

WATER PERMIT NO. 6207-3

Name of Applicant: R. Mark Garber

Address: 20338 300 Ave, Pierre SD 57501

Phone: 605 224-8044

Amount of Water Claimed: 85 AF

Total Acres: NA

Source of Water Supply: runoff

Water to be used for: fish & wildlife propagation, recreation, livestock

County: Hughes

Type of Waste Disposal System:

Location: about 15 miles east of Pierre

PRIORITY Date Received: 5-24-2000

Fee: \$\$150

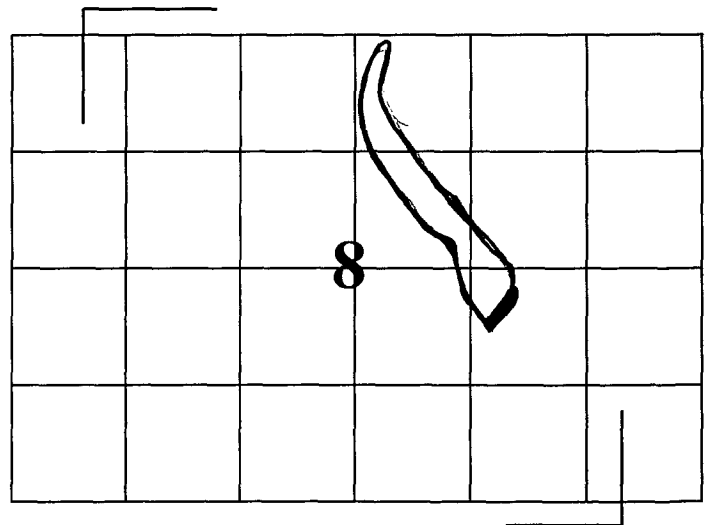
Corrected Application Received:

Period of Annual Use: January 1 – December 31

Remarks:

Diversion Point: NE ¼ SE ¼ Sec 8-T110N-R76W

Water Impounded: N ½ SE ¼, S ½ NE ¼, NW ¼
NE ¼ Sec 8-T110N-R76W



Depth of Well: NA

Well Driller:

Remarks:

Type of Map: plat

Prepared by: Dave Konechne, SCS

Reviewed and the Number Assigned on: 5-24-2000

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

SOUTH DAKOTA
WATER PERMIT NO. 6207-3

Date of first receipt of application May 24, 2000.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 6207-3 to R. Mark Garber, 20338 300th Ave, Pierre SD 57501 authorizing the construction of the dam and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 6207-3 authorizes impoundment 85 acre-feet of water from runoff by constructing a dam located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 8 with water impounded in the N $\frac{1}{2}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 8; all in T110N-R76W.
2. The water appropriated shall be used for the purpose of supplying water for fish & wildlife propagation, recreation and livestock watering purposes and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 6207-3 is July 31, 2000.
5. The date from which applicant may claim right is May 24, 2000.
6. One-fifth of the construction is to be completed on or before January 31, 2003.
7. All construction is to be completed on or before July 31, 2005.
8. Water is to be put to beneficial use on or before July 31, 2009.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. Water Permit No. 6207-3 authorizes a dam with a storage capacity of 85 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

WATER MANAGEMENT BOARD

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

AUG 25 2000

date



FORM 2: Application for uses other than irrigation

(type or print)

Mail to:

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

No. 6207-3 Hydrologic Unit 10140103Basin Missouri RiverNewspaper Capital Journal

(office use only)



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

Check use of water:

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

Type of Application:

(check one)

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

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

- Name of Applicant R. Mark Garber Phone 224-8044
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 20338 300 Av. Blunt SD State SD 57522
(Street, RR, or Box) (City) (Zip Code)
- Amount of water claimed _____ *CFS or _____ **GPM 85 ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply runoff
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) _____
NE1/4 SE1/4 Sec. 8 T110N. R76W. Water Impounded: N1/2 SE1/4
S1/2 NE1/4, NW1/4 NE1/4 Sec 8-T110N-R76W County Hughes
- County or counties where water will be used Hughes
- Annual period during which water is to be used Year round Jan 1- Dec 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)
A pond will be constructed as designed by NRES to provide livestock water

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

STATE OF SOUTH DAKOTA)

County of Hughes)^{SS}

I, R. Mark Garber, the applicant, certify that I have read this application, have examined the attached map and that the matter's stated are true and that I intend, and am able to complete the necessary construction.

Signed R. Mark GarberSubscribed and sworn to before me this 24th day of May 2000Patty R. Bucknermy commission expires 09/06/2004 Notary Public

Supplemental Information

(type or print in ink)



1. Well Information - Proposed Construction

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

2. Wastewater Disposal System Information

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

3. Dugout Information

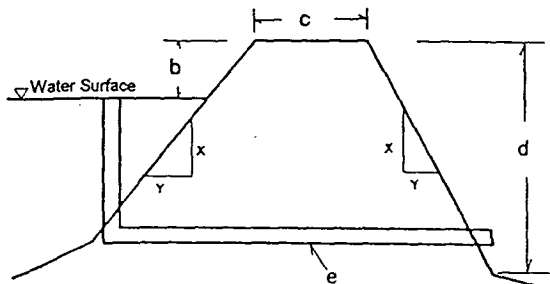
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

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

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

NRCS 316 So. Coteau
Pierre, So. Dak.



- b) Freeboard 3.0
- c) Crest Width 12.0
Crest Length 425.0
- d) Height 32.0
- e) Primary Outlet Capacity _____
If pipe, diameter 18"
- f) Secondary Spillway Capacity 309 cfs
Spillway Width 58'
- g) X & Y Slope
Upstream 3:1
Downstream 3:1
- h) Surface Area of Impoundment 10 Ac.
- i) Storage 85.0 Acre Feet
- j) Drainage Area Above Dam 635 Acres

Water Permit Application # 6207-3

Mark Garbar

Top of Dam Elev. - 100
 2nd Spillway Elev. - 97
 P. Spillway Elev. - 95
 D/S Toe Elev. - 68

Cat. 3 - Low Hazard Dam

Ht. = 32 ft.

Normal Storage Capacity = 85
 Int. Storage Capacity = 105
 Max. Storage Capacity = 135

Int. Capacity x Eff. Ht = $105 \times 28 = 2940 < 3000 \therefore 25$ year
Min. Spillway Design

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

DA = 635 Ac. 1 mi²

Slope = 60 ft/mi

SI = 3.16

$$Q_{25} = 83.4 A^{.6} S^{.46} S^{-.72}$$

$$= 83.4 (1)^{.6} (60)^{.46} (3.16)^{-.72}$$

$$= 83.4 (1) (6.06) (.4367)$$

$$= \underline{225 \text{ cfs}}$$

$$Q_{100} = 132 A^{.65} S^{.46} S^{-.67}$$

$$= 132 (1)^{.65} (60)^{.46} (3.16)^{-.67}$$

$$= 132 (1) (6.58) (.4626)$$

$$= \underline{402 \text{ cfs}}$$

2nd Spillway Flow

$$Q = CLH^{3/2} \quad C = 2.6 \quad L = 58 \quad H = 3$$

$$= 2.6 (58) (3)^{1.5}$$

$$= \underline{785 \text{ cfs}}$$

Section 74:02:08:09

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

NRCS Annual Yield

DA = 635 Ac ISO = 2 CN = 79

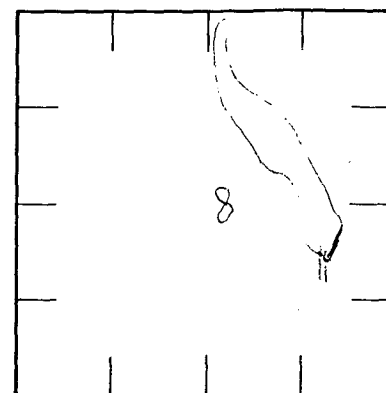
80% chance = 0.23
 $0.23 \times 635/12 = \underline{12 \text{ Ac-Ft}}$

50% chance = 0.56
 $0.56 \times 635/12 = \underline{30 \text{ Ac-Ft}}$

10% chance = 2.4
 $2.4 \times 635/12 = \underline{127 \text{ Ac-Ft}}$

STRUCTURE DATA

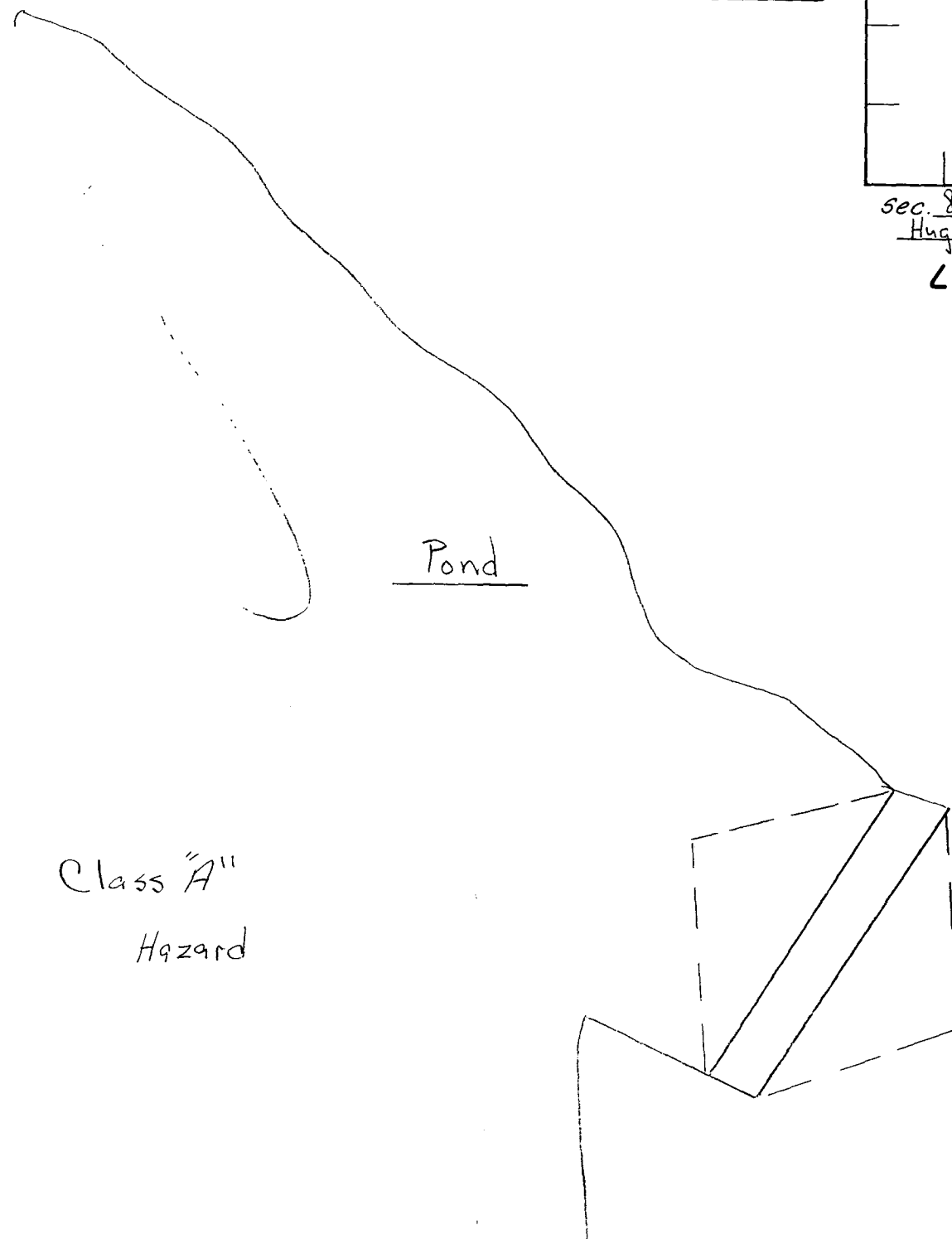
DRAINAGE AREA	ANNUAL YIELD	PEAK RUNOFF	EMERG. SPLWY. CAPACITY	WATER DEPTH	SURFACE AREA	SEDIMENT STORAGE	TOTAL STORAGE
ACRES	AC. FT.	25-YR.	C.F.S.	FEET	ACRES	AC. FT.	AC. FT.
635	21.7	309	5.3	17	10		85.0



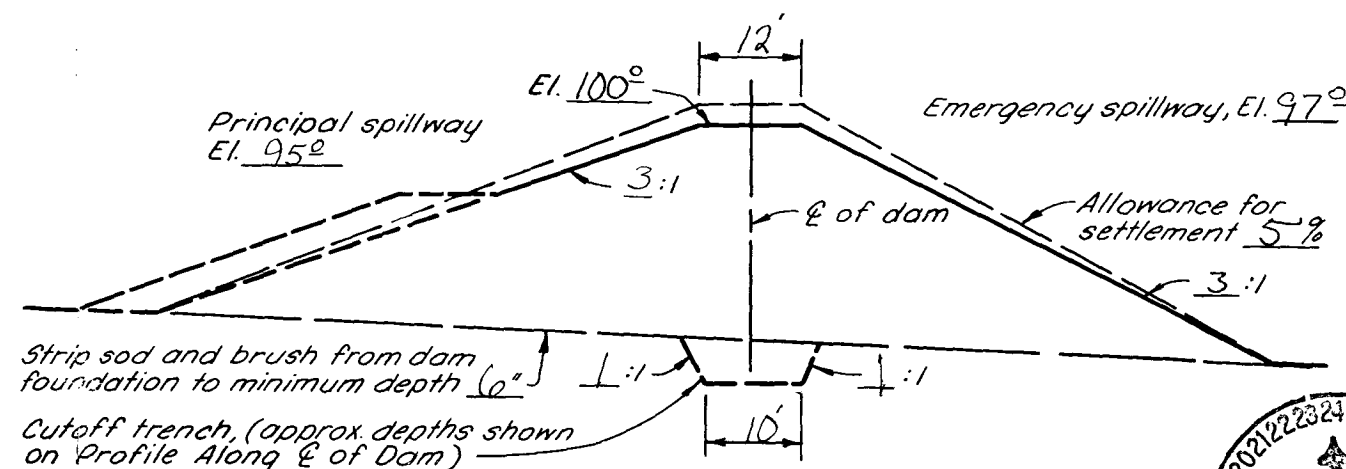
sec. 8 T. 110N. R. 76W.
Hughes County
LOCATION

TABLE OF QUANTITIES

ITEM	UNIT	QUANTITY
Pond	Cu. yds	13,593
Settlement 5%	Cu. yds	680
Stripping	Cu. yds	700
Core Trench	Cu. yds	502
Total	Cu. yds	15,475
30" Dia x 48" Concrete Riser	Ea.	1
18" Dualwalled Plastic PE pipe	Ft.	140
Concrete (see Concrete Riser Job Plan)	Cu. yds	2
Sand Seep Collar (see Plan 3.8)	Cu. yds	6
18" - 1 1/4" elbow	ea	1



Class "A"
Hazard



TYPICAL CROSS SECTION OF DAM

S.D. CONSTRUCTION AND MATERIAL SPECIFICATIONS:

- SD-4 Stripping
- SD-7s Earth Fill Class-5
- SD-12B Concrete for Minor Structures
- SD-16 Timber Fabrication + Install.
- SD-55 Plastic Pipe
- SD-5 Excavation

EARTH DAM

OPERATOR: Mark Garber
CONSERVATION DISTRICT: Hughes Co.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed <u>K. Paulsen</u>	Date <u>5-22</u>	Approved <u>Mark Garber</u>
Drawn <u>K. Paulsen</u>	Sheet <u>5-00</u>	Title <u>Earth Dam</u>
Traced	Sheet	Drawing No.
Checked	No	of

SKETCH PLAN OF DAM AND RESERVOIR AREA

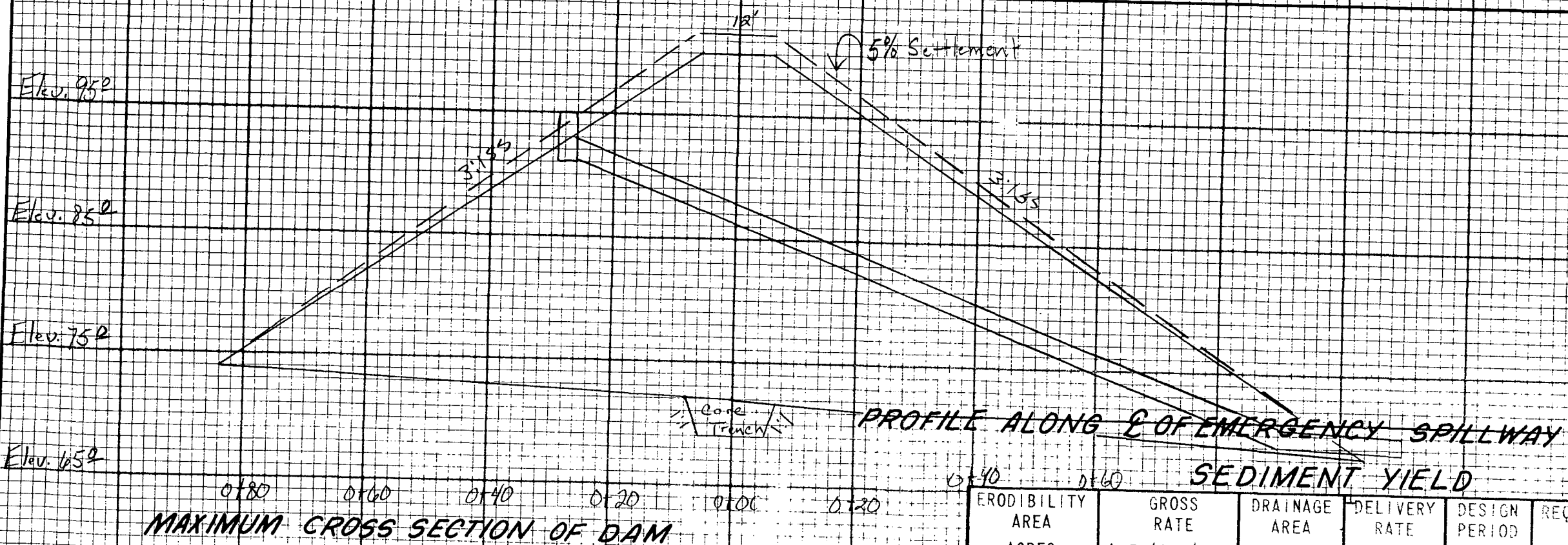
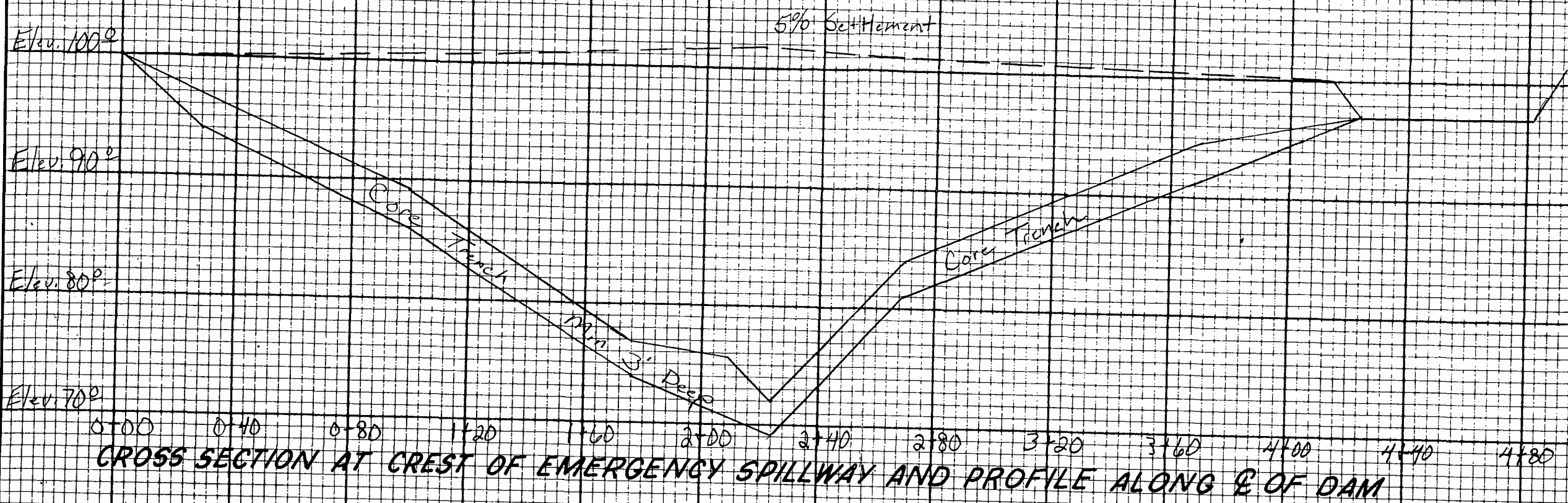
Approximate scale 1" = N/A

REFERENCE: GUIDE PLAN NO. 1.0

JOB PLAN NO. 1.0

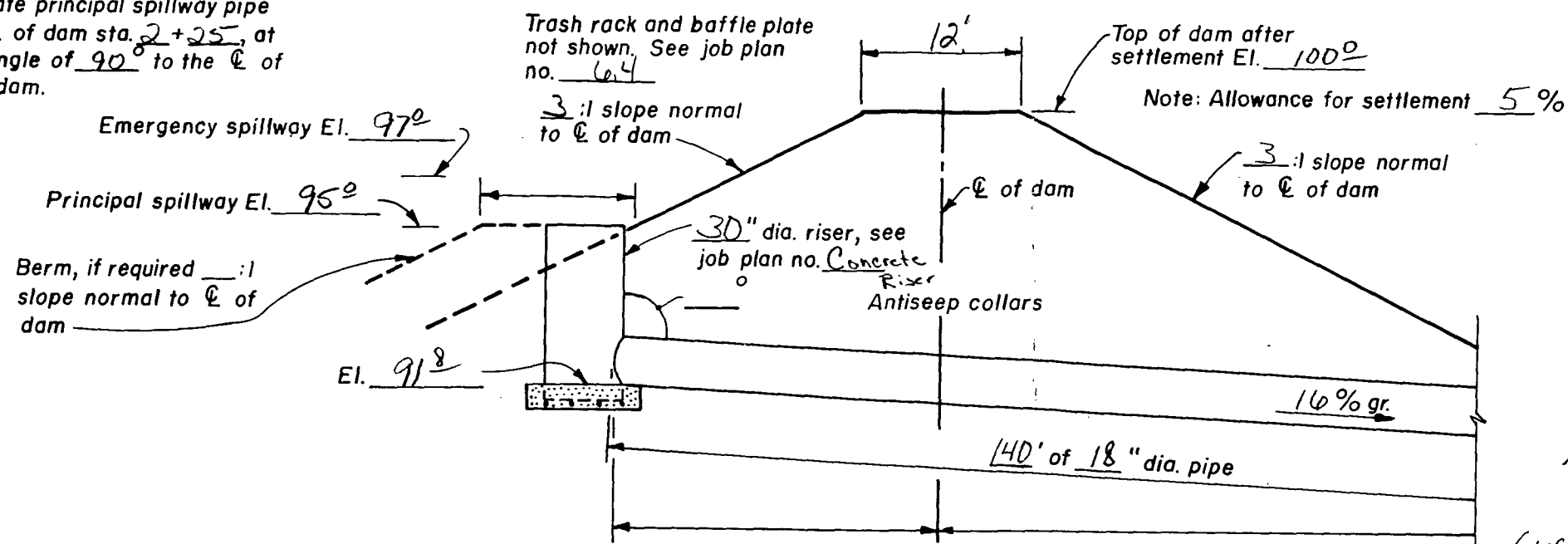
6207-3

(Rev. 4-73) 5, N-29, 073.1a(1)



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

Locate principal spillway pipe
at $\mathbb{C}$ of dam sta. 2+25, at
an angle of 90° to the $\mathbb{C}$ of
the dam.



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

SPECIFICATION NOTES

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

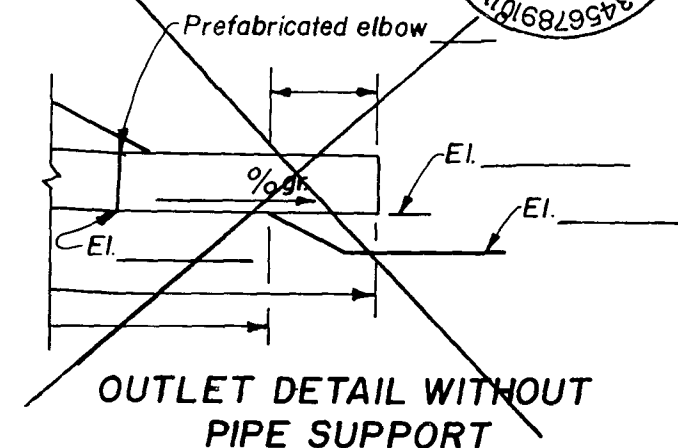
TABLE OF QUANTITIES

[illegible]

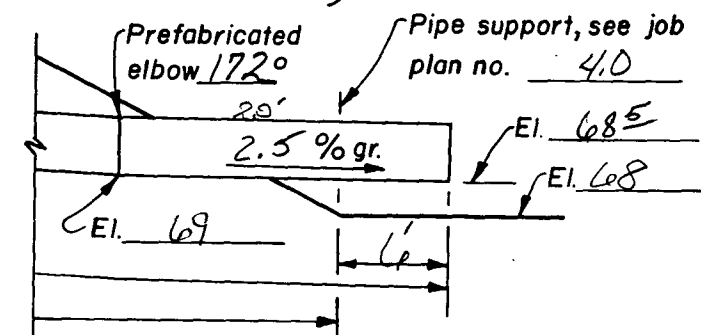
APPLICABLE STANDARD S.C.S. SPECIFICATIONS

REFERENCE: GUIDE PLAN NO. 2.0

Rev. 8/80
JOB PLAN NO. 2.0



(use $11\frac{1}{4}^\circ$ elbow)



OUTLET DETAIL WITH PIPE SUPPORT

Sec. 8, T. 110 N., R. 76 W.
Hughes County

LOCATION

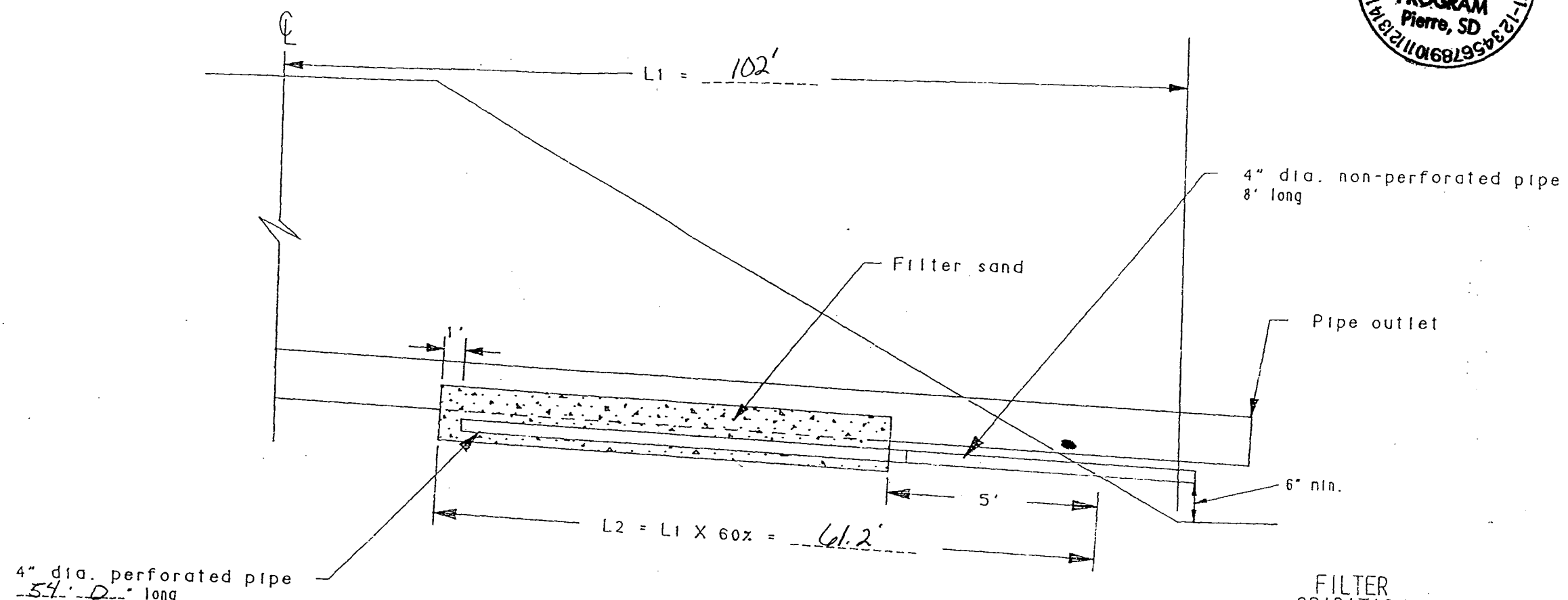
PE
CORRUGATED ~~METAL~~ PIPE
DROP INLET PRINCIPAL SPILLWAY

OPERATOR Mark Garber

CONSERVATION DISTRICT Hughes Co.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Date		Approved by	
Designed	K. Paulsen 5-00	Title	
Drawn	K. Paulsen 5-00	Title	
Traced		Sheet	Drawing No.
Checked		No	

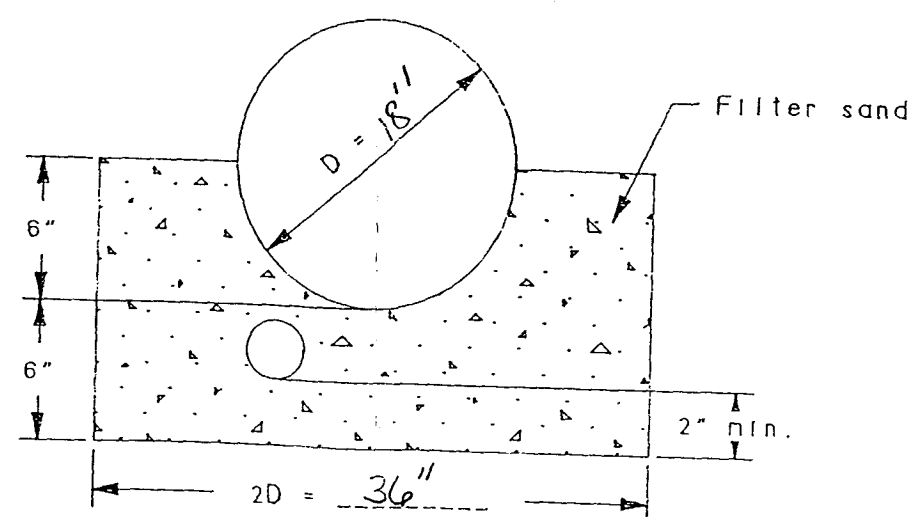


SIDE VIEW

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

6 cu. yds.



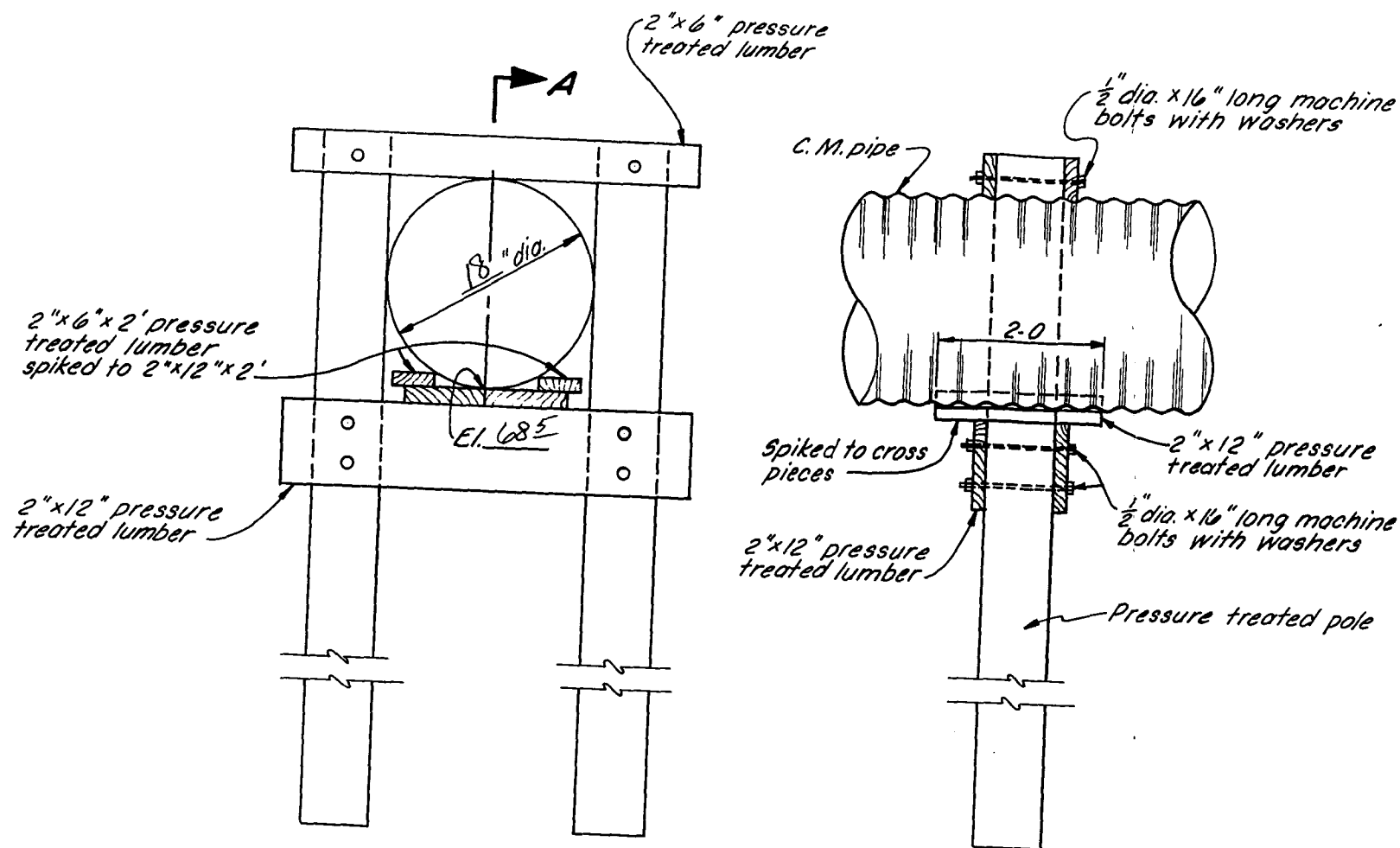
UPSTREAM VIEW

- NOTE:
1. THE 4" DIA. PIPE SHALL BE SDR 35 PVC, OR STRONGER
 2. PROVIDE AN ANIMAL GUARD ON DRAIN OUTLET PIPE. DRILL 2, 1/2" DIA. HOLES, ON ϕ 6" FROM END OF PIPE AND PLACE A 3/8" DIA., 5 1/2" LONG GALVANIZED STEEL BOLT THRU THEM AND SECURE WITH A NUT (PLACE BOLT HORIZONTAL).
 3. FILTER SAND WILL BE CLEAN PEA AGGREGATE OR CONCRETE SAND.

SAND ANTISEEP DRAIN

OPERATOR <u>Mark Garber</u>	
CONSERVATION DISTRICT <u>Hughes Co.</u>	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	
Designed <u>K. Paulson</u> <u>5-00</u>	Date <u>5-00</u>
Drawn <u>K. Paulson</u> <u>5-00</u>	Approved by _____
Traced _____	Title _____
Checked _____	Sheet No. _____
	Dwg. No. _____

Rev. 3/96
JOB PLAN NO. 3.8-P



ELEVATION

SECTIONAL ELEVATION A-A

NOTES:

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

TABLE OF QUANTITIES

ITEM	LENGTH FOR 18" DIA. PE PIPE PIPE	UNIT	QUANTITY
PRESSURE TREATED POLE 8" DIA.	8-0	EACH	2
2" X 12" PRESSURE TREATED LUMBER	4-0	EACH	4
2" X 6" PRESSURE TREATED LUMBER	4-0	EACH	4
2" X 12" PRESSURE TREATED LUMBER	16-0	EACH	1
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

REFERENCE: GUIDE PLAN NO. 4.0

JOB PLAN NO. 4.0

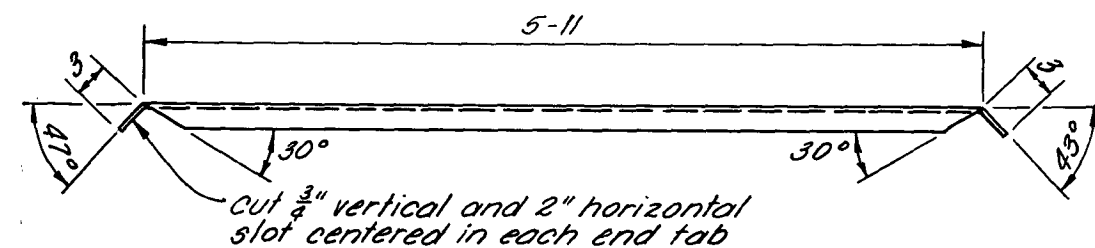
TIMBER PIPE SUPPORT

OPERATOR: Mark Garber

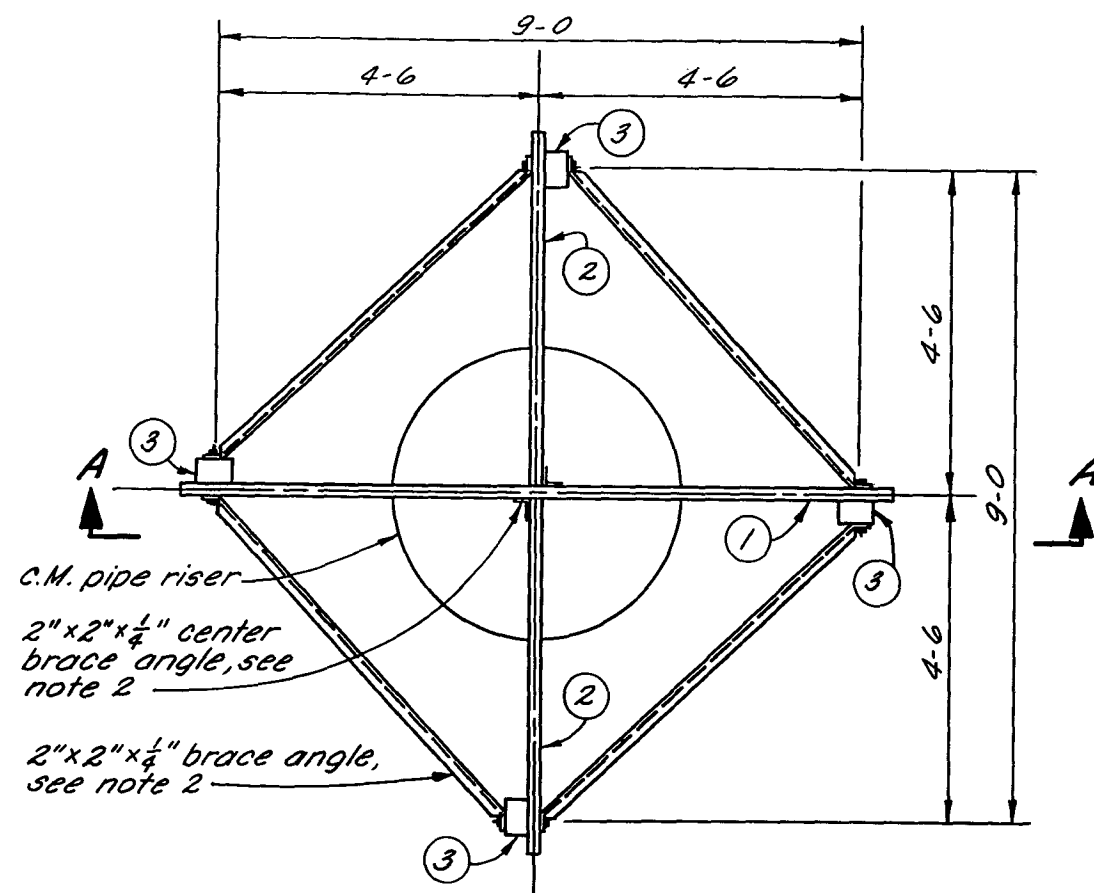
CONSERVATION DISTRICT: Hughes Co.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

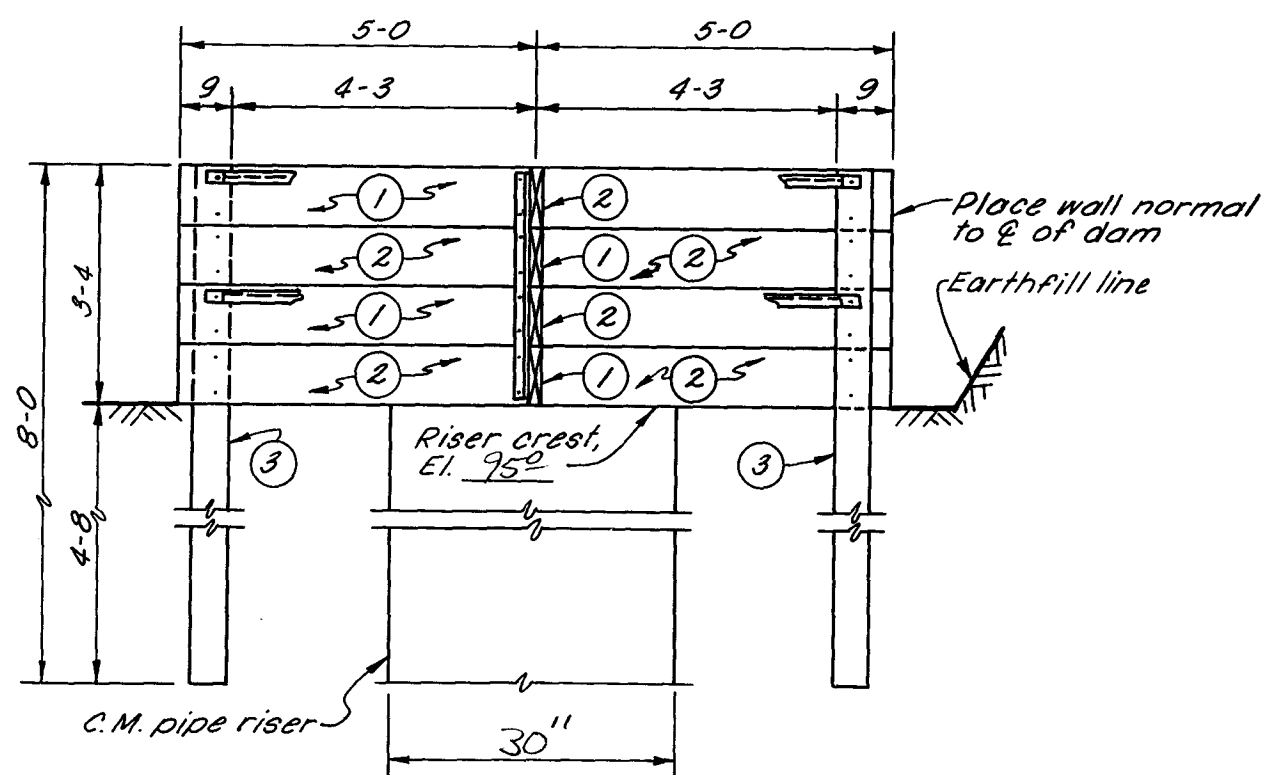
Designed <u>K. Paulsen</u>	Date <u>5-00</u>	Approved by _____
Drawn <u>K. Paulsen</u>	Sheet <u>500</u>	Title _____
Traced _____	No _____	Drawing No. _____
Checked _____	of _____	



PLAN VIEW OF BRACE ANGLE



PLAN VIEW



SECTIONAL ELEVATION A-A

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 $\frac{1}{4}$ " X 6'-5" STEEL ANGLE		8	164 LB.
2" X 2" X $\frac{1}{4}$ " X 3'-2" STEEL ANGLE		2	20 LB.
5/8" X 8" STEEL BOLTS, NUTS, 2 WASHERS		32	32 SETS
1/2" X 3" STEEL BOLTS, NUTS, 2 WASHERS		32	32 SETS

NOTES:

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

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

OPERATOR: Mark Garber

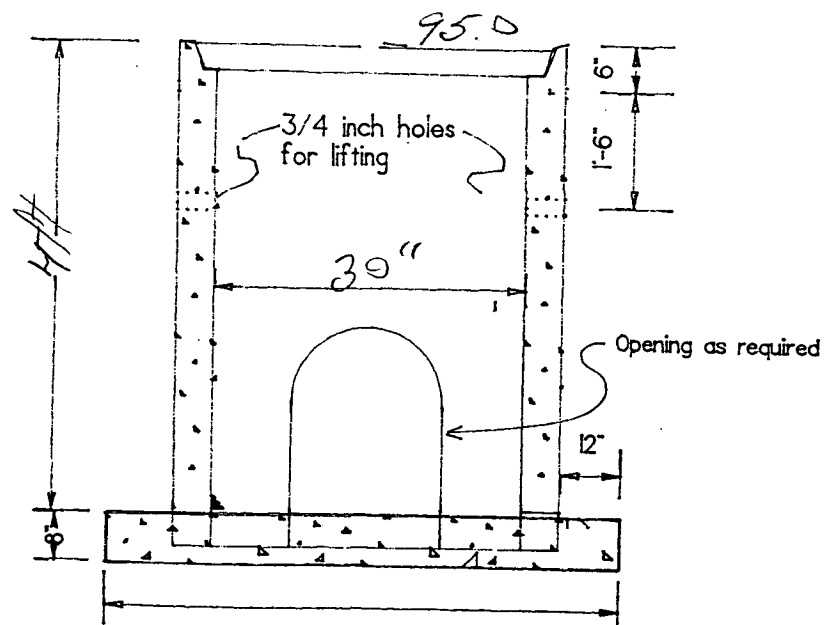
CONSERVATION DISTRICT: Hughes Co.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

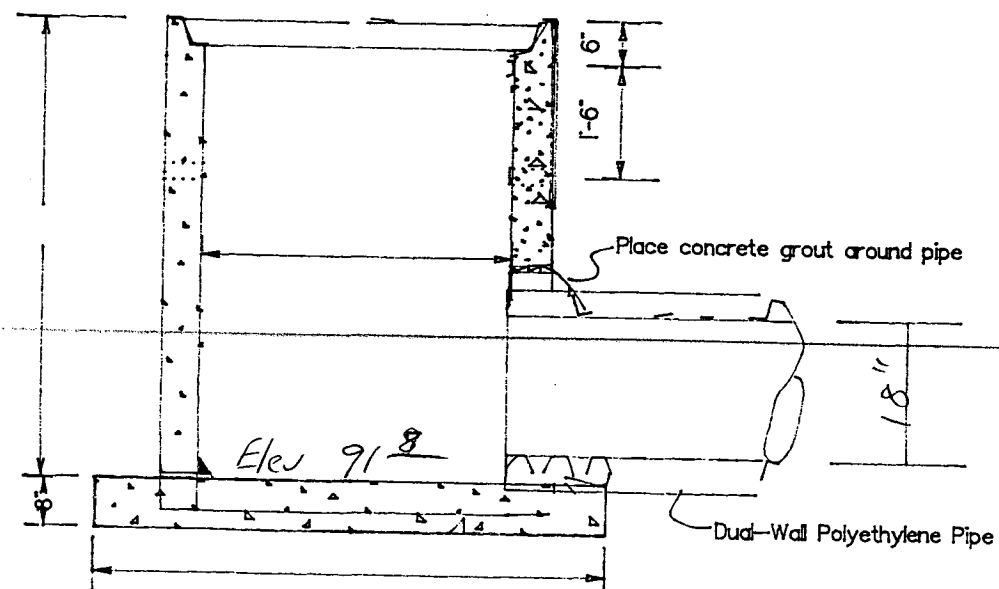
Designed K. Paulsen Date 5-00 Approved by _____
 Drawn K. Paulsen Date 5-00 Title _____
 Traced _____ Title _____
 Checked _____ Sheet _____ Drawing No. _____
 of _____

JOB PLAN NO. 6.4

5, N-29, 073.6-4a



FRONT VIEW



SIDE VIEW

CONSTRUCTION NOTES:

- 1- Reinforced concrete pipe shall meet ASTM C-478.
- 2- Polyethylene pipe shall be equal to ADS N-12 or equal.
- 3- Provide holes in concrete pipe for lifting lugs.

STEEL SCHEDULE

RISER DIA. IN.	BAR SIZE	MARK	TYPE	NO. REQ'D	LENGTH FT.-IN.	TOTAL LENGTH FT.-IN.	TOTAL WT.-LB.	C IN.	L FT.-IN.
30	4	I	STR.	10	4-0	40-0	27	3	4-6

TABLE OF QUANTITIES

ITEM	UNIT	QUANTITY
CONCRETE	CU.YD.	2.0
REINFORCING STEEL	LB.	27

CONCRETE RISER	
Mark Garber	
USDA U.S. Department of Agriculture Natural Resources Conservation Service	
DESIGNED: D. Koppelman	APPROVED BY:
DRAFTED: D. Koppelman	TITLE:
DATE:	DWG NO.
SHEET OF	continued

RECEIPT

Water Rights Program

South Dakota Department of Environment and Natural Resources

N^o 416524

Pierre, _____ May 24, 2 2000

RECEIVED OF Mark Garber, 20338 - 300th Ave., Pierre, SD 57501

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 _____	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. _____	50	00
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for _____		

(Any Other Work Provided by Law)	Total	200 00

By Sarcond Libile
Chief Engineer

Client : Mark Garber
 County : Hughes
 Practice: Pond

State: SD

By: klp
 Checked: _____

Date: _____
 Date: _____

Drainage Area : 635 * Acres
 Curve Number : 79 *
 Watershed Length : 12000 Feet
 Watershed Slope : 1.5 Percent
 Time of Concentration: 3.26 Hours
 Rainfall Type : II

Storm Number	1	2	3	4	5	6	7
Frequency (yrs)	1	2	5	10	25	50	100
24-Hr Rainfall (in)	1.8	2.2	3	3.5	4.1	4.6	5.2
Ia/P Ratio	0.30	0.24	0.18	0.15	0.13	0.12	0.10
Runoff (in)	0.41	0.64	1.19	1.57	2.04	2.46	2.97
Unit Peak Discharge (cfs/acre/in)	0.205	0.216	0.229	0.234	0.238	0.241	0.244
Peak Discharge (cfs)	53	88	173	232	309	377	461

* - Value(s) provided by CN subroutine (F9)

$$\frac{2 \text{ yr storm } 635 \times .64}{12} = 33.8 \text{ Ac. Ft.}$$

$$309 - 5.3 = 58 \text{ Foot spillway bottom.}$$

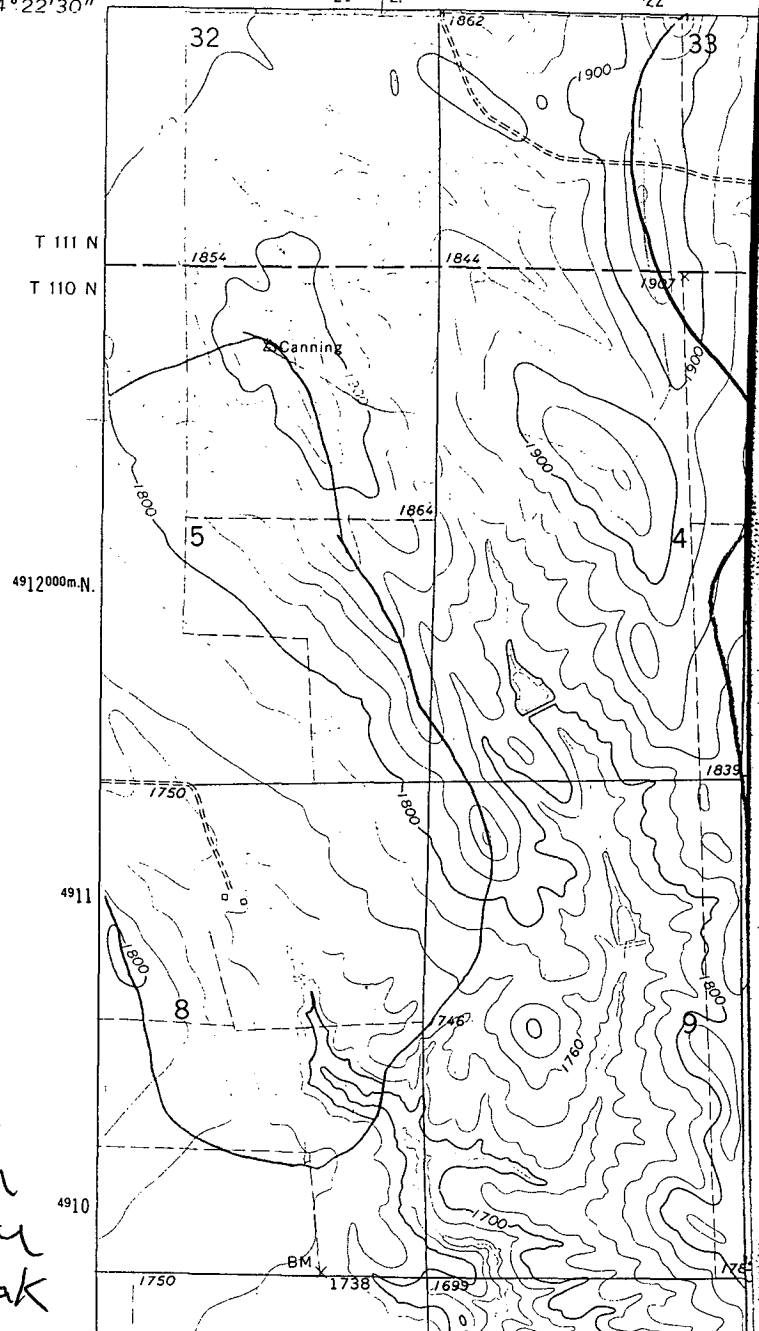
$$10 \text{ surface } \times 17' \text{ depth} = 170 \times .5 = 85 \text{ Ac. Ft. storage.}$$

Principal spillway used due to poor soil conditions AK

(5)

421 000 m.E.

422



NRCS
Kevin Paulsen
Conservation Tech
316 So Coteau
Pierre, So. Dak

DAMS2 XEQ 06/19/** STRUCTURE SITE ANALYSIS COMPUTER PROGRAM
 REV 01/01/90 SCS TECHNICAL RELEASE 48, (USER MANUAL) DATED JAN. 1990
 TIME 16:23:28

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

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

DAMS2 01/01/90 Garber Dam Hughes Co SD
 STRUCTURE Garber Dam 06-19-00 D. Konechne378 Design

72	0.0
80	8
85	20
90	60
95	85
97	105
100	135

ENDTABLE
 WSDATA 1A101 AC 79 635 3.26
 PDIRECT 1.0 2.2 4.1 4.1
 POOLDATA ELEV 95
 PSDATA 1 140 18 0.012 72
 PSINLET ELEV 1.0 12.7 95
 ESCREST ELEV 97
 ESDATA 28 150 0.03 3 0.035 10
 BTMWIDTH FEET 100 60

ENDTABLE

COMMENT

COMMENT

COMMENT This is routing a 2 -yr storm thru the principal spillway
 COMMENT and a 25 yr storm thru the emergency spillway

COMMENT

COMMENT

COMMENT

GO,DESIGN L,E

6

TYPE2 378 24

ENDJOB

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

DAMS2 XEQ 06/19/**
REV 01/01/90

Hughes Co SD

WSID = Garber D

This is routing a 2 -yr storm thru the principal spillway
and a 25 yr storm thru the emergency spillway

DAMS2 -----
 XEQ 06/19/** Hughes Co SD WSID= Garber D
 REV 01/01/90 06-19-00 D. Konechne378 Design SUBW= 01
 TIME 16:23:28 SITE = Garbe PASS= 1 PAGE= 1

***** BASIC DATA *****
 ARID- SEMIARID CLIMATE AREA DESIGN CLASS A1 =LT 3000

STORM DISTRIBUTION-PSH 24 HOUR TYPE II RAINFALL DISTRIBUTION

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

PRECIP.-	P-PS1 DAY 2.20	P-PS10 DAY .00	P-ES 4.10	P-FB 4.10
WSDATA-	CN 79.00	DA-SM .99	TC/L 3.26	-/H .00
SITEDATA-	PERM POOL .00	CREST PS 95.00	FP SED .00	QRF .00
	BASEFLOW .00	INITIAL EL .00	EXTRA VOL. .00	
PSDATA-	NO. COND. 1.00	COND L 140.00	D/W 18.00	-/H .00
	PS N .012	KE 1.00	WEIR L 12.70	TW EL 72.00
	2ND STG 95.00	ORF H .00	ORF L .00	START ES .00
CRESTS-	ES1 97.00	ES2 .00	ES3 .00	ES4 .00
				ES5 .00
EMG DATA-	SIDE SLOPE 3.00	EXIT N .035	EXIT SLOPE .100	
EMG DATA-	ES TYPE 28	ES LENGTH 150	ES ENTRANCE N .030	
BTM WIDTH-	BW1 100.00	BW2 60.00	BW3 .00	BW4 .00
				BW5 .00

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

EMG ID CODE	28	ELEVATION INCREMENT (FT) = 1.000	
DISCHARGES-Q1	Q2	Q3	Q4
1.945	6.521	12.910	20.820
Q5	Q6	Q7	Q8
29.958	40.250	51.489	63.701
Q9	Q10	Q11	Q12
76.768	90.623	105.246	120.608

DAMS2 -----
 XEQ 06/19/** Hughes Co SD WSID= Garber D
 REV 01/01/90 06-19-00 D. Konechne378 Design SUBW= 01
 TIME 16:23:28 SITE = Garbe PASS= 1 PAGE= 2

CREST PS	95.00 FT	85.0 ACFT	.00 AC	.0 CFS
SED ACCUM	95.00 FT	85.0 ACFT	.00 AC	.0 CFS
2ND STAGE	95.00 FT	85.0 ACFT	.00 AC	.0 CFS
STARTING E	95.00 FT	85.0 ACFT	.00 AC	.0 CFS

DAMS2 -----
 XEQ 06/19/** Hughes Co SD WSID= Garber D
 REV 01/01/90 06-19-00 D. Konechne378 Design SUBW= 01
 TIME 16:23:28 SITE = Garbe PASS= 1 PAGE= 3

ES CREST 97.00 FT 105.0 ACFT .00 AC 34.7 CFS

PS STORAGE 20.0 ACFT BETWEEN ES CREST AND SED ACCUM ELEVATIONS

STARTING E 95.00 FT 85.0 ACFT .00 AC .0 CFS

ELEVATION OF LOW POINT IS ZERO. NO CRITERIA CHECK MADE FOR
 STRUCTURE CLASSIFICATION

SCS-ESH D= 6.00 HR P= 4.10 IN Q= 2.04 IN DA = .99 SM
 TC= 3.26 HR CN= 79.00 VOL= 108.2 ACFT

PEAK = 316.5 CFS, AT 4.8 HRS.

SCS-FBH D= 6.00 HR P= 4.10 IN Q= 2.04 IN DA = .99 SM
 TC= 3.26 HR CN= 79.00 VOL= 108.2 ACFT

PEAK = 316.5 CFS, AT 4.8 HRS.

 RATING TABLE DEVELOPED, SITE = Garbe
 BY PROGRAM FOR PS AND EMG SPILLWAYS

RATING TABLE NUMBER 2

	ELEV FEET	Q-TOTAL CFS	Q-PS CFS	VOLUME AC-FT	AREA ACRE
1	95.00	.00	.00	85.00	.00
2	95.23	4.24	4.24	87.26	.00
3	95.45	11.98	11.98	89.52	.00
4	95.68	22.01	22.01	91.79	.00
5	95.90	33.89	33.89	94.05	.00
6	96.04	34.02	34.02	95.42	.00
7	96.18	34.12	34.12	96.79	.00
8	96.32	34.22	34.22	98.16	.00
9	96.45	34.31	34.31	99.52	.00
10	96.59	34.41	34.41	100.89	.00
11	96.73	34.50	34.50	102.26	.00
12	96.86	34.60	34.60	103.63	.00
13	97.00	34.69	34.69	105.00	.00
14	97.15	64.09	34.80	106.50	.00
15	97.30	93.63	34.90	108.00	.00
16	97.57	147.05	35.09	110.70	.00
17	97.90	212.73	35.31	114.00	.00
18	98.50	469.46	35.72	120.00	.00
19	99.25	879.00	36.22	127.50	.00
20	100.00	1394.75	36.72	135.00	.00

FULL CONDUIT FLOW, ELEV = 95.90 FT

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
SCS-ESH	100.0	98.08	115.8	.0	1.08	10.8

PEAK - CFS	Q-PS	Q-ES	Q-TOT
DISCHARGE =	35.4	253.3	288.8

EMERGENCY	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
-----------	-------------------------	--------------------------------	--------------------------------	------------------------

SPILLWAY----	.58	4.29	.022	.029
	DURATION	ATTACK	SUMMATION	
	FLOW	OE/B	VEL**2 DELTA T	
EMERGENCY	HRS	ACFT/FT	(FT/SEC)**2 HRS	
SPILLWAY----	6.1	.7	160.4	

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

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 6.83 FT/SEC
 EXIT SLOPE = .100 FT/FT
 FLOW DEPTH = .367

DRAWDOWN USING FREEBOARD STORM FOLLOWS, STARTING AT ELEVATION 97.00 FT.

DRAWDOWN (DDT) TEST 95.00 FT 85.0 ACFT .00 CFS
 CONTROL IS .000 DETENTION STORAGE

TIME = 1.71 DAYS, TO .0 CFS (LIMIT = 10.00 DAYS)

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
SCS-FBH	100.0	98.08	115.8	.0	1.08	10.8
PEAK - CFS DISCHARGE =		Q-PS 35.4	Q-ES 253.3	Q-TOT 288.8		
		CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT	
EMERGENCY SPILLWAY----		.58	4.29	.022	.029	
		DURATION FLOW HRS	ATTACK OE/B ACFT/FT	SUMMATION VEL**2 DELTA T (FT/SEC)**2 HRS		
EMERGENCY SPILLWAY----		6.1	.7	160.4		

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

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 6.83 FT/SEC
 EXIT SLOPE = .100 FT/FT
 FLOW DEPTH = .367

***** ES378 RUN - MINIMUM DEPTH, CREST EMG TO TOP OF DAM IS 2.00 FT
 NEW TOP OF DAM ELEVATION = 99.00

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
MINIMUM ES	100.0	99.00	125.0	.0	2.00	20.0
PEAK - CFS DISCHARGES =		Q-PS 36.1	Q-ES 706.4	Q-TOT 742.5		
		CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT	
EMERGENCY SPILLWAY----		1.14	5.97	.017	.023	

***** ES378 RUN - MINIMUM DEPTH, DESIGN FLOW TO TOP OF DAM, REQUIRED FOR THIS PASS. NEW TOP OF DAM ELEVATION = 99.08

ROUTED RESULTS	BTM WIDTH	MAX ELEV	VOL-MAX	AREA-MAX	EMG. HP	VOL-ES
MINIMUM ES	FT	FT	ACFT	AC	FT	ACFT
	100.0	99.08	125.8	.0	2.08	20.8
PEAK - CFS		Q-PS	Q-ES	Q-TOT		
DISCHARGES =		36.1	748.8	784.9		
		CRITICAL	CRITICAL	CRITICAL	25% OF	
		DEPTH	VELOCITY	SLOPE-S/C	S/C	
EMERGENCY		FT	FT/SEC	FT/FT	FT/FT	
SPILLWAY----		1.19	6.08	.017	.023	

***** WARNING - TOP ELEVATION (99.08) IS LESS THAN LOWEST ELEVATION (*****) ON CLPROFILE.

 RATING TABLE DEVELOPED, SITE = Garbe
 BY PROGRAM FOR PS AND EMG SPILLWAYS

RATING TABLE NUMBER 3					
	ELEV	Q-TOTAL	Q-PS	VOLUME	AREA
	FEET	CFS	CFS	AC-FT	ACRE
1	95.00	.00	.00	85.00	.00
2	95.23	4.24	4.24	87.26	.00
3	95.45	11.98	11.98	89.52	.00
4	95.68	22.01	22.01	91.79	.00
5	95.90	33.89	33.89	94.05	.00
FULL CONDUIT FLOW, ELEV = 95.90 FT					
6	96.04	34.02	34.02	95.42	.00
7	96.18	34.12	34.12	96.79	.00
8	96.32	34.22	34.22	98.16	.00
9	96.45	34.31	34.31	99.52	.00
10	96.59	34.41	34.41	100.89	.00
11	96.73	34.50	34.50	102.26	.00
12	96.86	34.60	34.60	103.63	.00
13	97.00	34.69	34.69	105.00	.00
14	97.15	52.42	34.80	106.50	.00
15	97.30	70.29	34.90	108.00	.00
16	97.57	102.72	35.09	110.70	.00
17	97.90	142.72	35.31	114.00	.00
18	98.50	300.15	35.72	120.00	.00
19	99.25	554.26	36.22	127.50	.00
20	100.00	878.34	36.72	135.00	.00

ROUTED RESULTS	BTM WIDTH	MAX ELEV	VOL-MAX	AREA-MAX	EMG. HP	VOL-ES
SCS-ESH	FT	FT	ACFT	AC	FT	ACFT
	60.0	98.40	119.0	.0	1.40	14.0
PEAK - CFS		Q-PS	Q-ES	Q-TOT		
DISCHARGE =		35.7	237.2	272.8		
		CRITICAL	CRITICAL	CRITICAL	25% OF	
		DEPTH	VELOCITY	SLOPE-S/C	S/C	
EMERGENCY		FT	FT/SEC	FT/FT	FT/FT	
SPILLWAY----		.77	4.91	.020	.027	
		DURATION	ATTACK	SUMMATION		
		FLOW	OE/B	VEL**2 DELTA T		
EMERGENCY		HRS	ACFT/FT	(FT/SEC)**2 HRS		
SPILLWAY----		6.7	1.1	238.6		

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

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 8.07 FT/SEC
 EXIT SLOPE = .100 FT/FT
 FLOW DEPTH = .478

DRAWDOWN USING FREEBOARD STORM FOLLOWS, STARTING AT ELEVATION 97.00 FT.

DRAWDOWN (DDT) TEST 95.00 FT 85.0 ACFT .00 CFS
 CONTROL IS .000 DETENTION STORAGE

TIME = 1.77 DAYS, TO .0 CFS (LIMIT = 10.00 DAYS)

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
SCS-FBH	60.0	98.40	119.0	.0	1.40	14.0
PEAK - CFS DISCHARGE =		Q-PS 35.7	Q-ES 237.2	Q-TOT 272.8		
EMERGENCY SPILLWAY----		CRITICAL DEPTH FT .77	CRITICAL VELOCITY FT/SEC 4.91	CRITICAL SLOPE-S/C FT/FT .020	25% OF S/C FT/FT .027	
EMERGENCY SPILLWAY----		DURATION FLOW HRS 6.7	ATTACK OE/B ACFT/FT 1.1	SUMMATION VEL**2 DELTA T (FT/SEC)**2 HRS 238.6		

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

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 8.07 FT/SEC
 EXIT SLOPE = .100 FT/FT
 FLOW DEPTH = .478

***** ES378 RUN - MINIMUM DEPTH, CREST EMG TO TOP OF DAM IS 2.00 FT
 NEW TOP OF DAM ELEVATION = 99.00

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
MINIMUM ES	60.0	99.00	125.0	.0	2.00	20.0
PEAK - CFS DISCHARGES =		Q-PS 36.1	Q-ES 433.5	Q-TOT 469.6		
EMERGENCY SPILLWAY----		CRITICAL DEPTH FT 1.15	CRITICAL VELOCITY FT/SEC 5.93	CRITICAL SLOPE-S/C FT/FT .017	25% OF S/C FT/FT .023	

***** ES378 RUN - MINIMUM DEPTH, DESIGN FLOW TO TOP OF DAM, REQUIRED FOR THIS PASS. NEW TOP OF DAM ELEVATION = 99.40

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
MINIMUM ES	60.0	99.40	129.0	.0	2.40	24.0
PEAK - CFS DISCHARGES =		Q-PS 36.3	Q-ES 581.0	Q-TOT 617.3		
		CRITICAL DEPTH	CRITICAL VELOCITY	CRITICAL SLOPE-S/C	25% OF S/C	

EMERGENCY
SPILLWAY----

FT
1.39

FT/SEC
6.49

FT/FT
.016

FT/FT
.022

***** WARNING - TOP ELEVATION (99.40) IS LESS THAN LOWEST
ELEVATION (*****) ON CLPROFILE.

DAMS2.....JOB NO. 1 COMPLETE

Garber D

Hughes Co SD

0 SUBWATERSHED(S) ANALYZED

1 STRUCTURE(S) ANALYZED

4 HYDROGRAPHS ROUTED AT LOWEST SITE

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

DAMS2.....COMPUTATIONS COMPLETE

SUMMARY TABLE 1

DAMS2 VERSION 01/01/90

WATERSHED ID		RUN DATE					RUN TIME		
Garber D		06/19/**					16:23:28		
>>>	SITE ID	SUBWS ID	SUBWS DA (SQ MI)	CURVE NO.	TC (HRS)	TOTAL DA (SQ MI)	TYPE DESIGN	STRUC CLASS	<<<
	Garbe	01	.99	79.	3.26	.99	378CR	A1	
PASS NO.	DIA/ WIDTH (IN/FT)	ES CREST ELEV (FT)	BTM WIDTH (FT)	MAX HP (FT)	MAX ELEV (FT)	YARDAGE EMB (CY)	OE/B* (AF/FT)	EXIT* VELOCITY (FT/SEC)	TYPE HYD
1	18.0	97.00	100.00	2.08	99.08	0.	.7	6.83	MINIMUM ES
1	18.0	97.00	60.00	2.40	99.40	0.	1.1	8.07	MINIMUM ES

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

DAMS2.....SUMMARY TABLE 1 COMPLETED

SCS DAMS2 VERSION 01/01/90
Garber D FILES

INPUT = c:\eng\dams2\data\crow.dat
OUTPUT = c:\eng\dams2\data\crow.dat

DATED 06/19/** 16:23:28



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 6207-3, R. Mark Garber**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 6207-3, R. Mark Garber, 20338 300 Avenue, Pierre, SD 57501.

The Chief Engineer is recommending APPROVAL of Application No. 6207-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. Water Permit No. 6207-3 authorizes a dam with a storage capacity of 85 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

See report on application for additional information.

Garland Erbele, Chief Engineer
July 5, 2000

REPORT ON
WATER PERMIT APPLICATION NO. 6207-3
R. Mark Garber
June 23, 2000

Water Permit Application No. 6207-3 has been filed by R. Mark Garber to impound 85 acre-feet of water from runoff by constructing a dam located in the NE 1/4 SE 1/4 of Section 8-T110N-R76W, in Hughes County. The application also requests impoundment of sufficient water to maintain water at the outlet elevation. The water will be used for recreation, fish and wildlife production and livestock watering.

Discussion:

The dam will be classified as a small size, Category 3, Low Hazard dam. The Natural Resources Conservation Service (NRCS) has designed the project. The plans and specifications have been reviewed and will be approved; however, construction of the dam can not begin until Water Permit Application No. 6207-3 is approved.

The Garber Dam will be 32 feet high with a normal storage capacity of 85 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 135 acre-feet with a reservoir level at the top of dam elevation. A dam of this size and hazard classification is required to have a minimum spillway design capable of passing a 25-year frequency event.

The dam has a drainage area of 1.0 square miles. A 25-year frequency event for this drainage area produces a peak runoff of approximately 225 cfs. A 100-year frequency event produces a peak of approximately 402 cfs. The dam is designed to have a 58 foot wide earth spillway with 3 feet of available freeboard. The 58 foot wide spillway will have a capacity of approximately 785 cfs.

The annual yield for this drainage area with an 80 percent chance of occurrence, or 8 out of 10 years, is expected to be 12 acre-feet. The annual yield with a 50 percent chance of occurrence, or 1 out of 2 years, is expected to be 30 acre-feet and the annual yield with a 10 percent chance, or 1 out of 10 years, is expected to be 127 acre-feet.

The Garber Dam will be located in the NE 1/4 SE 1/4 of Section 8-T110N-R76W on an unnamed tributary of Lake Sharp on the Missouri about four and one-half miles upstream of its confluence with the Missouri River. There are no existing Water Permits/Rights located on the unnamed tributary between the proposed dam and the Missouri River.

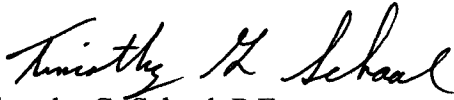
Page 2

Application No. 6207-3

R. Mark Garber

Conclusions:

1. Water Permit Application No. 6207-3 should be approved since unappropriated water is available and approval should not have any adverse effect on existing Water Permits/Rights.
2. If approved, the low flow bypass requirement for downstream domestic use should be a qualification on Water Permit Application No. 6207-3.



Timothy G. Schaal, P.E.

Natural Resources Engineer III

Approved by:



Gale N. Selken, P.E.

Natural Resources Engineer IV



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

July 7, 2000

R. Mark Garber
20338 300 Ave.
Pierre, SD 57501

Dear Mr. Garber:

We have reviewed the plans and specifications for your dam project located in the SE 1/4 of Section 8-T110N-R76W, in Hughes County. The plans and specifications as submitted are approved. Approval of the plans and specifications does not authorize construction of the dam. The construction may not begin until Water Permit Application No. 6207-3 is approved.

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

The Garber Dam will be classified as a small size Category 3, Low Hazard dam with a dam height of 32 feet and a normal storage capacity of 85 acre-feet and a maximum storage capacity of 135 acre-feet.

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

Sincerely,

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

c: Kevin Paulsen, NRCS Pierre



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

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

July 7, 2000

R. Mark Garber
20338 300 Ave.
Pierre, SD 57501

Mark
Dear ~~Mr. Garber~~:

Water Permit Application No. 6207-3 for fish and wildlife propagation, recreation, and livestock 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 Capital Journal printed at Pierre, SD (Ph # (605) 224-7301). 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 57501-3182
www.state.sd.us/denr

July 7, 2000

Capital Journal
P.O. Box 878
Pierre, SD 57501-0878

ATTENTION: Legal Public Notice

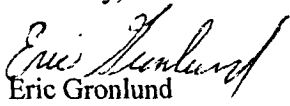
Enclosed is a Notice of Hearing on Application No. 6207-3 to Appropriate Water to be published twice. Please publish the first notice on July 13, 2000, with the second publication 7 days later.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is R. Mark Garber, 20338 300 Ave., Pierre, SD 57501 (Ph # (605) 224-8044).

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

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

Sincerely,


Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

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

No. 6207-3

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

Date _____

We are in receipt of your letter of July 7, 2000, enclosing Notice of Hearing to Appropriate Water by Application No. 6207-3 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 July 13, 2000, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 6207-3 to Appropriate Water

Notice is given that R Mark Garber, 20338 300 Ave, Pierre SD 57501 has filed an application for a water permit to impound 85 acre-feet of water from runoff by constructing a dam located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 8 with water impounded in the N $\frac{1}{2}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 8; all in T110N-R76W. This application requests impoundment of sufficient water to maintain water at the outlet elevation. The water is to be used for fish & wildlife propagation, recreation and livestock watering purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 6207-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider the application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by July 31, 2000.

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



Capital Journal

AFFIDAVIT OF PUBLICATION

State of South Dakota, County of Hughes

Kami L. Martell of said county, being, first duly sworn, on oath, says: That he/she is the publisher or an employee of the publisher of the **Capital Journal**, a daily newspaper published in the City of Pierre in said County of Hughes and State of South Dakota; that he/she has full and personal knowledge of the facts herein stated, that said newspaper is a legal newspaper as defined in SDCL 17-2-2.1 through 17-2-2.4 inclusive, that said newspaper has been published within the said County of Hughes and State of South Dakota, for at least one year next prior to the first publication of the attached public notice, and that the legal/display advertisement headed Notice of Application-# 6207-3

a printed copy of which, taken from the paper in which the same was published, and which is hereto attached and made a part of this affidavit, was published in said newspaper for 2 successive week(s) to wit:

<u>July 13</u>	<u>2000</u>	<u>19</u>
<u>July 20</u>	<u>2000</u>	<u>19</u>
<u>19</u>	<u>19</u>	<u>19</u>
<u>19</u>	<u>19</u>	<u>19</u>
<u>19</u>	<u>19</u>	<u>19</u>

That the full amount of the fee charged for the publication of the attached public notice inures to the sole benefit of the publisher or publishers; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever; that the fees charged for the publication thereof are: \$ 40.28.

Signed: Kami L. Martell

subscribed and sworn to before me this 20 day of July 19 2000

May L. Baker

Notary Public in and for the County of Hughes, South Dakota.
My Commission expires 2-19, 2003.

No. 3291 2tdly 7/13, 7/20
NOTICE OF APPLICATION
NO. 6207-3 to

Appropriate Water

Notice is given that R. Mark Garber, 20338 300 Ave., Pierre SD 57501 has filed an application for a water permit to impound 85 acre-feet of water from runoff by constructing a dam located in the NE 1/4 SE 1/4 Section 8 with water impounded in the N 1/2 SE 1/4, S 1/2 NE 1/4, NW 1/4 NE 1/4 Section 8; all in T110N-R76W. This application requests impoundment of sufficient water to maintain water at the outlet elevation. The water is to be used for fish & wildlife propagation, recreation and livestock watering purposes.

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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 July 31, 2000.

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Steven M. Pirner
Secretary

Department of Environment
and Natural Resources





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

AUG 25 2000

R. Mark Garber
20338 300 th Ave
Pierre SD 57501

Dear Mr. Garber:

Enclosed is Water Permit No. 6207-3 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed.

Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

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

Sincerely,

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

enclosures

**NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USE**

Date 10-19-01

TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

FROM: R. Mark Garber
(name)

20338 300 Ave.
(address)

Pierre, SD 57501
(city, state, zip)

(605) 224-8044
(phone)

I have completed the construction of the water use system and I have put the water to beneficial use to the maximum extent it is going to be used.

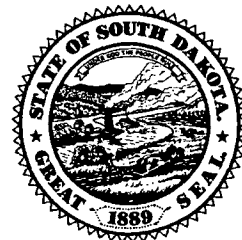
Water Permit No. 6207-3 states that the water use system is to be constructed by
July 31, 2005 , and water is to be put to beneficial use by July 31, 2009
(date) (date)

The water use system was completed on Aug. 2000
(date)

Applying the water to beneficial use was completed on _____
(date)

You may schedule an investigation so that the water license may be issued. (done)

R. Mark Garber
(signature)



REPORT ON INSPECTION OF PERMIT NO. 6207-3

DATE OF INSPECTION: September 27, 2001

Other permit(s) associated with the project: none

NAME & ADDRESS OF INSPECTION CONTACT: R. Mark Garber, 20338 300 Ave., Pierre, SD 57501

RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE: owner

NAME & ADDRESS OF PERMIT HOLDER: same as above

DIVERSION POINT LEGAL LOCATION: 1845' N and 430' W of the SE $\frac{1}{4}$ corner of Section 8 in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 8, T110N-R76W.

DAM INFORMATION:

- 1) Height to crest 32 feet
- 2) Height to primary spillway 27 feet
- 3) Height to secondary spillway 29 feet
- 4) Crest width 12 feet
- 5) Crest length 455 feet
- 6) Spillway length 180 feet
- 7) Spillway width 58 feet
- 8) Approx. storage 85 ac-ft
- 9) Approx. Storage to crest 135 ac-ft
- 10) Date constructed: Aug. 2000
- 11) Outlet tubes:
 - a) diameter 18 inches
 - b) type dual wall polyethylene pipe
 - c) valved no
 - d) location on structure 241' SE of the NE end of the dam
- 12) Category of Dam 3
- 13) Inspection Sheet Completed no

PERMIT QUALIFICATIONS AND REGULATIONS:

- 1) Special qualifications to permit being abided by yes
- 2) All structures, wells and lands on map yes
- 3) Comments: No cover established on embankment yet.

Permit No. 6207-3
Missouri River - Water District

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

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

I have this day, September 27, 2001 made a thorough examination of the water use system constructed by R. Mark Garber of 20338 300 Ave., Pierre, SD 57501 holder of Permit No. 6207-3, bearing the priority of May 24, 2000 authorizing the storage of 85 acre-feet of the waters of unnamed drainage for fish and wildlife propagation, recreation, and livestock watering purposes, in Hughes County.

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

A. Works used to divert the water:

Category 3 dam 455' long and 32' in height to the crest and 27' to the primary spillway. The primary spillway is a 30" concrete riser with an 18" corrugated dual wall polyethylene pipe. The secondary spillway is an earthen spillway 58' wide and 180' long.

B. Works used to apply water to beneficial use:

Same as above.

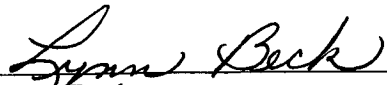
The system is in the following condition good/new. The point of diversion is located 1845' N and 430' W of the SE¼ corner of Section 8 in the NE¼ SE¼ Section 8, T110N-R76W. The works are capable of diverting and storing of 85 acre feet of water which is to be used for fish and wildlife propagation, recreation, and livestock watering. Water has been put to beneficial use to the maximum extent as follows:

Water is impounded in the SW¼ NE¼, SE¼ NE¼, NE¼ SE¼, NE¼ SE¼ Section 8, T110N-R76W.

The license should be issued for 85 acre-feet of storage.

Applicable permit qualifications have been complied with: yes

Exceptions to compliance are: none


Lynn Beck
Natural Resources Engineer
DENR, Water Rights Program

10.9.01
Date

WATER PERMIT NO. 6207-3 MARK GARBER



SCALE

0.5 0 0.5 Miles

Lynn Beck
Natural Resources Engineer Specialist
Water Rights Program, DENR
October 1, 2001

Lynn Beck

South Dakota Department of
Environment and Natural Resources



Protecting South Dakota's Tomorrow ... Today



STATE OF SOUTH DAKOTA

WATER LICENSE NO. 6207-3

(1) R. Mark Garber, 20338 300 Ave, Pierre SD 57501 made Application No. 6207-3, May 24, 2000 for a water permit to impound 85 acre-feet of water from runoff, Hughes County, South Dakota for fish & wildlife propagation, recreation and livestock watering purposes. Permit No. 6207-3, with a priority date of May 24, 2000 was approved July 31, 2000 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before July 31, 2005 and for the application to beneficial use of said water on or before July 31, 2009.

(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 85 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 1,845 feet north and 430 feet west of the southeast corner of Section 8-T110N-R76W (NE1/4 SE 1/4).

(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 R. Mark Garber, 20338 300 Ave, Pierre SD 57501 the holder and/or owner of Water Right No. 6207-3 is issued a license to appropriate water, the right to impound 85 acre-feet of water from runoff with sufficient water annually to maintain the water level to the outlet elevation with a priority date of May 24, 2000 from the location specified in (2) of this license for fish & wildlife propagation, recreation and livestock watering purposes. This license is subject to any limitations or qualifications listed in Water Right No. 6207-3 and subject to South Dakota State Law.

Garland Erbele

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

DEC 07 2001

date





DEC 07 2001

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

6207-3

Mark Garber
20338 300 Ave.
Pierre, SD 57501

Dear Mr. Garber:

Enclosed is Water License No. 6207-3. This is the final water right document completing your process of obtaining a Water Right.

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

Sincerely,

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

enclosures