

WATER PERMIT NO. 6604-3

Name of Applicant: James Willey

Address: 30242 152nd St, Gettysburg SD 57442

Phone: 605 765-9344

Amount of Water Claimed: 87.8 AF

Total Acres: NA

Source of Water Supply: unnamed tributary to Missouri River

Water to be used for: fish & wildlife and livestock

County: Potter

Type of Waste Disposal System:

Location: 15 miles northwest of Gettysburg

PRIORITY

Date Received: 3-16-05

Application/License Fee: \$200

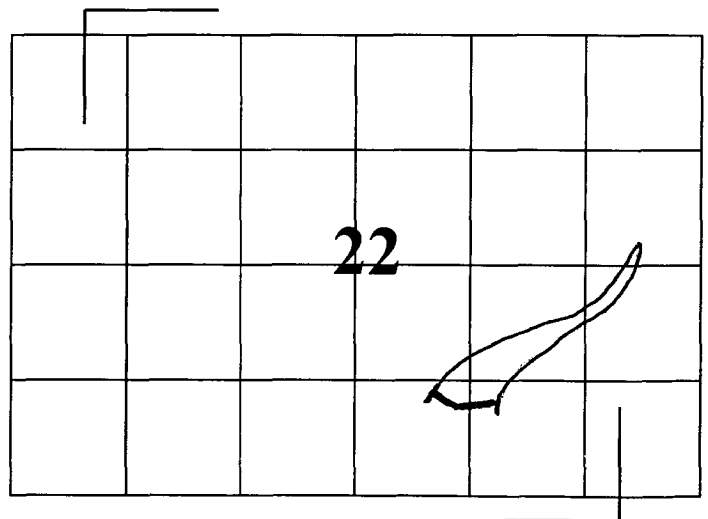
Corrected Application Received:

Period of Annual Use: January 1 – December 31

Remarks:

Diversion Point: S ½ SE ¼ Sec 22-T120N-R77W

Water Impounded: SE ¼ Sec 22 and NE ¼ SW ¼,
SW ¼ NW ¼ Sec 23; all in T120N-R77W



Depth of Well: NA

Well Driller:

Remarks:

Type of Map: plat

Prepared by: Thomas D VerHelst, SCS

Reviewed and the Number Assigned on: 3-16-05

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

SD EForm - 1585 V1
FORM 2: Application for uses other than irrigation
(type or print)

RECEIVED
MAR 16 2005
WATER RIGHTS
PROGRAM

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	No. <u>6604-3</u> (office use only) Hydrologic Unit <u>10130105</u>
	Basin <u>Missouri River</u>
	Newspaper <u>Potter Co. News, Gettysburg</u>

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.)

S 1/2 SE 1/4 SEC 22., T120N., R77W., 5th P.M.
LAT/LONG = N45° 11' 25" W100° 06' 24"

1. Name of Applicant JAMES WILLEY Phone (605) 765-9344
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 30242 152nd ST Gettysburg State SD 57442
(Street, RR, or Box and City) (Zip Code)

2. Amount of water claimed _____ *CFS or _____ **GPM 87.80 ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Unamed tributary of the Missouri River

4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Potter
S 1/2 SE 1/4 SEC 22., T120N., R77W., 5th P.M. Water Impounded: SE 1/4 Sec 22; NE 1/4 SW 1/4 SW 1/4
LAT/LONG = N45° 11' 25" W100° 06' 24" NW 1/4 Sec 23; all in T120N - R77W

5. County or counties where water will be used Potter

6. Annual period during which water is to be used Janurary through December

7. 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)

This an earthen embankment repair designed by T. VerHelst. The design is attached.

STATE OF SOUTH DAKOTA)
County of Potter SS

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)

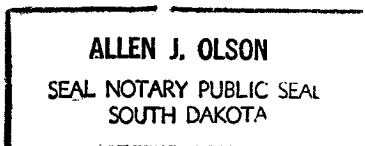
I, James Willey, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Applicant's signature James Willey

Subscribed and sworn to before me this 3 day of March 2005

Allen J. Olson
Notary Public signature

My Notary expires 12/9/09



**SOUTH DAKOTA
WATER PERMIT NO. 6604-3**

Date of first receipt of application March 16, 2005.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 6604-3 to James Willey, 30242 152nd St, Gettysburg SD 57442 authorizing the reconstruction of the dam and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 6604-3 authorizes impoundment of 87.8 acre-feet of water from an unnamed tributary of the Missouri River by repairing an existing dam located in the S ½ SE ¼ Section 22 with water impounded in the SE ¼ Section 22; NW ¼ SW ¼, SW ¼ NW ¼ Section 23; all in T120N-R77W.
2. The water appropriated shall be used for the purpose of fish and wildlife propagation and livestock water purposes and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 6604-3 is May 16, 2005.
5. The date from which applicant may claim right is March 16, 2005.
6. One-fifth of the construction is to be completed on or before November 16, 2007.
7. All construction is to be completed on or before May 16, 2010.
8. Water is to be put to beneficial use on or before May 16, 2014.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. Water Permit No. 6604-3 authorizes a dam with a storage capacity of 87.8 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

JUL 11 2005
date



(type or print in ink)

1. Well Information - Proposed Construction

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

2. Wastewater Disposal System Information

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

3. Dugout Information

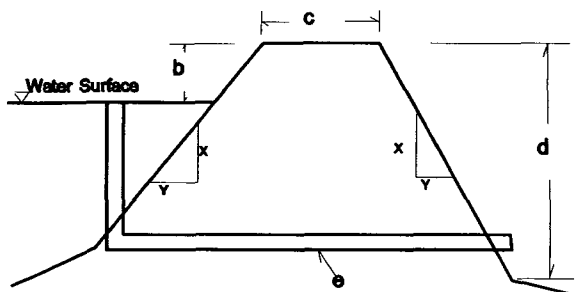
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

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

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

T. VerHelst NRCS Ag Engineer



- b) Freeboard _____ 3 feet
- c) Crest Width _____ 12 feet
Crest Length _____ 490 feet
- d) Height _____ 15.6 feet
- e) Primary Outlet Capacity _____ 38.3 cfs
If pipe, diameter _____ 24 inch
- f) Secondary Spillway Capacity _____ 800 cfs
Spillway Width _____ 200 feet
- g) X & Y Slope _____
Upstream _____ 3:1
Downstream _____ 3:1
- h) Surface Area of Impoundment _____ 18.3
- i) Storage _____ 87.8 Acre Feet
- j) Drainage Area Above Dam _____ 2,000.0 Acres

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date March 16, 2005

RECEIVED OF James V. Vileay, 30842 152nd Street, Gettysburg SD 57442

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

Fee for Application for Permit No. <u>66604-3</u> to Appropriate Water, to construct and to put water to beneficial use	150	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>66604-3</u>	50	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	200.00

No.

003404

By

Darlene E. Schuch
Chief Engineer



Water Permit Application No. 6604-3 James Willey

Top of Dam Elev. - 100
2nd Spillway Elev. - 97
P. Spillway Elev. - 95.6
D/S Toe Elev. - 84.4

Cat. 3 - Low Hazard Dam

$$H = 15.6 \text{ ft}$$

Normal Storage Capacity - 87.8 Ac-Ft
Int. Storage Capacity 101
Max. Storage Capacity 116

$$\text{Int. Capacity} \times \text{Eff. Height} = \quad \times 12.6 =$$

From USGS WRI 80-80 "Tech for Est Flood Peaks ... in 50"

$$DA = 2000 \text{ Ac} = 3.12 \text{ mi}^2$$

$$\text{Slope} = 100 \text{ ft/mi}$$

$$S_i = 3.33$$

$$\begin{aligned} Q_{25} &= 83.4(A)^{.65} S_i^{.44} S_o^{-.72} \\ &= 83.4(3.12)^{.65} (100)^{.44} (3.33)^{-.72} \\ &= 83.4(1.98)(7.59)(.4206) \\ &= \underline{530 \text{ cfs}} \end{aligned}$$

$$\begin{aligned} Q_{100} &= 132(A)^{.65} S_i^{.46} S_o^{-.67} \\ &= 132(3.12)^{.65} (100)^{.46} (3.33)^{-.67} \\ &= 132(2.10)(8.32)(0.4466) \\ &= \underline{1030 \text{ cfs}} \end{aligned}$$

Secondary Spillway Flow

$$\begin{aligned} Q &= CLH^{3/2} \quad C=2.6 \\ &= 2.6(200)(3)^{1.5} \quad L=200 \\ &= \underline{2700 \text{ cfs}} \quad H=3 \text{ ft} \end{aligned}$$

NRCS Annual Yield

$$CN=77 \quad ISO=2 \quad DA=2000 \text{ Ac}$$

$$\begin{aligned} 80\% \text{ chance} &= 0.17 \\ 0.17 \times 2000/12 &= \underline{28 \text{ Ac-Ft}} \end{aligned}$$

$$\begin{aligned} 50\% \text{ chance} &= 0.46 \\ 0.46 \times 2000/12 &= \underline{77 \text{ Ac-Ft}} \end{aligned}$$

$$\begin{aligned} 10\% \text{ chance} &= 2.1 \\ 2.1 \times 2000/12 &= \underline{350 \text{ Ac-Ft}} \end{aligned}$$

Section 74:02:08:09

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



United States
Department of
Agriculture

Natural Resources
Conservation
Service

Belle Fourche Field Office
1837 5th Avenue, S
Belle Fourche, SD 57717-2086

RECEIVED

APR - 6 2005

WATER RIGHTS
PROGRAM

April 5, 2005

Tim Schaal, Natural Resources Engineer
SD DENR
Water Rights Program
523 E. Capitol
Pierre, SD 57501

Tim,

I reviewed the design data for the Jim Willey Dam, Sec 22 T120N-R77W, Potter County, SD.
The information you were requesting is:

	<u>EI</u>	<u>Stage (Ft)</u>	<u>Pool Area (Ac)</u>	<u>Storage (Ac-ft)</u>
Bottom	83.6	0	0	0
Principal Spw	95.6	12	18.3	87.4
Emer. Spw	97.0	13.4	18.9	101.3
Top Dam	100.0	16.4	20.2	115.9

Sorry I didn't get this information back to you a few days sooner.

Sincerely,

Thomas D. Ver Helst
Ag Engineer, NRCS, Belle Fourche

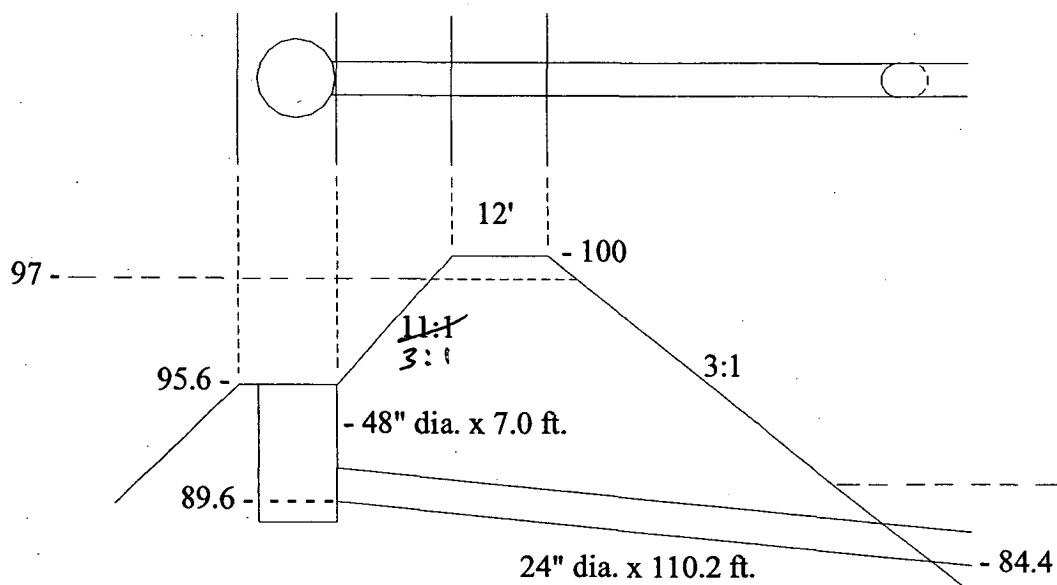
Natural Resources Conservation Service
United States Department of Agriculture

Pipe Drop Structure

Participant: Jim Willey
Location: Sec22, T120N-R77W
County: County, SD
Designer: Tom Ver Helst
Date: 09/27/2004

Checker: _____
Date: _____

Hydraulics Formula, Version 2.2.1



'n' value: .012
Discharge: 38.3 cfs
Pipe diameter: 24 in.
Riser diameter: 48 in.
Pipe length: 110.2 ft.
(including 3 feet
beyond the toe.)
Riser length: 7.0 ft.

Elevation of top: 100
Elevation of emergency: 97
Elevation of design storm: 97
Elevation of riser: 95.6
Elevation of inlet: 89.6
Elevation of outlet: 84.4

Top Width: 12 ft.
Upstream sideslope: 11:1
Downstream sideslope: 3:1

Low Orifice Controls Flow

PROJECT NAME: Willey
TYPE OF WORK: Stripping
RUN DATE: 09-27-2004

RUN BY: Tom

STATION	AREA	ECCENT.	DISTANCE	VOLUME	CUM. VOLS.
0+23	6.00	0.00			0.00
			17.00	7.08	
0+40	16.50	0.00			7.08
			60.00	43.89	
1+00	23.00	0.00			50.97
			100.00	99.72	
2+00	30.85	0.00			150.69
			41.00	49.54	
2+41	34.40	0.00			200.24
			54.00	69.20	
2+95	34.80	0.00			269.44
			70.00	69.35	
3+65	18.70	0.00			338.79
			40.00	31.04	
4+05	23.20	0.00			369.82
			90.00	48.67	
4+95	6.00	0.00			418.49

TOTAL VOLUME IS 418.49 CUBIC YARDS

PROJECT NAME: Willey

TYPE OF WORK: Fill

RUN DATE: 09-27-2004

RUN BY: Tom

STATION	AREA	ECCENT.	DISTANCE	VOLUME	CUM. VOLS.
0+23	0.00	0.00			0.00
			17.00	7.56	
0+40	24.00	4.00			7.56
			60.00	190.33	
1+00	147.30	-3.70			197.89
			100.00	936.98	
2+00	358.67	-14.86			1134.87
			41.00	626.82	
2+41	466.90	-18.87			1761.69
			54.00	848.14	
2+95	381.24	-5.08			2609.83
			70.00	609.26	
3+65	88.76	-2.05			3219.09
			40.00	197.01	
4+05	177.20	-2.77			3416.10
			90.00	295.33	
4+95	0.00	0.00			3711.43

TOTAL VOLUME IS 3711.43 CUBIC YARDS

1.05 5% settlement
3897.0 Total

¹¹
3711.4 - Dam
165 - Above Pipe
65 - Pipe trench
4641.4
1.05

4874 CY

PROJECT NAME: Willey
TYPE OF WORK: Excavation
RUN DATE: 09-27-2004

RUN BY: Tom

STATION	AREA	ECCENT.	DISTANCE	VOLUME	CUM. VOLS.
0+06	0.00	0.00			0.00
			16.00	39.41	
0+22	133.00	0.00			39.41
			17.00	83.74	
0+39	133.00	0.00			123.15
			17.00	41.87	
0+56	0.00	0.00			165.02

TOTAL VOLUME IS 165.02 CUBIC YARDS - Excavation

Excavation:

165 - Pipe
65 - Pipe Trench
230 CY

Client: Jim Willey
 County: POTTER
 Practice: Dam Repair
 Calculated By: TVH
 Checked By: _____

State: SD

Date: 9/24/2004

Date: _____

Drainage Area: 2000 Acres (User entered value)
 Curve Number: 77 (Provided from CN Calculator)
 Watershed Length: 19000 Feet
 Watershed Slope: 2.0 Percent
 Time of Concentration: 4.326 Hours (Calculated value)
 Rainfall Type: II

Storm Number	1	2	3	4	5	6	7
Frequency (yrs)	1	2	5	10	25	50	100
24-Hr rainfall (in)	1.80	2.20	2.90	3.50	4.00	4.50	5.10
Ia/P Ratio	0.33	0.27	0.21	0.17	0.15	0.13	0.12
Used	0.33	0.27	0.21	0.17	0.15	0.13	0.12
Runoff (in)	0.35	0.56	1.00	1.43	1.81	2.21	2.71
Unit Peak Discharge (cfs/acre/in)	0.157	0.169	0.179	0.184	0.187	0.190	0.192
Peak Discharge (cfs)	109	189	358	527	679	839	1,040

Annual Yield:

Isogram #
2

CN
77

50%

$$.46 \text{ ac-in/ac} \times 2000 \text{ ac} \div 12 \text{ in/ft} = 76.7 \text{ ac-ft}$$

Emergency Spillway Capacity:

$$\text{Flow} - 4 \text{ cfs/ft width} \times 200 \text{ ft} = 800 \text{ cfs}$$

$$H_p - 1.9'$$

$$V - 3.8 \text{ fps}$$

$$S_o - .01$$

PROJECT NAME: Willey
TYPE OF WORK: Topsoil
RUN DATE: 09-27-2004

RUN BY: Tom

STATION	AREA	ECCENT.	DISTANCE	VOLUME	CUM. VOLS.
0+23	6.00	0.00			0.00
			17.00	7.56	
0+40	18.00	0.00			7.56
			60.00	37.22	
1+00	15.50	0.00			44.78
			100.00	52.78	
2+00	13.00	0.00			97.56
			41.00	19.36	
2+41	12.50	0.00			116.92
			54.00	33.50	
2+95	21.00	0.00			150.42
			70.00	46.02	
3+65	14.50	0.00			196.44
			40.00	22.59	
4+05	16.00	0.00			219.03
			90.00	36.67	
4+95	6.00	0.00			255.69

TOTAL VOLUME IS 255.69 CUBIC YARDS

**Natural Resources Conservation Service
United States Department of Agriculture**

Pipe Drop Structure

Participant: Jim Willey

Location: Sec22, T120N-R77W

County: County, SD

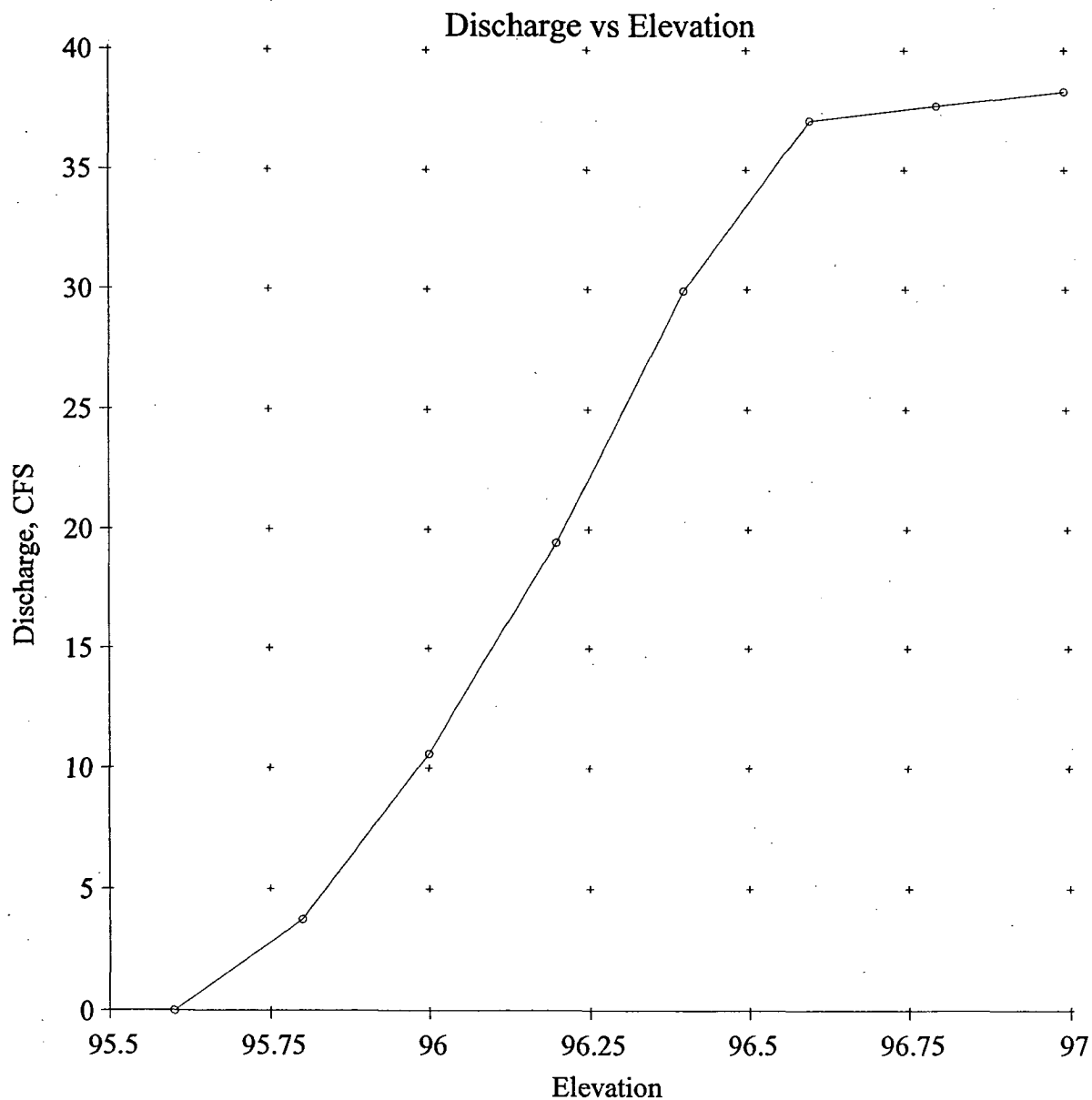
Designer: Tom Ver Helst

Date: 09/27/2004

Checker: _____

Date: _____

Hydraulics Formula, Version 2.2.1



Curve number Computation

Client: Jim Willey
 County: POTTER
 Practice: Dam Repair
 Calculated By: TVH
 Checked By: _____

State: SD

Date: 9/24/2004

Date: _____

COVER DESCRIPTION	Percent (CN)			
	Hydrologic Soil Group			
	A	B	C	D
CULTIVATED AGRICULTURAL LANDS				
Row crops SR + Crop residue good	-	20(75)	-	-
Small grain SR + Crop residue good	-	-	25(80)	-
OTHER AGRICULTURAL LANDS				
Pasture, grassland or range good	-	-	30(74)	25(80)
Total Area (by Hydrologic soil Group)		20	55	25
TOTAL DRAINAGE AREA: 100 Percent		WEIGHTED CURVE NUMBER: 77		

Disturbed Area: _____

$$\frac{472' \times 50'}{43560'} = .54 \text{ acres} < 1.0 \text{ ac} \therefore \text{No Storm Water Discharge Permit required.}$$

Water Right:

Existing structure's permit remains in place since existing water level is not being raised or lowered. However, storage of dam exceeds 25 ac-ft so a water right would be needed if the existing structure only had a dry draw location notice is on file.

Date 9/22/04

Field Office GETTYSBURG

Name JIM WILLEY

Individual Group Unit of Govt.
(circle one)

Job DAM REPAIR

Design Sur. ☒

Const. Layout

Const. Check

Other

dent No.

Field No.

sale

19

Legal Description

Sec.

T

B

for

cation:

JS-ENG-28 Rev 5-75

Sta.	B.S.	H.I.	F.S. or Grade Rod	Elev. or Planned Elev.
BM	5.15	105.15 105.2		100.00
Natural Emergency Spw 200' plus wide			8.2	97.0
PROFILE 4 DAM				
0+00 17 40' 23			5.2	100.0
0+40 60				
1+00				
2+00				
2+41	PRINCIPAL SPILLWAY			

Rain, Brz, Col (60°) 9/22/04
 T. Ver Halst
 Jeff VanderWilt

PROFILE

3:1
 Downstream 12' TOP Upstream

		5.2 0	
F1.0 6.2 99.0 9'		6.4 98.9 0	5.6 98.6 24'
F2.0 12.2 98.0 20'		10.6 97.6 0	5.9 98.3 19'
F13.9 19.1 96.1 474'	19.3 95.9 20'	12.1 95.1 0	6.7 98.5 14'
F16.6 21.8 95.4 55.8'	22.2 95.0 24'	12.6 92.6 0	6.9 98.3 13'
			6.2 98.0 30'
			7.6 95.6 52'
			15.3 94.9 82'
			P.S. WL

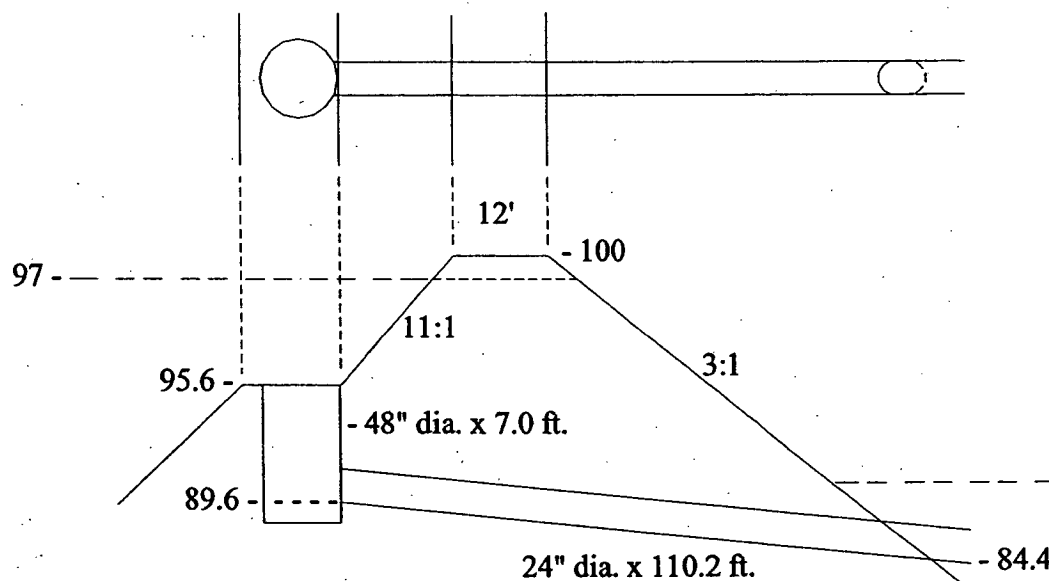
Natural Resources Conservation Service
United States Department of Agriculture

Pipe Drop Structure

Participant: Jim Willey
Location: Sec22, T120N-R77W
County: County, SD
Designer: Tom Ver Helst
Date: 09/27/2004

Checker: _____
Date: _____

Hydraulics Formula, Version 2.2.1



'n' value: .012
Discharge: 38.3 cfs
Pipe diameter: 24 in.
Riser diameter: 48 in.
Pipe length: 110.2 ft.
(including 3 feet
beyond the toe.)
Riser length: 7.0 ft.

Elevation of top: 100
Elevation of emergency: 97
Elevation of design storm: 97
Elevation of riser: 95.6
Elevation of inlet: 89.6
Elevation of outlet: 84.4

Top Width: 12 ft.
Upstream sideslope: 11:1
Downstream sideslope: 3:1

Low Orifice Controls Flow

PROJECT NAME: Willey
TYPE OF WORK: Stripping
RUN DATE: 09-27-2004

RUN BY: Tom

STATION	AREA	ECCENT.	DISTANCE	VOLUME	CUM. VOLS.
0+23	6.00	0.00			0.00
			17.00	7.08	
0+40	16.50	0.00			7.08
			60.00	43.89	
1+00	23.00	0.00			50.97
			100.00	99.72	
2+00	30.85	0.00			150.69
			41.00	49.54	
2+41	34.40	0.00			200.24
			54.00	69.20	
2+95	34.80	0.00			269.44
			70.00	69.35	
3+65	18.70	0.00			338.79
			40.00	31.04	
4+05	23.20	0.00			369.82
			90.00	48.67	
4+95	6.00	0.00			418.49

TOTAL VOLUME IS 418.49 CUBIC YARDS

PROJECT NAME: Willey

TYPE OF WORK: Fill

RUN DATE: 09-27-2004

RUN BY: Tom

STATION	AREA	ECCENT.	DISTANCE	VOLUME	CUM. VOLS.
0+23	0.00	0.00			0.00
			17.00	7.56	
0+40	24.00	4.00			7.56
			60.00	190.33	
1+00	147.30	-3.70			197.89
			100.00	936.98	
2+00	358.67	-14.86			1134.87
			41.00	626.82	
2+41	466.90	-18.87			1761.69
			54.00	848.14	
2+95	381.24	-5.08			2609.83
			70.00	609.26	
3+65	88.76	-2.05			3219.09
			40.00	197.01	
4+05	177.20	-2.77			3416.10
			90.00	295.33	
4+95	0.00	0.00			3711.43

TOTAL VOLUME IS 3711.43 CUBIC YARDS

1.05 5% settlement
3897.0 Total

111
3711.4 - Dam
165 - Above Pipe
65 - Pipe trench
4641.4

1.05

4874 CY

PROJECT NAME: Willey
TYPE OF WORK: Excavation
RUN DATE: 09-27-2004

RUN BY: Tom

STATION	AREA	ECCENT.	DISTANCE	VOLUME	CUM. VOLS.
0+06	0.00	0.00			0.00
			16.00	39.41	
0+22	133.00	0.00			39.41
			17.00	83.74	
0+39	133.00	0.00			123.15
			17.00	41.87	
0+56	0.00	0.00			165.02

TOTAL VOLUME IS 165.02 CUBIC YARDS - Excavation

Excavation:

165 - Pipe
65 - Pipe Trench
230 CY

Client: Jim Willey
 County: POTTER
 Practice: Dam Repair
 Calculated By: TVH
 Checked By: _____

State: SD

Date: 9/24/2004

Date: _____

Drainage Area: 2000 Acres (User entered value)
 Curve Number: 77 (Provided from CN Calculator)
 Watershed Length: 19000 Feet
 Watershed Slope: 2.0 Percent
 Time of Concentration: 4.326 Hours (Calculated value)
 Rainfall Type: II

Storm Number	1	2	3	4	5	6	7
Frequency (yrs)	1	2	5	10	25	50	100
24-Hr rainfall (in)	1.80	2.20	2.90	3.50	4.00	4.50	5.10
Ia/P Ratio	0.33	0.27	0.21	0.17	0.15	0.13	0.12
Used	0.33	0.27	0.21	0.17	0.15	0.13	0.12
Runoff (in)	0.35	0.56	1.00	1.43	1.81	2.21	2.71
Unit Peak Discharge (cfs/acre/in)	0.157	0.169	0.179	0.184	0.187	0.190	0.192
Peak Discharge (cfs)	109	189	358	527	679	839	1,040

Annual Yield:

$$\frac{\text{Isogram \#}}{2} \quad \frac{\text{CN}}{77} \quad \frac{50\%}{.46 \text{ ac-in/ac} \times 2000 \text{ ac} \div 12 \text{ in/ft} = 76.7 \text{ ac-ft}}$$

Emergency Spillway Capacity:

$$\text{Flow} - 4 \text{ cfs/ft width} \times 200 \text{ ft} = 800 \text{ cfs}$$

$$H_p - 1.9'$$

$$v - 3.8 \text{ fps}$$

$$S_o - .01$$

PROJECT NAME: Willey
TYPE OF WORK: Topsoil
RUN DATE: 09-27-2004

RUN BY: Tom

STATION	AREA	ECCENT.	DISTANCE	VOLUME	CUM. VOLS.
0+23	6.00	0.00			0.00
			17.00	7.56	
0+40	18.00	0.00			7.56
			60.00	37.22	
1+00	15.50	0.00			44.78
			100.00	52.78	
2+00	13.00	0.00			97.56
			41.00	19.36	
2+41	12.50	0.00			116.92
			54.00	33.50	
2+95	21.00	0.00			150.42
			70.00	46.02	
3+65	14.50	0.00			196.44
			40.00	22.59	
4+05	16.00	0.00			219.03
			90.00	36.67	
4+95	6.00	0.00			255.69

TOTAL VOLUME IS 255.69 CUBIC YARDS

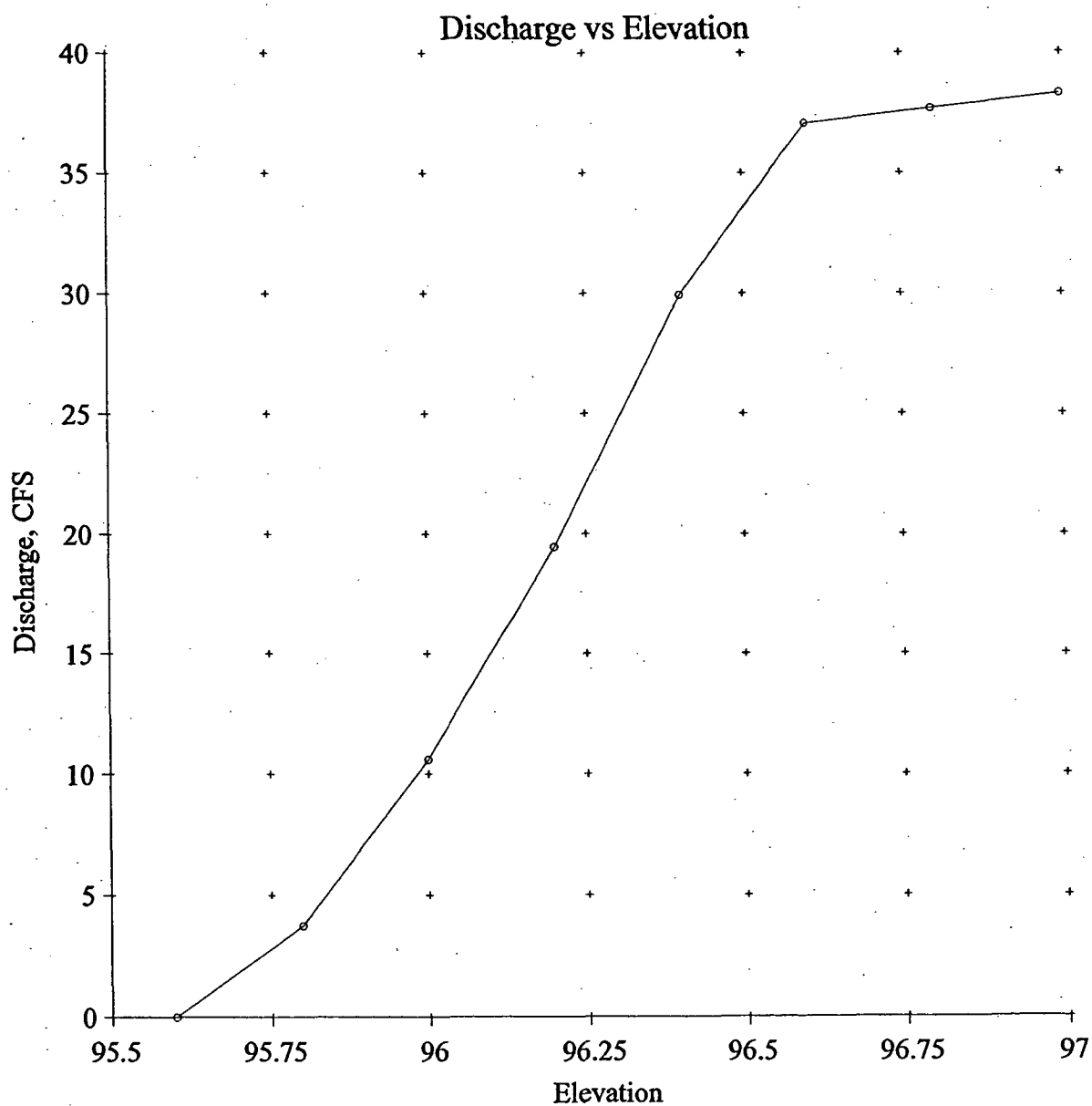
Natural Resources Conservation Service
United States Department of Agriculture

Pipe Drop Structure

Participant: Jim Willey
Location: Sec22, T120N-R77W
County: County, SD
Designer: Tom Ver Helst
Date: 09/27/2004

Checker: _____
Date: _____

Hydraulics Formula, Version 2.2.1



Curve number Computation

Client: Jim Willey
 County: POTTER
 Practice: Dam Repair
 Calculated By: TVH
 Checked By: _____

State: SD

Date: 9/24/2004

Date: _____

COVER DESCRIPTION	Percent (CN)			
	Hydrologic Soil Group			
	A	B	C	D
CULTIVATED AGRICULTURAL LANDS				
Row crops SR + Crop residue good	-	20(75)	-	-
Small grain SR + Crop residue good	-	-	25(80)	-
OTHER AGRICULTURAL LANDS				
Pasture, grassland or range good	-	-	30(74)	25(80)
Total Area (by Hydrologic soil Group)		20	55	25
TOTAL DRAINAGE AREA: 100 Percent		WEIGHTED CURVE NUMBER: 77		

Disturbed Area: _____

$$\frac{472' \times 50'}{43560'} = .54 \text{ acres} < 1.0 \text{ ac} \therefore \text{No Storm Water Discharge Permit required.}$$

Water Right:

Existing structure's permit remains in place since existing water level is not being raised or lowered. However, storage of dam exceeds 25ac-ft so a water right would be needed if the existing structure only had a dry draw location notice is on file.

3CD Date 9/22/04

Field Office GETTYSBURG

Name JIM WILLEY

Individual Group Unit of Govt.
(circle one)

Job DAM REPAIR

Design Sur. ☒ Const. Layout ☒

Const. Check ☐ Other ☐

gent No. ☐ Field No. ☐

Scale =

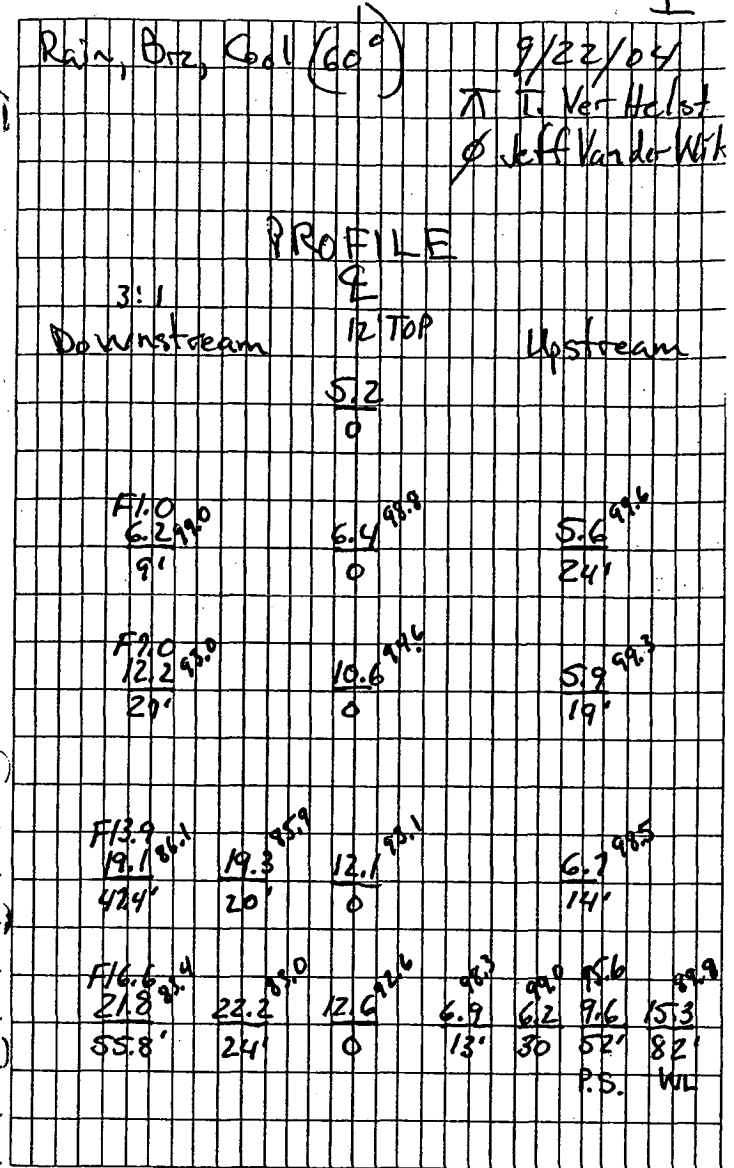
Legal Description

Sec. T R

or

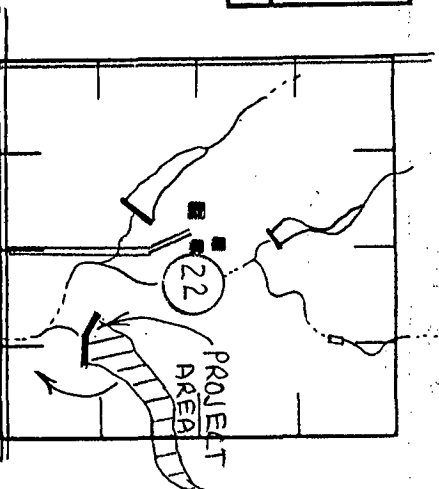
Location:

Sta.	B.S.	H.I.	F.S. or Grade Rod	Elev. or Planned Elev.
BM	5.15	105.15 105.2		100.00
Natural Emergency Spw 200' plus wide			8.2	97.0
PROFILE 4 DAM				
0+00 17 4623			5.2	100.0
0+40 60				
1+00				
2+00				
2+41	PRINCIPAL SPILLWAY			



STRUCTURE DATA

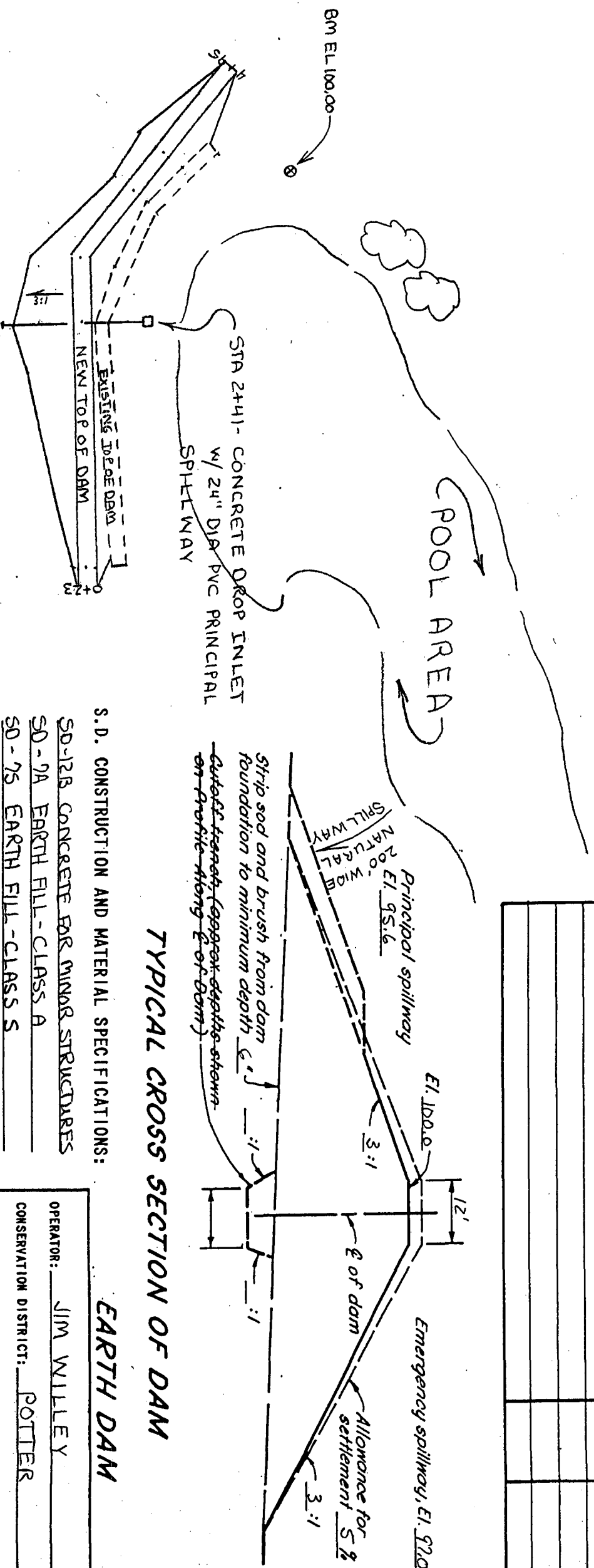
DRAINAGE AREA	ANNUAL YIELD	PEAK RUNOFF	EMERG. SPLWY. CAPACITY	WATER DEPTH	SURFACE AREA	SEDIMENT STORAGE	TOTAL STORAGE
ACRES	AC.FT.	25-YR.	C.F.S.	FEET	ACRES	AC.FT.	AC.FT.
2000	76.7	679	800	12	18.3	12.0	87.8



LOCATION

TABLE OF QUANTITIES

ITEM	UNIT	QUANTITY
CONCRETE DROP INLET (PER DETAIL)	EA	1
SAND ANTISEEP COLLAR (PER DETAIL)	EA	1
TIMBER PIPE SUPPORT (PER DETAIL)	EA	1
24" DIA - 50R 35 PVC SEWER PIPE	LF	109
STRUCTURE REMOVAL	EA	1
STRIPPING	CY	419
EARTH FILL CLASS A	CY	65
EARTH FILL CLASS S	CY	4874
TOPSOIL	CY	256
SEEDING	AC	.5
EXCAVATION	CY	230



TYPICAL CROSS SECTION OF DAM

EARTH DAM

S.D. CONSTRUCTION AND MATERIAL SPECIFICATIONS:

- SD-12B CONCRETE FOR MINOR STRUCTURES
- SD-7A EARTH FILL - CLASS A
- SD-7S EARTH FILL - CLASS S
- SD-28 SEEDING
- SD-4 STRIPPING
- SD-3 STRUCTURE REMOVAL
- SD-1D SALVAGING & SPREADING TOPSOIL
- SD-16 WOOD FABRICATION
- SD-5S PLASTIC PIPE

OPERATOR: JIM WILLEY
CONSERVATION DISTRICT: POTTER

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

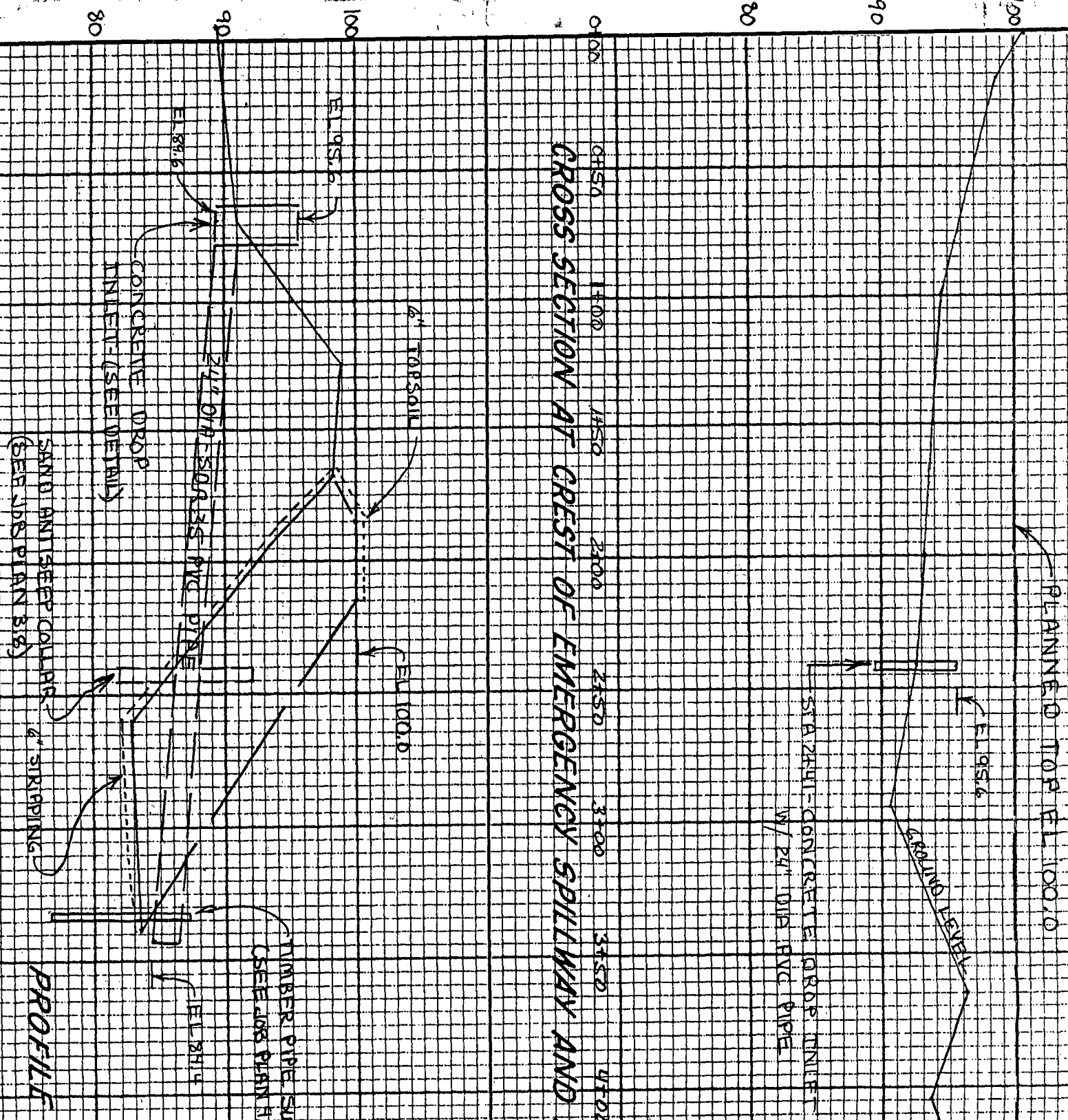
Designed by: T. W. Helst	Date: 9/04	Approved by: [Signature]
Drawn: T. W. Helst	Date: 9/04	Thru: Ag. Engineer
Traced: [Blank]	Sheet: [Blank]	Drawing No. [Blank]
Checked: [Blank]	No. [Blank]	of [Blank]

SKETCH PLAN OF DAM AND RESERVOIR AREA

Approximate scale 1" = 100'

REFERENCE: GUIDE PLAN NO. 1.0

CROSS SECTION AT CREST OF EMERGENCY SPILLWAY AND PROFILE ALONG E OF DAM

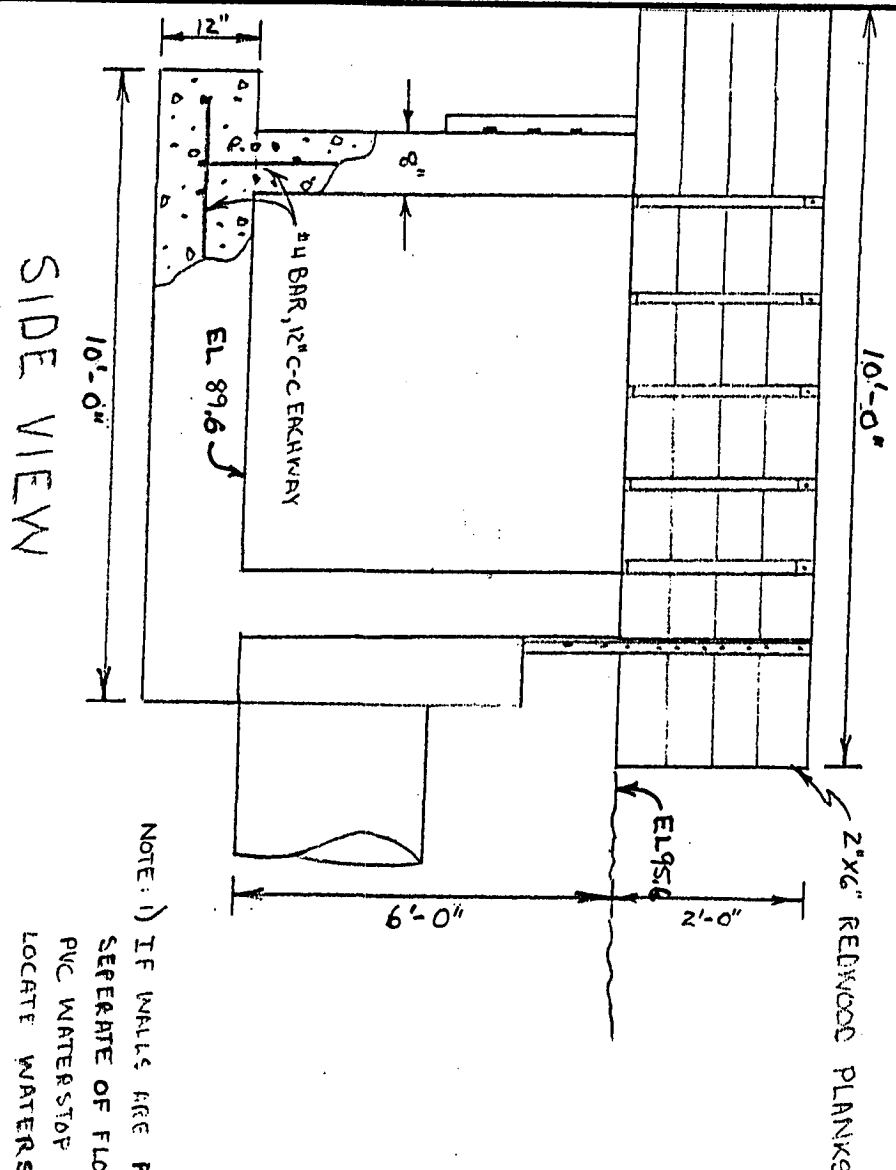
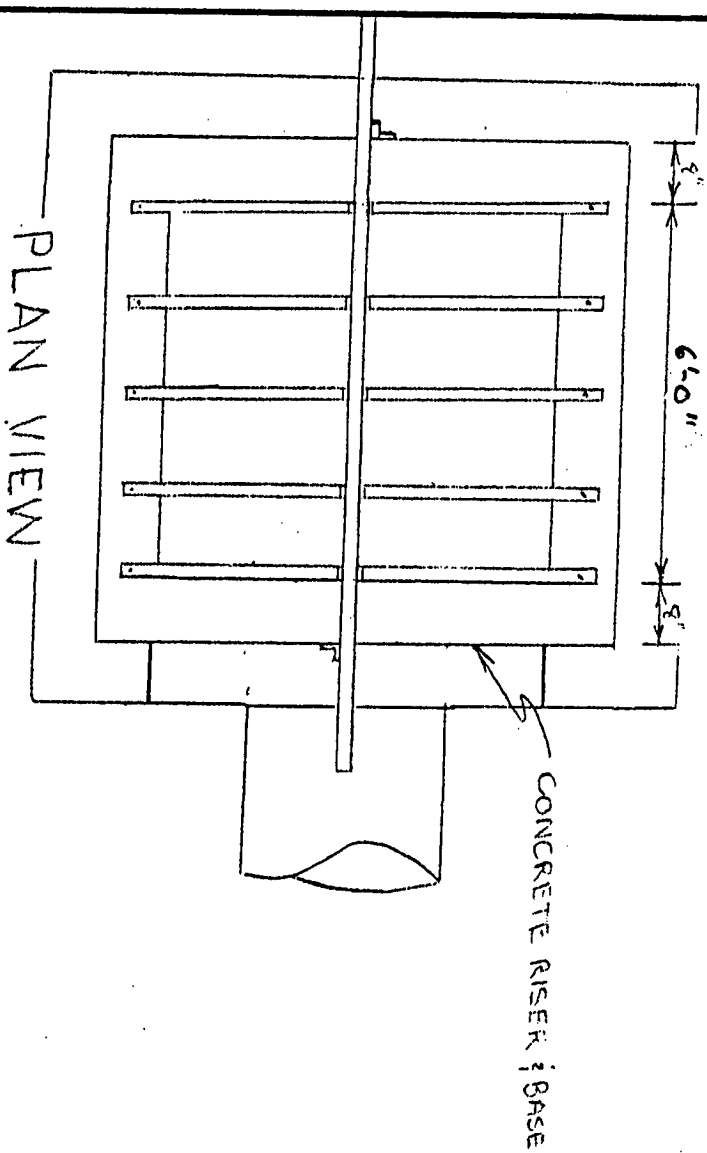


NOTE: 1) EXISTING NATURAL GRASSED EMERGENCY SPILLWAY IS IN EXCELLENT CONDITION @ ELEVATION 97.0.

PROFILE ALONG E OF EMERGENCY SPILLWAY

MAXIMUM CROSS SECTION OF DAM

ERODIBILITY		GROSS RATE		DRAINAGE AREA		DELIVERY RATE		DESIGN PERIOD		REQ'D. SEDIMENT VOLUME	
AREA	ACRES	A.F./AC./YR.		AREA	ACRES	%		YEARS		AC.FT.	
	2000	.002		2000		12		25		12.0	



NOTE: 1) IF WALLS ARE POURED
SEPARATE OF FLOOR, A 6" WIDE
PVC WATERSTOP IS REQUIRED.
LOCATE WATERSTOP IN THE
CENTER OF WALL AT JOINT
BETWEEN WALL & FLOOR.

SOUTH DAKOTA CONSTRUCTION
& MATERIAL SPECIFICATIONS
SD-126 CONCRETE FOR MINOR STRUCTURE
SD-13 STEEL REINFORCEMENT

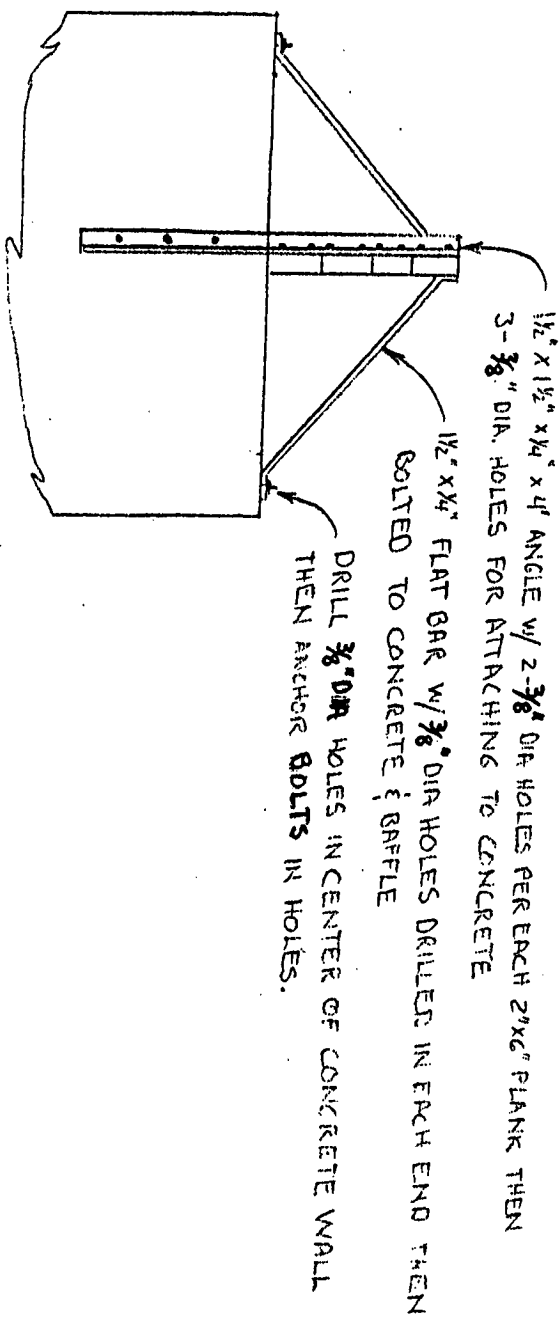


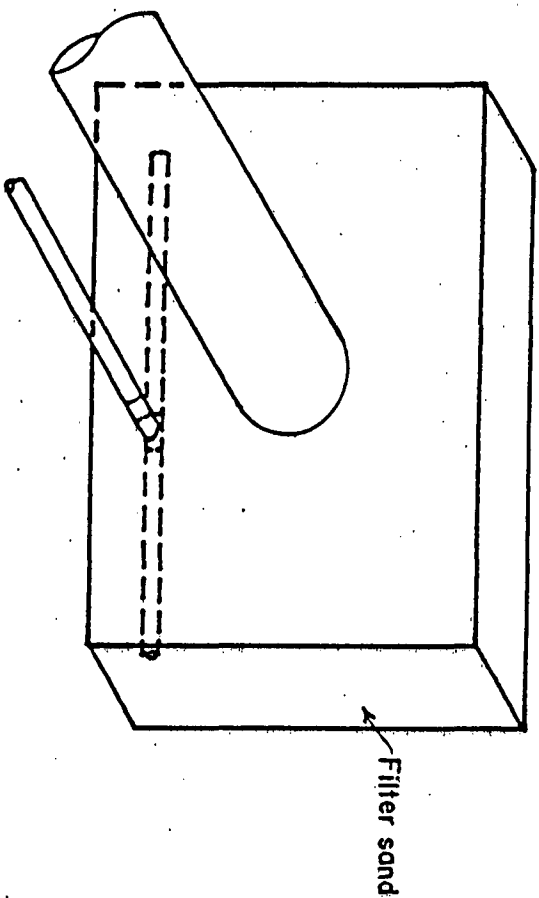
TABLE OF QUANTITIES

ITEM NO	ITEM	UNIT	QUAN
1	CONCRETE - REINFORCED	CY	7.1
2	2" x 6" REDWOOD PLANK	LF	40
3	1 1/2" x 1 1/2" x 1/4" ANGLE	LF	8
4	1/2" x 1/4" FLAT BAR	LF	60
5	3/8" x 3" BOLT	EA	23
6	" x 3" BOLT	EA	
7	3/8" x 2 1/2" BOLT	EA	20

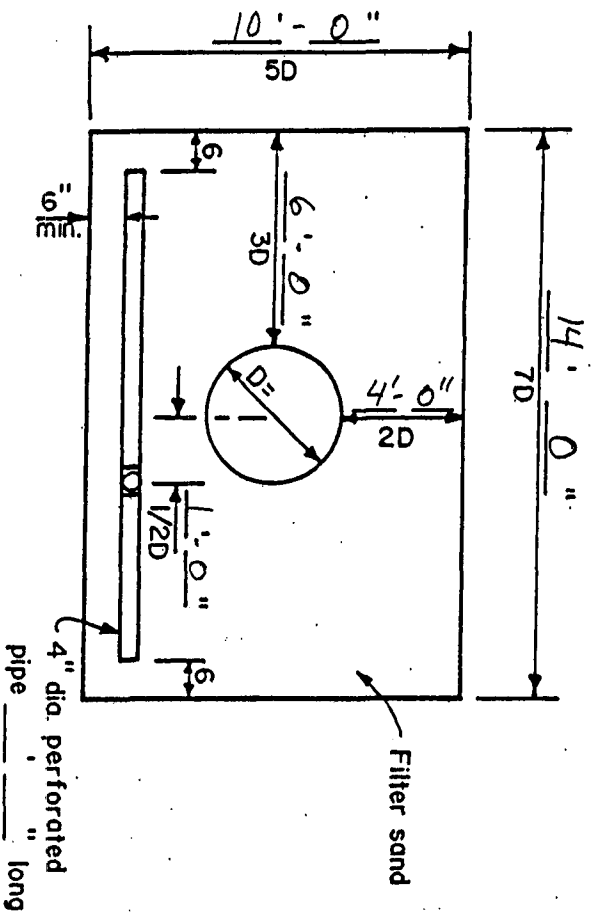
CONCRETE DROP INLET
JIM WILLEY

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed by	Date	Approved by	Title
Drawn	T. VER HELST 4/14		
Traced			
Checked			

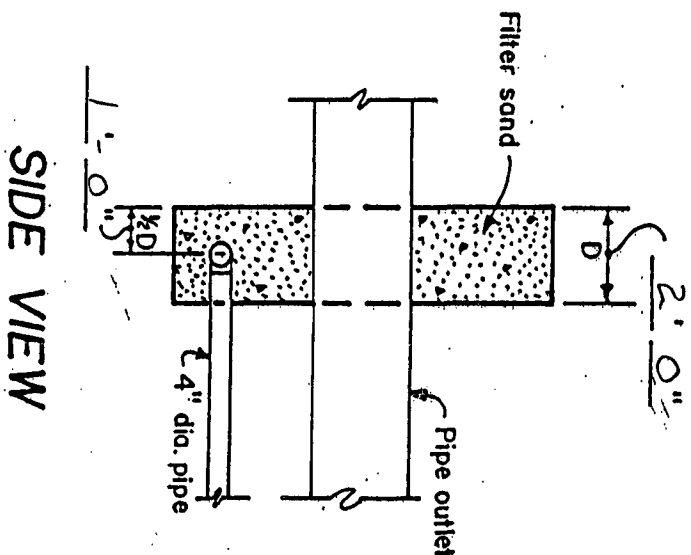


ISOMETRIC VIEW

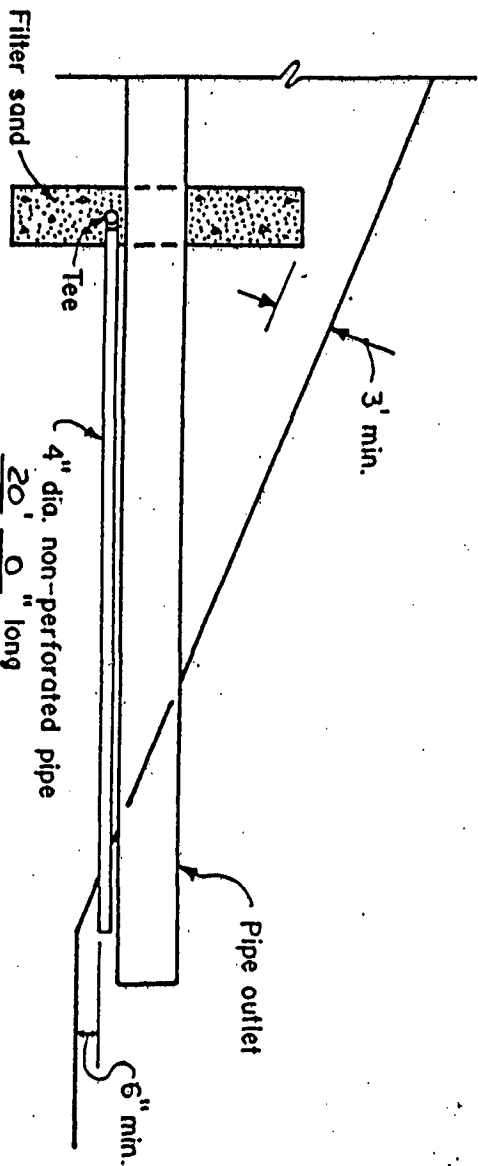


UPSTREAM VIEW

- 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).



SIDE VIEW



OUTLET DETAIL

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

JOB PLAN NO. 3.8

SAND ANTISEEP COLLAR

OPERATOR JIM WILLEY

CONSERVATION DISTRICT POTTER

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

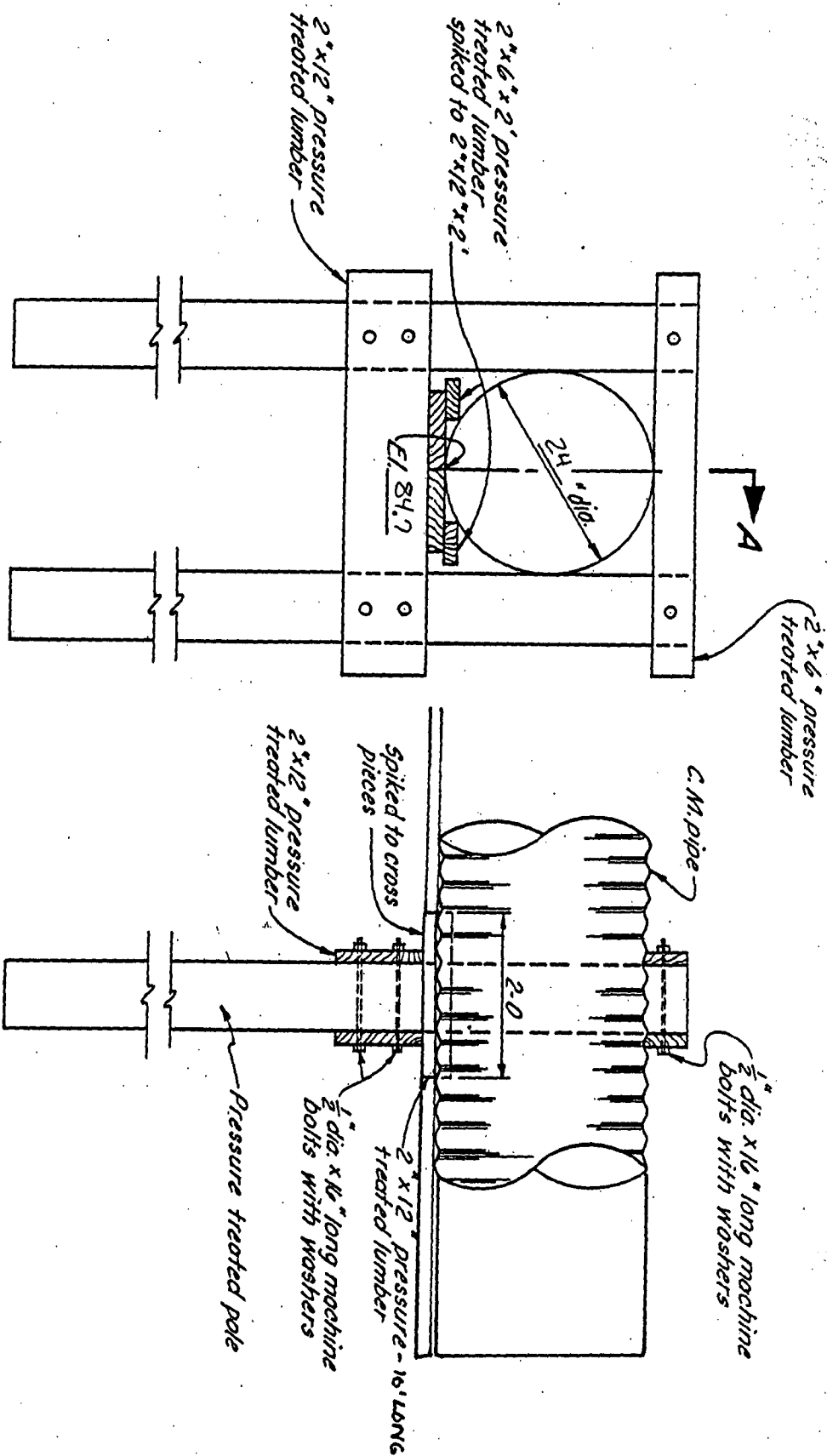
Designed by T. Ver Helst Date 9/04

Drawn by T. Ver Helst Date 9/04

Tracked Sheet No. 1 of 1 Drawing No. 1

Sec. 22, T. 120, R. 22

Location TDD County



ELEVATION SECTIONAL ELEVATION A-A

TABLE OF QUANTITIES

ITEM	LENGTH FOR 10" DIA. PVC & M. PIPE	UNIT	QUANTITY
PRESSURE TREATED POLE 10" DIA.	10'-0"	EACH	2
2" X 12" PRESSURE TREATED LUMBER	10'-0"	EACH	2
2" X 6" PRESSURE TREATED LUMBER	4'-0"	EACH	2
2" X 12" PRESSURE TREATED LUMBER	4'-0"	EACH	2
2" X 6" PRESSURE TREATED LUMBER	2'-0"	EACH	2
1/2" DIA. MACHINE BOLTS WITH NUTS	16"	EACH	6
1/2" DIA. WASHERS		EACH	12

NOTES:
1. HAND OR MACHINE TAMP BACKFILL THOROUGHLY AROUND FOOTINGS AND COLUMNS.

TIMBER PIPE SUPPORT

OPERATOR: JIM WILLEY
CONSERVATION DISTRICT: POTTER

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed	T. Ver Helst	Date	9/84
Drawn		Approved by	
Trace		Title	
Sheet		Drawing No.	
Checked			

REFERENCE: GUIDE PLAN NO. 4.0

JOB PLAN NO. 4.0

5, N-29, 073.40



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

April 19, 2005

James Willey
30242 152nd Street
Gettysburg, SD 57442

Dear Mr. Willey:

We have reviewed the plans and specifications for your dam project located in the S ½ SE ¼ of Section 22-T120N-R77W, in Potter County. The plans and specifications for the repair of your dam are approved. Approval of the plans and specifications does not authorize construction of the dam. The construction of the dam may not begin until Water Permit No. 6604-3 is approved.

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

The J. Willey Dam (ID No. SD00930) will be classified as a small size Category 3, Low Hazard dam with a dam height of 15.6 ft. and a normal storage capacity of 87.8 acre-feet and a maximum storage capacity of 116 acre-feet.

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

Sincerely,

Gale N. Selken, P.E.
Natural Resources Engineer Director
for Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

c: Tom VerHelst, NRCS, Belle Fourche

REPORT ON
WATER PERMIT APPLICATION No. 6604-3
James Willey
April 6, 2005

Water Permit Application No. 6604-3 has been filed by James Willey to impound 87.8 acre-feet of water by repairing an existing dam located on an unnamed tributary to Little Cheyenne Creek in the SE $\frac{1}{4}$ of Section 22-T120N-R77W, in Potter County. The application also requests impoundment of sufficient water to maintain water at the outlet elevation. The water will be used for fish and wildlife production and livestock water purposes.

Discussion:

The existing dam is listed on our Safety of Dams inventory of dams as ID number SD00930. The inventory indicates that the dam was originally constructed in 1948. The J. Willey Dam is classified as a small size, Category 3, Low Hazard dam. The Natural Resources Conservation Service (NRCS) has designed the repair of the dam which involves replacing the primary spillway while maintaining the same reservoir level and leveling and raising the top of dam. The plans and specifications have been reviewed and will be approved; however, construction of the new dam can not begin until Water Permit Application No. 6604-3 is approved.

The J. Willey Dam will be 15.6 feet high with a normal storage capacity of 87.8 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 116 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 2000 acres or 3.12 square miles. The dam is designed to have a 6 foot wide concrete riser with a 24 inch diameter PVC barrel with 4.4 feet of available freeboard as the primary spillway, and a 200 foot wide natural earth secondary spillway with 3 feet of available freeboard. A 25-year frequency event for this drainage produces a peak runoff of approximately 530 cfs and a 100-year frequency event produces a peak runoff of approximately 1030 cfs. The 200 foot wide secondary spillway has a capacity of approximately 2700 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 28 acre-feet. The annual yield with a 50 percent chance of occurrence, or 1 out of 2 years, is expected to be 77 acre-feet and the annual yield with a 10 percent chance of occurrence, or 1 out of 10 years, is expected to be 350 acre-feet.

The J. Willey Dam is located in the S $\frac{1}{2}$ SE $\frac{1}{4}$ Section 22-T120N-R77W on an unnamed tributary of Little Cheyenne Creek about 8 miles upstream of Lake Hurley Dam (ID No. SD00037). Lake Hurley Dam is located on Little Cheyenne Creek about 4 miles upstream of the Missouri River and Lake Oahe. There are no existing Water Permits/Rights located between the existing dam and the Missouri River, except the South Dakota Department of Game, Fish and Parks holds Water Right No. 573-3 for 675 acre-feet of storage in Lake Hurley Dam. Approval of Water Permit Application No. 6604-3 should have no adverse effect on Water Permit No. 573-3 and Lake Hurley dam considering the fact that the upstream dam has been in place since 1948 and Lake Hurley dam has a drainage area of approximately 75 square miles.

Conclusions:

1. Water Permit Application No. 6604-3 should be approved since unappropriated water is available and approval should not have any adverse effect on existing Water Permits/Rights.
2. If approved, the low flow bypass requirement for downstream domestic use should be a qualification on Water Permit Application No. 6604-3.

for Eric Schaal
Timothy G. Schaal, P.E.
Natural Resources Engineer Specialist

Approved by:

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



**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. 6604-3, James Willey**

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. 6604-3, James Willey, 30242 152nd Street, Gettysburg SD 57442.

The Chief Engineer is recommending APPROVAL of Application No. 6604-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. Water Permit No. 6604-3 authorizes a dam with a storage capacity of 87.8 acre feet of water and sufficient water annually to maintain the water level to an 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
April 19, 2005

Affidavit of Publication

NOTICE OF APPLICATION NO. 6604-3 TO APPROPRIATE WATER

Notice is given that James Willey, 30242 152nd St., Gettysburg, SD 57442 has filed an application for a water permit to impound 87.8 acre-feet of water from an unnamed tributary of the Missouri River by repairing an existing dam located in the S1/2SE1/4 Section 22 with water impounded in the SE1/4 Section 22; NW1/4SW1/4, SW1/4NW1/4 Section 23; all in T120N-R77W. This application requests impoundment of sufficient water to maintain water to the outlet elevation. The water is for fish and wildlife propagation and livestock water purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 6604-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider the application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre, SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by May 16, 2005.

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. (Published in the Potter County News, April 28 and May 5, 2005. SNAXLP)

STATE OF SOUTH DAKOTA,
COUNTY OF POTTER, ss.

DAVID B. CLAUSEN being first duly sworn, on oath says, that he is the publisher of the POTTER COUNTY NEWS, a weekly newspaper published in Gettysburg, County of Potter, and has full and personal knowledge of all the facts herein stated; that said newspaper is a legal newspaper and has a bonafide circulation of at least two hundred copies weekly, and has been published within said county for fifty-two successive weeks next prior to the publication of the notice herein mentioned; that the

*Notice of Application
No 6604-3 to
Appropriate Water*

a printed copy of which, taken from the paper in which same was published, is attached to this sheet, and is made a part of this Affidavit, was published in said newspaper at least once each week for 2 successive weeks, on the day of each week on which said newspaper was regularly published to-wit:

April 28 and May 5, 2005

That the full amount of the fees for the publication

of the annexed notice is \$ 39.57

David Clausen

Subscribed and sworn to before me this 4th

day of May, 200 5

Carol D. Clausen

Carol D. Clausen, Notary Public

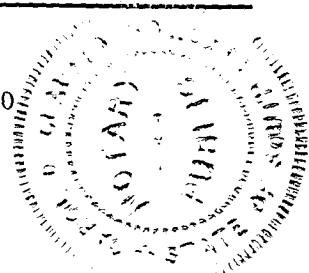
State of South Dakota

My commission expires Oct. 15, 2010

RECEIVED

MAY - 3 2005

WATER RIGHTS
PROGRAM



Instruction to Newspaper - Publish first Notice on April 28, 2005 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 6604-3 to Appropriate Water

Notice is given that James Willey, 30242 152nd St, Gettysburg SD 57442 has filed an application for a water permit to impound 87.8 acre-feet of water from an unnamed tributary of the Missouri River by repairing an existing dam located in the S ½ SE ¼ Section 22 with water impounded in the SE ¼ Section 22; NW ¼ SW ¼, SW ¼ NW ¼ Section 23; all in T120N-R77W. This application requests impoundment of sufficient water to maintain water to the outlet elevation. The water is for fish and wildlife propagation and livestock water purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 6604-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider the application. Notice of the hearing will be given to the applicant and any person filing a petition.

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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 19, 2005

Potter Co. News
110 S Exene St
Gettysburg SD 57442-1520

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 6604-3 to Appropriate Water to be published twice. Please publish the first notice on April 28, 2005 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 James Willey, 30242 152nd St, Gettysburg SD (Ph # 605-765-9344).

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

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

Sincerely,

Eric Gronlund
Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

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

No. 6604-3

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

Date _____

We are in receipt of your letter of April 19, 2005 enclosing Notice to Appropriate Water by Application No. 6604-3 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

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

April 19, 2005

James Willey
30242 152nd St
Gettysburg SD 57442

Dear Mr. Willey:

Water Permit Application No. 6604-3 for fish & wildlife 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 Potter Co. News printed at Gettysburg, SD (Ph # 605-765-2464). 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 a report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notice 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.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

JUL 11 2005

James Willey
30242 152nd St
Gettysburg SD 57442

Dear Mr. Willey:

Enclosed is Water Permit No. 6604-3 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

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

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

Sincerely,

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

enclosures

Permit No. 6604-3
Missouri 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, **November 5, 2009**, made a thorough examination of the water use system constructed by **James Willey** of **30242 152nd St., Gettysburg, SD 57442** holder of Permit No. **6604-3**, bearing the priority of **May 16, 2005** authorizing the storage of **87.8** acre-feet of the waters of **unnamed tributary to the Missouri River** for **fish & wildlife production and livestock water** purposes, in **Potter** County.

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

A. Works used to divert the water:

A 15.6 ft. high earthen dam with a normal storage capacity of 87.8 acre-feet of water

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

N/A

C. Works used to apply water to beneficial use:

A 15.6 ft. high earthen dam with a normal storage capacity of 87.8 acre-feet of water

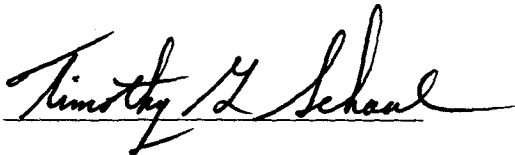
The system is in the following condition **good**. The point of diversion is located **1100 ft. north & 1200 ft. west of the SE corner of Sec. 22-T120N-R77W (S ½ SE ¼) (Lat. 45.19061 & Long. -100.107363)**. The works are capable of storing **87.8** acre-feet of water which is to be used for **fish & wildlife production and livestock water**. Water has been put to beneficial use to the maximum extent as follows:

A 15.6 ft. high earthen dam with a normal storage capacity of 87.8 acre-feet of water

and the license should be issued for **87.8** acre-feet of storage.

Applicable permit qualifications have been complied with: Yes **X**

Exceptions to compliance are: **none** Date Report Completed: **March 30, 2010**



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

REPORT ON INSPECTION OF PERMIT NO. 6604-3

DATE OF INSPECTION: November 5, 2010

NAME & ADDRESS OF INSPECTION CONTACT/ James Willey, 30242 152nd St. Gettysburg, SD 57442

RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE: owner

NAME & ADDRESS OF PERMIT HOLDER: same

DIVERSION POINT LEGAL LOCATION: 1100 ft. north & 1200 ft. west of the SE corner of Sec. 22-T120N-R77W (S ½ SE ¼) (Lat. 45.19061 & Long. -100.107363).

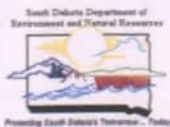
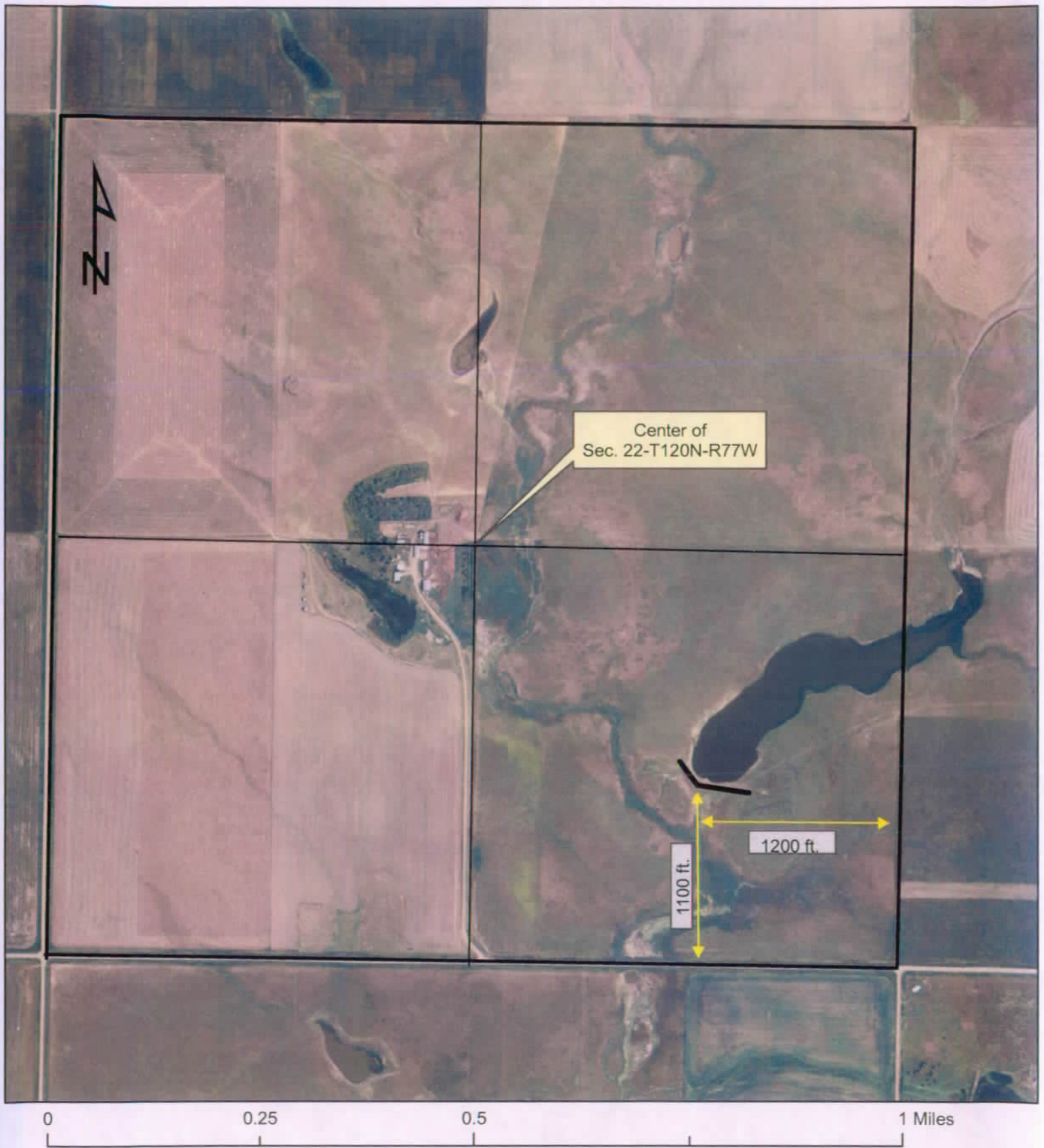
DAM INFORMATION:

- 1) Height to crest 15.6 feet
- 2) Height to primary spillway 11.2 feet
- 3) Height to secondary spillway 12.6 feet
- 4) Crest width 12 feet
- 5) Crest length 490 feet
- 6) Spillway length XXX feet
- 7) Spillway width 200 feet
- 8) Approx. storage (Normal) 87.8 acre-feet
- 9) Approx. storage (Maximum) 116 acre-feet
- 10) Date constructed: 2005

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. 6604-3



Timothy G. Schaal

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

3/30/10



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

APR 29 2010

6604-3

James Willey
30242 152nd St
Gettysburg SD 57442

Dear Mr. Willey:

Enclosed is your Water License No. 6604-3. The license is the final document which completes the process of obtaining a water right. Included with the 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,

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

enclosures

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 6604-3

(1) James Willey, 30242 152nd St, Gettysburg SD 57442 made Application No. 6604-3, March 16, 2005 for a water permit to impound 87.8 acre feet of water from an unnamed tributary to the Missouri River, Potter County, South Dakota for fish and wildlife propagation and domestic use purposes. Permit No. 6604-3, with a priority date of March 16, 2005 was approved May 16, 2005 and issued to the applicant for storage of water with construction of the impoundment to be completed on or before May 16, 2010 and for the application to beneficial use of said water on or before May 16, 2014.

(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 87.8 acre feet of water per second for beneficial use.

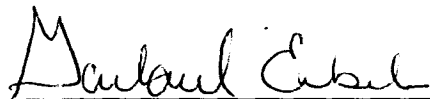
The location of the storage dam (spillway) is 1,100 feet north and 1,200 feet west of the SE corner of Section 22, T120N, R77W (S ½ SE ¼).

(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 James Willey, 30242 152nd St, Gettysburg SD 57442 the holder and/or owner of Water Right No. 6604-3 is issued a license to impound water, the right to store 87.8 acre feet of water from an unnamed tributary of the Missouri River at the location specified in (2) of this license for fish & wildlife propagation and domestic use.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 6604-3 and subject to the following qualifications:

- No. 6604-3 authorizes a dam with a storage capacity of 87.8 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.



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

APR 29 2010

date

