WATER PERMIT NO. 6123-3

Name of Applicant: **Richard Joy**

Address: **Box 412, Miller SD 57362** Phone: **605 853-3535**

Amount of Water Claimed: **90.6 AF storage** Total Acres: **NA**

Source of Water Supply: **Little Wolf Creek**

Water to be used for: **livestock** County: **Hand**

Type of Waste Disposal System: **NA**

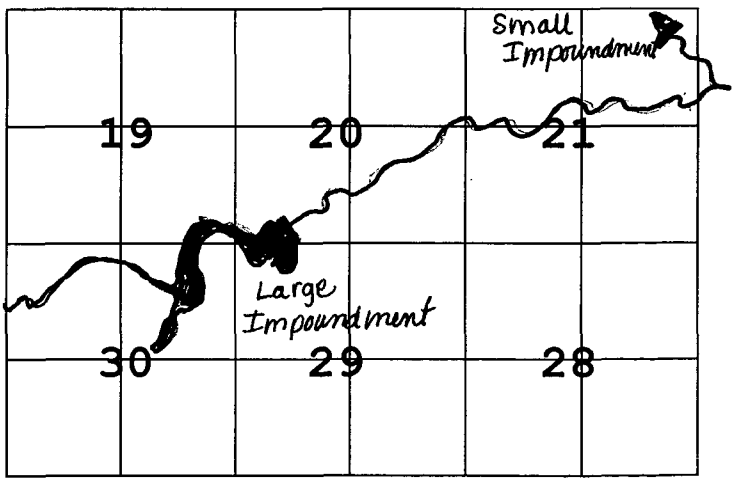
Location: **4 miles northeast of Ree Heights**

PRIORITY Date Received: **1-27-1999** Fee: **$150**

Corrected Application Received: Period of Annual Use: **January 1 – December 31**

Remarks:

Diversion Point: **Large Impoundment - S ½ SW ¼ Sec 20; Small Impoundment – NE ¼ NE ¼ Sec 21; all in T113N-R69W**



Area of water impoundment: **Large Impoundment – S ½ SW ¼ Sec 20; N ½ NW ¼ Sec 29; SE ¼ SE ¼ Sec 19; NE ¼ Sec 30; Small Impoundment – NE ¼ NE ¼ Sec 21; all in T113N-R69W**

Depth of Well: **NA**

Well Driller: **NA**

Remarks:

Type of Map: **topo**

Prepared by: **Charles R Pyle, USFWS**

Reviewed and the Number Assigned on: **1-27-1998** By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

SOUTH DAKOTA
WATER PERMIT NO. 6123-3

Date of first receipt of application January 27, 1999.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 6123-3 to Richard Joy, Box 412, Miller SD 57362 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. 6123-3 authorizes the impoundment of 90.6 acre-feet of water from Little Wolf Creek by reconstructing two dams. The largest dam will store 81.4 acre-feet of water and will be located in the S ½ SW ¼ Section 20 with water impounded in portions of the S ½ SW ¼ Section 20; N ½ NW ¼ Section 29; SE ¼ SE ¼ Section 19; NE ¼ Section 30; all in T113N-R69W. The small dam will store 9.2 acre-feet of water and will be located in the NE ¼ NE ¼ Section 21 with water impounded in portions of the NE ¼ NE ¼ Section 21; all in T113N-R69W.

2. The water appropriated shall be used for the purpose of supplying water for fish and wildlife propagation and livestock 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. 6123-3 is April 19, 1999.

5. The date from which applicant may claim right is January 27, 1999.

6. One-fifth of the construction is to be completed on or before October 19, 2001.

7. All construction is to be completed on or before April 19, 2004.

8. Water is to be put to beneficial use on or before April 19, 2008.

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. 6123-3 authorizes two dams with a combined storage capacity of 90.6 acre-feet of water (Dam No. 1 – 81.4 acre feet and Dam No. 2 – 9.2 acre feet) and sufficient water annually to maintain the water level to the outlet elevation of 1,614 (Dam No. 1) and 1,584 (Dam No. 2) feet mean sea level.

2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

WATER MANAGEMENT BOARD

By: _____

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

MAY 13 1999
date

FORM 2: Application for uses other than irrigation (type or print)

No. 6123-3 Hydrologic Unit James River
Map No. _____ Basin 10160009
Newspaper Miller Press, Miller, SD

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

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 ☒ Livestock



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 Richard Joy Phone No. (605) 853-3535
Post Office Address Box 412 (Street, RR or Box) Miller, SD (City) State 57362 Zip Code
2. Amount of water claimed (c.f.s.) 81.4 & 9.2 (90.6 AF total)
3. Source of water supply Little Wolf Creek Watershed
4. Location of point of diversion Large Impoundment: S1/2 SW1/4 Section 20 TWP. 113N RGE 69W.
Lat 44° 34' 39" / Long 99° 09' 57"
Small Impoundment: NE1/4 NE1/4 Sec. 21
Water Impounded: NE1/4 NE1/4 sec. 21 - T113N-R69W
Water Impounded: S1/2 SW1/4 sec. 20; N1/2 NW1/4 Sec. 29; SE1/4 SE1/4 sec. 19; NE1/4 sec. 30; all in T113N-R69W.
County Hand
5. Counties where water will be used Hand
6. Annual period during which water is to be used ~~Spring, Summer, Fall~~ Jan 1 - Dec 31
7. Give a brief description of proposed project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)
See Design Report

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 Hand)ss

I, Richard Joy 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 Richard Joy

Subscribed and sworn to before me this 21st day of December 19 98

Notary Public

My commission expires 6/17/01

4-87

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 _____

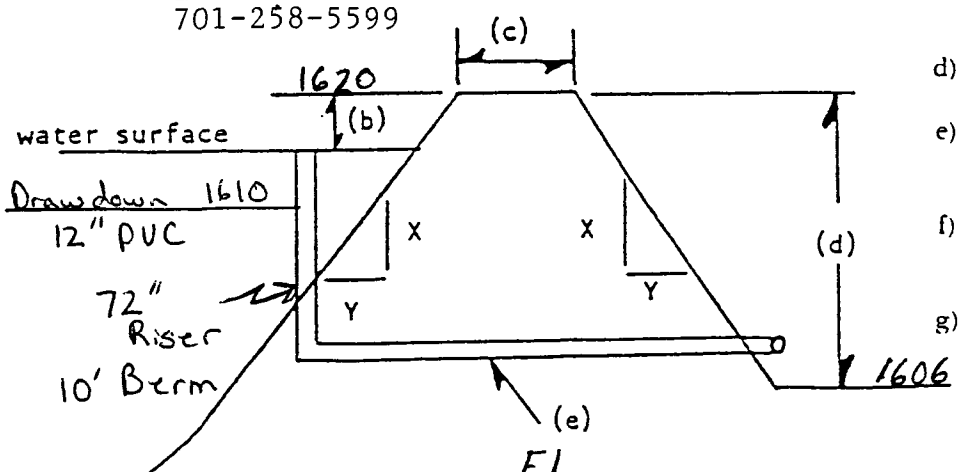
   b) Depth to water (ground surface to water level) _____

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

   Roger Smith P.E.
   Ducks Unlimited, Inc.
   Bismarck, ND 58501-0761
   701-258-5599



   b) Freeboard 6 ft

   c) Crest Width 12 ft

   Crest Length ≃ 470

   d) Height 14

   e) Primary Outlet Capacity 152
   If Pipe, diameter 42"

   f) Secondary Spillway Capacity 1502
   Spillway width 100 ft

   g) X & Y Slope
   Upstream 3:1 W/ 10' Berm @ 1610
   Downstream 3:1

   Surface Area of Impoundment @ FSL 30.27 Ac @ Top ≃ 55 Ac

   Storage @ FSL 81.4 Ac-Ft @ Top ≃ 350 acre feet

   Drainage area above dam 29.4 mi²

See Design Report

Signature of Applicant

United States Department of the Interior

Fish and Wildlife Service
Huron Wetland Management District
Room 309, Federal Bldg.
200 4th Street SW
Huron, SD 57350
605/352-5894 Fax:605/352-6709
Internet: R6RW_HUR@FWS.GOV

JAN 1999 WATER RIGHTS PROGRAM Pierre, SD

January 22, 1999

Water Rights Div., DENR
523 E. Capitol
Pierre, SD 57501

Dear Sir or Madam:

Enclosed you will find an application for a water rights permit for the Richard Joy project. This project mainly consists of repair of the present dam that may fail. You will also find an invoice for you to sign and return, so we can transfer the fee into your account.

Due to the Debt Collection Improvement Act of 1996 (Public Law 104-134) requires Federal Agencies to convert from issuing checks to making all payments via Electronic Funds Transfer (EFT), effective January 1, 1999.

If you have any questions regarding the electronic payment system, please call Karen Knoll at (303) 969-5770 or Deborah Dennis (303) 363-5870.

We are hoping to proceed with the construction in the spring of 1999, weather permitting. Please contact me if any corrections are needed with the application and when the permit is approved.

Thanks for your time.

Sincerely,

Charles Pyle
Private Lands Specialist

United States Department of the Interior

Fish and Wildlife Service
Huron Wetland Management District
Room 309, Federal Bldg.
200 4th Street SW
Huron, SD 57350
605/352-5894 Fax:605/352-6709
Internet: R6RW_HUR@FWS.GOV

JAN 1999
WATER RIGHTS
PROGRAM
Pierre, SD

January 26,1999

DENR, Water Rights Program
ATTN: Karen
Joe Foss Building
Pierre, SD 57501

Dear Karen:

Sorry about the mix up, apparently I sent everything except the application. The invoice is also enclosed which shows both fees and a total. The invoice fee will be deposited into your account after we process it.

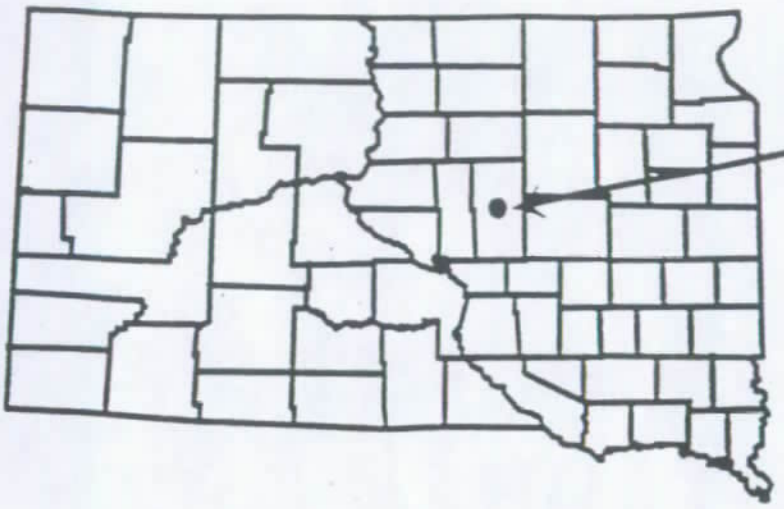
Thanks again, if you need anything else please contact me.

Sincerely

Charles Pyle
Private Lands

Joy Wetland

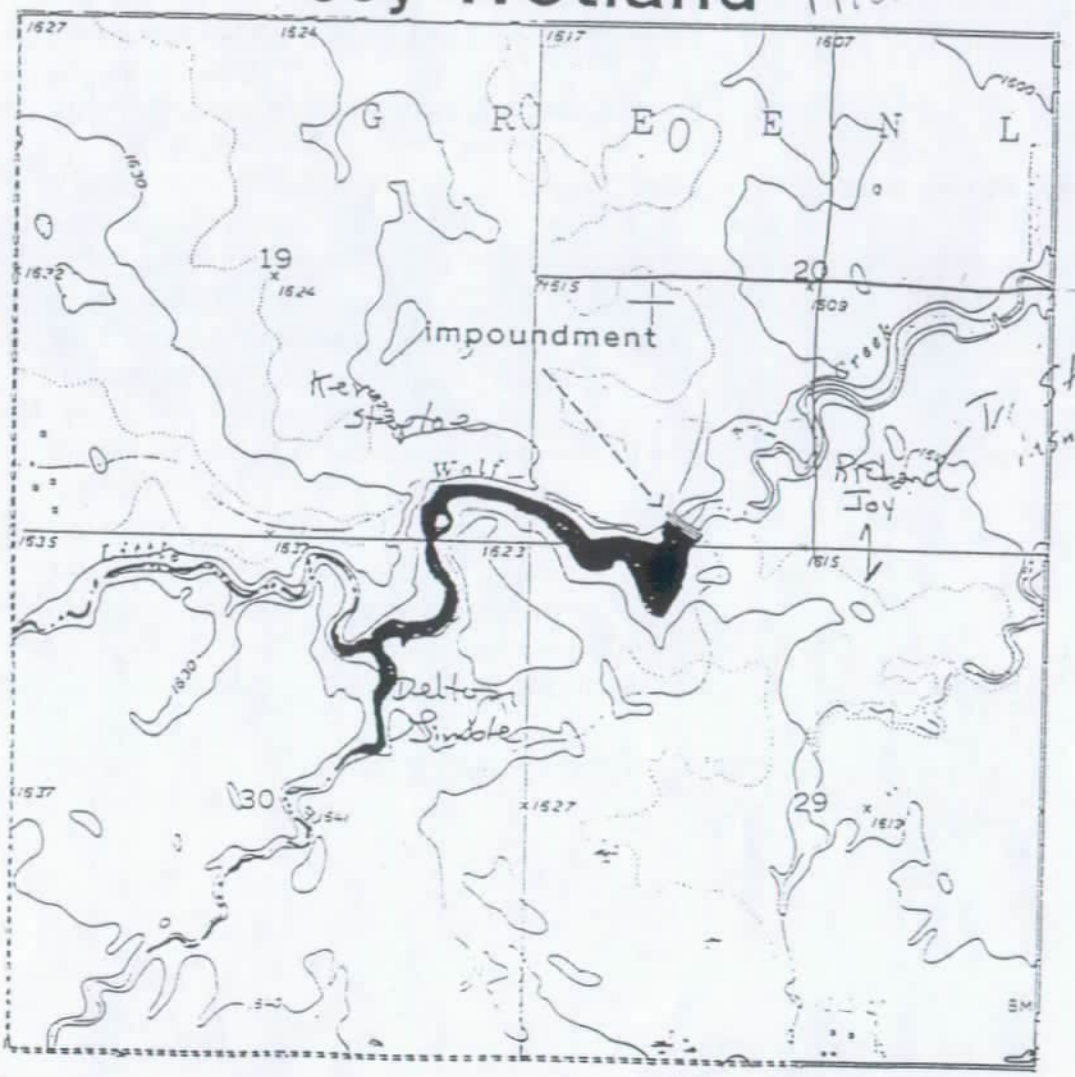
JAN 1999
WATER RIGHTS PROGRAM
Pierre, SD



Project location approximately 8 miles W and 3 miles N of Miller, Hand Co., South Dakota

Charles R. [illegible]
12-21-98
Private Land Tech.

Joy Wetland



Tr. State Insulator Miller, SD

61233

SNOW GOOSE QUESTIONNAIRE

Please help us determine public perceptions about snow geese by answering some questions.

1. Are you aware of the snow goose over-population problem?
    a. Yes
    b. No

2. Given that snow geese are increasing and are causing damage to their breeding habitats, do you believe we should:
    a. Do nothing and let nature "take its course"
    b. Take action to reduce the populations to lower levels

3. What actions, if any, do you suggest be taken? Please number by priority.
    a. Take no actions to reduce the populations
    b. Allow agency-controlled hunting outside of the normal light-goose hunting season frameworks
    c. Allow the use of electronic calls by hunters
    d. Extend shooting hours
    e. Permit northern subsistence harvest and egging
    f. Open portions of closed areas such as National Wildlife Refuges to hunting
    g. Legalize "baiting" by hunters
    h. Use direct control to reduce snow goose numbers on their nesting grounds. Examples: trapping, culling

OPTIONAL:
About yourself:
    a. I live: On a farm
        In a town/city
    b. My age is:
        under 20
        21-65
        over 65
    c. Do you hunt waterfowl?
    d. Are you a landowner?
        If "yes", would you open your land to goose hunters?

WEA NO.
#SD-64110-99-903

WILDLIFE EXTENSION AGREEMENT

THIS AGREEMENT DATED February 18, 1999 BETWEEN Richard Joy, CONSERVATION COOPERATOR(S) AND THE U.S. FISH AND WILDLIFE SERVICE (FWS) IS ENTERED INTO PURSUANT TO AUTHORITY CONTAINED IN SECTION 1 OF THE FISH AND WILDLIFE ACT OF 1956, U.S.C. 42f(a)(4).

Richard Joy, P.O. Box 412, Miller, SD 57362

HEREBY AGREE TO OR PARTICIPATE WITH THE FWS IN CONDUCTING CERTAIN CONSERVATION MANAGEMENT PRACTICES ON LANDS OWNED BY THEM IN Hand COUNTY, STATE OF S. Dak. described as follows.
SW1/4 Sec. 20, T113N, R69W, 5th P.M

THE CONSERVATION COOPERATORS IN SIGNING THIS AGREEMENT JOIN AS PARTICIPANTS IN A CONSERVATION MANAGEMENT PROGRAM AND GRANT TO THE FWS THE AUTHORITY TO COMPLETE CONSERVATION DEVELOPMENTS, OR TO PERSONALLY CARRY OUT CONSERVATION ACTIVITIES WITH FINANCIAL OR MATERIAL SUPPORT, AS DESCRIBED IN THE ATTACHED SPECIAL PROVISIONS (EXHIBIT A). ANY DONATION OF SUPPLIES, EQUIPMENT, OR DIRECT PAYMENT FROM THE FWS TO THE CONSERVATION COOPERATORS FOR CARRYING OUT THE CONSERVATION DEVELOPMENTS, ARE ALSO INCLUDED IN THE ATTACHED SPECIAL PROVISIONS (EXHIBIT A).

THE TERMS OF THIS AGREEMENT WILL BE FOR 30 YEARS BEGINNING February 18, 1999 AND ENDING February 18, 2029. PAYMENT AS APPROPRIATE WILL BE MADE AS DESCRIBED AND AGREED TO IN EXHIBIT A.

THIS AGREEMENT MAY BE MODIFIED AT ANY TIME BY MUTUAL WRITTEN CONSENT. IT MAY ALSO BE TERMINATED IN WRITING BY EITHER PARTY THIRTY (30) DAYS IN ADVANCE. IF TERMINATED BY THE COOPERATOR, COOPERATOR WILL REIMBURSE FWS FOR THE COST OF THE CONSERVATION DEVELOPMENTS PLACED ON THE LAND.

AT THE END OF THE TERM, THE CONSERVATION DEVELOPMENT WILL BECOME THE PROPERTY OF THE CONSERVATION COOPERATOR.

THE FWS, DOES NOT ASSUME JURISDICTION OVER THE PREMISES BY THIS AGREEMENT. THE CONSERVATION COOPERATOR RETAINS ALL RIGHTS TO CONTROL TRESPASS AND RETAINS ALL RESPONSIBILITY FOR TAXES, ASSESSMENTS, AND DAMAGE CLAIMS.

IF A FWS EASEMENT IS GRANTED, THE EASEMENT WILL SUPERSEDE THE PROVISIONS AND TERMS OF THIS AGREEMENT.

THE FWS, ITS AGENTS, OR ASSIGNEES RESERVE THE RIGHT TO ENTER THE LAND AT REASONABLE TIMES FOR CONSERVATION DEVELOPMENT AND MANAGEMENT PURPOSES AND TO INSPECT COMPLETED WORK.

THE SERVICE ASSUMES NO LIABILITY FOR DAMAGE OR INJURY OTHER THAN THAT CAUSED BY ITS OWN NEGLIGENCE, ON THE ABOVE ACREAGE.
SPECIFIC WORK COMPLETED WILL BE DOCUMENTED ON EXHIBIT A.

A CHANGE IN OWNERSHIP SHALL NOT CHANGE THE TERMS OF THIS AGREEMENT. THE AGREEMENT AND TERMS SHALL BE IN EFFECT ON THE DESCRIBED LAND FOR THE PERIOD OF THE AGREEMENT. THE CONSERVATION COOPERATOR WILL NOTIFY THE FWS OF PLANNED OR PENDING CHANGES IN OWNERSHIP.

AT THE END OF THIS AGREEMENT, THE COOPERATOR ASSUMES FULL AND COMPLETE RESPONSIBILITY FOR ALL CONSERVATION DEVELOPMENTS MADE DURING THIS AGREEMENT ON THE PROJECT TRACT. THERE SHALL BE NO OBLIGATION TO ANY OF THE AGENCIES OF THE AGREEMENT AFTER THE TERM OF THE AGREEMENT HAS EXPIRED.

THE LANDOWNER WILL BE RESPONSIBLE FOR SECURING ANY NECESSARY PERMITS. TECHNICAL ADVICE AND SUPPORT WILL BE PROVIDED BY PARTICIPATING AGENCIES IN THE APPLICATION FOR THE PERMIT.

THE FWS IS PROHIBITED BY LAW FROM MAKING OBLIGATIONS THAT EXCEED AVAILABLE FUNDS AND, THEREFORE THE FWS CAN DO ONLY THAT WORK WHICH IS FUNDED. IN THE EVENT FUNDS ARE NOT AVAILABLE TO DO THE CONSERVATION DEVELOPMENT WORK WITHIN THE PERIOD OF TIME OR IN THE MANNER PRESCRIBED IN THE SPECIAL PROVISIONS. THE FWS WILL ADVISE THE CONSERVATION COOPERATOR OF THE FACT.

CONSERVATION COOPERATOR GUARANTEES OWNERSHIP OF THE ABOVE DESCRIBED LAND AND WARRANTS THAT THERE ARE NO OUTSTANDING RIGHTS WHICH INTERFERE WITH THE WILDLIFE MANAGEMENT AGREEMENT.

Richard Jay
CONSERVATION COOPERATOR

504-26-4937
SOCIAL SECURITY NUMBER

Delton Gisler
CONSERVATION COOPERATOR

Kenneth Waldrop
CONSERVATION COOPERATOR

FWS REFUGE MANAGER

FWS, ASSISTANT REGIONAL DIRECTOR,
REFUGES AND WILDLIFE

*PRIVACY ACT NOTICE: THE FWS IS REQUIRED TO OBTAIN THIS INFORMATION TO PROCESS ANY PAYMENT(S) TO THE WILDLIFE COOPERATOR AS A RESULT OF THIS AGREEMENT. THIS INFORMATION WILL BE FURNISHED TO THE INTERNAL REVENUE SERVICE AS REQUIRED BY THE TAX REFORM ACT OF 1986 AND MAY BE SHARED WITH THE DEPARTMENT OF JUSTICE FOR CRIMINAL OR CIVIL LITIGATION. FURNISHING A SOCIAL SECURITY NUMBER IS VOLUNTARY, BUT FAILURE TO DO SO MAY RESULT IN DISQUALIFICATION FROM THIS PROGRAM.

EXHIBIT A (SPECIAL PROVISIONS)

The conservation developments described below are agreed to by Richard Joy and the FWS in a Wildlife Extension Agreement dated February 18, 1999

Planned work: Richard Joy agrees to create a wetland by repairing an existing embankment (see attached map for location of wetland to be created). Funding will be provided as denoted on the cost-share partners list below. Design and engineering standards were completed by Ducks Unlimited. Richard Joy agrees to allow the Service, or its designee, to access the property to inspect the condition of the embankment during the term of this agreement.

There will be no restrictions regarding use of the impoundment for stock water. Richard Joy agrees to fence embankment and spillway to protect them from erosion if structure is used by livestock. FWS will provide the necessary fence material when required. Spoil sites will be seeded by Richard Joy. The FWS will provide the seed.

The repair of this existing embankment will restore the pool elevation to approximately the original elevation as denoted on the attached map. Adjacent landowners, Ken Steptoe and Delton Gimbel by their signatures on the attached Wildlife Extension Agreement dated February 18, 1999 agree to have the dam repaired and the pool level re-established on their properties as denoted on the attached map for the length of this agreement.

Itemized costs of payments, materials, supplies, completed work, and schedule of payments. if applicable, however, any payments will be for only one fiscal year.) This is a one-time Fiscal Year payment only.

Wetland Creation:

Partners Cost-Share

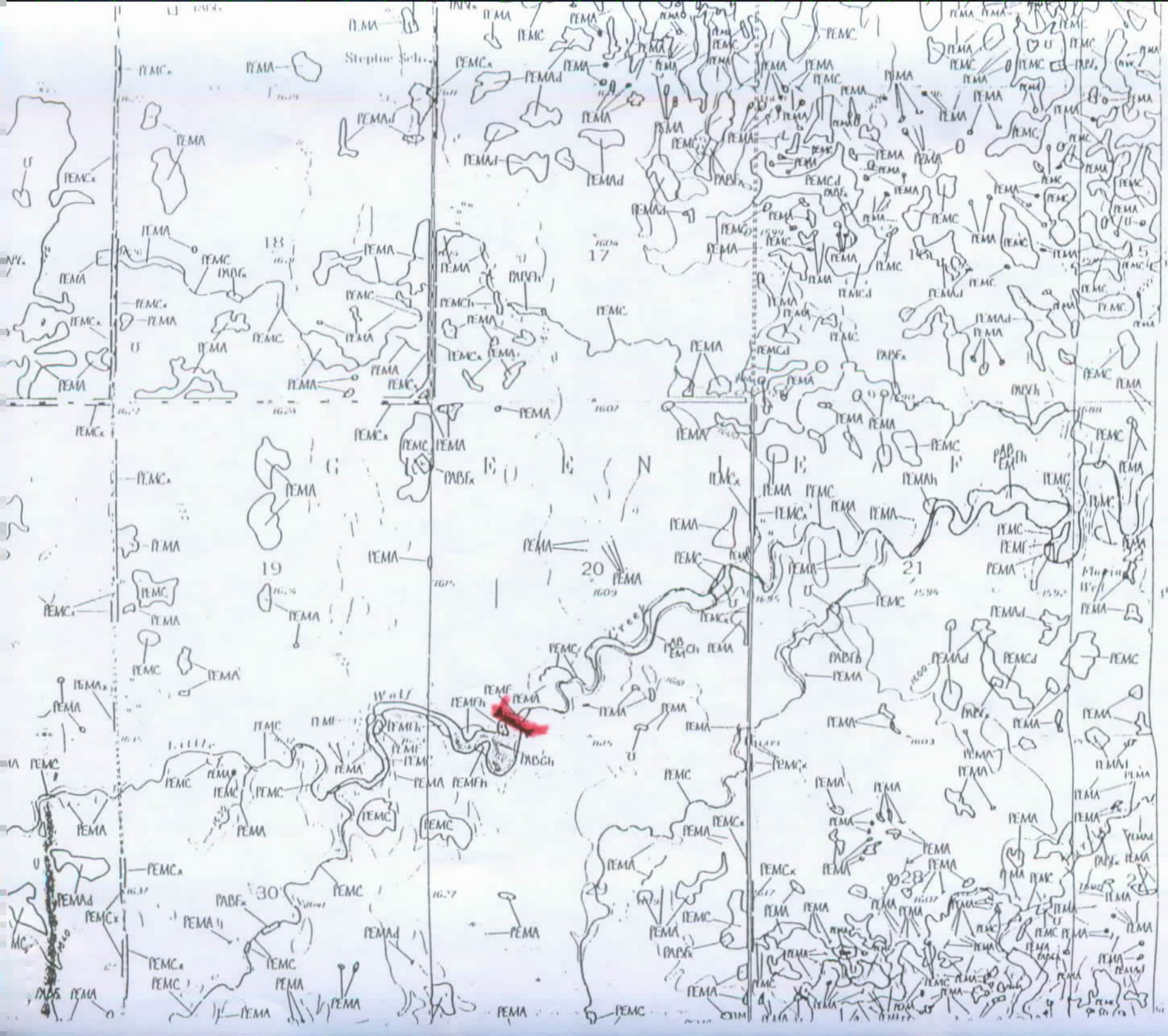
NAWCA Phase III	$12,375.00
SD Game Fish and Parks	$ 9,000.00
Richard Joy	$ 1,500.00
Duck Unlimited, Inc	$29,625.00
Total Project Cost	$52,500.00

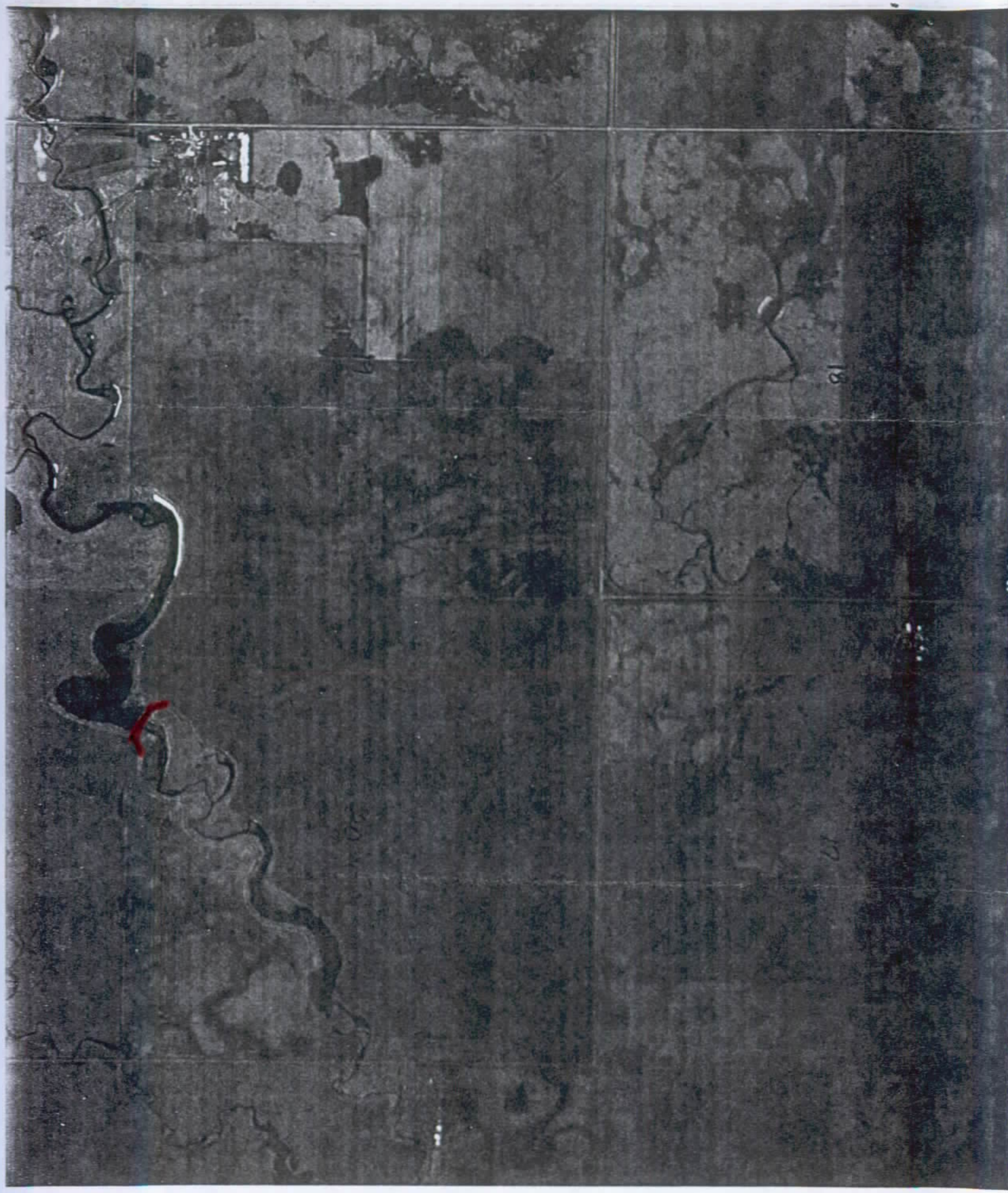
In-kind Service

District	$2,475.00
Landowner	$1,237.50

Completed work (as modified by mutual agreement)

	Wetland #	Wetland Size(Acres)
	1	30.3
Totals=	1	30.3





DESIGN REPORT

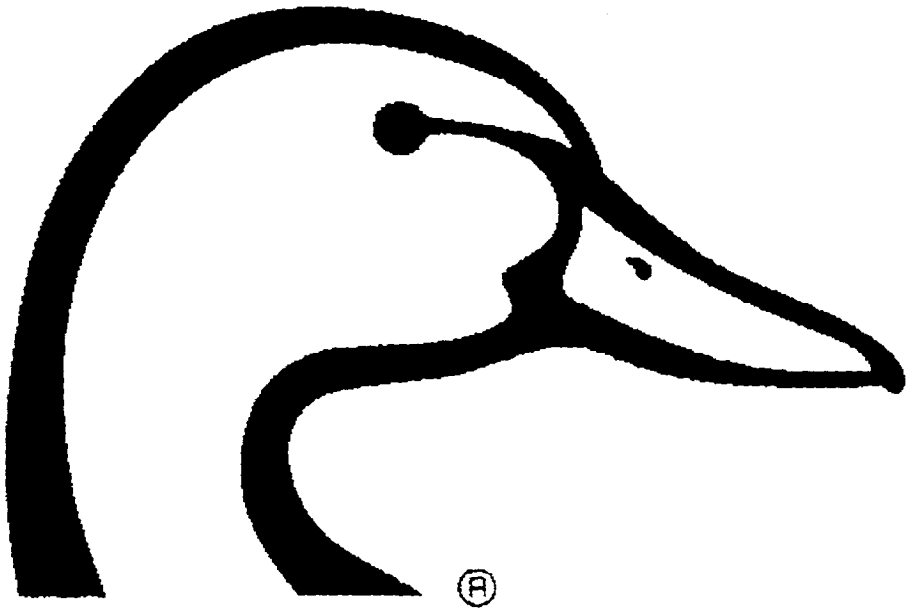
JAN 1999
WATER RIGHTS
PROGRAM
Pierre, SD

for

JOY WETLANDS

HAND COUNTY, SD (SD-0236-001)

July 7, 1998



Prepared by:

Ducks Unlimited, Inc.
3502 Franklin Avenue
Bismarck, ND 58501

PROJECT: Joy 1 Wetland
SD -0236-01

LOCATIONS: SW¼ ~~NE¼~~ SECTION 20 TWP. 113N RGE. 69W.
Lat 44°34'39" / Long 99°09'57"
Hand County, South Dakota

MARSH DATA: Full Service Level (FSL) @ 1614.0 (mean sea level)
30.3 Surface Acres @ FSL
81.4 Acre-Feet Capacity @ FSL
Maximum Depth - 9 feet

PROJECT DATA: Top of Dam - elevation 1620.0
Primary Spillway - 72" CMP riser / 42" CMP barrel @ elevation 1614.0
Drawdown capabilities via 12" PVC pipe and stoplog structure to el. 1610.0
Emergency Spillway - elevation 1615.5
Upstream Berm - elevation 1614.0 (width will vary)
Side Slopes - 3 (horizontal):1 (vertical)

CLASSIFICATION: Based on the classification criteria outlined in Chapter 74:02:08 "Safety of Dams," it is recommended that the proposed dam be classified as a small, Category 3 dam. No loss of life and minimal economic loss is expected should failure occur. The product of the "~~maximum~~ Eff. storage capacity" times the "effective height" is 1386 (10.5 x 132~~0~~)

PRELIMINARY RISK ASSESSMENT: The proposed reconstruction is on an existing dam on Little Wolf Creek, a tributary to Turtle Creek, which empties into the James River. Within one mile of the existing dam is a graveled roadway containing one 60" CMP and an overflow section. A clear weather breach would likely flood over the roadway through the overflow section. From local testimony, the roadway presently floods during spring runoff and heavy rains.

BACKGROUND: The project involves the reconstruction of an existing dam that is in danger of total failure. Presently the center portion of the dam has breached in the area of the primary spillway . The reservoir remains intact having eroded to the approximate elevation 1613. the control elevation prior to the breach was between 1613 and 1614 based on shoreline erosion and similar evidence. According to local testimony, the dam is between 45 and 50 years old. The existing (unusable) primary spillway is a 48" riser with a 36" barrel. The dam has needed repair over the years from damage caused by burrowing animals, which is being blamed for it's present problems. It has not been known to have overtopped during a flood event.

PROPOSED CONSTRUCTION: Improvements include excavating the existing dam to the proposed berm elevation, excavating in the breach area at 3:1 slopes, and excavating the downstream slope of the existing dam to a 12" depth. New compacted fill material will be placed in the excavated breach and on the downstream slope to the existing fill. The dam will be reconstructed using the existing excavated dam as an upstream berm, with new compacted fill being placed to the elevation and dimensions described above in Project Data. A new primary spillway consisting of a corrugated metal riser and barrel will pass inflows from a 2 year event. The capacity of the new primary spillway will about double that of the present spillway. The existing emergency spillway will be expanded from

approximately 50' wide to 100 feet wide. Runoff is uncontained above elevation 1619 on the right abutment. The water control structure will provide variable level control and drawdown to elevation 1610.0

HYDROLOGY / HYDRAULICS: A hydrologic analysis of surface water runoff was performed using regression equations developed in WATER-RESOURCE INVESTIGATIONS REPORT 80-80 USGS. The NRCS TR-20 METHOD was not used to determine the inflow hydrograph since the amount of available storage would not be adequate to reduce inflows substantially.

Local testimony is not consistent with predictions from accepted hydrologic models. The present hydraulic capabilities of the dam should have been substantially under designed for the size of the contributing area. However there is no evidence or record of the dam being overtopped. The outlet slope of the emergency spillway is well vegetated and with the exception of an area of earlier erosion that has been diked off, shows no erosion. The fact that the right abutment does not contain flows to the top of dam elevation and that the emergency spillway is at a nonerosive gradient has contributed to the dams hydraulic success.

The design took into account the history of the site when choosing design frequencies. A 2 yr frequency used for the primary spillway design and a 50 year frequency was used for the emergency spillway design. Although lower than typical Ducks Unlimited design standards, this design meets the minimum spillway design flood requirements for small category 3 dams. This design also increases the hydraulic capacity of the dam almost two fold, on a dam that has not been overtopped.

The following Table is the predicted inflows using the USGS Regression Equations. The second table number is the numerical form of the spillway rating curve.

PARAMETERS:
Watershed - 29.4 Square Miles
Average channel slope (ft/mi) - 22.5
Soil Infiltration index - 3.33

Event	Peak Inflow (cfs)
2 Yr	105
5 Yr	306
10 Yr	558
25 Yr	1049
50 Yr	1579
100 Yr	2223

The primary spillway capacity was calculated by comparing discharges developed by the weir flow formula and formulas for calculating head loss through corrugated metal pipe. The emergency spillway capacity was calculated using FLOWPROF.

Reservoir Elevation	Q- Primary	Q- Emergency	Q-Total
1614.0	0	0	0
1614.5	22	0	22
1615.0	61	0	61
1615.5	105	0	105
1616.0	140	20	160
1616.5	142	110	252
1617.0	145	225	370
1617.5	146	390	536
1618.0	147	603	750
1618.5	149	700	849
1619.0	150	1110	1260
1619.5	151	1200	1351
1620.0	152	1502	1654

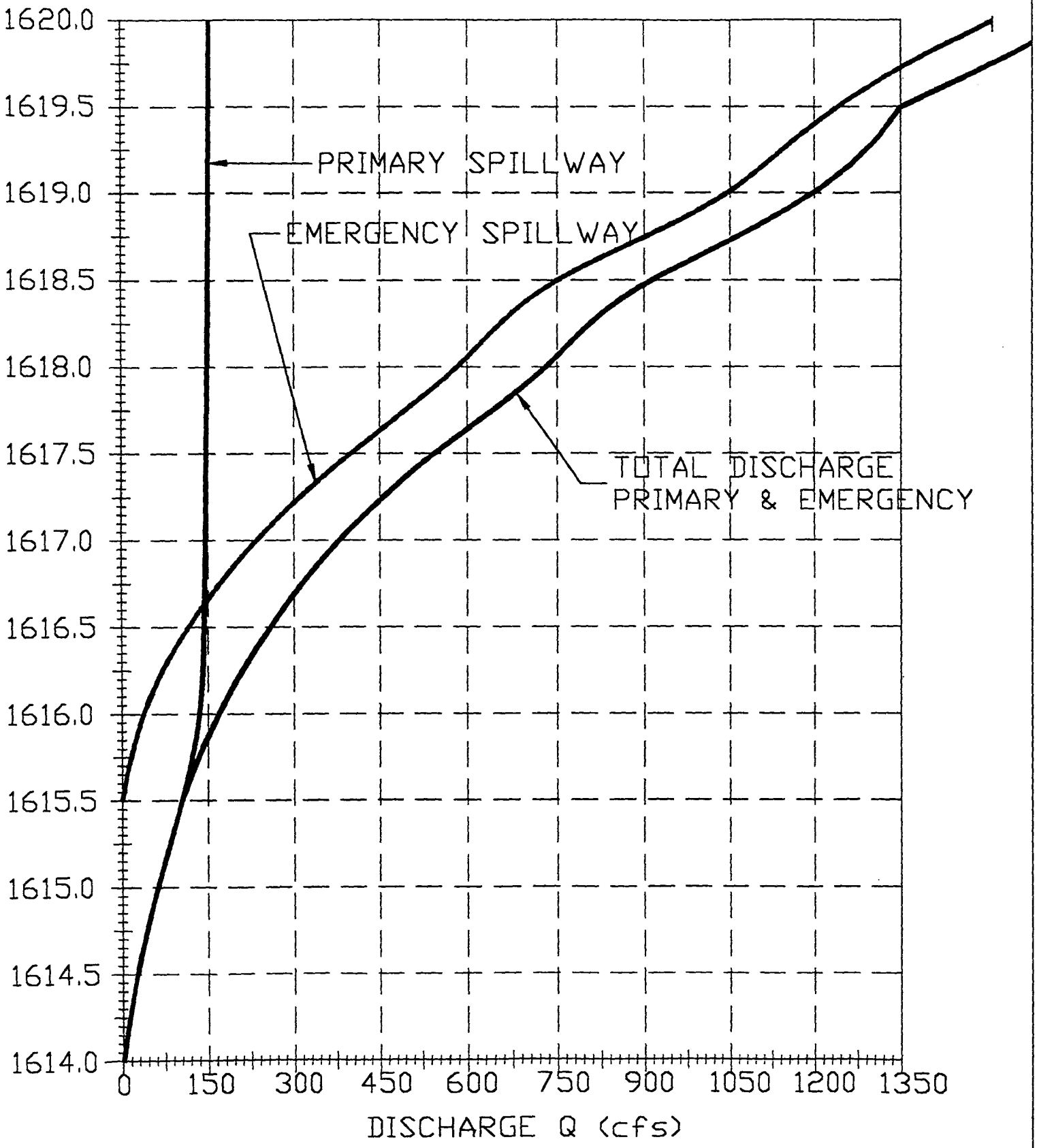
DROUGHT ANALYSIS: It is difficult to determine the frequency in which there will be adequate runoff to sustain the marsh through the brood-rearing period, a criteria important to project sponsors. Due to the large area contributing surface and likely subsurface water to the project, drought cycles which are beneficial to the wetland will have to be simulated through the drawdown structure.

SOIL INVESTIGATION: As of this writing a soil investigation has not been completed. Lab tests will be conducted on borrow area soils to determine the standard proctor density and optimum moisture content. Experience has shown that local soils will be mainly fat clay, adequate for dam construction.

IMPACTS TO SURROUNDING PROPERTY: The planned construction is on land owned by Richard Joy. The subsequent reservoir will cross property boundaries. Those landowners being inundated have expressed a willingness to sign a flood easement. Impacts to neighboring lands will be similar to past and present impacts.

JOY 1

DISCHARGE CURVE



PROJECT: Joy Wetlands (Joy 2)
SD -0236-01

LOCATIONS: NE¼ ~~NE¼~~ SECTION 21 TWP. 113N RGE. 69W.
Lat 44°35'23" / Long 99°07'48"
Hand County, South Dakota

MARSH DATA: Full Service Level (FSL) @ 1584.0 (mean sea level)
3.7 Surface Acres @ FSL
9.2 Acre-Feet Capacity @ FSL
Maximum Depth - 5 feet

PROJECT DATA: Top of Dam - elevation 1588.0
Primary Spillway - none
Emergency Spillway - elevation 1584+
Side Slopes - 3 (horizontal):1 (vertical)

CLASSIFICATION: Based on the classification criteria outlined in Chapter 74:02:08 "Safety of Dams," this dam does not meet the definition of a dam, in that the storage capacity at the emergency spillway is <15 acre-feet. No loss of life and minimal economic loss is expected should failure occur. The product of the "maximum storage capacity" times the "effective height" is <100 (7 x 9.2).

PRELIMINARY RISK ASSESSMENT: Not required

BACKGROUND: The project involves the reconstruction of an existing dam on Richard Joy's property, which has failed either due to burrowing animals or trees located on the embankment. This dam will be repaired incidental to the larger construction project (see report on Joy 1). The spillway appears adequate for the small watershed, sustaining only minor erosion which will be repaired. In the case that Joy 1 is not constructed, this site will not be reconstructed.

PROPOSED CONSTRUCTION: Improvements include excavating the existing dam to the proposed berm elevation, excavating in the breach area at 3:1 slopes, and excavating the downstream slope of the existing dam to a 12" depth. New compacted fill material will be placed in the excavated breach and on the downstream slope to the existing fill. The dam will be reconstructed using the existing excavated dam as an upstream berm, with new compacted fill being placed to the elevation and dimensions described above in Project Data. Borrow material will be obtained from widening the existing emergency spillway and approach channel.

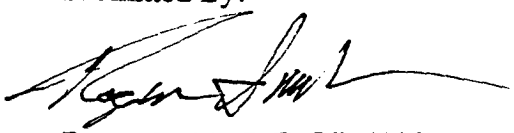
HYDROLOGY / HYDRAULICS: Due to the small watershed (<300 acres) and the acceptability of the existing spillway no hydrologic or hydraulic calculations were performed.

DROUGHT ANALYSIS: The resulting marsh is being justified as duck breeding pair territory which will provide brood-rearing habitat some years. Annual drying of the wetland would not be considered unfavorable.

SOIL INVESTIGATION: As of this writing a soil investigation has not been completed. Lab tests will be conducted on borrow area soils to determine the standard proctor density and optimum moisture content. Experience has shown that local soils will be mainly fat clay, adequate for dam construction.

IMPACTS TO SURROUNDING PROPERTY: The planned construction and subsequent reservoir will be contained within land owned by Richard Joy.

Dated: July 7, 1998
Submitted By:



Roger Smith, P.E (PE-4325)
Regional Engineer
Ducks Unlimited
Great Plains Regional Office

Water Permit Application No. 6123-3
Richard Joy

Site #1 - SW¼ Sec. 29-T113N-R 69W Cat. 3-Low Hazard Dam

Top of Dam Elev. - 1620
2nd Spillway Elev. - 1615.5
P. Spillway Elev. - 1614
D/S Toe Elev. - 1602
Ht. = 18 ft.

Normal Storage Capacity - 81.4 Ac-Ft
Int. Storage Capacity - 132 Ac-Ft
Max Storage Capacity - 332 Ac-Ft.

Eff Ht. = 1615.5 − 1604 = 11.5'

Int. Capacity x Eff. Ht. = 132 x 11.5' = 1518 < 3000 ∴ 25 yr Min Spillway Design

From USGS WRI 80-80 "Tech for Est. Flood Peaks ... in SD"
DA = 29.4 mi²
Slope = 25 ft/mile
SI = 3.33

$Q_{25} = 83.4 A^{.6} S^{.44} SI^{-.72}$
$= 83.4(29.4)^{.6}(25)^{.44}(3.33)^{-.72}$
$= 83.4(7.6)(4.12)(0.42)$
$= 1097$ cfs

$Q_{50} = 106 A^{.63} S^{.45} SI^{-.69}$
$= 106(29.4)^{.63}(25)^{.45}(3.33)^{-.69}$
$= 106(8.42)(4.26)(0.44)$
$= 1657$ cfs

2nd Spillway Flow C = 2.6 L = 100 H = 4.5

$Q = C L H^{3/2}$
$= 2.6(100)(4.5)^{1.5}$
$= 2480$ cfs

Section 74:02:08:09

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

NRCS Annual Yield
CN = 75 DA = 18816 Ac ISO = 2

80% chance = 0.13
0.13 x 18816/12 = 200 Ac-Ft

50% chance = 0.35
0.35 x 18816/12 = 550 Ac-Ft.

10% chance = 1.8
1.8 x 18816/12 = 2800 Ac-Ft.

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

Site 2 - NE¼ Sec. 21 - T 113N - R 69W

Top of Dam Elev. - 1588
Spillway Elev. - 1584
D/S Toe Elev. - 1575
- Ht. = 13 ft.

Normal Storage Capacity = 9.2 Ac-Ft.
Max Storage Capacity = 25 Ac-Ft.

This is a Non-Inventory Dam with a height < 25 ft & a Max. Capacity < 50 Ac-Ft.

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

March 18, 1999

Richard Joy
Box 412
Miller, SD 57362

Dear Mr. Joy:

We have reviewed the plans and specifications for the Ducks Unlimited Joy Wetlands Project in Sections 20 & 21-T113N-R69W, in Hand County. The plans and specifications as submitted are approved. Approval of the plans and specifications does not authorize construction of the dams. Construction may not begin until Water Permit Application Nos. 6123-3 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 dams, from the responsibility for operating and maintaining the dams in good repair to ensure their safety.

The Joy Dam No. 1 will be classified as a small size Category 3, Low Hazard dam with a dam height of 18 feet, a normal storage capacity of 81.4 acre-feet and a maximum storage capacity of 332 acre-feet.

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

Sincerely,

Gale N Selken

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

c: Roger Smith, Ducks Unlimited

REPORT ON
WATER PERMIT APPLICATION NO. 6123-3
Richard Joy
March 9, 1999

Water Permit Application No. 6123-3 has been filed by Richard Joy to impound 90.6 acre-feet of water from Little Wolf Creek by reconstructing two dams. Dam No. 1 will store 81.4 acre-feet of water and will be located in the S ½ SW ¼ of Section 20-T113N-R69W. Dam No. 2 will store 9.2 acre-feet of water and will be located in the NE ¼ NE ¼ of Section 21-T113N-R69W. This application is to authorize sufficient water annually to maintain the water levels in Dam No. 1 and Dam No.2 at the primary spillway elevations of 1614 feet mean sea level and 1584 feet mean sea level respectively. The water will be used for fish and wildlife propagation and livestock watering purposes.

Discussion:

The project involves reconstruction of two dams, Richard Joy Dam No. 1 and Richard Joy Dam No. 2. Due to the small size of Dam No. 2, design of the structure is not subject to the requirement of the Safety of Dams Rules, Chapter 74:02:08; however, the storage capacity has been combined with Dam No. 1 for this Water Permit Application. Dam No. 1 will be classified as a Category 3, Low Hazard dam. Both of these dams have been designed by Ducks Unlimited, Inc. and the plans and specifications have been reviewed and will be approved. Reconstruction of the dams can not begin until Water Permit Application No. 6123-3 is approved.

Dam No. 1 will be 18 feet high with a normal storage capacity of 81.4 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 332 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 will have a drainage area of 29.4 square miles. A 25-year frequency event for this drainage area will produce a peak of approximately 1100 cfs.

Joy Dam No. 1 is designed to have a CMP drop inlet primary spillway with a 72 inch diameter riser with a 42 inch diameter barrel with 6.0 feet of available head and a 100 foot wide earth cut secondary spillway with 4.5 feet of available head. The two spillways have a combined capacity of approximately 1650 cfs.

The annual yield for this drainage area with a 10 percent chance of occurrence, or 1 out of 10 years, is expected to be 2800 acre-feet. The annual yield with a 50 percent chance of occurrence, or 1 out of 2 years, is expected to be 550 acre-feet and the annual yield with a 80 percent chance, or 8 out of 10 years, is expected to be 200 acre-feet.

Joy Dam No.1 is located on Little Wolf Creek and Joy Dam No. 2 is on a tributary of Little Wolf Creek, about 8 to 10 miles upstream of it confluence with the Turtle Creek and Little Turtle Creek. There are no existing Water Permits/Rights on Little Wolf Creek between the Joy dams and Turtle Creek. There are however two small structures on Little Wolf Creek below Dam No.1, but they are also located on Richard Joy's property.

Conclusions:

1. Water Permit Application No. 6123-3 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. 6123-3.

Timothy G. Schaal, P.E.
Natural Resources Engineer III

Approved by:

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

RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT APPLICATION NO. 6123-3, Richard Joy

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. 6123-3, Richard Joy, Box 412, Miller SD 57362.

The Chief Engineer is recommending APPROVAL of Application No. 6123-3 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. 6123-3 authorizes two dams with a combined storage capacity of 90.6 acre feet of water (Dam No. 1 - 81.4 acre feet and Dam No. 2 - 9.2 acre feet) and sufficient water annually to maintain the water level to the outlet elevations of 1,614 (Dam No. 1) and 1,584 (Dam No. 2) feet mean sea level.

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.

JOHN HATCH, Chief Engineer
March 17, 1999

DEPARTMENT of ENVIRONMENT and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

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

March 18, 1999

Richard Joy
Box 412
Miller, SD 57362

Dear Mr. Joy:

Water Permit Application No. 6123-3 for 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 Miller Press printed at Miller, SD (Ph # (605) 853-3575). 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

c: Charles Pyle, Private Lands Specialist, USFWS

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
www.state.sd.us/denr

March 18, 1999

Miller Press
Box 196
Miller, SD 57362-0169

ATTENTION: Legal Public Notice

Enclosed is a Notice of Hearing on Application No. 6123-3 to Appropriate Water to be published twice. Please publish the first notice on April 1, 1999, 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 Richard Joy, Box 412, Miller, SD 57362 (Ph # (605) 853-3535).

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----------

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

No. 6123-3

Date_____

We are in receipt of your letter of March 18, 1999, enclosing Notice of Hearing to Appropriate Water by Application No. 6123-3 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 March 31, 1999, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 6123-3 to Appropriate Water

Notice is given that Richard Joy, Box 412, Miller SD 57362 has filed an application for a water permit to impound 90.6 acre-feet of water from Little Wolf Creek by reconstructing two dams. The largest dam will store 81.4 acre-feet of water and will be located in the S ½ SW ¼ Section 20 with water impounded in portions of the S ½ SW ¼ Section 20; N ½ NW ¼ Section 29; SE ¼ SE ¼ Section 19; NE ¼ Section 30; all in T113N-R69W. The small dam will store 9.2 acre-feet of water and will be located in the NE ¼ NE ¼ Section 21 with water impounded in portions of the NE ¼ NE ¼ Section 21; all in T113N-R69W. The water will be used for livestock and fish and wildlife propagation.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 6123-3 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 April 19, 1999.

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. Nettie H. Myers, Secretary, Department of Environment and Natural Resources.

Length of line: 12 pica
Size of type: 8 pt
Number of lines: 67
Line rate: _____

AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA)
)SS
County of Hand)

Gary L. McFarlane of said county being first duly sworn, on oath says that he is the publisher of *The Miller Press*, a weekly newspaper printed and published in Miller, said County of Hand and has full and personal knowledge of all the facts herein stated; that said newspaper is a legal newspaper and has a bona-fide circulation of at least two hundred copies weekly, and has been published within said County for fifty-two successive weeks next prior to the publication of the notice herein mentioned, and was and is printed wholly or in part in an office maintained at said place of publication; that the

Water Permit

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

3-31 1999; _____ 19__

4-7 1999; _____ 19__

_____ 19__; _____ 19__

that the full amount of the fees for the publication of the annexed notice is

$ 37.36

Gary L. McFarlane

Subscribed and sworn to before me this 7 day of April 1999.

Kenneth A. Sargent Jr.

Kenneth A. Sargent Jr., Notary Public
My Commission expires May 6, 2001
State of South Dakota

Applicant seeks water permit

NOTICE OF APPLICATION NO. 6123-3 to Appropriate Water

Notice is given that Richard Joy, Box 412, Miller, SD 57362 has filed an application for a water permit to impound 90.6 acre-feet of water from Little Wolf Creek by reconstructing two dams. The largest dam will store 81.4 acre-feet of water and will be located in the S1/2SW1/4 Section 20 with water impounded in portions of the S1/2SW1/4 Section 20; N1/2NW1/4 Section 29; SE1/4SE1/4 Section 19; NE1/4 Section 30; all in T113N-R69W. The small dam will store 9.2 acre-feet of water and will be located in the NE1/4NE1/4 Section 21 with water impounded in portions of NE1/4NE1/4 Section 21; all in T113N-R69W. The water will be used for livestock and fish and wildlife propagation.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 6123-3 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 the 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 April 19, 1999.

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. Nettie H. Myers, Secretary, Department of Environment and Natural Resources.

FPNO 31 LPNO 32

APR 1999 WATER RIGHTS PROGRAM Pierre, SD

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

MAY 13 1999

Richard Joy
Box 412
Miller, SD 57362

Dear Mr. Joy:

Enclosed is Water Permit No. 6123-3 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.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

c: Chuck Pyle, US Fish & Wildlife Service, Huron Wetland Management Dist., Federal Bldg., 200 4th St. SW, Huron, SD 57350.

MAP NOT TO SCALE

THIS IS NOT AN OFFICIAL WETLAND MAP.



Water Permit Application No. 6123-3

Timothy L. Schaal

December 2, 1999

MAP NOT TO SCALE

THIS IS NOT AN OFFICIAL WETLAND MAP



Water Permit Application No. 6123-3

Timothy G. Schaal

December 2, 1999

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 6123-3

(1) Richard Joy, Box 412, Miller SD 57362 made Application No. 6123-3, January 27, 1999 for a water permit to impound 90.6 acre-feet of water from Little Wolf Creek, Hand County, South Dakota for fish & wildlife propagation and livestock watering purposes. Permit No. 6123-3, with a priority date of January 27, 1999 was approved April 19, 1999 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before April 19, 2004 and for the application to beneficial use of said water on or before April 19, 2008.

(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 two storage dams and is entitled to impound 90.6 acre-feet of water (Dam #1 – 81.4 acre-feet and Dam #2 – 9.2 acre-feet) for beneficial use with sufficient water annually to maintain the water level to the outlet elevation for Dam #1 - 1,614 feet mean sea level and Dam #2 - 1,584 feet mean sea level. The location of the storage dams are: Dam #1 – 1,450 feet east and 165 feet north of the southwest corner of Section 20 (SE ¼ SW ¼) and Dam #2 – 100 feet south and 150 feet west of the northeast corner Section 21 (NE ¼ NE ¼); all in T113N-R69W.

(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 Richard Joy, Box 412, Miller SD 57362 the holder and/or owner of Water Right No. 6123-3 is issued a license to appropriate water, the right to impound a total of 90.6 acre-feet of water from Little Wolf Creek with sufficient water annually to maintain the water level to the outlet elevations with a priority date of January 27, 1999 from the locations specified in (2) of this license for fish & wildlife propagation and livestock watering purposes. This license is subject to any limitations or qualifications listed in Water Right No. 6123-3 and subject to South Dakota State Law.

John Hatch

JOHN HATCH, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

DEC 10 1999
date

INVOICE

Submitted to: US Fish and Wildlife
Huron Wetland Management District
Federal BLDG., RM 309
200 4th St. SW
Huron, SD 57350

Submitted by: SD DENR, Water Rights Program
523 East Capitol
Pierre, SD 57501

Invoice submitted for application for water rights permit under the landowner, Richard Joy of Miller, Hand, South Dakota. Legal description of dam site is SW1/4 Section 20 TWP 113N RGE 69W.

Filing Fee	$150.00
Licence Fee	$ 50.00
Total Cost	**$200.00**

Karen DeKlaak
signature

January 27, 1999
date

Water Rights Program
(605) 773-3352

Water Rights Program - DENR
File Documentation

NAME OF PERSON OR FILE: Water Permit Application No. 6123-3, Richard Joy

ADDRESS: COUNTY: Hand

DATE: March 17, 1999 TELEPHONE:

RE: **Receipt of Application filing fee**

COMMENTS:

The U.S. Fish & Wildlife Service paid the application and licensing fee for Water Permit Application No. 6123-3 via electronic transfer. Attached is a copy of the State Treasury listing showing that fund transfer occurred.

The $200 electronic transfer is designated for the filing fees as listed below:

Application filing fee	**$150**
Licensing fee	**$ 50**

File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

NAME: Eric Trenhaile

.701269763 STATE OF SD TREASURER

Description	Debits	Credits	Date	Balanc
IOWA SUPPORT CSC-PAYMT 022499 DED*II*206393011A *9		148.60	02/24/99	15194,089.7
AZ CHILD SUPPORT AZ0401303 503706916 DED*IT*138316015A*990222*1500		150.00	02/24/99	15194,239.7
KY.DCSE KY21000 990223 120020010A DED*IO*120020010A *9		180.00	02/24/99	15194,419.7
CO FAM SUPP REG CO0800000 990223 AS611045 DED*II*118945024B *9		183.00	02/24/99	15194,602.7
CO FAM SUPP REG CO0800000 990223 AW954985 DED*II*38000 1 83-997 *9		194.00	02/24/99	15194,796.7
FWS TREAS 312 MISC PAY 022499 466000364141600 RMT*IV*USFWS/HURON WMD **		200.00	02/24/99	15194,996.7
WASHINGTON-DSHS WA53000000 022399 014437234 DED*II*153697021A*990219*2201		220.17	02/24/99	15195,216.9
CO FAM SUPP REG CO0800000 990223 AV993984 DED*II*46000 D92-465 *9		234.03	02/24/99	15195,450.9

Post-it® Fax Note 7671	Date 3/16	# of pages ▶
To Rob Green	From Sandy	
Co./Dept. DENR	Co. Treasurer	
Phone #	Phone # 4166	
Fax # 4068	Fax #	

MAR 1999
WATER RIGHTS
PROGRAM
Pierre, SD

TOTAL P.01

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

DEC 10 1999

6123-3

Richard Joy
Box 412
Miller, SD 57362

Dear Mr. Joy:

Enclosed is Water License No. 6123-3. Water License No. 6123-3 is the final document which completes the 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.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Program
(605) 773-3352

ks
enclosures

6123-3

DUCKS UNLIMITED

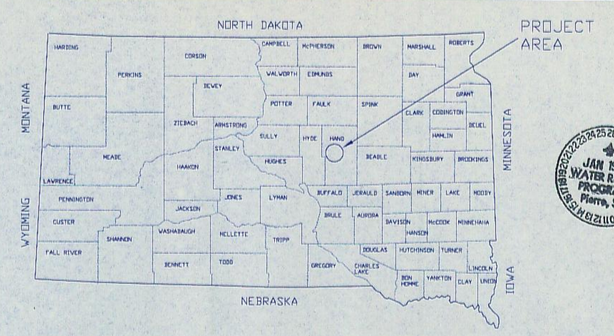
PROJECT

JOY WETLANDS

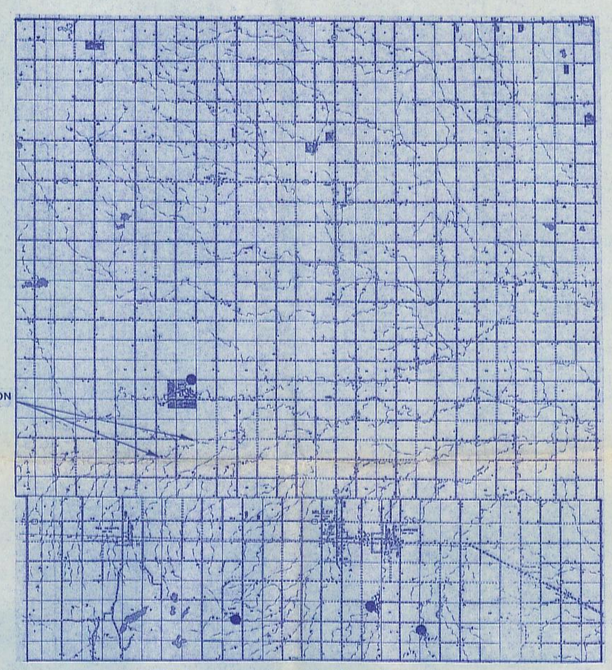
SECTIONS 20 & 21, T113N, R69W, HAND COUNTY, SOUTH DAKOTA

IN COOPERATION WITH

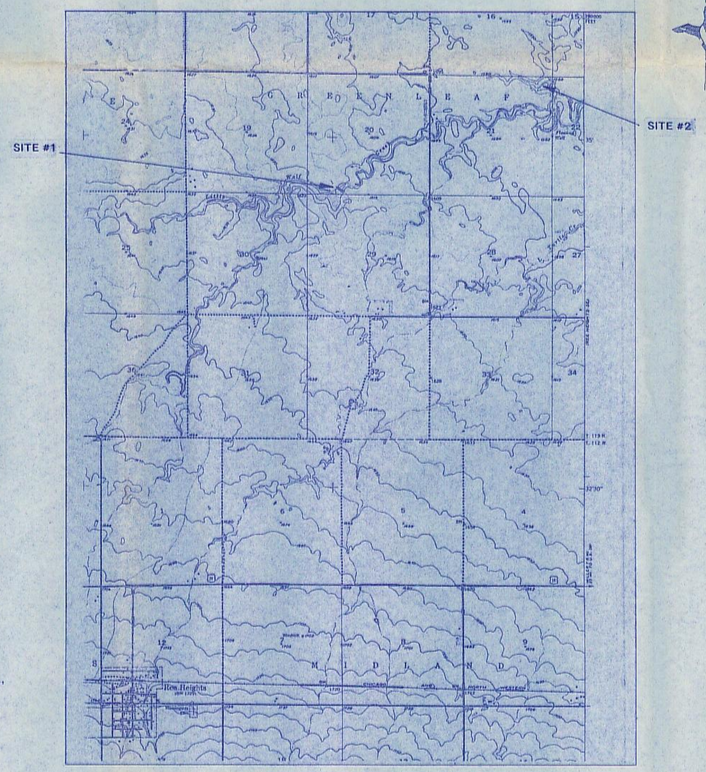
U.S. FISH & WILDLIFE SERVICE



JAN 1999
WATER RIGHTS PROGRAM
Pierre, SD



NORTH HALF HAND COUNTY



VICINITY MAP

SITE 1
LAT N44°34'39"
LONG 99°07'48"W
SITE 2
LAT N44°35'23"
LONG 99°07'48"W

DUCKS UNLIMITED SPECIFICATIONS

GENERAL CONDITIONS	101
MOBILIZATION	201
SITE PREPARATION	202
EXCAVATION	203
EMBANKMENT CONSTRUCTION	204
WATER	205
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WATER CONTROL STRUCTURE & CULVERT APPURTENANCES	206A
CULVERT INSTALLATION	207
CAST-IN-PLACE REINFORCED CONCRETE	208
RIPRAP PLACEMENT	209
REMOVAL & SALVAGE OF EXISTING CULVERTS/STRUCTURES	307

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SITE 1 SITE PLAN	3
SITE 1 STRUCTURE PLAN & PROFILE	4
SITE 1 STRUCTURE DETAILS	5
SITE 2 TOPOGRAPHY	6
SITE 2 SITE PLAN	7

QUANTITIES

MOBILIZATION	1	L.S.
SITE #1		
SITE PREPARATION	1	L.S. (EMERGENCY SPILLWAY 1367 C.Y., EXISTING EMBANKMENT 1168 C.Y.)
EXCAVATION		
BREACH EXCAVATION	2249	C.Y.-INC.
EMERGENCY SPILLWAY	110	C.Y.-INC.
EMBANKMENT CONSTRUCTION	8000	C.Y.-S*
WATER	120	M-GAL.**
WATER CONTROL STRUCTURE		
72"ø CMP RISER	1	L.S.
IN-LINE DRAWDOWN STRUCTURE	1	L.S.
APPURTENANCES	1	INC.
CULVERT INSTALLATION		
42"ø CMP	78	L.F.
12"ø PVC	25	L.F.
RIPRAP PLACEMENT		
CLASS I	11	C.Y.-P
CLASS II	15	C.Y.-P
STIE #2		
SITE PREPARATION	1	L.S. (EMERGENCY SPILLWAY 37 C.Y., EXISTING EMBANKMENT 564 C.Y.)
EXCAVATION	439	C.Y.-S (EMERGENCY SPILLWAY 110 C.Y., BREACH EXCAVATION 329 C.Y.)
EMBANKMENT CONSTRUCTION	2525	C.Y.-S*
WATER	38	M-GAL.**

*INCLUDES 10% FOR SHRINKAGE
**BASED ON 15 GAL./C.Y.

NOTES TO CONTRACTOR:
Staked quantities listed above are estimated quantities for design & bidding purposes. Final as-staked quantities derived from the construction staking data will establish quantities for final payment. Project construction staking & final as-staked quantity calculations have not been completed prior to the bid solicitation.



AGENCY CONTACT:
BOB BARRETT
U.S. FISH & WILDLIFE SERVICE
HURON, SOUTH DAKOTA
605/352-5894
LANDOWNER CONTACT:
RICHARD JOY
605/853-2442

PROJECT SIGNING
SIGN 'A' 24"x36"
SIGN 'B' 11"x14"
SIGN 'A' AND _ SIGN 'B' WILL BE PROVIDED BY DUCKS UNLIMITED AND DELIVERED TO THE COOPERATING AGENCY. THE AGENCY IS RESPONSIBLE FOR INSTALLING THE SIGN(S) AT THE LOCATION(S) DESIGNATED ON THE PLANS.

DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. SD-0236-001 JOY WETLANDS VICINITY MAP		DESIGNED BY: R.C.S.
			DRAWN BY: R.C.S.
			SURVEYED BY:
			CHECKED BY:
DATE: 7-17-98	SHEET NO. 1 OF 7	APPROVED BY: P.E.	APPROVED BY:

6123-3

6123-3

DUCKS UNLIMITED

SPECIFICATIONS

GENERAL CONDITIONS	101
MOBILIZATION	201
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EMBANKMENT CONSTRUCTION	204
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*INCLUDES 10% FOR SHRINKAGE
**BASED ON 15 GAL./C.Y.

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DUCKS UNLIMITED

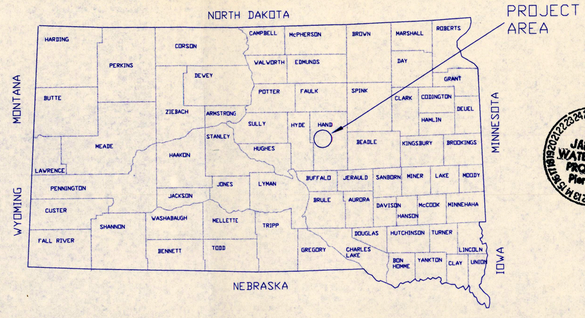
PROJECT

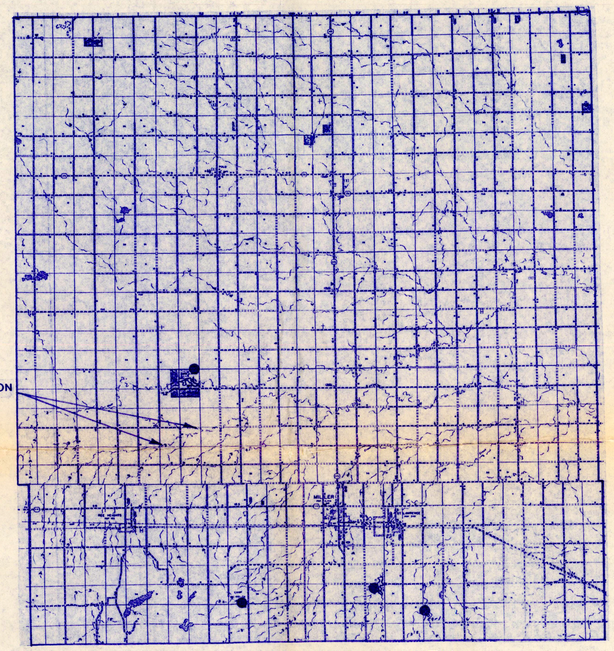
JOY WETLANDS

SECTIONS 20 & 21, T113N, R69W, HAND COUNTY, SOUTH DAKOTA

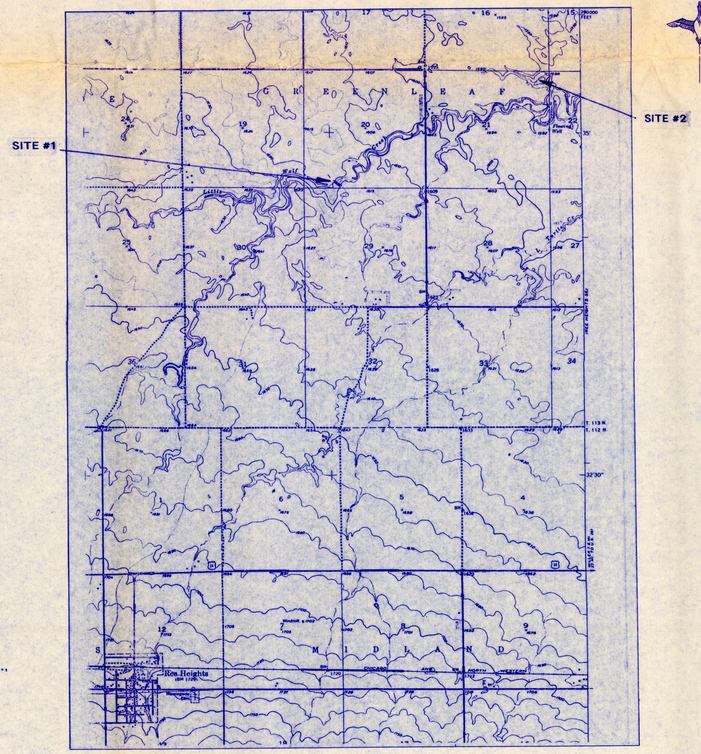
IN COOPERATION WITH

U.S. FISH & WILDLIFE SERVICE





NORTH HALF HAND COUNTY



VICINITY MAP

SITE 1
LAT N44°34'39"
LONG 99°07'48"W
SITE 2
LAT N44°35'23"
LONG 99°07'48"W

REGISTERED PROFESSIONAL ENGINEER
SEC. NO. 4325
ROGER C. SIMONSEN
SOUTH DAKOTA

AGENCY CONTACT:
BOB BARRETT
U.S. FISH & WILDLIFE SERVICE
HURON, SOUTH DAKOTA
605/352-5894
LANDOWNER CONTACT:
RICHARD JOY
605/853-2442

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SIGN "A" AND SIGN "B" WILL BE PROVIDED BY DUCKS UNLIMITED AND DELIVERED TO THE COOPERATING AGENCY. THE AGENCY IS RESPONSIBLE FOR INSTALLING THE SIGN(S) AT THE LOCATION(S) DESIGNATED ON THE PLANS.

DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE

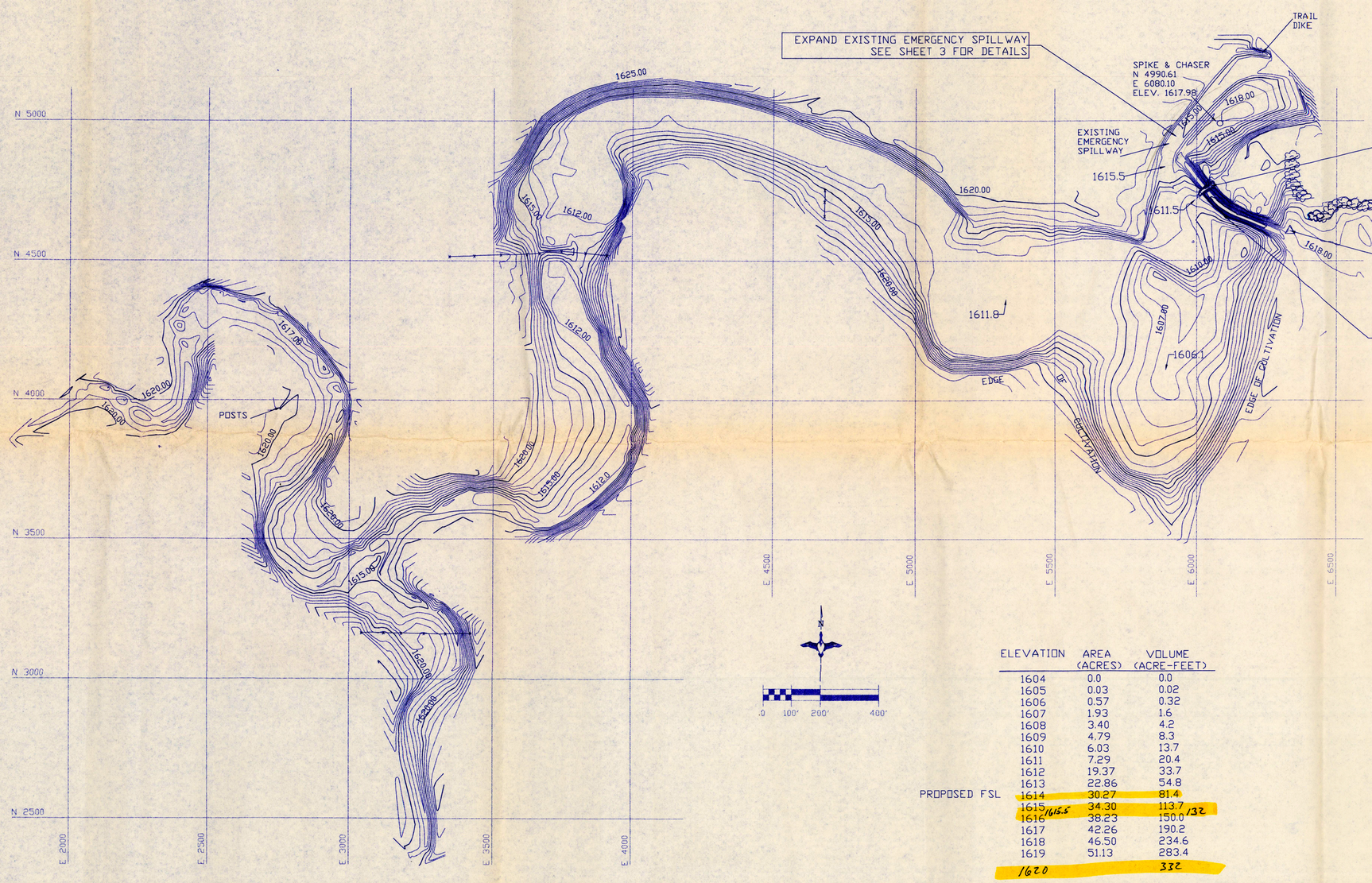
PROJECT NO. SD-0236-001	JOY WETLANDS		DESIGNED BY: R.C.S.
	VICINITY MAP		DRAWN BY: R.C.S.
			SURVEYED BY:
DATE: 7-17-98	SHEET NO. 1 OF 7	APPROVED BY: P.E.	CHECKED BY: APPROVED BY:

6123-3

JAN 1999 WATER RIGHTS PROGRAM Pierre, SD

61233

JAN 1999
WATER RIGHTS
PROGRAM
Pierre, SD



ELEVATION	AREA (ACRES)	VOLUME (ACRE-FEET)
1604	0.0	0.0
1605	0.03	0.02
1606	0.57	0.32
1607	1.93	1.6
1608	3.40	4.2
1609	4.79	8.3
1610	6.03	13.7
1611	7.29	20.4
1612	19.37	33.7
1613	22.86	54.8
1614	30.27	81.4
PROPOSED FSL 1615 1615.5	34.30	113.7 132
1616	38.23	150.0
1617	42.26	190.2
1618	46.50	234.6
1619	51.13	283.4
1620		332

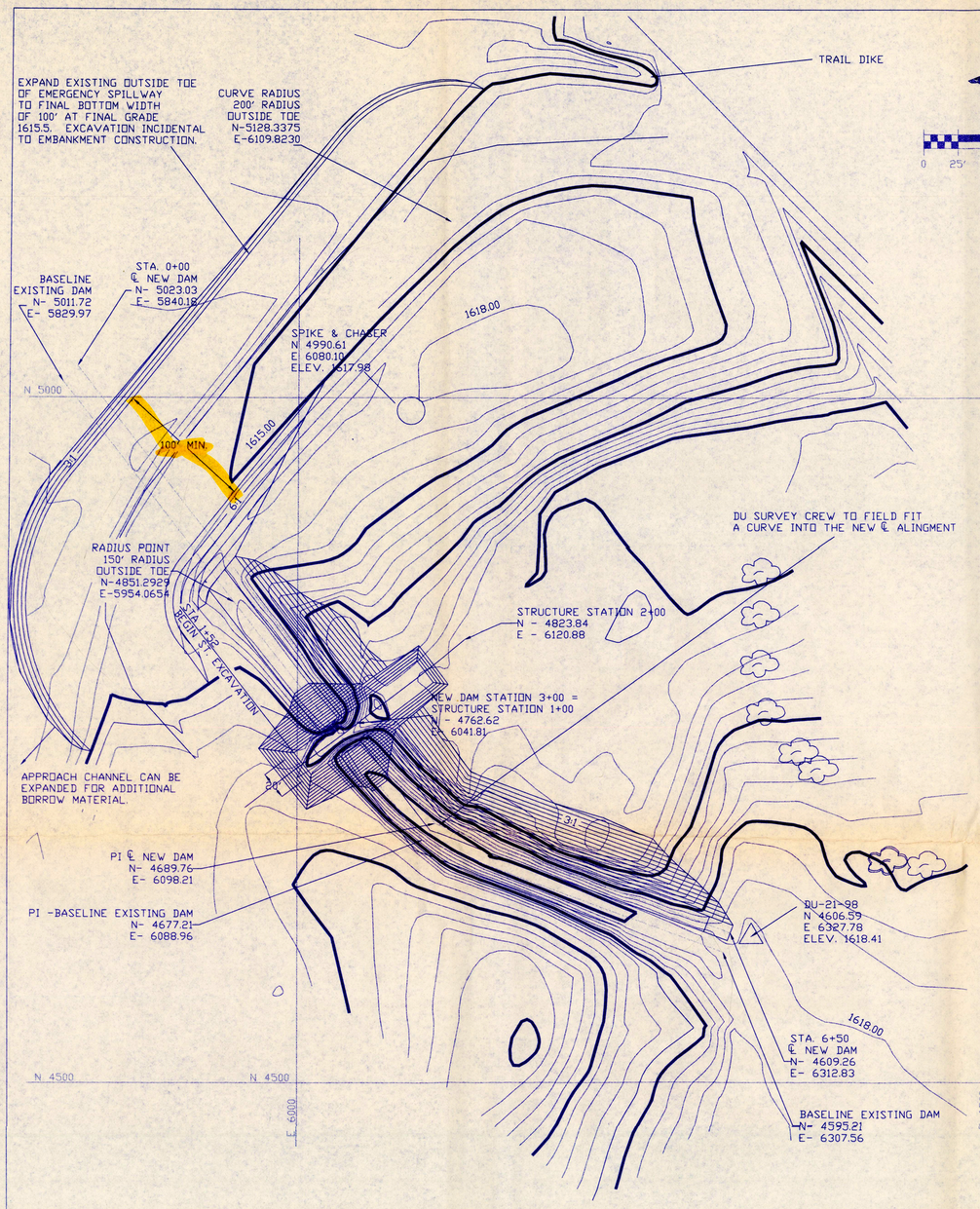
DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE

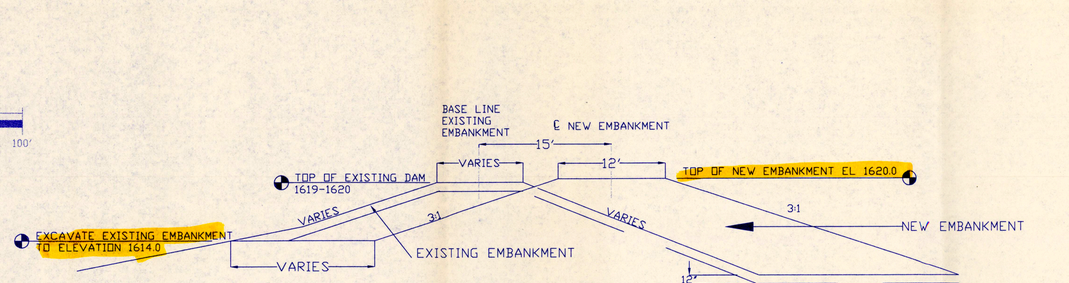
PROJECT NO. SD-0236-001
JOY WETLAND
SITE '1'
SITE PLAN

DESIGNED BY: R.C.S.
DRAWN BY: [illegible]
SURVEYED BY: T.E.
CHECKED BY:

DATE: 7-17-98
SHEET NO. 2 OF 7
APPROVED BY:
APPROVED BY:

6123-3



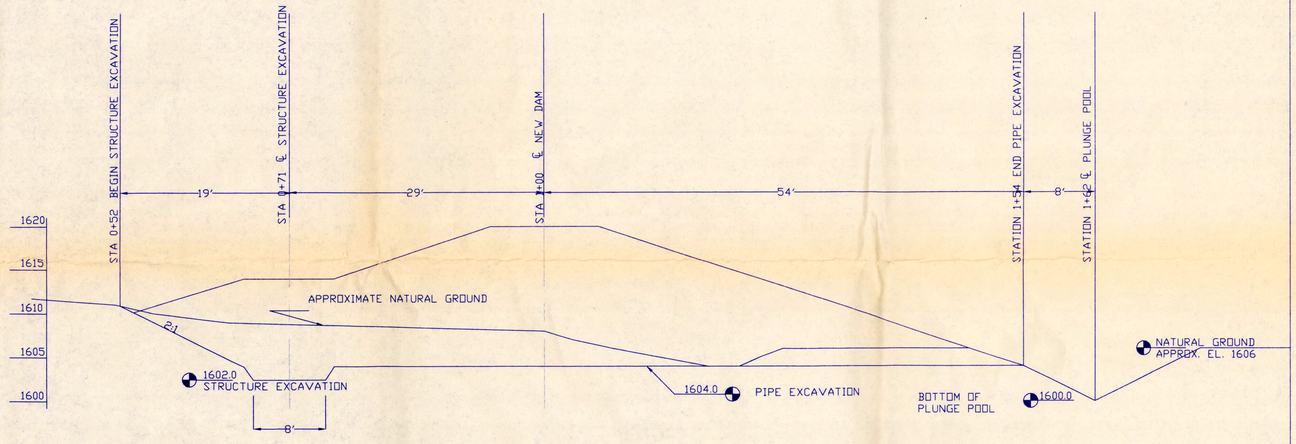


TYPICAL X- SECTION
STATIONS OUTSIDE BREACH EXCAVATION

NOT TO SCALE

REMOVE AND STOCKPILE12' TOPSOIL (SITE PREPARATION). SCARIFY AN ADDITIONAL 6' AND RECOMPACT. RESPREAD AND MINIMAL OF 4' TOPSOIL OVER COMPLETED EMBANKMENT.

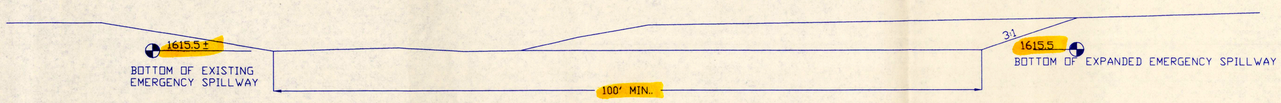
NOTE - EXISTING EMBANKMENT SHALL BE EXCAVATED TO 3:1 SLOPES ON BOTH SIDES OF BREACH. THE NEW EMBANKMENT WILL BE CONSTRUCTED THROUGH THE BREACH SECTION HAVING A BERM OF SUFFICIENT WIDTH TO ACCOMODAT STRUCTURE.



℄ PROFILE STRUCTURE EXCAVATION
TYPICAL X-SECTION NEW DAM

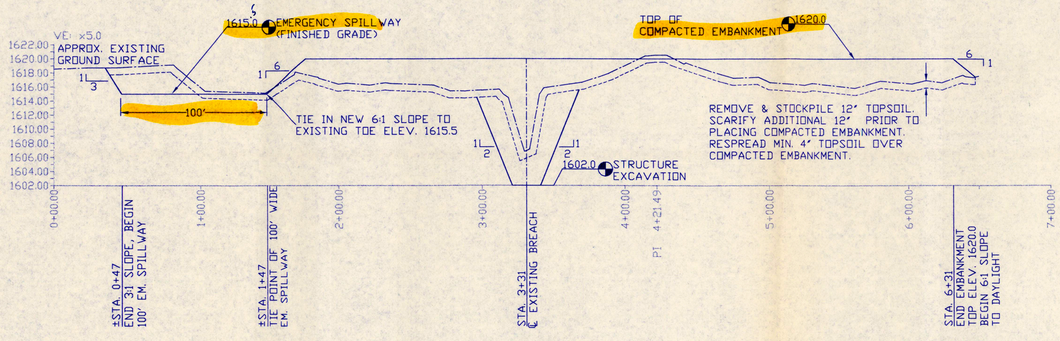
NOT TO SCALE

MATERIAL EXCAVATED FROM SPILLWAY EXPANSION SHALL BE USED IN EMBANKMENT CONSTRUCTION. SPILLWAY EXPANSION IS INCIDENTAL TO EMBANKMENT CONSTRUCTION.



TYPICLAL X-SECTION
EMERGANCY SPILLWAY EXPANSION

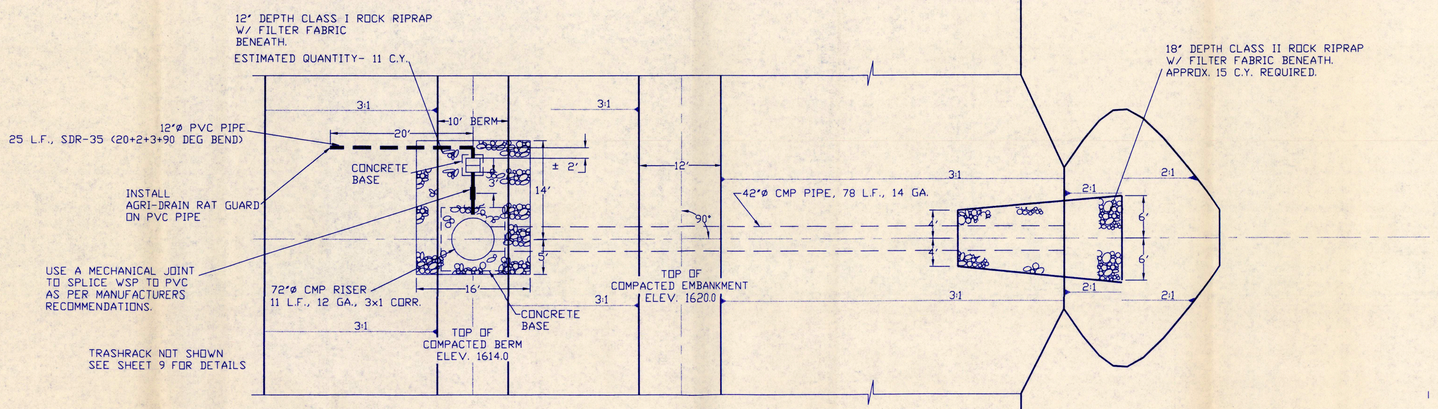
NOT TO SCALE



DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. SD-0236-001		DESIGNED BY: R.C.S.
	JOY WETLANDS SITE 1		DRAWN BY: R.C.S.
	SITE PLAN		SURVEYED BY: T.E.
			CHECKED BY:
DATE: 7-17-98	SHEET NO. 3 OF 7	APPROVED BY:	APPROVED BY:

JAN 1999
WATER RIGHTS PROGRAM
Pierre, SD

6123-3



STRUCTURE PLAN VIEW

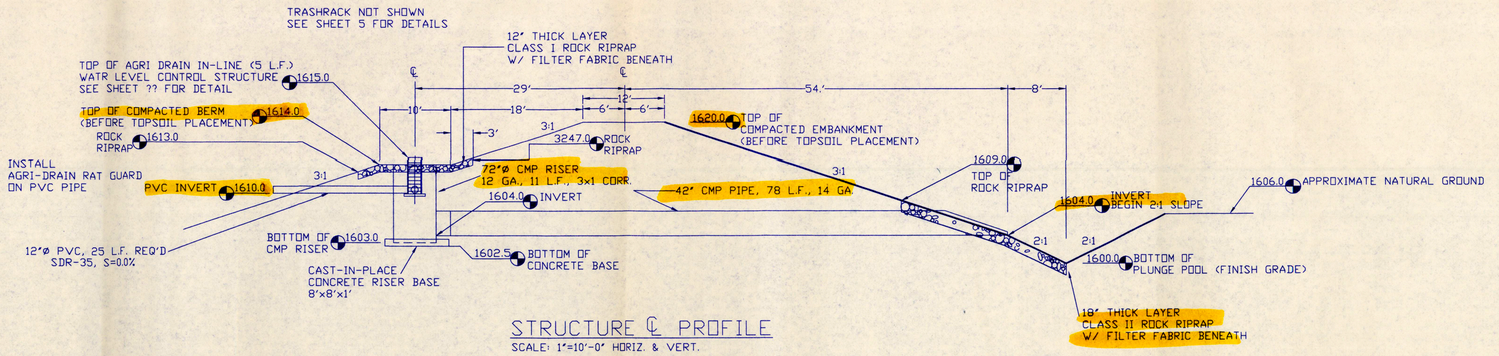
SCALE: 1"=10'-0" HORIZ. & VERT.

SEE ℄ PROFILE STRUCTURE EXCAVATION
AND ℄ PROFILE EXISTING DAM SHEET 3

NOTE CONCERNING STRUCTURE, CULVERT, & PLUNGE POOL EXCAVATION:

EXCAVATION REQUIRED FOR STRUCTURE AND PIPE INSTALLATION, AND PLUNGE POOL CONSRUCTION IS INCIDENTAL TO 'CULVERT INSTALLATION'. EXCAVATED MATERIAL DEEMED SUITABLE BY THE ENGINEER MAY BE USED IN EMBANKMENT CONSTRUCTION.

EXCAVATION BELOW THE LINES AND GRADES, REQUIRED BY THE ENGINEER WILL BE CONSIDERED AS EXTRA WORK.



STRUCTURE ℄ PROFILE

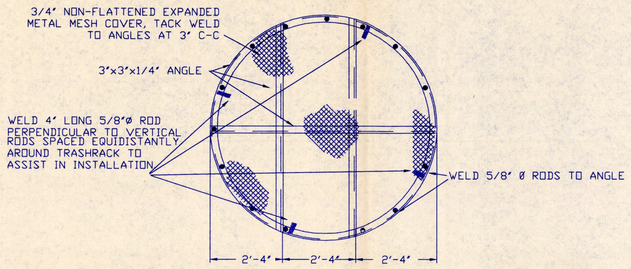
SCALE: 1"=10'-0" HORIZ. & VERT.

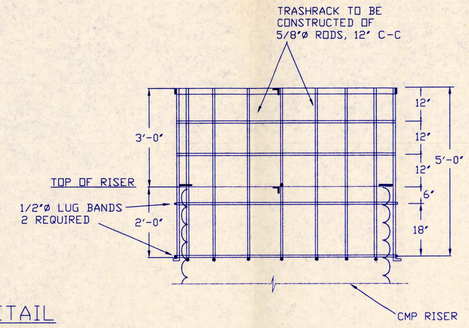
SEE ℄ PROFILE STRUCTURE EXCAVATION
AND ℄ PROFILE EXISTING DAM SHEET 3

DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. SD-0236-001		DESIGNED BY: R.C.S.
	JOY WETLANDS JOY 1 SITE		DRAWN BY: R.C.S.
			SURVEYED BY:
	STRUCTURE PLAN & PROFILE		CHECKED BY:
DATE: 7-17-98	SHEET NO. 4 OF 7	APPROVED BY:	APPROVED BY:

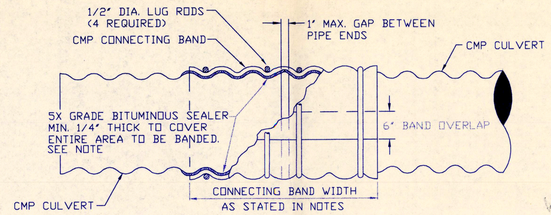
JAN 1999
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PROGRAM
PIERRE, SD

6123-3





TRASHRACK DETAIL
NOT TO SCALE

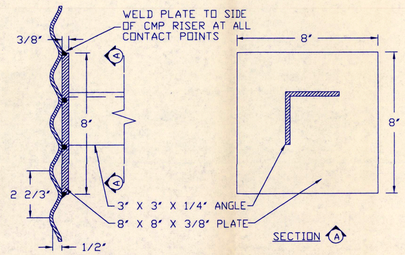


AFTER BANDS HAVE BEEN TIGHTENED, A COAT OF 5X SEALER SHALL BE APPLIED AROUND THE CULVERT AT THE ENDS OF THE CONNECTING BAND AND ALONG THE SEAM OF THE BAND OVERLAP.

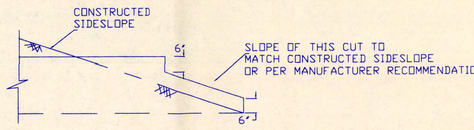
NOTE TO SUPPLIERS:
IF ANNULAR PIPE IS USED, USE A 2 FT. WIDE ANNULAR BAND. IF HELICAL PIPE WITH 4 CORRUGATIONS REROLLED TO ANNULAR IS USED, USE A 21 INCH WIDE ANNULAR BAND. SEE SPECIFICATION 207.2.

CONNECTING BAND DETAIL
NOT TO SCALE

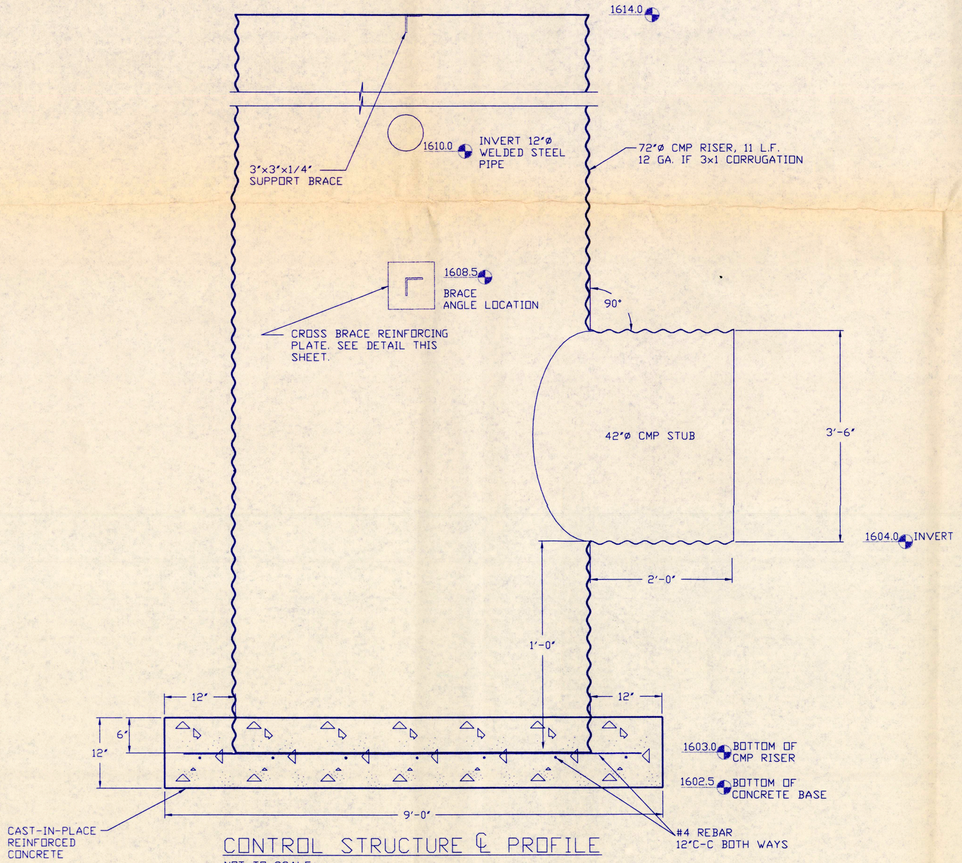
JAN 1999
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PIERRE, SD



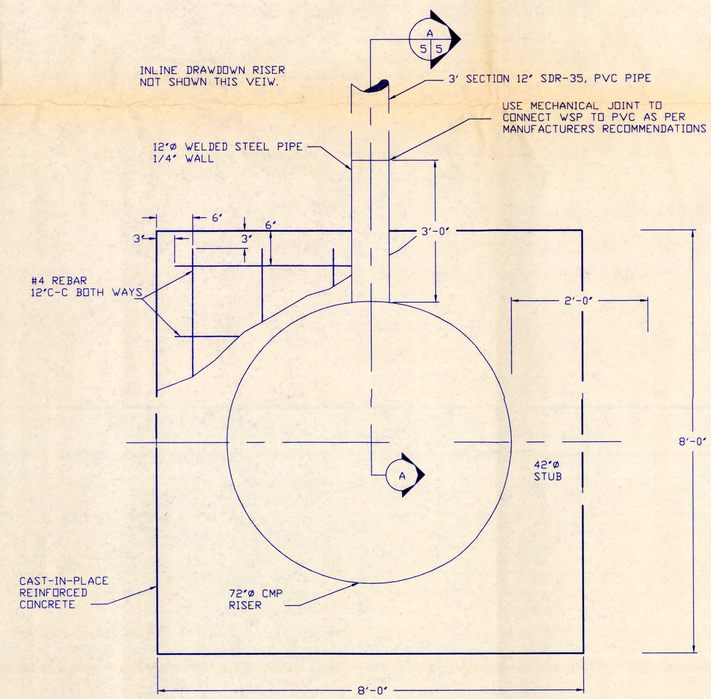
CROSS BRACE RIENFORCING PLATE



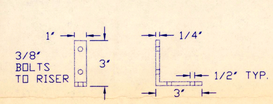
STEP BEVEL DETAIL
NOT TO SCALE



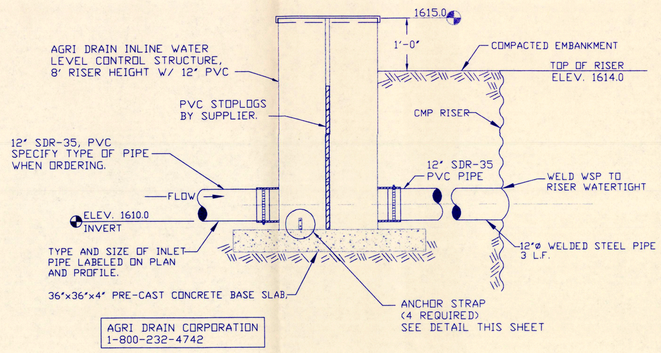
CONTROL STRUCTURE ℄ PROFILE
NOT TO SCALE



CONTROL STRUCTURE PLAN
NOT TO SCALE



ANCHOR STRAP DETAIL
NTS



NOTE:
COST OF INLINE WATER CONTROL STRUCTURE AND INSTALLATION SHALL BE PAID AS BID ITEM "WATER CONTROL STRUCTURE - INLINE DRAWDOWN"

INLINE DRAWDOWN STRUCTURE - SECTION
NOT TO SCALE

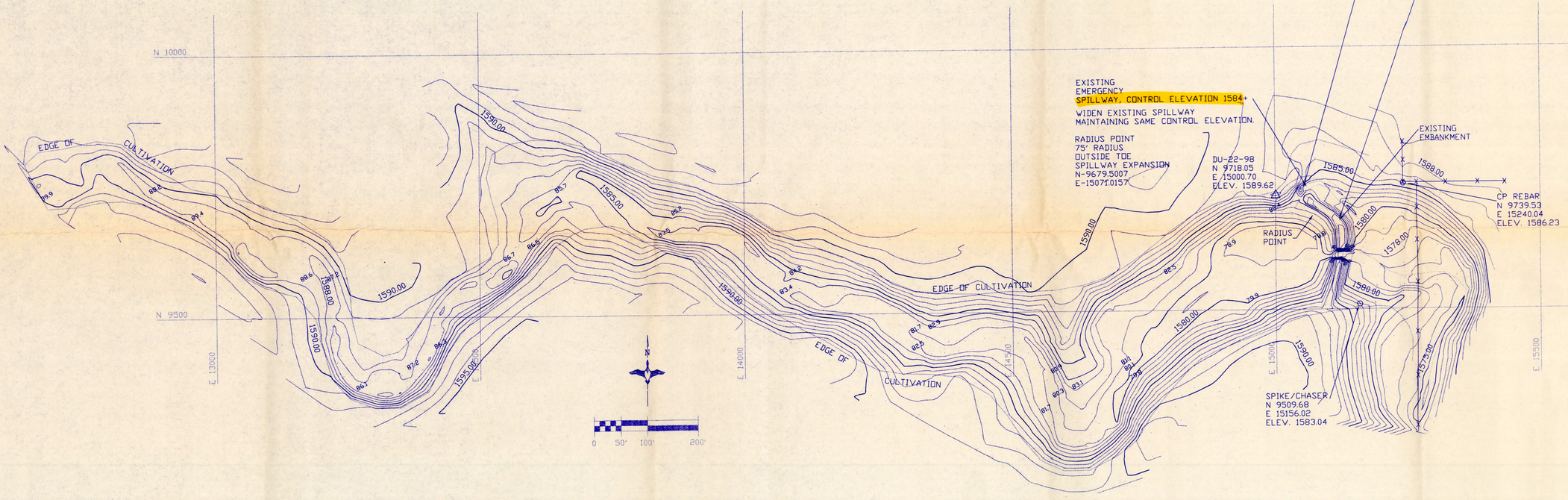
DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. SD-0236-001		DESIGNED BY: R.C.S.
	JOY WETLANDS SITE 1		DRAWN BY: K.B
	SITE 1 STRUCTURE DETAILS		SURVEYED BY:
			CHECKED BY:
DATE: 7-17-98	SHEET NO. 5 OF 7	APPROVED BY:	APPROVED BY:

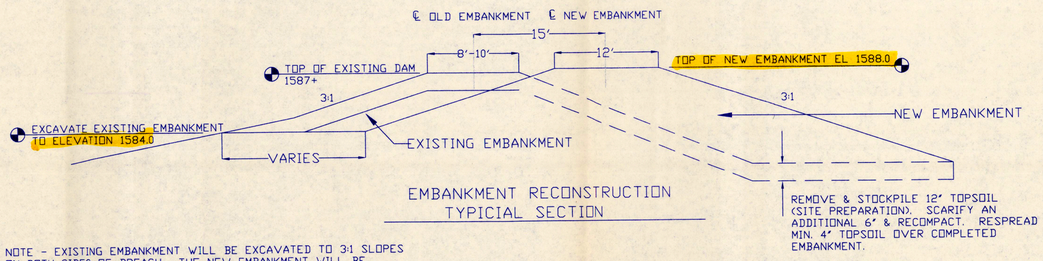
6123-3

JAN 1999
WATER RIGHTS
PROGRAM
PIERRE, SD

ELEVATION	AREA (ACRES)	VOLUME (ACRE-FEET)
1579	0.2	0.0
1580	0.8	0.5
1581	1.4	1.6
1582	2.2	3.4
1583	2.9	5.9
FSL 1584	3.7	9.2
1585	4.5	13.4
1588		25

Height = 1588 − 1575 = 13 feet





EMBANKMENT RECONSTRUCTION
TYPICAL SECTION

NOTE - EXISTING EMBANKMENT WILL BE EXCAVATED TO 3:1 SLOPES ON BOTH SIDES OF BREACH. THE NEW EMBANKMENT WILL BE CONSTRUCTED THROUGH THE BREACH SECTION HAVING A 10' BERM THROUGH THE BREACH AREA.

DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE

PROJECT NO. SD-0236-001
JOY WETLANDS
SITE 2
SITE PLAN

DESIGNED BY: R.C.S.
DRAWN BY: KB
SURVEYED BY: T.R.E.
CHECKED BY:

DATE: 7-17-98
SHEET NO. 6 OF 7
APPROVED BY:
APPROVED BY:

6123-3

RECONSTRUCT EXISTING SPILLWAY. ERODED AREA SHALL BE FILLED IN & BROUGHT TO CURRENT CONTROL ELEVATION ±1584.

℄ NEW EMBANKMENT
STA. 0+00
N 9760.85
E 15016.13

℄ EXISTING EMBANKMENT
N 9748.6
E 15007.4

DU-22-98
N 9718.05
E 15000.70
ELEV. 1589.68

EXPAND APPROACH CHANNEL AS NEEDED FOR ADDITIONAL BORROW MATERIAL.

EMERGENCY SPILLWAY RADIUS POINT
N 9679.50
E 15071.01
RADIUS OF 75'
TO OUTSIDE TOE OF SPILLWAY

NEW EMBANKMENT RADIUS POINT
N 9633.3
E 15066.4
RADIUS OF 75'
TO ℄ OF NEW EMBANKMENT

DU SURVEY CREW TO FIELD FIT A CURVE INTO NEW ℄ ALIGNMENT.

P.I. STA. 2+22.41
℄ NEW EMBANKMENT
N 9664.3
E 15152.2

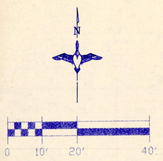
CP REBAR
N 9739.53
E 15240.04
ELEV. 1586.23

SPIKE/CHASER
N 9509.68
E 15156.02
ELEV. 1583.04

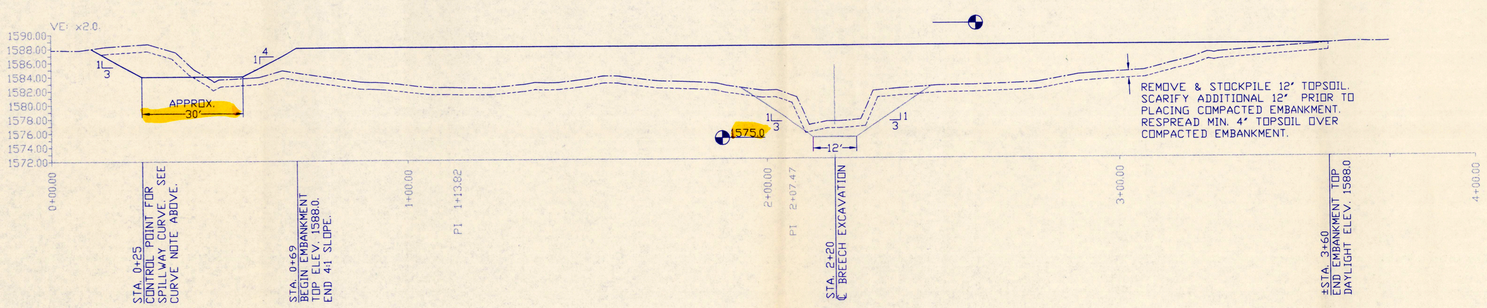
℄ EXISTING EMBANKMENT
N 9490.8
E 15090.1

℄ NEW EMBANKMENT
N 15094.23
E 9449.62

1585.00
1588.00
1580.00
1578.00
1575.00
3:1







DUCKS UNLIMITED INC.	PROJECT NO. SD-0236-001		DESIGNED BY: R.C.S.
GREAT PLAINS REGIONAL OFFICE	JOY WETLANDS SITE 2 SITE PLAN & PROFILE		DRAWN BY: KB
			SURVEYED BY: T.R.E.
			CHECKED BY:
DATE: 7-17-98	SHEET NO. 7 OF 7	APPROVED BY:	APPROVED BY: