

Considered: _____

WATER PERMIT NO. 5692-3

Phone: 895-2283

Name of Applicant: LaVerne Ehlers

Post Office Address: Box 375, Presho SD 57568

Amount of Water Claimed: 32.7 ac-ft Total Acres: NA

Source of Water Supply: runoff

Water to be used for: wildlife and livestock watering County: Lyman

About 10 miles North of Presho

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved _____ Subject to _____

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

PRIORITY Date Received: 7-14-92 Fee: \$150 Remarks _____

Corrected Application Received 7-27-92 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: SW 1/4 NE 1/4 Sec 21-107-77

Land to be Irrigated: _____

Well Log: Driller: NA Licensed YES _____ NO _____

Depth of Well: _____ REMARKS _____

Type of Map: aerial PREPARED BY: Lee Ozanne, SCS Reviewed and the Number

Assigned on 7-27-92 By Karen Schlaak

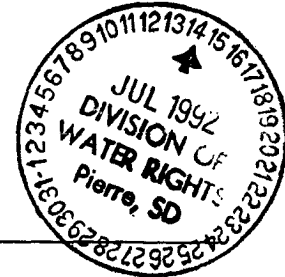
No. 5692-3 Hydrologic Unit 10140104
 Map No. _____ Basin Missouri River
 Newspaper Lyman Co Herald, Box 280, Presho

(Wed) 895-2505

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

Check use of water: 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 LaVerne Ehlers Phone No. 605-895-2283

Post Office Address Box 375 Presho State SD 57568
(Street, RR or Box) (City) Zip Code

2. Amount of water claimed (c.f.s.) 32.7 ac-ft

3. Source of water supply runoff

4. Location of point of diversion SW4 NE4 Sec. 21-107-77

County Lyman

5. Counties where water will be used Lyman

6. Annual period during which water is to be used Year around 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)

Structure will provide wildlife water and habitat and possible future livestock water.

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 Lyman)^{ss}

I, LaVerne Ehlers 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 LaVerne Ehlers

Subscribed and sworn to before me this 13 day of July 1992

My commission expires 7-1-2000

Kathleen M. Deedrick
 Notary Public

**SOUTH DAKOTA
WATER PERMIT No. 5692-3**

Date of first receipt of application July 14, 1992.

Date of return to applicant for corrections, amendments or changes July 14, 1992.

Date of receipt of corrected application July 23, 1992.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 5692-3 to LaVerne Ehlers, Box 375, Presho SD 57568 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

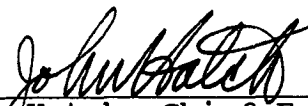
1. Water Permit No. 5692-3 impounds 32.7 acre-feet of runoff water by constructing a dam located in the SW 1/4 NE 1/4 Section 21-T107N-R77W. Water will be impounded in the SW 1/4 NE 1/4 Section 21-T107N-R77W.
2. The water appropriated shall be used for the purpose of supplying water for wildlife habitat and livestock watering 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. 5692-3 is September 30, 1992.
5. The date from which applicant may claim right is July 14, 1992.
6. One-fifth of the construction is to be completed on or before March 30, 1995.
7. All construction is to be completed on or before September 30, 1997.
8. Water is to be put to beneficial use on or before September 30, 2001.
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. 5692-3 authorizes storage of up to 32.7 acre-feet of water annually.

WATER MANAGEMENT BOARD

By: _____

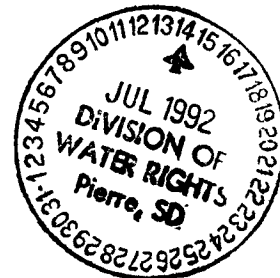

John Hatch, Chief Engineer, Water Rights Division
Department of Environment and Natural Resources

NOV 17 1992

date

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

Soil Conservation Service
Box 156
Kennebec, SD 57544

b) Freeboard _____ 3'

c) Crest Width _____ 12'

Crest Length _____ 555'

d) Height _____ 12.5'

e) Primary Outlet Capacity _____ 17.0 cfs
If Pipe, diameter _____ 15"

f) Secondary Spillway Capacity _____ 520 cfs
Spillway width _____ 100'

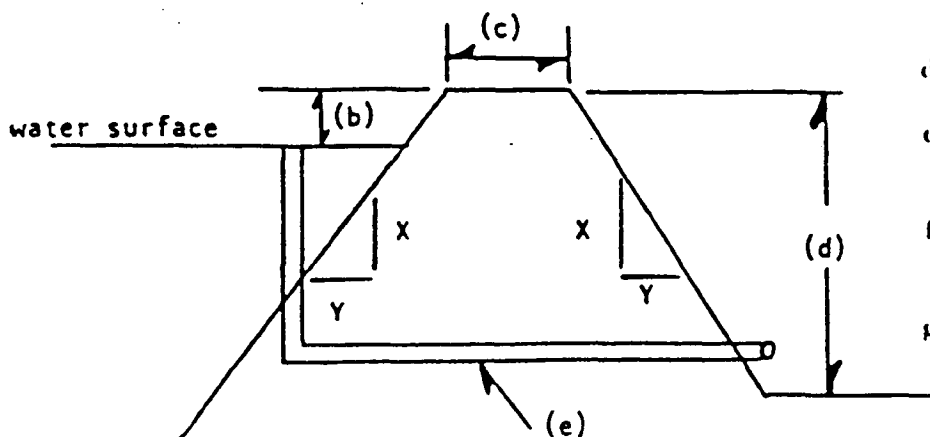
g) X & Y Slope
Upstream _____ 3:1

Downstream _____ 3:1

Surface Area of Impoundment _____ 7.1 ac.

Storage _____ 32.7 _____ acre feet

Drainage area above dam _____ 645 ac.



A. L. Ekens
Signature of Applicant

114
11.4

10

10

2.6

8

1/2

Plan & Specs Review

8/11/92
L.B.

Application No. 5692-3
LaVerne Ehlers
SW⁴ NE⁴ Sec. 21-107-77
Lyman Co., SD

$$\frac{8.6}{2.0} \times \frac{15}{10}$$

Top of Dam Elev. = 100.0

Emergency Spillway = 97.0

Principal Spillway = 94.7

D.S. Toe = 84.7

to crest Max. Storage =

to em.sp. Inter. Storage = 32.7 ac.ft

to outlet Normal Storage =

Category 3 Small Dam

Ht. eff. X Int. Storage < 3000

$$(15.3' - 3') \times 32.7 \text{ ac. ft} \\ = 402 < 3000 \therefore \text{O.K.}$$

USGS "Tech. for Estimating Flood Peaks"

drainage area = 640 ac. = 1 sq. mi.

$$A = 1 \text{ mi}^2$$

$$S = \frac{2040 - 1920}{3.8'' \times \text{mi}^{2.6}} \\ = 82.1' / \text{mi}$$

$$Q_{25} = 83.4 A^{0.60} S^{0.44} S_i^{0.72}$$

$$Q_{25} = 83.4 (1)^{0.60} (82.1' / \text{mi})^{0.44} (3.70)^{0.72}$$

$$S_i = 3.70$$

$$= 226.14 \text{ cfs}$$

Primary Spillway Capacity : 78' of 15" ϕ pipe

SCS Engineering Field Manual

$$a = \text{X-sec. area pipe} = \frac{\pi 15^2}{4} = 176.7 \text{ in}^2 = 1.23 \text{ ft}^2$$

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

pg. 3-24

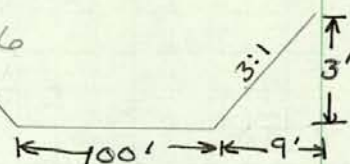
g = accel. due to gravity = 32.2 f/s²H = Δ elev. H₂O surface to outlet @ c. of pipe = 94.7' - 85.325' = 9.375'K_m = coef. of minor losses = 1.0 for inward projecting pipe pg. 3-89K_p = head loss for circular pipe flowing full = 0.0666pg. 3-75
n = 0.022

L = 78'

$$Q = 1.23 \text{ ft}^2 \sqrt{\frac{2 \times 32.2 \text{ f/s}^2 \times 9.375'}{1 + 1 + 0.012 (78')}} = \underline{\underline{17.64 \text{ cfs}}}$$

$$Q = CLN^{3/2}$$

$C = \text{weir coef.} = 3.1 \text{ (SCS) or } 2.6$
 $L = \text{width} = 100'$
 $H = \text{ht.} = 3'$



$$Q = (2.6)(100')(3')^{3/2} = 1351 \text{ cfs}$$

$$\text{total capacity} = 1351 \text{ cfs} + 18 \text{ cfs} = 1369 \text{ cfs}$$

$$1369 \text{ cfs} > 226 \text{ cfs} \therefore \text{O.K.}$$

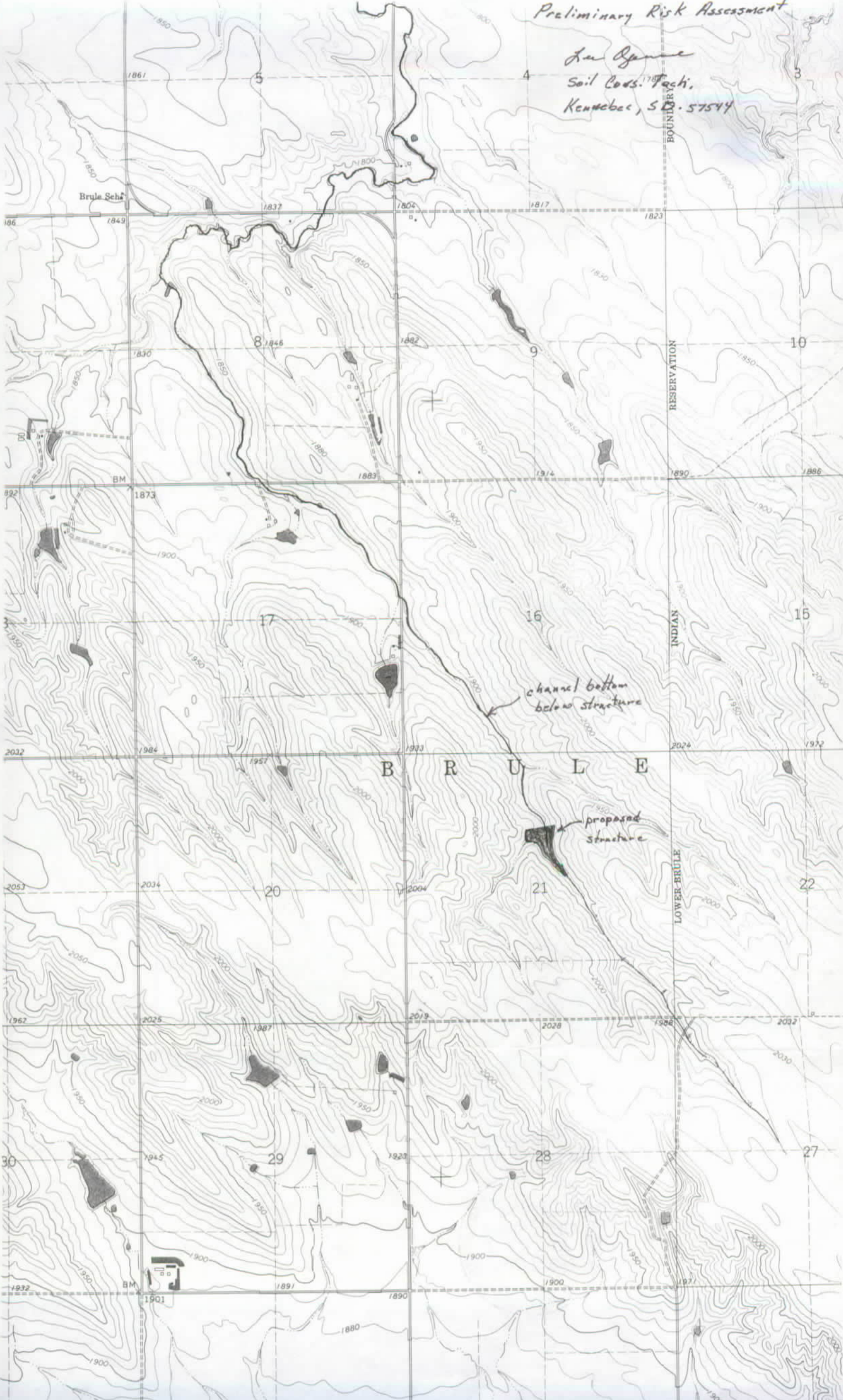
S.D. Codified Law 74:02:08:09 Review

	<u>Yes</u>	<u>No</u>
1) Topo Map	✓	
2) Dam Axis Profile	✓	
3) Dam X-section	✓	
4) Area Capacity Curve	N/A	
5) Detailed Drainage of Outlet	N/A	
6) Spillway Rating Curve	N/A	
7) Plans on Spillway Structure	- ✓	
8) Specifications	- ✓	
9) EPP	N/A	

This dam is not large enough to be listed on the Inventory, however it does exceed criteria for inventory dams.

Preliminary Risk Assessment

San Juan
Soil Cons. Tech.
Kennebec, SD 57544



NOT TO SCALE

107-77



HEL

432.8

T 2900

61.8

(377-96R)

Lee G.

T8

Soil Cons. Tech.

Box 156

Kennebec S.D.

HEL

57544

135.0

Embankment

Impoundment area

32.7 ac. fl.

HEL

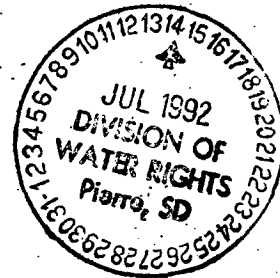
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HEL

2

107-77

5692-3



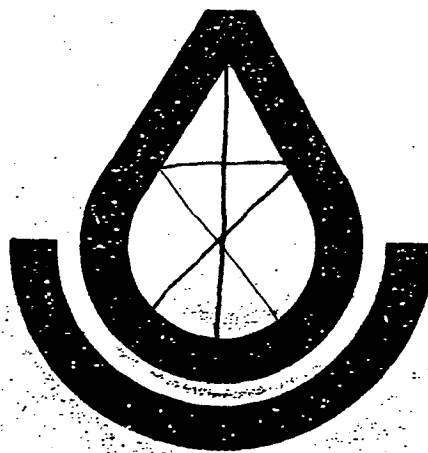
CONSTRUCTION SPECIFICATIONS

for

Ehlers Farms Inc.

Wildlife Watering Facility

SW⁴ NE⁴ Sec. 21-107-77



Prepared by:

USDA, SOIL CONSERVATION SERVICE

Kennelton Field Office

Assisting:

American Creek Conservation District

CHECKLIST

SOUTH DAKOTA CONSTRUCTION AND MATERIAL SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS

Check Column	Specification No. SD-	Title
	1	Clearing 6/82
	2	Clearing and Grubbing 6/82
	3	Structure Removal 6/82
✓	4	Stripping 6/82
✓	5	Excavation 6/82
	6	Excavated Ponds (Dugouts) 6/82
	7A	Earth Fill - Class A - (Controlled Compaction) 6/82
✓	7S	Earth Fill - Class S - (Method Type Compaction) 6/82
	7U	Earth Fill - Class U - (Uncompacted) 8/71
	8	Rock Riprap and Bedding 6/82
✓	9	Drain Fill and Filter 6/82
✓	10	Salvaging and Spreading Topsoil 6/82
	11	Clearing and Earthwork (AWMS) 12/89
	12A	Concrete (Class 3500) 6/82
	12B	Concrete for Minor Structures (less than 5 c.y.) 6/82
	13	Steel Reinforcement 8/71
	14	Wood and Steel Structures (AWMS) 12/89
	15	Corrugated Metal Pipe Conduits 11/87
✓	16	Timber Fabrication and Installation 7/77
✓	17	Metal Fabrication and Installation 11/87
	18	Wire Mesh Gabions 6/82
	19	PVC Sediment Basin Drain (AWMS) 12/89

CONSTRUCTION SPECIFICATIONS

Check	Specification	No. SD-	Title
	20		Pipeline-Plastic (Irrigation) 6/82
	20A		Pipeline-Plastic (Stockwater and/or Domestic) 6/82
	21		Steel Pipelines 6/82
	22		Concrete Pipelines 6/82
	23		Asbestos Cement Pipelines 8/71
	24		Land Leveling 11/77
	25		Diversion 6/82
	26		Terraces 6/82
	27		Waterway Improvement 8/71
	28		Seeding (Requires Specific Site Recommendations) 8/71
	29		Sodding (Requires Specific Site Recommendations) 8/71
	30		Fencing 6/82
	31		Cathodic Protection 11/79
	32		Well 8/86
	33		Mulch Blankets and Nets 10/86
			MATERIAL SPECIFICATIONS
	50		Zinc-Coated Iron or Steel Corrugated Pipe 8/71
	51		Aluminum Corrugated Pipe 8/71
	52		Steel Pipe and Fittings 8/71
	53		Concrete Irrigation Pipe, Drainage Pipe, and Drain Tile 10/75
	54		Asbestos-Cement Pipe 6/82
✓	55		Plastic Pipe 6/82

CONSTRUCTION SPECIFICATION

SD-4 STRIPPING

4.1 SCOPE

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

4.2 GENERAL

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

4.3 STRIPPING FOUNDATIONS

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

4.4 STRIPPING BORROW AREAS

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

CONSTRUCTION SPECIFICATION

SD-5 EXCAVATION

5.1 SCOPE

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

5.2 CLASSIFICATION

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

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

5.3 USE OF EXCAVATED MATERIALS

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

5.4 DISPOSAL OF WASTE MATERIAL

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

5.5 BRACING AND SHORING

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

5.6 STRUCTURE AND TRENCH EXCAVATION

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

5.7 BORROW EXCAVATION

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

1/ D8 Caterpillar or equivalent

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

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

5.8 BLASTING

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

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

CONSTRUCTION SPECIFICATION

SD-7S EARTH FILL-CLASS S

7S.1 SCOPE

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

7S.2 MATERIALS

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

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

7S.3 FOUNDATION PREPARATION

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

7S.4 PLACEMENT

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

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

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

7S.5 MOISTURE CONTENT

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

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

7S.6 COMPACTION (CLASS S)

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

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

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

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

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

CONSTRUCTION SPECIFICATION

SD-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-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 metal work 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 three full coats of Zinc Dust - Zinc Oxide Primer (Federal Specification TT-P-641, Type III).

- (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-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".

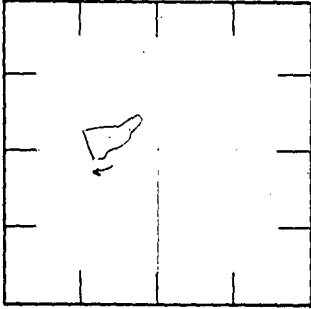
STRUCTURE DATA

DRAINAGE AREA	ANNUAL YIELD	PEAK RUNOFF CFS	EMERG. SPLWY. CAPACITY C.F.S.	WATER DEPTH FEET	SURFACE AREA ACRES	SEDIMENT STORAGE AC.FT.	TOTAL STORAGE AC.FT.
645	48.9	527	520	9.2	7.1	8.5	32.7

$9.2' \times 7.1' \times 5' = 32.7$

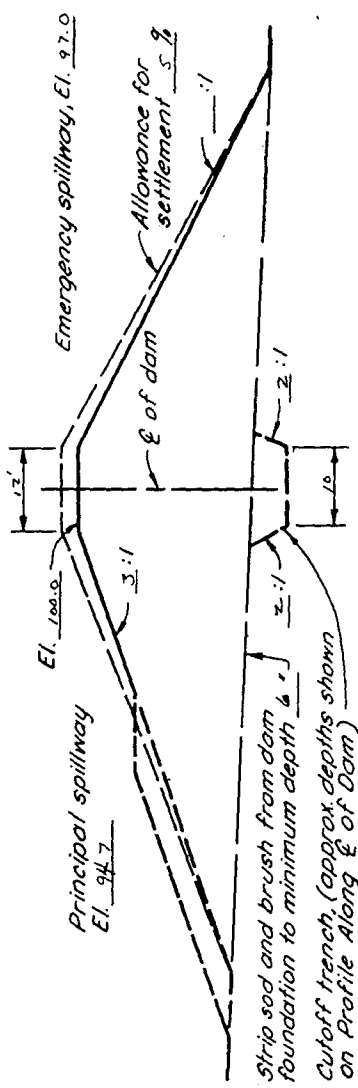
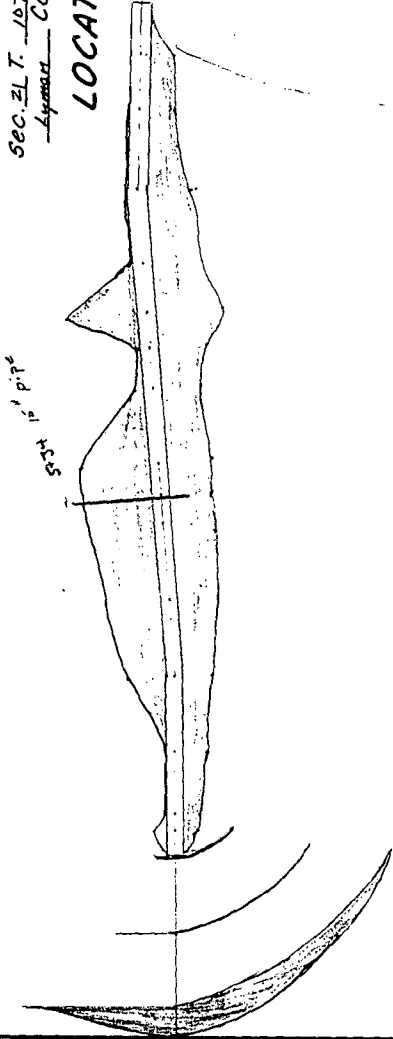
TABLE OF QUANTITIES

ITEM	UNIT	QUANTITY
Earthwork	C.Yd.	2768.0
5% settlement	C.Yd.	138.3
Core trench	C.Yd.	96.4
Total	C.Yds	3000.7
Reinforced emergency and back fill with gravel	Sq. Yds.	1555.5
15" smooth inside plastic pipe	L.F.	78
Sand scap collar	ea.	1
Hooded Inlet baffle	ea.	1



SEC. 21 T. 107 R. 77
Lyon County

LOCATION



TYPICAL CROSS SECTION OF DAM

Class A

EARTH DAM

S.D. CONSTRUCTION AND MATERIAL SPECIFICATIONS:

- SD-4 stripping
- SD-5 Excavation
- SD-7a Earthfill Class 5
- SD-9 Drain fill + Filter
- SD-10 Salvaging + spreading Topsoil
- SD-16 Timber Fabrication + Installation
- SD-17 Metal Fabrication + Installation
- SD-55 Plastic Pipe

SKETCH PLAN OF DAM AND RESERVOIR AREA

Approximate scale 1" = 100'

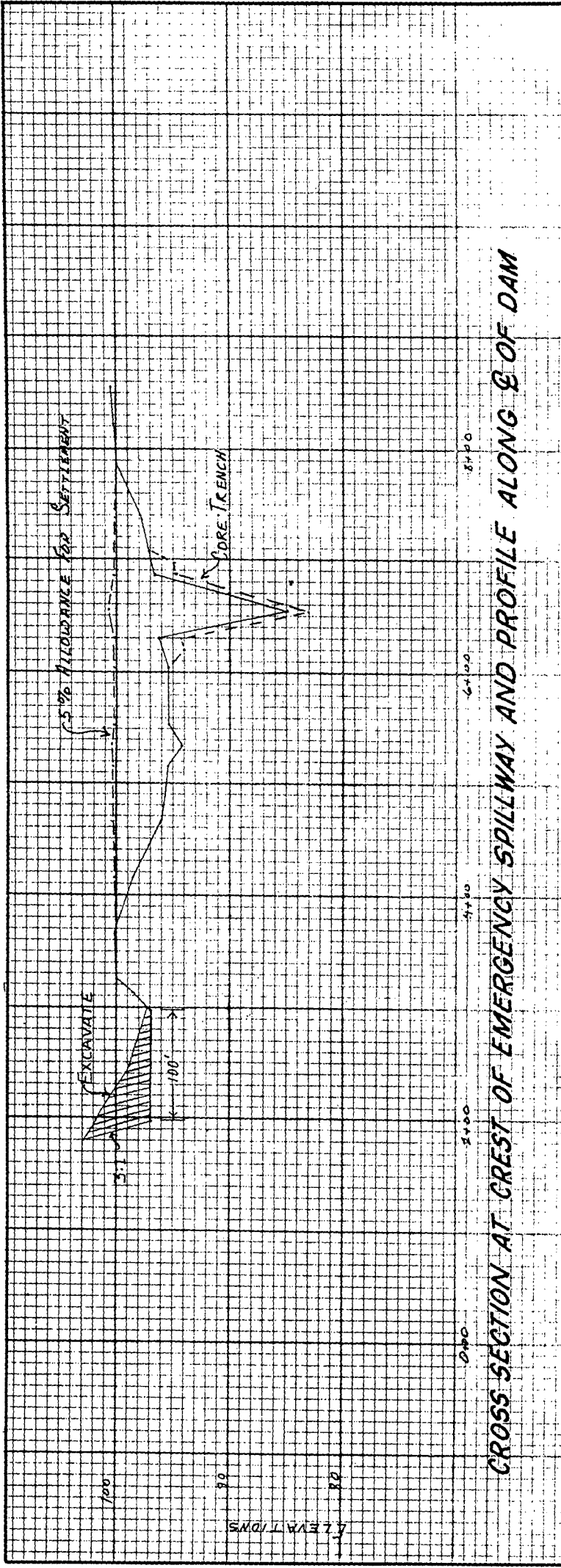
REFERENCE: GUIDE PLAN NO. 1.0

JOB PLAN NO. 1.0

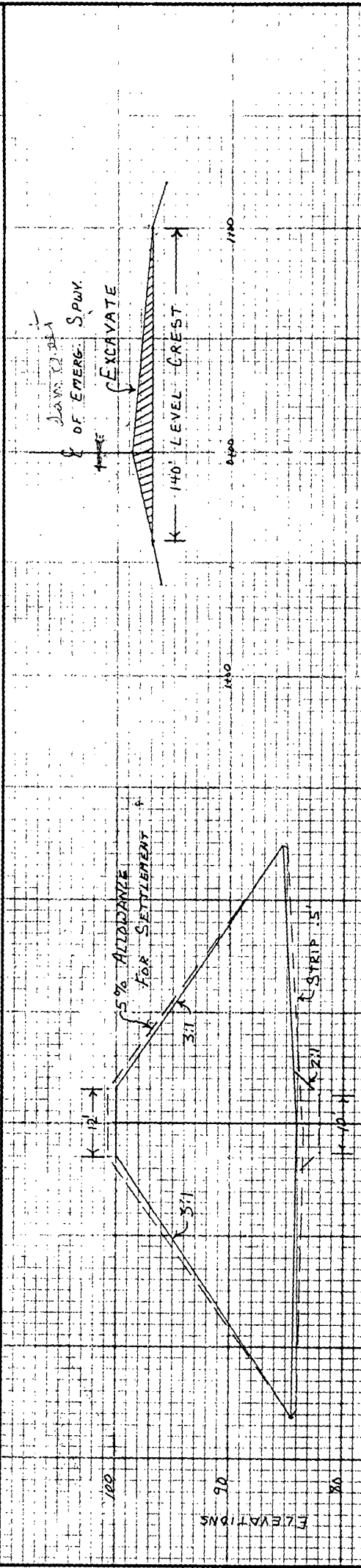
OPERATOR: Ehlers Farms Inc.
CONSERVATION DISTRICT: American Creek

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Date	4-98
Drawn	J. J. G. J.
Check	J. J. G. J.
Sheet	1 of 1
Drawing No.	



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



MAXIMUM CROSS SECTION OF DAM

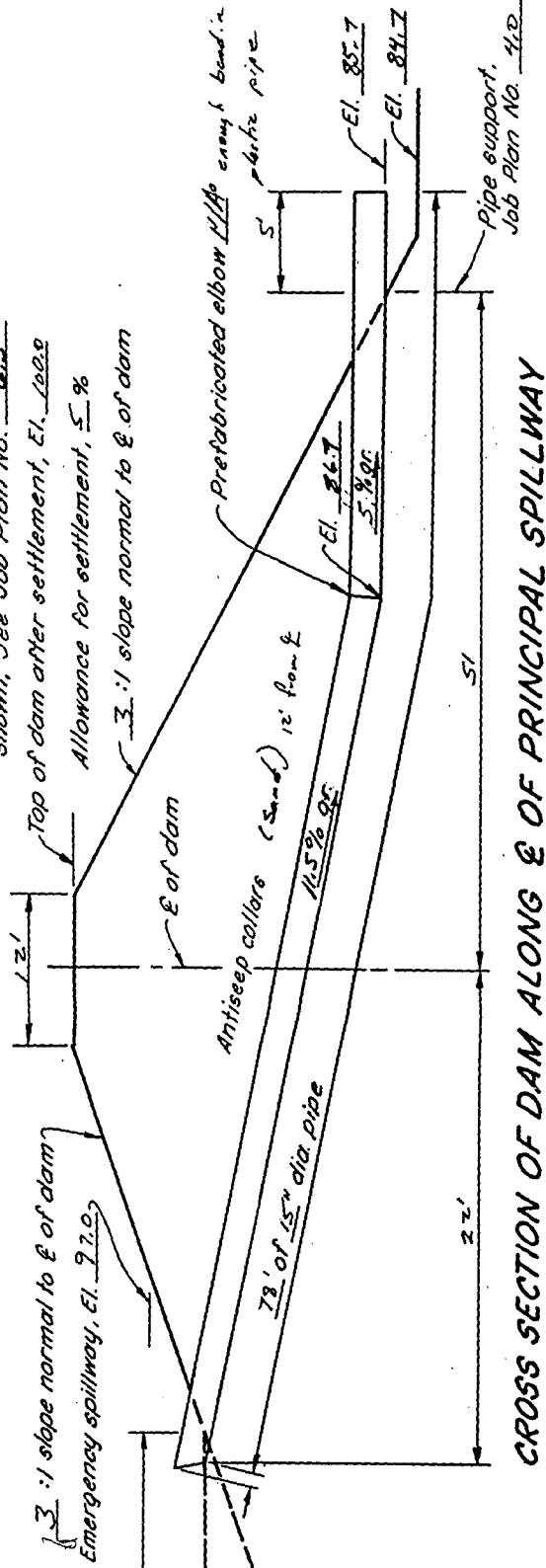
PROFILE ALONG E OF EMERGENCY SPILLWAY

SEDIMENT YIELD

ERODIBILITY AREA ACRES	GROSS RATE A.F./AC./YR.	DRAINAGE AREA ACRES	DELIVERY RATE %	DESIGN PERIOD YEARS	REQ'D. SEDIMENT VOLUME AC.FT.
0	.0044	645	20	15	8.5

Trash rack and baffle plate not shown. See Job Plan No. 6.3
of dam after settlement, El. 1000
Allowance for settlement, 5 %
3 : 1 slope normal to E. of dam

Principal spillway, El. 94.7
Berm, if required
: 1 slope normal
to E of dam



CROSS SECTION OF DAM ALONG E OF PRINCIPAL SPILLWAY

SPECIFICATION NOTES

1. PIPE SHALL BE ZINC COATED CORRUGATED IRON OR STEEL PIPE CONFORMING TO FEDERAL SPECIFICATION WW-P-405, AND SHALL HAVE ANNULAR OR HELICAL CORRUGATIONS, A FULL CIRCULAR CROSS SECTION.
2. RIVETED OR SPOT WELDED PIPE SHALL HAVE CAULKED SEAMS. ALL TYPES OF PIPE MUST HAVE WATERTIGHT CONNECTING BANDS.
3. PIPE WALL THICKNESS SHALL BE _____".

TABLE OF QUANTITIES

[illegible]

APPLICABLE STANDARD S.C.S. SPECIFICATIONS

Sec. 21 T. 107, R. 77
~~Green~~ Green County
LOCATION

HOODED INLET
PRINCIPAL SPILLWAY

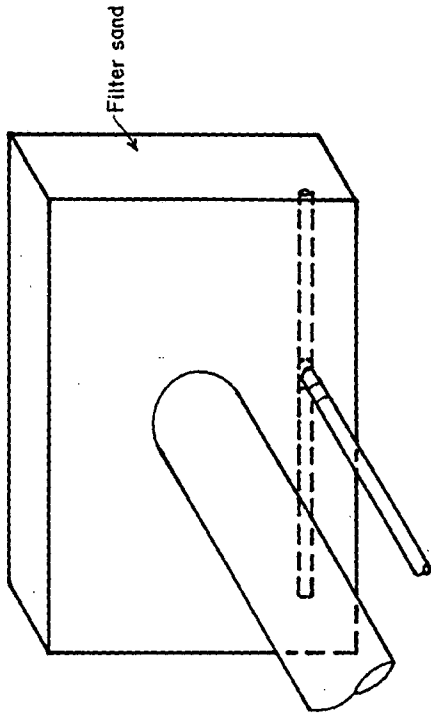
OPERATOR: Edley Farms Inc.
CONSERVATION DISTRICT: American Creek

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

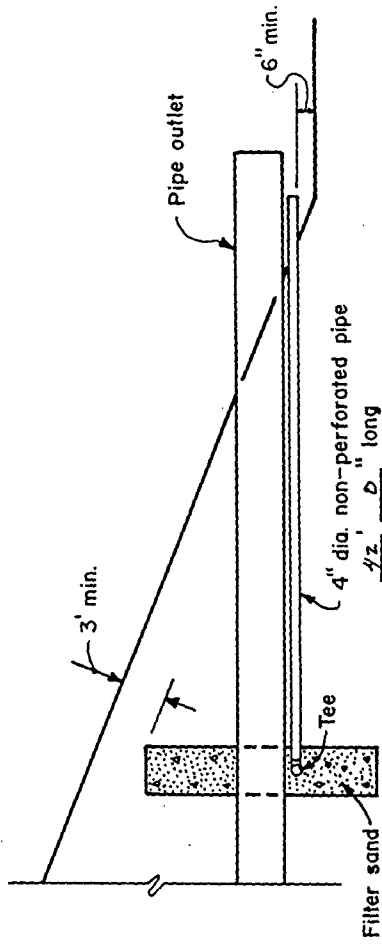
[illegible]

REFERENCE: GUIDE PLAN NO. 2.1

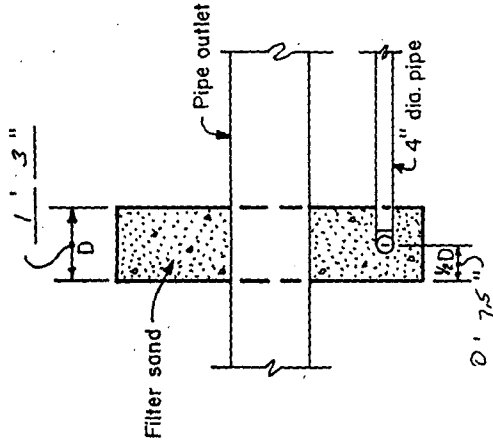
JOB PLAN NO. 2.1



ISOMETRIC VIEW

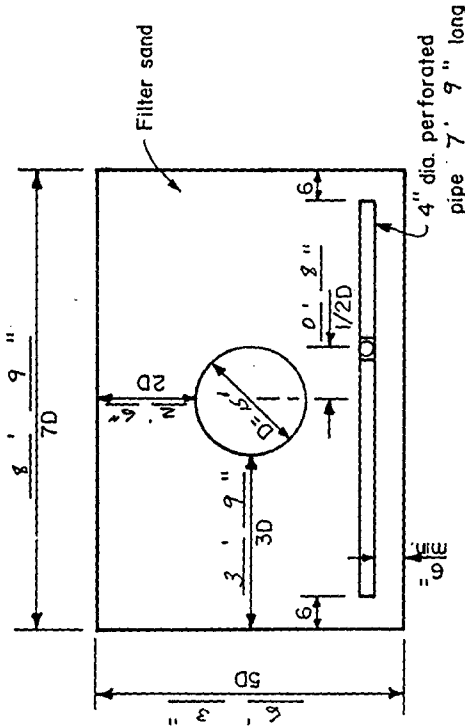


OUTLET DETAIL



SIDE VIEW

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



UPSTREAM VIEW

Sec. 21, T. 107, R. 77
 Location Lyman County

SAND ANTISEEP COLLAR

OPERATOR	<u>Elmer Farnsworth</u>
CONSERVATION DISTRICT	<u>American Creek</u>
U. S. DEPARTMENT OF AGRICULTURE	
SOIL CONSERVATION SERVICE	
Designed by	
Drawn by	
Traced by	
Checked by	
Date	
Sheet No.	
Drawing No.	

- 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 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).



TABLE OF QUANTITIES

ITEM	LENGTH FOR 75" DIA. C.M. PIPE	UNIT	QUANTITY
PRESSURE TREATED POLE 8" DIA.	8.0'	EACH	2
2" X 12" PRESSURE TREATED LUMBER	4.0'	EACH	2
2" X 6" PRESSURE TREATED LUMBER	4.0'	EACH	2
2" X 12" PRESSURE TREATED LUMBER	2.0'	EACH	2
2" X 6" PRESSURE TREATED LUMBER	2.0'	EACH	2
1/2" DIA. MACHINE BOLTS WITH NUTS	8.4'	EACH	6
1/2" DIA. WASHERS		EACH	2

REFERENCE: GUIDE PLAN NO. 4.0

JOB PLAN NO. 4.0

5, N-29, 073.4a

TIMBER PIPE SUPPORT

OPERATOR: Ehlers Farms Inc.

CONSERVATION DISTRICT: San Diego County

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

	Date
Designed	
Drawn	
Traced	
Checked	

NOTES:-

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

RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

413307

Pierre, July 14, 19 92

RECEIVED OF A. LaVerne Ehlers, Ehlers Farms Inc, Box 375, Presho, SD 57568

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

Fee for Application for Permit No. <u>5692-3</u> to Appropriate Water, to construct works 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 Certified Copy of		
Fee for Print Copy of Map		
Fee for Certifying		
Fee for		
(Any Other Work Provided by Law)		
Total	150	00

By

Chief Engineer

John H. Hodel



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

July 14, 1992

LaVerne Ehlers
Box 375
Presho SD 57568

Dear Mr. Ehlers:

After review of your application which we received on July 14, 1992, 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 Section 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 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 above, further processing of your application will continue. If you have any questions, regarding the risk assessment, please contact Gale Selken, of this office.

Sincerely,

Karen Schlaak

Karen Schlaak
Natural Resources Analyst
605 773-3352

enclosure

United States
Department of
Agriculture

Soil
Conservation
Service

P.O. Box 156
Kennebec, SD 57544
(605) 869-2238

July 22, 1992

Department of Environment
and Natural Resources
Joe Foss Building
523 East Capital
Pierre SD 57501-3181



Dear Sir,

Regarding LaVerne Ehlers request for a water permit for a proposed embankment pond in the SW 1/4 of the NE 1/4 of Section 21 Township 107 N. Range 77 W.

Mr. Ehlers has contacted us about a risk assessment. his pond will have an overall height of 15.5 feet and an effective depth of 9.2 feet, surface area will be 7.1 acres and storage will be 32.7 acre feet. The drainage area is 645 acres.

Because there are no farmsteads or structures downstream which would be damaged as a result of failure of this structure we have classified this dam as a Class (a) -- Dams in rural or agriculture areas where failure may damage farm buildings, agriculture land, or township and country roads.

Sincerely,

Tim Clippinger
District Conservationist

cc: LaVerne Ehlers



United States Soil P.O. Box 156
Department of Conservation Kennebec, SD 57544
Agriculture Service (605) 869-2238

August 19, 1992

Div. of Water Rights
Dept. of Environment
and Natural Resources
Joe Foss Building
523 East Capital
Pierre SD 57501-3181

Dear Sir,

Here are the storage capacities you requested for Laverne Ehlers' pond.

Top of dam: 55.2 ac. ft.
Emergency spillway: 42.0 ac. ft.
Principle Spillway: 32.7 ac. ft.

Sincerely,

Lee Ozanne
Soil Conservation Technician



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**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

August 31, 1992

Lee Ozanne, SCT
Soil Conservation Service
P.O. Box 156
Kennebec, SD 57544

Dear Mr. Ozanne:

We have reviewed the plans and specifications for the LaVerne Ehlers Dam. The plans and specifications as submitted are acceptable; however, they will not be officially approved until Water Permit Application No. 5692-3 is approved.

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

The Ehlers Dam will be classified as a small size Category 3 dam with a dam height of 15.5 feet, normal storage capacity of 32.7 acre-feet, and a maximum capacity of 55.4 acre-feet.

If you have any question, please feel free to contact me.

Sincerely,

Gale N. Selken, P.E.]
Natural Resources Engineer IV
for John Hatch, Chief Engineer
Water Rights Division
(605) 773-3352

cc: A. LaVerne Ehlers

Report on Application No. 5692-3
LaVerne Ehlers
August 11, 1992

This application proposes to impound 32.7 acre-feet of runoff water by constructing a dam to be located in the SW1/4 NE1/4 Section 21-T107N-R77W. Water will be impounded in Section 21-T107N-R77W. The water is to be used for wildlife habitat and livestock watering.

Discussion

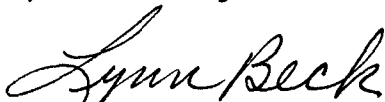
The dam will be 15.5 feet high with a normal storage capacity of 32.7 acre-feet and a maximum storage capacity of 55.4 acre-feet at the top of the dam. This dam is classified as a Category 3, Small size dam. The spillway is required to have a minimum capacity of passing a 25 year frequency event.

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 1.0 square mile (640 acres) and a 25 year frequency will produce a peak runoff of 226 cfs. The dam is designed with a 100 foot wide emergency spillway with a capacity of 1351 cfs, which exceeds the capacity for passing a 25 year frequency event and a primary spillway with a capacity of 17 cfs.

The dam will be located on an unnamed tributary to Cedar Creek, approximately 11 miles north of Presho, South Dakota. There are no water rights on the drainage that would be affected by the dam.

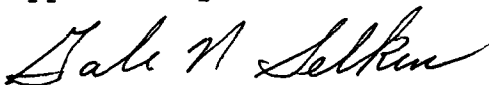
Conclusions

- 1) Water is available from the unnamed drainage.
- 2) Existing water rights will not be impaired.



Lynn Beck
Natural Resource Engineer III

Approved by:



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

RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 5692-3, LaVerne Ehlers

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. 5692-3, LaVerne Ehlers, Box 375, Presho, SD 57568.

The Chief Engineer is recommending APPROVAL of Application No. 5692-3 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. 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. 5692-3 authorizes storage of up to 32.7 acre-feet of water annually.

See report on application for additional information.



JOHN HATCH, Chief Engineer
August 26, 1992

South Dakota

GREAT FACES. GREAT PLACES.

**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.

August 27, 1992

LaVerne Ehlers
Box 375
Presho, SD 57568

Dear Mr. Ehlers:

Water Permit Application No. 5692-3 for wildlife and livestock watering 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 Lyman Co. Herald printed at Presho, SD (Ph # 895-2505). 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

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

GREAT FACES. GREAT PLACES.

August 27, 1992

Lyman Co. Herald
Box 280
Presho, SD 57568

ATTENTION: Legal Department

Enclosed is a Notice of Hearing on Application No. 5692-3 to be published twice. Please publish the first notice on September 2, 1992, with the second publication 7 days later.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you make the first publication. Please BILL the APPLICANT for the cost of publication. The APPLICANT is LaVerne Ehlers, Box 375, Presho, SD 57568 (Ph # 895-2283).

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

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

Sincerely,

Eric Gronlund

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

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

FIRST TRANSMITTAL NOTICE

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

No. _____

Date _____

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

Name

Newspaper

Instruction to Newspaper - Publish first Notice on September 2, 1992, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 5692-3 to Appropriate Water

Notice is given that LaVerne Ehlers, Box 375, Presho, SD 57568 has filed an application for a water permit to impound 32.7 acre-feet of runoff water by constructing a dam to be located in the SW 1/4 NE 1/4 Section 21-T107N-R77W. Water will be impounded in the SW 1/4 NE 1/4 Section 21-T107N-R77W. The water is to be used for wildlife habitat and livestock watering.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 5692-3 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. Unless a petition is filed opposing the application or the applicant files a petition contesting the chief engineer's recommendation, the Water Management Board will NOT CONDUCT a HEARING to consider this application and the chief engineer will issue the permit as recommended. Petitions filed in support of the application will NOT require the Board to hear the application.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Division, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by September 21, 1992. The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

If a petition is filed opposing the application or the applicant files a petition contesting the chief engineer's recommendation, the Board will consider this application at 10:00 am, September 30, 1992, Floyd Matthew Training Center, Joe Foss Building, 523 East Capitol, Pierre, SD. If a hearing is held, the Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing. The September 30, 1992, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by September 21, 1992.

Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by September 21, 1992, at the above Water Rights Division address to request copies of information pertaining to this application, to assure access to the hearing by the handicapped or to obtain an interpreter for the hearing impaired.

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

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
 County Lynman) ss.

I, Robert Cameron
 certify that the attached printed Notice was taken
 from the Lynman County Herald

A newspaper which during the whole time of publication of
 said notice herein after stated, has been and is printed and
 published in the Presho

County of Lynman and State of South Dakota;
 that the said notice was published in said newspaper on the
 following two dates:

September 2, 1992
September 9, 1992

(Signature)
Publisher - editor
 (Title)
Sept 10, 1992
 (Date Signed)

Cost of Printing: \$21.28

the above Water Rights Division address to
 request copies of information pertaining to
 this application, to assure access to the hear-
 ing by the handicapped or to obtain an
 interpreter for the hearing impaired.

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

9/2-9

NOTICE OF HEARING
 on Application No. 5692-3
 to Appropriate Water

Notice is hereby given that LaVerne
 Ehlers, Box 375, Presho, SD 57568 has
 filed an application for a water permit to
 impound 32.7 acre-feet of runoff water by
 constructing a dam to be located in the SW
 1/4 NE 1/4 Section 21-T107N-R77W.
 Water will be impounded in the SW 1/4 NE
 1/4 Section 21-T107N-R77W. The water
 is to be used for wildlife habitat and live-
 stock watering.

Pursuant to SDCL 46-2A-2, the Chief
 Engineer recommends APPROVAL of Ap-
 plication No. 5692-3 because 1) unappro-
 priated water is available, 2) existing rights
 will not be unlawfully impaired, 3) it is a
 beneficial use of water, and 4) it is in the
 public interest. Unless a petition is filed
 opposing the application or the applicant
 files a petition contesting the chief
 engineer's recommendation, the Water
 Management Board will NOT CONDUCT
 a HEARING to consider this application
 and the chief engineer will issue the permit
 as recommended. Petitions filed in support
 of the application will NOT require the
 Board to hear the application.

Any person interested in opposing or
 supporting this application must file a writ-
 ten petition with BOTH the applicant and
 Chief Engineer. The applicant must also
 file a petition if opposed to the Chief
 Engineer's recommendation. The Chief
 Engineer's address is "Water Rights Divi-
 sion, 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 per-
 son or the applicant must be filed by Sep-
 tember 21, 1992. The petition may be
 informal, but must include a statement de-
 scribing the petitioner's interest in the ap-
 plication, 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.

If a petition is filed opposing the appli-
 cation or the applicant files a petition con-
 testing the chief engineer's
 recommendation, the Board will consider
 this application at 10:00 am, September 30,
 1992, Floyd Matthew Training Center, Joe
 Foss Building, 523 East Capitol, Pierre, SD.
 If a hearing is held, the Chief Engineer's
 recommendation is not final or binding
 upon the board. The Board is authorized to
 1) approve, 2) approve with qualifications,
 3) defer, or 4) deny this application based
 on the facts presented at the public hearing.
 The September 30, 1992, hearing date will
 be automatically delayed for at least 20 days
 upon written request to the Chief Engineer
 from the applicant or any interested person
 opposing the application. The request for
 an automatic delay must be filed by Sep-
 tember 21, 1992.

Any hearing will be an adversary pro-
 ceeding. Any person filing a petition and/or
 the applicant have the right to be repre-
 sented by a lawyer and may present evi-
 dence or cross-examine witnesses
 according to sDCL 1-26. These and other
 due process rights will be forfeited if not
 exercised. Decisions of the Board may be
 appealed to the Circuit Court and State Su-
 preme Court as provided by law. Contact
 Eric Gronlund by September 21, 1992, at



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

NOV 17 1992

LaVerne Ehlers
Box 375
Presho, SD 57568

Dear Mr. Ehlers:

Enclosed is Water Permit No. 5692-3 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**

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

May 23, 2005

5692-3

LaVerne Ehlers
PO Box 375
Presho SD 57568

Dear Mr. Ehlers:

On May 18, 2005, the investigation of your water use system, including the extent of application of water to beneficial use, as developed under Water Permit No. 5692-3, was completed by Mark Rath, 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 me.

Sincerely,

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

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date May 27, 20 05

RECEIVED OF Ehlers Farms Inc., Box 375, Presho SD 57568

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	50.00	
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>5692-3</u>		
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	50.00

No.

001874

By

David E. Elsh

Chief Engineer

gm

Permit No. 5692-3
Missouri River - Water District

Contact Person & Address: **LaVerne Ehlers Box 375, Presho SD 57568**

Report Of Examination Of Works

On, **May 18, 2005**, I made a thorough examination of the water use system constructed by **LaVerne Ehlers** of **Presho, SD** holder of Permit No. **5692-3**, bearing the priority of **July 14, 1992** authorizing the storage of **32.7** acre-feet of the waters of **surface water** for **wildlife and livestock** purposes, in **Lyman** County.

The system is in the following condition **good**. The point of diversion is located **from the NE corner of Section 21 T107N-R77W; 2580 ft W and 1400 ft S** with a longitude of **-100.075798** and a latitude of **44.06057** as determined using **GPS**. The works are capable of diverting and storing **32.7 ac-ft** of water which is to be used for **wildlife and livestock water**. Water has been put to beneficial and the license should be issued for storing **32.7 ac-ft** of water.

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) Exceptions to compliance are: **none**

Report On the Specifics of the System

DAM INFORMATION:

- | | |
|---|--|
| 1) Height to crest <u>16</u> feet | 2) Height to primary spillway <u>9</u> feet |
| 3) Height to secondary spillway <u>11</u> ft | 4) Crest width <u>12</u> feet |
| 5) Crest length <u>550</u> feet | 6) Spillway length <u>250</u> feet |
| 7) Spillway width <u>100</u> feet | 8) Approx. storage <u>32.7</u> ac-ft |
| 9) Date constructed: <u>1993</u> | |
| 11) Outlet tubes: | |
| a) diameter <u>15</u> inches | b) type <u>corrugated poly-pipe</u> |
| c) valved <u>yes</u> | d) valve type <u>flap gate</u> |
| e) location on structure <u>center</u> | |
| 12) Category of Dam <u>3</u> | |

Comments : none



Mark D. Rath
Natural Resources Engineering Specialist
DENR, Water Rights Program

5-23-05
Date

17

16

15

1400 feet

2580 feet

20

21

22

[Signature]

5-19-2005

T107N-R77W

Mark D. Rath
Natural Resources Engineering Specialist
SD DENR

29

28

27

5692-3

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 5692-3

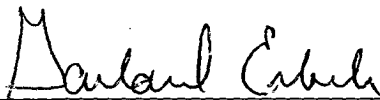
(1) LaVerne Ehlers, Box 375, Presho SD 57568 made Application No. 5692-3, July 14, 1992 for a water permit to impound 32.7 acre feet of water from runoff, Lyman County, South Dakota for fish and wildlife propagation and livestock watering purposes. Permit No. 5692-3, with a priority date of July 14, 1992 was approved September 30, 1992 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before September 30, 1997 and for the application to beneficial use of water on or before September 30, 2001.

(2) The water supply system has been completed and water applied to beneficial use in accordance with South Dakota State Law. Pursuant to South Dakota Codified Law 46-5-30.1, the holder and/or owner of Water Right No. 5692-3 is issued a license, bearing a priority date of July 14, 1992, to impound 32.7 acre feet of water for fish and wildlife propagation and livestock watering purposes.

The location of the storage dam (spillway) is 2,580 feet west and 1,400 feet south of the northeast corner of Section 21-T107N-R77W (SW ¼ NE ¼).

(3) This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Permit No. 5692-3, including the following now applicable qualifications:

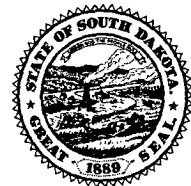
- Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.
- Approval of Water Permit No. 5692-3 authorizes storage of up to 32.7 acre-feet of water annually.



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

JUL 11 2005

date





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

JUL 11 2005

5692-3

LaVerne Ehlers
Box 375
Presho SD 57568

Dear Mr. Ehlers:

Enclosed is Water License No. 5692-3. This is the final water right document completing your process of obtaining a Water Right. Enclosed is Receipt No. 001874 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