRA VOL SITE TYPE
0.00 0.00 0.00 DESIGN

PSDATA - NO. COND COND L DIA/W -/H
1.00 80.00 60.00 0.00

PS N KE WEIR L TW EL
0.025 1.00 21.98 89.00

2ND STG ORF H ORF L START AUX.
0.00 0.00 0.00 0.00

ASCRESTS - AUX.1 AUX.2 AUX.3 AUX.4 AUX.5
0.00 0.00 0.00 0.00 0.00

AUX.DATA - REF.NO. RETARD. Ci TIE STATION INLET LENGTH
41 0.00 50.00 150

AUX.DATA - INLET N SIDE SLOPE EXIT N EXIT SLOPE ACTUAL AUX?
0.035 3.00 0.035 0.050 NO

BTM WIDTH - BW1 BW2 BW3 BW4 BW5
ft 200.00 0.00 0.00 0.00 0.00

AUXILIARY SPILLWAY RATING DEVELOPED USING WSPVRT.

1SITES
XEQ 10/17/2008 Robert Cannon - sec26,104,77 WSID=
VER 2000 SUBW= A
TIME 14:24:23 SITE = S 1 PASS= 1 PART= 2

PERM POOL 1798.00 FT 83.0 ACFT 23.00 AC 0.0 CFS

CREST PS 1798.00 FT 83.0 ACFT 23.00 AC 0.0 CFS

SED ACCUM 1798.00 FT 83.0 ACFT 23.00 AC 0.0 CFS

START ELEV 1798.00 FT 83.0 ACFT 23.00 AC 0.0 CFS

NRCS-PSH D= 24.00 HR P= 3.50 IN Q= 1.01 IN DA= 16.80 SM
TC= 36.88 HR CN= 70.00 VOL= 903.3 ACFT

10 yr storm

PEAK = 353.8 CFS, AT 36.4 HRS.

ROUTED RESULT - HYD TYPE EMAX VOL-MAX AMAX QMAX
NRCS-PSH 1800.90 FT 195.0 ACFT 54.29 AC 335.6 CFS

PS STORAGE 112.0 ACFT, BETWEEN AUX. CREST AND SED. ACCUM ELEVATIONS.

DRAWDOWN (DDT) TEST 1798.00 FT 83.0 ACFT 0.00 CFS
CONTROL IS 0.000 DETENTION STORAGE

TIME = 4.32 DAYS, TO 0.0 CFS (LIMIT = 10.00 DAYS)

RATING TABLE DEVELOPED, SITE = S 1:
BY PROGRAM FOR PS AND AUX. SPILLWAYS
AUX. RATING USED WSPVRT METHOD.

RATING TABLE NUMBER 1

	ELEV. FEET	Q-TOTAL CFS	Q-PS CFS	Q-AUX. CFS	VOLUME AC-FT	AREA ACRE
1	1798.00	0.00	0.00	0.00	83.00	23.00
2	1798.67	37.09	37.09	0.00	100.73	30.20
3	1799.33	104.90	104.90	0.00	123.26	37.40
4	1800.00	192.71	192.71	0.00	150.59	44.60
5	1800.67	296.69	296.69	0.00	182.72	51.80
6	1801.33	414.64	414.64	0.00	219.88	60.35
7	1802.00	545.05	545.05	0.00	263.42	70.26
8	1802.67	686.85	686.85	0.00	313.56	80.17
9	1803.33	839.17	839.17	0.00	370.31	90.08
10	1804.00	1001.33	1001.33	0.00	433.66	99.99

FULL CONDUIT FLOW, ELEV = 1812.40 FT

1SITES

XEQ 10/17/2008 Robert Cannon - sec26,104,77 WSID=
VER 2000 SUBW= A
TIME 14:24:23 SITE = S 1 PASS= 1 PART= 3

AUX. CREST 1800.90 FT 195.0 ACFT 54.29 AC 335.6 CFS

PS STORAGE 112.0 ACFT, BETWEEN AUX. CREST AND SED. ACCUM ELEVATIONS.

START ELEV 1798.00 FT 83.0 ACFT 23.01 AC 0.0 CFS

EFFECTIVE HEIGHT(H)= 10.9 FEET, PRODUCT= 2125. (H * STORAGE AT CREST AUX.).

INPUT DESIGN CLASS = A1 = LT 3000. PRODUCT.

NRCS-FBH D= 24.00 HR P= 4.20 IN Q= 1.46 IN DA= 16.80 SM
TC= 36.88 HR CN= 70.00 VOL= 1312.5 ACFT

25-yr storm

PEAK = 515.2 CFS, AT 36.4 HRS.

***** WARNING - ELEVATION OF FULL PIPE FLOW (1812.40) EQUALS OR EXCEEDS
MAXIMUM INPUT ELEVATION (1804.00), PASS STOPPED.

RATING TABLE DEVELOPED, SITE = S 1:
BY PROGRAM FOR PS AND AUX. SPILLWAYS
AUX. RATING USED WSPVRT METHOD.

RATING TABLE NUMBER 2

	ELEV. FEET	Q-TOTAL CFS	Q-PS CFS	Q-AUX. CFS	VOLUME AC-FT	AREA ACRE
1	1798.00	0.00	0.00	0.00	83.00	23.00
2	1798.32	12.44	12.44	0.00	90.96	26.48
3	1798.64	35.20	35.20	0.00	100.05	29.95
4	1798.97	64.66	64.66	0.00	110.25	33.43
5	1799.29	99.55	99.55	0.00	121.57	36.91
6	1799.61	139.13	139.13	0.00	134.01	40.38
7	1799.93	182.89	182.89	0.00	147.57	43.86
8	1800.25	230.47	230.47	0.00	162.24	47.34
9	1800.58	281.58	281.58	0.00	178.04	50.81
10	1800.90	336.00	336.00	0.00	194.96	54.29
11	1801.93	953.35	531.12	422.24	258.64	69.24
12	1802.97	2209.18	753.92	1455.25	338.20	84.62
13	1804.00	3872.49	1001.33	2871.16	433.66	99.99

1801-355 cfs Princ Spill

FULL CONDUIT FLOW, ELEV = 1812.40 FT

SUMMARY OF AUXILIARY SPILLWAY SURFACE CONDITIONS USED IN COMPUTATIONS BY REACH

REACH	FROM STA (ft)	TO STA (ft)	SLOPE CURVE INDEX@	RETARDANCE COVER FACTOR	VEGETAL CODE	MAINT. DEPTH (ft)	ROOTING * LOCATION
1	-100.	0.	-10.0	0.035	**	**	** INLET
2	0.	50.	0.0	0.035	**	**	** CREST
3	50.	150.	5.0	0.035	0.65	3	2.0 EXIT !

@ The program interprets retardance curve index entries of less than 1 as Manning's n values.

* Upper case indicates a reach of constructed spillway channel.

** The program does not use vegetal cover factor, maintenance code, and rooting depth for inlet and crest reaches in computations.

! Reach 3 used in computing exit channel velocities.

DRAWDOWN USING FREEBOARD STORM FOLLOWS, STARTING AT ELEVATION 1800.90 FT.

DRAWDOWN (DDT) TEST 1798.00 FT 83.0 ACFT 0.00 CFS
CONTROL IS 0.000 DETENTION STORAGE

TIME = 4.43 DAYS, TO 0.0 CFS (LIMIT = 10.00 DAYS)

ROUTED	BTM	WIDTH	MAX	ELEV	VOL-MAX	AREA-MAX	AUX.-HP	VOL-AUX.
RESULTS	FT	FT	ACFT	AC	FT	ACFT		
NRCS-FBH	200.0	1801.22	213.0	58.6	0.32	18.1		

PEAK - CFS Q-PS Q-AUX. Q-TOT.
DISCHARGE = 393.3 117.7 511.0

CRITICAL CRITICAL CRITICAL 25% OF Q
DEPTH VELOCITY SLOPE-Sc Sc
AUXILIARY FT FT/SEC FT/FT FT/FT
SPILLWAY — 0.22 2.66 0.030 0.040

EFFECTIVE STRESS FOR STABILITY ANALYSIS OF AUX. EXIT CHANNEL
(Refer to Ag. Handbook 667, Chapt. 3, for allowable stresses.)
Aux. Discharge = 118. cfs; Bottom Width = 200. ft

REACH FROM TO SLOPE MANNING'S VELOCITY STRESS
NO. STA STA % n ft/s lb/ft^2
3 50. 150. 5.00 0.035 3.11 0.358

AUXILIARY SPILLWAY DURATION FLOW = 20.2 HOURS
ATTACK, OE/B = 0.6 ACFT/FT

***** MESSAGE - NHCP378 CRITERIA USED BUT AUXILIARY SPILLWAY RATING NOT
BASED ON ASFILE RATINGS.

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 3.1 FT/SEC
EXIT SLOPE = 0.050 FT/FT
FLOW DEPTH = 0.2 FT

>>>>> NHCP378 RUN - MINIMUM FLOW IN AUX. SPILLWAY FROM TR60
USING FORMULA WITHOUT 200 CFS MINIMUM LIMIT (952. CFS).

ROUTED	BTM	WIDTH	MAX	ELEV	VOL-MAX	AREA-MAX	AUX.-HP	VOL-AUX.
RESULTS	FT	FT	ACFT	AC	FT	ACFT		
MIN. AUX.	200.0	1804.44	479.3	106.6	3.54	284.3		

PEAK - CFS Q-PS Q-AUX. Q-TOT.
DISCHARGE = 1114. 3554. 4668.

*Discharge at El. 1804.4
Top of D3m*

CRITICAL CRITICAL CRITICAL 25% OF Q

	DEPTH	VELOCITY	SLOPE-Sc	Sc
AUXILIARY	FT	FT/SEC	FT/FT	FT/FT
SPILLWAY —	2.12	8.13	0.014	0.019

***** WARNING - SOLUTION EXCEEDED MAX. INPUT ELEVATION (1804.00) BY 0.44 FT.

INFLOW HYD 1 PSH-PEAK = 335.58 CFS AT 40.40 HRS, LOCATION POINT

INFLOW HYD 1 FBH-PEAK = 511.02 CFS AT 37.71 HRS, LOCATION POINT
HYDOUT 1

1SITES.....JOB NO. 1 COMPLETE.

Robert Cannon - sec26,104,77

0 SUBWATERSHED(S) ANALYZED.

1 STRUCTURE(S) ANALYZED.

2 HYDROGRAPHS ROUTED AT LOWEST SITE.

0 TRIALS TO OBTAIN BOTTOM WIDTH FOR SPECIFIED STRESS OR VELOCITY.

SITES.....COMPUTATIONS COMPLETE

>>> SITE SUBWS SUBWS DA CURVE TC TOTAL DA TYPE STRUC <<<									
ID	ID	(SQ MI)	NO.	(HRS)	(SQ MI)	DESIGN	CLASS		
S	1	A	16.80	70.	36.88	16.80	378CR	A1	

PASS	DIA./	AUX.CREST	BTM.	MAX.	MAX.	EMB.	INTEGR.*	EXIT*	TYPE
NO.	WIDTH	ELEV	WIDTH	HP	ELEV	VOL.	DIST.	VEL.	HYD
(IN/FT)	(FT)	(FT)	(FT)	(FT)	(CY)	(FT)	(FT/SEC)		
1	60.0	1800.9	200.0	3.5	1804.4	0.	0.	3.1	MIN. AUX.

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

SITES.....SUMMARY TABLE 1 COMPLETED.

STRUCTURE DATA

DRAINAGE AREA	ANNUAL YIELD	PEAK RUNOFF	EMERG. SPLWY. CAPACITY	WATER DEPTH	SURFACE AREA	SEDIMENT STORAGE	TOTAL STORAGE
ACRES	AC. FT.	25-YR. AC-FT.	C.F.S.	FEET	ACRES	AC. FT.	AC. FT.
10752	251	1312	515	6	23	—	83

At Elev 1801

204

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OCT 29 2008

WATER RIGHTS PROGRAM

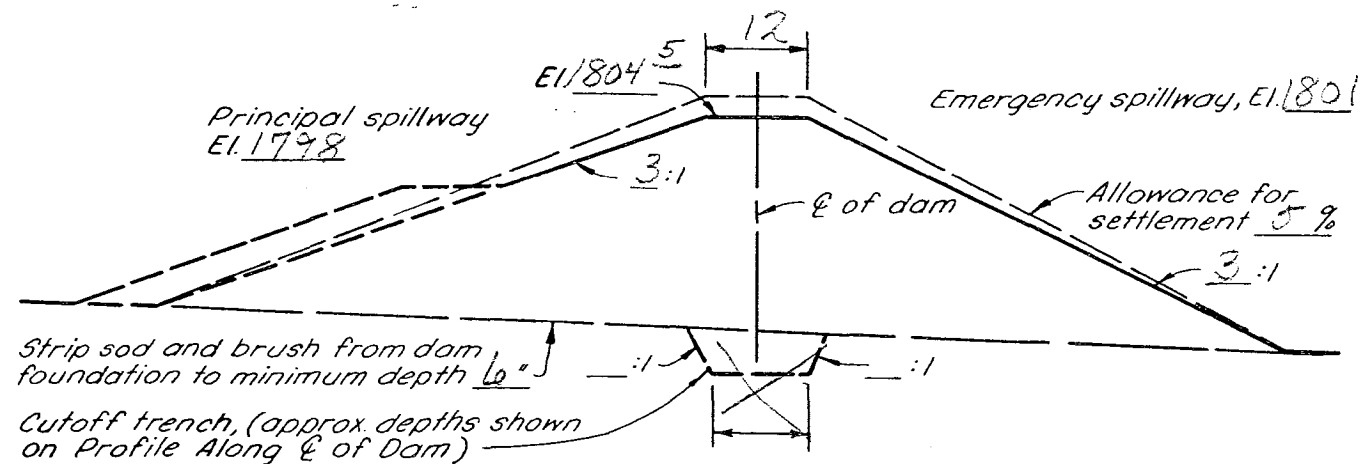
SE 1/4 Sec 26 T. 104 N. R. 77 W
Lyman County

LOCATION

TABLE OF QUANTITIES

ITEM	UNIT	QUANTITY
Earth Fill (estimated)	cy	7250
6 ft, 84" dia Riser w/ 60" 4# stub		
and w/ 12" 4# stub	cs	1
60" dia, 1090 CMP	lin ft	62
Concrete	cy	3
Sand Seep Collar	cy	14
4" dia PVC	lin ft	64
Timber Pipe Support	cs	1
Timber Anti-Vibrator	cs	1
12" dia CMP	lin ft	16

see today



TYPICAL CROSS SECTION OF DAM

S.D. CONSTRUCTION AND MATERIAL SPECIFICATIONS:

- SD-2 Clearing & Grubbing
- SD-7s Earth Fill
- SD-9 Sand Seep
- SD-12B Concrete
- SD-15 CMP
- SD-16 Timber Fabrication

EARTH DAM

OPERATOR:	Robert Cannon
CONSERVATION DISTRICT:	Lyman
Class "A" Hazard	
Date	Approved by
Designed	Title
Drawn	Title
Traced	Title
Checked	Sheet No
	Drawing No

SKETCH PLAN OF DAM AND RESERVOIR AREA

Approximate scale 1" = _____

REFERENCE: GUIDE PLAN NO. 1.0

JOB PLAN NO. 1.0

Locate principal spillway pipe
at $\mathbb{C}$ of dam sta. $7 + 00$, at
an angle of 90° to the $\mathbb{C}$ of
the dam.

Trash rack and baffle plate
not shown. See job plan
no. 64

Top of dam after
settlement El. 1804⁵

Note: Allowance for settlement 5 %

Emergency spillway El. 1801

Principal spillway El. 1798

Berm, if required 3:1
slope normal to Q of
dam _____

See Job Plan 10/
for details of
cover plate

3:1 slope normal
to C of dam -

84" dia. riser, see
job plan no. 513

Antiseep collars

^s sand seep collar
job plan 318

✓ 3:1 slope normal to ϕ of dam

3% gr.

66' of 60" dia. pipe

CROSS SECTION OF DAM ALONG C OF PRINCIPAL SPILLWAY
(Not to scale)

SPECIFICATION NOTES

1. ELBOW, IF REQUIRED, MAY BE FABRICATED BY CONTINUOUS WELDING SEPERATE PIPE SECTIONS OR BY FABRICATING A CONTINUOUS WELDED JOINT ON THE UPSTREAM END OF LAST SECTION OF PIPE.
2. PIPE WALL THICKNESS SHALL BE GAGE OR _____ INCHES.

All CMP to be spiral
vinyl clad on
coupled joint and double
riveted.

TABLE OF QUANTITIES

[illegible]

APPLICABLE STANDARD S.C.S. SPECIFICATIONS

Diagram illustrating an outlet detail without pipe support. The diagram shows a horizontal pipe section with a prefabricated elbow attached. Key dimensions and labels include:

- Prefabricated elbow**: Label pointing to the curved section of the pipe.
- El.**: Labels pointing to the straight sections of the pipe.
- 0.9g**: A dimension line indicating a specific length or offset.
- OUTLET DETAIL WITHOUT PIPE SUPPORT**: A large text label at the bottom of the diagram.

Prefabricated elbow

Pipe support, see job plan no. 410

% gr.

El. 1792

El. 1792

6'

OUTLET DETAIL WITH PIPE SUPPORT

Sec. _____, T. _____, R. _____
County _____

LOCATION

CORRUGATED METAL PIPE
DROP INLET PRINCIPAL SPILLWAY

OPERATOR Robert Cannon

CONSERVATION DISTRICT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed _____

Drawn _____

Traced

Checked _____

Approved by	
-------------	--

--- Title _____

Title _____

Sheet	Draw
-------	------

No.	
of	

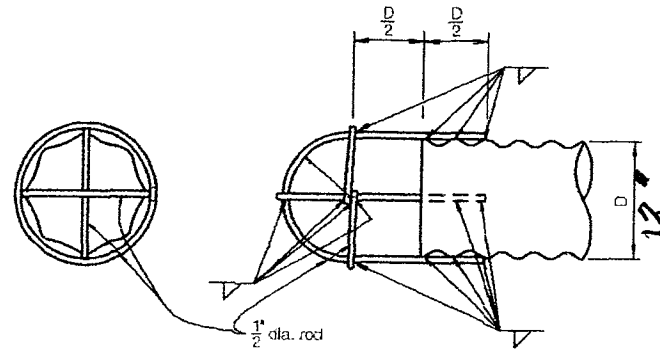
Drawing No.	
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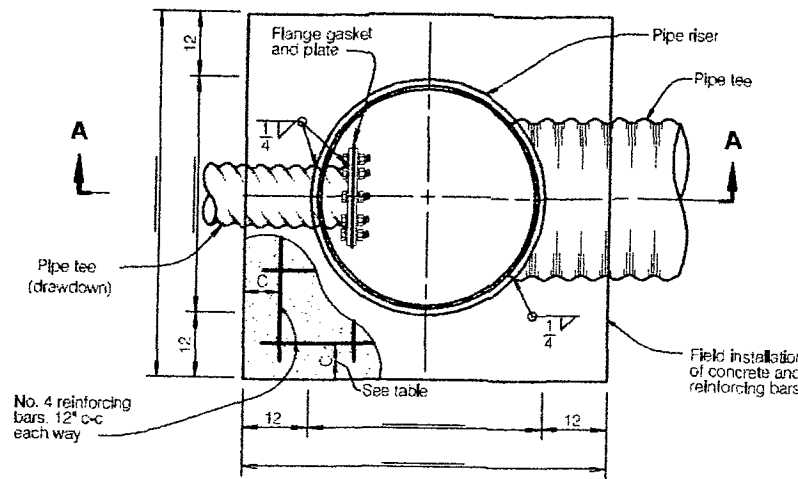
DRAWDOWN TRASH RACK ROD LENGTHS

PIPE DIA. INCHES	* ROD LENGTH INCHES	** CIRCULAR ROD LENGTH-INCHES
8	30	35
10	37	41
12	44	47
15	54	57

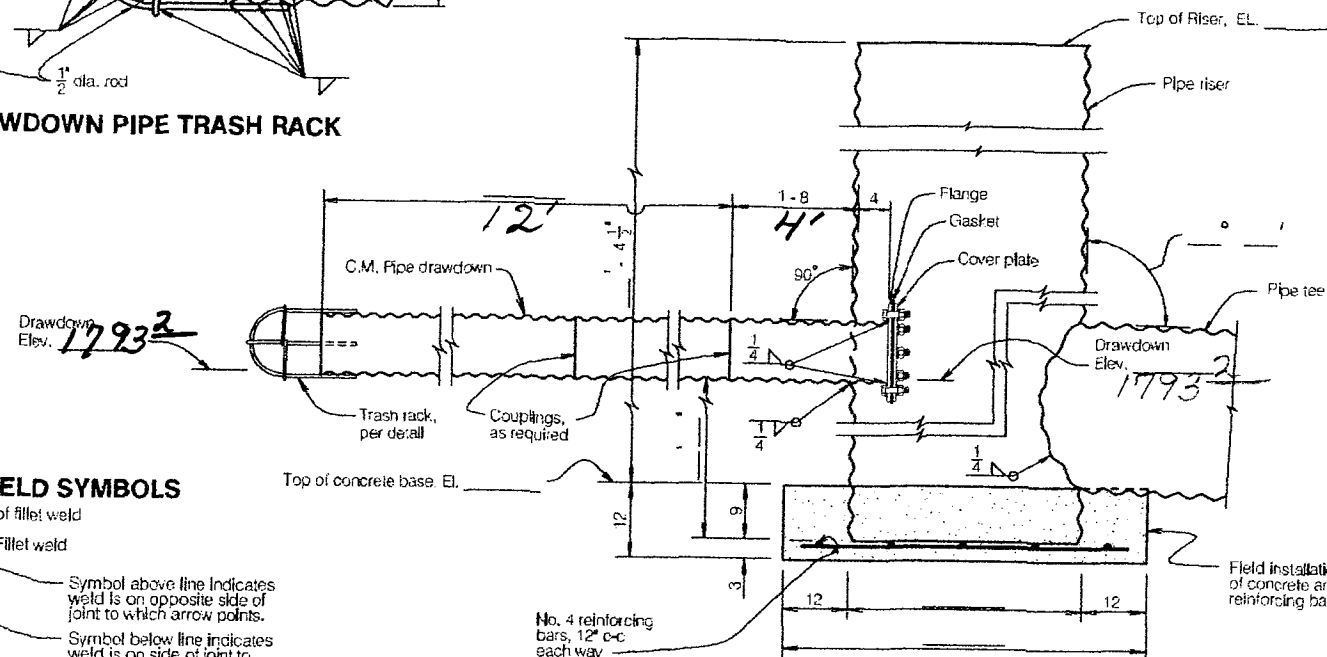
* 2 RODS REQUIRED.
 ** APPROXIMATE 2" LAP.
 RODS TO BE ZINC COATED OR PAINTED
 ACCORDING TO SPECIFICATIONS.
 1/2" DIA. ROD = 0.668 LB./FT.



DRAWDOWN PIPE TRASH RACK

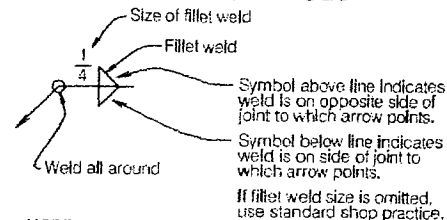


PLAN



SECTIONAL ELEVATION A-A RISER DETAIL

WELD SYMBOLS



NOTE:
 ALL WELDS AND HEAT AFFECTED AREAS TO BE TREATED
 IN ACCORDANCE WITH SPECIFICATIONS.
 MATERIALS NOT COATED OR GALVANIZED SHALL BE PAINTED
 ACCORDING TO PAINT SYSTEM "C" OF PAINT SPECIFICATIONS.

PIPE FLANGE NOTE:

USE 1/2" FLANGE ON 12" DIA. DRAWDOWN. FLANGE DIA., BOLT SIZE AND
 PATTERN SHALL BE ACCORDING TO AWWA C-207, CLASS B. PROVIDE A 1/4" THICK
 PLATE, SAME DIA. AS FLANGE WITH HOLES DRILLED TO MATCH HOLES IN FLANGE.
 PROVIDE NEOPRENE GASKET TO FIT BETWEEN PLATE AND FLANGE. FASTEN PLATE
 TO FLANGE WITH 8 - 1/2" DIA. x 2" GALVANIZED BOLTS AND WASHERS.

FABRICATION AND INSTALLATION NOTES:

FOR FABRICATION OF RISERS ON HELICAL PIPE A
 FILLER STRIP MAY BE USED TO INSURE A WATERTIGHT
 SEAL BETWEEN THE RISER AND TEE.

TABLE OF QUANTITIES FOR CONCRETE RISER BASE

DIA. OF RISER IN INCHES	30	36	42	48	54	60	66	72
CONCRETE, CU.YDS.	0.75	0.93	1.12	1.33	1.56	1.81	2.08	2.37
NO. 4 REINFORCING BAR, LIN.FT.	40	45	60	66	84	91	112	120
LENGTH OF EACH BAR, FT.-IN.	4-0	4-6	5-0	5-6	6-0	6-6	7-0	7-6
TOTAL NUMBER OF BARS	10	10	12	12	14	14	16	16
TOTAL WEIGHT - NO. 4 BARS, LBS.	26.7	39.0	40.1	44.1	56.1	60.8	74.8	80.2

TABLE FOR DIMENSION C

DIA. OF RISER IN INCHES	30	36	42	48	54	60	66	72
C SPACING IN INCHES	3	6	3	6	3	6	3	6

NO. 4 REINFORCING BAR = 1/2 IN. DIA. = 0.668 LBS./LIN.FT.

REQUIREMENT TABLE

☒ IN BOX INDICATES THE REQUIREMENTS THAT APPLY TO STRUCTURE ☒ INDICATES - NOT APPLICABLE			
CONCRETE: CLASS	☐ 3000 ☐ 3000M ☐ 4000	CLAYD.	
REINFORCING STEEL:	LB.		
RISER: CORRUGATED METAL PIPE, ZINC COATED STEEL, _____" DIA., _____ GA., _____ FT. NOMINAL LENGTH WITH A _____" DIA., _____ GA. PIPE TEE, _____ FT. NOMINAL LENGTH WELDED TO IT 9" FROM THE LOWER END, AND A _____" DIA., _____ GA. PIPE TEE 2'-0" NOMINAL LENGTH WELDED TO IT _____" FROM THE LOWER END AND PIPE FLANGE.			
DRAWDOWN: CORRUGATED METAL PIPE, ZINC COATED STEEL, _____" DIA., WITH COUPLING(S), AND TRASH RACK, PER DETAILS			
TOTAL LIN.FT. (EXCLUDING TEE) = _____			
PIPE CLASSIFICATION	RISER	PIPE TEE	DRAW DOWN
TYPE I FULL CIRCULAR CROSS-SECTION FABRICATED WITH:			
☐ ANNULAR CORRUGATIONS	☐	☐	☒
☐ CLOSE RIVETED OR ☐ STANDARD RIVETED	☐	☐	☐
☐ HELICAL CORRUGATIONS	☐	☐	☐
CORRUGATION REQUIREMENTS			
NOMINAL SIZE (INCH)			
☐ 1 1/2 x 1/4 (AVAILABLE ONLY IN HELICALLY CORRUGATED PIPE)	☐	☐	☐
☐ 2 2/3 x 1/2	☐	☐	☐
☐ 3 x 1	☐	☐	☒
☐ 5 x 1	☐	☐	☒
COATINGS AND FABRICATION			
SEE COUPLING BAND AND METAL PIPE REQUIREMENTS SHEET			

NOTE:

THE FOLLOWING DESIGNATIONS FOR PIPE CLASSIFICATIONS, CORRUGATIONS
 AND COATINGS WHEN REFERRED TO ON THE DRAWINGS ARE IN ACCORDANCE
 WITH CURRENT ASTM'S:

A760 STANDARD SPECIFICATION FOR CORRUGATED STEEL
 PIPE, METALLIC-COATED.

A761 STANDARD SPECIFICATION FOR STEEL, GALVANIZED
 CORRUGATED STRUCTURAL PLATES AND FASTENERS.

A762 STANDARD SPECIFICATION FOR CORRUGATED STEEL
 PIPE, POLYMER PRECOATED FOR SEWERS AND DRAINS.

A849 STANDARD SPECIFICATION FOR POST-COATED AND LINED
 CORRUGATED STEEL SEWER AND DRAINAGE PIPE (BITUMINOUS
 OR CONCRETE)

A885 STANDARD SPECIFICATION OF STEEL SHEET, ZINC AND
 ARAMID FIBER COMPOSITE-COATED FOR CORRUGATED STEEL
 SEWER, CULVERT AND UNDERDRAIN PIPE.

Draw Down
 Details

Job Plan-101

CONCRETE BASE METAL PIPE RISER
 AND FLANGE DRAWDOWN FACILITY

Date

Designed

Drawn

Checked

Approved

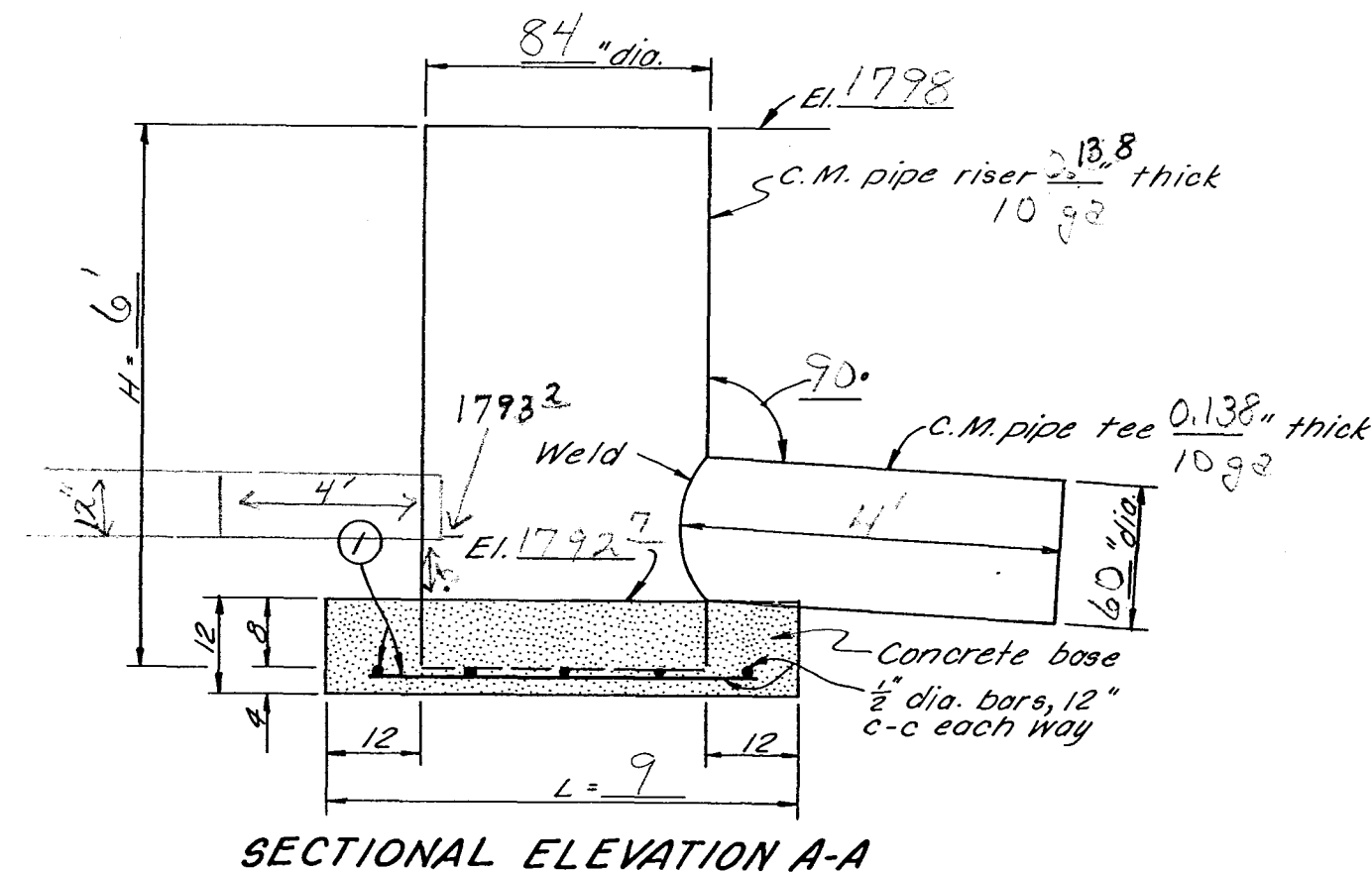
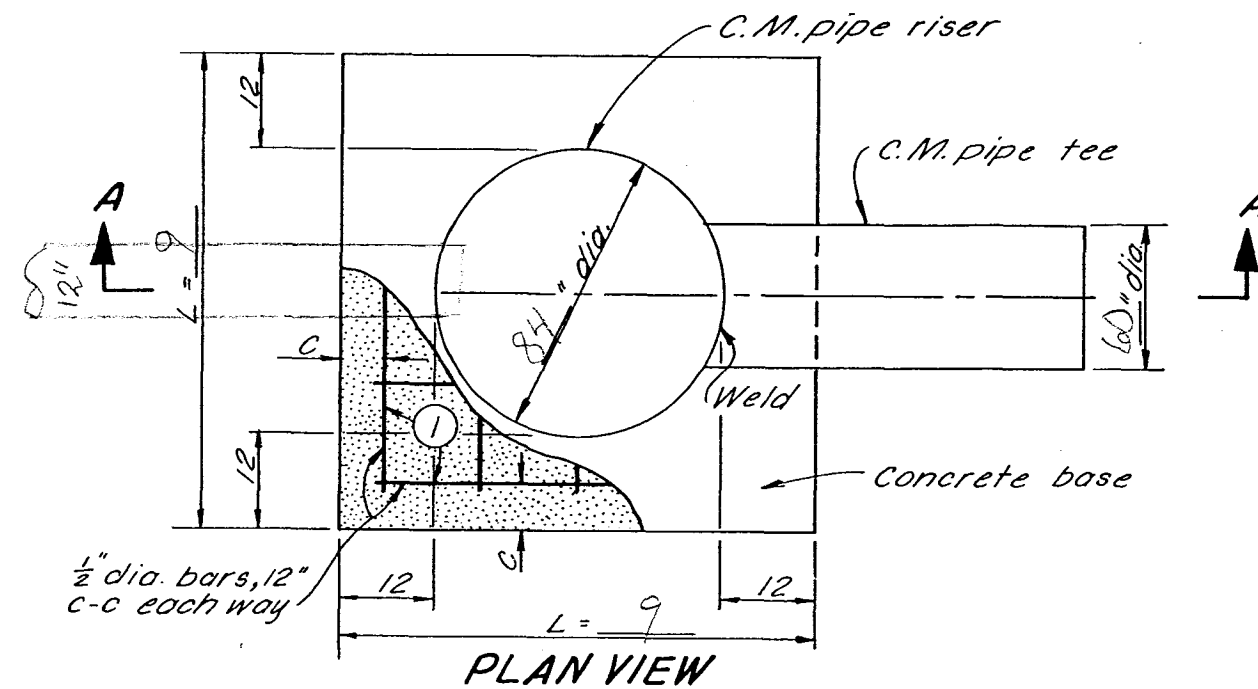
Robert Carrion

NRCS
 Natural Resources Conservation Service

CAD Dwg
 NE100-10-004.dwg

Design Class:

Sheet of



STEEL SCHEDULE

RISER DIA. IN.	BAR SIZE	MARK	TYPE	NO. REQ'D.	LENGTH FT.-IN.	TOTAL LENGTH FT.-IN.	TOTAL WT. LB.	C IN.	L FT.-IN.
84	4	I	STR.	18	8-5	153	123	6	9

TABLE OF QUANTITIES

ITEM	UNIT	QUANTITY
CONCRETE	CU. YD.	3
REINFORCING STEEL	LB.	153

NOTE: All pipe to be vinyl clad and spiral or couked seam and double riveted.

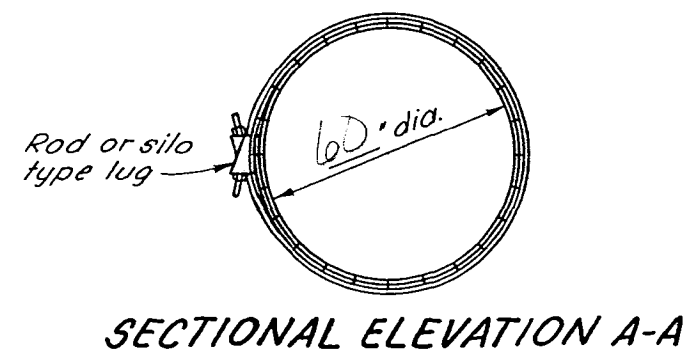
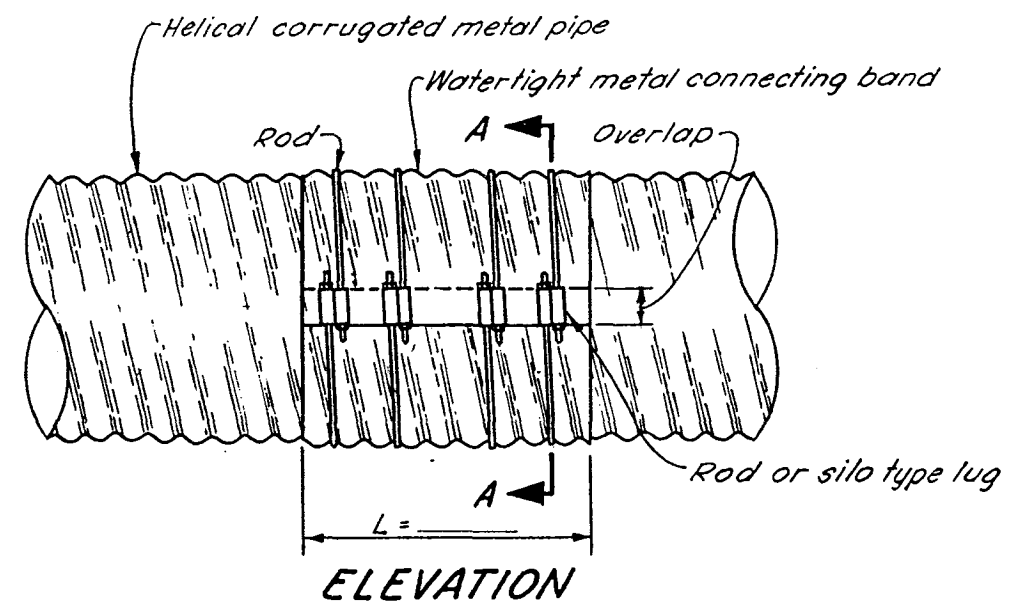
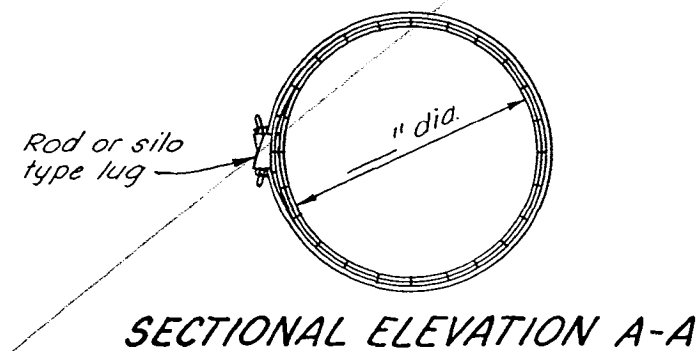
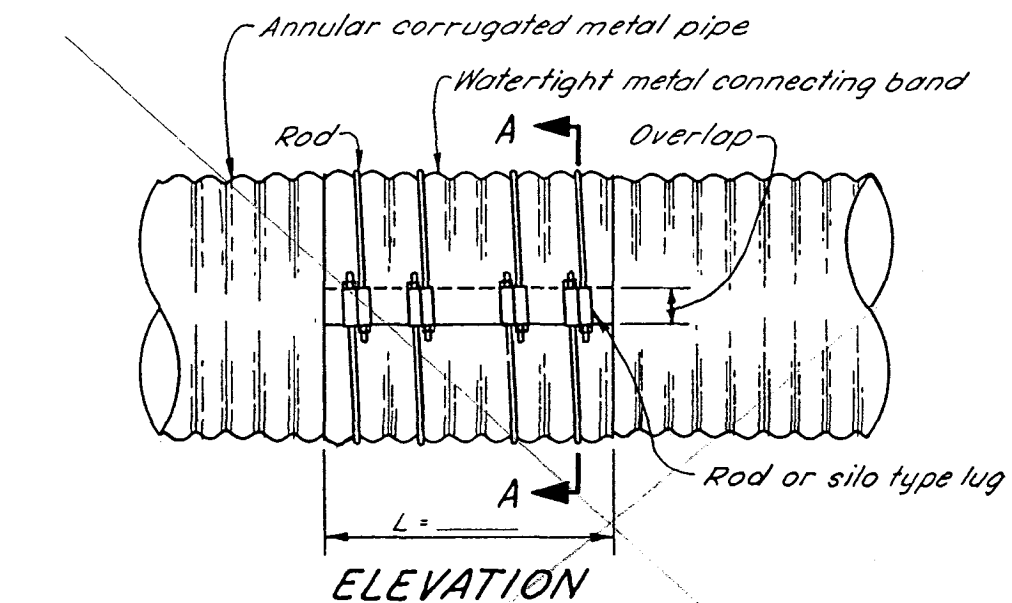
C.M. PIPE RISER WITH FABRICATED TEE

OPERATOR: Robert Cannon	
CONSERVATION DISTRICT: _____	
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	
Date _____	Approved by _____
Designed _____	Title _____
Drawn _____	Title _____
Traced _____	Sheet _____
Checked _____	Drawing No. _____

REFERENCE: GUIDE PLAN NO. 5.3

JOB PLAN NO. 5.3

5,N-29,073.5-30



DIMENSIONS AND QUANTITIES

PIPE DIA. INCHES	MINIMUM "L" INCHES	APPROX. OVERLAP INCHES	NUMBER OF RODS & LUGS	MINIMUM ROD DIA. IN.	NEOPRENE GASKET WIDTH INCHES	ASPHALT MASTIC GAL.
6-18	12	2	2	1/2	12	1/2
21-30	24	3	4	1/2	12	1 1/2
36-48	24	6	4	1/2	12	2
60	24	6	4	1/2	12	3

NOTES:

1. WATERTIGHTNESS WILL BE OBTAINED BY USE OF (1) 3/8" THICK NEOPRENE GASKET (WIDTH AS SHOWN) OR (2) ASPHALT MASTIC SEALING MATERIAL TO COVER FULL WIDTH OF BAND.
2. CROSS OUT BAND AND QUANTITIES NOT APPLICABLE.

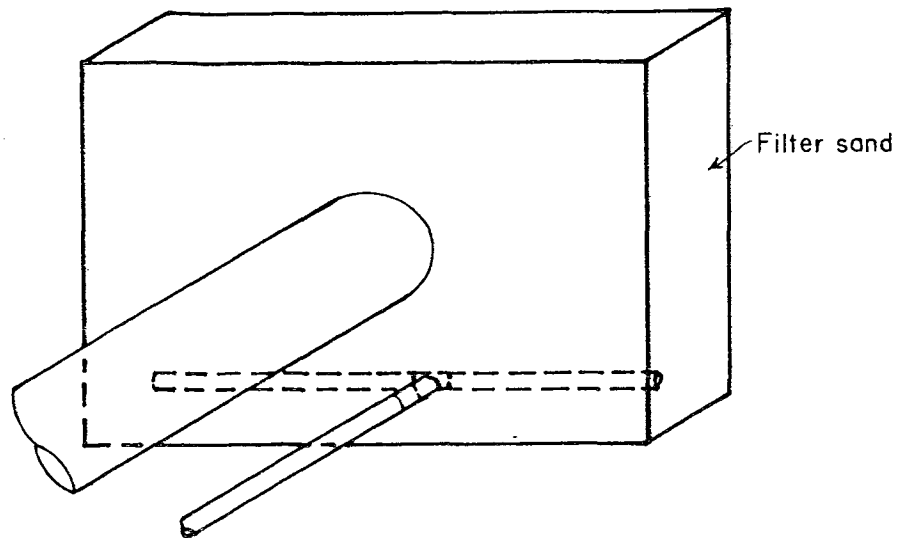
WATERTIGHT CONNECTING BAND FOR ANNULAR AND HELICAL CORRUGATED METAL PIPE

OPERATOR: Robert Cannon

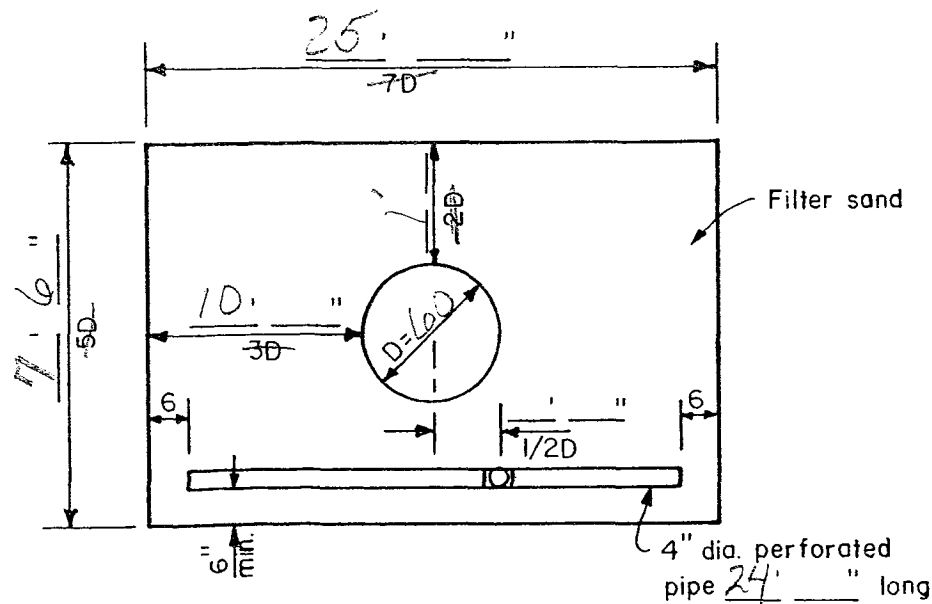
CONSERVATION DISTRICT: _____

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Date	Approved by
Designed	Title
Drawn	Title



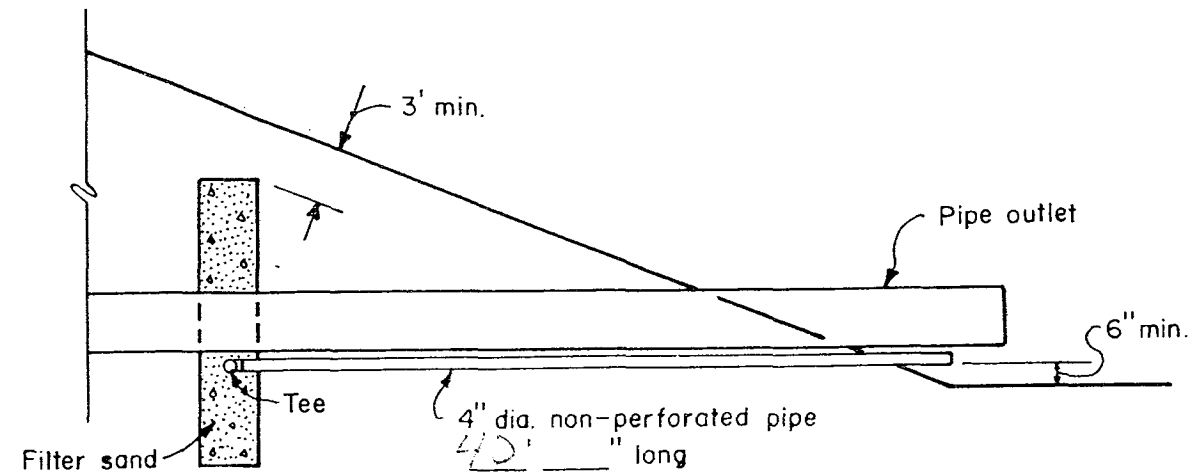
ISOMETRIC VIEW



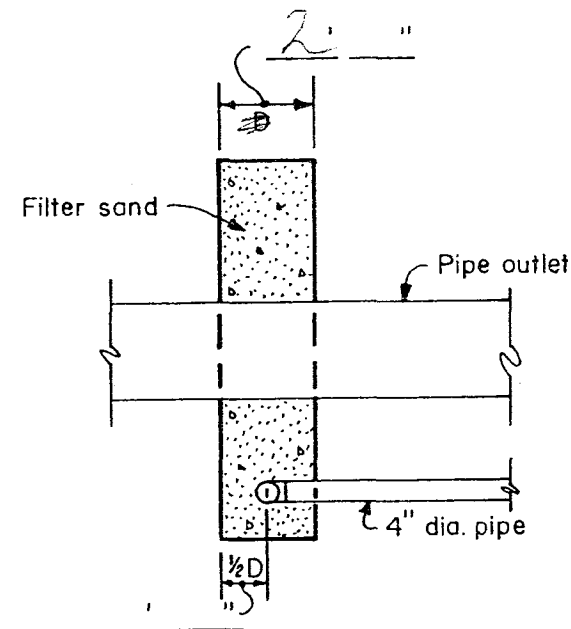
UPSTREAM VIEW

NOTE:

1. THE 4" DIA. PIPE SHALL BE ASTM D1785, SCHEDULE 40, PVC.
2. PROVIDE AN ANIMAL GUARD ON DRAIN OUTLET PIPE. DRILL 2, 1/2" DIA. HOLES, ON $\frac{1}{2}$ " 6" FROM END OF PIPE AND PLACE A 3/8" DIA., 5 1/2" LONG GALVANIZED STEEL BOLT THRU THEM AND SECURE WITH A NUT (PLACE BOLT HORIZONTAL).



OUTLET DETAIL



SIDE VIEW

FILTER GRADATION

SIEVE SIZE	PERCENT PASSING
3/8	100
4	95-100
8	80-100
16	50-85
30	25-60
50	10-30
100	2-10

see spec SD-9
14cy

Sec. _____, T. _____, R. _____

_____ County

LOCATION

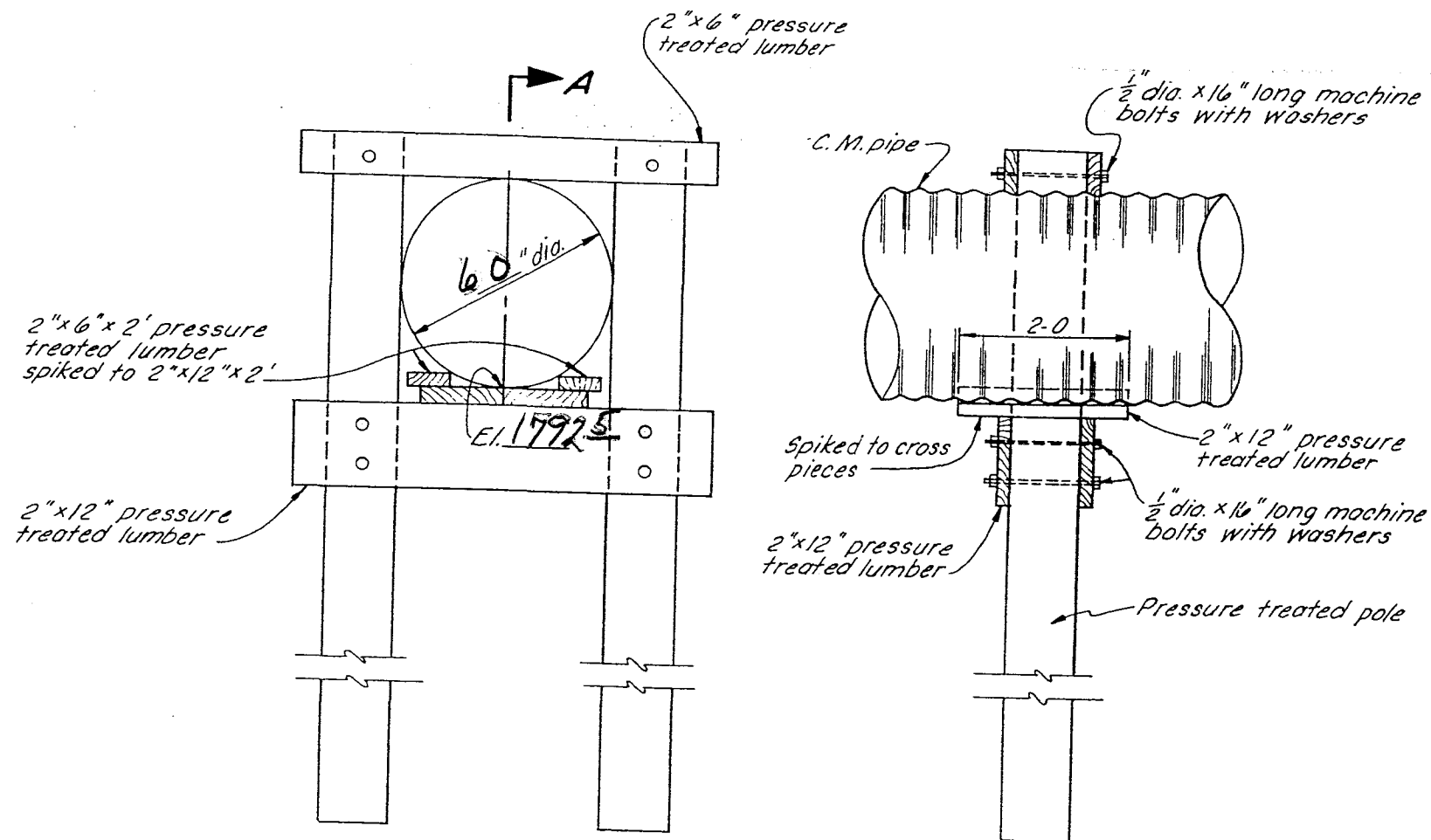
SAND ANTISEEP COLLAR

OPERATOR Robert Cannon

CONSERVATION DISTRICT _____

Designed _____	Date _____	Approved by _____
Drawn _____		Title _____
Traced _____		Title _____
Checked _____	Sheet _____	Drawing No. _____
	No _____	
	of _____	

JOB PLAN NO. 3.8



ELEVATION

SECTIONAL ELEVATION A-A

TABLE OF QUANTITIES

ITEM	LENGTH FOR 60" DIA. C.M. PIPE	UNIT	QUANTITY
PRESSURE TREATED POLE 10" DIA.	12	EACH	2
2" X 12" PRESSURE TREATED LUMBER	8	EACH	2
2" X 6" PRESSURE TREATED LUMBER	8	EACH	2
2" X 12" PRESSURE TREATED LUMBER	2	EACH	4
2" X 6" PRESSURE TREATED LUMBER	2	EACH	2
1/2" DIA. MACHINE BOLTS WITH NUTS	1-4	EACH	10
1/2" DIA. WASHERS		EACH	20

REFERENCE: GUIDE PLAN NO. 4.0

NOTES:

- HAND OR MACHINE TAMP BACKFILL THOROUGHLY AROUND FOOTINGS AND COLUMNS.

TIMBER PIPE SUPPORT

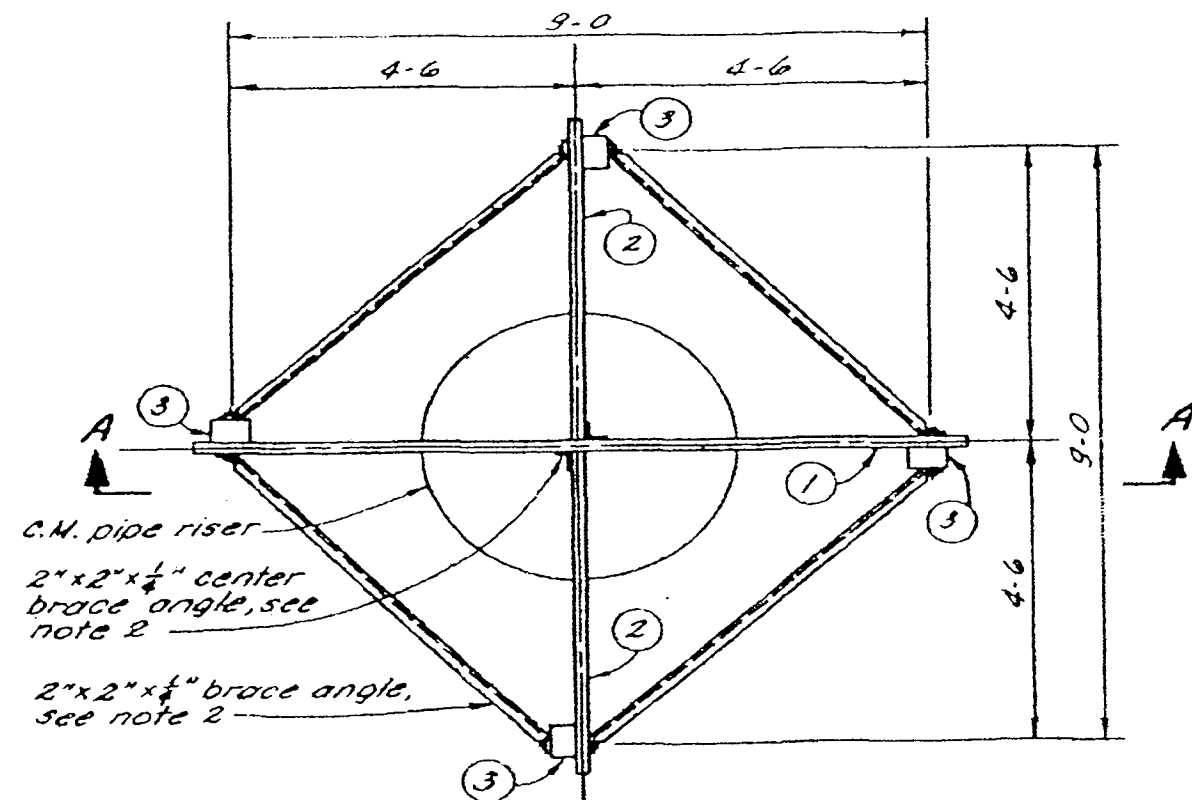
OPERATOR: Robert Cannon

CONSERVATION DISTRICT: _____

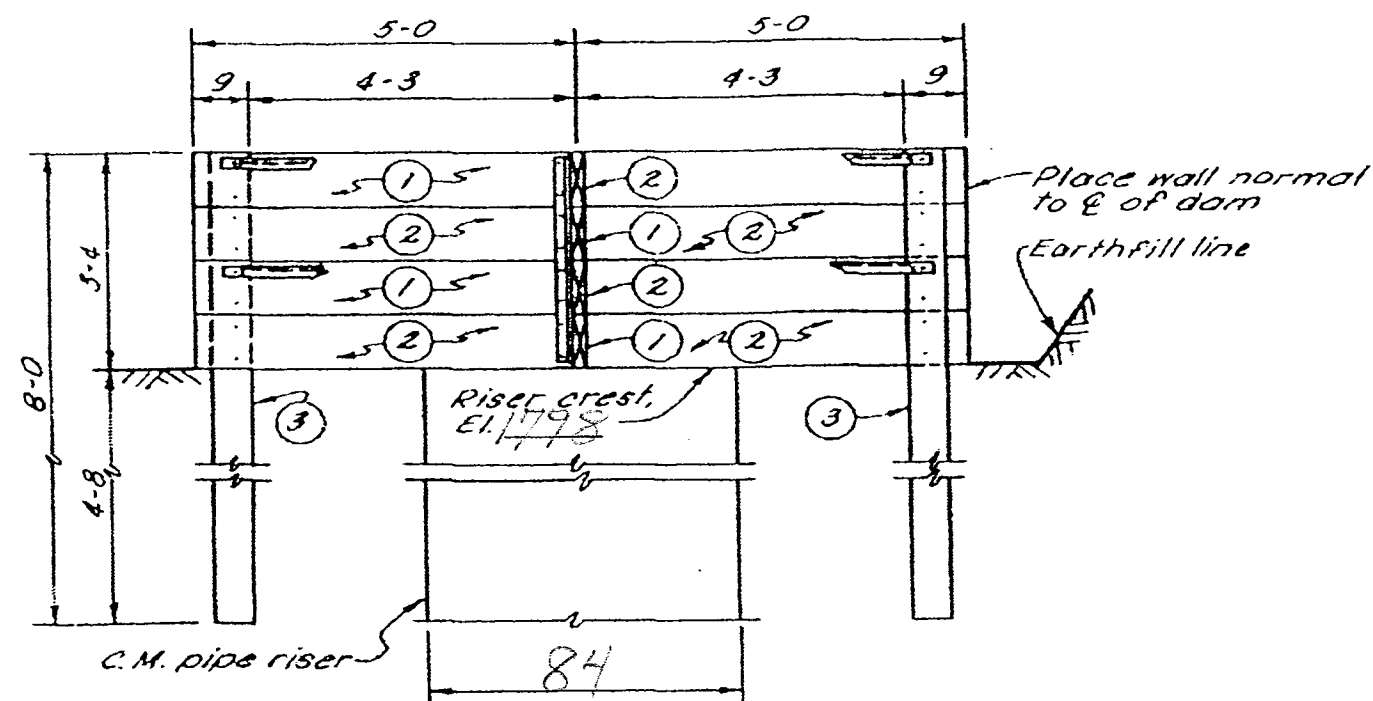
Date _____		Approved by _____	
Designed _____		Title _____	
Drawn _____		Title _____	
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JOB PLAN NO. 4.0

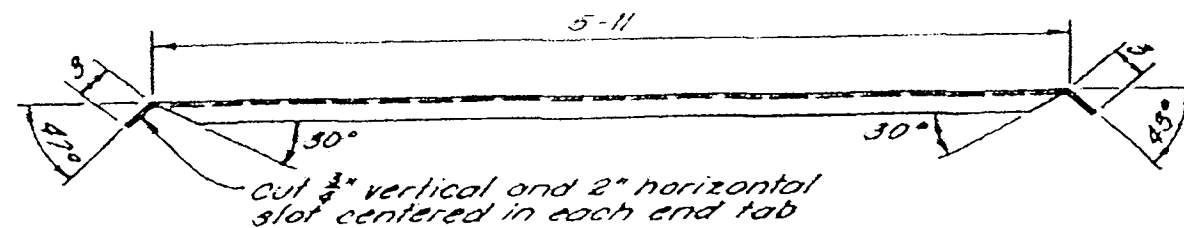
5, N-29,073.4a



PLAN VIEW



SECTIONAL ELEVATION A-A



PLAN VIEW OF BRACE ANGLE

TABLE OF QUANTITIES

ITEM	MARK	NO. REQ'D.	QUANTITY
2" X 10" X 10' PRESSURE TREATED LUMBER	1	4	67 BD. FT.
2" X 10" X 4'-11" PRESSURE TREATED LUMBER	2	8	66 BD. FT.
4" X 6" X 8' PRESSURE TREATED POST	3	4	64 BD. FT.
2" X 2" X 1/4" X 6'-5" STEEL ANGLE		8	164 LB.
2" X 2" X 1/4" X 3'-2" STEEL ANGLE		2	20 LB.
5/8" X 8" STEEL BOLTS, NUTS, 2 WASHERS		32	32 SETS
1/2" X 3" STEEL BOLTS, NUTS, 2 WASHERS		32	32 SETS

NOTES:

1. TO 4" X 6" POSTS (4 REQUIRED) BOLT 2" X 10" BOARDS USING TWO 5/8" X 8" BOLTS PER 2" X 10" BOARD. DO NOT PLACE BOLTS CLOSER THAN 1 1/2" FROM EDGE OF BOARD.
2. FOR CENTER BRACE ANGLES DRILL 8 - 9/16" HOLES 5/8" FROM OUTER EDGE OF EACH LEG OF EACH ANGLE AND CENTERED 5 1/4" APART ALONG THE LEG.
3. ATTACH BRACE ANGLES TO TOP BOLT ON TOP 2" X 10" BOARD AND TO TOP BOLT ON NEXT TO BOTTOM BOARD.

TRASH RACK AND BAFFLE
FOR RISER DIA. 36" THRU 60"

OPERATOR: Robert Cannon
CONSERVATION DISTRICT: _____

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed _____	Date _____	Approved by _____
Drawn _____		Title _____
Traced _____		Title _____
Checked _____		Title _____

JOB PLAN NO. 6.4

5, N-29, 073.6-40

Water Permit Application No. 2639-2
Robert Cannon

Top of Dam Elev. - 1804.5
2nd Spillway Elev. - 1801
P. Spillway Elev. - 1798
O/S Emb Toe Elev. - 1792

Cat. 3 - Low Hazard Dam

- Ht. = 12.5 ft

Normal Storage Capacity - 83 A.-Ft
Int. Storage Capacity - 204 A.-Ft
Max Storage Capacity - 485 A.-Ft

Int. Capacity $\times$ Eff. Ht. = $204 \times 10.9 = 2223 < 3000 \therefore 25 \text{ yr}$
Minimum Spillway Design

From USGS NRI 98-4055 "Tech for Est Flood Peaks ... in SD"
Region C

$CA = 10752 \text{ Ac} = 16.8 \text{ mi}^2$ (Produces High Flood Expected Peaks when $CA > 15 \text{ mi}^2$)

$$\begin{aligned} Q_{25} &= 207 CA^{.573} \\ &= 207 (16.8)^{.573} \\ &= 207 (5.0362) \\ &= \underline{1042 \text{ cfs}} \end{aligned}$$

$$\begin{aligned} Q_{100} &= 379 CA^{.566} \\ &= 379 (16.8)^{.566} \\ &= 379 (4.9377) \\ &= \underline{1871 \text{ cfs}} \end{aligned}$$

Secondary Spillway Capacity

$$\begin{aligned} Q &= CLH^{3/2} \quad C=2.6 \\ &= (2.6)(200)(3.5)^{1.5} \quad L=200 \\ &= \underline{3400 \text{ cfs}} \quad H=3.5 \end{aligned}$$

NRCS Annual Yield

Section 74:02:08:09

$DA=10,752 \quad CN=70 \quad ISO=2\frac{1}{2}$

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

$$\begin{aligned} 80\% \text{ chance} &= 0.09 \\ 0.09 \times 10752^{1/2} &= \underline{80 \text{ A.-Ft}} \end{aligned}$$

$$\begin{aligned} 50\% \text{ chance} &= 0.27 \\ 0.27 \times 10752^{1/2} &= \underline{242 \text{ A.-Ft}} \end{aligned}$$

$$\begin{aligned} 10\% \text{ chance} &= 1.6 \\ 1.6 \times 10752^{1/2} &= \underline{1434 \text{ A.-Ft}} \end{aligned}$$

File No. XXX

Water Rights Division -DENR
Conversation or File Documentation

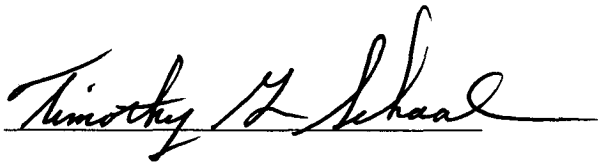
NAME OF PERSON OR FILE: Robert Cannon

ADDRESS: XXXXXXXXXXXXXXXX COUNTY: Lyman

DATE: October 29, 2008 TELEPHONE: XXXXXXX

RE: proposed dam location

I talked to Dave Konechne today about the location of the proposed dam for the Robert Cannon Water Permit Application. He agreed with me that the location should be the SW ¼ SE ¼ of Section 26-T104N-R77W, instead of the SE ¼ SW ¼ as described on the application.

A handwritten signature in black ink, reading "Timothy G. Schaal", written over a horizontal line.

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



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2639-2, Robert Cannon**

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. 2639-2, Robert Cannon, PO Box 2086, Rock Springs WY 82902.

The Chief Engineer is recommending APPROVAL of Application No. 2639-2 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. 2639-2 authorizes a dam with a storage capacity of 83.0 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
December 23, 2008

REPORT ON
WATER PERMIT APPLICATION No. 2639-2
Robert Cannon
December 16, 2008

Water Permit Application No. 2639-2 has been filed by Robert Cannon to impound 83 acre-feet of water from runoff by reconstructing a dam located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 26-T104N-R77W, in Lyman County. The application also requests impoundment of sufficient water to maintain water to the outlet elevation. The water will be used for fish and wildlife production, recreation and livestock water purposes.

Discussion:

The dam will be classified as a small size, Category 3, Low Hazard dam. The dam has been designed by Konechne Engineering. The plans and specifications have been reviewed and will be approved; however, construction of the dam can not begin until Water Permit Application No. 2639-2 is approved.

The reconstructed dam will be 12.5 feet high with a normal storage capacity of 83 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 485 acre-feet with a reservoir level at the top of dam elevation. A dam of this size and hazard classification is required to have a minimum spillway design capable of passing a 25-year frequency event.

The dam has a drainage area of 10,752 acres or 10.68 square miles. The dam is designed to have an 84 inch diameter CMP riser with a 60 inch diameter CMP barrel and 6.5 feet of freeboard as the primary spillway, and a 200 foot wide earthcut secondary spillway with 3.5 feet of freeboard. A 25 year frequency event produces a peak runoff of approximately 1040 cfs and a 100 year frequency event produces a peak runoff of approximately 1870 cfs. The earthcut spillway will have a capacity of approximately 3400 cfs.

The annual yield for this drainage area with an 80 percent chance of occurrence, or 8 out of 10 years, is expected to be 80 acre-feet. The annual yield with a 50 percent chance of occurrence, or 1 out of 2 years, is expected to be 242 acre-feet and the annual yield with a 10 percent chance, or 1 out of 10 years, is expected to be 1434 acre-feet.

The Cannon Dam will be located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 26-T104N-R77W on Mill Iron Creek, about 6 miles upstream of the confluence of Mill Iron Creek and the White River. The Ramser Dam (SD ID No. 02382) is located on Mill Iron Creek, about one-half mile downstream of the proposed reconstructed dam. In 1994, Velda Ramser filed Water Right No. 2303-2 to repair a breached WPA dam (Sweeney Dam). This repair project was partnered with SD Game, Fish and Parks and Ducks Unlimited, Inc. The Ramser Dam has a storage capacity of 72 acre-feet of water with a reservoir level at the primary spillway elevation. Water Right No. 2303-2 was transferred to Dakota Outback, c/o Paul Barber, in 1998.

A Water Right or Location Notice was never filed for the dam associated with Water Permit Application No. 2639-2. It is not very clear when the dam was constructed or when it breached; however, from existing county and topographic maps, it is clear that at one time both dams existed at the same time. With the expected 50 percent chance annual yield of 242 acre-feet of water there should be enough water available for both dams. If not, the upstream dam is designed to have a 12 in. diameter CMP low level bypass pipe constructed within the primary spillway drop inlet structure to allow bypass of flows to satisfy downstream Water Rights and domestic use.

Conclusions:

1. Water Permit Application No. 2639-2 should be approved since unappropriated water is available and approval should not have any adverse effect on existing Water Permits/Rights.
2. If approved, the low flow bypass requirement for prior downstream Water Rights and domestic use should be a qualification on Water Permit Application No. 2639-2.

A handwritten signature in black ink, reading "Timothy G. Schaal". The signature is fluid and cursive, with the first name "Timothy" and last name "Schaal" clearly legible.

Timothy G. Schaal, P.E.

Natural Resources Engineering Specialist

Publisher's Affidavit of Publication

RECEIVED

JAN 23 2009

WATER RIGHTS
PROGRAM

OK

STATE OF SOUTH DAKOTA)
)SS
COUNTY OF LYMAN)

Connie Penny, of said county and state being duly sworn on her oath says: The Lyman County Herald is a weekly newspaper of general circulation and published in Presho, Lyman County, and State of South Dakota; and has been such newspaper during the times hereinafter mentioned; That said newspaper is a legal weekly, that it has a bonafide circulation of more than 200 copies weekly, that it has been published within said County of Lyman more than fifty-two successive weeks next prior to publication of the notice hereinafter mentioned and maintained at the place of publication; That I, the undersigned am editor of said newspaper, in charge of the advertising department thereof, and have personal knowledge of all the facts stated in this affidavit; that the advertisement headed:

Notice of Application
88 lines

a printed copy of which is hereto attached and published in the said newspaper for 2 consecutive week(s).

The first publication of said notice in said newspaper aforesaid was on Wednesday, the 7 day of Jan, A.D., 2009
and that the succeeding publications were severally
Wednesday, the 14 day of Jan, A.D., 2009
Wednesday, the _____ day of _____, A.D., 2009
Wednesday, the _____ day of _____, A.D., 2009
Wednesday, the _____ day of _____, A.D., 2009
Wednesday, the _____ day of _____, A.D., 2009
Wednesday, the _____ day of _____, A.D., 2009
Wednesday, the _____ day of _____, A.D., 2009
Wednesday, the _____ day of _____, A.D., 2009
Wednesday, the _____ day of _____, A.D., 2009

and the last publication on Wednesday, the 14 day of Jan, 2009, that the full sum of fees charged for publishing the same, to-wit; the sum of \$ 52.42 insures solely to the editor of The Lyman County Herald. That no agreement or understanding for any division thereof had been made with any other person, and that no part thereof has been agreed to be paid to any person whatsoever.

Connie Penny
me & son

Notary Public

Subscribed and sworn to before me this 22 day of Jan, 2009
MICHAEL J. SPRENGER
My Commission expires NOTARY PUBLIC - SOUTH DAKOTA, 2009
My Commission Expires
March 27, 2009

NOTICE OF APPLICATION NO. 2639-2 to Appropriate Water

Notice is given that Robert Cannon, PO Box 2086, Rock Springs WY 82902 has filed an application for a water permit to impound 83 acre-feet of water from Mill Run Creek by reconstructing a dam located in the SW 1/4 SE 1/4 Section 26 with water impounded in the SW 1/4 SE 1/4, E 1/2 SE 1/4 Section 26, all in T104N-R77W. This application requests impoundment of sufficient water to maintain water to the outlet elevation. The water is for fish and wildlife propagation, recreational use and livestock water purposes.

Pursuant to SDCI, 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2639-2 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 SDCI, 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice

of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or 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, Fox 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 January 26, 2009.

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

1/7, 4/14



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

December 29, 2008

Lyman County Herald
PO Box 518
Presho SD 57568

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 2639-2 to Appropriate Water to be published twice. Please publish the first notice on January 7, 2009 with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Robert Cannon, PO Box 2086, Rock Springs WY 82902 (Ph # 307-350-4756).

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

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

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

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

No. 2639-2

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

Date _____

We are in receipt of your letter of December 29, 2008 enclosing Notice to Appropriate Water by Application No. 2639-2 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

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

December 29, 2008

Robert Cannon
PO Box 2086
Rock Springs WY 82902

Dear Mr. Cannon:

Water Permit Application No. 2639-2 for recreational and livestock use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Publisher of the Lyman County Herald printed at Presho SD (Ph # 605-895-6397). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,


Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

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

Instruction to Newspaper - Publish first Notice on January 7, 2009 with the second publication 7 days later. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

NOTICE OF APPLICATION NO. 2639-2 to Appropriate Water

Notice is given that Robert Cannon, PO Box 2086, Rock Springs WY 82902 has filed an application for a water permit to impound 83 acre-feet of water from Mill Iron Creek by reconstructing a dam located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 26 with water impounded in the SW $\frac{1}{4}$ SE $\frac{1}{4}$, E $\frac{1}{2}$ SE $\frac{1}{4}$ Section 26; all in T104N-R77W. This application requests impoundment of sufficient water to maintain water to the outlet elevation. The water is for fish and wildlife propagation, recreational use and livestock water purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2639-2 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or 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 January 26, 2009.

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



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

December 24, 2008

Paul Barber
Dakota Outback
3315 Flint Drive
Rapid City SD 57702

Dear Mr. Barber:

Please find enclosed the staff report, recommendation and public notice on Water Permit Application No. 2639-2 filed by Robert Cannon to reconstruct a dam in Lyman County. The notice is scheduled to be published in the Lyman County Herald on January 7 and 14, 2009.

This information is being sent to you as holder of a water right for a dam located downstream of this project.

Sincerely,

Eric Gronlund
Water Rights Program, DENR
605 773-3352
eric.gronlund@state.sd.us



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

December 29, 2008

Robert Cannon
PO Box 2086
Rock Springs, WY 82902

Dear Mr. Cannon:

We have reviewed the plans and specifications for your dam project located in the SW ¼ SE ¼ of Sec. 26-T104N-R77W, in Lyman County. The plans and specifications for the reconstruction of the dam are approved. Approval of the plans and specifications does not authorize reconstruction of the dam. The reconstruction of the dam may not begin until Water Permit No. 2639-2 is approved.

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

The dam will be classified as a small size Category 3, Low Hazard dam with a dam height of 12.5 ft. and a normal storage capacity of 83 acre-feet and a maximum storage capacity of 485 acre-feet.

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

Sincerely,

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

c: Dave Konechne, Konechne Engineering

RECEIVED

JAN 21 2009

WATER RIGHTS
PROGRAM

Dakota Dagoba, L.L.C.
Paul J. Barber
3209 Broadmoor Drive
Rapid City, South Dakota 57702

Water Rights Program
FOSS Building
523 East Capital
Pierre, South Dakota 57501

January 20, 2009

RE: Application No. 2639-2

Dear Mr. Gronlund:

Please be advised that I am opposing the application No. 2639 as it would further restrict the already low water flow from Section 26 into Section 35 and section 2. Dakota Dagoba L.L.C. owns E ½ of Section 35 and SW 1/4 of Section 35 and all of Section 2. The Mill Iron Creek water shed has been unable to supply sufficient water to maintain any fishery and in the past several years has experienced absolute dry conditions both in both the Duck Unlimited Dam and a dugout further down stream in the SW ¼ of Section 35.

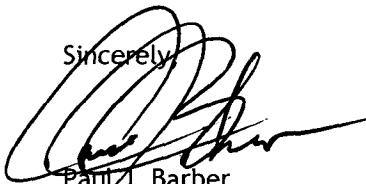
Due to the track of Mill Iron Creek, it is vitally important to our property and to our conservation efforts for wildlife. Mill Creek runs from the North to the South of the NE ¼ of Section 35 and East to West in the SE ¼ into the SW 1/4 for a total of 13,063 feet; then turning South again into Section 2 and continuing to meander South for more than another 1 mile or 6,950 feet to be exact.

As you can see, Mill Iron Creek travels through 20,013 feet of our property to the South of proposed project in Section 2.

Having grown up in South Dakota, I believe it is naïve to think that we will not experience any prolonged drought period. Under the current configuration, in general we will have a need for more water than Mother Nature will supply.

The E ½ of Section 26 already has several dams or dugouts enough to maintain sufficient water for all wildlife in that 1/2 section with repair or reservoir expansion having been done in 2008.

Sincerely,



Paul J. Barber
Dakota Dagoba, L.L.C.

Cc: Robert Cannon
P.O. Box 2086
Rock Springs, Wyoming 82902



**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 27, 2009

NOTICE

TO: Robert Cannon
PO Box 2086
Rock Springs WY 82902

Paul J. Barber
Dakota Dagoba, LLC
3209 Broadmoor Drive
Rapid City SD 57702

FROM: Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Notice of Hearing on Water Permit Application No. 2639-2, Robert Cannon

A petition opposing Water Permit Application No. 2639-2 has been filed by Paul J. Barber, Dakota Dagoba, LLC. The petition was filed in response to the Notice of Application to appropriate water which was published in the Lyman County Herald printed in Presho SD. This notice schedules a hearing on the application before the South Dakota Water Management Board.

Application No. 2639-2 proposes to impound 83 acre-feet of water from Mill Iron Creek by reconstructing a dam located in the SW 1/4 SE 1/4 Section 26 with water impounded in the SW 1/4 SE 1/4, E 1/2 SE 1/4 Section 26; all in T104N-R77W. This application requests impoundment of sufficient water to maintain water to the outlet elevation. The water is for fish and wildlife propagation, recreational use and livestock water purposes.

The Water Management Board will conduct a hearing to consider Application No. 2639-2 at 10:30 AM on Thursday, March 11, 2009 in the Floyd Matthew Training Center, Joe Foss Building, 523 E. Capitol Avenue, Pierre SD. Future notice will be provided to all parties if there are changes to the hearing time. Pursuant to SDCL 46-2-9, 46-2-11, and 46-2A-23, the Board has legal authority and jurisdiction to conduct this hearing.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2639-2 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. 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 the application based on the evidence presented at the public hearing.

The March 11, 2009, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any party of record opposing the application. The request for an automatic delay must be filed by March 2, 2009.

This hearing may be an adversarial proceeding. Any party of record 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.

Enclosed is a copy of the report, recommendation and petition in the matter of Water Permit Application No. 2639-2. State law directs the Chief Engineer to provide Water Management Board members with a copy of all pleadings including petitions for each proceeding. This same information will be sent to the Board members in advance of the hearing. In addition, enclosed are two documents intended to acquaint parties with the hearing process entitled "Procedure for Hearings before the Water Management Board" and "Summary of South Dakota Water Laws and Rules". You are encouraged to review these documents prior to the hearing.

The 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-23; 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.

Questions regarding the hearing process may be directed to Eric Gronlund, Water Rights Program at (605) 773-3352. In addition, please notify the Department of Environment and Natural Resources at least 48 hours before the hearing if you have a disability for which special arrangements must be made at the hearing.

c: Diane Best, Assistant Attorney General
Landon Lane, 1006 4th Avenue Dr. NW, Hickory NC 28601
John Luster, 601 Williams Avenue, Natchitoches, LA 71457

NOTE: Since this matter does not involve a monetary controversy in excess of \$2,500.00 or termination of a property right in accordance with SDCL 1-26-18.3, the Chief Engineer has determined this contested case need not be referred to the Office of Hearing Examiners. If any party disagrees with this determination, the Chief Engineer shall be notified by March 2, 2009.

CERTIFICATION

I hereby certify that on January 27, 2009, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated January 27, 2009, regarding hearing for Water Right Permit Application No. 2639-2, as addressed below:

Robert Cannon
PO Box 2086
Rock Springs WY 82902

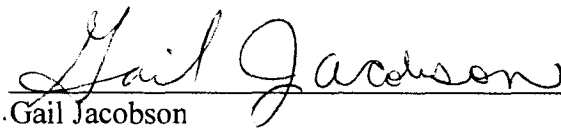
Paul J. Barber
Dakota Dagoba, LLC
3209 Broadmoor Drive
Rapid City SD 57702

Landon Lane
1006 4th Avenue Dr. NW
Hickory NC 28601

John Luster
601 Williams Avenue
Natchitoches, LA 71457

A copy of the above described Notice was sent Inter-office to:

Diane Best, Assistant Attorney General, 300 N. Dakota Ave., Suite 403, Sioux Falls SD 57104



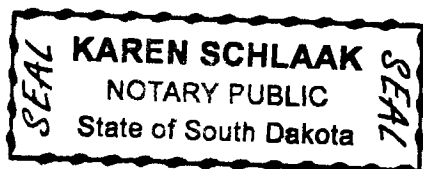
Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 28th day of January 2009.



Karen Schlaak
Notary Public
My Commission expires April 1, 2013





**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 4, 2009

NOTICE

TO: Robert Cannon
PO Box 2086
Rock Springs WY 82902

Paul J. Barber
Dakota Dagoba, LLC
3209 Broadmoor Drive
Rapid City SD 57702

FROM: Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Correction to Hearing on Water Permit Application No. 2639-2, Robert Cannon

The recent notice to parties in the matter of Application No. 2639-2 correctly identified the hearing date as March 11, 2009 but inadvertently listed the day as Thursday. The correct day of the week for March 11th is Wednesday.

The Water Management Board will conduct a hearing to consider Application No. 2639-2 at 10:30 AM on Wednesday, March 11, 2009 in the Floyd Matthew Training Center, Joe Foss Building, 523 E. Capitol Avenue, Pierre SD. Future notice will be provided to all parties if there are changes to the hearing time.

Applicable provisions of the notice, dated January 27, 2009, still apply. Please contact Eric Gronlund at (605) 773-3352 if you have questions regarding the hearing.

c: Diane Best, Assistant Attorney General
Landon Lane, 1006 4th Avenue Dr. NW, Hickory NC 28601
John Luster, 601 Williams Avenue, Natchitoches, LA 71457

CERTIFICATION

I hereby certify that on February 4, 2009, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated February 4, 2009, regarding the hearing date for Water Right Permit Application No. 2639-2, as addressed below:

Robert Cannon
PO Box 2086
Rock Springs WY 82902

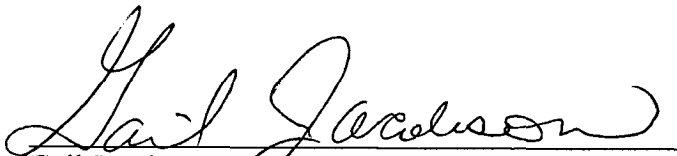
Paul J. Barber
Dakota Dagoba, LLC
3209 Broadmoor Drive
Rapid City SD 57702

Landon Lane
1006 4th Avenue Dr. NW
Hickory NC 28601

John Luster
601 Williams Avenue
Natchitoches, LA 71457

A copy of the above described Notice was sent Inter-office to:

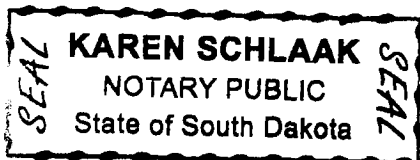
Diane Best, Assistant Attorney General, 300 N. Dakota Ave., Suite 403, Sioux Falls SD 57104


Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 4th day of February 2009.


Karen Schlaak
Notary Public
My Commission expires April 1, 2013



RECEIVED

FEB - 6 2009

WATER RIGHTS
PROGRAM



Reply to Rapid City Office

Writer's e-mail address: mhickey@bangsmccullen.com

February 5, 2009

Mr. Garland Erbele, Chief Engineer
Department of Environment and National Resources
Water Rights Program
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3182

Re: *In the Matter of the Application of Robert Cannon*
Application No. 2639-2

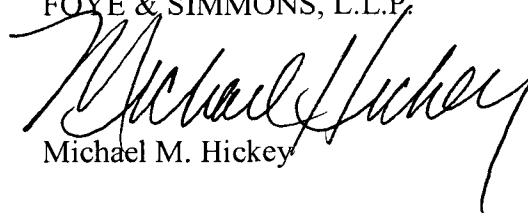
Dear Mr. Erbele:

Please find enclosed the original Notice of Appearance for the above-referenced matter. A copy has been sent to Robert Cannon, which is intended as service by U.S. Mail.

If you have any questions or comments, please advise. Thank you.

Sincerely,

BANG, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.



Michael M. Hickey

mmh:bah:sbh

Enclosure

cc: Client
Robert Cannon

RECEIVED

FEB - 6 2009

WATER RIGHTS
PROGRAM

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE)
APPLICATION OF ROBERT CANNON)
APPLICATION NO. 2639-2)

NOTICE OF APPEARANCE

PLEASE TAKE NOTICE that the undersigned represents Dakota Dagoba, LLC, in the above-entitled action and hereby makes formal appearance in this action. Please direct all copies of any future pleadings, affidavits or motions in this action to the undersigned.

Dated this 5th day of February, 2009.

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

BY:



MICHAEL M. HICKEY

Attorneys for Dakota Dagoba, LLC
333 West Blvd., Suite 400; P.O. Box 2670
Rapid City, SD 57709
Phone: (605) 343-1040

RECEIVED

FEB - 6 2009

WATER RIGHTS
PROGRAM

CERTIFICATE OF SERVICE

The undersigned hereby certifies that he served a copy of this legal document upon the persons herein next designated, all on the date below shown, by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, in envelopes addressed to said addressees, to wit:

**Garland Erbele, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol
Pierre, SD 57501**

**Robert Cannon
PO Box 2086
Rock Springs, WY 82902**

which are the last addresses of the addressees known to the subscriber.

Dated this 5th day of February, 2009.



MICHAEL M. HICKEY



**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 25, 2009

NOTICE

TO: Robert Cannon
PO Box 2086
Rock Springs WY 82902

Michael M. Hickey, Attorney
Bangs McCullen Law Firm
PO Box 2670
Rapid City SD 57709-2670

FROM: Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Change of Hearing Time for Water Permit Application No. 2639-2, Robert Cannon

Due to unforeseen circumstances, the agenda time for the Water Management Board's consideration of Water Permit Application No. 2639-2 must be changed. Application No. 2639-2 proposes to impound 83 acre-feet of water from Mill Iron Creek by reconstructing a dam located in the SW 1/4 SE 1/4 Section 26, T104N, R77W in Lyman County.

The Water Management Board will now conduct the hearing to consider Application No. 2639-2 at 8:45 AM (Central Time) on Wednesday, March 11, 2009 in the Floyd Matthew Training Center, Joe Foss Building, 523 E. Capitol Avenue, Pierre SD.

Applicable provisions of the notice, dated January 27, 2009, still apply. Please contact Eric Gronlund at (605) 773-3352 if you have questions regarding the hearing.

c: Diane Best, Assistant Attorney General

CERTIFICATION

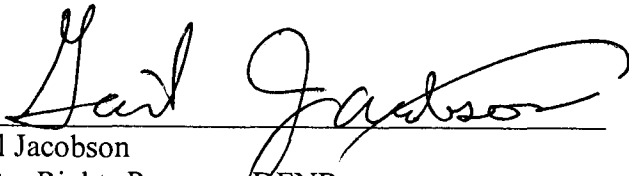
I hereby certify that on February 25, 2009, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated February 25, 2009, regarding the hearing time for Water Right Permit Application No. 2639-2, as addressed below:

Robert Cannon
PO Box 2086
Rock Springs WY 82902

Michael M. Hickey, Attorney
Bangs McCullen Law Firm
PO Box 2670
Rapid City SD 57709-2670

A copy of the above described Notice was sent Inter-office to:

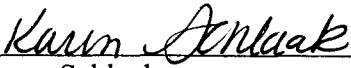
Diane Best, Assistant Attorney General, 300 N. Dakota Ave., Suite 403, Sioux Falls SD 57104



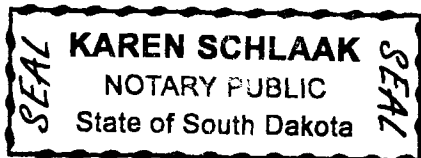
Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 25th day of February 2009.



Karen Schlaak
Notary Public
My Commission expires April 1, 2013



BANGSMcCULLEN
— LAW FIRM —

RECEIVED
MAR - 3 2009
WATER RIGHTS
PROGRAM

Reply to Rapid City Office

Writer's e-mail address: mhickey@bangsmccullen.com

February 27, 2009

VIA FACSIMILE & US MAIL (605) 773-4068

Mr. Garland Erbele, Chief Engineer
Department of Environment and National Resources
Water Rights Program
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3182

Re: *In the Matter of the Application of Robert Cannon*
Application No. 2639-2

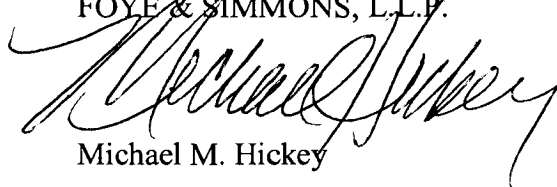
Dear Mr. Erbele:

Please find enclosed the original Motion for Continuance filed on behalf of Dakota Dagoba, LLC, for the above-referenced matter. Copies have been sent to all interested parties, which is intended as service by U.S. Mail.

If you have any questions or comments, please advise. Thank you.

Sincerely,

BANG, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.


Michael M. Hickey

mmh:bah

Enclosure

cc: Client; Robert Cannon; Landon Lane; John Luster; Diane Best

RECEIVED
MAR - 3 2009
WATER RIGHTS
PROGRAM

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

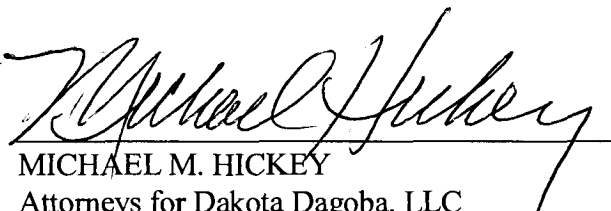
IN THE MATTER OF THE)
APPLICATION OF ROBERT CANNON) **MOTION FOR CONTINUANCE**
APPLICATION NO. 2639-2)

Comes now Dakota Dagoba, LLC, an interested party in the above proceeding, and hereby moves the Chief Engineer to continue the hearing set for March 11, 2009, before the Water Management Board. This request is made on the grounds and for the reasons that Dakota Dagoba, LLC, needs additional time to review the application and reports prepared in this matter so that it can present evidence and testimony in opposition to the application filed by Robert Cannon.

Dated this 27th day of February, 2009.

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

BY:



MICHAEL M. HICKEY
Attorneys for Dakota Dagoba, LLC
333 West Blvd., Suite 400; P.O. Box 2670
Rapid City, SD 57709
Phone: (605) 343-1040

RECEIVED

MAR - 3 2009

WATER RIGHTS
PROGRAM

CERTIFICATE OF SERVICE

The undersigned hereby certifies that he served a copy of this legal document upon the persons herein next designated, all on the date below shown, by facsimile and by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, in an envelope addressed to said addressee, to wit:

**Garland Erbele, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol
Pierre, SD 57501**

Facsimile: (605) 773-4068

and by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, in an envelope addressed to said addressee, to wit:

**Robert Cannon
PO Box 2086
Rock Springs, WY 82902**

**Landon Lane
1006 4th Avenue Dr. NW
Hickory, NC 28601**

**John Luster
601 Williams Avenue
Natchitoches, LA 71457**

**Diane Best
Assistant Attorney General
300 N. Dakota Avenue, Suite 403
Sioux Falls, SD 57104**

which are the last addresses of the addressees known to the subscriber.

Dated this 27th day of February, 2009.


MICHAEL M. HICKEY



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

March 2, 2009

NOTICE

TO: Robert Cannon
PO Box 2086
Rock Springs WY 82902
Michael M. Hickey, Attorney
Bangs McCullen Law Firm
PO Box 2670
Rapid City SD 57709-2670

FROM: Garland Erbele, Chief Engineer
Water Rights Program *Garland Erbele*

SUBJECT: Automatic Delay of Hearing for Water Permit Application No. 2639-2, Robert Cannon

Michael Hickey, counsel for Dakota Dagoba, LLC submitted a motion for continuance of the March 11, 2009 hearing on Water Permit Application No. 2639-2 filed by the Robert Cannon. Therefore, the hearing on Application No. 2639-2 is automatically delayed pursuant to SDCL 46-2A-4 and 46-2A-5 and will not be held on March 11, 2009.

The hearing to consider Application Nos. 2639-2 will now be scheduled for the May 6 - 7, 2009 Water Management Board meeting tentatively to be held in Pierre. Future notice of the time and place of the hearing for Application No. 2639-2 will be provided to all parties of record.

Please contact Eric Gronlund at (605) 773-3352, if you have any questions.

c: Diane Best, Assistant Attorney General

CERTIFICATION

I hereby certify that on March 2, 2009, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated March 2, 2009, regarding the continuance of the March 11, 2009 hearing on Water Right Permit Application No. 2639-2, as addressed below:

Robert Cannon
PO Box 2086
Rock Springs WY 82902

Michael M. Hickey, Attorney
Bangs McCullen Law Firm
PO Box 2670
Rapid City SD 57709-2670

A copy of the above described Notice was sent Inter-office to:

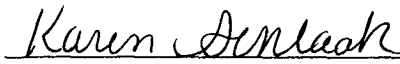
Diane Best, Assistant Attorney General, 300 N. Dakota Ave., Suite 403, Sioux Falls SD 57104



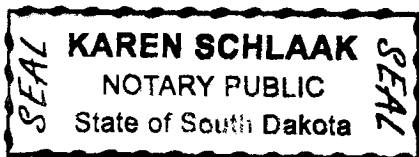
Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 2nd day of March 2009.



Karen Schlaak
Notary Public
My Commission expires April 1, 2013





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

April 13, 2009

NOTICE

TO: Robert Cannon
PO Box 2086
Rock Springs WY 82902

Michael M. Hickey, Attorney
Bangs McCullen Law Firm
PO Box 2670
Rapid City SD 57709-2670

FROM: Garland Erbele, Chief Engineer
Water Rights Program *Garland Erbele*

SUBJECT: Scheduling of Hearing on Water Permit Application No. 2639-2, Robert Cannon

A petition was submitted in opposition to Water Permit Application No. 2639-2 filed by Robert Cannon. The petition was filed in response to the Notice of Application published January 7 and 14, 2009 in the Lyman County Herald. Subsequently, a notice of hearing was sent to parties on January 17, 2009 scheduling a March 11th hearing before the Water Management Board. The March hearing was then postponed pursuant to SDCL 46-2A-5 based on the request by counsel for the petitioner. This notice schedules a hearing before the Water Management Board to consider Application No. 2639-2.

Application No. 2639-2 proposes to impound 83 acre-feet of water from Mill Iron Creek by reconstructing a dam located in the SW 1/4 SE 1/4 Section 26 with water impounded in the SW 1/4 SE 1/4, E 1/2 SE 1/4 Section 26; all in T104N-R77W in Lyman County. The application requests impoundment of sufficient water to maintain water to the outlet elevation. The water is for fish and wildlife propagation, recreational use and livestock water purposes.

The Water Management Board will conduct a hearing to consider Application No. 2639-2 at 10:30 AM (Central Time) on Thursday, May 7, 2009 at the Floyd Matthew Training Center, Joe Foss Building, 523 E. Capitol Avenue, Pierre SD. Future notice will be provided to all parties if there are changes to the hearing time. Pursuant to SDCL 46-2-9, 46-2-11, and 46-2A-23, the Board has legal authority and jurisdiction to conduct this hearing.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2639-2 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. 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 the application based on the evidence presented at the public hearing.

This hearing may be an adversarial proceeding. Any party of record 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.

Enclosed is a copy of the report, recommendation and petitions in the matter of Water Permit Application No. 2639-2. State law directs the Chief Engineer to provide Water Management Board members with a copy of all pleadings including petitions for each proceeding. This same information will be sent to the Board members in advance of the hearing. In addition, enclosed are two documents intended to acquaint parties with the hearing process entitled "Procedure for Hearings before the Water Management Board" and "Summary of South Dakota Water Laws and Rules". You are encouraged to review these documents prior to the hearing.

The legal authority and jurisdiction under which the hearing is held is SDCL 46-1-14, 46-1-15, 46-1-16, 46-2-3.1, 46-2-5, 46-2-9, 46-2-11, and SDCL 46-2A-1 thru 46-2A-9.

The particular sections of the statutes and rules involved are SDCL 46-1-1 thru 46-1-9, 46-1-14 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-9, 46-2A-12, 46-2A-14, 46-2A-15, 46-5-1 thru 46-5-2, 46-5-5, 46-5-6.11, 46-5-8, 46-5-10, 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.

Questions regarding the hearing process may be directed to Eric Gronlund, Water Rights Program at (605) 773-3352. In addition, please notify the Department of Environment and Natural Resources at least 48 hours before the hearing if you have a disability for which special arrangements must be made at the hearing.

c: Diane Best, Assistant Attorney General

CERTIFICATION

I hereby certify that on April 13, 2009, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated April 13, 2009, regarding the scheduling a hearing on Water Right Permit Application No. 2639-2, as addressed below:

Robert Cannon
PO Box 2086
Rock Springs WY 82902

Michael M. Hickey, Attorney
Bangs McCullen Law Firm
PO Box 2670
Rapid City SD 57709-2670

A copy of the above described Notice was sent Inter-office to:

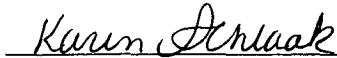
Diane Best, Assistant Attorney General, 300 N. Dakota Ave., Suite 403, Sioux Falls SD 57104



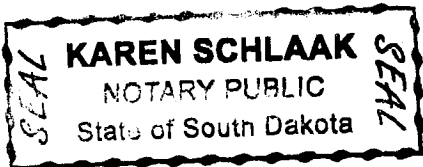
Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 13th day of April 2009.



Karen Schlaak
Notary Public
My Commission expires April 1, 2013





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

May 11, 2009

NOTICE

TO: Robert Cannon Sarah E. Baron Houy
PO Box 2086 Attorney at Law
Rock Springs WY 82902 PO Box 2670
Rapid City SD 57709

FROM: Garland Erbele, Chief Engineer
Water Rights Program, DENR

SUBJECT: Preparation of Findings of Fact, Conclusions of Law and Final Decision

The Water Management Board directed Diane Best, counsel for the Water Rights Program, to prepare written proposed Findings of Fact, Conclusions of Law and a Final Decision in the matter of Water Permit Application No. 2639-2 filed by Robert Cannon. The Board will consider adoption of Findings, Conclusions and Final Decision approving Water Permit No. 2639-2 at 8:45 AM, on July 8, 2009, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. Future notice will be provided if there is a change in the meeting date or location

The Board requested that a copy of the proposed Findings, Conclusions and Final Decision be mailed to each Board member and parties by June 8, 2009. Written objections or comments in support of the proposed Findings, Conclusions and Final Decision, or alternative Findings, Conclusions and Final Decision are to be mailed to each Board member, the Board attorney (mailing list enclosed) and parties by June 18, 2009.

At the Board's discretion, oral arguments by parties who timely filed written comments in opposition of the proposed Findings, Conclusions and Final Decision, or alternative Findings, Conclusions and Final Decision may be made on July 8, 2009. The evidentiary hearing was completed on May 7, 2009. No additional testimony will be received.

Enclosure

c: Jeff Hallem, Assistant Attorney General
Diane Best, Assistant Attorney General, 300 N. Dakota Ave., Suite 403, Sioux Falls SD
57104-6032

CERTIFICATION

I hereby certify that on May 11, 2009, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated May 11, 2009, regarding preparation of Findings of Fact, Conclusions of Law and Final Decision in the matter of Application No. 2639-2 addressed as stated below:

Sarah E. Baron Houy
Attorney at Law
PO Box 2670
Rapid City SD 57709

Robert Cannon
PO Box 2086
Rock Springs WY 82902

Diane Best
Assistant Attorney General
300 N. Dakota Avenue, Suite 403
Sioux Falls SD 57104

A copy of the above described Notice was sent Inter-office to:

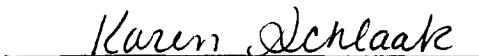
Jeff Hallem, Assistant Attorney General, 1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501



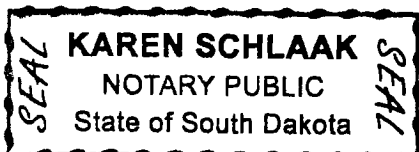
Gail Jacobson
Water Right Program

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 11th day of May, 2009.



Karen Schlaak
Notary Public
My Commission expires April 1, 2013



STATE OF SOUTH DAKOTA



OFFICE OF ATTORNEY GENERAL

300 N. Dakota Avenue, Suite 403
Sioux Falls, South Dakota 57104-6032
Phone (605) 367-5880
Fax (605) 367-5886
www.state.sd.us/atg

LARRY LONG
ATTORNEY GENERAL

RECEIVED

JUN 10 2009

WATER RIGHTS
PROGRAM

CHARLES D. McGUIGAN
CHIEF DEPUTY

June 8, 2009

Jeff Hallem
Office of Attorney General
1302 E. Hwy 14, Suite 1
Pierre, SD 57501

Francis E. Brink
1214 South Wells
Street
Aberdeen, SD 57401

Leo Holzbauer
PO Box 877
Wagner, SD 57380

Rodney Freeman, Jr.
PO Box 176
Huron, SD 57350

Bernita Loucks
219 42nd Street
Rapid City, SD 57702

Everett Hoyt
4422 Carriage Hills Dr.
Rapid City, SD 57702

Tim Bjork
112 W. Oak Street
Pierre, SD 57501

Jim Hutmacher
802 East 7th Street
Oacoma, SD 57365

Re: *In the Matter of Water Permit Application No. 2639-2, Robert Cannon*

Dear Board Members and Counsel:

Find enclosed proposed Findings of Fact, Conclusions of Law and Final Decision and Order in the above-entitled matter. All parties have also been provided with copies of this document.

The original proposal and original Certificate of Service have been filed with Chief Engineer Erbele.

Very truly yours,

A handwritten signature in cursive script that reads "Diane Best".

Diane Best
Assistant Attorney General
Counsel for SD DENR Water Rights Program

RECEIVED

JUN 10 2009

WATER RIGHTS
PROGRAM

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER	)	PROPOSED
PERMIT APPLICATION NO. 2639-2,	)	FINDINGS OF FACT,
ROBERT CANNON	)	CONCLUSIONS OF LAW AND
	)	FINAL DECISION AND ORDER

Hearing was held in the above-entitled matter on May 7, 2009. The Applicant appeared *pro se*. Attorney Sarah E. Baron Houy appeared on behalf of Intervenor Dakota Dagoba, LLC. The DENR Water Rights Program was represented by Assistant Attorney General Diane Best.

The Board, having considered the evidence presented and all records and documents on file herein and having entered its oral decision and rulings on the parties' submissions, now enters the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. Robert Cannon filed Water Permit Application No. 2639-2 (hereinafter "Application"). It was received by the DENR on October 29, 2008.
2. The Application seeks authority to impound 83 acre-feet of water from runoff in a dam to be located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 26-T104N-R77W, in Lyman County. The Application also requests impoundment of sufficient water to maintain water to the outlet elevation. The water will be used for fish and wildlife production, recreation, and livestock water purposes.

3. The dam described in the Application will be located on Mill Iron Creek, about six miles upstream of the confluence of Mill Iron Creek and the White River.

4. This dam is a reconstruction project. A previous dam was located at this site and was breached at some point. No water rights filings were made for the prior dam, so it is not very clear when the dam was constructed or when it breached. The pending Application seeks a new permit, involves new plans and specifications and construction, and does not rely on or seek to confirm or renew any previous priority date or right for the prior dam.

5. The dam proposed by the Applicant has not yet been constructed. As proposed, it will be classified as a small size, Category 3, Low Hazard dam. The dam was designed by Konechne Engineering. Dave Konechne, a professional engineer, testified that he designed the dam and that it is similar to many other dams he has designed in the past. He has many years of experience, including several years of work for the USDA Natural Resource Conservation Service and its predecessor, the Soil Conservation Service. The plans and specification were filed with the DENR.

6. The dam, as designed, will be 12.5 feet high with a normal storage capacity of 83 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 485 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.

7. The dam is designed to have an L-shaped primary spillway consisting of an 84-inch diameter vertical CMP (corrugated metal pipe) riser which connects at a 90 degree angle to a 60-inch diameter horizontal CMP barrel for the purpose of conveying water through the dam grade. The design is for 6.5 feet of freeboard between top of primary spillway riser and top of dam. The design also includes a 200-foot wide earthcut secondary spillway with 3.5 feet of freeboard. A 25-year frequency event produces a peak runoff of approximately 1040 cfs and a 100-year frequency event produces a peak runoff of approximately 1870 cfs. The earthcut spillway will have a capacity of approximately 3400 cfs.

8. The plans and specifications for the dam were reviewed by Tim Schaal, a professional engineer employed by the DENR for over twenty-five years. He has reviewed plans for dozens of similar dams designed for wildlife habitat. He testified that the specifications meet the dam safety requirements and rules of this Board. Previous to hearing, the plans and specifications had been approved by Chief Engineer Erbele.

9. No testimony was presented that refutes the testimony of DENR witness Schaal that the dam, if constructed according to its design, will meet the dam safety rules of this Board. Accordingly, this Board finds that the dam design is consistent with the public interest in maintaining safe dams.

10. Witness Schaal testified that the dam has a drainage area of 10,752 acres or 10.68 square miles. The annual yield for this drainage area with an 80-percent chance of occurrence, or 8 out of 10 years, is expected to be

80 acre-feet. The annual yield with a 50-percent chance of occurrence, or 1 out of 2 years, is expected to be 242 acre-feet and the annual yield with a 10-percent chance, or 1 out of 10 years, is expected to be 1434 acre-feet.

11. Witness Konechne studied the drainage area using the Water Resource SITES program, a standard computer program in the industry for analyzing flows. He also testified that there would be sufficient flow from this drainage area for this Application.

12. The drainage area provides sufficient water to provide water for this dam which will store up to 83 acre-feet. In this regard, the Board credits the testimony of witnesses Konechne and Schaal.

13. Intervenor Dagoba, Inc. currently owns a dam downstream which is variously called the Ramser Dam (SD ID No. 02382) or Sweeney Dam. It is located on Mill Iron Creek, about one-half mile downstream of the proposed reconstructed dam. In 1994, Velda Ramser filed Water Right No. 2303-2 to repair a breached WPA dam (Sweeney Dam). This repair project was partnered with SD Game, Fish and Parks and Ducks Unlimited, Inc. The Ramser Dam has a storage capacity of 72 acre-feet of water with a reservoir level at the primary spillway elevation. Water Right No. 2303-2 was transferred to Dakota Outback, c/o Paul Barber, in 1998. Subsequently, this dam was transferred to Dagoba, LLC, also c/o Paul Barber.

14. The Ramser Dam, being part of a partnership with Ducks Unlimited, is designed to be a shallow dam for duck habitat.

15. DENR witness Schaal testified that based on existing county and topographic maps, it is clear that at one time both the Ramser Dam and the previous dam at the site of the Application were in existence at the same time and were full.

16. DENR expert witness Tim Schaal reviewed data showing the annual yield of water from the watershed that drains into Mill Iron Creek. He testified that there is an expected 50-percent chance of an annual yield of 242 acre-feet of water and that there is a reasonable probability that there is sufficient water available for both dams when the proposed Cannon Dam is conditioned as recommended by the Chief Engineer.

17. Witness Schaal also testified that for situations where there is not sufficient water available for both dams in some years, the proposed upstream dam is designed to have a 12-inch diameter CMP low level bypass pipe constructed within the primary spillway drop inlet structure. It will be constructed across the bottom of the riser and allows for flows to enter the barrel (or pipe tee) and flow downstream at low flow conditions. It is designed to allow bypass of flows to satisfy downstream Water Rights and domestic use.

18. The low flow bypass structure is designed to be opened manually. Cannon will have an operator approximately eight miles from the dam who will be available to open the bypass structure when necessary.

19. Applicant Cannon testified that he has had problems on his property with erosion from Mill Creek since he purchased the property approximately ten years ago. In addition to wildlife habitat, another reason for

constructing the dam is erosion control. Erosion control is in the public interest.

20. The downstream Ramser Dam currently has silt in it and receives silt during high flows. Cannon testified that his proposed dam would provide for erosion control and would also capture some silt that would otherwise flow downstream to the Ramser Dam. Barber, testifying on behalf of Dagoba, Inc., testified that the proposed Cannon Dam should provide still more silt protection for Dagoba's Ramser Dam. The design for the proposed Cannon Dam is consistent with other similar dams designed for recreation and livestock use and does not contain specialized silt control devices. The silt flowing to the Ramser Dam is unlikely to increase with the new dam upstream that will have the effect of capturing some silt.

21. During the hearing, testimony was presented that there are two 48-inch culverts upstream of the dams that are capable of carrying a large volume of water downstream in Iron Mill Creek. Intervenor Dagoba asserts that the 12-inch low level bypass pipe would be inadequate to handle these large flows. In large events, however, the water would be flowing down the entire primary spillway itself (84-inch diameter CMP riser with a 60-inch diameter CMP barrel) and not just through the 12-inch pipe in the spillway. In other words, the low flow bypass pipe is designed only for low flow situations.

22. During low flows, water from the 12-inch CMP bypass will reach the Ramser Dam owned by Dagoba. The dams are a short distance apart.

23. Barber also testified that the Ramser Dam, which involves a senior water right, will receive a diminished quantity of water, as a result of installation of the upstream dam proposed in the Application. Dagoba holds this senior water right. However, as set forth above, there is sufficient water to supply both dams during periods of high flow and the dam described in the Application is designed with a spillway and low flow bypass that would allow water to flow downstream, during periods of low flow.

24. The Board credits the testimony of witnesses Schaal and Konechne who both testified that they have studied the drainage area involved and there is sufficient water available to support this Application when considering that the project is designed to allow bypass of flows to satisfy downstream Water Rights and domestic use as recommended by the Chief Engineer.

25. Barber further asserts that Dagoba currently enjoys the use of Iron Mill Creek and an adjacent area with considerable vegetation downstream of the Ramser Dam. He wishes to maintain Dagoba's Ramser Dam and also enjoy the benefit of flows in the stream and the nearby vegetated area to support habitat downstream of the Dagoba Dam. Sufficient flows will be available in the downstream stretch during high flow conditions to provide for such downstream flows. The Water Right for Dagoba's Dam, does not, however, include the right to use all other water in the stream to support this flow and this vegetated area downstream of the Dagoba Dam and bar all other users from capturing water upstream. For this reason, the water permit, as granted below, will not require Cannon to release inflows or stored water so that the

downstream dam owner can, in turn, release water to keep nearby downstream flows and vegetated areas available for Dagoba's own wildlife habitat use.

26. Barber testified that Dagoba has a dugout in Section 35 downstream of the Ramser Dam. It sometimes has water in it, but during dry times it does not. It is very dependent on climatic conditions.

27. During hearing the parties engaged in a dispute as to whether Cannon should be required to release water from the upstream dam at all times when the downstream Ramser Dam is low. The Chief Engineer recommended that the Applicant be required to cause water to flow downstream to the Ramser Dam when inflows come into Cannon's upstream dam. Dagoba, as the downstream senior water right holder, should get the benefit of such inflows into its dam to the extent that its dam will hold those inflows. This places the senior downstream water right holder in the same position he would be without the upstream dam in place, i.e., with the benefit of the inflows. Stored water need not be released, however, from the Cannon Dam to provide for flows to the Ramser Dam. The rationale is that the downstream water right holder should have the benefit of inflows in the same way it already operates. In other words, the downstream water user currently has no water stored and metered out to it from upstream other than what nature provides. The downstream water right holder is not entitled to call for stored water from the upstream dam. Applicant should be required to make such releases only when new inflows come into the system.

28. Another set of arguments presented by Dagoba at hearing is that the Cannon Dam does not have a measuring device that is sophisticated enough to provide evidence on when new flows come into the system and that the DENR would be unable to regulate the low flow condition on the permit. Witness Schaal explained that this type of system is common among water users and that the two water users generally reach an accommodation. However, the DENR is willing to enforce the provisions when called upon to do so. As for measuring new flows, the two dams are close enough that the persons operating these dams will have actual knowledge as to the general level of the dams, recent heavy rain flow events and snowmelt, and their effect on inflows. Dagoba claimed a need for more exact measuring, but did not establish that failure to release *de minimus* inflow would cause an adverse effect on the recreational and wildlife purposes of his own dam. Both dams provide water for recreational and wildlife purposes and are near each other. On the other hand, Cannon is cautioned that, as the junior water right holder, it is his responsibility to ensure that he releases inflows to meet the qualifications in the permit and he should not rely on the forgoing rationale and ignore known inflows into his dam.

29. Barber testified that the Ramser Dam has been full and has had flows going through its spillway in recent years. Further, the Ramser Dam permit held by Dagoba contains a low flow bypass qualification requiring it to bypass flows for downstream domestic use. Witness Schaal testified that the dam design for the Ramser Dam includes a low flow bypass structure. The

Ramser Dam project plans and specifications for this dam indicate that it does not have a sophisticated design allowing for exact measurement of inflows and outflows, but Barber testified that he would release flows from this dam as necessary to meet the qualification on this permit.

30. The Dagoba petition to intervene, authored by Barber, also refers to a fishery. During the hearing however, he testified that there is not an existing fishery at this location due to existing climatic conditions. Consequently, the presently pending Application does not present problems insofar as maintaining a fishery.

31. Unappropriated water is available and approval should not have any adverse effect on existing Water Permits/Rights.

32. The proposed water permit Application is reasonable, useful, and beneficial for the appropriator in that it will be used to enhance the recreational opportunities such as hunting on his land. The water use will also be beneficial and consistent with the interests of the public in the best utilization of the runoff water since it will provide for impoundment of the water for fish and wildlife production, recreation, and livestock watering.

33. The Application is in the public interest. The water use for wildlife is, itself, in the public interest. Also, the dam design comports with dam safety requirements and the structure is also therefore in the public interest. The additional purpose of erosion control also supports this public interest finding.

34. The low flow bypass requirement for prior downstream Water Rights and domestic use should be a qualification on Water Permit Application No. 2639-2.

35. Water Permit Application No. 2639-2 should be approved.

CONCLUSIONS OF LAW

1. The Board has jurisdiction over the above-entitled matter.

2. Testimony was presented that the plans and specifications for the dam described in the Application meet the dam safety requirements and rules of this Board. Previous to hearing, the plans and specifications had been approved by Chief Engineer Erbele, who holds authority to make such approvals under ARSD 74:02:08:09 and SDCL 46-7-3.

3. The dam is a new project and the Application seeks no priority date or other water rights stemming from the previous dam. The fact that the prior dam was in place without a water right or location notice is not prejudicial to this Applicant since the prior dam was installed and breached before Cannon purchased the property.

4. Having considered the amount of water available in the Mill Run watershed area, the Applicant's proposed use of water, and the proposed qualifications, this Board finds that there is a reasonable probability that there is unappropriated water available to provide for the water use as requested.

5. Having considered the amount of water available in the Mill Run watershed area, the Applicant's proposed use of water, and the proposed qualifications, this Board finds that there is a reasonable probability that the

water use, as proposed, will not have an adverse effect on existing Water Permits/Rights. In particular, the Board finds that the Intervener, a senior water right holder, is protected by the low flow qualification recommended by (and enforceable by) the Chief Engineer.

6. The conditions imposed on the permit authorized herein have been authorized for many similar rural water permits. This condition is enforceable by the Chief Engineer and the DENR through SDCL ch. 46-2A. SDCL 46-2A-17 provides that the Chief Engineer has investigatory authority to enforce such conditions. SDCL 46-2A-18 provides that the Chief Engineer has authority to issue appropriate orders and to seek immediate injunctive relief against water user in order to protect users who have higher or earlier priorities.

7. SDCL 46-1-12 also provides that if a water user fails to comply with conditions on permits, the permit may be suspended by this Board. If three violations occur, a permit may be revoked. *Id.* In this regard, the Board refers to its recent decision enforcing a bypass condition on a dam dugout constructed for recreational purposes. *In the Matter of the Suspension of Water Permit No. 1735-1, Steve Bauer* (Decision issued March 11, 2009).

8. The Application is a beneficial use under SDCL 46-1-6(3). More specifically, the use is reasonable and useful and beneficial for the appropriator in that it will be used to enhance the recreational opportunities such as hunting on his land. The water use will also be beneficial and consistent with the interests of the public in the best utilization of the runoff water since it will

provide for impoundment of the water for fish and wildlife production, recreation, and livestock watering.

9. The Application is in the public interest. The water use for wildlife is, itself, in the public interest. Further, the dam design comports with dam safety requirements and the structure is also therefore in the public interest.

10. The Application, with the qualifications proposed by the Chief Engineer, meets the four-part criteria in SDCL 46-2A-9 for approval of water permits: (a) there is a reasonable probability that there is water available for the proposed use, (b) the proposed diversion can be developed without unlawful impairment of existing rights, (c) the use is in the public interest, and (d) the proposed use is a beneficial use. The Application should be approved.

11. The Application was filed on October 29, 2008 and, under SDCL 46-5-7, the proper priority date for this permit is the date of filing.

Based on the foregoing Findings of Fact and Conclusions of Law, the Board now enters the following:

FINAL DECISION AND ORDER

The Application for Water Permit No. 2639-2 is hereby granted with the following qualifications:

1. Water Permit No. 2639-2 authorizes a dam with a storage capacity of 83.0 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 bypassed.

Dated this ____ day of July, 2009.

BY THE BOARD:

Everett Hoyt, Chairman

p1d605_db(dh)

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

IN THE MATTER OF WATER	)	
PERMIT APPLICATION NO. 2639-2,	)	CERTIFICATE OF SERVICE
ROBERT CANNON	)	

The undersigned hereby certifies that true and correct copies of proposed Findings of Fact, Conclusions of Law and Final Decision and Order were served upon each of the following by enclosing the same in envelopes with first class postage, prepaid and affixed thereto, and depositing said envelopes in the United States mail at Sioux Falls, South Dakota, and also served by facsimile transmission upon Mike Hickey, Sarah E. Baron Houy, and Robert Cannon, on this 8th day of June, 2009:

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DATE: 6-8-09

TIME: 9:30 AM

TO: Sarah Hany / Robert Cannon
Mike Hickup

FAX NUMBER: 605-343-1503 307-362-7220

RE: Water Rights proposed Findings

FROM: Diane Best

NUMBER OF PAGES 15, (Including Cover Sheet).

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DATE: 6-8-09

TIME: 9:30 AM

TO: Sarah Hally / Robert Cannon
Mike Hickup

FAX NUMBER: 605-343-1503 307-362-7220

RE: Water Rights proposed Findings

FROM: Alan Best

NUMBER OF PAGES 15, (Including Cover Sheet).

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STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES
WATER MANAGEMENT BOARD

= = = = =

IN THE MATTER OF THE WATER PERMIT
APPLICATION NO. 2639-2, ROBERT CANNON

= = = = =

Transcript of Proceedings
Thursday, May 7, 2009

= = = = =

BOARD MEMBERS PRESENT

Mr. Jim Hutmacher
Mr. Leo Holzbauer
Mr. Rodney Freeman
Mr. Francis Brink
Mr. Tim Bjork
Mr. Jeff Hallem, Counsel for the Board

APPEARANCES

MS. DIANE BEST,
Assistant Attorney General, 1302 East
Highway 34, Pierre, South Dakota 57501,
appearing on behalf of DENR;

MS. SARAH E. BARON-HOUY,
BANGS, MCCULLEN, BUTLER, FOYE & SIMMONS,
Attorneys at Law, P.O. Box 2670, Rapid City,
South Dakota 57709,
appearing on behalf of Intervenor Paul Barber;

MR. ROBERT CANNON,
P.O. Box 2086, Rock Springs, Wyoming 82902,
appearing pro se.

ORIGINAL

Reported by Carla A. Bachand, RMR, CRR

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1 THURSDAY, MAY 7, 2009

2 (DENR Exhibit Nos. 1, 2 and 3 marked for
3 identification.)

4 MR. BJORK: This is the time and place for the hearing
5 on Water Permit Application No. 2639-2 made by Mr. Robert
6 Cannon. I would first ask Ms. Diane Best to introduce the
7 parties that we have here today, if you can.

8 MS. BEST: I will. Thank you. This is a contested
9 case water permit application and Mr. Cannon is here, who is
10 the applicant in this matter. He's back here and he has
11 brought his engineer with him. He is appearing pro se. And
12 then also the intervenor in this matter is Paul Barber, and Mr.
13 Barber is here with counsel, Sarah Houy.

14 MR. BJORK: Ms. Best, I'm assuming you need to be
15 sworn in as providing any testimony or not?

16 MS. BEST: No, I will not be. What I'd like to do is
17 just start and introduce a few exhibits and then ask Tim Schaal
18 to provide the testimony on behalf of the DENR.

19 MR. HALLEM: Mr. Cannon, do you want to come up
20 closer? Because you will have the opportunity to question the
21 witnesses and those type of things, and you are a party to the
22 action, so you are welcome to -- do you have spellings of
23 everybody?

24 COURT REPORTER: Yeah.

25 MS. BEST: If I may proceed, Tim Schaal is the

1 engineer that reviewed this matter on behalf of the DENR and he
2 will explain his review. That is the only witness that the
3 DENR will have. As with many applications, the actual -- the
4 person who applied for the water permit has the burden of proof
5 of demonstrating that the water permit ought to be granted.
6 Nonetheless, the DENR goes ahead and provides the initial
7 testimony, we do that all the time, we make -- so that we make
8 it clear where the place of the project is and what the chief
9 engineer's recommendation is so you know that right off the
10 bat.

11 In this particular case, the application is for a
12 recreational and livestock use dam and Tim will go into detail
13 as far as the size of the dam and so forth. The chief engineer
14 has recommended approval and Mr. Barber is the intervenor. I
15 would just like to, rather than go into any kind of long
16 opening statement, just introduce the three exhibits that DENR
17 has. We have talked to counsel about them already and talked
18 to the applicant about them already.

19 DENR 1 is the agency file in this matter. It includes
20 the application filed by Mr. Cannon and engineering analysis
21 filed with that application. It also includes the notice of
22 publication to the proper newspapers, the affidavits of
23 publication, the chief engineer's recommendation of approval,
24 the expert report developed by Tim Schaal, the engineer that
25 reviewed this matter, the petition to intervene, and actually

1 this matter was initially noticed for a prior water board
2 hearing and was automatically delayed and there are some
3 scheduling notices on that and then as well as the notice of
4 hearing for today.

5 In addition to those matters in the application, I
6 would note also for the record that this application involves a
7 situation where there is -- it's an application for a proposed
8 dam and there is another dam below it and the dam below it was
9 previously -- is also a water right dam and it was
10 previously -- the name of the initial applicant was Velda
11 Ramser. It's Water Permit No. 2303-2 and Mr. Barber is now the
12 party that holds that water right. And there is a document in
13 the file that includes that entire water right file as well.
14 And because that was reviewed for purposes of responding to
15 this application, it's included in the application for Mr.
16 Cannon. I would move for admission of DENR 1.

17 MS. BARON-HOUY: No objections.

18 MR. HALLEM: Mr. Cannon?

19 MR. CANNON: No.

20 MR. BJORK: We will then accept and admit Exhibit 1.

21 EXHIBITS:

22 (Exhibit No. 1 received into evidence.)

23 MS. BEST: Exhibit 2 is just a one sheet list of the
24 expert qualifications of Tim Schaal, the engineer who will be
25 testifying in this proceeding. And I will not -- I propose

1 that I not go into question and answer regarding his background
2 and qualifications. He's appeared before this board many, many
3 times. And I would just like to put Exhibit 2 in for the
4 record.

5 MS. BARON-HOUY: No objection.

6 MR. CANNON: It's fine.

7 MR. BJORK: We will accept Exhibit 2 for the record,
8 admit it into evidence.

9 EXHIBITS:

10 (Exhibit No. 2 received into evidence.)

11 MS. BEST: Finally I have DENR Exhibit 3, which
12 provides -- which is a document that Tim Schaal prepared and
13 the parties have stipulated to. It provides a location map, it
14 shows the place of the project, the dams involved, and then
15 also an aerial view, and those two are stapled together and
16 it's DENR 3, and I would move admission of DENR 3.

17 MS. BARON-HOUY: No objection.

18 MR. CANNON: No problem, yeah.

19 MS. BEST: We have made extra copies of DENR 3 for the
20 board's use during this hearing.

21 MR. BJORK: We shall accept Exhibit 3 as admitted as
22 evidence in this case.

23 EXHIBITS:

24 (Exhibit No. 3 received into evidence.)

25 MS. BEST: I have no further exhibits at this time and

1 I would call Tim Schaal.

2 MR. HALLEM: Before you do, Ms. Best, I just want to
3 put in for the record on it, is that prior to this hearing,
4 consistent with this board's practice, the board receives
5 certain public record materials on this matter and what the
6 board received and had in their possession prior to this
7 hearing are the report on Water Permit Application No. 2639-2
8 that was prepared by Mr. Schaal, received the recommendation of
9 the chief engineer, had the notice of application and the
10 publication notice, Mr. Barber's letter of intervention, the
11 initial notice of hearing on July 27th, 2009, Mr. Hickey's
12 letter of February 5th, 2009 with a notice of appearance,
13 February 25th, 2009 notice to the parties, Mr. Hickey's letter
14 of February 27th, 2009 requesting a continuance with a motion
15 and continuance attached to that, certificate of service as
16 well, and then finally the notice of hearing that scheduled
17 this matter, which was dated April 13th, 2009. So those
18 matters -- these documents have already been provided to the
19 board and will be considered for the purpose of this matter.
20 Ms. Best.

21 MS. BEST: Yes, I neglected to say anything, those
22 documents were provided by the chief engineer to the board
23 pursuant to 46-2A-6. I would call at this time Tim Schaal.
24 Thereupon,

25 TIM SCHAAL,

1 called as a witness, being first duly sworn as hereinafter
2 certified, testified as follows:

3 DIRECT EXAMINATION

4 BY MS. BEST:

5 Q. Tim, I will just ask you to go ahead and explain your
6 review and give the chief engineer's recommendation.

7 A. Good morning. Thanks. I'm Tim Schaal, staff engineer
8 with DENR. Maybe first I'll explain the map that was handed
9 out just quickly. This application for a dam repair is about
10 eight miles straight south of Presho and on the map here the
11 sections are about a three-inch square shown in the center of
12 Section 26 and 35 of Township 104, Range 77, and then the one
13 to the south, it's in another township, it's Section 2,
14 Township 103 North, Range 7. The creek that the proposed dam
15 is on is Mill Iron Creek and it runs through those three
16 sections kind of north to south. If there's any questions on
17 the map, just let me know.

18 As Diane kind of covered some of it, the application
19 has been filed by Robert Cannon to impound 83 acre-feet of
20 water by restoring a dam. It's an old dam and it's been
21 breached for a number of years and they are looking at
22 repairing what I call an existing dam for this water permit
23 application.

24 It's been designed by Konechne Engineering, Dave is
25 here. It's classified as a small size, low hazard dam and a

1 dam for that size of classification needs to have a certain
2 spillway capacity, which it's for a 25-year flood event and
3 later on I'll explain that this is a pretty large drainage area
4 and the dam does have more spillway capacity than required.

5 It's only going to be 12.5 feet high, it's going to
6 have 83 acre-feet what we call normal capacity, that's a
7 reservoir at the primary spillway elevation, and the top of the
8 dam elevation, it's a big structure, it's got a flat reservoir
9 area that will back up water quite a ways, it's 485 acre-feet
10 at the top of dam elevation. Hopefully you don't see that too
11 often. The drainage area for the dam is over 10,000 acres,
12 10,752 acres, that's not quite 11 square miles.

13 For the design, it's similar to the dam that's below
14 it, which was a Ducks Unlimited designed structure. They do a
15 real good job of putting in adequate spillways, but this dam
16 also has an 84-inch diameter CMP riser and a 60-inch barrel.
17 There is 6.5 feet of freeboard on the primary spillway and with
18 this large drainage area, you can expect the spillway to flow
19 at times, so it has a 200-foot wide secondary foot earth cut
20 spillway with three and a half feet of freeboard. As I
21 mentioned, it has plenty of spillway capacity, it has more
22 spillway capacity actually than what you expect from a 100-year
23 event.

24 With the drainage area, we looked at kind of an NRCS
25 expected yield with 11 square miles or not quite 11 square

1 miles, 80 percent of the time or another way to look at that is
2 eight out of 10 years you can expect 80 acre-feet of runoff.
3 Fifty percent of the time, once every two years is 242
4 acre-feet of runoff, and then 10 percent of the time or one out
5 of 10 years it's a little over 1400 acre-feet of runoff. A lot
6 of our dams this spring are experiencing more than their 10
7 percent runoff, we have had some problems.

8 As Diane mentioned, too, there is a dam below this on
9 Mill Iron Creek. It's permitted, at one time it was called the
10 Sweeney Dam, it's an old WPA dam. Velda Ramser applied for the
11 permit when they did the Ducks Unlimited project and since then
12 it's been transferred over to -- I might get this wrong --
13 Dakota Outback, LLC, and that's Mr. Barber. I'm not real sure
14 the history of this upstream dam, the proposed dam to be fixed.
15 I know it's been breached for a number of years. It shows up
16 on a county map, the two dams in place, and on the topo maps it
17 shows the two dams, too.

18 Looking at the fact that at one time they did exist
19 together and looking at the expected runoff from a 50 percent
20 chance or one every two years, you would exceed the storage
21 capacity of both dams, we are recommending approval for the
22 structure. One of things we asked on the design of this
23 structure is knowing that there was a downstream dam, we asked
24 them to design in a low flow bypass structure on the dam as a
25 12-inch diameter pipe that's at the base of this 84-inch riser

1 that leads out into the reservoir, so they could release low
2 flows through that structure if needed. So with that, the
3 chief engineer is recommending approval, there's unappropriated
4 water available and then the qualification for the low flow
5 bypass for downstream domestic use or prior water rights.

6 Getting back to the map, I did want to point out, we
7 are talking about the size of the drainage area. At the north
8 end of the map there's two 48-inch culverts through the road
9 there on Mill Iron Creek and at the very south end of Section
10 35, there's a 72-inch culvert, so at times they expect large
11 flows in the drainage areas looking at the culvert design.
12 With that, I will answer any questions. I know the applicant
13 is here and the opponent is here also.

14 MR. BJORK: Ms. Best, do you have some questions?

15 Q. (BY MS. BEST) I wanted to finish up here, Tim. You
16 mentioned the previous dam so I wanted to clear up for the
17 board, we are looking at a new water permit and the priority
18 date would be 2008; is that correct?

19 A. I forget the date, but it would be a recent date.

20 Q. It would be the date of filing this application.

21 MR. HALLEM: Ms. Best, that date would be in the
22 application, which would be in DENR Exhibit 1, correct?

23 MS. BEST: Yes.

24 Q. (BY MS. BEST) October 2008 is when it's filed, okay.

25 A. Yes.

1 MS. BEST: I have nothing further.

2 MR. BJORK: Counsel for the applicant, questions.

3 MR. HALLEM: The applicant is pro se, vice chairman,
4 so he would be able to ask questions, but Mr. Cannon, this is
5 not the time for you to testify. You will have that
6 opportunity when you are under oath, so this part of the
7 process. Since you are pro se, you have the ability to ask any
8 questions of Mr. Schaal just like Ms. Best and counsel for Mr.
9 Barber.

10 MR. CANNON: No, I don't have no questions.

11 MS. BARON-HOUY: I have some questions.

12 CROSS-EXAMINATION

13 BY MS. BARON-HOUY:

14 Q. Mr. Schaal, I first want to go over DENR Exhibit 3.
15 What is your understanding with respect to proximity to the
16 proposed dam, what is your understanding of the location of the
17 property that Mr. Barber owns? Do you have such an
18 understanding?

19 A. It's in his letter in the file. It was I believe the
20 east half of Section 35 and maybe the whole Section 2.

21 Q. Okay, would it surprise you, then, if he also owned
22 the southwest quarter of Section 35?

23 A. No. That's fine.

24 Q. What is your understanding right now as to how Mr.
25 Barber receives water onto his property?

1 A. Into his permitted dam?

2 Q. Yes.

3 A. It's on Mill Iron Creek so whenever Mill Iron Creek
4 has flow, it would end up in Mr. Barber's dam.

5 Q. Is it a fair statement that putting in the proposed
6 dam will cut into that flow that would otherwise be coming onto
7 his property and into his dam?

8 A. Yes.

9 Q. And with the bypass structure that you mentioned being
10 a pipe, is it fair to say, then, that Mr. Barber would now
11 receive water from a pipe rather than from the natural flow of
12 the stream?

13 A. He would be getting the flow through -- if the
14 proposed dam was constructed, the flow would have to go through
15 the spillway, similar to those two culverts through the county
16 road.

17 Q. When you issued this report, did you take into account
18 that difference?

19 A. No. I looked at the total yield and the storage
20 capacities of the two dams. Again, if the proposed dam is
21 built and they fill up, you are dealing with evaporation, which
22 is less than the total storage capacity also, so I just felt
23 there was plenty of water in the expected runoff.

24 Q. Would you agree that there is a difference in the way
25 Mr. Barber receives the water now as opposed to how he would

1 receive it if this dam was built?

2 A. It will be metered through the proposed dam, yes.

3 Q. And would you agree that that is -- strike that. Is
4 it fair to say that how he would receive it under the proposed
5 dam is going to negatively impact his receipt of water as
6 opposed to how he's receiving it now?

7 A. I guess I would have a hard time answering that.
8 "Negative" is kind of vague. I don't really know what that
9 means.

10 Q. I understand that. It's not the best question.

11 A. It's going to be a process where the upper dam is
12 going to fill and spill and water will go downstream similar to
13 the case now with Mr. Barber's dam, he's fill and spill for
14 water to go downstream.

15 Q. I want to talk a little bit about the bypass structure
16 that would go onto this proposed dam. You indicated in your
17 report that it's 12 inches in diameter.

18 A. Yes.

19 Q. Is that pipe, is it flush with the ground or does it
20 sit above the ground or do you know?

21 A. The engineer might be able to answer that, but my
22 thought is it was at the bottom of the riser and that's pretty
23 much at the bottom of the proposed reservoir. It might be off
24 the ground a little bit just for sediment purposes.

25 Q. And that's my next question, if you know, is there a

1 mechanism to filter out dirt?

2 A. Not that I'm aware of.

3 Q. And do you know how this bypass structure will be
4 policed or if it's an automatic mechanism that would open and
5 close?

6 A. It's going to be a bolted plate on the pipe, so it's
7 going to actually take some physical effort to open it up.
8 It's not automatic.

9 Q. Do you have much experience dealing with that type of
10 bypass structure?

11 A. I've seen it in other designs, yes.

12 Q. Do you have any knowledge as to how generally they are
13 operated, in your experience? Does someone -- for example, if
14 someone has a dam with that type of bypass structure in place,
15 is it typically the owner who would go open and close it?

16 A. I suppose so. There can certainly be arrangements
17 between neighbors and if the owner is away and the neighbor
18 needs to open it, maybe just a phone call.

19 Q. I want to talk a little bit now about some dugouts on
20 Mr. Cannon's property. Is it your understanding that there
21 exists a dugout where this proposed dam would be built?

22 A. Yes, in February I made a tour of this site with Mr.
23 Barber and we looked at several things. There were two dugouts
24 upstream of the proposed dam. They would be both in the
25 northeast quarter of Section 26, 104, 77.

1 Q. And are those -- those are not on this map, on this
2 Exhibit 3, are they?

3 A. No.

4 Q. And doesn't Mr. Cannon have another dam north of this
5 proposed dam?

6 A. I guess I'm not aware of that.

7 Q. When you were creating your report, did you exclude
8 water from those dugouts in making your calculations?

9 A. And I actually had my report completed before I looked
10 at those dugouts. My thought at that time was both of those
11 dugouts would be within the reservoir area of the proposed dam,
12 so it was kind of a moot point. After looking at the map again
13 and the reservoir inundation map that's in the file, I'm
14 guessing now that one of the dugouts is outside the proposed
15 reservoir, but again, those dugouts are less than an acre foot
16 of water and I don't think would have much impact.

17 Q. But there would be some difference in the numbers?

18 A. Correct.

19 Q. You indicated in your testimony and in your report
20 that at one point in time a dam existed where this proposed dam
21 would be put at the same time that Mr. Barber's current dam
22 existed. That was a terrible question.

23 A. And to the best of my knowledge, yes, they were both
24 in place at the same time. They show up on a county road map
25 that shows two dams and then showing up on the topo map and you

1 can tell that there's a dam grade there. If they were both
2 full at the same time, I guess I can't answer that.

3 Q. And you don't know when that was?

4 A. No.

5 Q. And theoretically, it could have been when all of that
6 land was prairie land.

7 A. The bottom dam, Mr. Barber's dam, is a WPA structure,
8 so that was put in in the 1930s.

9 Q. Under the proposed dam setup, how long will it take
10 water to run down from the dam to Mr. Barber's dam?

11 A. Well, there's a lot of variables there.

12 Q. I'll rephrase the question. Do you know what the
13 difference will be in the speed of the water under the proposed
14 dam as opposed to now?

15 A. No.

16 Q. And would you agree that if the stream or the creek is
17 dry below the proposed dam location, any water that comes
18 through, some of that will be soaked up by the ground?

19 A. Correct.

20 Q. And do you know how it will work in terms of this
21 bypass structure, if you could explain a little bit who opens
22 it up, when it needs to be open, when it needs to be closed in
23 order to preserve Mr. Barber's priority rights?

24 A. Well, my wish would be that everybody gets along and
25 they can have agreements on how it's operated or when it's

1 operated. If not, we, the DENR staff, might have to make an
2 investigation and determine if yes, water needs to be released,
3 then we would eventually maybe issue, the chief engineer would
4 issue an order to open up the bypass.

5 Q. And in a perfect world, I guess what are the
6 circumstances in which it will need to be open and when would
7 it have to be closed, then?

8 A. Well, that's hard to say for sure, too, but ideally
9 the downstream dam could not ask for storage water to be
10 released. It has to be inflow, so if there's inflow coming
11 into the upper dam and it's not making it down to the lower
12 dam, that's when they should be making releases. If the lower
13 dam wants water from the upper dam and there's no inflow, then
14 that's not a legitimate call for water.

15 MR. BARBER: Can I make a clarification?

16 Q. (BY MS. BARON-HOUY) So when inflow stops, that's it
17 for Mr. Barber in terms of receiving water?

18 A. The applicant would not have to release storage.

19 Q. And isn't it true that Mill Iron Creek has no natural
20 water source, it's purely precipitation driven?

21 A. Correct.

22 Q. Correct me if I'm wrong, but if it rains, all that
23 water needs to go down to Mr. Barber and Mr. Barber needs to be
24 filled up before Mr. Cannon can take any of that into this
25 proposed dam.

1 A. That's the way I'm seeing it with the priority dates.

2 MS. BARON-HOUY: May I have a moment with my client?

3 (Brief pause.)

4 MS. BARON-HOUY: I have nothing further at this time,
5 thank you.

6 MR. BJORK: Ms. Best, any redirect?

7 REDIRECT EXAMINATION

8 BY MS. BEST:

9 Q. Just one item here, Tim. Can you explain a little bit
10 more fully to the board about this issue of inflows being able
11 to be released downstream to the senior water right holder but
12 not stored water and how that -- why that works that way?

13 A. Maybe you should explain that.

14 Q. But I guess my point was -- I should have asked more
15 specifically. I was being kind of vague. Are you indicating,
16 then, that when both dams are full, that once both dams are
17 full, the upstream water right holder, which would be Mr.
18 Cannon, would have the ability to continue to use that stored
19 water without having to release it to the downstream owner,
20 right?

21 A. That's my understanding of the low flow bypass
22 qualification. It means that you have to bypass inflow. Once
23 the storage is there, that's yours to use. Any new water or
24 inflow should go down to Mr. Barber technically first.

25 Q. And if this dam were -- this proposed dam were not in

1 place and Mr. Barber filled his dam, he would not be able to
2 have an ability to call for more water from any place else
3 other than inflows, would he?

4 A. Correct.

5 Q. So he's in no different position once this stored
6 water, if his stored water is lowered, he's in no different
7 position now with the proposed dam in place than he is now,
8 he's only entitled to inflows; isn't that right?

9 A. Yeah, and I guess a way to look at it is, he's not
10 entitled to inflows unless it rains or you got runoff.

11 MS. BEST: Thank you.

12 MR. BJORK: Mr. Cannon, any redirect questions?

13 RECROSS-EXAMINATION

14 BY MR. CANNON:

15 Q. I got a couple of them. Have you been out there, Mr.
16 Schaal, to see the erosion factor where the old dam has washed
17 out?

18 A. Yes.

19 Q. And that's, I guess, if I get up there, I guess I can
20 talk about that, but you probably haven't noticed how much
21 erosion has been caused off my property because of this or
22 anything. Have you seen how deep that hole is there?

23 A. I didn't look at that. I just looked at the dam grade
24 and saw the breach in the grade.

25 Q. Okay, and I guess it's a fair assumption to say that

1 in your mind, with your expertise and stuff, that you think
2 there's enough water for both dams.

3 A. Yes.

4 MR. CANNON: That's all I need to say.

5 MR. BJORK: Questions from the board for Mr. Schaal?

6 MR. BRINK: Mr. Chairman, I would have one and it's
7 more or less in regard to --

8 MR. HALLEM: Excuse me, Mr. Brink. Counsel for the
9 petitioner.

10 MS. BARON-HOUY: I have one follow-up. Thank you.

11 RE CROSS-EXAMINATION

12 BY MS. BARON-HOUY:

13 Q. Mr. Schaal, there is a difference in the method in
14 which Mr. Barber would receive water with this proposed dam put
15 in place, isn't there?

16 A. Are you referring to the bypass structure?

17 Q. Yes.

18 A. Yes.

19 Q. And he won't get runoffs if this proposed dam is put
20 in place, he will be receiving water from the bypass structure
21 pipe; isn't that right?

22 A. Well, the only way he's going to get water from the
23 bypass is to open the valve or the gates. He's going to get
24 water through the spillway structures. When there's enough
25 runoff and Mr. Cannon's dam fills up, it's going to go through

1 the spillway. With a drainage area this big, more than likely
2 when you have runoff, you are going to have more runoff than
3 either dam needs. Every time it rains, if the upstream dam is
4 low, it might not get to Mr. Barber, that would be the time you
5 have to open up the valve.

6 MS. BARON-HOUY: Nothing further. Thank you.

7 MR. BJORK: Now questions from the board. Sorry.

8 EXAMINATION

9 BY MR. BRINK:

10 Q. Just so I'm clear, if this dam is not full and we have
11 runoff from the watershed, does Mr. Cannon have to bypass
12 through his structure at least to keep the channel full during
13 this inflow period, even though he may be below 83 acre-feet in
14 storage? Is that the way it operates?

15 A. That's the way the law says it should work, yes.

16 Q. So then in the next sentence it says the application
17 also requests impoundment of sufficient water to maintain water
18 at the outlet elevation. All bets are off, then, during this
19 inflow period if downstream -- if this dam isn't overflowing,
20 he has to bypass to meet the instream needs, is that it?

21 A. I don't like the word instream need. The downstream
22 reservoir needs to get its fill.

23 Q. Okay. So as long as everybody understands that, at
24 least the way you are explaining it to me, if there's inflow
25 into the Cannon Dam and the downstream dam isn't full, he has

1 to let it all go or at least the amount of inflow into the
2 Cannon Dam.

3 A. Correct.

4 MR. FREEMAN: Until Barber Dam is full.

5 A. Right.

6 MR. FREEMAN: Then Cannon can start filling his.

7 A. Yeah, and if it's a case of there's enough inflow and
8 the spillway is running, then there's no reason to open up the
9 low level bypass.

10 MR. CANNON: I have one other question, too, for
11 clarification.

12 MR. BJORK: You will have plenty of chance. Other
13 questions from the board for Mr. Schaal.

14 EXAMINATION

15 BY MR. HUTMACHER:

16 Q. Thank you, Mr. Chairman. Just for clarification, you
17 referred to -- you showed both dams on an old county
18 photograph. You are referring to the Barber Dam and the Cannon
19 Dam that has been breached. There was a dam there and it
20 showed both of them at one time.

21 A. Yes, and I have a county map with me if people would
22 like to see that.

23 Q. My next question is, according to Exhibit 3, it shows
24 the Barber Dam backs water up approximately a half mile.

25 A. Yes.

1 Q. I'm assuming that these dams are going to be
2 relatively the same size, that this one would probably back
3 water up approximately the same distance.

4 A. And that's correct. The proposed dam will go across
5 that half section line three or 400 feet, and that's where I
6 got into my discussion about those other dugouts. At first I
7 thought both of those dugouts may be inundated by this
8 reservoir. Now my thoughts are probably just one of them.

9 Q. And my final question is when this -- supposedly the
10 Sweeney Dam, when it was reconstructed, do you know, was that
11 increased in size? Was the embankment made higher?

12 A. The embankment could have been made higher. It was a
13 Ducks Unlimited project so they do a pretty good job of repair.
14 I don't think the water level was probably changed.

15 MR. BRINK: Where is that Sweeney Dam?

16 A. The Sweeney Dam is Mr. Barber's dam.

17 MR. FREEMAN: It's what we are calling the Barber Dam.

18 MR. BRINK: All right.

19 A. That's the WPA dam that was at one time breached and
20 then came back.

21 MR. BRINK: Did you also call that Ramser?

22 A. Yes.

23 MR. BRINK: It has a whole bunch of names. Okay.

24 MR. HUTMACHER: I have one more question.

25 Q. (BY MR. HUTMACHER) Are there any dams on that Mill

1 Iron Creek down below this Barber Dam further that you are
2 aware of?

3 A. And I didn't do an investigation. It would dump into
4 the White River. All I looked at was those three sections that
5 are on the map.

6 MR. HUTMACHER: Thank you.

7 MR. BJORK: Any other questions?

8 EXAMINATION

9 BY MR. HOLZBAUER:

10 Q. I'm not a civil engineer like Fran and I appreciate
11 his knowledge and his questions, but on laymen's terms here,
12 the new dam is going in, that dam let's say is 20 feet, I'm
13 just using examples here, 20 feet tall. No rain has come and
14 now the water level is only at 10-foot level, okay? So now we
15 get a little rain, it's not enough to fill the Cannon Dam, so
16 the bottom dam receives none, the Barber Dam receives none.
17 But now his water level, the Cannon Dam now is at 15 feet, it
18 raised it five feet, okay? So then he's got to release enough
19 water to get it back down to the 10-foot level of his dam in my
20 example or my question?

21 A. I know what you are asking, but I don't think the
22 water level on Mr. Cannon's dam is as relevant as the water
23 level on Mr. Barber's dam. He's got to release inflows to fill
24 the downstream dam if there's enough inflow to do that.

25 Q. That's kind of what I'm saying. He didn't receive any

1 water because the top dam, the Cannon Dam, it ain't full yet.

2 A. Then the upstream dam water level would be relevant
3 and if there's inflow that needs to be released, he wouldn't
4 have to release more inflow than what he started out with on
5 his reservoir.

6 Q. And the inflow, it changed his dam, the Cannon Dam
7 from 10-foot level in my example to 15 foot, so he had to
8 release it back down to the 10-foot level and then he can shut
9 off his overflow or bypass or whatever, huh?

10 A. Correct.

11 Q. That's how this works?

12 A. Correct.

13 MR. HOLZBAUER: Thank you.

14 MR. BJORK: Mr. Schaal, I do have one question, given
15 the discussion here.

16 EXAMINATION

17 BY MR. BJORK:

18 Q. Does there have to be some type of contract or
19 agreement between the parties to make this happen? Otherwise
20 it's pretty haphazard. Every time it rains and there's some
21 inflow, the downstream water right is going to demand that they
22 get their water before the upstream water right and who then
23 opens the. . .

24 A. I'm not sure that's our duties. Maybe Diane has some
25 difference on that. Ideally, it would work best if everybody

1 is in agreement how they are going to do it, and maybe just
2 between the two parties themselves, to work that out.
3 Otherwise we might be down there quite a bit refereeing the
4 situation.

5 Q. You don't want to do that I don't suspect.

6 MR. FREEMAN: Neither one of these gentlemen live on
7 the property, at least they have got out-of-town addresses.

8 A. Yeah, there's no homes on this property where these
9 gentlemen live.

10 MR. BRINK: Maybe they would like to hire a water
11 master.

12 MS. BEST: If I may, there certainly are a number of
13 other situations like this around the state where there are low
14 flow bypass requirements. There are these pipe structures, Tim
15 testified to that, and the landowners have to get along or the
16 chief engineer will see to it that the low flow bypass
17 structure works. And if they don't, they will sooner or later
18 get it because the State will be involved. But as far as how
19 it's set up right now, in reviewing it, the DENR has not
20 historically told people, look, you are neighbors, you have to
21 get along or you have to have a contract or whatever. We just
22 assume that people are going to get along and if they don't,
23 they will, we will get on it. I mean, that's basically the
24 philosophy of the department and in going through these things,
25 we don't require contracts between two private parties.

1 MR. BRINK: You almost know there's going to be some
2 time delay, a little slippage between fresh runoff, somebody
3 reacting, opening the diversion, getting all that done, so I
4 would say the downstream reservoir holder is going to lose in
5 the process until everybody gets together and say, well, we
6 gotta open the bypass. Yeah, as long as they understand, they
7 can get along.

8 MR. HALLEM: Mr. Brink, we are getting close to
9 argument on it. What I would ask is that the parties -- we
10 have a witness here and the questions be addressed to the
11 witness, and Mr. Vice-Chairman, if the board doesn't have any
12 other questions on it, then there would be follow-up by counsel
13 and the parties.

14 MR. BJORK: Follow-up questions?

15 MR. CANNON: No, sir.

16 MS. BEST: I have nothing.

17 MS. BARON-HOUY: Nothing.

18 MR. BJORK: You are excused, Mr. Schaal. Ms. Best,
19 any other witnesses?

20 MS. BEST: I have no further witnesses. I turn it
21 over to the applicant.

22 MR. BJORK: Mr. Cannon.

23 MR. CANNON: I can get up for a minute.
24 Thereupon,

25 ROBERT CANNON,

1 called as a witness, being first duly sworn as hereinafter
2 certified, testified as follows:

3 MR. CANNON: My name is Robert Cannon. I bought that
4 place approximately 10 years ago and since that time when I
5 first bought it, this dam, I don't know when it washed out, but
6 since every year, especially not this year, but last year when
7 there was so much water across there and stuff, it looked like
8 a little Missouri River all the way back through there. And
9 now there's a hole on my property that's probably, I don't
10 know, 25 foot deep by 60 or 80 yards long and each year it just
11 keeps getting bigger and bigger, and the dam, the water that
12 was originally there when I bought the place has gradually --
13 it's depleted to nothing there.

14 The reason I was going to put this dam in, number one,
15 was for habitat, and to stop the erosion on my land, and I'm
16 not here to get into the Hatfields and McCoys or anything like
17 that. Whatever the water board tells me I would have to do if
18 we do put this dam in, that's what I'm prepared to do. I guess
19 that's all I've got to say. So I guess I'm up here to take any
20 questions from anybody that I can answer anyway. I've had Mr.
21 Konechne, he did any engineering on it and if you ask me any --
22 I can do it in laymen's terms, but I can't do it in engineering
23 terms.

24 MR. BJORK: Ms. Best, any questions?

25 CROSS-EXAMINATION

1 BY MS. BEST:

2 Q. Mr. Cannon, the permit application requests water for
3 fish and wildlife production, recreation, and livestock water
4 purposes. What are your intentions with regard to livestock
5 water purposes?

6 A. At this point none. We farm up on basically the west
7 side and a little bit on the north, but down there, that's CRP
8 ground, but it's just pasture, just grass on there. There
9 wouldn't be no livestock in there. The way it's backed up,
10 it's not like there is five foot of water all the way back
11 there. Where we are going across there, right at the dam it
12 might be six, seven feet, if it was full, but for the most part
13 it's only going to be 18 inches deep back through there or
14 something.

15 Q. So the only livestock, so to speak, that would be
16 drinking from this dam would be likely to be deer and antelope?

17 A. Yep, pheasants.

18 Q. You heard discussion here today about the low flow
19 bypass structure.

20 A. Yes.

21 Q. And you understand that it's a pipe structure that
22 needs to be manually operated in order for the flows to go
23 downstream.

24 A. Correct, until it's going over the overflow.

25 Q. And what are your intentions with respect to the

1 manual operation of that structure, considering that you live
2 out of state? Do you have someone available to handle that for
3 you?

4 A. Yes, I've got -- even though I do, Chuck Jasnoch, who
5 is moving here -- he's basically already here, he spends 90
6 percent of his time here. He's getting a house built. He's
7 going to be here. Between him and Gary Diehm, who has been
8 farming it for us, they are over there, Gary lives eight miles
9 from there, 10 minutes away, whatever. So it's not like I'm
10 going to have to come back from Wyoming to open the gate or
11 anything like that.

12 MS. BEST: I have nothing further.

13 CROSS-EXAMINATION

14 BY MS. BARON-HOUY:

15 Q. I have a few questions. Thank you. Mr. Cannon, just
16 for the record, where do you live?

17 A. I live in Green River, Wyoming.

18 Q. And you testified that there are a couple of
19 individuals, at least one individual who tends to some of your
20 land up in this area in Section 26.

21 A. Yes.

22 Q. And one of those individuals lives eight miles away?

23 A. Yes. Approximately.

24 Q. So maybe could you please explain what you envision in
25 terms of when it starts raining, what's going to happen with

1 this bypass structure that needs to be opened and closed
2 manually?

3 A. Well, it's going to be -- in a perfect world they are
4 both going to be full and all that stuff. But whatever -- this
5 is where I'm going to have to make a decision. If they approve
6 the dam, I've got to make sure that I'm going to have water in
7 this dam or I'm probably not going to build it. I'm not going
8 to put out \$50,000 or whatever it costs to have a dry
9 structure. But some way or another my goal here is to stop the
10 erosion on my property because this hole is getting bigger and
11 wider every year.

12 Q. And that's your motivation in building the dam?

13 A. And plus for wildlife habitat.

14 Q. Okay, so back to my question. What do you envision
15 being done in terms of this bypass structure needing to be
16 manually opened and closed when it rains?

17 A. Back to your question, what I'm saying is what the
18 people here tell me I need to do, if I can only maintain a
19 certain level, if I put the dam in and that level gets too low,
20 somebody tells me I need to open it, one of these individuals
21 will open the bypass. Like I say, I'm not here for the
22 Hatfields and McCoys.

23 Q. Is it fair that -- strike that. Which is the
24 individual that lives approximately eight miles away?

25 A. Gary Diehm.

1 Q. Mr. Diehm?

2 A. Uh-huh.

3 Q. He's probably not always at home; is that correct?

4 A. I would say he's at home as much as what you are,
5 because Gary is a big farmer around here. If he's not here,
6 Chuck Jasnoch is going to live 30 miles from there, so I would
7 say no, Gary Diehm is not home 100 percent of the time, as
8 nobody else is.

9 Q. I want to talk a little bit about some of the dugouts
10 on your property.

11 A. Okay.

12 Q. How many dugouts are on your property within this
13 Section 26?

14 A. Two, I think.

15 Q. When were those put in?

16 A. February probably.

17 Q. Of 2009?

18 A. Within the last six or eight months, let's put it that
19 way.

20 Q. Did you ever file any notice?

21 A. They told me -- they did file, Chuck Jasnoch put a
22 notice in there and all that stuff. It was all done --
23 anything I've ever did up there, I just don't go out there and
24 just tell him to start digging or anything. We use the England
25 Brothers up there. When I drill water wells, I try to follow

1 the letter of the law.

2 Q. And do you have another dam further north of this
3 proposed dam?

4 A. Not to my knowledge. You know, there's a little
5 washout from the other side of the culverts where it comes
6 across the county road, there's a washout right there. It's
7 not no dam. It's not 12 feet wide. Let me back up from that.
8 Now that you say that, on this drainage here, no, there's not,
9 there's more of a dugout up there, oh, I guess it would be
10 probably to the northwest, kind of guessing, northwest to the
11 southeast there's a little dugout type deal there, but I
12 wouldn't really call it a dam as much as I do a dugout. It's
13 not really on the creek.

14 Q. Are you looking at Section 26 of DENR Exhibit 3?

15 A. Yeah. There's a little dugout there more or less, I
16 wouldn't call it a dam because it's not really right in the
17 creek there or anything, it's quite a ways away, a few hundred
18 yards.

19 Q. Would it be fair, then, that there are four little
20 bodies of water within that half section of Section 26?

21 A. Yes, that probably hold maybe a half acre-foot.

22 Q. Apiece?

23 A. Yeah.

24 MS. BARON-HOUY: May I have a minute with my client?

25 MR. BJORK: Certainly.

1 MS. BARON-HOUY: I have nothing further. Thank you.

2 MR. BJORK: Questions from the board for the
3 applicant.

4 EXAMINATION

5 BY MR. HOLZBAUER:

6 Q. This dam that you are thinking about putting in is
7 coming down this Iron Creek, and looking at this map here,
8 there is a couple other drainages that this dam is not going to
9 affect, am I not -- one coming kind of from the west and one
10 kind of coming from the north. Is that true? That goes on
11 down Iron Creek -- what word do I want to say -- downstream
12 from the dam that you are proposing? That that flow would not
13 even be -- this dam you are not putting in would not affect
14 that, right? Do you see what I'm saying on that map?

15 A. I see what you are saying there. Yeah, there would be
16 one for sure that wouldn't be affected would be on the back
17 side of that dam that comes across from the neighbors there and
18 stuff. It runs down in there between the two dams.

19 Q. And this Iron Creek, this Iron Creek or this Mill Iron
20 Creek, is that a fairly dry creek or is it --

21 A. Yeah, it's fairly dry unless. . .

22 Q. Unless it rains?

23 A. Yeah, where it really runs is where the ground is
24 still froze.

25 MR. HOLZBAUER: Thank you.

1 MR. BJORK: Other questions from the board. Ms. Best,
2 any redirect?

3 MS. BEST: I have nothing.

4 MS. BARON-HOUY: Nothing.

5 MR. BJORK: Thank you, Mr. Cannon. For the
6 intervenor, then. Do you have any other witnesses, Mr. Cannon?

7 MR. CANNON: No. Well, I might, yes, if we are going
8 to do this, can I call my expert, Dave Konechne, who is the
9 engineer that put it together. Maybe he can shed a little more
10 light on some things.

11 MR. BJORK: Mr. Konechne, would you come up and be
12 sworn in.

13 Thereupon,

14 DAVE KONECHNE,
15 called as a witness, being first duly sworn as hereinafter
16 certified, testified as follows:

17 MR. KONECHNE: When Mr. Cannon recently had me look at
18 the site, I knew there was a dam downstream, I was aware of
19 this, the Barber Dam downstream, and before I told him I was
20 going to get him water, I reviewed some of the material of the
21 design material they had downstream by Ducks Unlimited, and
22 they did have, and they cite in there the annual yield for the
23 drainage area was 50 percent chance of occurrence or one out of
24 two years is expected to be approximately 212 acre-feet. Based
25 upon that and their storage in there was eighty some acre-feet,

1 I told Mr. Cannon we could go ahead, that there should be
2 plenty of water for both dams.

3 And in the process of working up my computations,
4 reviewing what the designs, whoever the designer was on the
5 lower downstream dam at the SCS, the Soil Conservation Service,
6 annual yield method and what we have in there, we have got they
7 call cover numbers, for instance, a cover number of 100 is like
8 concrete where any rainfall that runs off is just going to run
9 off and the lower cover number, 50, would be something like a
10 sponge that's going to really soak it up. They used a cover
11 number of 70 and I guess, even without using that, we had
12 plenty of water.

13 But the soils there, reviewing the soils there, they
14 are a milborough soils, which is a clayey soil, which puts the
15 runoff anyway, I come up with a cover number of about 80 on the
16 thing, which means you would yield more water than what was
17 anticipated in the design originally. Based on that, I told
18 Mr. Cannon I see no problem with having enough water, to go
19 ahead on there.

20 The 212 acre-feet that was estimated by Mr. Barber's
21 engineer, he had 72 acre-feet in his, Mr. Cannon is 83, that's
22 155. There should be plenty of water coming down that draw for
23 both structures. The thing I told Mr. Cannon, what he is going
24 to do, any water he does bypass is going to be basically he's
25 going to be trapping the sediment in his structure and it

1 should be clean water going on into the Barber structure, which
2 would be -- he would be like a sediment trap right above it,
3 whether he wants that or not. But that's what we got.

4 There was a question before on the height of the
5 drawdown structure, that's a half a foot off the bottom of the
6 riser and it's about out of the ground already.

7 MR. BJORK: Mr. Cannon, do you have any questions for
8 your witness?

9 MR. CANNON: The only thing I'd say is basically what
10 you are saying, you used, if we took their engineer's deal,
11 there would still be 60 acre-feet more going past both dams in
12 a normal year.

13 MR. KONECHNE: Correct, based on the figures. But if
14 I were to do the same figures, 80 percent, I would have had 304
15 acre-feet at 50 out of 896, using a cover number of 80, which
16 is I think more indicative of the clay soils in that area. I
17 think I used roughly 70 percent farm ground and 30 percent
18 pasture ground.

19 CROSS-EXAMINATION

20 BY MS. BEST:

21 Q. I have a few questions. Mr. Konechne, you are a
22 registered professional engineer; is that correct?

23 A. Correct.

24 Q. And how long have you been a registered professional
25 engineer?

1 A. Probably 30 years.

2 Q. And before you engaged in consulting, what was your
3 work experience?

4 A. I worked for the soil conservation, now it's called
5 the National Resources Conservation Service, as a field
6 engineer, mainly doing dams and other pipeline work.

7 Q. And then how long have you been in the consulting
8 business?

9 A. Probably four years.

10 Q. Do you have previous experience designing the type of
11 structure that we are dealing with today?

12 A. Correct.

13 Q. And is using a drop inlet structure such as you
14 designed for this dam a common method?

15 A. Very common.

16 Q. And a question arose earlier today about whether a
17 silt control device would be necessary to avoid having silt get
18 into the drop inlet structure. Is that something that ought to
19 be done here?

20 A. I think the site there, there already appears to be an
21 old borrow or dugout right in front of this where the dam is
22 going to be, which is going to trap any silt in it.

23 MS. BEST: I have no further questions.

24 MR. BJORK: Counsel.

25 CROSS-EXAMINATION

1 BY MS. BARON-HOUY:

2 Q. I have a couple questions. I actually want to take a
3 look at I believe this would be in DENR Exhibit 1, and some
4 documents that were attached to Mr. Cannon's application.
5 Pardon me, your last name?

6 A. Konechne.

7 Q. Mr. Konechne, do you recognize this little packet I'm
8 going to hand you? It says page one at the bottom and it's
9 entitled sites XEQ and it has the date of 10-17-2008.

10 A. That's a FUD routing where we put -- when we design a
11 structure like whatever size store we put through the pipe, I
12 have to look at what we do in here. It also sizes the
13 emergency spillway and sizes our pipe for us based on the
14 drainage area and what we have.

15 Q. I want to look to page two of this and I've done some
16 highlighting, ignore that, but could you explain just into the
17 record, it says basic data and then there are a bunch of --
18 there are various numbers and it looks like it talks about
19 storm distribution. Could you go through that basic data
20 section and explain to me what this means?

21 A. It looks like what we are doing here, based on the
22 size of the drainage area, my design requirements are for a
23 10-year storm, which in this case is 3.5 inches.

24 Q. We need to make sure our court reporter gets this down
25 so when we read it later it makes sense. Could you explain

1 what you are looking at and what you are explaining?

2 A. Okay, we are routing -- there's two different routing,
3 one for the emergency. The first one here is what we call the
4 principal spillway is the pipe, which is sizing our 60-inch or
5 72-inch riser.

6 Q. Is that where it says precip?

7 A. Precip, and that's the 3.5-inch rainfall, that's a
8 10-year rainfall for this area. The four two is a 25-year
9 storm for that area.

10 Q. What are the zeros in there?

11 A. They are basically part of the program that I'm not
12 using. If I plugged in for -- if there was probably water
13 running down the stream or something, we would have to add
14 something else to it.

15 Q. Okay.

16 A. We are just looking at just rainfall amounts, no live
17 water.

18 Q. So how do those numbers correspond to those letters
19 and words right above there? It says PPS one day. How do
20 those numbers correspond, if they do, to those words?

21 A. This is a three-and-a-half-inch rainfall, a one-day
22 event.

23 Q. So that is corresponding to the PPS one day?

24 A. Yep.

25 Q. And the 4.20 corresponds with?

1 A. With the precipitation, this happens to be a 25-year
2 event.

3 Q. Does that have anything to do with the P slash SD?

4 A. Precipitation, might be South Dakota there, I'm not
5 sure.

6 Q. Thank you for that. Looking directly above that where
7 it says storm distribution, it says it twice, could you explain
8 to me what each of those lines means?

9 A. We are using it's a 24-hour type two rainfall
10 distribution amount and this is again -- this program is an
11 SCS, it's on the Internet, anybody can use it, a program.
12 Basically a type two rainfall means that there probably was
13 minimum precipitation in the area like before this event, it
14 wasn't a bone dry thing, it might have been -- it isn't like a
15 desert situation, you got the rainfall, it was a normal
16 moisture in the ground and that's what the type two basically
17 refers to.

18 Q. And the name of this program again is?

19 A. This happens to be SITES, it's probably called on the
20 front of the thing, it's a SITES water resource site analyst
21 computer program.

22 MS. BARON-HOUY: Nothing further, thank you.

23 MR. BJORK: Questions from the board.

24 MR. BRINK: Mr. Chairman, I would have one for this
25 witness. I think he can answer all the questions I have.

EXAMINATION

BY MR. BRINK:

Q. Both you and Mr. Schaal agree that -- apparently you agree that a 50 percent event would generate 242 acre-feet of runoff.

A. It makes sense, yeah.

Q. And it sounds like the combined storage of these two reservoirs is something like --

A. 155.

Q. -- 158 acre-feet. And what would be the natural losses in these reservoirs due to percolation and evaporative losses, two, three feet, half of it?

A. Well, like during the year, if you had a hot year, I could see Mr. Cannon, he's got shallow water, that is probably -- a lot of surface area.

Q. These are pretty shallow reservoirs.

A. Mr. Cannon's is. I'm not sure on the other one.

Q. Bottom line is if we started with something in the way of water every other year, the 80 acre-feet that's projected for every year, would you say that given half a chance, if those reservoirs had any water in them, it would fill both of them every year? Do you see where I'm coming from?

A. I would think it's pretty good. I don't know, it seems like the last -- just my observations, the last couple years down there, they have had big events. I worked a little

1 bit with FEMA when they do the road damages and if I recall,
2 the culvert on the mile above this dam was a 48-inch and I
3 think that went out in a rainfall event, and I think they
4 replaced it with another, I think there is probably two 48s in
5 there now.

6 MR. BRINK: That's all I have. Thank you.

7 MR. FREEMAN: I don't think we got your address for
8 the record. I think we probably should have that.

9 A. 104 Capitol Hill Drive, Pierre.

10 MR. FREEMAN: Thank you. That's all I have.

11 MR. BJORK: Any other questions from the board? Any
12 redirect? Thank you, Mr. Konechne, appreciate it. Mr. Cannon,
13 any other witnesses?

14 MR. CANNON: No.

15 MR. BJORK: For the intervenors.

16 MS. BARON-HOUY: Yes, we would call Paul Barber. If
17 you would please state your name and address for the court
18 reporter and she will swear you in.

19 Thereupon,

20 PAUL BARBER,
21 called as a witness, being first duly sworn as hereinafter
22 certified, testified as follows:

23 THE WITNESS: Paul Barber at 3209 Broadmoor Drive,
24 Rapid City, South Dakota.

25 DIRECT EXAMINATION

1 BY MS. BARON-HOUY:

2 Q. Mr. Barber, as you just indicated, you live in Rapid
3 City; is that correct?

4 A. Correct.

5 Q. How long have you lived in South Dakota?

6 A. Most of my life.

7 Q. And regarding the application at issue today, you own
8 property in Lyman County; is that correct?

9 A. Correct.

10 Q. And how long have you owned that particular parcel?

11 A. I think 11, at least 11 years.

12 Q. And is that property close to Mr. Robert Cannon's
13 property?

14 A. It's adjacent to the south.

15 Q. And do you currently have a dam on your property?

16 A. Yes, we have what's commonly referred to as the Ducks
17 Unlimited Dam. I think it was built -- I think the water
18 rights were in 1994.

19 Q. And as we have heard today, is this the dam that's
20 also known as the Sweeney Dam?

21 A. Correct.

22 Q. And the Ramser Dam.

23 A. Yes.

24 Q. I want to talk a little bit about Mill Iron Creek.
25 Below the dam, below your dam, do you know approximately how

1 many additional feet there does exist of Mill Iron Creek on
2 your property?

3 A. Well, in this section above and below the dam, there's
4 13, a little over 13,000 running feet and there's approximately
5 3,000 of that above the dam and then an additional 10,000
6 below.

7 Q. And are you looking at Exhibit 3?

8 A. Yes.

9 Q. Just so your last bit of testimony is clear, are you
10 talking about Section 35 and then below that Section 2?

11 A. Well, from -- in Section 35 on the east half and
12 including the southwest quarter, there's 13,000 feet of Mill
13 Iron Creek, a little over 13,000 feet calculations that we ran
14 by the FSA. The conservation office ran the numbers for us.
15 And then on below that, as it crosses the road, then it goes
16 through our property for another 6,000 feet across Section 2.

17 Q. And how much of Section 2 do you own?

18 A. All of Section 2.

19 Q. And how much of Section 35 do you own?

20 A. We own three quarters, we own the east half and the
21 southwest one quarter.

22 Q. Since you purchased the property in about 1998, could
23 you tell the board a little bit about your experience with
24 water and maybe lack thereof or whatever your experience has
25 been with the water in that creek?

1 A. Well, our experience, when we bought the property, it
2 was wet. The area both above the dam and below the dam had
3 considerable vegetation in Mill Iron Creek and we primarily own
4 this property for wildlife preservation and pheasant hunting.
5 And the creek as it runs all the way through on Section 35 has
6 had a considerable amount of vegetation along that, even below
7 the dam, and in recent years due to the dry conditions, and in
8 fact for two years the dam itself, the Velda Ramser Dam or DU
9 Dam has been totally dry, there's no water in it at all, maybe
10 a little bit in the spring, and then it would dry up due to
11 evaporation.

12 And I think that the dam is shallow like the proposed
13 dam. Evaporation rate in the summer is incredible, and so I'm
14 not sure of the water depth, but it's probably 10 feet or less
15 from the spillway level, and so it evaporates rapidly and the
16 only way that we get water or we get water below the dam is
17 through these heavy runoffs, and again, my concern is we are
18 taking all of this water from up above through the whole runoff
19 area, bringing it down into the property right above us and on
20 that particular road up there through two 48-inch culverts, I
21 think there was testimony that one 48-inch culvert didn't work,
22 they had to go to two 48-inch culverts, and so if we bring it
23 down to our property line, according to the proposal, and then
24 all we get is a 12-inch pipeline out of that.

25 And if you run down through this meandering creek

1 bottom and potholes, you run a 12-inch stream, in warm weather,
2 it probably won't make the dam in its entirety and so it would
3 basically have to run and run and run and I'm still not clear
4 at all on how this would work. I don't know who would measure
5 the water in the dam above the day before it rained so we knew
6 how much water to drain out. I can't see that it would work
7 and if the proposal is that -- once there was a statement,
8 well, the water would run out till it got down to or until the
9 dam below was full, then Mr. Cannon's dam is going to be dry
10 most of the time because our dam is not full but on a few rare
11 occasions.

12 And I think that we -- I grew up in western South
13 Dakota, a little further west, and we rely totally on these
14 dams being full by extreme runoff. If we suddenly reduce that
15 to a 12-inch pipe, my guess is that other than if we got into
16 several really wet years, we would then see it filled. And I
17 think the numbers that -- from the DU work, that 89 percent, 89
18 percent, 89 point some percent of the water that comes into the
19 DU Dam, into our dam would then have to come through their dam.
20 So I think there was -- there is on here a little bit of a
21 tributary that comes into our dam and there is a little bit
22 from the east side, but all of that would amount to 10 percent
23 of water. 90 percent of it would have to come through the
24 proposed dam.

25 And I think -- well, I'm certain that if this dam were

1 put into place, that any vegetation in Mill Iron Creek below
2 our dam would be nonexistent. There just wouldn't be any
3 outflow, unless we get one of the 25 years where we get three
4 or four inches of rain, and which we did, I'm not sure of the
5 rainfall, but we did get a very large rain last year that put
6 water back in the dam at a time that it had been dry for two
7 years.

8 Further down we also have a dugout almost to the
9 bottom of Section 35 just before it goes under the road there,
10 and that dugout has probably been dry for at least five or six
11 years, and when we bought the property, that drop going back
12 from the south edge of 35 back up around that horseshoe was
13 good vegetation and a lot of water and it hasn't even been --
14 we have not even hunted it in the past three or four years
15 simply because there just isn't any vegetation there for it.

16 Q. Mr. Barber, I do have a follow up to that. You have
17 alluded to this, but what is the effect of this drought, so to
18 speak, on the wildlife?

19 A. Well, we see the numbers go down considerably with
20 regard to pheasant population, which is one of our primary
21 issues. We do have a fair amount of deer as well. But because
22 of the drought situation, growing up in western South Dakota,
23 when we had an opportunity to attach to the Jones/Lyman County
24 water line, we actually put that in and we have used water
25 tanks. We have two hydrants, one in the middle of Section 35

1 and one over to the east side of the dam, you will see a little
2 square, which I think represents the home place, and so there
3 is a hydrant there as well. And we put out these little low
4 water tanks in an effort to water especially the young chicks,
5 because the dam was dry and there just is no water in that
6 entire area.

7 Q. Mr. Barber, in your experience and in your estimation,
8 you have mentioned a lot of concerns that you have about the
9 proposed dam. What else do you have in terms of concerns about
10 the proposed dam that you would like the board to know about?

11 A. Well, just the fact that we are not going to have near
12 the water that we have had in the past because obviously some
13 of it will be put up there and if you put it on two levels, the
14 evaporation rate is going to take care of twice -- we are going
15 to double the evaporation rate if we have two dams with that
16 much water in them, and it will definitely affect the
17 vegetation and the habitat all the way down below on Mill Iron
18 Creek.

19 I guess one of the other concerns I have is that if it
20 were to happen and we do this gate thing, how that gets managed
21 from remote. I can't imagine how you would start and stop or
22 know when to or how much to let out, and there will be, based
23 on our experience, which is the last 10 or 11 years, there's
24 going to be years when there just is no water.

25 Q. I guess sort of a follow-up to that concern, do you

1 have someone on your property out there on a regular basis?

2 A. No, we do not.

3 MS. BARON-HOUY: I don't believe I have anything
4 further of Mr. Barber at this time.

5 MR. BJORK: Ms. Best, questions.

6 CROSS-EXAMINATION

7 BY MS. BEST:

8 Q. Yes, I have one. Mr. Barber, the permit that you
9 currently hold, are you aware that it has a qualification on it
10 that provides that low flows as needed for downstream domestic
11 use, including livestock water and prior water rights must be
12 bypassed? Were you aware that condition was on your permit?

13 A. Correct. I have seen it, yes. The facility is not
14 built with anything where you can let it out. I don't know how
15 that would happen.

16 Q. So you have not had any downstream domestic water
17 users make a call on your water, correct?

18 A. No.

19 Q. You are not saying you wouldn't -- if there was a
20 downstream domestic water user that made a call on your water,
21 you are not saying you would violate the permit and not release
22 water, are you?

23 A. Oh, no. In fact there's times when I'd like to --
24 when we have plenty, I'd like to see it run through the rest of
25 the property.

1 MS. BEST: I have nothing further.

2 MR. BJORK: Mr. Cannon.

3 CROSS-EXAMINATION

4 BY MR. CANNON:

5 Q. Mr. Barber, on your -- the last couple years, has
6 water bypassed your dam or have you went out the overflow and
7 let it come on down to Section 35, the southern part?

8 A. Yes.

9 Q. Have you seen that?

10 A. Yes. Yeah, as I said earlier, I think it was July of
11 last year, the dam was dry till we got a rain and when we got a
12 rain, it went through not the -- I'm not sure of the exact
13 termination, but it didn't go out the spillway, but it did go
14 into the overflow, it did go through the overflow, the big pipe
15 that they have coming up.

16 Q. And on your dugout down in the southern part of 35, it
17 hasn't received any water in the last couple years?

18 A. It has. This year it has water in it, yes. It did
19 not receive water from -- it got some water from that runoff,
20 but the water all the way down, it does not -- what is there,
21 10,000 feet of area all the way down through there and even
22 with that runoff, we don't get water all the way to the south
23 edge of Section 35.

24 Q. That's surprising because we have got a dugout over
25 in --

1 MR. HALLEM: Excuse me, you are going to have to ask
2 questions.

3 Q. (BY MR. CANNON) Then if we go -- don't you think it
4 would be good for everybody involved -- well, apparently you
5 don't, but for the dam that I'm proposing to have water
6 upstream so if we do have more storage capacity, rather than in
7 the spring when we need the rain and all that stuff, store the
8 water up there and at least store it rather than just let it go
9 on downstream headed towards the White River?

10 A. Well, I would agree if there were water, if we were
11 getting that kind of runoff, and the erosion that's out there
12 even clear down in Section 2 would give some evidence that
13 there are times when the water has done that. But what I'm
14 more concerned about is that the number of years that we have
15 experienced in 10 when there isn't enough water to make any
16 kind of flow and when the dam is dry two years in a row, there
17 just isn't any water, period. When we have to open the water
18 or put out water tanks to water the wildlife, then that's my
19 cause for concern. And I don't think that you would agree, but
20 if you would agree to release water until our dam is full,
21 period, then even at that point all I've done is protect 3,000
22 feet of my water way and 10,000 feet will go dry, unless we get
23 a big runoff, and everybody knows in western South Dakota the
24 stock dams and all of that rely on spring runoff and
25 thunderstorms and if we don't get those and if what we are

1 doing is putting a big valve right in front of all of that draw
2 for us and reducing those two 48-inch culverts down to a
3 12-inch culvert.

4 Q. Back to my original question. Isn't it better to
5 store as much water as what we can rather than when it does run
6 off all at one time, then it just comes down to you and then it
7 goes either over your bypass or around and then it just goes to
8 naught down to the White River or something? I guess that's
9 what I'm kind of -- isn't it better to try to store that water
10 so if we just keep having rain, the more water we got stored
11 upstream, the more it's going to come down to you, too? Isn't
12 that going to help you?

13 A. Once it's stored, once it's stored, then you don't
14 release to us, under the proposal.

15 Q. But I guess if the Ducks Unlimited engineers and these
16 engineers have testified today, if there is still 90, 80
17 acre-feet going past us and all that stuff, wouldn't it be
18 better to try to store that upstream and stop the erosion on my
19 part and stop the silt from coming down to you? Wouldn't that
20 be better for everybody concerned?

21 A. Well, it wouldn't be better for us if five out of 10
22 years I don't have any water, and we know that the averages are
23 built on very wet years and very dry years, and there is
24 somewhere in between. Almost never is there an average year in
25 waterfall, either we get it all in a very short period of time

1 or we don't get any.

2 Q. Okay.

3 A. Or very little.

4 MR. CANNON: I don't have any other questions.

5 MR. BJORK: Questions from the board for this witness.

6 EXAMINATION

7 BY MR. HUTMACHER:

8 Q. Last year, Mr. Barber, you stated that your dam was
9 dry and then you got this big rain in July and it run over.

10 A. Yeah. Well, it ran out the spillway.

11 Q. The overflow, the tube.

12 A. Yeah, the tube.

13 Q. The spillway is on the side, I think.

14 A. Right, it did not go there.

15 Q. When your dam has been dry several of these years,
16 have you noticed an increase of silt and erosion, your capacity
17 going down? Is it filled up?

18 A. You know, not very much, and I have asked, and I can't
19 tell you who, but I asked someone in the State about the fact
20 that when this dam was dry, could we go in and dig it out or
21 would they go in and dig it out so that there was a deeper
22 reservoir that would sustain water there for wildlife in the
23 dry years. And the answer was no, this is the way we want it,
24 it needs to be more swampy and low level, and so the answer was
25 no, we don't want a deep hole there. And so in the summer

1 months we get this enormous evaporation.

2 Q. I'm assuming that was someone from Ducks Unlimited
3 organization.

4 A. No. It would have been someone from the State, I
5 think maybe Game, Fish & Parks, I'm not sure.

6 Q. But it wasn't from DENR water rights?

7 A. No.

8 Q. The only other one I had, and I asked Tim Schaal this
9 question. When that dam was originally rebuilt in '92 or '94
10 or whenever it was, was that increased? Did they increase the
11 size of it or do you know that answer?

12 A. To my knowledge -- it's not very deep.

13 Q. Yeah.

14 A. So I would guess that there's no way to tell, I mean,
15 based on what we bought, what's there now. I couldn't testify
16 to the depth of the old dam, but if it were any less, it would
17 have been almost useless.

18 MR. HUTMACHER: Thank you.

19 EXAMINATION

20 BY MR. HOLZBAUER:

21 Q. What are the regulations on your dam? What are the
22 regulations for you on your dam?

23 A. Well, it's my understanding that the only requirement
24 we have is that we allow some official, Game, Fish & Parks, I
25 think, comes in and inspects it once or twice a year.

1 Q. Does Ducks Unlimited have any say in the quote,
2 unquote, operation of that dam?

3 A. No. If they do, it's through Game, Fish & Parks.

4 Q. And I see on this map we got, up there on Section 26,
5 you got two 48-inch culverts and down on this section we got a
6 72-inch culvert. That's a lot more water than 48. They must
7 have a lot of water coming down from 35 to 2, Section 35 to
8 Section 2, huh? They must have a lot of water coming out of
9 there. That's a big culvert.

10 A. Yeah. But I've not seen it used.

11 MR. HOLZBAUER: Thank you.

12 EXAMINATION

13 BY MR. BRINK:

14 Q. Mr. Barber, would you describe the fishery that you
15 alluded to here in your letter? Is it in the reservoir or is
16 it in the stream? You say insufficient water to maintain any
17 fishery. Is there a fishery established there?

18 A. None. You couldn't do it because of a lack of water.

19 Q. So you are not inferring that there has been a
20 fishery.

21 A. No. There's not enough water, consistent water. If
22 there were a spring or if there were some kind of flow in this
23 to where there was at least a minimal amount of water, but it's
24 strictly depending on precipitation.

25 MR. BJORK: Other questions from the board? Redirect,

1 follow up, Ms. Best?

2 MS. BARON-HOUY: I do have some redirect.

3 REDIRECT EXAMINATION

4 BY MS. BARON-HOUY:

5 Q. Mr. Barber, there was reference made to the 72-inch
6 culvert down at the southern tip of Section 35. Have you seen
7 any water down there? I think you may have answered this
8 already, but could you describe your experience with water down
9 in that vicinity?

10 A. Well, that's very close to where that dugout is and
11 I've not seen water flow down there at all. But I'm not down
12 there a lot, but just based on the lack of water that we have
13 had the past few years in that dugout right above that 72-inch
14 culvert, I think there is very, very little water flow down
15 there.

16 Q. Do you know how long that culvert has been there?

17 A. I have no idea.

18 MS. BARON-HOUY: I guess if any of the questions that
19 were just asked of you prompted any additional concerns. All
20 right, I have nothing further, thank you.

21 MR. BJORK: Ms. Best.

22 MS. BEST: I would recall Tim Schaal.

23 MR. BJORK: Do you have any questions, any follow-up
24 questions?

25 MS. BEST: No, I have nothing.

1 MR. CANNON: No, sir, none.

2 MR. BJORK: Thank you very much, Mr. Barber. You are
3 excused. Does counsel have any other witnesses for the
4 intervenors?

5 MS. BARON-HOUY: No, we would rest.

6 MS. BEST: I'll recall Tim Schaal.

7 MR. BJORK: You understand, Mr. Schaal, you have been
8 sworn in?

9 THE WITNESS: Yes.

10 DIRECT EXAMINATION

11 BY MS. BEST:

12 Q. Mr. Schaal, you heard the testimony of Mr. Barber
13 about this issue of 90 percent of the flow that he would be
14 getting into his dam would have to come out of the 12-inch low
15 flow bypass pipe.

16 A. Yes.

17 Q. And do you have the same understanding, that 90
18 percent of the flow to the Barber Dam will need to come out of
19 the 12-inch low flow bypass pipe? Is that your understanding
20 as well?

21 A. Well, I think it was alluded to before, and I think
22 what he's referring to is the drainage area size. The
23 downstream dam has an additional about one and a half square
24 miles of drainage area and it was pointed out that there is
25 this other drainage coming from the north and the west. I

1 think the proposed dam, the Cannon Dam, has 10.6 square miles,
2 and if I remember right from the DU project for the Ramser or
3 Sweeney/Barber Dam, it was at 12 square miles. So I think
4 that's what the reference to 90 percent is, just difference in
5 the drainage area.

6 Q. And water would also be available from the spillway
7 during those high conditions.

8 A. Yes, most of the water that goes down to Mr. Barber's
9 dam will be coming through the primary spillway, which is an
10 84-inch riser and a 60-inch barrel, so when we have flow, when
11 these 48-inch culverts are running, the flow through the Cannon
12 Dam is going to be coming through the spillway, not the 12-inch
13 pipe.

14 Q. In your opinion, will water from the 12-inch pipe
15 reach the Barber Dam?

16 A. Yes.

17 Q. There were also questions, Tim, regarding what
18 involvement the State has on the property in terms of
19 inspection. Can you explain that?

20 A. And we referred to it several times as the DU project,
21 but typically DU coordinates with Game, Fish & Parks on their
22 projects in the state and I know Game, Fish & Parks has some
23 say yet in the management of Mr. Barber's dam. He made
24 reference to wanting to dig it deeper and that goes just
25 against what Ducks Unlimited does with their projects. They

1 want shallow nesting areas. They don't want a fishery.

2 Q. Just for the record, about how many DU project dams,
3 designs have you reviewed?

4 A. Dozens.

5 Q. And did you review the design for the Ramser
6 impoundment, now owned by Mr. Barber and his company?

7 A. Yes.

8 Q. Does that design have a low flow bypass?

9 A. Yes, it does, and I'm not real familiar with it, it's
10 either similar to the upstream one where it's in the riser or
11 typically they put them off to the side. It's called an
12 agri-drain system, it's a system of stop logs, you can adjust
13 your level with stop logs, a pipe in and a pipe out and you
14 adjust it with a stop log.

15 Q. After listening to the testimony of Mr. Barber, do you
16 have any changes that you would make to your report?

17 A. No.

18 MS. BEST: Thank you, I have nothing further.

19 MR. BJORK: Mr. Cannon, do you have any questions of
20 this witness?

21 MR. CANNON: No, sir, no questions.

22 MR. BJORK: Counsel.

23 MS. BARON-HOUY: We have nothing.

24 MR. BJORK: And from the board.

25 MR. BRINK: Just one question.

EXAMINATION

BY MR. BRINK:

Q. At least both of these dams are, what, 12 feet overflow to invert, somewhere in that neighborhood?

A. Embankment height?

Q. The depth, the water depth, the spillway height.

A. No, the upstream dam is only going to be about six foot deep.

Q. So a year's evaporation would be about half of that.

A. That would be a good number to use, half.

EXAMINATION

BY MR. BJORK:

Q. Mr. Schaal, for my continuing education again, you stated that it won't be the 12-inch pipe that will be filling Mr. Barber's dam, but it will be the overflow through the regular spillway tube.

A. And I wanted to say when the 48-inch, the upstream 48-inch culverts are flowing, there's going to be enough water to go through the spillway, it's not -- you are not going to have to make releases through the 12-inch pipe, it's going to have spillway flow.

Q. If I understand this correctly, Mr. Barber's water right must be filled first, so let's make the assumption that these dams are dry. Does he have to wait until the Cannon Dam fills to that spillway height?

1 A. No, that's when you would open the 12-inch pipe.

2 Q. So the 12-inch pipe essentially is open all the time
3 until the downstream dam is full and then it's closed?

4 A. I'm not sure that's how they will operate it. That's
5 if the structure was dry. Typically it's not going to be dry.
6 If it's dry for one, it's going to be dry for both.

7 MR. BJORK: Thank you.

8 MR. FREEMAN: But what about if it's just half full,
9 the downstream, the Barber Dam impoundment is --

10 A. That's when it's going to be tricky. That's when you
11 are going to have to make releases. If you open it all the
12 time, you would be releasing storage.

13 MR. BJORK: But if you -- excuse me, Mr. Freeman.

14 MR. FREEMAN: I just wanted to clarify that.

15 MR. BJORK: If it's half full and there's a rainstorm
16 event, do we -- do you then open that low flow pipe in order to
17 allow the downstream dam to fill first and then close it and
18 allow the upstream dam to fill?

19 A. And I would say that's correct, unless you know for a
20 fact that you are going to have enough rainfall that the
21 spillway is going to run and it's one of these four-inch
22 downpours. If it's a sprinkle and there's a little bit of
23 runoff, there should be a little bit released.

24 MR. BJORK: Other questions from the board for this
25 witness? Any redirect?

1 MS. BEST: Nothing.

2 MS. BARON-HOUY: Nothing.

3 MR. BJORK: Thank you, Tim. Mr. Cannon, do you have
4 any further witnesses?

5 MR. CANNON: No, sir.

6 MS. BARON-HOUY: No, sir.

7 MR. BJORK: I'm going to take a little short break
8 here, bear with us, just a few minutes, not a lunch break, I'm
9 sorry. And then we will have closing statements. So 10
10 minutes, let's be back here at 25 to.

11 (Whereupon, the hearing was in recess at 12:25 p.m.,
12 and subsequently reconvened at 12:35 p.m., and the following
13 proceedings were had and entered of record:)

14 MR. BJORK: The hearing is back in session, then. We
15 will begin closing statements beginning with the State. Ms.
16 Best.

17 MS. BEST: Well, I have very little. I thank the
18 board for taking the time to listen to this matter. The chief
19 engineer is recommending approval in this matter. You have an
20 experienced dam safety engineer who reviewed it. It meets dam
21 safety specifications. It provides for a low flow bypass for
22 the water user downstream. The testimony is when it's wet in
23 the area, it's oftentimes very wet, there's sufficient water
24 for both dams, but in the event that it's a dryer circumstance
25 and inflows come in, inflows will go out to the downstream

1 water user.

2 The testimony was provided by Mr. Cannon, the water --
3 the person requesting the water permit, that he will comply
4 with the low flow bypass recommendation of the chief engineer.
5 There was testimony provided by the design engineer of this dam
6 that actually because of the way the siltation works, that the
7 dam will be a benefit to the downstream water user insofar as
8 it actually will prevent some sediment from continuing on
9 downstream and will not cause that sudden rush of water but
10 will provide some sediment to drop out.

11 Based on the testimony that's been presented here
12 today, the chief engineer's recommendation ought to be adopted
13 by the board and the water right ought to be granted, again
14 with the qualifications as set forth by the chief engineer in
15 his recommendation. Thank you.

16 MR. BJORK: Thank you. For the applicant, Mr. Cannon.

17 MR. CANNON: I just have to say I've just depended
18 solely on the professionals in this case. The reason I was
19 wanting to do this, it looks like to me everybody lives in
20 South Dakota, they see you need to store this water, water is a
21 valuable commodity, and it looks like to me instead of sending
22 it to the White River, we ought to try to let me fix the place
23 where we can store as much of it as we can, and like the State
24 said, I'm going to comply with whatever they say, you know. If
25 you guys let me do the dam, whatever the regulations are to let

1 Mr. Barber have water, I have no problem with that. I'm not
2 going to fight anything, whatever you guys decide. That's all.

3 MR. BJORK: And for the intervenor, Mr. Barber,
4 Counsel.

5 MS. BARON-HOUY: Thank you. On behalf of Mr. Barber,
6 of course we oppose the dam. I think that the testimony and
7 the evidence presented today indicates that it's going to be
8 simply a nightmare with this bypass structure being put into
9 place. In order to recognize Mr. Barber's priority rights, who
10 is going to manage? What's going to happen when it rains?
11 What's going to happen when one dam is half full and one dam is
12 three quarters full? Nobody can give us positive answers to
13 how this is going to be managed in order to insure that Mr.
14 Barber's priority rights will be recognized and preserved.

15 Mr. Barber testified that over the past five to six
16 years, it has been quite dry and that the creek below Mr.
17 Barber's dam has been particularly dry and that pheasants and
18 other birds aren't coming to the area any more. The reason Mr.
19 Barber owns all of this property in Lyman County is for hunting
20 and wildlife purposes. There was testimony of course from Mr.
21 Schaal, who I highly respect, but he indicated that his
22 calculations did not include the presence of those several
23 dugouts on Mr. Cannon's property, so we don't know whether
24 these numbers are in fact accurate when one takes into account
25 the fact that there are dugouts up there that are going to be

1 taking some of the water that's coming in.

2 Mr. Schaal's report did indicate that -- and his
3 testimony also indicated that there is about a fifty fifty
4 chance of precipitation. I think there's a less than fifty
5 fifty chance that this is actually going to work. It's
6 imperative that Mr. Barber's priority rights be recognized,
7 preserve and protected, and the evidence presented today simply
8 does not guarantee that that is going to happen.

9 Mr. Barber also testified today that the drought
10 conditions over the past several years, and I don't use drought
11 in a precise technical sense, but the dry conditions over the
12 past several years, the negative impact on wildlife, pheasants,
13 and the like are some of the reasons that he objects to this,
14 the proposal herein, and he also testified to other concerns
15 that he has that I think are extremely valid, particularly with
16 respect to the method by which water is going to come onto his
17 property now.

18 It's going to come in, if this dam is put up, via a
19 12-inch pipe or another spill off from Cannon's dam and we
20 don't even know the circumstances under which either route will
21 be used. It simply isn't clear that this dam and even the
22 bypass structure is going to protect Mr. Barber's priority
23 rights, and for that reason, we would request that the
24 application be denied. Thank you.

25 MR. BJORK: Thank you. Discussion from the board.

1 MR. HUTMACHER: Mr. Chairman, these are always tough
2 situations, but I do believe, according to not just Tim
3 Schaal's numbers, but NRCS and Mr. Konechne's engineering
4 numbers, that there is sufficient water there. I would make a
5 motion that we approve Water Application 2639-2 with the
6 qualifications of the chief engineer.

7 MR. BRINK: I'll second the motion.

8 MR. BJORK: The motion has been made and seconded to
9 approve the applicatoin. Further discussion.

10 MR. BRINK: Mr. Chairman, we have been all around the
11 issue here. It looks like both of these dams are serving the
12 same purpose as far as priority. They have a different
13 priority date, but it looks to me like both are for wildlife,
14 fisheries, livestock watering, and even though the proponent
15 has valid concerns, I have to go with what I hear the
16 professionals that analyze these things on a regular basis. We
17 have got water -- rainfall data, we have a soils man that is
18 proficient in estimating runoff with various soil coverage, I
19 have to go with that, and I think between the two, they have
20 convinced me anyway that we have reasonable runoff to satisfy
21 both impoundments, maybe not as much as you would like, but
22 with the qualifications of the chief engineer, I think the
23 downstream user is protected.

24 MR. FREEMAN: Mr. Chairman, apologies to the
25 department, but I don't think this dam is a good idea. We are

1 not dealing with agricultural purposes, which I put a high
2 priority on development. What we are talking about is erosion
3 on one hand and hunting on the other. When you look at the
4 location of the Barber Dam, the existing dam, it's going to be
5 right next door to the other dam, to Mr. Cannon's proposed dam.
6 Very honestly, in my judgment, there's no livestock there, no
7 domestic livestock. I don't think the pheasants are going to
8 care one iota if they have to cross a boundary line between two
9 people's property. So the existing dam serves the purpose of
10 wildlife propagation. Again, it's not necessary for domestic
11 livestock.

12 I think in my own simple mind if you have another dam
13 the same size as the first one, you are going to double the
14 evaporation rate, especially since the proposed Cannon Dam is
15 going to be another shallow one. And in order for Mr. Barber's
16 rights to be protected, everything is going to have to work
17 perfect, and in my judgment, things rarely work perfect. I
18 think the department is going to be getting an awful lot of
19 calls we need water released. By the time they get somebody
20 out there, the rainfall is gone and probably there's no flow.
21 I just think this is going to be a constant battle and it would
22 appear to me there has to be other ways to control the erosion
23 rather than putting another dam on top of the first dam,
24 especially since we are not using them for domestic livestock
25 purposes and those pheasants and deer are not going to care

1 about crossing a property line. Thank you.

2 MR. BJORK: Other comments.

3 MR. HOLZBAUER: Mr. Chairman, I kind of look at this
4 as South Dakota Game, Fish & Parks, Ducks Unlimited are not
5 opposing this new development. The need to hold some of this
6 water, when both dams are full and she starts to be dry and the
7 sun starts evaporating off there, they are both going to
8 evaporate basically the same. You are both going to be down.
9 So I ain't too worried about that issue. And if they are dry,
10 then the top dam is going to release water for the bottom dam.
11 That's just the law. A lot of these dams have been put in. A
12 lot of dams have been handled, I don't feel this is any
13 different than any other dam.

14 And with that, in South Dakota, I know the importance
15 of water and just like my father always said in his early days,
16 he says, you know, son, it used to be that whiskey was for
17 fighting and water was for drinking, and now it's water is for
18 fighting and whiskey is for drinking. That's just the way it
19 is. Water is very important in South Dakota. And I think we
20 ought to maintain it and keep it up in South Dakota as much as
21 we can. I'm in favor of the motion.

22 MR. BJORK: Any other comments? We have a motion on
23 the table and it has been seconded. All those in favor of the
24 motion signify by saying "aye."

25 (Four members voted "aye.")

1 MR. BJORK: Opposed same sign.

2 MR. FREEMAN: Aye.

3 MR. BJORK: Motion carried. Water Permit Application
4 No. 2639-2 is approved.

5 MR. HALLEM: Ms. Best, on behalf of the department, do
6 you have any objections of doing proposed findings of fact,
7 conclusions of law for the board?

8 MS. BEST: No, that would be fine, I will do so.

9 MR. HALLEM: You will provide those to the parties?

10 MS. BEST: Yes, I will do that.

11 MR. HALLEM: I can never remember the rule number.

12 MS. BEST: Consistent with board rule, that would be
13 20 days before the next board meeting and then the responses
14 would be due --

15 MR. HALLEM: Ten days beforehand.

16 MS. BEST: They would be due 10 days beforehand.

17 MR. BJORK: Is that understood?

18 MR. HALLEM: You may want to put in the record they
19 will be submitted pursuant to the rule on it. Let me see if I
20 can find it as well.

21 MS. BEST: 74:02:01:13.01.

22 MR. HALLEM: Does applicant and counsel understand how
23 this is going to work, then? Then you will have the
24 opportunity to file any objections and then the next hearing
25 the board will consider, just like what we did this morning on

1 the Fall River matter, proposed rulings that I would be
2 drafting as well as proposed findings of fact and conclusions
3 of law.

4 MS. BEST: Now that we are looking at these deadlines
5 for filing, this next water board meeting is around the 4th of
6 July.

7 MR. HOLZBAUER: 8th and 9th.

8 MS. BEST: Does that jam up these time frames?

9 MR. HALLEM: Is there any reason you couldn't do it 30
10 days beforehand?

11 MS. BEST: No. I'll just do it 30 days beforehand.

12 MR. HALLEM: If that can be done 30 days beforehand
13 and then that would be 10 days without holidays to do
14 responses.

15 MS. BARON-HOUY: Ten days subsequent to her or prior
16 to?

17 MR. HALLEM: Ten days subsequent to receipt. Because
18 otherwise we are still jammed up on the 4th of July.

19 MS. BARON-HOUY: That works.

20 MS. BEST: My findings will be due. . .

21 MR. HALLEM: Thirty days before the hearing.

22 MS. BEST: June 8th.

23 MR. HALLEM: June 18th should be a Thursday.

24 MS. BARON-HOUY: We include weekends and holidays?

25 MR. HALLEM: Yep.

1 MR. GRONLUND: We send out a notice to that effect to
2 the parties.

3 MR. HALLEM: And the notice of the department will be
4 sent and be consistent with what we stated here.

5 MR. GRONLUND: 8th and 18th.

6 MR. HALLEM: If you didn't get them, your time runs
7 and you have three days remaining on it.

8 MR. BJORK: Thank you very much.

9 (Whereupon, the proceedings were concluded at 12:50
10 p.m.)
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C E R T I F I C A T E

STATE OF SOUTH DAKOTA)
) ss.
COUNTY OF HUGHES)

I, Carla A. Bachand, RMR, CRR, Freelance Court
Reporter for the State of South Dakota, residing in Pierre,
South Dakota, do hereby certify:

That I was duly authorized to and did report the
testimony and evidence in the above-entitled cause;

I further certify that the foregoing pages of this
transcript represents a true and accurate transcription of my
stenotype notes.

Dated this 16th day of June 2009.



Carla A. Bachand, RMR, CRR
Freelance Court Reporter



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
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523 EAST CAPITOL
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www.state.sd.us/denr

June 26, 2009

NOTICE

TO: Robert Cannon Sarah E. Baron Houy
PO Box 2086 Attorney at Law
Rock Springs WY 82902 PO Box 2670
Rapid City SD 57709

FROM: Garland Erbele, Chief Engineer
Water Rights Program, DENR *Garland Erbele*

SUBJECT: Scheduled Time for Consideration of Findings of Fact, Conclusions of Law and
Final Decision for Water Permit Application No. 2639-2, Robert Cannon

The hearing time before the Water Management Board for consideration of Findings of Fact, Conclusions of Law and Final Decision for Water Permit Application No. 2639-2 has changed from 8:45 AM to 2:00 PM on Wednesday, July 8, 2009.

The Water Management Board will now consider adoption of Findings, Conclusions and Final Decision approving Water Permit No. 2639-2 at **2:00 PM**, on July 8, 2009, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. Future notice will be provided if there is a change in the meeting date or location

Applicable provisions of the Notice dated May 11, 2009 still apply.

c: Jeff Hallem, Assistant Attorney General
Diane Best, Assistant Attorney General, 300 N. Dakota Ave., Suite 403, Sioux Falls SD
57104-6032

CERTIFICATION

I hereby certify that on June 26, 2009, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated June 26, 2009 regarding scheduled time for consideration of Finding of Fact, Conclusion of Law and Final Decision in the matter of Application No. 2639-2 addressed as stated below:

Sarah E Baron Houy
Attorney at Law
PO Box 2670
Rapid City SD 57709

Robert Cannon
PO Box 2086
Rock Springs WY 82902

Diane Best
Assistant Attorney General
300 N Dakota Ave., Suite 403
Sioux Falls SD 571051

A copy of the above described Notice was sent Inter-office to:

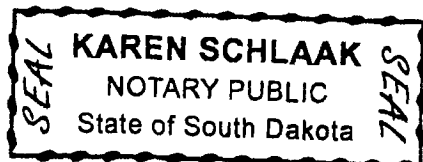
Jeff Hallem, Asst Attorney General, 1302 E Hwy 14, Suite 1. Pierre SD 57501-8501


Gail Jacobson
Secretary
Water Rights

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 26th day of June, 20 09.


Karen Schlaak
Notary Public
My Commission expires April 1, 2013



STATE OF SOUTH DAKOTA



OFFICE OF ATTORNEY GENERAL

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LARRY LONG
ATTORNEY GENERAL

RECEIVED

JUN 30 2009

WATER RIGHTS
PROGRAM

CHARLES D. McGUIGAN
CHIEF DEPUTY ATTORNEY GENERAL

June 30, 2009

Sarah L. Baron Houy
Attorney at Law
PO Box 2670
Rapid City, SD 57709

Diane Best
Assistant Attorney General
300 N. Dakota Ave., Ste. 403
Sioux Falls, SD 57104-6032

Robert Cannon
PO Box 2086
Rock Springs, WY 82902

Garland Erbele, Chief Engineer
Water Rights Program DENR
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501

Re: *In the Matter of the Application of Robert Cannon*
Application No. 2639-2

Dear Counsel, Applicant Cannon and Chief Engineer Erbele:

Enclosed please find a copy of the proposed Water Management Board's Rulings On DENR's Proposed Findings Of Fact, Conclusions Of Law, and Final Decision, and Dakota Dagoba, LLC's Proposed Findings Of Fact, Conclusions Of Law, and Final Decision and Order, the proposed Findings of Fact, Conclusions of Law, and Final Decision and Order and Certificate of Service for the above-entitled matter, which I have prepared consistent with directions by the Water Management Board at the May 7, 2009, hearing. The Board's consideration of these proposals is currently scheduled for 2:00 p.m., on July 8, 2009, in the Floyd Matthew Training Center, Joe Foss Building. At that time, the Board will proceed to finalize its decision in this matter.

Water Board Management
June 30, 2009
Page 2 of 2

Counsel appearing by telephone should verify arrangements with Eric Gronlund with the Water Rights Program.

Very truly yours,

A handwritten signature in black ink, appearing to read "Jeffrey P. Hallem". The signature is fluid and cursive, with the first name "Jeffrey" being more prominent.

Jeffrey P. Hallem
Assistant Attorney General

JPH/rar

Enclosures

cc: Water Management Board Members

RECEIVED

JUL 10 2009

WATER RIGHTS
PROGRAM

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER	)	FINDINGS OF FACT,
PERMIT APPLICATION NO. 2639-2,	)	CONCLUSIONS OF LAW, AND
ROBERT CANNON	)	FINAL DECISION AND ORDER

Hearing was held in the above-entitled matter on May 7, 2009. The Applicant appeared *pro se*. Attorney Sarah E. Baron Houy appeared on behalf of Intervenor Dakota Dagoba, LLC. The DENR Water Rights Program was represented by Assistant Attorney General Diane Best.

The Board, having considered the evidence presented and all records and documents on file herein and having entered its oral decision and rulings on the parties' submissions, now enters the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. Robert Cannon filed Water Permit Application No. 2639-2 (hereinafter "Application"). It was received by the DENR on October 29, 2008.
2. The Application seeks authority to impound 83 acre-feet of water from runoff in a dam to be located in the SW¼ SE¼ of Section 26-T104N-R77W, in Lyman County. The Application also requests impoundment of sufficient water to maintain water to the outlet elevation. The Application states that the water will be used for fish and wildlife production, recreation, and livestock water purposes.

3. The dam described in the Application will be located on Mill Iron Creek, about six miles upstream of the confluence of Mill Iron Creek and the White River.

4. This dam is a reconstruction project. A previous dam was located at this site and was breached at some point. No water rights filings were made for the prior dam, so it is not very clear when the dam was constructed or when it breached. The pending Application seeks a new permit, involves new plans and specifications and construction, and does not rely on or seek to confirm or renew any previous priority date or right for the prior dam.

5. The dam proposed by the Applicant has not yet been constructed. As proposed, it will be classified as a small size, Category 3, Low Hazard dam. The dam was designed by Konechne Engineering. Dave Konechne, a professional engineer, testified that he designed the dam and that it is similar to many other dams he has designed in the past. He has many years of experience, including several years of work for the USDA Natural Resource Conservation Service and its predecessor, the Soil Conservation Service. The plans and specification were filed with the DENR.

6. The dam, as designed, will be 12.5 feet high with a normal storage capacity of 83 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 485 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.

7. The dam is designed to have an L-shaped primary spillway consisting of an 84-inch diameter vertical CMP (corrugated metal pipe) riser which connects at a 90 degree angle to a 60-inch diameter horizontal CMP barrel for the purpose of conveying water through the dam grade. The design is for 6.5 feet of freeboard between top of primary spillway riser and top of dam. The design also includes a 200-foot wide earthcut secondary spillway with 3.5 feet of freeboard. A 25-year frequency event produces a peak runoff of approximately 1040 cfs and a 100-year frequency event produces a peak runoff of approximately 1870 cfs. The earthcut spillway will have a capacity of approximately 3400 cfs.

8. The plans and specifications for the dam were reviewed by Tim Schaal, a professional engineer employed by the DENR for over twenty-five years. He has reviewed plans for dozens of similar dams designed for wildlife habitat. He testified that the specifications meet the dam safety requirements and rules of this Board. Previous to hearing, the plans and specifications had been approved by Chief Engineer Erbele.

9. No testimony was presented that refutes the testimony of DENR witness Schaal that the dam, if constructed according to its design, will meet the dam safety rules of this Board. Accordingly, this Board finds that the dam design is consistent with the public interest in maintaining safe dams.

10. Witness Schaal testified that the dam has a drainage area of 10,752 acres or 10.68 square miles. The annual yield for this drainage area with an 80-percent chance of occurrence, or 8 out of 10 years, is expected to be

80 acre-feet. The annual yield with a 50-percent chance of occurrence, or 1 out of 2 years, is expected to be 242 acre-feet and the annual yield with a 10-percent chance, or 1 out of 10 years, is expected to be 1434 acre-feet.

11. Witness Konechne studied the drainage area using the Water Resource SITES program, a standard computer program in the industry for analyzing flows. He also testified that there would be sufficient flow from this drainage area for this Application.

12. The drainage area provides sufficient water to provide water for this dam which will store up to 83 acre-feet. In this regard, the Board credits the testimony of witnesses Konechne and Schaal.

13. Intervenor Dagoba currently owns a dam downstream which is variously called the Ramser Dam (SD ID No. 02382), Sweeney Dam, Barber Dam or Ducks Unlimited ("DU") Dam (hereinafter "Ramser Dam"). It is located on Mill Iron Creek, about one-half mile downstream of the proposed reconstructed dam. In 1994, Velda Ramser filed Water Right No. 2303-2 to repair a breached WPA dam (Sweeney Dam). This repair project was partnered with SD Game, Fish and Parks and Ducks Unlimited, Inc. The Ramser Dam has a storage capacity of 72 acre-feet of water with a reservoir level at the primary spillway elevation. Water Right No. 2303-2 was transferred to Dakota Outback, c/o Paul Barber, in 1998. Subsequently, this dam was transferred to Dagoba, LLC, also c/o Paul Barber.

14. The Ramser Dam, being part of a partnership with Ducks Unlimited, is designed to be a shallow dam for duck habitat.

15. DENR witness Schaal testified that based on existing county and topographic maps, it is clear that at one time both the Ramser Dam and the previous dam at the site of the Application were in existence at the same time.

16. DENR expert witness Tim Schaal reviewed data showing the annual yield of water from the watershed that drains into Mill Iron Creek. He testified that there is an expected 50-percent chance of an annual yield of 242 acre-feet of water and that there is a reasonable probability that there is sufficient water available for both dams when the proposed Cannon Dam is conditioned as recommended by the Chief Engineer.

17. Witness Schaal also testified that for situations where there is not sufficient water available for both dams in some years, the proposed upstream dam is designed to have a 12-inch diameter CMP low level bypass pipe constructed within the primary spillway drop inlet structure. It will be constructed across the bottom of the riser and allows for flows to enter the barrel (or pipe tee) and flow downstream at low flow conditions. It is designed to allow bypass of flows to satisfy downstream Water Rights and domestic use.

18. The low flow bypass structure is designed to be opened manually. Cannon will have an operator approximately eight miles from the dam who will be available to open the bypass structure when necessary. Cannon will also have another person living approximately thirty miles from the dam who would be available to operate the bypass structure when necessary.

19. Applicant Cannon testified that he has had problems on his property with erosion from Mill Iron Creek since he purchased the property

approximately ten years ago. In addition to wildlife habitat, another reason for constructing the dam is erosion control. Erosion control is in the public interest.

20. The downstream Ramser Dam currently has silt in it and receives silt during high flows. Cannon testified that his proposed dam would provide for erosion control and would also capture some silt that would otherwise flow downstream to the Ramser Dam. Witness Konechne, testifying on behalf of Cannon, testified that the proposed Cannon Dam should provide still more silt protection for the Ramser Dam. The design for the proposed Cannon Dam is consistent with other similar dams designed for recreation and livestock use and does not contain specialized silt control devices. The silt flowing to the Ramser Dam is unlikely to increase with the new dam upstream that will have the effect of capturing some silt.

21. During the hearing, testimony was presented that there are two 48-inch culverts upstream of the dams that are capable of carrying a large volume of water downstream in Mill Iron Creek. Intervenor Dagoba asserts that the 12-inch low level bypass pipe would be inadequate to handle these large flows. In large events, however, the water would be flowing down the entire primary spillway itself (84-inch diameter CMP riser with a 60-inch diameter CMP barrel) and not just through the 12-inch pipe in the spillway. In other words, the low flow bypass pipe is designed only for low flow situations.

22. During low flows, water from the 12-inch CMP bypass will reach the Ramser Dam owned by Dagoba. The dams are a short distance apart.

23. Barber also testified that the Ramser Dam, which involves a senior water right, will receive a diminished quantity of water, as a result of installation of the upstream dam proposed in the Application. Dagoba holds this senior water right. However, as set forth above, there is sufficient water to supply both dams during periods of high flow and the dam described in the Application is designed with a spillway and low flow bypass that would allow water to flow downstream, during periods of low flow.

24. The Board credits the testimony of witnesses Schaal and Konechne who both testified that they have studied the drainage area involved and there is sufficient water available to support this Application when considering that the project is designed to allow bypass of flows to satisfy downstream Water Rights and domestic use as recommended by the Chief Engineer.

25. Barber further asserts that Dagoba currently enjoys the use of Mill Iron Creek and an adjacent area with considerable vegetation downstream of the Ramser Dam. He wishes to maintain Dagoba's Ramser Dam and also enjoy the benefit of flows in the stream and the nearby vegetated area to support habitat downstream of the Ramser Dam. Sufficient flows will be available in the downstream stretch during high flow conditions to provide for such downstream flows. The Water Right for Ramser Dam, does not, however, include the right to use all other water in the stream to support this flow and this vegetated area downstream of the Ramser Dam and bar all other users from capturing water upstream. For this reason, the water permit, as granted below, will not require Cannon to release inflows or stored water so that the

downstream dam owner can, in turn, release water to keep nearby downstream flows and vegetated areas available for Dagoba's own wildlife habitat use.

26. Barber testified that Dagoba has a dugout in Section 35 downstream of the Ramser Dam. It sometimes has water in it, but during dry times it does not. It is very dependent on climatic conditions.

27. During hearing the parties engaged in a dispute as to whether Cannon should be required to release water from the upstream dam at all times when the downstream Ramser Dam is low. The Chief Engineer recommended that the Applicant be required to cause water to flow downstream to the Ramser Dam when inflows come into Cannon's upstream dam. Dagoba, as the downstream senior water right holder, should get the benefit of such inflows into its dam to the extent that its dam will hold those inflows. This places the senior downstream water right holder in the same position he would be without the upstream dam in place, i.e., with the benefit of the inflows. Stored water need not be released, however, from the Cannon Dam to provide for flows to the Ramser Dam. The rationale is that the downstream water right holder should have the benefit of inflows in the same way it already operates. In other words, the downstream water user currently has no water stored and metered out to it from upstream other than what nature provides. The downstream water right holder is not entitled to call for stored water from the upstream dam. Applicant should be required to make such releases only when new inflows come into the system.

28. Another set of arguments presented by Dagoba at hearing is that the Cannon Dam does not have a measuring device that is sophisticated enough to provide evidence on when new flows come into the system and that the DENR would be unable to regulate the low flow condition on the permit. Witness Schaal explained that this type of system is common among water users and that the two water users generally reach an accommodation. However, the DENR is willing to enforce the provisions when called upon to do so. As for measuring new flows, the two dams are close enough that the persons operating these dams will have actual knowledge as to the general level of the dams, recent heavy rain flow events and snowmelt, and their effect on inflows. Dagoba claimed a need for more exact measuring, but did not establish that failure to release *de minimus* inflow would cause an adverse effect on the recreational and wildlife purposes of his own dam. Both dams provide water for recreational and wildlife purposes and are near each other. On the other hand, Cannon is cautioned that, as the junior water right holder, it is his responsibility to ensure that he releases inflows to meet the qualifications in the permit and he should not rely on the forgoing rationale and ignore known inflows into his dam.

29. Barber testified that the Ramser Dam has been full and has had flows going through its spillway in recent years. Further, the Ramser Dam permit held by Dagoba contains a low flow bypass qualification requiring it to bypass flows for downstream domestic use. Witness Schaal testified that the dam design for the Ramser Dam includes a low flow bypass structure. The

Ramser Dam project plans and specifications for this dam indicate that it does not have a sophisticated design allowing for exact measurement of inflows and outflows, but Barber testified that he would release flows from this dam as necessary to meet the qualification on this permit.

30. The Dagoba petition to intervene, authored by Barber, also refers to a fishery. During the hearing however, he testified that there is not an existing fishery at this location due to existing climatic conditions. Further, the design and construction of the dam was for water fowl and not fishery purposes. Consequently, the presently pending Application does not present problems insofar as maintaining a fishery.

31. Applicant Cannon testified that there would not be any livestock on his property to benefit from the proposed dam. The Board finds that the livestock watering purposes, as presented in the Application, are not present and that livestock would not benefit from approval of this Application.

32. Unappropriated water is available and approval should not have any adverse effect on existing Water Permits/Rights.

33. The proposed water permit Application is reasonable, useful, and beneficial for the appropriator in that it will be used to enhance the recreational opportunities such as hunting on his land and erosion control. The water use will also be beneficial and consistent with the interests of the public in the best utilization of the runoff water since it will provide for impoundment of the water for wildlife production and recreation.

34. The Application is in the public interest. The water use for wildlife is, itself, in the public interest. Also, the dam design comports with dam safety requirements and the structure is also therefore in the public interest. The additional purpose of erosion control also supports this public interest finding.

35. The low flow bypass requirement for prior downstream Water Rights and domestic use should be a qualification on Water Permit Application No. 2639-2.

36. Water Permit Application No. 2639-2 should be approved.

CONCLUSIONS OF LAW

1. The Board has jurisdiction over the above-entitled matter.

2. Testimony was presented that the plans and specifications for the dam described in the Application meet the dam safety requirements and rules of this Board. Previous to hearing, the plans and specifications had been approved by Chief Engineer Erbele, who holds authority to make such approvals under ARSD 74:02:08:09 and SDCL 46-7-3.

3. The dam is a new project and the Application seeks no priority date or other water rights stemming from the previous dam. The fact that the prior dam was in place without a water right or location notice is not prejudicial to this Applicant since the prior dam was installed and breached before Cannon purchased the property.

4. Having considered the amount of water available in the Mill Iron Creek watershed area, the Applicant's proposed use of water, and the proposed

qualifications, this Board finds that there is a reasonable probability that there is unappropriated water available to provide for the water use as requested.

5. Having considered the amount of water available in the Mill Iron Creek watershed area, the Applicant's proposed use of water, and the proposed qualifications, this Board finds that there is a reasonable probability that the water use, as proposed, will not have an adverse effect on existing Water Permits/Rights. In particular, the Board finds that the Intervener, a senior water right holder, is protected by the low flow qualification recommended by (and enforceable by) the Chief Engineer.

6. The conditions imposed on the permit authorized herein have been authorized for many similar rural water permits. This condition is enforceable by the Chief Engineer and the DENR through SDCL ch. 46-2A. SDCL 46-2A-17 provides that the Chief Engineer has investigatory authority to enforce such conditions. SDCL 46-2A-18 provides that the Chief Engineer has authority to issue appropriate orders and to seek immediate injunctive relief against water user in order to protect users who have higher or earlier priorities.

7. SDCL 46-1-12 also provides that if a water user fails to comply with conditions on permits, the permit may be suspended by this Board. If three violations occur, a permit may be revoked. *Id.* In this regard, the Board refers to its recent decision enforcing a bypass condition on a dam dugout constructed for recreational purposes. *In the Matter of the Suspension of Water Permit No. 1735-1, Steve Bauer* (Decision issued March 11, 2009).

8. The Application is a beneficial use under SDCL 46-1-6(3). More specifically, the use is reasonable and useful and beneficial for the appropriator in that it will be used to enhance the recreational opportunities such as hunting on his land. The water use will also be beneficial and consistent with the interests of the public in the best utilization of the runoff water since it will provide for impoundment of the water for wildlife production, recreation, and soil erosion control.

9. The Application is in the public interest. The water use for wildlife is, itself, in the public interest. Further, the dam design comports with dam safety requirements and the structure is also therefore in the public interest.

10. The Application, with the qualifications proposed by the Chief Engineer, meets the four-part criteria in SDCL 46-2A-9 for approval of water permits: (a) there is a reasonable probability that there is water available for the proposed use, (b) the proposed diversion can be developed without unlawful impairment of existing rights, (c) the use is in the public interest, and (d) the proposed use is a beneficial use. The Application should be approved.

11. The Application was filed on October 29, 2008 and, under SDCL 46-5-7, the proper priority date for this permit is the date of filing.

Based on the foregoing Findings of Fact and Conclusions of Law, the Board now enters the following:

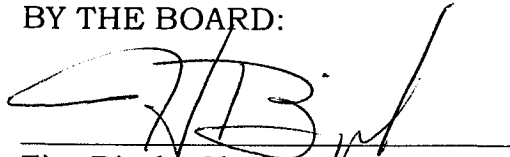
FINAL DECISION AND ORDER

The Application for Water Permit No. 2639-2 is hereby granted with the following qualifications:

1. Water Permit No. 2639-2 authorizes a dam with a storage capacity of 83.0 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 bypassed.

Dated this 9th day of July, 2009.

BY THE BOARD:



Tim Bjork, Chairman

RECEIVED

JUL 10 2009

WATER RIGHTS
PROGRAM

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER	)	WATER MANAGEMENT BOARD'S
PERMIT APPLICATION NO. 2639-2,	)	RULINGS ON DENR'S PROPOSED
ROBERT CANNON	)	FINDINGS OF FACT, CONCLUSIONS
	)	OF LAW, AND FINAL DECISION, AND
	)	DAKOTA DAGOBA, LLC'S
	)	PROPOSED FINDINGS OF FACT,
	)	CONCLUSIONS OF LAW, AND FINAL
	)	DECISION AND ORDER

Pursuant to the directions of the Water Management Board, counsel for Department of Environment and Natural Resources Water Rights Program (DENR) timely submitted its Proposed Findings of Fact, Conclusions of Law and Final Decision and Order. Subsequently, counsel for Intervenor Dakota Dagoba, LLC (Dagoba) submitted its Proposed Findings of Fact, Conclusions of Law, and Final Decision and Order. No submissions were received from Applicant. The Board, upon review of the parties' submissions, the administrative record, and having orally entered its decision, hereby makes the following rulings:

A. DENR proposed Findings of Fact Nos. 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16, 17, 19, 21, 22, 23, 24, 26, 27, 28, 29, 31, 33, 34 and 35 are accepted as consistent with the administrative record and the Board's oral decision.

B. DENR proposed Finding of Fact No. 2 is accepted by the Board as consistent with the administrative record and the Board's oral decision as

modified below to more accurately reflect the record. The third sentence shall be prefaced with the following words: "The Application states that the."

C. DENR proposed Finding of Fact No. 13 is accepted by the Board as consistent with the administrative record and the Board's oral decision with the following modification to more accurately reflect the record. The first sentence shall read as follows: "Intervenor Dagoba, currently owns a dam downstream which is variously called the Ramser Dam (SD ID No. 02382), Sweeney Dam, Barber Dam or Ducks Unlimited ('DU') Dam (hereinafter 'Ramser Dam')."

D. DENR proposed Finding of Fact No. 15 is accepted by the Board as consistent with the administrative record and the Board's oral decision, as modified below to more accurately reflect the record. The phrase "and were full" shall be deleted. There is no evidence in the record that Witness Schaal testified that the two dams were in fact full at the same.

E. DENR proposed Finding of Fact No. 18 is accepted as consistent with the administrative record and the Board's oral decision, as modified below to more accurately reflect the record. That the following sentence shall be inserted. "Cannon will also have another person living approximately thirty miles from the dam who would be available to open the bypass structure when necessary."

F. DENR proposed Finding of Fact No. 20 is accepted by the Board as consistent with the administrative record and the Board's oral decision, as modified below to more accurately reflect the record. The second sentence shall be corrected to read: "Witness Konechne, testifying on behalf of Cannon,

testified that the proposed Cannon Dam should provide still more silt protection for the Ramser Dam.” There is nothing in the record that supports the fact that this testimony came from Barber and such testimony did in fact come in from Konechne in his capacity as design engineer of the proposed Cannon Dam.

G. DENR proposed Finding of Fact No. 25 is accepted by the Board as consistent with administrative record and the Board’s oral decision with the following corrections. The phrase “Dagoba Dam” and “Dagoba’s Dam” shall be replaced with “Ramser Dam” to be more consistent with the Board’s adopted Findings of Fact and Conclusions of Law.

H. DENR proposed Finding of Fact No. 30 is accepted by the Board as consistent with the administrative record and the Board’s oral decision as modified below to more accurately reflect the record and the Board’s oral decision:

30. The Dagoba petition to intervene, authored by Barber, also refers to a fishery. During the hearing, however, he testified that there is not an existing fishery at this location due to existing climatic conditions. Further, the design and construction and design of the dam was for water fowl and not fishery purposes. Consequently, the presently pending application does not present problems insofar as maintaining a fishery.

The Board finds that the evidence submitted at the hearing that the DU design for the dam and Department of Game Fish and Parks actions to prevent removing of silt was to maintain a water fowl production area that makes the dam unsuitable for maintaining a fishery given the existing climatic conditions.

I. DENR proposed Finding of Fact No. 32 is accepted by the Board as consistent with the administrative record and the Board's oral decision as modified below to more accurately reflect the record and the Board's oral decision:

32. Proposed water permit Application is reasonable, useful, and beneficial for the appropriator in that it will be used to enhance the recreational opportunities such as hunting on his land and erosion control. The water use will also be beneficial and consistent with the interest of the public and the best utilization of the runoff water since it will provide an impoundment of water for wildlife production and recreation.

The Board finds that given the design of the Cannon Dam, that like the Ramser Dam, there is no evidence that the water impoundment will support a fishery. Further, given Cannon's statements that the water impoundment will not be used for livestock, though that purpose is available, it lacks record support to make the finding. Finally, the additional purpose of soil erosion control is supported by the record.

J. DENR proposed Conclusions of Law Nos. 1, 2, 3, 6, 7, 9, 10 and 11 are accepted by the Board as consistent with the administrative record, the Board's oral decision, the Board's adopted Findings of Facts as set forth above, and South Dakota law.

K. DENR proposed Conclusions of Law No. 4 and 5 are accepted by the Board as consistent with the administrative record, the Board's oral decision, the Board's adopted Findings of Facts as set forth above and South Dakota law, as modified below to more accurately reflect the record. The word "Mill Run" is changed to Mill Iron Creek."

L. DENR proposed Conclusion of Law No. 8 is accepted by the Board as consistent with the administrative record, the Board's oral decision, the Board's adopted Findings of Fact as set forth above and South Dakota law, as modified below to be consistent with Board factual rulings regarding fishery, livestock watering and soil erosion purposes. The second sentence in proposed Conclusion of Law No. 8 shall be modified as follows: "The water use will also be beneficial and consistent with the interests of the public in the best utilization of the runoff water since it will provide an impoundment of water for wildlife production, recreation, and soil erosion control."

M. DENR proposed Final Decision and Order is accepted by the Board as consistent with the administrative record, the Board's oral decision, the Board's adopted Findings of Fact, Conclusions of Law and South Dakota law.

N. Dagoba proposed Findings of Fact Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 17, 25 are accepted by the Board to the extent that said findings are incorporated in the Findings of Fact as adopted by the Board as set forth above.

O. Dagoba proposed Finding of Fact No. 11 is rejected by the Board as inconsistent with the administrative record, the Board's oral decision, and its adopted Findings of Fact as set forth above. The undisputed testimony at the hearing is that the dugouts would only hold a nominal amount of water, approximately one-half acre each, and that one of the dugouts would be within the reservoir area of the proposed Cannon Dam. The Board finds that the de minimis amount of water that can be stored in those dugouts does not affect

the credibility of Witnesses Schaal testimony, which is supported by Witness Konechne, or the Board's findings that there is a reasonable probability that there is water available for the proposed use and that the proposed diversion can be developed without unlawful impairment of Dagoba's existing water rights.

P. Dagoba proposed Finding of Fact No. 13 is rejected to the extent not consistent with the Board's oral decision, the Board's adopted Findings of Fact as set forth above and is not supported by the record. The Board rejects any finding that the evaporation that would take place in shallow dams such as the Ramser Dam or the proposed Cannon Dam is wasteful and not in the public's interest. To make such a finding would not only preclude the construction of the proposed Cannon Dam but would have also precluded the construction of the Ramser Dam.

Q. Dagoba proposed Finding of Fact No. 14 is rejected by the Board as not consistent with administrative record, the Board's oral ruling and the Board's adopted Findings of Fact as set forth above. The record reflects that Witness Schaal did take into account how the Ramser Dam would receive water after construction of the proposed Cannon Dam in making his conclusions that there was a reasonable probability that there is water available for the proposed use and the diversion could be developed without unlawful impairment of existing water rights.

R. Dagoba proposed Finding of Fact No. 15 is adopted to the extent consistent with the Board's adopted Findings of Fact. To the extent not

adopted, the proposal is rejected as inconsistent with the administrative record. The evidence in the record is undisputed that the dams did co-exist for a period of time and that such construction and co-existence is consistent with the testimony of Witness Schaal and Witness Konechne that there is sufficient water available for both dams to be full at the same time.

S. Dagoba proposed Finding of Fact No. 16 is rejected as inconsistent with the Board's oral decision and the Board's adopted Findings of Fact as set forth above. The Board finds there is reasonable probability sufficient water is available for both dams.

T. Applicant's proposed Findings of Fact Nos. 18, 21, 26, 27 and 32 are rejected by the Board as inconsistent with administrative record, the Board's oral ruling and the Board's adopted Findings of Fact as set forth above. The Board finds that the low flow bypass system that is designed into the proposed Cannon Dam and the testimony as to how the bypass system will be operated is sufficient to protect Dagoba's senior water rights regarding flows from Mill Iron Creek. Dagoba's assertions are only supported by the speculation of Mr. Barber. It is clear that if the low flow bypass is not operated by Cannon to protect the senior water rights that corrective action will be taken by DENR.

U. Dagoba proposed Finding of Fact No. 19 is rejected to the extent it is not consistent with the Board's oral decision and the Board's adopted Findings of Fact as set forth above. There is nothing in the record to conclude that soil erosion on the Cannon property attributable to Mill Iron Creek does

not exist; that the construction of the dam will not alleviate that concern; or that controlling soil erosion is not in the public interest.

V. Dagoba proposed Finding of Fact No. 20 is adopted by the Board as consistent with the administrative record, the Board's oral decision and the Board's adopted Findings of Fact as set forth above. Watering of livestock is simply not a basis for the granting of the Application. This finding will be inserted as Finding of Fact 31 and the remaining findings will be renumbered accordingly.

W. Dagoba proposed Findings of Fact Nos. 22, 23 and 28 are rejected by the Board as inconsistent with the administrative record, the Board's oral decision, and the Board's adopted Findings of Fact as set forth above. The record supports finding that there is a reasonable probability that there is sufficient water for both dams and that construction of the Cannon Dam will not unlawfully impair Dagoba's senior water rights. Further, the existence of small dugouts in the water drainage area does not affect the credibility of the testimony of witnesses Schaal and Konechne, nor the Board findings that only three dugouts may have any effect on drainage and that those dugouts, which hold approximately one-half acre each, would have only a de minimis effect on the water flow in Mill Iron Creek.

X. Dagoba proposed Finding of Fact No. 24 is rejected to the extent not incorporated in the Board's adopted Findings of Fact as set forth above. The issue regarding vegetation down stream from the Ramser Dam is not an appropriate issue for this proceeding. Dagoba has no senior water right as it

relates to flows below the Ramser Dam and, given the testimony and evidence submitted, the Board does not find that there will be any significant impact on the area below the Ramser Dam due to the construction of the Cannon Dam as proposed in the Application.

Y. Dagoba proposed Finding of Fact No. 29 is rejected to the extent not incorporated in the Board's adopted Findings of Fact as set forth above as not consistent with the administrative record. There is absolutely no evidence that the Ramser Dam can support a fishery whether or not the proposed Cannon Dam is constructed. Climatic conditions and the design of the Ramser Dam would preclude the establishment of a fishery.

Z. Dagoba proposed Findings of Fact No. 30 and 31 are rejected to the extent not incorporated in the Board's adopted findings as set forth above. Witness Schaal's testimony was not contradicted and the Board finds him credible regarding the design of the Ramser Dam.

AA. Dagoba proposed Findings of Fact Nos. 33, 34, and 35 are rejected by the Board as inconsistent with the administrative record, the Board's oral decision and the Board's adopted Findings of Fact as set forth above. The Board finds there is a reasonable probability that unappropriated water is available, construction of the Cannon Dam as proposed in the Application would not unlawfully impair Dagoba's existing water rights, and that the Application is reasonable and should be granted.

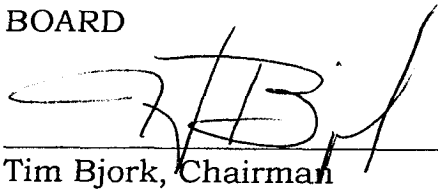
BB. Dagoba proposed Conclusion of Law No. 1 is accepted to the extent included in the Board's adopted Conclusions of Law as set forth above.

CC. Dagoba proposed Conclusions of Law Nos. 2, 3, 4, 5, 6, and Final Decision and Order are rejected by the Board as inconsistent with the administrative record, the Board's oral ruling, the Board's adopted Findings of Fact and Conclusions of Law and Final Decision and Order as set forth above and South Dakota law.

The Board attorney is directed to prepare Findings of Fact, Conclusions of Law, and Final Decision and Order consistent with the above rulings to be executed by the Chairman of the Board or designee without further motion or hearing.

Dated this 7th day of July, 2009.

SOUTH DAKOTA WATER MANAGEMENT
BOARD



Tim Bjork, Chairman



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

July 13, 2009

NOTICE

TO: Robert Cannon
PO Box 2086
Rock Springs WY 82902

Michael Hickey
Attorney at Law
PO Box 2670
Rapid City SD 57709

FROM: Garland Erbele, Chief Engineer
Water Rights Program, DENR *Garland Erbele*

SUBJECT: Adoption of Finding of Fact, Conclusion of Law and Final Decision in the matter
of Water Permit Application No. 2639-2

This is to notify you that the Water Management Board rulings and the Final Decision, including Findings of Fact and Conclusions of Law, were adopted July 8, 2009, by the Water Management Board in the matter of Water Permit No. 2639-2, Robert Cannon. A copy of the Board ruling and signed Findings of Fact, Conclusions of Law and Final Decision are enclosed.

South Dakota statutes provide that decisions of the Board may be appealed to the Courts pursuant to the procedures established in SDCL 1-26-31 and 1-26-32.

Enclosures

c: Jeff Hallem, Assistant Attorney General
Diane Best, Assistant Attorney General, 300 N. Dakota Ave., Suite 403, Sioux Falls SD

CERTIFICATION

I hereby certify that on July 13, 2009, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated July 13, 2009, regarding adoption of the Water Management Board's Ruling and Findings of Fact, Conclusions of Law and Final Decision in the matter of Application No. 2639-2 addressed as stated below:

Michael M. Hickey
Attorney at Law
PO Box 2670
Rapid City SD 57709

Robert Cannon
PO Box 2086
Rock Springs WY 82902

Diane Best
Assistant Attorney General
300 N. Dakota Avenue, Suite 403
Sioux Falls SD 57104

A copy of the above described Notice was sent Inter-office to:

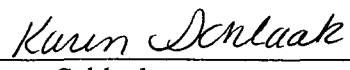
Jeff Hallem, Assistant Attorney General, 1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501



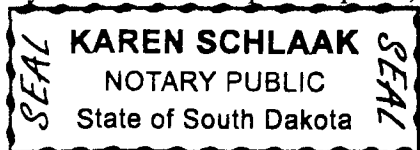
Gail Jacobson
Water Right Program

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 13th day of July, 2009.



Karen Schlaak
Notary Public
My Commission expires April 1, 2013



Water Rights Division -DENR
Conversation or File Documentation

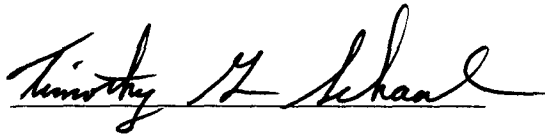
NAME OF PERSON OR FILE: **Robert Cannon**

ADDRESS: XXXXXXXXXXXXXXXX COUNTY: **Lyman**

DATE: **July 17, 2009** TELEPHONE: XXXXXXX

RE: P&S change

Today, Dave Konechne gave me another set of P&S for the Robert Cannon dam authorized under Water Permit No. 2639-2. He changed the low level outlet structure to include a Waterman C-10 Canal gate. This will be installed in the CMP riser, which was also changed from 6 ft. deep to 7 feet deep with no change in inlet elevation. The additional of the Waterman gate is the direct result of the discussion with the Water Management Board and Mr. Cannon's responsibility to release inflows to satisfy downstream domestic use and prior Water Rights. The gate system will make this a lot easier and more convenient. I told him I would file doc. this info. and no other P&S approval will be necessary.

A handwritten signature in black ink, reading "Timothy G. Schaal", written over a horizontal line.

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

JUL 17 2009

WATER RIGHTS

C-10 CANAL GATE

This gate is designed for use on canal and pipeline systems which operate at low head and where a moderately priced gate is desired. Typical installations include: farm turnouts, control of industrial wastes, drainage and for tide control.

Construction is of grey iron with an all-bolted steel frame with $\frac{1}{4}$ " minimum thickness. The standard stem is of a special leaded steel which resists corrosion. The stem is operated at the structural frame top by a heavy cast-bronze lift nut and a cast iron wheel.

Adjustable cast iron wedge blocks, held securely in place by two machine bolts, assure a dependable seating closure with a practical degree of water tightness. The cast iron seats are machined or ground. A solid rim "easy-grip" handwheel is standard.

Optional materials include: bronze seats; stainless steel structural frame and bolts; stainless steel or brass stems; and special epoxy, coal tar or ASTM galvanized coatings.

When desired, design variation in stem diameter, pitch and thread rotation are available to match existing equipment. Extended stems, special lifts, oil seals, stem guides and limit nuts are a few of the optional items available for use with these gates.

Various sizes and options are available.

Special materials available include: "Ni-Resist" iron castings, stainless steel structural frame and assembly bolts; total galvanizing per ASTM A-123; coal tar, and epoxy coatings.

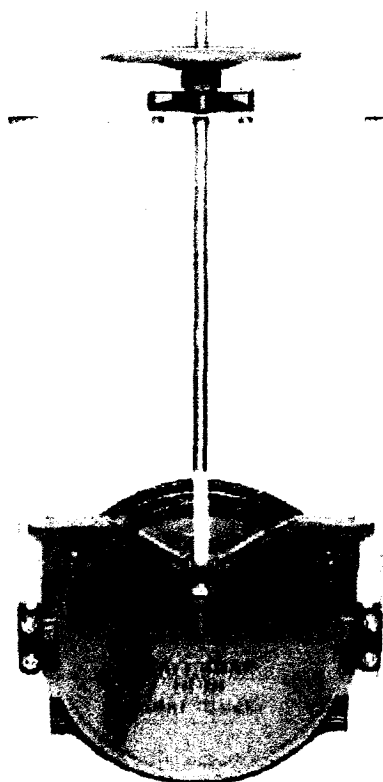
Recommended Maximum Seating Heads

6" - 24"	23 foot head
30" - 36"	11 foot head
42" - 48"	9 foot head
54" - 72"	6 foot head

Recommended Maximum Unseating Head - 0

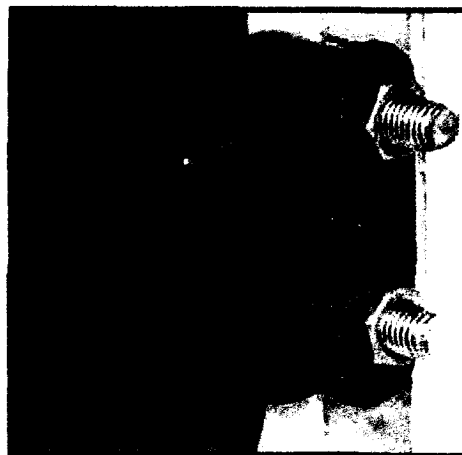
Frame Types for Various Installation Requirements

- F Flatback for headwall mounting
- SB Spigotback for annular or recor spiral corrugated pipe.
- CIP For solvent cement mounting over plastic pipe
- C With galvanized steel tapered setting collar for concrete or asbestos cement pipe.
- SA Spigotback for annular corrugated pipe.
- TYPE 4 For mounting in plastic pipe utilizing special two part epoxy.



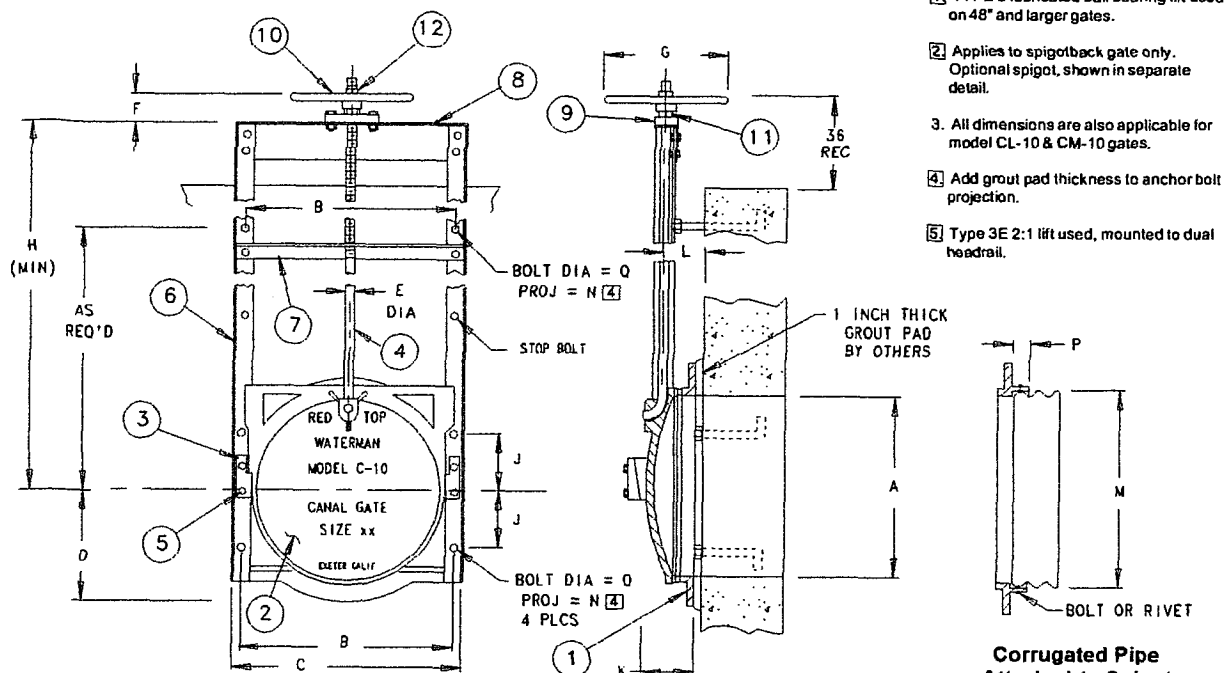
Bronze lift nut furnished as standard on all Waterman Canal Gates.

Features $\frac{1}{4}$ " minimum thickness. Compare to competitor's gates.



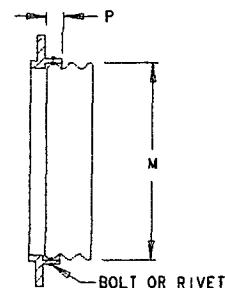
Waterman Model C-10 wedging system offers two point adjustment and larger wedging surfaces for a more positive contact.

C-10 CANAL GATE

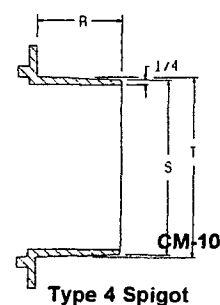
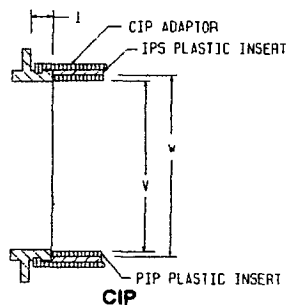


NOTES

- 1 TYPE 2 lubricated ball bearing lift used on 48" and larger gates.
- 2 Applies to spigotback gate only. Optional spigot, shown in separate detail.
3. All dimensions are also applicable for model CL-10 & CM-10 gates.
- 4 Add grout pad thickness to anchor bolt projection.
- 5 Type 3E 2:1 lift used, mounted to dual headrail.



Corrugated Pipe Attached to Spigot Back Frame



Type 4 Spigot

PARTS LIST		
No.	Name	Qty.
1	Frame	1
2	Cover	1
3	Wedge (Right & Left)	1 ea.
4	Stem	1
5	Wedge Bolts	4
6	Guide Rail	2
7	Stem Support	A/R
8	Head Rail	1
9	Lift Collar	1
10	Handwheel	1
11	Limit Nut	1
12	Limit Nut	1

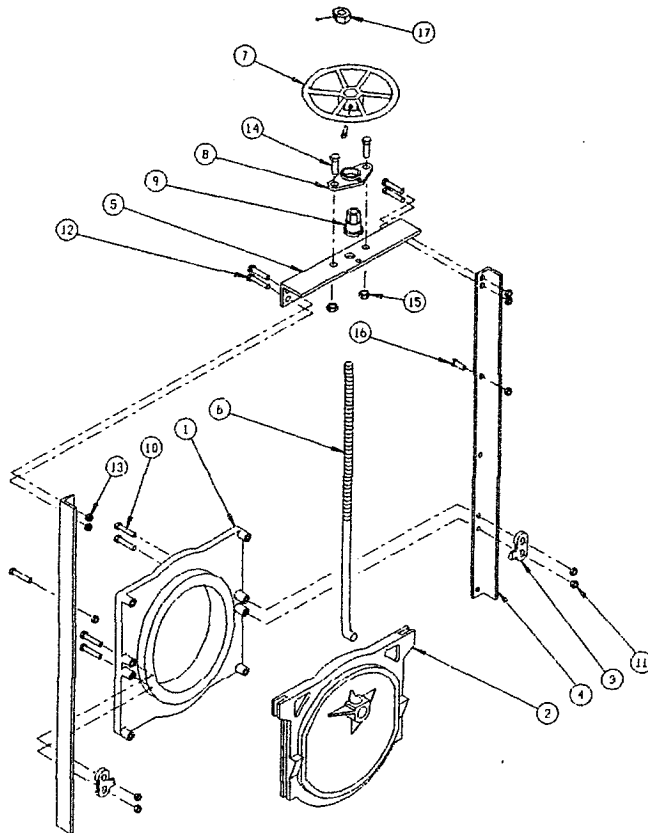
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	V	W
6	8	9%	4	7%	2%	10	24	3	3 1/2	2%	7	3 1/2	2 1/4	1/2	-	-	-	6.160	6.645
8	10	12	4%	7%	2%	10	24	3	3 3/4	2 1/2	9	3 1/2	2 1/4	1/2	4	7 1/4	8	8.180	8.645
10	12	13%	6	7%	2%	10	24	3 1/2	3 3/4	2 1/2	11	3 1/2	2 1/4	1/2	3%	9%	10	10.220	10.770
12	14	15%	7	7%	2%	10	24	4	3 1/2	3	13	4	2 1/4	1/2	4	11%	12	12.270	12.780
14	16	17%	8	7%	2%	10	27	4%	3%	3 1/4	15	4	2 1/4	1/2	-	-	-	-	-
15	17	18%	8%	7%	2%	10	30	5	4 1/2	3 1/2	16	4	2 1/4	1/2	4	14%	15	-	-
18	18%	20%	9%	7%	2%	10	32	5 1/2	4 1/2	3 1/2	17	4 1/2	2 1/4	1/2	4	-	-	-	-
18	21	22%	10 1/2	1	3%	12	34	6	4 1/2	4 1/4	19	4 1/2	2 1/4	1/2	4	17 1/4	18	-	-
20	23%	25%	11%	1	3%	12	38	7	4 1/4	4	21	4 1/2	2 1/4	1/2	4	-	-	-	-
21	24	25%	12 1/2	1	3%	12	40	7	4 1/4	4	22	4 1/2	2 1/4	1/2	4	-	-	-	-
24	27 1/4	29%	13%	1	3%	12	44	8	5%	4 1/4	25	4 1/2	2 1/4	1/2	4	-	-	-	-
30	33%	36%	17%	1 1/4	4	15	54	10	6	4 1/2	31	6	2 1/4	1/2	4	-	-	-	-
36	39%	42%	20%	1 1/4	4	15	62	12	6 1/4	5%	37	6	2 1/4	1/2	4	-	-	-	-
42	45%	48%	23%	1 1/2	5	18	84	14	7	6	43	6	2 1/2	1/2	4	-	-	-	-
48	51%	54%	26%	1 1/2	6	24	1	16	7%	6%	49%	6	2 1/2	1/2	4	-	-	-	-
54	58 1/2	61 1/2	30	2	6	30	1	18	7%	6 1/2	55%	7	3	1	-	-	-	-	-
60	65	68	34	2	6	30	1	20	8%	7%	61%	8	3 1/4	1	-	-	-	-	-
72	77 1/2	80%	41	2	13	5	121	25 1/2	10%	8%	73%	8	3%	1	-	-	-	-	-

GATE DIMENSIONS IN INCHES

C-10 CANAL GATE PARTS

PARTS LIST		
No.	Name	Qty.
1	Frame	1
2	Cover	1
3	Wedge (R&L)	2
4	Guide Rail (R&L)	2
5	Headrail	1
6	Stem	1
7	Handwheel	1
8	Thrust Collar	1
9	Lift Nut	1
10	Wedge Bolt	4
11	Wedge Nut	4
12	Frame Bolt	4
13	Frame Nut	4
14	Collar Bolt	2
15	Collar Nut	2
16	Stop Bolt & Nut	1
17	Limit Nut (optional) *	1

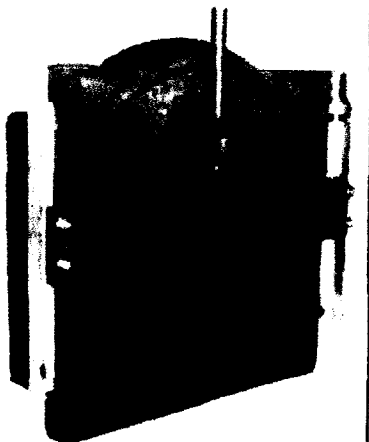
* With set screw



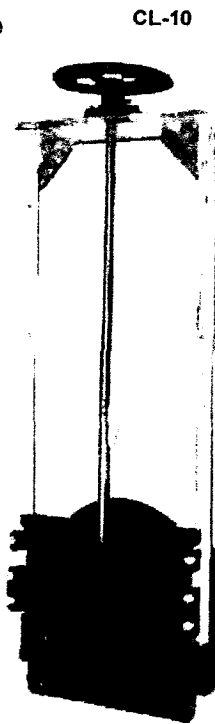
CL-10 CANAL GATE

Waterman CL-10 Canal Gates are identical to our model C-10 Gates with the exception of the cast iron cover (slide) which is of a flat plate type construction with ribs reinforcing its face, to withstand the maximum heads as noted for our C-10 gates. This gate cover also features a square bottom design, which allows a more open "clog-free" flow at points of initial opening. The seat being only slightly raised above the cover plate surface helps prevent trash from collecting behind the cover which can cause difficulty in operation.

Available with threaded thrust nut for true NRS application. All parts are interchangeable with our Standard C-10 gate. Available in a variety of sizes.



Shown with
optional
threaded thrust nut
for true non-rising
stem operation



Flat Plate Type,
Square Bottom

Waterman INDUSTRIES, INC.

CANAL GATES

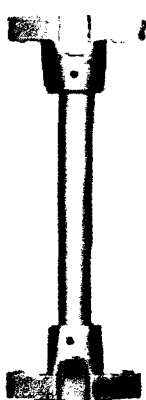
STEM EXTENSIONS

RISING STEM EXTENSIONS (RSE)

For C-10, CL-10, CL-11 AND C-20 MODELS

Waterman Rising-Stem Extensions are factory installed to the height ("H") required. They provide a rising stem and handwheel, keeping threads and lifts above the water level and allowing the amount of gate opening to be readily determined. Cast iron brackets, fastened to the top and bottom of standard galvanized steel pipe, are secured to the frame headrail and mount to the standard handwheel and stem hardware.

The stem extends through the entire length of pipe. With the addition of oil seals, these rising stem extension can be used where weather conditions require that the stem operate in oil to prevent freezing.



RSE EXTENSION

Complete units are available from the factory when desired.

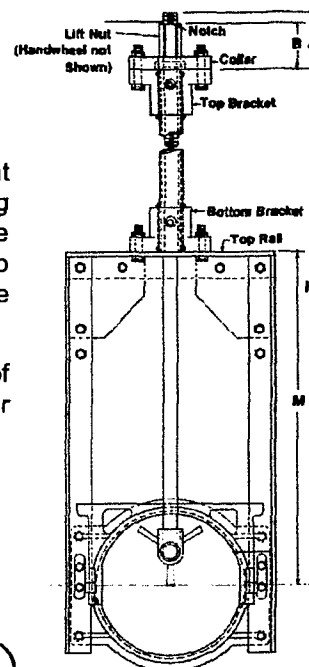
6" - 24" gates require 1 1/4" pipe
30" - 36" gates require 1 1/2" pipe
42" - 48" gates require 2" pipe

These extensions may also be adapted to C-20 gates.

Gate Size	A	B	M	H
6	3 3/4	2 1/2	24	
8	3 3/4	2 1/2	24	
10	3 3/4	2 1/2	24	
12	3 3/4	2 1/2	24	9.5
14	3 3/4	2 1/2	27 1/2	
15	3 3/4	2 1/2	30	
16	3 3/4	2 1/2	32	
18	4 1/4	3 1/2	34	
20	4 1/4	3 1/2	38	
21	4 1/4	3 1/2	40	
24	4 1/4	3 1/2	44	
30	5	4	54	
36	5	4	62	
42	6	5	84	
48	7	6	90	
54	7	6	100	
60	7	6	102	
72	*	*	121	

VARIABLE AS REQUIRED

All dimensions in inches and apply to C-10 Series gates.
* Special fabricated design for geared type lift.



RISING STEM EXTENSION



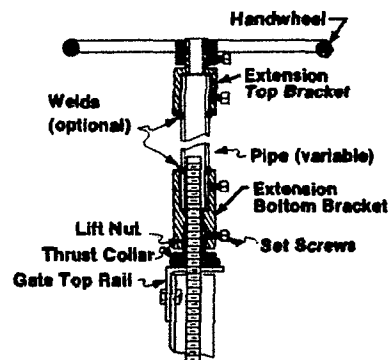
NRS EXTENSION

NON-RISING STEM EXTENSIONS

For C-10, CL-10, CL-11 AND C-20 MODELS

Waterman Non-Rising Stem Extensions are an accessory to Waterman stock gates. They are used to position the gate handwheel at convenient and non-changing operating elevations. This eliminates the problem of gate control hardware which might otherwise rise into traffic areas or walkways.

The use of Waterman Non-Rising Stem Extensions also eliminates the expense and inconvenience of ordering gates of special dimensions to meet different operating height conditions. The extensions are readily installed in the field. The upper and lower brackets are joined by a section of standard galvanized steel pipe (normally customer furnished) by means of threads, set screws, pins or welds. The length of pipe inserted determines the elevation of the handwheel. Waterman Stem Guide Models, such as Eye Bolt, NRS-K, SK-1, SK-2, K-1 and K-2 Series, are recommended to secure the handwheel location.

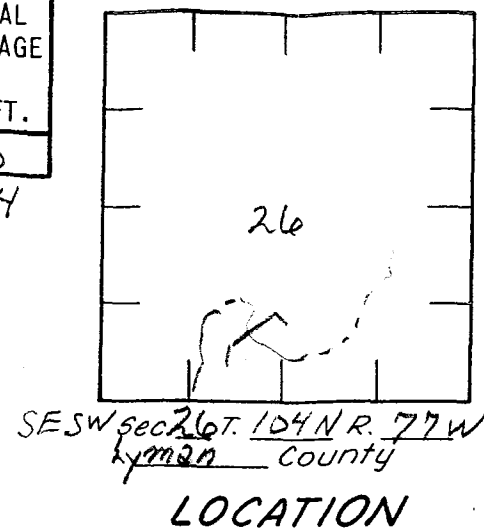


Normally Field Installed
NON-RISING STEM EXTENSION
Extends Handwheel Height
Without Disturbing Frame or Stem

DRAINAGE AREA	ANNUAL YIELD	PEAK RUNOFF AC-FT 25-YR.	EMERG. SPLWY. CAPACITY C.F.S.	WATER DEPTH FEET	SURFACE AREA ACRES	SEDIMENT STORAGE AC.FT.	TOTAL STORAGE AC.FT.
19752	251	1312	315	6	23	—	83

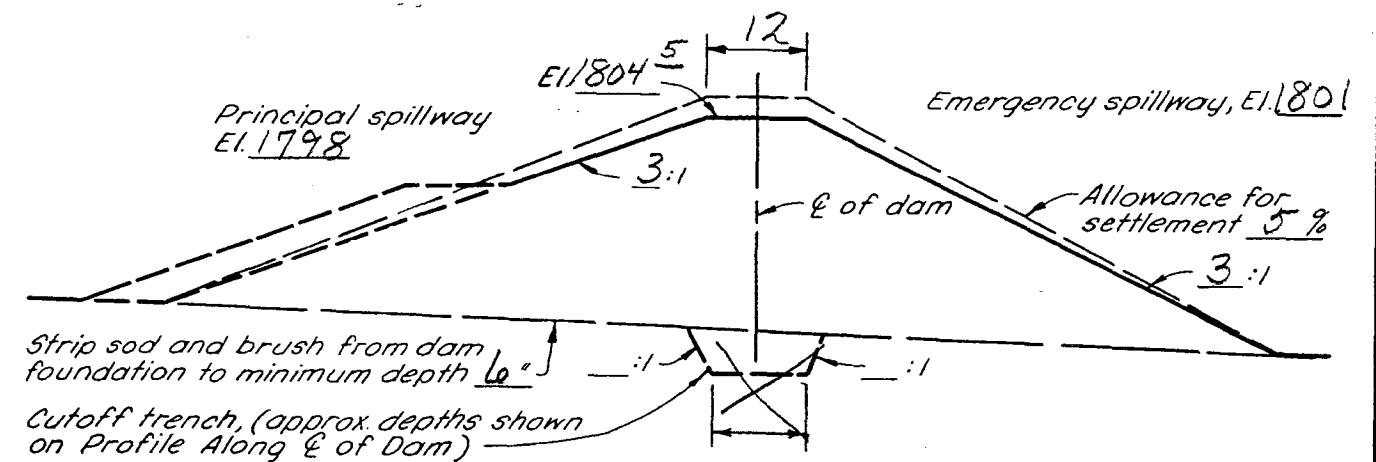
204

**WATER RIGHTS
PROGRAM**



ITEM	UNIT	QUANTITY
Earth Fill (estimate)	c y	7250
6 ft, 84" dia Riser w/ 60" 4A stub and w/ 12" 4A stub	e2	1
60" dia, 10ga CMP .. Concrete	lin Ft	64
Sand Seep Collar	c y	3
4" dia PVC	c y	14
Timber Pipe Support	lin Ft	64
Timber Anti-Vortex	e2	1
12" dia cmp	e2	1
Waterman C-10 gate	lin Ft	16
	e2	1

see top pg



S.D. CONSTRUCTION AND MATERIAL SPECIFICATIONS:

SD-2 Clearing & Grubbing
SD-7s Earth Fill
SD-9 Sand Seep
SD-12B Concrete
SD-15 CMP
SD-16 Timber Fabrication

OPERATOR: Robert Cannon

CONSERVATION DISTRICT: Lyman

Class "A" Hazard

Date		Approved by	
Designed		Title	
Drawn		Title	
Traced		Sheet	Drawing No.
Checked		No	
		of	



Revised 7-13-09 DK

Approximate scale 1" = _____

REFERENCE: GUIDE PLAN NO. 1.0

JOB PLAN NO. 1.0

Locate principal spillway pipe
at $\mathcal{C}$ of dam sta. $7 + 00$, at
an angle of 90° to the $\mathcal{C}$ of
the dam.

Trash rack and baffle plate
not shown. See job plan
no. 6.4

Top of dam after
settlement El. 7804⁵

Note: Allowance for settlement 5 %

Emergency spillway El. 1801

Principal spillway El. 1798

Berm, if required, 3:1
slope normal to $\mathbb{C}$ of
dam _____

El. 1791-

See Job Plan 101
for details of
Waterman C-10 gate

3 : 1 slope normal
to ϕ of dam

84" dia. riser, see
job plan no. 5,3

90°

Antiseep collars

^{rs} sand seep collar
job plan 3.8

0.3% gr.

68' of 60" dia. pipe

2.7

53

CROSS SECTION OF DAM ALONG C OF PRINCIPAL SPILLWAY
(Not to scale)

SPECIFICATION NOTES

1. ELBOW, IF REQUIRED, MAY BE FABRICATED BY CONTINUOUS WELDING SEPERATE PIPE SECTIONS OR BY FABRICATING A CONTINUOUS WELDED JOINT ON THE UPSTREAM END OF LAST SECTION OF PIPE.
2. PIPE WALL THICKNESS SHALL BE _____ GAGE OR _____ INCHES.

All CMP to be spiral
vinyl clad on
caulked joint and double
riveted.

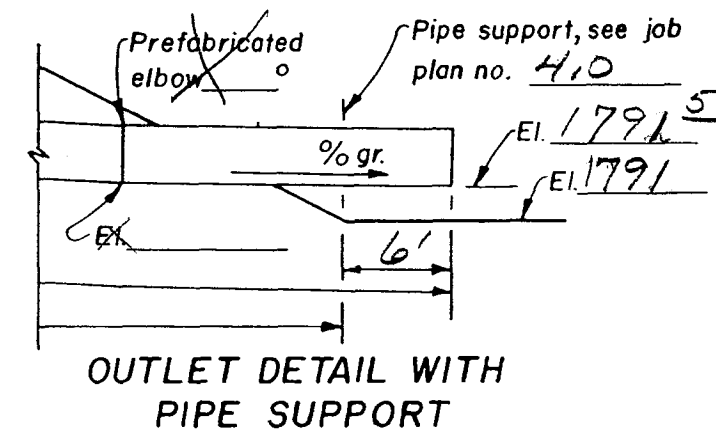
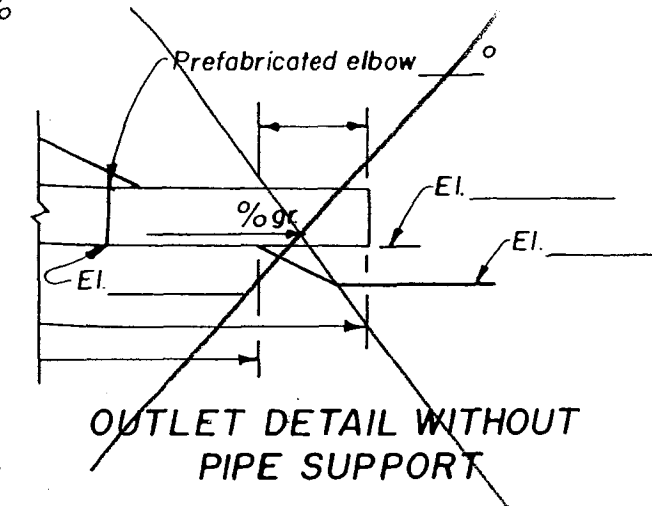
TABLE OF QUANTITIES

[illegible]

APPLICABLE STANDARD S.C.S. SPECIFICATIONS

REFERENCE: GUIDE PLAN NO. 2.0

Rev. 8/80
JOB PLAN NO. 2.0



Sec. _____, T. _____, R. _____
_____ County

LOCATION

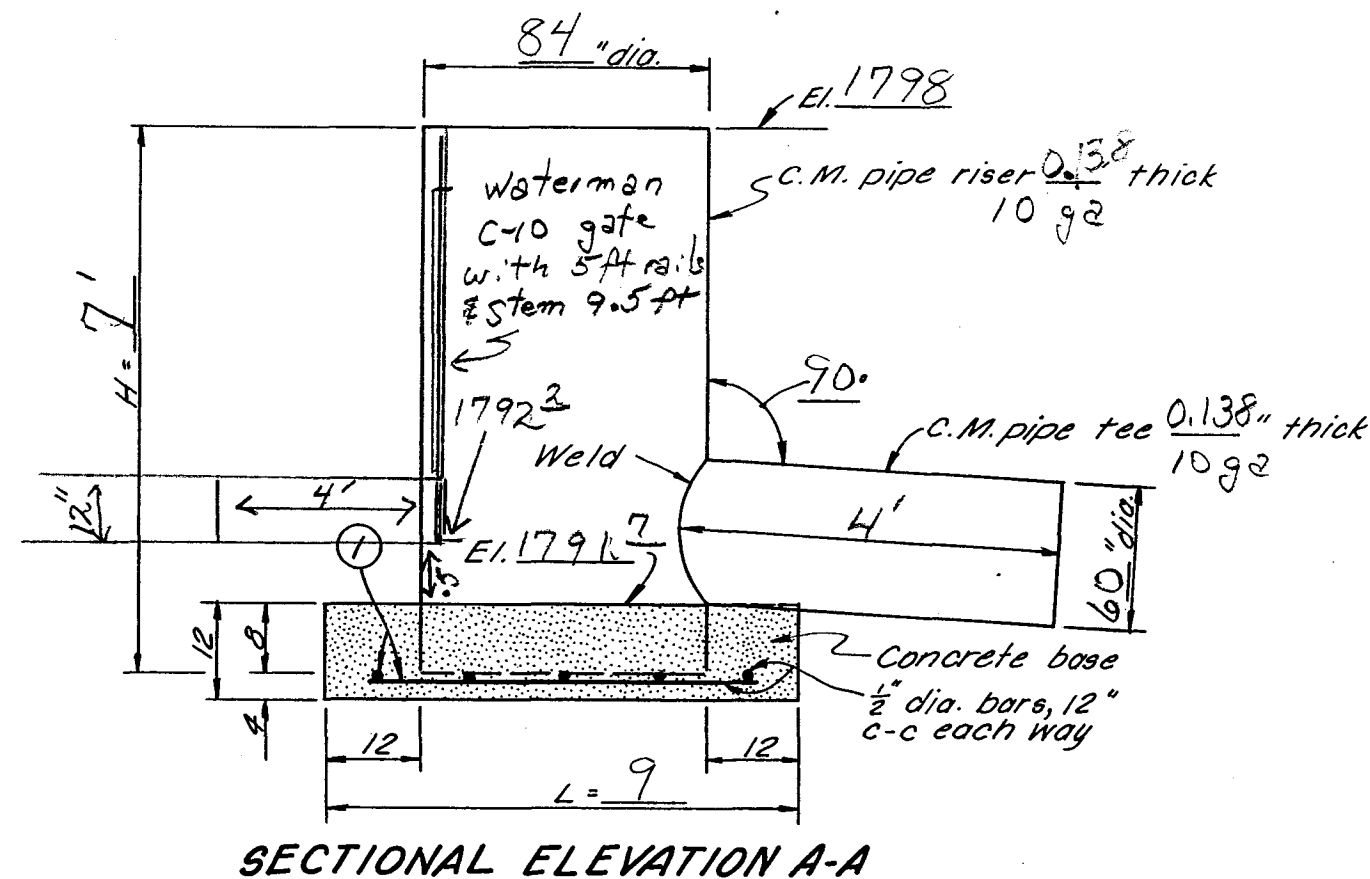
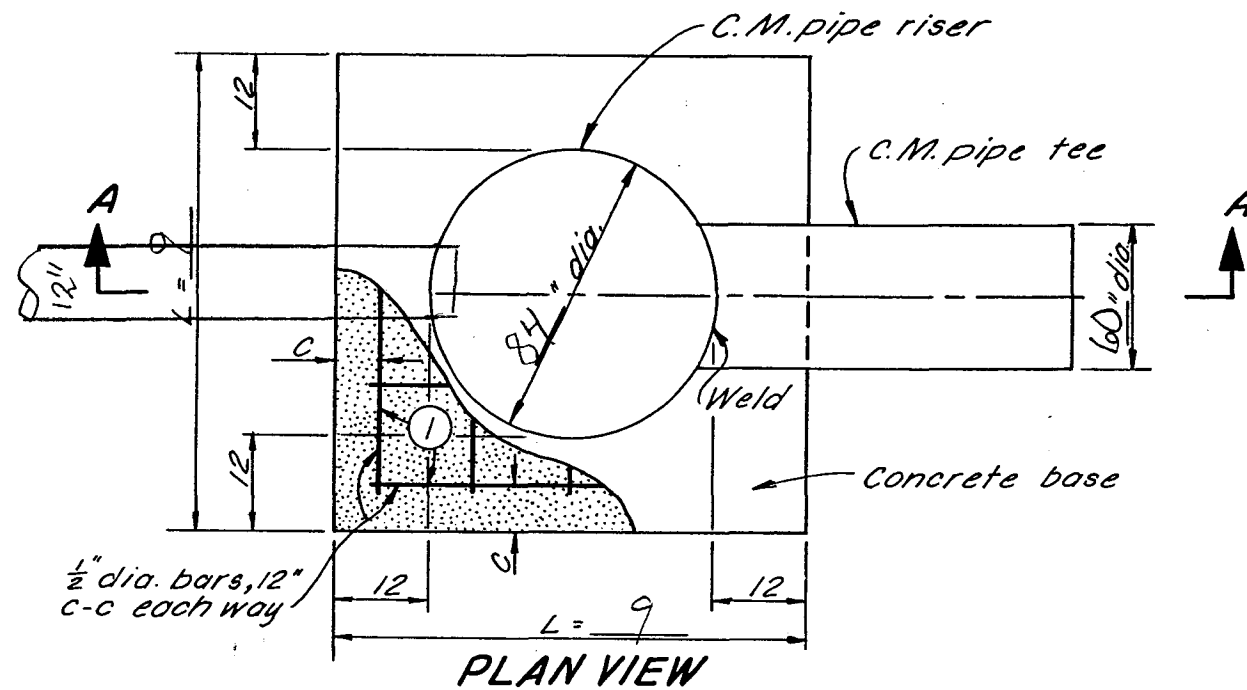
CORRUGATED METAL PIPE
DROP INLET PRINCIPAL SPILLWAY

OPERATOR Robert Cannon

CONSERVATION DISTRICT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

		Date		
Designed			Approved by	
			Title	
Drawn				
			Title	
Traced			Sheet	Drawing No.
			No	
Checked			of	



STEEL SCHEDULE

RISER DIA. IN.	BAR SIZE	MARK	TYPE	NO. REQ'D.	LENGTH FT.-IN.	TOTAL LENGTH FT.-IN.	TOTAL WT. LB.	C IN.	L FT.-IN.
84	4	1	STR.	18	8-3	153	103	6	9

TABLE OF QUANTITIES

ITEM	UNIT	QUANTITY
CONCRETE	CU. YD.	3
REINFORCING STEEL	LB.	153

NOTE: All pipe to be vinyl clad and spiral or caulked seam and double riveted.

C.M. PIPE RISER WITH FABRICATED TEE

OPERATOR: <u>Robert Cannon</u>	
CONSERVATION DISTRICT: _____	
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	
Date _____	Approved by _____
Designed _____	Title _____
Drawn _____	Title _____
Traced _____	Sheet _____
Checked _____	of _____
Drawing No. _____	

REFERENCE: GUIDE PLAN NO. 5.3

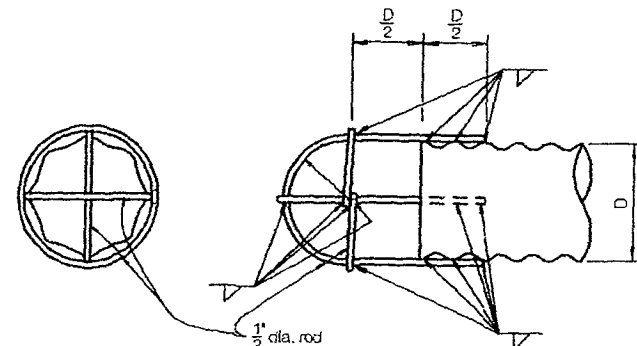
JOB PLAN NO. 5.3

5, N-29, 073.5-30

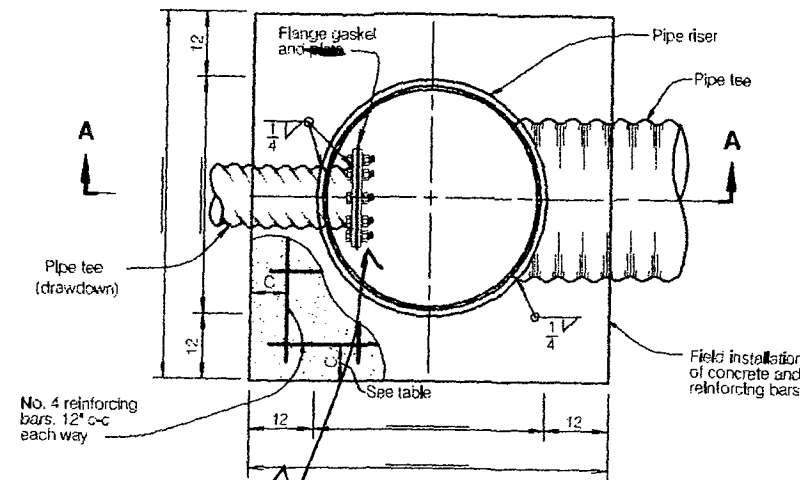
DRAWDOWN TRASH RACK ROD LENGTHS

PIPE DIA. INCHES	* ROD LENGTH INCHES	* * CIRCULAR ROD LENGTH-INCHES
8	30	35
10	37	41
12	44	47
15	54	57

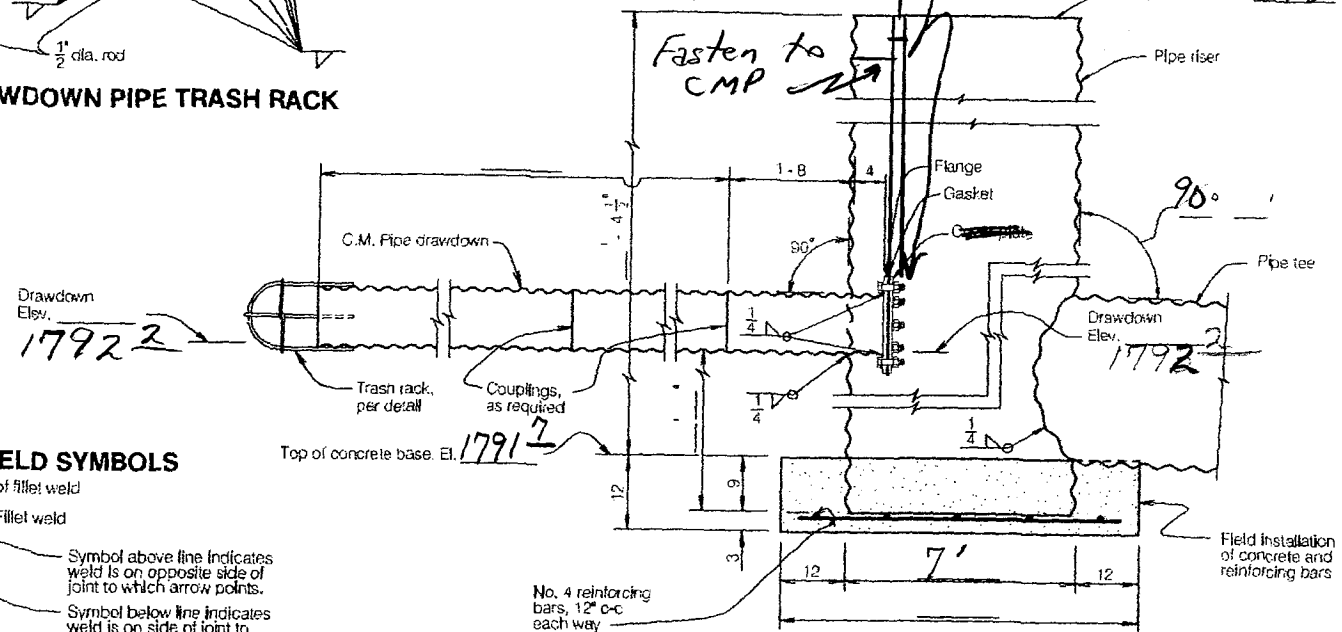
* 2 RODS REQUIRED.
 ** APPROXIMATE 2" LAP.
 RODS TO BE ZINC COATED OR PAINTED
 ACCORDING TO SPECIFICATIONS.
 1/2" DIA. ROD = 0.668 LB./FT.



DRAWDOWN PIPE TRASH RACK

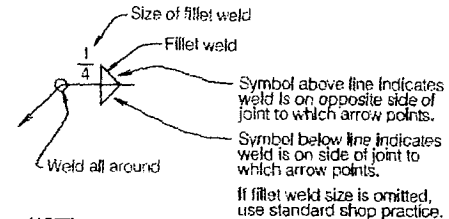


*Waterman C-10 gate
 5 ft guide - 9.5 ft stem*



SECTIONAL ELEVATION A-A RISER DETAIL

WELD SYMBOLS



NOTE:
 ALL WELDS AND HEAT AFFECTED AREAS TO BE TREATED
 IN ACCORDANCE WITH SPECIFICATIONS.
 MATERIALS NOT COATED OR GALVANIZED SHALL BE PAINTED
 ACCORDING TO PAINT SYSTEM "C" OF PAINT SPECIFICATIONS.

PIPE FLANGE NOTE:

USE 1/2" FLANGE ON _____" DIA. DRAWDOWN. FLANGE DIA., BOLT SIZE AND
 PATTERN SHALL BE ACCORDING TO AWWA C-207, CLASS B. PROVIDE A 1/4" THICK
 PLATE, SAME DIA. AS FLANGE WITH HOLES DRILLED TO MATCH HOLES IN FLANGE.
 PROVIDE NEOPRENE GASKET TO FIT BETWEEN PLATE AND FLANGE. FASTEN PLATE
 TO FLANGE WITH 8 - 1/2" DIA. x 2" GALVANIZED BOLTS AND WASHERS.

FABRICATION AND INSTALLATION NOTES:

FOR FABRICATION OF RISERS ON HELICAL PIPE A
 FILLER STRIP MAY BE USED TO INSURE A WATERTIGHT
 SEAL BETWEEN THE RISER AND TEE.

TABLE OF QUANTITIES FOR CONCRETE RISER BASE

DIA. OF RISER IN INCHES	30	36	42	48	54	60	66	72
CONCRETE, CU.YDS.	0.75	0.93	1.12	1.33	1.56	1.81	2.08	2.37
NO. 4 REINFORCING BAR, LIN.FT.	40	45	60	66	84	91	112	120
LENGTH OF EACH BAR, FT.-IN.	4-0	4-6	5-0	5-6	6-0	6-6	7-0	7-6
TOTAL NUMBER OF BARS	10	10	12	12	14	14	16	16
TOTAL WEIGHT - NO. 4 BARS, LBS.	26.7	30.0	40.1	44.1	56.1	60.8	74.8	80.2

TABLE FOR DIMENSION C

DIA. OF RISER IN INCHES	30	36	42	48	54	60	66	72
C SPACING IN INCHES	3	6	3	6	3	6	3	6

NO. 4 REINFORCING BAR = 1/2 IN. DIA. = 0.668 LBS./LIN.FT.

REQUIREMENT TABLE

☒ IN BOX INDICATES THE REQUIREMENTS THAT APPLY TO STRUCTURE
 ☒ INDICATES - NOT APPLICABLE

CONCRETE: CLASS ☐ 3000 ☐ 3000M ☐ 4000 _____ CU.YD.
 REINFORCING STEEL: _____ LB.

RISER:
 CORRUGATED METAL PIPE, ZINC COATED STEEL, _____" DIA., _____ GA., _____ FT.
 NOMINAL LENGTH WITH A _____" DIA., _____ GA., PIPE TEE, _____ FT. NOMINAL LENGTH
 WELDED TO IT 9" FROM THE LOWER END, AND A _____" DIA., _____ GA., PIPE TEE 2'-0"
 NOMINAL LENGTH WELDED TO IT _____" FROM THE LOWER END AND PIPE FLANGE.

DRAWDOWN:
 CORRUGATED METAL PIPE, ZINC COATED STEEL, _____" DIA., WITH COUPLING(S), AND
 TRASH RACK, PER DETAILS

TOTAL LIN.FT. (EXCLUDING TEE) = _____

PIPE CLASSIFICATION	RISER	PIPE TEE	DRAWDOWN
TYPE 1 FULL CIRCULAR CROSS-SECTION FABRICATED WITH:			
☐ ANNULAR CORRUGATIONS	☐	☐	☒
☐ CLOSE RIVETED OR ☐ STANDARD RIVETED	☐	☐	☐
☐ HELICAL CORRUGATIONS	☐	☐	☐
CORRUGATION REQUIREMENTS			
NOMINAL SIZE (INCH)			
☐ 1 1/2 x 1/4 (AVAILABLE ONLY IN HELICALLY CORRUGATED PIPE)	☐	☐	☐
☐ 2 2/3 x 1/2	☐	☐	☐
☐ 3 x 1	☐	☐	☒
☐ 5 x 1	☐	☐	☒
COATINGS AND FABRICATION			
SEE COUPLING BAND AND METAL PIPE REQUIREMENTS SHEET			

NOTE:

THE FOLLOWING DESIGNATIONS FOR PIPE CLASSIFICATIONS, CORRUGATIONS
 AND COATINGS WHEN REFERRED TO ON THE DRAWINGS ARE IN ACCORDANCE
 WITH CURRENT ASTM'S:

A760 STANDARD SPECIFICATION FOR CORRUGATED STEEL
 PIPE, METALLIC-COATED.

A761 STANDARD SPECIFICATION FOR STEEL, GALVANIZED
 CORRUGATED STRUCTURAL PLATES AND FASTENERS.

A762 STANDARD SPECIFICATION FOR CORRUGATED STEEL
 PIPE, POLYMER PRECOATED FOR SEWERS AND DRAINS.

A849 STANDARD SPECIFICATION FOR POST-COATED AND LINED
 CORRUGATED STEEL SEWER AND DRAINAGE PIPE (BITUMINOUS
 OR CONCRETE)

A885 STANDARD SPECIFICATION OF STEEL SHEET, ZINC AND
 ARAMID FIBER COMPOSITE-COATED FOR CORRUGATED STEEL
 SEWER, CULVERT AND UNDERDRAIN PIPE.

Job Plan 101

**CONCRETE BASE METAL PIPE RISER
 AND FLANGE DRAWDOWN FACILITY**

Date _____
 Designed _____
 Drawn _____
 Checked _____
 Approved _____

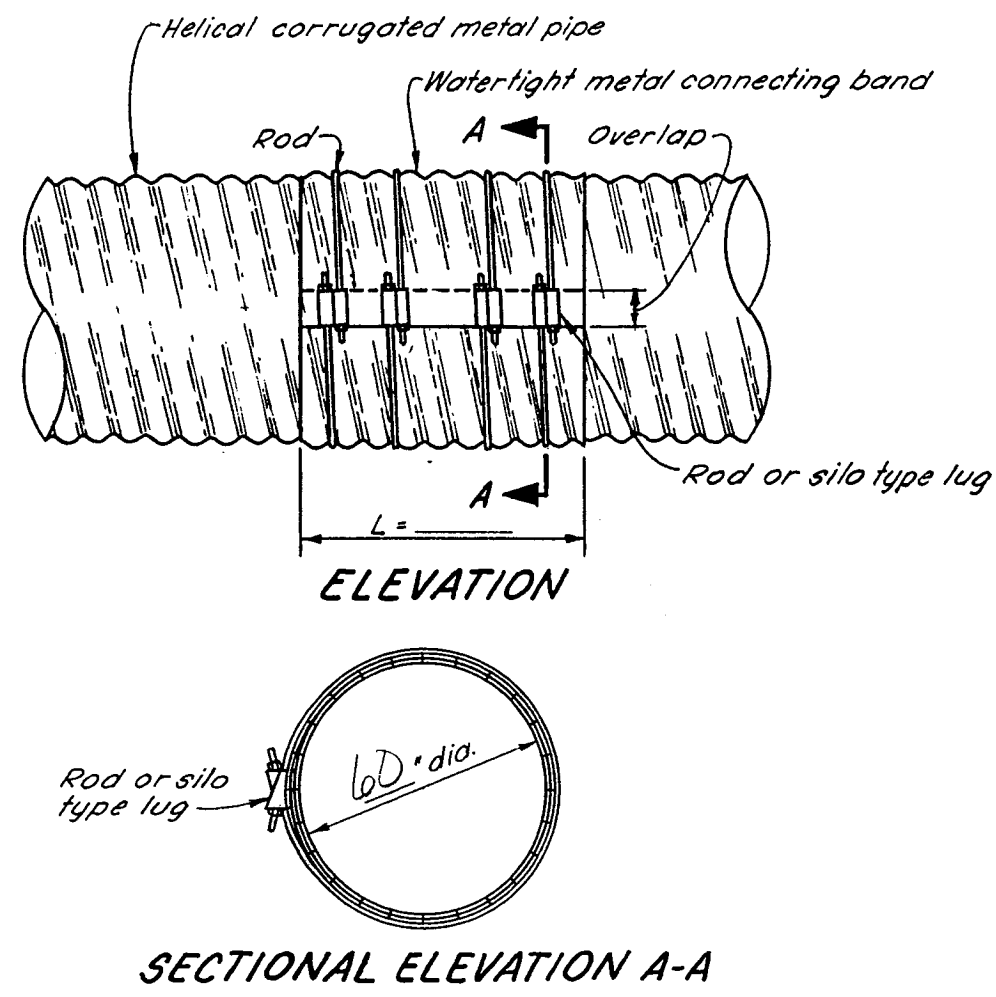
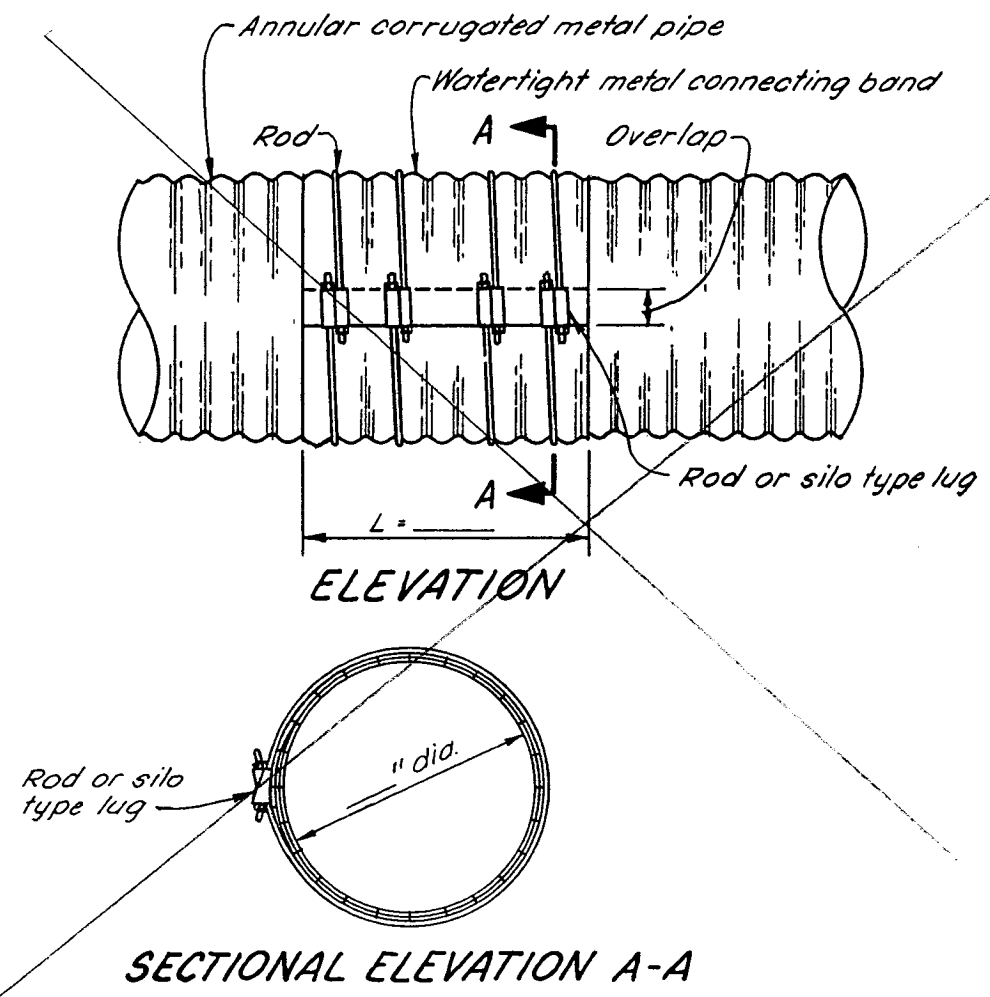
Robert C. C. C.

NRCS
 Natural Resources Conservation Service

CAD Dwg.
 NE100-10-004.dwg

Design Class:

Sheet of



DIMENSIONS AND QUANTITIES

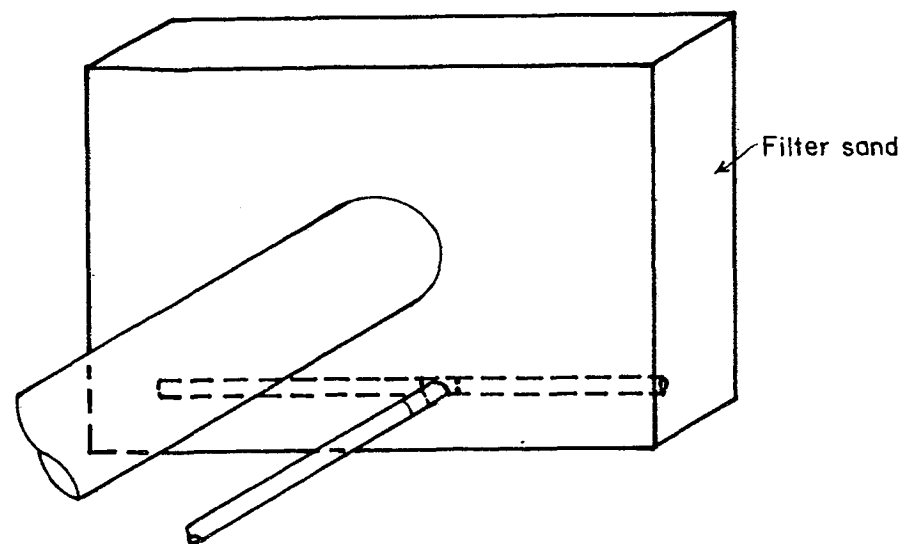
PIPE DIA. INCHES	MINIMUM "L" INCHES	APPROX. OVERLAP INCHES	NUMBER OF RODS & LUGS	MINIMUM ROD DIA. IN.	NEOPRENE GASKET WIDTH INCHES	ASPHALT MASTIC GAL.
6-18	12	2	2	1/2	12	1/2
21-30	24	3	4	1/2	12	1 1/2
36-48	24	6	4	1/2	12	2
60	24	6	4	1/2	12	3

NOTES:

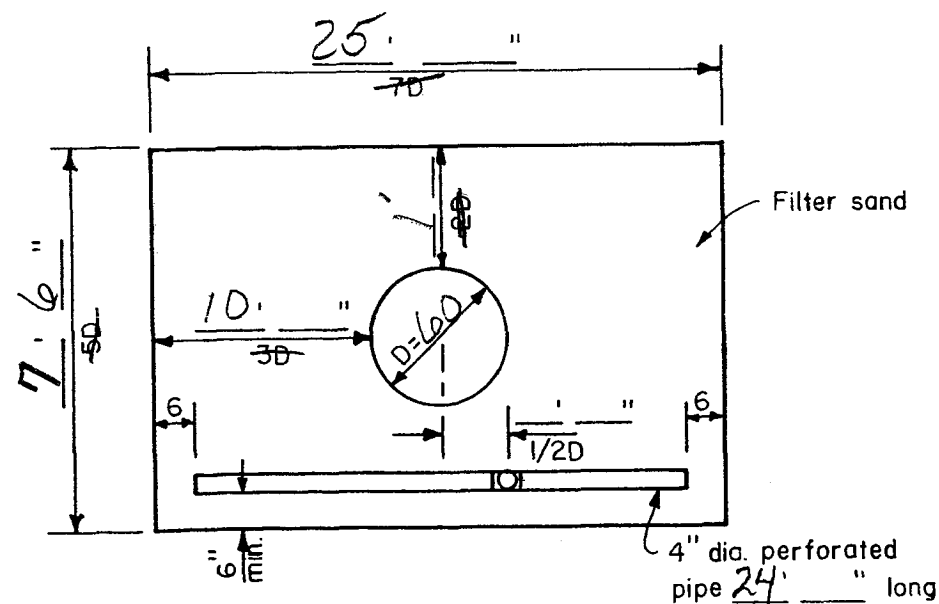
1. WATERTIGHTNESS WILL BE OBTAINED BY USE OF (1) 3/8" THICK NEOPRENE GASKET (WIDTH AS SHOWN) OR (2) ASPHALT MASTIC SEALING MATERIAL TO COVER FULL WIDTH OF BAND.
2. CROSS OUT BAND AND QUANTITIES NOT APPLICABLE.

WATERTIGHT CONNECTING BAND FOR ANNULAR AND HELICAL CORRUGATED METAL PIPE

OPERATOR: <u>Robert Cannon</u>	
CONSERVATION DISTRICT: _____	
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	
Date _____	Approved by _____
Designed _____	Title _____
Drawn _____	Title _____



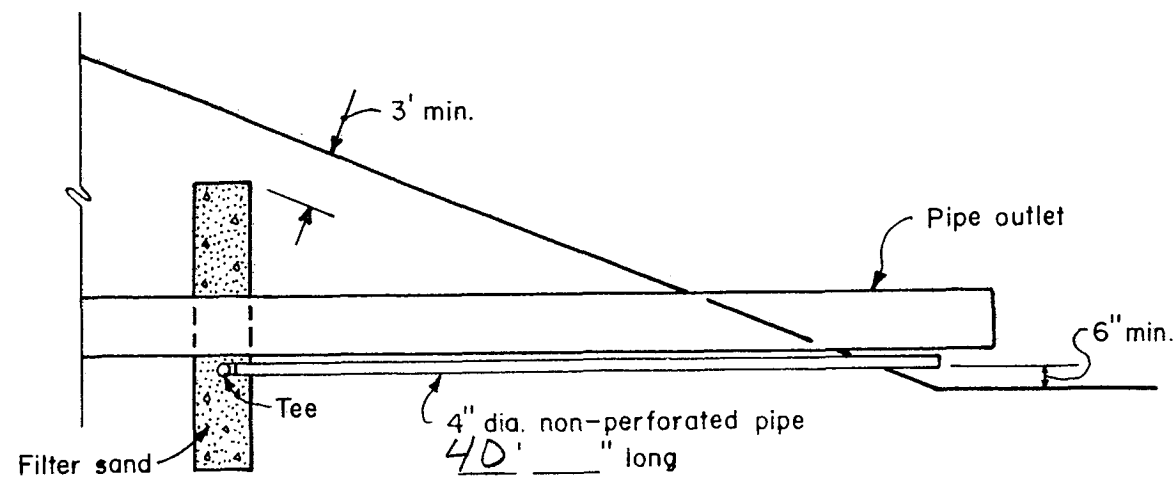
ISOMETRIC VIEW



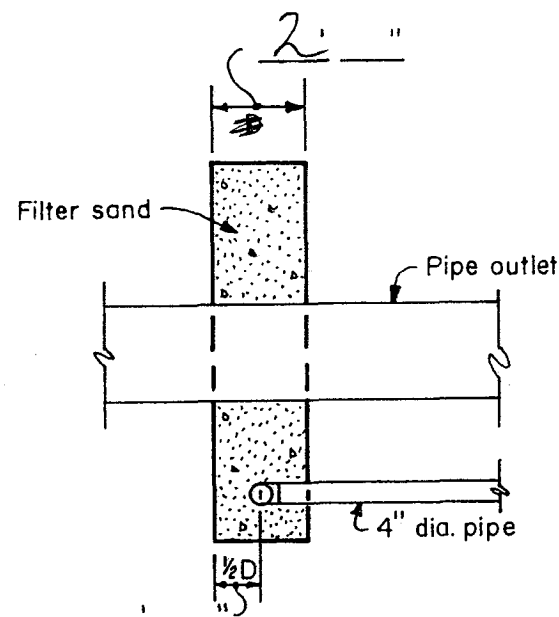
UPSTREAM VIEW

NOTE:

1. THE 4" DIA. PIPE SHALL BE ASTM D1785, SCHEDULE 40, PVC.
2. PROVIDE AN ANIMAL GUARD ON DRAIN OUTLET PIPE. DRILL 2, 1/2" DIA. HOLES, ON ϕ 6" FROM END OF PIPE AND PLACE A 3/8" DIA., 5 1/2" LONG GALVANIZED STEEL BOLT THRU THEM AND SECURE WITH A NUT (PLACE BOLT HORIZONTAL).



OUTLET DETAIL



SIDE VIEW

see spec SD-9
14 cy

FILTER GRADATION	
SIEVE SIZE	PERCENT PASSING
3/8	100
4	85-100
8	80-100
16	50-85
30	25-60
50	10-30
100	2-10

Sec. _____, T. _____, R. _____

County _____
LOCATION

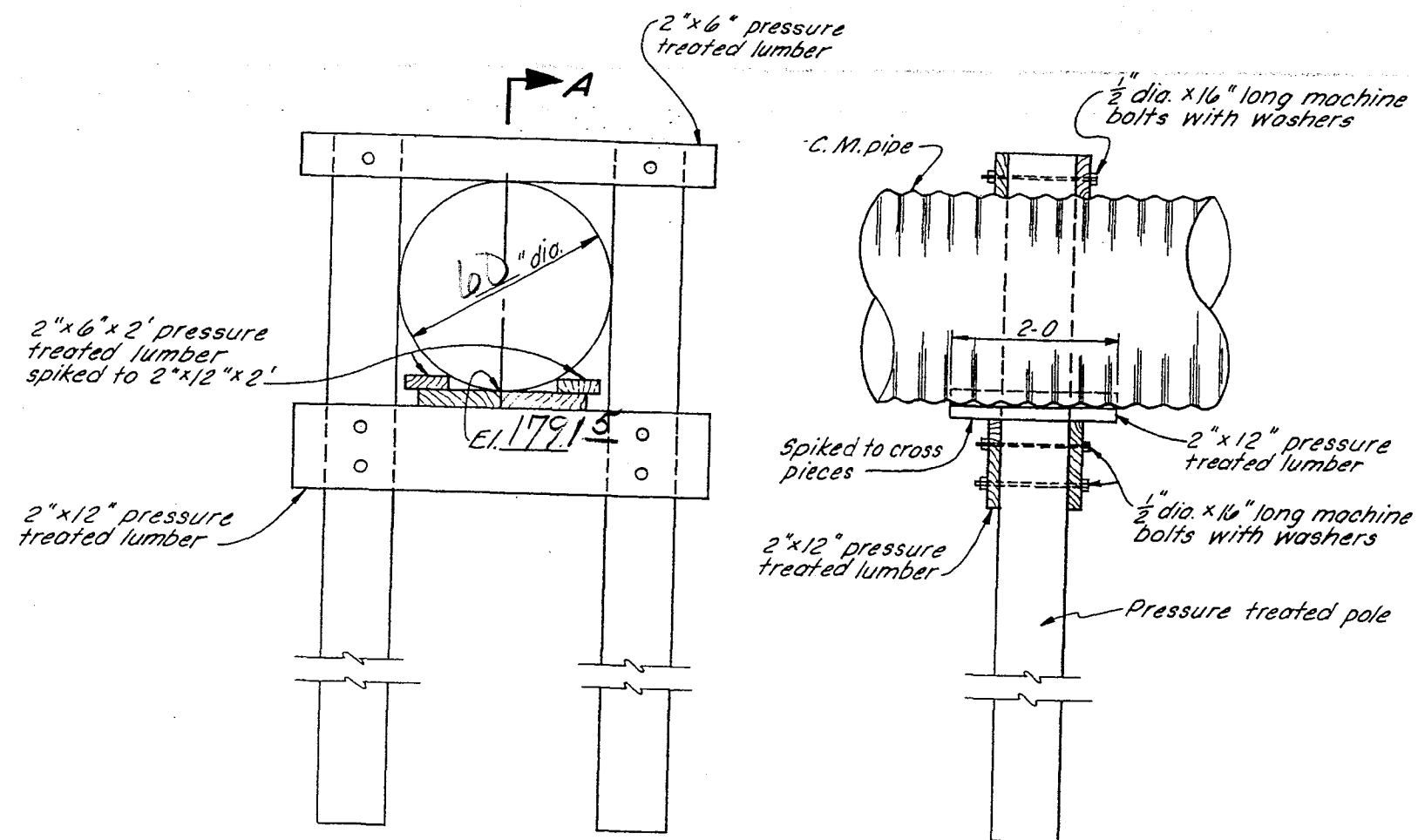
SAND ANTISEEP COLLAR

OPERATOR Robert Cannon

CONSERVATION DISTRICT _____

Designed _____	Date _____	Approved by _____
Drawn _____		Title _____
Traced _____		Title _____
Checked _____	Sheet _____	Drawing No. _____
	No _____	
	of _____	

JOB PLAN NO. 3.8



ELEVATION

SECTIONAL ELEVATION A-A

TABLE OF QUANTITIES

ITEM	LENGTH FOR 60" DIA. C.M. PIPE	UNIT	QUANTITY
PRESSURE TREATED POLE 10" DIA.	12	EACH	2
2" X 12" PRESSURE TREATED LUMBER	8	EACH	2
2" X 6" PRESSURE TREATED LUMBER	8	EACH	2
2" X 12" PRESSURE TREATED LUMBER	2	EACH	4
2" X 6" PRESSURE TREATED LUMBER	2	EACH	2
1/2" DIA. MACHINE BOLTS WITH NUTS	1-4	EACH	10
1/2" DIA. WASHERS		EACH	20

REFERENCE: GUIDE PLAN NO. 4.0

NOTES:

- HAND OR MACHINE TAMP BACKFILL THOROUGHLY AROUND FOOTINGS AND COLUMNS.

TIMBER PIPE SUPPORT

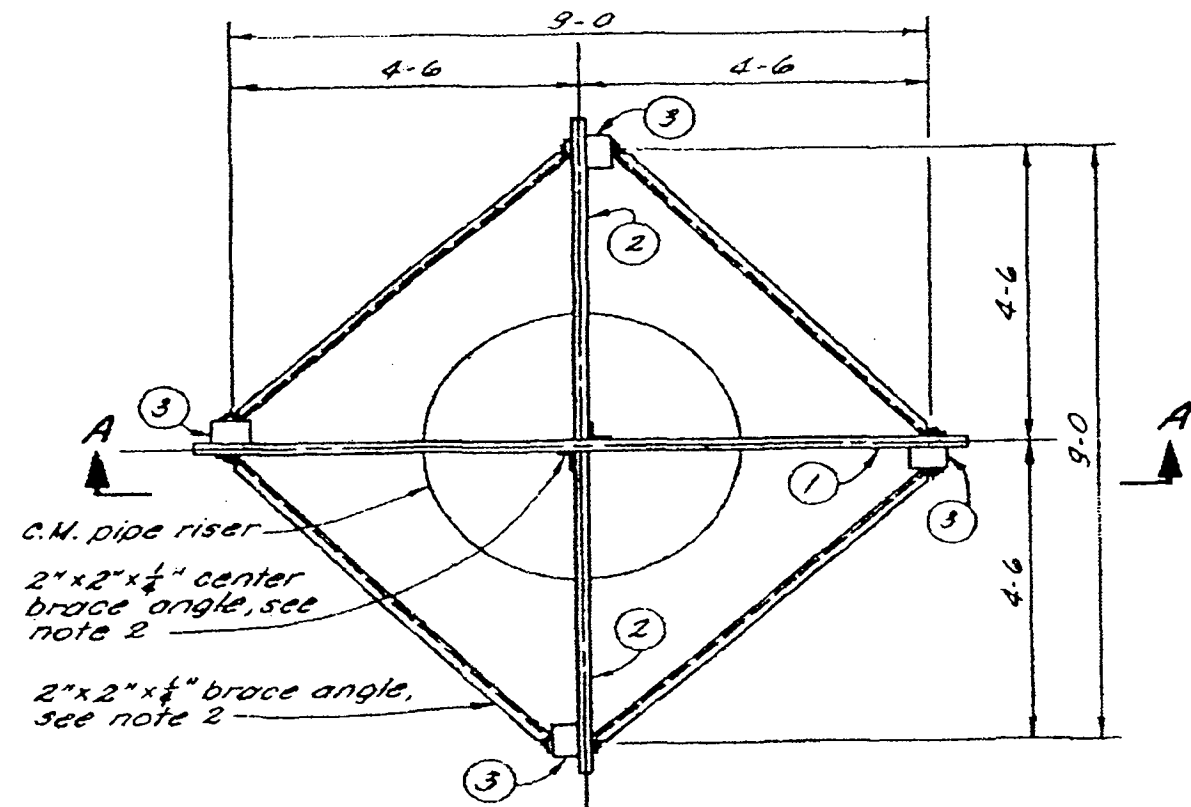
OPERATOR: Robert Cannon

CONSERVATION DISTRICT: _____

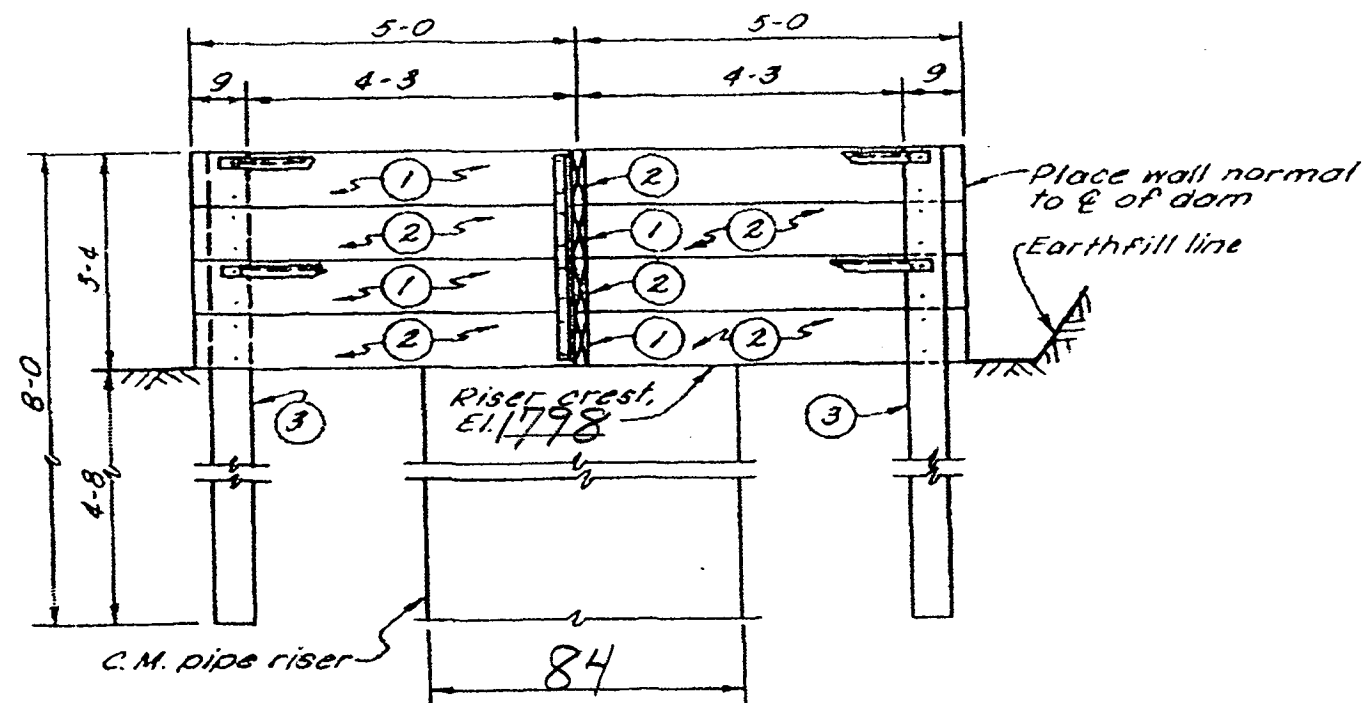
Designed _____	Date _____	Approved by _____
Drawn _____		Title _____
Traced _____		Title _____
Checked _____		Sheet _____
		No. _____
		Drawing No. _____

JOB PLAN NO. 4.0

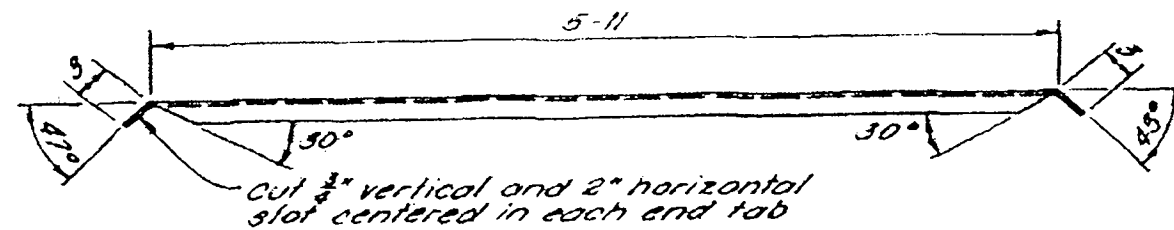
5, N-29.073.4a



PLAN VIEW



SECTIONAL ELEVATION A-A



PLAN VIEW OF BRACE ANGLE

TABLE OF QUANTITIES

ITEM	MARK	NO. REQ'D.	QUANTITY
2" X 10" X 10' PRESSURE TREATED LUMBER	1	4	67 BD. FT.
2" X 10" X 4'-11" PRESSURE TREATED LUMBER	2	8	66 BD. FT.
4" X 6" X 8' PRESSURE TREATED POST	3	4	64 BD. FT.
2" X 2" X 1/4" X 6'-5" STEEL ANGLE		8	164 LB.
2" X 2" X 1/4" X 3'-2" STEEL ANGLE		2	20 LB.
5/8" X 8" STEEL BOLTS, NUTS, 2 WASHERS		32	32 SETS
1/2" X 3" STEEL BOLTS, NUTS, 2 WASHERS		32	32 SETS

NOTES:

1. TO 4" X 6" POSTS (4 REQUIRED) BOLT 2" X 10" BOARDS USING TWO 5/8" X 8" BOLTS PER 2" X 10" BOARD. DO NOT PLACE BOLTS CLOSER THAN 1 1/2" FROM EDGE OF BOARD.
2. FOR CENTER BRACE ANGLES DRILL 8 - 9/16" HOLES 5/8" FROM OUTER EDGE OF EACH LEG OF EACH ANGLE AND CENTERED 5 1/4" APART ALONG THE LEG.
3. ATTACH BRACE ANGLES TO TOP BOLT ON TOP 2" X 10" BOARD AND TO TOP BOLT ON NEXT TO BOTTOM BOARD.

TRASH RACK AND BAFFLE
FOR RISER DIA. 36" THRU 60"

OPERATOR: <u>Robert Cannon</u>	
CONSERVATION DISTRICT: _____	
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	
Designed: _____	Date: _____
Drawn: _____	Approved by: _____
Traced: _____	Typ: _____
Checked: _____	Sheet: _____
	Drawing No. _____

JOB PLAN NO. 6.4

5, N-29, 073.6-40



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

SEP 24 2009

Robert Cannon
PO Box 2086
Rock Springs WY 82902

Dear Mr. Cannon:

Enclosed is Water Permit No. 2639-2 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

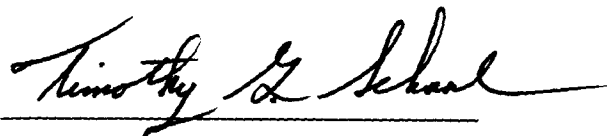
File No. 2639-2Water Rights Division -DENR
Conversation or File DocumentationNAME OF PERSON OR FILE: Robert CannonADDRESS: PO Box 2086 Rock Springs, WY 82902 COUNTY: LymanDATE: September 27, 2012 TELEPHONE: 307 350-4756**RE: Phone call from Paul Barber (341-1485) regarding low water levels in Ramser Dam located below the Cannon Dam.**

Paul Barber from Dakota Dogoba, LLC called me on September 24, 2012 regarding low water levels in their dam located below the Cannon Dam. He was concerned that the Cannon Dam was receiving runoff and not releasing it downstream to them. I explained to him that because of the drought conditions I did not think anybody was getting any runoff, but would make an investigation and call him back.

I made an investigation on September 26, 2012 and contacted Mr. Cannon's representative, Chuck Jasmoch (280-6425). He indicated that both dams received runoff once or twice this spring and both dams spilled through the primary spillways at that time; however, there has not been any runoff this summer. The water level in both dams appeared to be about 2 feet below the primary spillway inlets. The Ramser Dam was repaired years ago as a Ducks Unlimited project and has a shallow reservoir. The Cannon Dam was repaired several years ago and an excavation was made in the reservoir area to deepen the pool area. There appears to me more water in the Cannon Dam for that reason. I discussed the low flow by-pass requirement with Mr. Jasmoch and it seemed like he and Mr. Cannon understood the requirement.

I called Mr. Barber back today, and explained to him I did not think they were being deprived of receiving runoff, mainly because there has not been any. I also gave him Mr. Jasmoch's phone number and told him to talk over his concerns with him.

The following pictures show the reservoir area and primary spillway inlet of both dams.



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

Cannon Dam



Ramser Dam



Permit No. 2639-2
White River - Water District

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

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

I have this day, September 26, 2012, made a thorough examination of the water use system for Robert Cannon of P.O. Box 2086, Rock Springs, WY 82902 holder of Permit No. 2639-2, bearing the priority of October 29, 2008 authorizing the storage of 83 acre-feet of the waters of Mill Iron Creek for fish & wildlife propagation and recreation purposes, in Lyman County.

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

A. Works used to divert the water:

A 12.5 ft. high earth dam with a normal storage capacity of 83 ac-ft.

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

N/A

C. Works used to apply water to beneficial use:

A 12.5 ft. high earth dam with a normal storage capacity of 83 ac-ft.

The system is in the following condition good. The point of diversion is located 600 ft. north & 1650 ft. west of the SE corner of Sec. 26-T104N-R77W (SW ¼ SE ¼) (Lat. 43.77674, Long. -100.00255). The works are capable of storing 83 acre-feet of water which is to be used for fish & wildlife propagation and recreation use. Water has been put to beneficial use to the maximum extent as follows:

A 12.5 ft. high earth dam with a normal storage capacity of 83 ac-ft.

and the license should be issued for 83 acre-feet of storage.

Applicable permit qualifications have been complied with: Yes X

Exceptions to compliance are: none Date Report Completed: February 13, 2013



Timothy G. Schaal, P.E.
Engineer IV
SD DENR, Water Rights Program

REPORT ON INSPECTION OF PERMIT NO. 2639-2

DATE OF INSPECTION: September 26, 2012

NAME & ADDRESS OF PERMIT HOLDER: Robert Cannon, P.O. Box 2086, Rock Springs, WY 82902

DIVERSION POINT LEGAL LOCATION: 600 ft. north & 1650 ft. west of the SE corner of Sec. 26-T104N-R77W (SW ¼ SE ¼) (Lat. 43.77674 & Long. -100.00255).

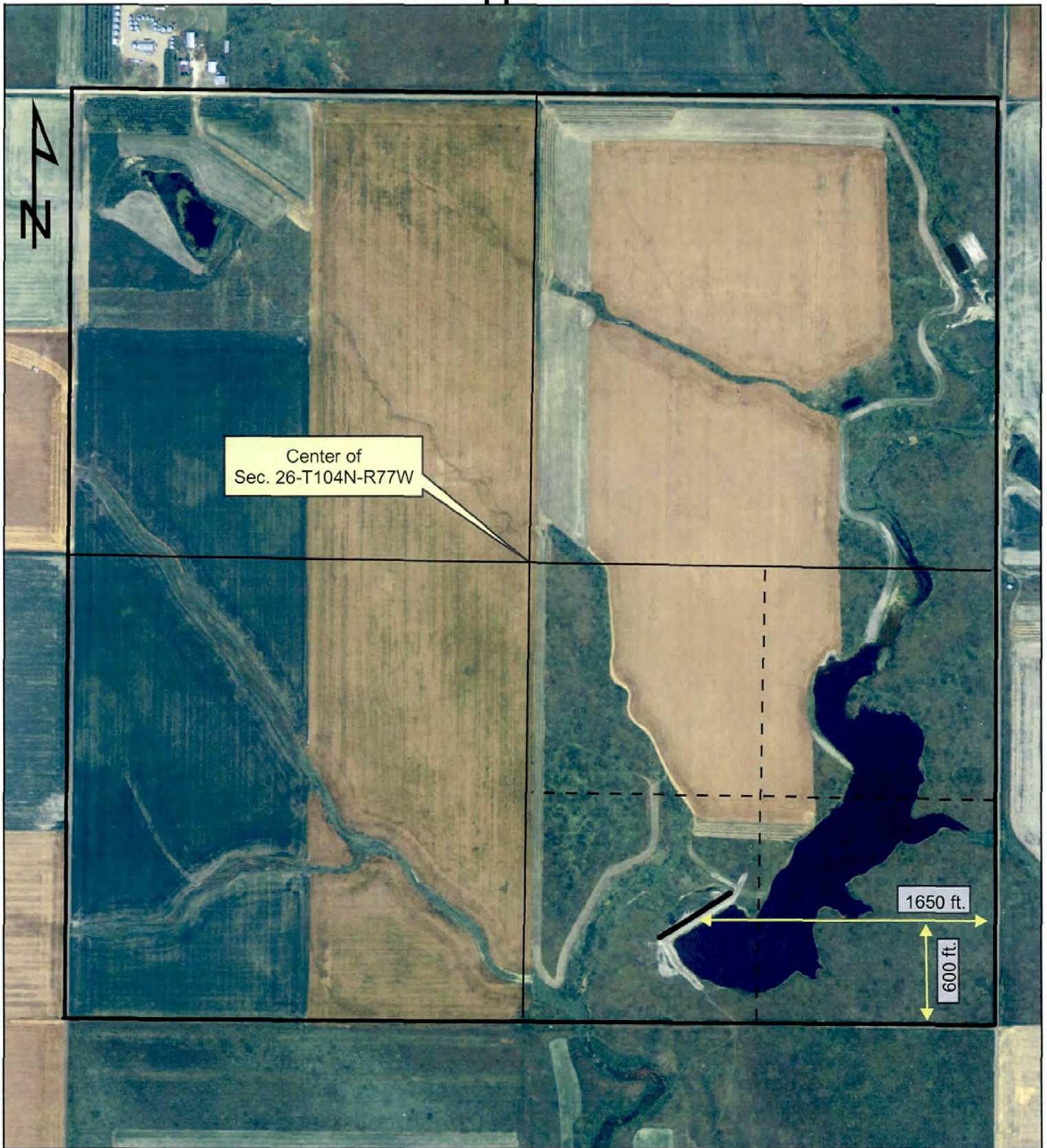
DAM INFORMATION:

- 1) Height to crest 12.5 feet
- 2) Height to primary spillway 6 feet
- 3) Height to secondary spillway 9 feet
- 4) Crest width 12 feet
- 5) Crest length 1117 feet
- 6) Spillway length XXX feet
- 7) Spillway width 200 feet
- 8) Approx. storage (Normal) 83 acre-feet
- 9) Approx. storage (Maximum) 485 acre-feet
- 10) Date constructed: 2009

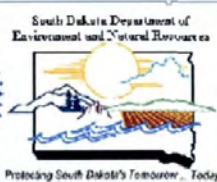
PERMIT QUALIFICATIONS AND REGULATIONS:

- 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. 2639-2



0 0.25 0.5 1 Miles



Timothy G. Schaal

Timothy G. Schaal, P.E.
Engineer IV
SD DENR, Water Rights Program

2/13/13



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

MAY 17 2013

2639-2

Robert Cannon
PO Box 2086
Rock Springs WY 82902

Dear Mr. Cannon:

Enclosed is Water License No. 2639-2. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

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,

Jeanne Goodman, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 2639-2

(1) Robert Cannon, PO Box 2086, Rock Springs WY 82902 made Application No. 2639-2, October 29, 2008 for a water permit to impound 83 acre feet of water from Mill Iron Creek by reconstructing a dam located in Lyman County, South Dakota for fish & wildlife propagation, recreational use and livestock watering purposes. Permit No. 2639-2, with a priority date of October 29, 2008 was approved July 8, 2009 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before July 8, 2014 and for the application to beneficial use of said water on or before July 8, 2018.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the storage dam and is entitled to impound 83 acre feet of water for beneficial use.

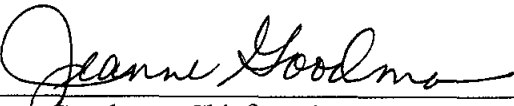
The location of the storage dam (spillway) is 600 feet north and 1,650 feet west of the SE corner of Section 26, T104N, R77W (SW ¼ SE ¼).

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

(4) Pursuant to South Dakota Water Law 46-5-30.1 Robert Cannon, PO Box 2086, Rock Springs WY 82902 the holder and/or owner of Water Right No. 2639-2 is issued a license to appropriate water, the right to impound 83 acre feet of water from Mill Iron Creek with a priority date of October 29, 2008 from the location specified in (2) of this license for fish & wildlife propagation, recreational use and livestock watering purposes.

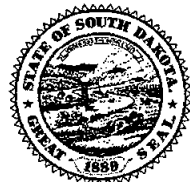
This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 2639-2 and subject to the following qualifications:

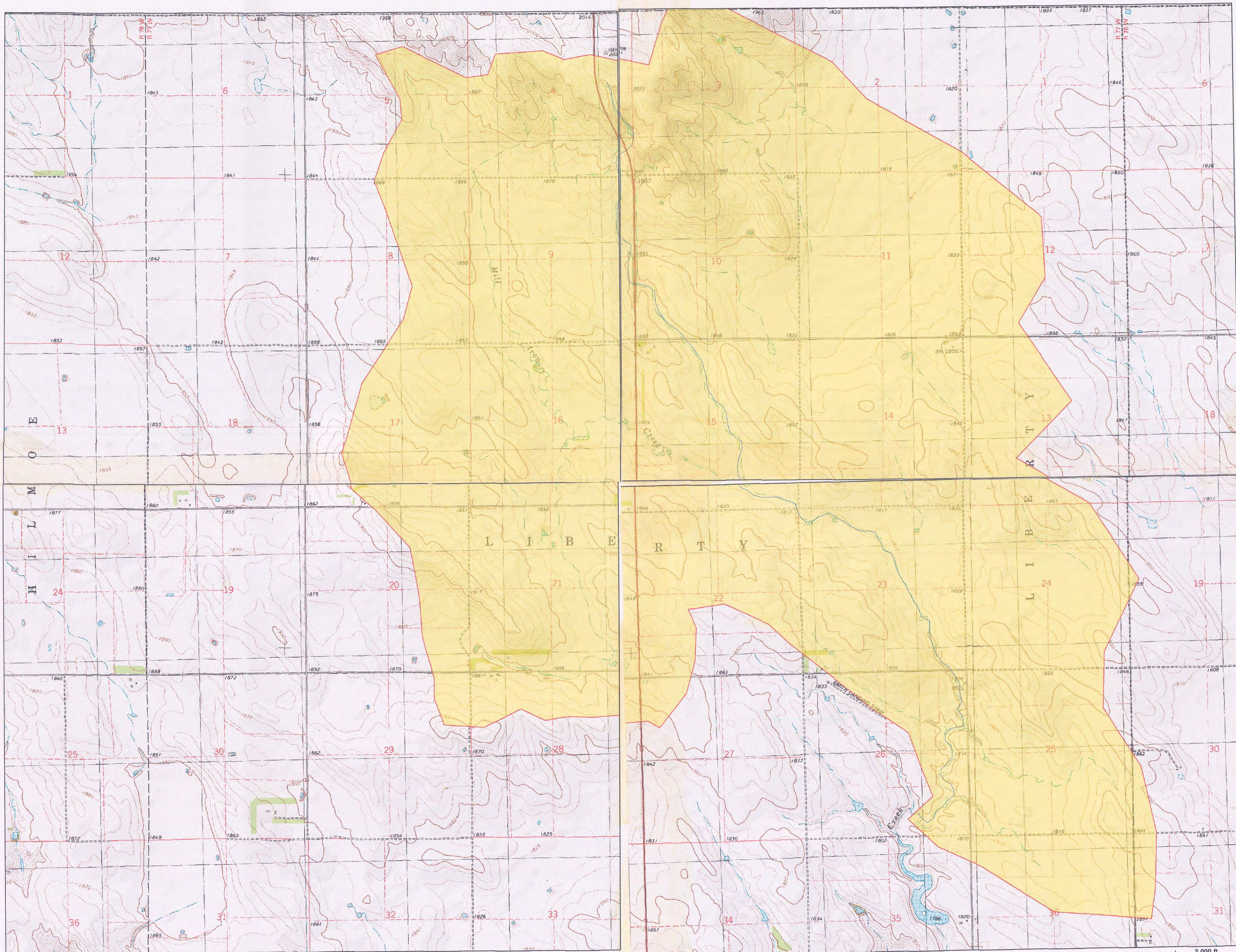
- Water Right No. 2639-2 authorizes a dam with a storage capacity of 83 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation.
- Low flows as needed for downstream domestic use, including livestock water and prior water rights must be bypassed.


Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

MAY 17 2013

date





Robert Cannon

Scale 1" = 100'

Robert Cannon
SE 26, T104N, R77W
Lyman Co., SD