

WATER PERMIT NO. 5780-3

Phone: 439-3359

Name of Applicant: Walter C. Wolf

Post Office Address: PO Box 349, Leola SD 57456

Amount of Water Claimed: 30.6 AF Total Acres: NA

Source of Water Supply: dry draw

Water to be used for: domestic County: McPherson

About 3 miles northwest of Leola

PRIORITY Date Received: 7-23-93 Fee: \$150 Remarks: _____

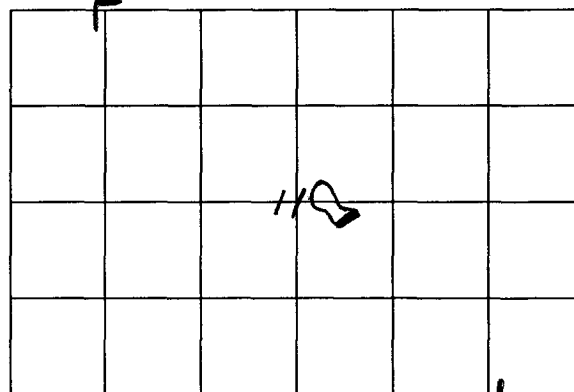
Corrected Application Received: 8-2-93 Period of Annual Use: Jan 1 - Dec 31

WATER QUALITY APPROVAL RECEIVED: NA APPROVED/CONDITIONAL (Circle one)

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

Diversion Point: NW 1/4 SE 1/4 Sec 11-T126N-R68W

Land to be Irrigated: _____



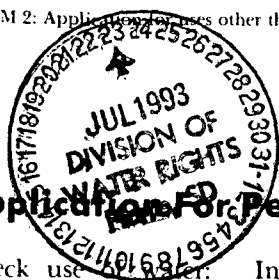
Well Log: Driller: _____ Licensed YES _____ NO _____

Depth of Well: _____ REMARKS: _____

Type of Map: aerial PREPARED BY: James R Schaffer Reviewed and the Number

Assigned on: 8-3-93 By: Karen Schlaak

Mail to: Water Rights Div.
523 E. Capitol
Pierre, SD 57501
(605) 773-3352



No. 5780-3 Hydrologic Unit 10160003
Map No. _____ Basin James River
Newspaper McPherson Co. Herald, Box 170, Leola

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

Check use _____ Industrial ☐ Commercial ☐ Municipal ☐ Other Common Distribution System ☐
Rural Water System ☐ Suburban Housing ☐ Geothermal Heat ☐ Institutional ☐ Recreational ☐
Domestic ☒ (above 18gpm) Other ☐

Type of Application: Check one or more of the following

New ☒ Vested Right ☐ Future Use ☐ Change Use ☐
☐ Amend Permit No. _____ with old priority date retained
Change diversion point(s) ☐ Add diversion point(s) ☐ Other ☐ _____
☐ Application to: Change diversion point(s) ☐ Add diversion point(s) ☐ on Permit No. _____
☐ Construction to use water reserved by Future Use Permit No. _____

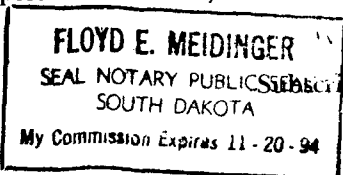
1. Name of Applicant Walter C. Wolf Phone No. 439-3359
Post Office Address PO Box 349 Leola State SD 57456
(Street, RR or Box) (City) Zip Code
2. Amount of water claimed (c.f.s) 30.6 acre-feet
3. Source of water supply dry draw
4. Location of point of diversion dam: 50 rods east of center of
section 11 - T126N - R68W (NW1/4 SE1/4)
water impounded in NW1/4 SE1/4 and SW1/4 NE1/4 County McPherson
5. Counties where water will be used McPherson
6. Annual period during which water is to be used Jan 1 - Dec 31
7. Give a brief description of proposed 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)

See attached design sheets.

Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach map (see instruction)

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

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



Signed Walter C. Wolf
Subscribed and sworn to before me this 22nd day of July, 1993
Floyd E. Meidinger
Notary Public

Supplemental Information

(type or print in ink)



1. Well Information - Proposed construction

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

2. Dugout Information Estimates

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

3. Water Storage Dams

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

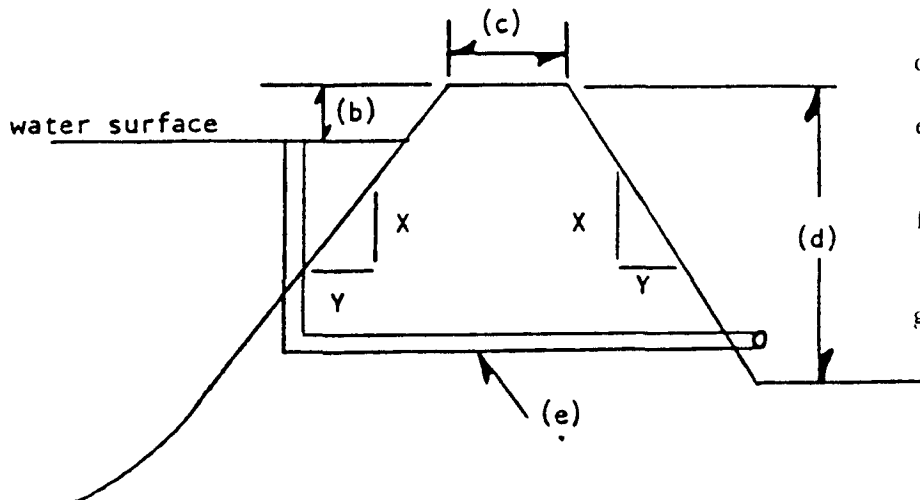
- a) If a private engineering firm or government agency was involved in the design of this dam please give their name and address

AREA OFFICE

USDA-SOIL CONSERVATION SERVICE

PO BOX 1258

PIERRE SD 57501-1258



- b) Freeboard 3 feet
- c) Crest Width 12 feet
Crest Length 450 feet
- d) Height 15 feet
- e) Primary Outlet Capacity 58 cfs
If Pipe, diameter 30 inch
- f) Secondary Spillway Capacity 418 cfs
Spillway width 115 feet
- g) X & Y Slope
Upstream 3:1
Downstream 2:1
- Surface Area of Impoundment 4.1
- Storage 30.6 acre feet
- Drainage area above dam 1906 acres

X
Signature of Applicant

**SOUTH DAKOTA
WATER PERMIT NO. 5780-3**

Date of first receipt of application July 23, 1993.

Date of return to applicant for corrections, amendments or changes July 23, 1993.

Date of receipt of corrected application August 2, 1993.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 5780-3 to Walter C. Wolf, PO Box 349, Leola SD 57456 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 5780-3 impounds 30.6 acre-feet of water by constructing a dam in a dry draw. The dam site is located in the NW 1/4 SE 1/4 Section 11 and water impounded in the NW 1/4 SE 1/4, SW 1/4 NE 1/4 Section 11; all in T126N-R68W.
2. The water appropriated shall be used for the purpose of supplying water for livestock use and may not exceed the amount of water needed for beneficial use for domestic purposes.
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. 5780-3 is October 12, 1993.
5. The date from which applicant may claim right is July 23, 1993.
6. One-fifth of the construction is to be completed on or before April 12, 1995.
7. All construction is to be completed on or before October 12, 1998.
8. Water is to be put to beneficial use on or before October 12, 2002.
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. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.
2. Approval of Water Permit No. 5780-3 authorizes storage of up to 30.6 acre-feet of water annually.

WATER MANAGEMENT BOARD

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

NOV 2 1993
date

126-68

5780-3

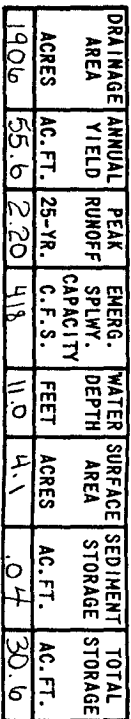


TABLE OF QUANTITIES

	DRAINAGE AREA	ANNUAL YIELD	PEAK RUNOFF	EMERG. SPLY. CAPACITY	WATER DEPTH	SURFACE AREA	SEDIMENT STORAGE	TOTAL STORAGE
	ACRES	AC. FT.	25-YR. C.F.S.		FEET	ACRES	AC. FT.	AC. FT.
1906	55.6	2.20	418		11.0	4.1	.04	30.6

ITEM	UNIT	QUANTITY
STRAPPING	SY	NA
CORE TRENCH	CY	176
FILL + 570 SETTLEMENT	CY	2,793
TOP DRESSING	SY	NA

* SEE SHEETS 2-7 FOR ADDITIONAL MATERIALS



Approximate scale 1" = 50

REFERENCE: GUIDE PLAN NO. 1.0

JOB PLAN NO. 1.0

S.D.D. CONSTRUCTION AND MATERIAL SPECIFICATIONS:

EARTH DAM

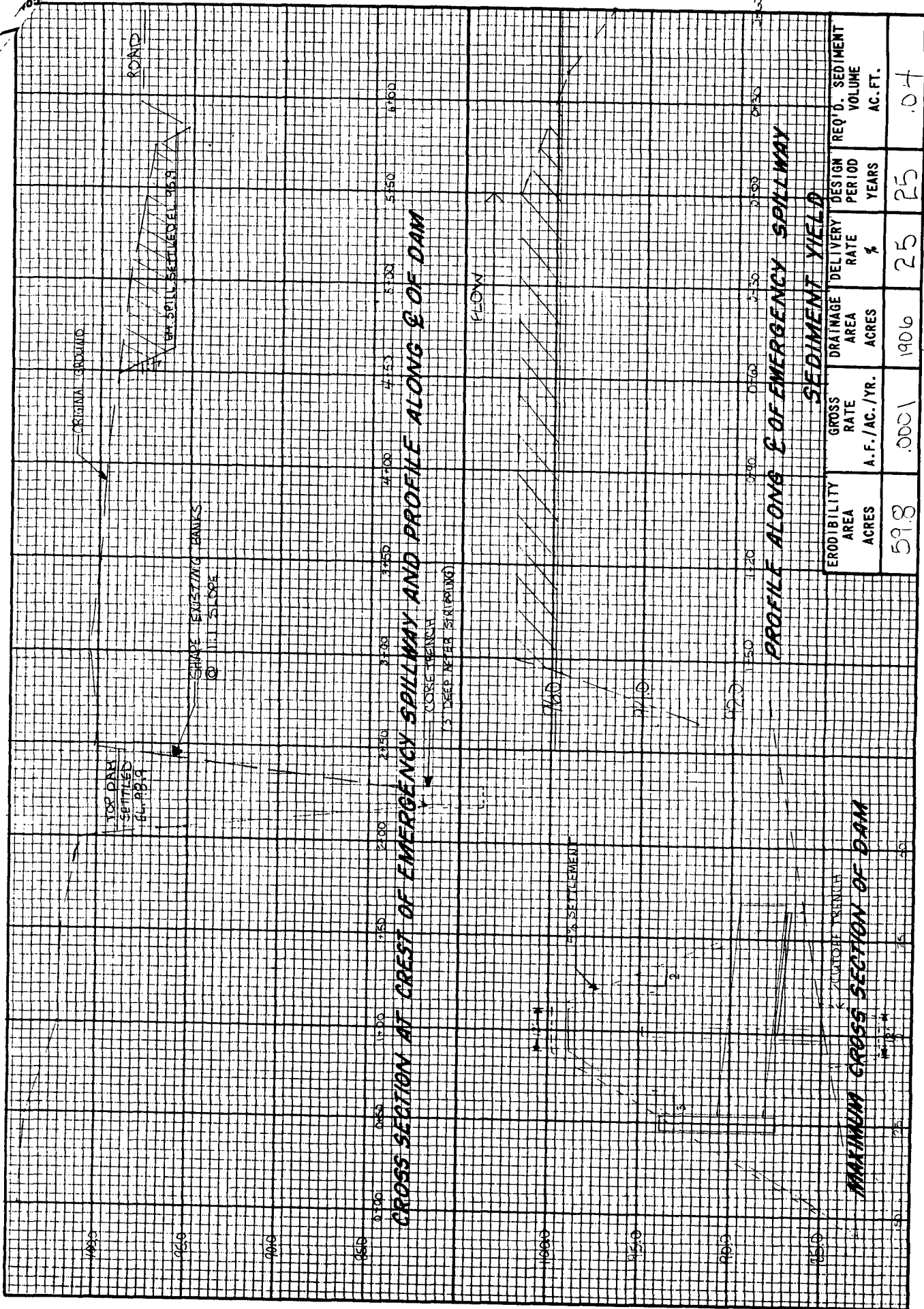
OPERATOR: WALTER WOLFE

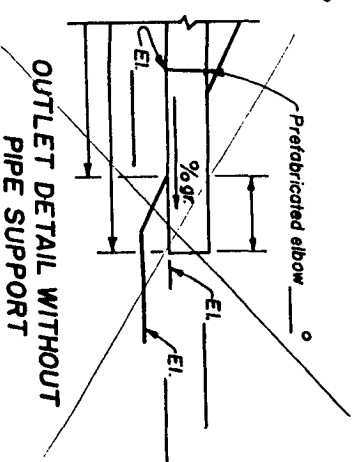
CONSERVATION DISTRICT: McCREARY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Date 1-8-82
 Approved [Signature]
 Title 1
 Design S. H. D. 2
 Drawn S. H. D. 2

☆ U.S. GOV PRINTING OFFICE: 1975-08-28





(Not to scale)

TABLE OF QUANTITIES

2. PIPE WALL THICKNESS SHALL BE _____
GAGE OR _____ INCHES.

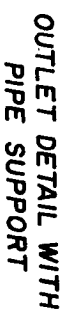
16 GAGE POINTS. 3 X 1/8 IN.
STAINLESS STEEL. 1/2 IN. DIA.
50' OF 20 DRAINAGE - RUSTIC
AND 3/4 IN. DIA. CND FOR THE 150' ONLY
16 GAGE WITH 2 2/3 X 1/2 IN DIA
CONNECTION FOR THE 150' ONLY

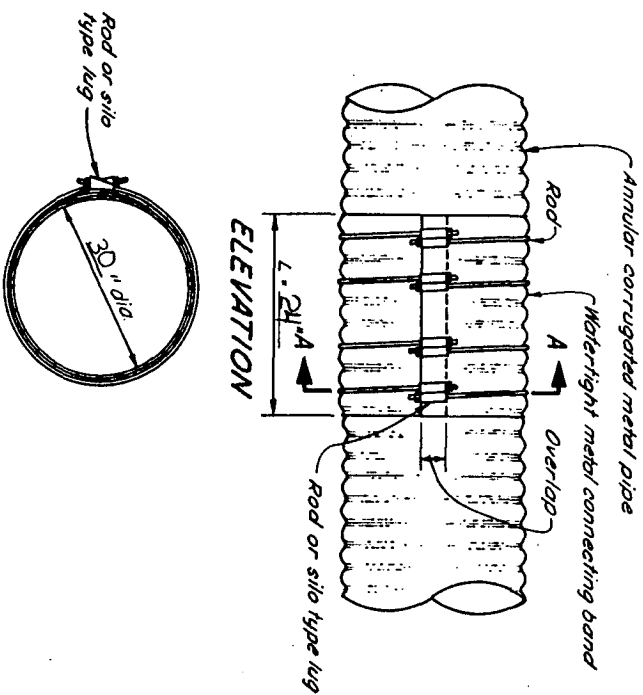
- SD-12R CONCRETE FOR PIPING - SEE NOTE
- SD-3 STEEL REINFORCEMENT
- SD-5 CORRUGATED METAL PIPE CONDUITS
- SD-16 TIMBER ERECTION AND INSTALLATION
- SD-17 METAL FABRICATION AND INSTALLATION
- SD-5 ZINC CONCRETE CON OR STEEL CONDUIT
- SD-55 PLASTIC PIPE

Rev. 8/80
JOB PLAN NO. 2.0

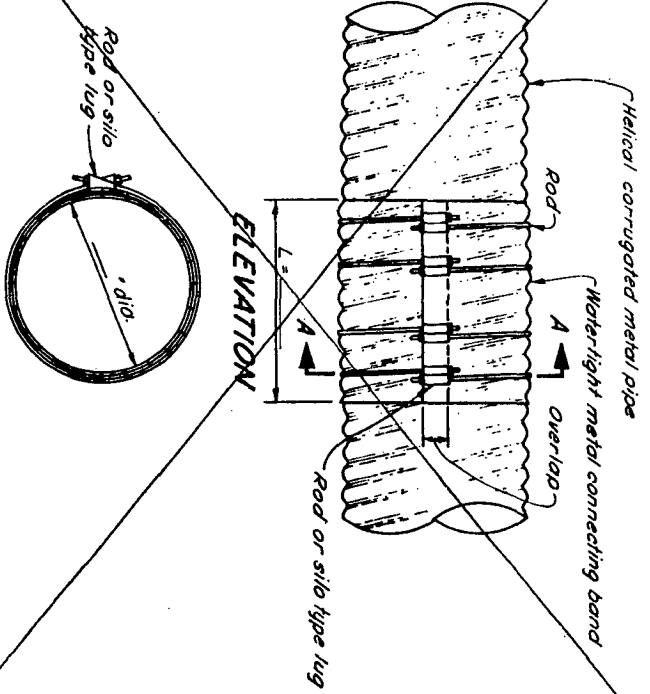
Sec. 11, T. 126, R. 68
McPHERSON County
LOCATION

**CORRUGATED METAL PIPE
DROP INLET PRINCIPAL SPILLWAY**





SECTIONAL ELEVATION A-A



SECTIONAL ELEVATION A-A

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

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. GROSS OFF-BAND AND QUANTITIES NOT APPLICABLE.
If using neoprene GMP, gasket must be installed to meet standard band.

**WATERTIGHT CONNECTING BAND
FOR ANNULAR AND HELICAL
CORRUGATED METAL PIPE**

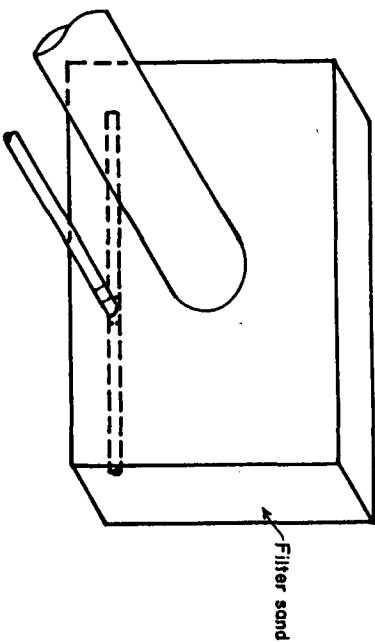
OPERATOR: WALTER MOORE
 CONSERVATION DISTRICT: MCDERMIDSON

**U. S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE**

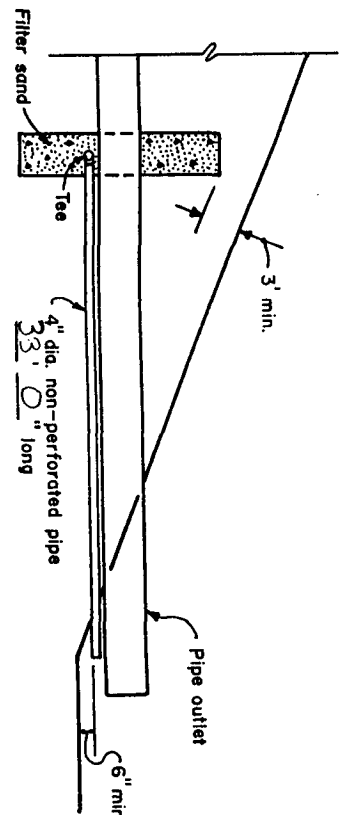
Designed by S. HUBER Date 6-23-63
 Drawn by S. HUBER Date 6-23-63

Checked by 3 Date 7-1-63
 Ticker 3 Drawing No. 3
 Checked 3

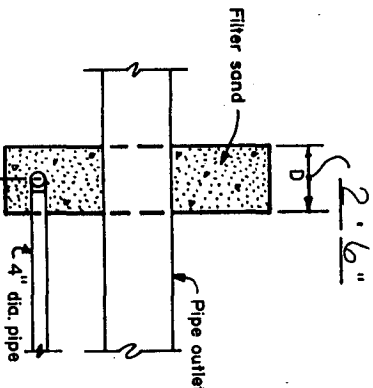
JOB PLAN NO. 3.0



ISOMETRIC VIEW



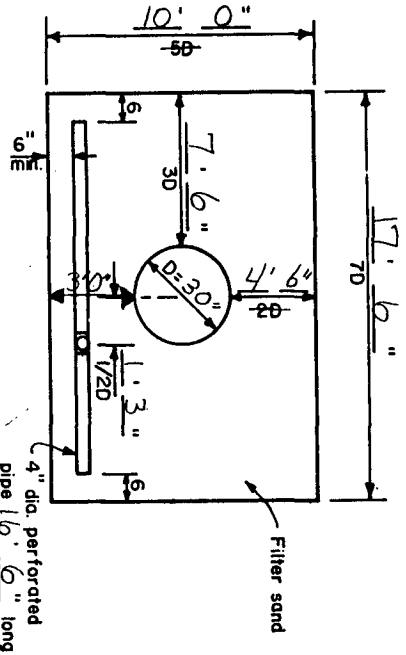
OUTLET DETAIL



SIDE VIEW

$$10' \times 17.5' \times 2.5' \left(\frac{1.96}{27} \right) = 16.2 \text{ cy}$$

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

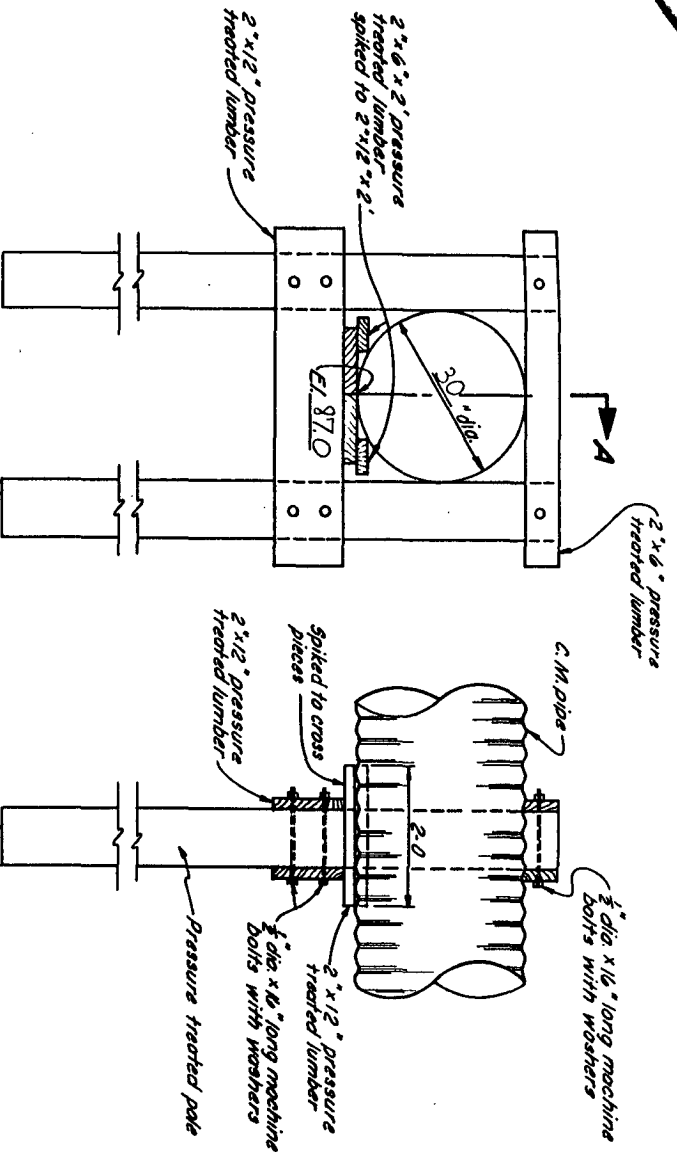


UPSTREAM VIEW

- NOTE:
1. THE 4" DIA. PIPE SHALL BE ASTM A795, SCHEDULE 40, PVE.
 2. PROVIDE AN ANIMAL GUARD ON DRAIN OUTLET PIPE. DRILL 2, 1/2" DIA. HOLES, ON 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).

JOB PLAN NO. 38

Sec. 11, T. 126, R. 68
 McPHERSON County
 LOCATION
SAND ANTISEEP COLLAR
 OPERATOR WALTER WOLFE
 CONSERVATION DISTRICT McPHERSON
 U. S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 Designed by S. HUGER Date 6-83
 Drawn by S. HUGER Date 6-83
 Checked by W. WOLFE Date 6-83
 Approved by W. WOLFE Date 6-83
 Title SAND ANTISEEP COLLAR
 No. 1 of 1



ELEVATION SECTIONAL ELEVATION A-A

TABLE OF QUANTITIES

ITEM	LENGTH FOR 30" DIA. C.M. PIPE	UNIT	QUANTITY
PRESSURE TREATED POLE 10" DIA.	10' 0"	EACH	2
2" X 12" PRESSURE TREATED LUMBER	5' 0"	EACH	6
2" X 6" PRESSURE TREATED LUMBER	5' 0"	EACH	2
2" X 12" PRESSURE TREATED LUMBER	2' 0"	EACH	3
2" X 6" PRESSURE TREATED LUMBER	2' 0"	EACH	2
1/2" DIA. MACHINE BOLTS WITH NUTS	1' 4"	EACH	10
1/2" DIA. WASHERS		EACH	20

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

REFERENCE: GUIDE PLAN NO. 4.0

JOB PLAN NO. 4.0

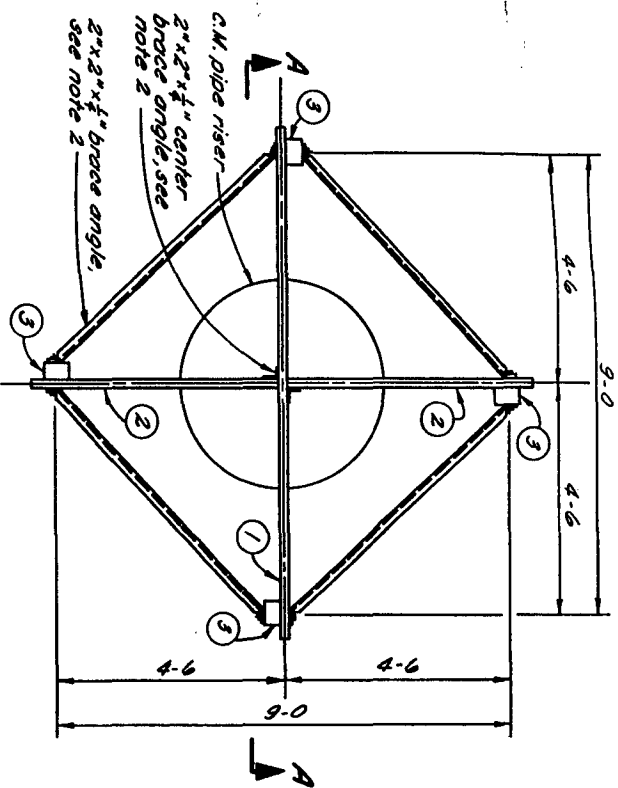
TIMBER PIPE SUPPORT

OPERATOR: WALTER WOLFE
CONSERVATION DISTRICT: Mc PERRON

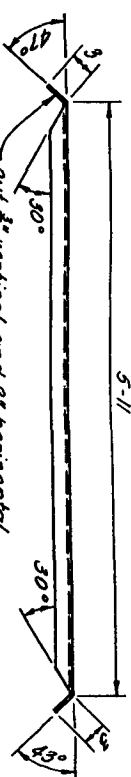
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Original	S. HUBER	6-23	Approved By	
Drawn	S. HUBER	6-23	Checked	
Date	6-23	7	Scale	As Shown
Sheet	7		Drawn By	

5, N-29, 073.40



PLAN VIEW



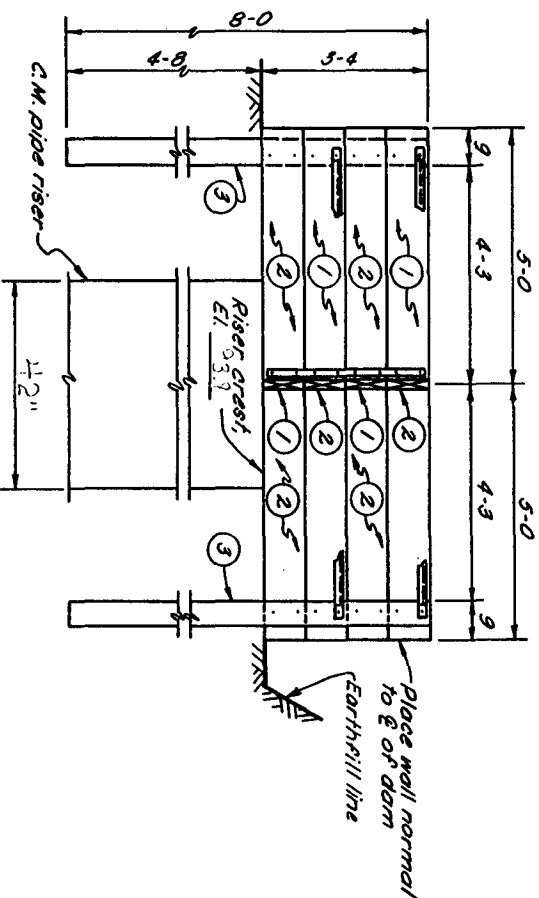
PLAN VIEW OF BRACE ANGLE

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.



SECTIONAL ELEVATION A-A

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

OPERATOR: WALTER WOLFE
CONSERVATION DISTRICT: MCPHERSON

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed by <u>S. HUBER</u>	Drawn by <u>S. HUBER</u>	Checked by <u>S. HUBER</u>
Date <u>6-23</u>	Title <u>5-11</u>	Scale <u>1" = 1'</u>
Job No. <u>5-N-29 0736-40</u>	Sheet No. <u>1</u>	Drawing No. <u>5-N-29 0736-40</u>

JOB PLAN NO. 6.4

McPherson Conservation District

5-N-29 0736-40



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

July 23, 1993

Walter C. Wolf
PO Box 349
Leola SD 57456

Dear Mr. Wolf:

We received your water permit application on July 23, 1993. After review of the application, it was determined that a written preliminary risk assessment of the downstream hazard potential needs to be provided to aid in determining the hazard classification for the proposed dam (see enclosed Safety of Dams Rules Sections 74:02:08:05 and 74:02:08:05.01). The hazard classification for the dam (Category 1, 2 or 3) needs to be known in order to determine what provisions of the Safety of Dams Rules will apply to your dam.

An assessment of the downstream hazard potential is to consist of a list of properties downstream from the dam (homes, roads, dams and other structures) with the potential affects of a dam failure to these properties. The legal descriptions of these downstream properties and the elevation above the waterway need to be included in the assessment. The risk assessment needs to be prepared by an engineer as defined in the Safety of Dams rules. The Soil Conservation Service may be able to assist with the risk assessment.

Upon receipt of the risk assessment, further processing of your application will continue. If you have any questions, please contact this office.

Sincerely,

Karen Schlaak

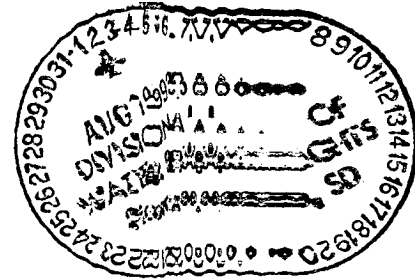
Karen Schlaak
Natural Resources Analyst
605 773-3352

enclosure



United States
Department of
Agriculture

Soil
Conservation
Service



July 30, 1993

Department of Environment
and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Karen Schlack
Natural Resources Analyst

Dear Karen:

Reference the letter dated July 23, 1993 to a Mr. Walter C. Wolf, P.O. Box 349,
Leola, S.D. 57456, the following information was requested.

1. Hazard classification ? is Catagory 3
2. Downstream hazard potential assessment? I was informed ~~officially~~ by your office
via telephone on July 30, 1993 that this is not required ~~when the hazard~~
classification is Catagory 3.

If we can be of other assistance in this matter for the Walter C. Wolf water
permit application please feel free to call at 439-3336 or write ~~to~~ Jim Schaffer,
SCS, P.O. Box A, Leola, S.D. 57456-0146. Thank you.


Jim Schaffer
Soil Technician



The Soil Conservation Service
is an agency of the
United States Department of Agriculture



RECEIPT

413835

Division of Water Rights

South Dakota Department of Environment and Natural Resources

Pierre, _____ July 23, 19 93

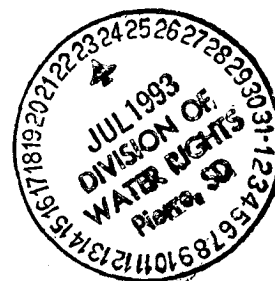
RECEIVED OF Walter C. Wolf, Box 349, Leola, SD 57456

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

Fee for Application for Permit No. <u>5780-3</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. _____		
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for _____		

(Any Other Work Provided by Law)	Total	150 00

By John H. H. H.
Chief Engineer



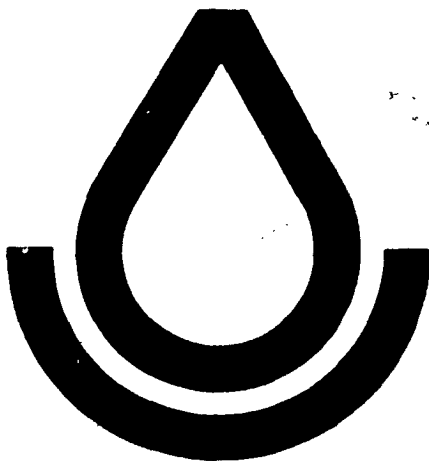
CONSTRUCTION SPECIFICATIONS

for

WALTER WOLFF

MCPHERSON COUNTY

DAM



Prepared by:

USDA, SOIL CONSERVATION SERVICE

LEOLA F.O.

Assisting:

McPherson Conservation District

CONSTRUCTION SPECIFICATION

SD-4 STRIPPING

4.1 SCOPE

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

4.2 GENERAL

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

4.3 STRIPPING FOUNDATIONS

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

4.4 STRIPPING BORROW AREAS

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

CONSTRUCTION SPECIFICATION

SD-5 EXCAVATION

5.1 SCOPE

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

5.2 CLASSIFICATION

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

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

5.3 USE OF EXCAVATED MATERIALS

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

5.4 DISPOSAL OF WASTE MATERIAL

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

5.5 BRACING AND SHORING

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

5.6 STRUCTURE AND TRENCH EXCAVATION

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

5.7 BORROW EXCAVATION

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

^{1/} D8 Caterpillar or equivalent

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

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

5.8 BLASTING

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

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

CONSTRUCTION SPECIFICATION

SD-7S EARTH FILL-CLASS S

7S.1 SCOPE

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

7S.2 MATERIALS

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

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

7S.3 FOUNDATION PREPARATION

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

7S.4 PLACEMENT

All foundation excavations and/or preparation shall be completed before placing fill. The fill shall be placed such that the distribution of materials is essentially uniform throughout the entire fill and is free from lenses, pockets, streaks, or layers of materials differing substantially from surrounding material.

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

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

7S.5 MOISTURE CONTENT

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

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

7S.6 COMPACTION (CLASS S)

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

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

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

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

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

CONSTRUCTION SPECIFICATION

SD-10 SALVAGING AND SPREADING TOPSOIL

10.1 SCOPE

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

10.2 QUALITY OF TOPSOIL

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

10.3 EXCAVATION

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

10.4 SPREADING

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

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

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

CONSTRUCTION SPECIFICATION

SD-12B CONCRETE FOR MINOR STRUCTURES
(FOR STRUCTURES UP TO 10 C.Y.)

12B.1 SCOPE

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

Acceptance:

The acceptance or rejection of concrete made under this specification will depend upon adherence to the procedures set forth herein, and the appearance of the finished structure.

12B.2 MATERIALS

Portland Cement shall be Type II or Type IIA Portland Cement. Cement that is partially hydrated or otherwise damaged shall not be used.

Fine Aggregate is defined as all material which will pass a $\frac{1}{4}$ -inch screen. Fine aggregate shall compose between 35 and 45 percent of the total aggregate and shall not contain more than 1 percent clay lumps or more than 4 percent finer than a No. 200 sieve. Coal in fine aggregate shall not exceed $\frac{1}{2}$ of 1 percent.

Coarse Aggregate is defined as all material larger than $\frac{1}{4}$ inch. Maximum size aggregate shall not exceed:

- 1 inch - Concrete thickness of 4 inches or less
- $1\frac{1}{2}$ inch - Concrete thickness of 4 inches or more

Coarse aggregate shall compose between 55 and 65 percent of total aggregate and shall not contain more than $\frac{1}{4}$ of 1 percent of clay lumps or more than 1 percent of material finer than No. 200 sieve. Coal shall not exceed one percent.

Mixed fine and coarse aggregate or pit-run aggregate may be used provided the requirements stated above are met.

Water shall be clean and free of harmful chemicals (suitable for drinking).

12B.3 DESIGN OF CONCRETE MIX

The contractor or person in charge of construction shall be responsible for designing a high quality concrete mix conforming to this specification.

The mix shall contain less than 6 gallons of water per bag of cement, and at least 6 bags of cement per cubic yard of concrete. The air-entrainment shall be between 4 and 7 percent by volume, and the slump after mixture shall be between 2 and 4 inches.

The following table is recommended as a guide for developing a satisfactory mix to give 3000 psi compressive strength for air-entrained concrete.

Max. Size Aggregate	Gal. Water per sack of cement	% of Fine Aggregate	Sacks Cement per cu. yd.	Pounds Fine Aggregate per sack cement	Pounds Coarse Aggregate per sack cement
1"	6.0	40	6.0	190-200	300-310
1½"	6.0	35	6.0	180-190	330-340

Ready Mixed concrete may be used provided it meets the requirements of these specifications. Upon request the vendor shall provide the owner with a signed delivery ticket giving the quantities of concrete, cement, fine aggregate, coarse aggregate and water contained in the batch.

Measurements of materials shall be by weight where suitable scales are available. Where suitable scales are not available, volume measurement may be used provided volume-weight relationships are carefully determined. Calcium chloride or other accelerators or anti-freeze compounds shall not be used.

Measurements (by weight) of materials in the mix shall be made available to the technician.

12B.4 FORMS FOR CONCRETE

Forms shall be made of wood, plywood, steel or other approved material. The type, size, shape, quality and strength of forms will be subject to approval by the technician.

All forms shall be true to line and grade, mortar tight, and rigid enough to prevent bulging or displacement. Tolerances will be close enough to assure that the structure appears and performs well.

All forms shall be removed from the concrete. Forming shall not be embedded in the concrete.

12B.5 PLACING CONCRETE

Concrete shall be placed in final position within one and one-half hours after mixing with cement.

Concrete shall be consolidated by hand spading and tamping or by mechanical vibration.

All concrete placed on earth shall be placed on clean damp surface, free of frost, ice, or running water. Concrete shall not be dropped more than 5 feet vertically unless suitable equipment is used to prevent segregation.

Uniformed surfaces (excluding slip form concrete) exposed in the completed work shall have a wood float finish. Exposed concrete edges shall be chamfered or finished with molding tools.

Concrete shall be placed at air temperatures between 40°F. and 80°F. unless special measures are taken to protect the concrete. Concrete shall be protected from freezing for 7 days after placement.

12B.6 CURING CONCRETE

All concrete shall be cured by keeping all exposed surfaces wet for 7 days or by applying a spray type curing compound to exposed concrete surfaces immediately after the free water has disappeared after pouring.

12B.7 DEFECTIVE CONCRETE

Honey combed areas and other voids in concrete will be promptly repaired with mortar patching immediately upon discovery.

Concrete subjected to damage and/or other violations of this specification will be rejected.

CONSTRUCTION SPECIFICATION

SD-13 STEEL REINFORCEMENT

13.1 SCOPE

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

13.2 MATERIALS

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

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

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

13.3 CUTTING AND BENDING

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

13.4 SPlicing BAR REINFORCEMENT

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

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

13.5 PLACING

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

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

CONSTRUCTION SPECIFICATION

SD-15 CORRUGATED METAL PIPE CONDUITS

15.1 SCOPE

The work shall consist of furnishing and placing circular, arched, or elliptical corrugated metal pipe and the necessary fittings as shown on the plans.

15.2 MATERIALS

Pipe and fittings shall conform to the requirements of Material Specification SD-50 or Material Specification SD-51, whichever is specified. When specified, caulked seam corrugated metal pipe shall conform to the following additional requirements:

- (1) Caulked seam corrugated metal pipe shall have all circumferential and horizontal seams caulked with an asphalt compound before riveting. This shall be accomplished by applying a uniform bead ($\frac{1}{4}$ inch minimum diameter) of the asphalt compound to the inner lap surface before riveting such that when the rivets are in place all voids are filled and a coating of asphalt is between the lap surfaces.
- (2) The asphalt compound shall consist of an asphalt base combined with asbestos fiber and other inert filler material to form a heavy-bodied compound that will not sag or run out of the seam. The compound should contain 63 to 68 percent solids by weight. It shall be similar in type and equal in quality to Trumbull 5X Asphalt Mastic, knife grade, as manufactured by the Trumbull Asphalt Company of Delaware.

15.3 HANDLING THE PIPE

The Contractor shall furnish such equipment as is necessary to place the pipe without damaging the pipe or coatings. The pipe shall be transported and handled in such a manner as to prevent bruising, scaling, or breaking of the zinc, bituminous or plastic coating.

Whenever the coating of zinc coated pipe is damaged in any individual area larger than 12 square inches, or if more than 0.2 percent of the total surface area of the pipe is damaged, the section will be rejected.

Whenever the coating on bituminous or plastic coated pipe is damaged in any individual area that exceeds 36 square inches or when the total area of breaks exceeds 0.5 percent of the total surface area of the pipe, the section will be rejected.

CONSTRUCTION SPECIFICATION

SD-16 TIMBER FABRICATION AND INSTALLATION

16.1 SCOPE

This specification covers the quality and installation of plywood and pressure treated structural timber poles, posts, and lumber structure and timber and lumber portions of composite structure.

16.2 MATERIAL

a. Plywood

Plywood shall be new, exterior grades, and shall meet Product Standard PS 1-66.

Plywood for use underground shall be pressure treated in accordance with the American Wood Preservers Bureau AWPB-FDN Standard (stamped on plywood).

b. Structural Timber and Lumber

Structural timber and lumber shall be structural grade or better. Structural timber, poles, posts, and lumber shall be new, sound, decay free, straight, not warped or cracked. Unless otherwise specified on the drawings, all lumber and timber except red wood and red cedar shall be treated by any of the following preservatives:

- Commercial Coal Tar Creosote
- Hot and Cold Bath Creosote
- Pentachlorophenol - Commercial Treatment
- Pentachlorophenol - Cold Soaking Method
- AWPB-FDN Standard Preserving Salts

c. Hardware

Bolts, rods, nuts, washers, and other hardware shall be an appropriate grade of steel, and if to be placed underground, shall be galvanized or otherwise corrosion protected.

16.3 INSTALLATION

The material shall be of the dimensions, and installed at the location, as shown on the drawings. All lumber to be treated shall be cut to size, insofar as practical, prior to treatment. Raw ends of lumber which has been cut after treatment shall be immersed in the preservative solution, or painted with four (4) heavy coats of the solution. Each application should be allowed to dry. For home treatment, the preservative manufacturer's directions shall be carefully followed.

CONSTRUCTION SPECIFICATION

SD-17 METAL FABRICATION AND INSTALLATION

17.1 SCOPE

The work shall consist of furnishing, fabricating, and installing metalwork including metal parts of composite structures.

17.2 MATERIALS

A. Steel

Except as noted below, steel shall be carbon steel of a malleable, weldable quality.

High strength, weather resistant steel shall conform to the requirements of ASTM A-242, A-588, or A-514.

Bolts, nuts, washers, rods, rivets, etc., shall be of a material equal to the steel being fastened.

B. Aluminum

Aluminum alloy products shall be Alloy 6061-T6.

17.3 PROTECTIVE COATINGS

A. Galvanizing

If specified on the drawings, steel shall be galvanized. Galvanizing shall conform to ASTM A-386, A-153, A-164 Type RS, or A-165 Type TS.

B. Painting

Unless shown otherwise on the plans, non galvanized metal shall be cleaned and painted using the following procedure.

(1) Cleaning - Remove all dirt, oil, and grease by means of mineral spirit cleaning. Next, thoroughly wet the metal with a dilute (about 5 percent strength) phosphoric acid solution. Allow the acid to dry and then thoroughly rinse the surfaces with clear water and again allow to dry.

(2) Paint - Apply two coats of one of the following paints:

a. Zinc Dust - Zinc Oxide Primer conforming to Federal Specification TT-P-641, Type III.

b. Zinc Dust Chlorinated Rubber conforming to Federal Specification TT-P-1046a.

c. Zinc Dust Paint conforming to Military Specification MIL-P-21035.

d. Epoxy-Polyamide Paint conforming to Defense Specification DOD-P-15145B.

- (3) Application - Paints shall be thoroughly mixed at the time of application. The first coat of paint shall be applied by brushing. All other coats may be applied by brush or spray. Each coat shall be applied in such a manner as to produce a continuous paint film of uniform thickness.

Paint shall not be applied when the temperature of the item to be painted or of the surrounding air is less than 50°F. Painting shall be done only when the humidity and temperature of the surrounding air and the temperature of the metal surfaces are such that evaporation rather than condensation will result during the application and drying time.

The finished surface of each coat shall be free from runs, drops, ridges, laps, or excessive brush marks and shall present no variation in color, texture, and finish. Surfaces shall be thoroughly dry before application of each coat of paint. The surface of each dried coat shall be cleaned as necessary before application of the next coat. After installation of the metalwork, all damage to painted surfaces shall be repaired.

17.4 FABRICATION

Metal items shall be fabricated to close fit, closely conforming to the drawings. Joints to be welded, shall be welded all around, in a manner developing as much strength as possible.

17.5 ERECTION

The metal shall be erected true and plumb, closely conforming to the drawings.

Riveting and welding shall not be done until as much of the structure as will be stiffened thereby has been properly aligned.

MATERIAL SPECIFICATION

SD-50 ZINC-COATED IRON OR STEEL CORRUGATED PIPE

50.1 SCOPE

This specification covers the quality of zinc-coated iron or steel corrugated pipe and fittings.

50.2 PIPE

Zinc-coated iron or steel corrugated pipe and fittings shall conform to the requirements of Federal Specification WW-P-405 for the specified classes and shapes of pipe, and to the following additional requirements:

- a. Unless otherwise specified, circumferential shop riveted seams shall have a maximum rivet spacing of 6 inches, except that 6 rivets will be sufficient for 12-inch diameter pipe.
- b. When close riveted pipe is specified: (1) the pipe shall be fabricated so that the rivet spacing in the circumferential seams shall not exceed 3 inches, except that 12 rivets will be sufficient to secure the circumferential seams in 12-inch pipe, and (2) in those portions of the longitudinal seams that will be covered by the coupling bands the rivets shall have finished flat heads or the rivets and holes shall be omitted and the seams shall be connected by welding to provide a minimum of obstruction to the seating of the coupling bands.
- c. Double riveting or double spot welding of pipe less than 42 inches in diameter may be required. If specified, the riveting or welding shall be done in the manner specified for pipe 42 inches or greater in diameter.

50.3 COATING

Coating shall conform to the requirements of Federal Specification WW-P-405 for the specified types of coatings.

MATERIAL SPECIFICATION

SD-55-PLASTIC PIPE

55.1 SCOPE

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

55.2 MATERIAL QUALITY

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

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

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

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

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

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

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

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

55.3 PIPE REQUIREMENTS

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

a. Polyvinyl Chloride (PVC)

1. PVC High Pressure Irrigation Pipe

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

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

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

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

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

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

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

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

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

b. Acrylonitrile-Butadiene-Styrene (ABS)

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

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

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

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

c. Polyethylene (PE)

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

55.4 FITTING AND COUPLER REQUIREMENTS

a. High Pressure Pipe (80 psi or greater)

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

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

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

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

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

1. Solvent Cement Joints

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

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

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

2. Rubber Gasket Joints

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

b. Low Pressure Irrigation Pipe

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

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

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

1. Solvent Cement Joints

Solvent for solvent cement joints shall conform to ASTM

2. Rubber Gasket Joints

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

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

c. Potable Use Pipeline

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

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

55.5 PIPE MARKING REQUIREMENTS

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

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

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

REFERENCE SLIP

8-26-93

TO

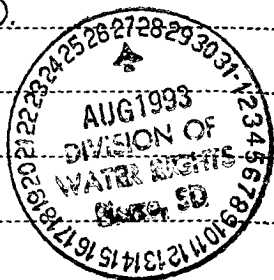
Lynn Beck

Water Rights Div.

☐ ACTION☐ NOTE AND RETURN☐ APPROVAL☐ PER PHONE CALL☒ AS REQUESTED☐ RECOMMENDATION☐ FOR COMMENT☐ REPLY FOR SIGNATURE OF☐ FOR INFORMATION☐ RETURNED☐ INITIALS☐ SEE ME☐ NOTE AND FILE☐ YOUR SIGNATURE

REMARKS

Info. requested
by you on Walter C.
Wolf Dam of
McPherson County
Leola, S.D.



FROM

Jim Scheffer
SCS Leola

Calc

STAGE STORAGE

Walter C. Wolf

NW SE ; SW NE -11-126-68 water imp. unit
heola, SD McPherson Co.

9' X 30.6 ac. ft. = 275.4 < 3000
 $\therefore$ Spillway must pass 25yr. event.

$$A = 1906 \text{ ac.} = 2.98 \text{ mi}^2$$

$$S = \frac{0.0007}{0.0001} = 7$$

$$S_1 = 2.79$$

$$Q_{\text{out}} = 106(2.98)^{0.63} (6.5)^{0.45} (2.99)^{-0.69} = 652.6 \text{ cfs}$$

$$Q_{100} = 132 (2.92)^{0.35} (66)^{0.40} (2.92)^{-0.67} = 885.3 \text{ cfs}$$

A hand-drawn cross-section diagram of a road. The road surface is represented by a horizontal line. Above the left end of the road, there is a vertical line segment labeled '3''. Above the right end of the road, there is a vertical line segment labeled '2''. Below the road surface, there is a horizontal line segment labeled '115''. The road surface itself is slightly elevated on the right side, indicated by a small step up.

$$= 2.6 \times 115' \times 2^{1.5}$$

$$= 1845.7 \text{ m}^2$$

$$Q. \quad a \sqrt{\frac{2gH}{1+K_m+K_pL}}$$

$$a = \frac{\pi (2.5')^2}{4} = 4.9087 \text{ ft}^2$$

$$g = 32.2 \text{ ft/s}^2$$

$$H = 95.9 - 87.0 = 8.9$$

$$K_{ro} = 1.0$$

$$K_f = 0.0264$$

$$L^1 = 60'$$

$$= 62.09 \text{ cfs}$$

Combined = 907.8 cfs > Q_{100} $\therefore$ O.K.

Report for Application No. 5780-3
Walter C. Wolf
September 10, 1993

This application is for storage of 30.6 acre-feet of water by constructing a dam in a dry draw. The dam site is to be located in the NW 1/4 SE 1/4 Section 11 and water will be impounded in the NW 1/4 SE 1/4, SW 1/4 NE 1/4 Section 11; all in T126N-R68W. Water will be used for livestock watering and domestic use.

According to the risk assessment submitted with the application, the dam is a category 3, small size dam. The dam impounds 30.6 acre feet and has an effective height of 9 feet. The spillway is required to have a minimum capacity of passing a 25 year frequency event based on Safety of Dams Rule 74:02:08:07:01.

The plans and specifications have been reviewed for this project and will be approved after a water permit is obtained. The drainage area of the proposed dam is 2.98 square miles (1906 acres) and a 25-year frequency will produce a peak runoff of 461 cubic feet per second (cfs). The dam is designed with a 115 foot wide emergency spillway with a capacity of 846 cfs, which exceeds the capacity for passing a 25-year frequency event. The primary spillway consists of a 42 inch drop inlet and 60 feet of 30 inch corrugated metal pipe and will pass 62 cfs. The dam will be located on an unnamed drainage 3.5 miles west and 1.5 miles north of Leola, South Dakota.

There are no water rights on the drainage downstream of the proposed dam. However, the Leola dam is approximately 3.6 miles downstream of the proposed dam. No water right claim has been filed on Leola dam.

Conclusions:

- 1) Water is available from the drainage.
- 2) Existing water rights will not be impaired.
- 3) The spillway will pass more than a 100 year runoff event.



Lynn Beck
Natural Resources Engineer III

Approved by:



Gale N. Selken
Natural Resources Engineer IV

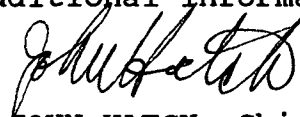
RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 5780-3, Walter Wolf

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Environment and Natural Resources concerning Water Permit Application No. 5780-3, Walter Wolf, PO Box 349, Leola, SD 57456.

The Chief Engineer is recommending APPROVAL of Application No. 5780-3 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) in the public interest with the following qualifications:

1. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.
2. Approval of Water Permit No. 5780-3 authorizes storage of up to 30.6 acre-feet of water annually.

See report on application for additional information.



JOHN HATCH, Chief Engineer
September 16, 1993



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

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

September 17, 1993

Walter C. Wolf
PO Box 349
Leola, SD 57456

Dear Mr. Wolf:

Water Permit Application No. 5780-3 for domestic use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice of hearing has been sent to the Publisher of the McPherson County Herald printed at Leola, SD (Ph # 439-3131). For your information, a copy of the notice, the recommendation of the Chief Engineer and a report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

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



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 17, 1993

McPherson Co. Herald
Box 170
Leola, SD 57456

ATTENTION: Legal Department

Enclosed is a Notice of Hearing on Application No. 5780-3 to be published twice. Please publish the first notice on September 22, 1993, with the second publication 7 days later.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you make the first publication. Please BILL the APPLICANT for the cost of publication. The APPLICANT is Walter C. Wolf, PO Box 349, Leola, SD 57456 (Ph # 439-3359).

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

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

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----
FIRST TRANSMITTAL NOTICE TO: Eric Gronlund
Water Rights Division
Joe Foss Building
Pierre SD 57501-3181
No. _____
Date _____
We are in receipt of your letter of _____ enclosing Notice of
hearing to Appropriate Water by Application No. _____ which was first
published in our issue of _____. ENCLOSED IS A COPY OF THIS
FIRST PUBLICATION.

Name _____

Newspaper _____

Instruction to Newspaper - Publish first Notice on September 22, 1993, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 5780-3 to Appropriate Water

Notice is given that Walter C. Wolf, PO Box 349, Leola, SD 57456 has filed an application for a water permit to impound 30.6 acre-feet of water by constructing a dam in a dry draw. The dam site is to be located in the NW 1/4 SE 1/4 Section 11 and water will be impounded in the NW 1/4 SE 1/4, SW 1/4 NE 1/4 Section 11; all in T126N-R68W. Water will be used for livestock watering and domestic purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 5780-3 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 Division, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by October 12, 1993.

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 Division address to request copies of information pertaining to this application. Robert E. Roberts, Secretary, Department of Environment and Natural Resources.

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

County of McPherson) ssI, Mary Hoffman

certify that the attached printed Notice was

taken from the McPhersonCounty Heraldprinted and published in LeolaCounty of McPherson and State ofSouth Dakota. The notice was published in
the newspaper on the following two dates:September 22, 1993September 29, 1993Cost of Printing: \$36.78
Mary Hoffman
 (Signature)

published - notice
 (Title)

September 30, 1993
 (Date Signed)

NOTICE

NOTICE OF APPLICATION

No. 5780-3 to

Appropriate Water

Notice is given that Walter C. Wolf, P.O. Box 349, Leola, SD 57456 has filed an application for a water permit to impound 30.6 acre-feet of water by constructing a dam in a dry draw. The dam site is to be located in the NW 1/4 SE 1/4 Section 11 and water will be impounded in the NW 1/4 SE 1/4, SW 1/4 NE 1/4 Section 11; all in T126N-R68W. Water will be used for livestock watering and domestic purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 5780-3 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 Division, Foss Building, 523 E. Capitol, Pierre, SD 57501 (605-773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by October 12, 1993.

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 Division address to request copies of information pertaining to this application. Robert E. Roberts, Secretary, Department of Environment and Natural Resources.



NOV 2 1993

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

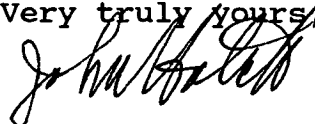
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

Walter C. Wolf
PO Box 349
Leola, SD 57456

Dear Mr. Wolf:

Enclosed is Water Permit No. 5780-3 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

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

Very truly yours,


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

enclosures

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

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



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

June 13, 2001

Walter Wolf
PO Box 349
Leola SD 57456

Dear Mr. Wolf:

I talked to you last week about your water permit. You had some questions about the water permit process that I was unable to answer. I am enclosing some information that explains the water permit process. Please let me know if you need more information to answer your questions.

When we spoke you mentioned a dam that has been on the land in Section 11 T126N-R68W for 50 years. I reviewed our records and found an existing location notice that was filed back when the dam was built.

If you have any questions, feel free to contact me at (605) 773-3352 or via email at stacy.johnson@state.sd.us.

Sincerely,

Stacy J. Johnson
Natural Resources Project Engineer

Enclosures (8)



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 7, 2001

5780-3

Walter C Wolf
Box 349
Leola SD 57456

Dear Mr. Wolf:

On August 20, 2001 the investigation of your water use system, including the extent of application of water to beneficial use, as developed under Water Permit No. 5780-3, was completed by Stacy J Johnson, a staff engineer with our program. Your final water right document, the water license, can now be issued.

State law requires that we charge a \$50.00 fee for the investigation and issuance of the water license. Upon receipt of the \$50.00 fee from you, we will complete processing your water license. The check or money order for the fee should be made payable to the "Water Rights Program".

Your licensed water right will be similar to a property right that can not be lost as long as the water use continues and you abide by the permit requirements.

If you have any questions regarding the water permit, investigation of your water use system or payment of the fee, please contact Genny McMath with our program at (605) 773-3352.

Sincerely,

Karen Schlaak
Environmental Scientist
Water Rights Program
(605) 773-3352



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

February 19, 2002

REMINDER NOTICE

5780-3

Walter C Wolf
Box 349
Leola, SD 57456

Dear Mr. Wolf:

On September 7, 2001, we advised you that a \$50.00 fee was due for the completed investigation of your Water Permit No. 5780-3. The fee also covers issuance of your water license which is the final document in obtaining and perfecting a water permit.

To date, we have not received the fee and therefore can not issue the water license. Your licensed water right will be similar to a property right that can not be lost as long as the water use continues and you abide by any permit requirements.

If you have any questions regarding the water permit, investigation of your water use system or payment of the fee, please contact Genny McMath with our program at (605) 773-3352. The check or money order for the fee should be made payable to the "Water Rights Program".

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program

CERTIFICATION

I hereby certify that on February 19, 2002, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated February 19, 2002 regarding Reminder Notice Nos. 1913-2, 2471B-3, 5627A-3, 5685-3, 5711-3, 5780-3, 6096-3 addressed as stated below:

5627A-3
Levi Tschetter
Poinsett Colony
46527 189th St.
Estelline, SD 57234

2471B-3
Buell & Craig Slepikas
542 4th St SW
Huron, SD 57350

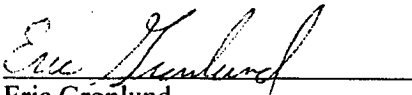
1913-2
Greg Bryant
Happy Holiday Campground
8990 S Hwy 16
Rapid City, SD 57702

5711-3
Mabel Almos
Buffalo Lake Restaurant
11977 BIA Rd
Eden, SD 57232

5685-3
Jim Geier
Bowdle Livestock Exchange
32575 Hwy 12
Bowdle, SD 57428

5780-3
Walter C. Wolf
Box 349
Leola, SD 57456

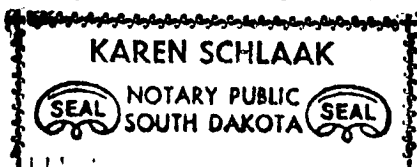
6096-3
Alvin Waldner
Huron Colony
40068 Huron Colony Lane
Huron, SD 57350


Eric Grönlund
Natural Resource Engineer
Water Rights

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 20th day of February, 2002.


Karen Schlaak
Notary Public
My Commission expires April 1, 2007





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

May 21, 2002

FINAL NOTICE
Permit No. 5780-3

Walter C Wolf
Box 349
Leola, SD 57456

Dear Mr. Wolf:

On September 7, 2001 and February 19, 2002, we advised you that a \$50.00 fee was due for the completed investigation of Water Permit No. 5780-3. The fee also covers issuance of the water license which is the final document in obtaining and perfecting a water right. To date, the fee has not been received.

A billing statement is enclosed. If the fee is not paid within 30 days from the date of this letter, the water license will not be issued and the bill will be turned over to a collection agency. Please remit the required fee to the Department of Environment and Natural Resources, Water Rights Program, 523 E. Capitol, Pierre, SD 57501-3181. The check or money order for the fee should be made payable to the "Water Rights Program".

If you have any questions or believe our records are in error, please contact Genny McMath at (605) 773-3352.

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program

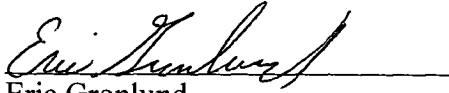
enclosure

CERTIFICATION

I hereby certify that on May 21, 2002, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated May 21, 2002 regarding Final Notice Permit Nos. 5685-3 & 5780-3 addressed as stated below:

5685-3
Jim Geier
Bowdle Livestock Exchange
32575 Hwy 12
Bowdle, SD 57428

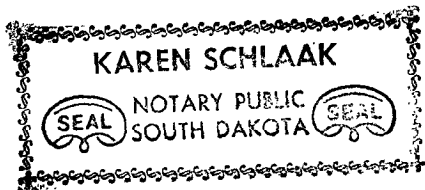
5780-3
Walter C. Wolf
Box 349
Leola, SD 57456


Eric Gronlund
Natural Resource Engineer
Water Rights

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 22nd day of May, 2002.


Karen Schlaak
Notary Public
My Commission expires April 1, 2007



RECEIPT

Water Rights Program

South Dakota Department of Environment and Natural Resources

417218

Pierre, July 12, 2002

RECEIVED OF Walter C. Wolf, 11451 - 359th Ave., PO Box 349, Leola SD 57456
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. _____ to Appropriate Water, to construct
and to put water to beneficial use _____

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. 5780-3

50 00

Fee for Filing Transfer Form _____

Fee for Filing Extension Request _____

Fee for _____

(Any Other Work Provided by Law)

Total

50 00

By Darland Eble
Chief Engineer

gm

Permit No. 5780-3
James River - Water District

Other permit/license(s) associated with project: none

Contact Person & Address: Walter Wolf, PO Box 349, Leola, SD 57456

Report Of Examination Of Works

On, August 20, 2001, made a thorough examination of the water use system constructed by Walter Wolf of PO Box 349, Leola, SD 57456 holder of Permit No. 5780-3, bearing the priority of July 23, 1993, authorizing the storage of 30.6 acre-feet of the waters of dry draw for domestic purposes, in Mc Pherson County.

The system is in the following condition good. The point of diversion is located from the NE corner of Section 11 T126N-R68W it is 2642 feet south and 1783 feet west with a longitude of -99.001124 and a latitude of 45.746335. The works are capable of diverting and conveying storing 30.6 acre-feet of water that is to be used for domestic purposes.

The license should be issued for 30.6 acre-feet of storage.

Review of Permit Qualifications And Regulations:

- 1) Special qualifications to permit being abided by yes
- 2) All structures, wells and lands on map yes
- 3) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period NA
- 4) Exceptions to compliance are: none

Report On the Specifics of the System

Diversion Point Information:

Dam Information:

- | | |
|--|--|
| 1) Height to crest <u>15</u> feet | 2) Height to primary spillway or outlet <u>10</u> feet |
| 3) Height to secondary spillway <u>12</u> ft | 4) Crest width <u>15</u> feet |
| 5) Crest length <u>450</u> feet | 6) Spillway length feet |
| 7) Spillway width <u>115</u> feet | 8) Approx. storage (normal) <u>30.6</u> ac-ft |
| 9) Approx. storage (maximum) <u>47</u> ac-ft | |
| 10) Outlet tubes: | |
| a) diameter <u>42 Riser</u> inches | b) type <u>CMP</u> |
| c) valved <u>30" diameter Barrel</u> | d) valve type <u>none</u> |

COMMENTS: Dam has good vegetation on it. Large rocks are located on upstream side of dam.

Stacy J. Johnson

Stacy J. Johnson

Natural Resources Project Engineer

DENR, Water Rights Program

9-7-01

Date



Impoundment of water = 30.6 Acre-feet

Center of Dam

Section 11 T126N-R68W

0.3 0 0.3 Miles

Stacy J. Johnson 9-7-01
Stacy J Johnson
Natural Resources Engineer
SD DENR Water Rights Program

STATE OF SOUTH DAKOTA

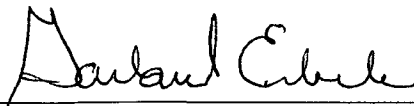
WATER LICENSE NO. 5780-3

(1) Walter C Wolf, Box 349, Leola SD 57456 made Application No. 5780-3, July 23, 1993 for a water permit to impound 30.6 acre-feet of water from runoff, McPherson County, South Dakota for livestock watering purposes. Permit No. 5780-3, with a priority date of July 23, 1993 was approved October 12, 1993 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before October 12, 1998 and for the application to beneficial use of said water on or before October 12, 2002.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the storage dam and is entitled to impound 30.6 acre-feet of water for beneficial use with sufficient water annually to maintain the water level to the outlet elevation. The location of the storage dam (spillway) is 2,642 feet south and 1,783 feet west of the northeast corner of Section 11-T126N-R68W (NW 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.

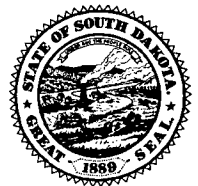
(4) Pursuant to South Dakota Water Law 46-5-30.1 Walter C Wolf, Box 349, Leola SD 57456 the holder and/or owner of Water Right No. 5780-3 is issued a license to appropriate water, the right to impound 30.6 acre-feet of water from runoff with sufficient water annually to maintain the water level to the outlet elevation with a priority date of July 23, 1993 from the location specified in (2) of this license for livestock watering purposes. This license is subject to any limitations or qualifications listed in Water Right No. 5780-3 and subject to South Dakota State Law.



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

JUL 31 2002

date





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

JUL 31 2002

5780-3

Walter C Wolf
Box 349
Leola SD 57456

Dear Mr Wolf:

Enclosed is Water License No. 5780-3. This is the final water right document completing your process of obtaining a Water Right. Enclosed is Receipt No. 417218 in the amount of \$50.00 which you paid for the investigation and issuance of the Water License.

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