

Considered: _____

WATER PERMIT NO. 5516-3

Phone: 303 236-5321

Name of Applicant: U.S. Fish & Wildlife Service

Post Office Address: PO Box 25486, Denver Federal Center, Denver CO 80225

Amount of Water Claimed: 295 ac-ft Total Acres: _____

Source of Water Supply: James River

Water to be used for: Fish & wildlife production County: Brown

About 3 miles north of Columbia

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved _____ Subject to _____

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

PRIORITY Date Received: 3-8-91 Fee: \$250.00 Remarks _____

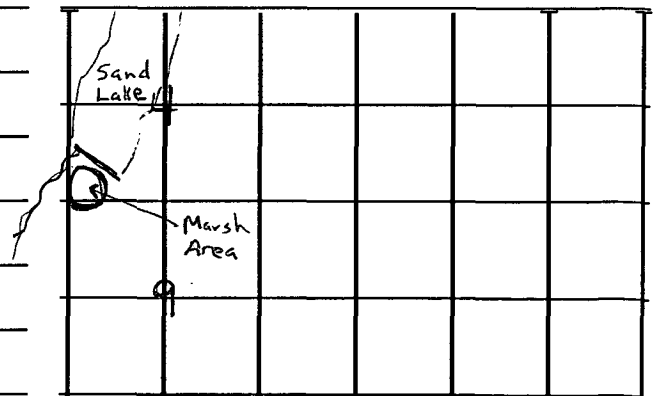
Corrected Application Received _____ Period of Annual Use Jan 1 - Dec 31

WATER QUALITY APPROVAL RECEIVED _____ APPROVED/CONDITIONAL (Circle one)

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

Diversion Point: NW 1/4 SW 1/4 Sec 4-125-62

Land to be Irrigated: _____



Well Log: Driller: _____ Licensed YES _____ NO _____

Depth of Well: _____ REMARKS _____

Type of Map: topo PREPARED BY: William A Godby Reviewed and the Number

Assigned on 3-8-91 By Karen Schlaak

Mail to: Water Rights Div.
DWNR, Foss Bldg.
Pierre, SD 57501
(605) 773-3352

No. 5516-3 Hydrologic Unit 10160003
Map No. _____ Basin James River
Newspaper Aberdeen American News, Box 4430 (Daily)

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 ☒ Fish and Wildlife

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. _____
United States of America

1. Name of Applicant Fish and Wildlife Service Phone No. 303/236-5321

Post Office Address P.O. Box 25486, Denver Federal Center, Denver State Colorado 80225
(Street, RR or Box) (City) Zip Code

2. Amount of water claimed (c.f.s.) natural flow up to 295 acre-feet

3. Source of water supply James River

4. Location of point of diversion ^{dam} NW1/4 SW1/4 Section 4 T125N R62W

Impounded areas - SW1/4 Sec 4, portion of NW1/4 Sec 9; all in T125N, R62W

County Brown

5. Counties where water will be used Brown

6. Annual period during which water is to be used January 1 - December 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)

Engineering drawings No. DU-1-SD-058-0 and design report attached.

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~~ COLORADO
County of Jefferson ss

I, Elliott N. Sutta 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 Elliott N. Sutta **ELLIOTT N. SUTTA**
Acting REGIONAL DIRECTOR

Subscribed and sworn to before me this 28th day of February 1991

Susan E. Craddock
Notary Public
My Commission Expires August 5, 1993

**SOUTH DAKOTA
WATER PERMIT No. 5516-3**

Date of first receipt of application March 8, 1991.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 5516-3 to U.S. Fish and Wildlife Service, PO Box 25486, Denver Federal Center, Denver CO 80225 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 5516-3 will impound 295 acre-feet by diverting James River overflow during high spring runoff events and constructing a dam in the Sand Lake National Refuge to contain the water in a marsh area. The dam site is to be located in the NW 1/4 SW 1/4 Section 4 and water will be impounded in the SW 1/4 Section 4 and a portion of the NW 1/4 Section 9; all in T125N, R62W. Water is to be stored annually to an approximate elevation of 1288.5 feet mean sea level.
2. The water appropriated shall be used for the purpose of providing habitat for fish and wildlife production 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. 5516-3 is June 19, 1991.
5. The date from which applicant may claim right is March 8, 1991.
6. One-fifth of the construction is to be completed on or before December 19, 1993.
7. All construction is to be completed on or before June 19, 1996.
8. Water is to be put to beneficial use on or before June 19, 2000.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATION

Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed. This permit does not authorize diversion of water at any time when the river flow is low, unless at least 110 cfs are by-passed when diverting water, or written orders have been issued by the Chief Engineer. Diversion under this permit shall be in accordance with any written orders issued by the Chief Engineer.

WATER MANAGEMENT BOARD

By: _____

John H. Coffey
Chief Engineer, Water Rights Division
Department of Environment and Natural Resources

JUL 29 1991

date

Supplemental Information

(type or print in ink)



1. Well Information - Proposed construction

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

2. Dugout Information Estimates

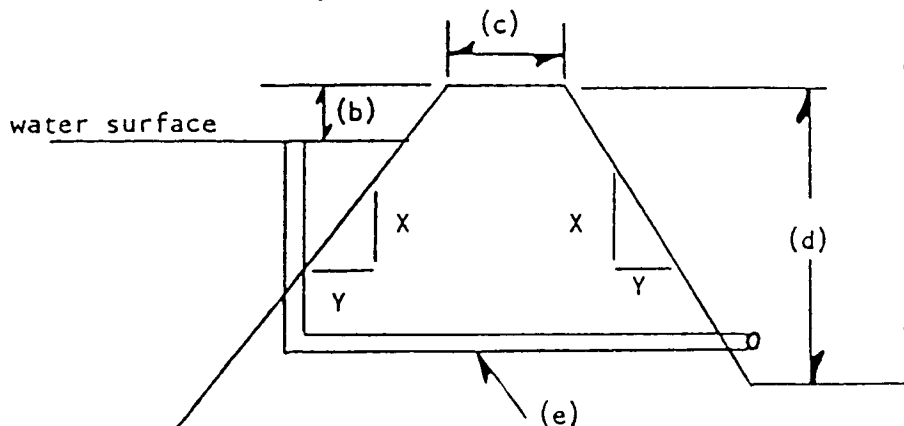
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

3. Water Storage Dams

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

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

Ducks Unlimited, Inc.
6115 East Main Avenue
Bismarck, ND 58501



- b) Freeboard 2.45 feet
- c) Crest Width 12 feet
 Crest Length 1015 feet
- d) Height 7.5 feet
- e) Primary Outlet Capacity _____
 If Pipe, diameter 2 - 30" CMP's
- f) Secondary Spillway Capacity NA
 Spillway width _____
- g) X & Y Slope
 Upstream 1:3
 Downstream 1:3

Surface Area of Impoundment 90 acres

Storage 295 acre feet

Drainage area above dam 0.30 square miles

Full Service Level: 1288.5 feet msl

Elliott N. Sutta **ELLIOTT N. SUTTA**
 Signature of Applicant **Acting REGIONAL DIRECTOR**

42-381 50 SHEETS 5 SQUARE
42-382 100 SHEETS 5 SQUARE
42-389 200 SHEETS 5 SQUARE

1

●

- 1) Topo Map w/ legal descriptions - OK
- 2) Profile along Dam Axis w/ Test Boring Info - NA - OK
- 3) Maximum X-Section - OK
- 4) Area Capacity Curve - OK
- 5) Detailed drawings of Outlet Structure - OK
- 6) Spillway Rating Curve - NA Controlled Discharge - OK
- 7) Detailed Plans of Spillway Structure - OK (See #5)
- 8) Eng. Supervision - OK
- 9) EPPP - NA - OK

DESIGN REPORT

PROJECT: SAND LAKE NATIONAL WILDLIFE REFUGE
Columbia Marsh
SD-058-03

LOCATION: Sections 4 & 9, T125N, R62W
Brown County, South Dakota

MARSH DATA: Full Service Level (FSL) @ 1288.5
90 Surface Acres @ FSL
295 Acre-Feet Capacity @ FSL



PROJECT DESCRIPTION:

The proposed project will be located on Sand Lake National Wildlife Refuge. A portion of the created pool will back up on a Federal Waterfowl Production Area adjacent to the Refuge. The embankment as proposed will be constructed parallel to the James River near the existing Columbia Road Dam. Six 1/10 acre nesting islands will be constructed in the marsh to provide secure nesting habitat. The pool will fill during high spring runoff events when the James River is above bank level. Two 30" diameter canal gates will be installed to allow water to flow into the marsh until the desired or attainable level is reached. The gates can then be closed to hold water in the marsh as long as desired. If the manager chooses to draw the marsh down, the gates can then be opened and the marsh drawn down.

The watershed for the marsh is very limited consisting of 0.30 square miles and will never provide enough runoff to fill it. Therefore, overflow from the James River will be the primary source of water for the marsh.

CLASSIFICATION OF PROPOSED DAM:

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 potential is expected should failure occur. The product of the maximum storage capacity times the effective height is 4350 which exceeds 3000. Therefore, the minimum spillway design flood is a 50-year frequency per 74:02:08:07 and must be passed through the spillway without overtopping the embankment.

PRELIMINARY RISK ASSESSMENT:

The proposed dam will be located in a rural area and will benefit downstream landowners during spring flooding events by storing some of the floodwater. No residences or other buildings are located between the proposed dam and the James River immediately

downstream. Outlet flows from the proposed structure exit directly back into the James River.

Based on information obtained in the field, data present on the U.S.G.S. quadrangular maps, and the relative small size and capacity of the created marsh, any downstream crossings or landowners should be in little danger in the unlikely event of a failure. Also, the proposed project will help to reduce potential downstream flooding during spring runoff. Benefits from the project far outweigh any risk. The risk to the general public would appear minimal.

DESIGN:

In accordance with South Dakota requirement 74:02:08:07, the minimum spillway design flood for the proposed dam is a 50 year frequency event. The proposed dam is designed to exceed the South Dakota requirements. As previously stated, the project is designed to divert floodwater from the James River into the marsh.

Due to the small watershed involved, the marsh will easily store the runoff from the 100-year 24 hour storm (46 acre-feet) while still providing 2.45 feet of freeboard. Design criteria associated with diverted flows from the James River are more restrictive than the criteria associated with watershed generated flows. Therefore, whatever structure is installed to handle diverted flows will exceed the requirements for watershed generated flows.

Two 48" diameter CMP full round risers with 30" diameter CMP inlet and outlet barrels are proposed as the primary spillway. A 30" diameter canal gate will be installed in each riser for management purposes. The time period required to fill the marsh is dependent on the flood stage of the James River as well as the length of time the river is at a certain stage. Under the scenario with the James River reaching elevation 1288.5 which is the same as the full service level (FSL) of the marsh and both 30" gates opened, the marsh should fill to FSL in less than 80 hours which appears to be a reasonable period of time. Obviously, if the river stage is higher a shorter time will be required.

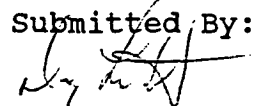
The Soil Conservation Service (SCS) TR-20 Hydrology program was used to determine inflow rates and volumes from the watershed. The program uses accepted procedures to develop inflow hydrographs. The 30" diameter canal gates were assumed to be closed and the pool full at elevation 1288.5. The following is a relationship between watershed generated inflows, total outflows, and reservoir elevations. As shown, the marsh can easily store the runoff from the 100-year event.

<u>EVENT</u>	<u>INFLOW VOLUMES</u>	<u>MAXIMUM WATER SURFACE ELEVATION</u>	<u>FREEBOARD AVAILABLE</u>	<u>TOTAL DISCHARGE</u>
25 YR	32 AC-FT	1288.82	2.68 FT	0 CFS
50 YR	39 AC-FT	1288.90	2.60 FT	0 CFS
100 YR	46 AC-FT	1289.05	2.45 FT	0 CFS

A preliminary set of plans is submitted with the Design Report.
A set of standard construction specifications has previously been submitted to the Division of Water Rights for the purposes of permit review.

Dated: December 10, 1990

Submitted By:



Doug Lipetzky, P.E
PE-4499



**US Army Corps
of Engineers**
Omaha District

Public Notice

Reply to:
Pierre Regulatory Branch
Federal Building, Room 317
Pierre, South Dakota 57501

Application No: 199170124
Date: June 14, 1991
Expiration Date: July 5, 1991

CEMRO-OP-R
US Fish and Wildlife Service
Dam/Excavate Channel
James River/Adjacent Wetland



DAY NOTICE

NOTICE OF PERMIT PENDING

The application of the US Fish and Wildlife Service, Sand Lake National Wildlife Refuge, Rural Route #1, Box 25, Columbia, South Dakota 57433, for approval of plans and issuance of a permit under authority of the Secretary of the Army is being considered by the District Engineer, U.S. Army Engineer District, Omaha, Nebraska.

The applicant requests authorization to construct a dam, a water supply channel with associated control structure and six (6) nesting islands within a ninety (90) acre wetland adjacent to the James River. The proposed project is located in Section 4, Township 125 North, Range 62 West, Brown County, South Dakota.

The proposed dam will consist of an earthen dike approximately eight hundred (800) feet long with a ten (10) feet wide top, 3H:1V side slopes and an average height of seven (7) feet. The dike will tie in to the existing berm for Sand Lake on the east end and a county road embankment on the west end and will run parallel to the James River. A proposed channel will be approximately six hundred fifty (650) feet long with a twenty (20) foot wide bottom and 3H:1V side slopes. The channel will originate at the James River left bank, pass through the proposed berm and terminate in the proposed impoundment. In association with the dam and channel a control structure consisting of a gated culvert will be located in the dike. Approximately one thousand, seven hundred eighty (1,780) cubic yards of rock riprap material will be placed on the downstream side of the existing embankment of Sand Lake to protect the structure from water impounded in the proposed structure. In addition, six (6) nesting island approximately 0.1 acre in size are proposed for construction at various locations within the new impoundment.

The fill material for the dike and nesting islands will come from the proposed channel and borrow area within the existing wetland. The work will be conducted during the dry season and will be done with standard scraper, dozer and loader type equipment.

The purpose of the proposed project is to convert the existing ninety (90) acre emergent vegetation choked marsh to a more open water ecosystem to be more attractive to waterfowl and to provide additional predator-secure nesting areas for waterfowl and other nesting birds.

Certification that the proposed project will not violate applicable water quality standards has been requested from the Regional Administrator, U.S. Environmental Protection Agency, Region VIII, One Denver Place, Suite 1300, 999 - 18th Street, Denver, Colorado.

In compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, the National Register of Historic Places and current supplements have been consulted. There are no sites included or which have been determined eligible for inclusion therein which will be affected by the project.

In compliance with the Endangered Species Act, our review indicates that the proposed activity will not affect species designated as threatened or endangered pursuant to the Endangered Species Act or their critical habitat.

The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposals must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the activity will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production, and, in general, the needs and welfare of the people. In addition, the evaluation of the impacts of the project on public interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act (40 CFR § 230).

The Corps of Engineers is soliciting comments from the public; Federal, state and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reason for holding a public hearing. The request must be submitted to the U.S. Army Corps of Engineers, Pierre Regulatory Branch, Federal Building, Room 317, Pierre, South Dakota 57501.

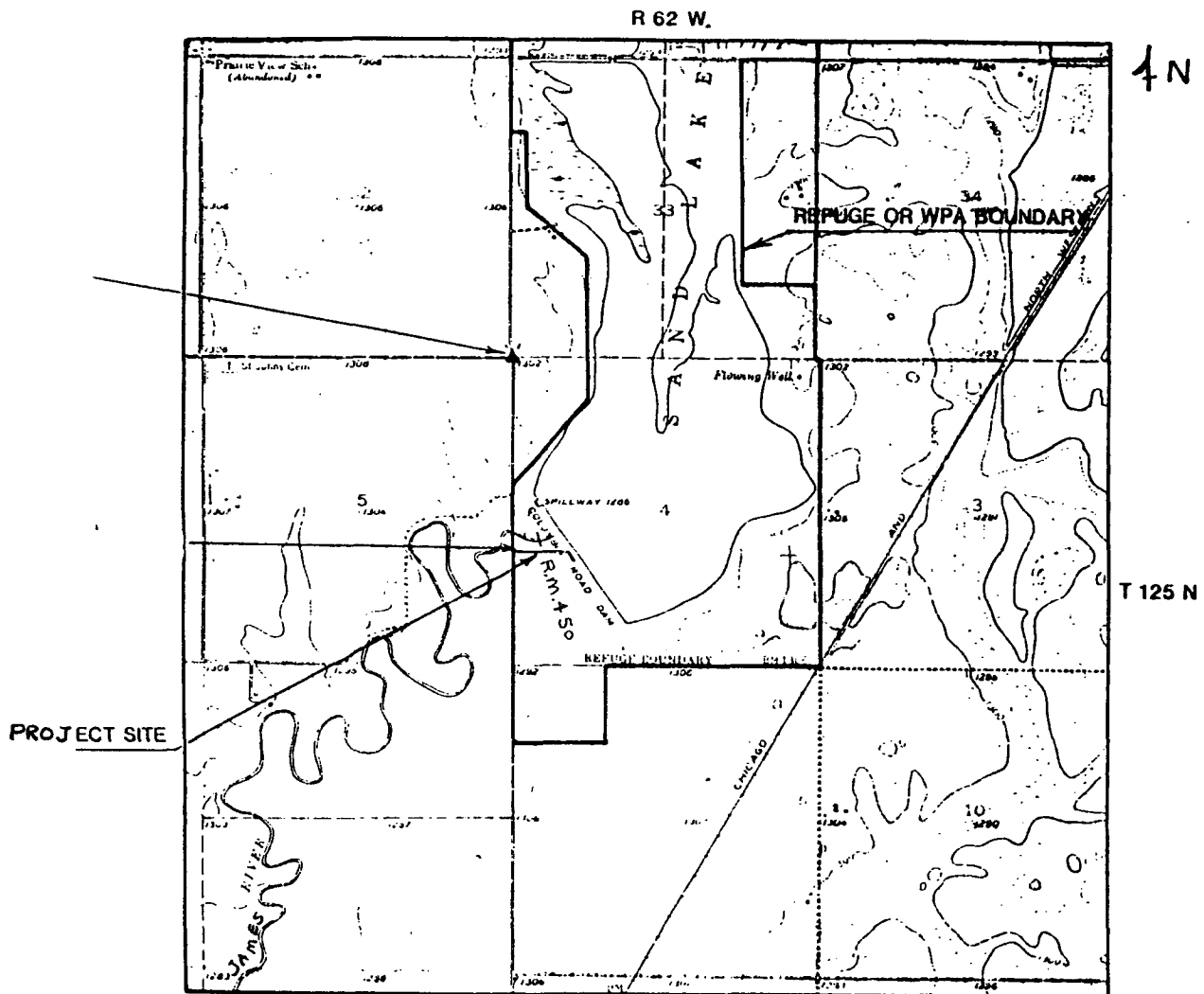
Any interested party (particularly officials of any town, city, county, state, Federal agency, or local association whose interests may be affected by the proposed work) is invited to submit to this office, written facts, arguments, or objections on or before July 5, 1991. Any agency or individual having an objection to the proposed work should specifically identify it as an objection with clear and specific reasons. Comments, both favorable and unfavorable, will be accepted, made a part of the record and will receive full consideration in subsequent actions on this permit application. All replies to the public notice should be addressed to the address listed in the previous paragraph. Mr. James Oehlerking, telephone number (605) 224-8531, may be contacted for additional information.

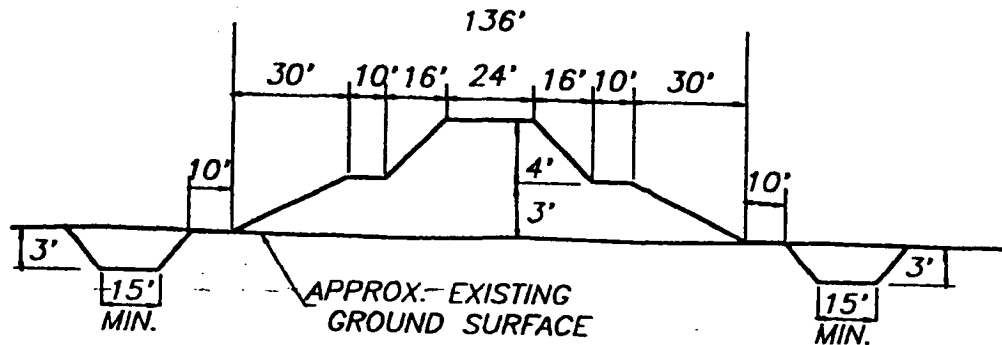
Comments received after the close of the business day on the expiration date of this public notice will not be considered.

This project, if authorized, will be under the provisions of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

Drawings showing the location and extent of the work are attached to this notice.

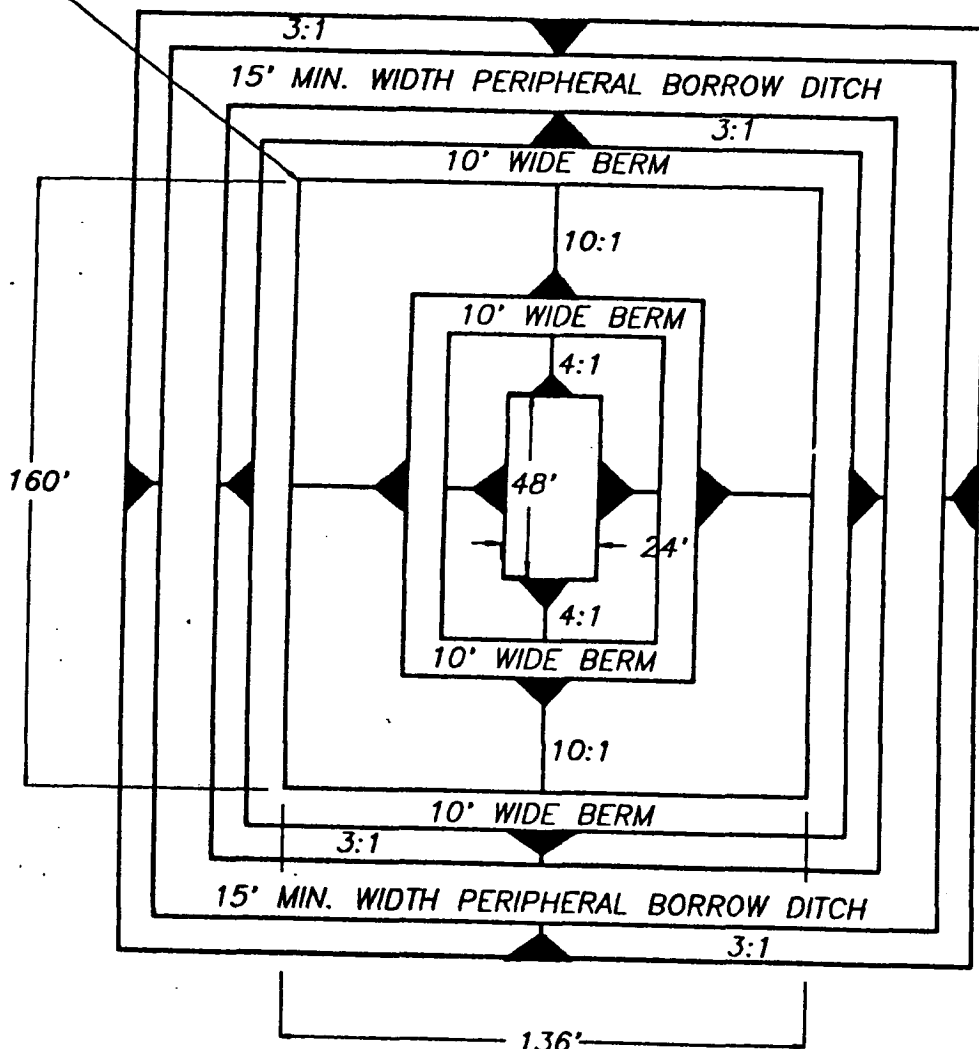
U.S. FISH & WILDLIFE SERVICE





ISLAND X-SECTION

ISLAND LOCATION
COORDINATE POINT

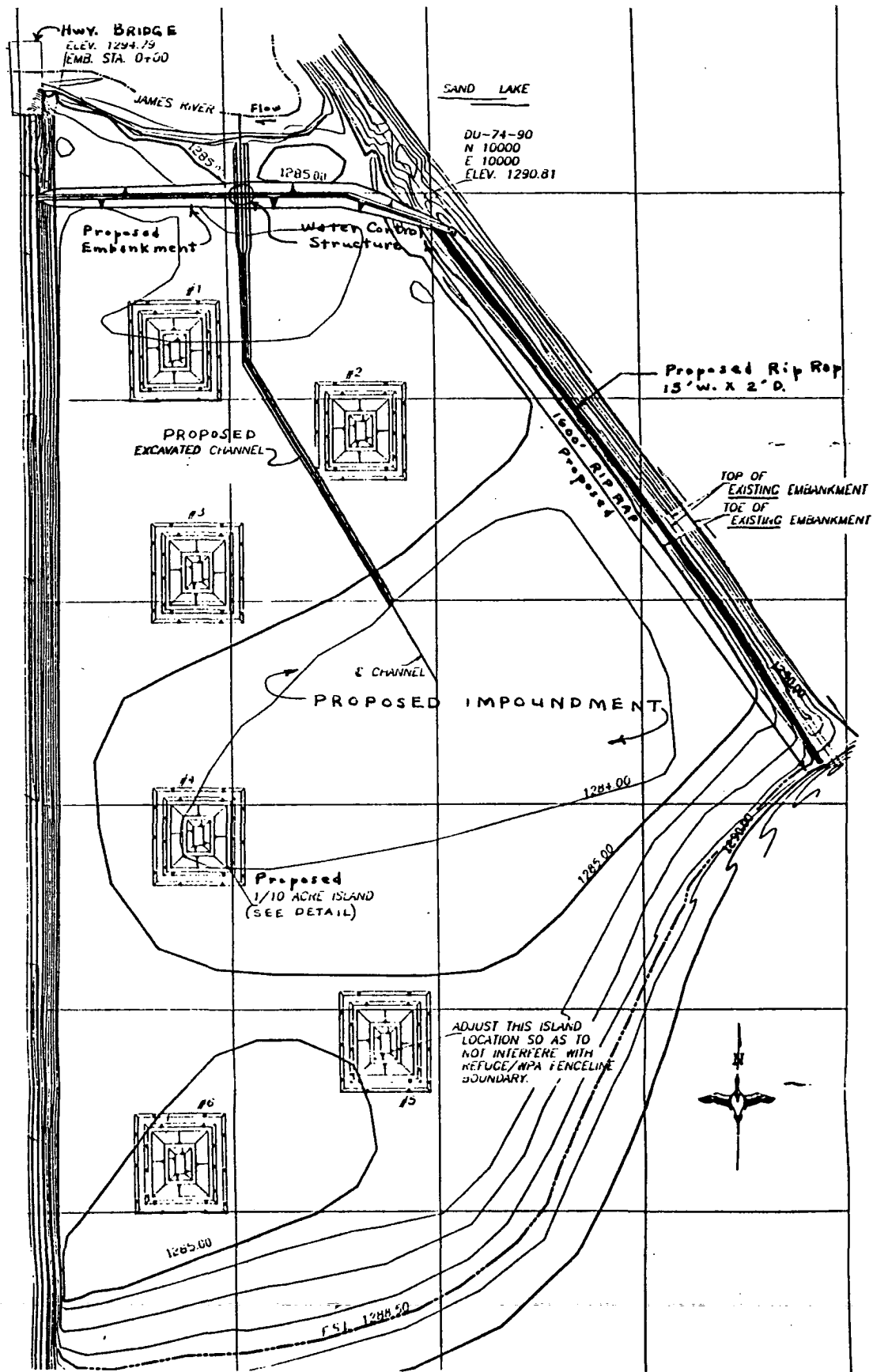


PLAN

Island Detail No Scale

PURPOSE: DAM
DATUM M.S.L.
ADJACENT PROPERTY OWNERS:
1 Lloyd Dennert
2

IN JAMES RIVER 199170124
AT R.M. 450
COUNTY OF Brown STATE SOUTH DAKOTA
APPLICATION BY U. S. FISH AND WILDLIFE SER.
SHEET 3 OF 5 DATE 5/22/91



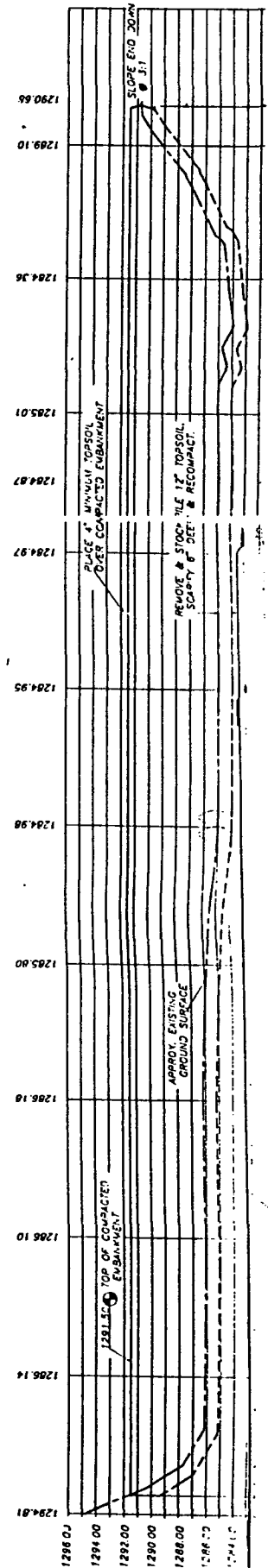
PLAN

No Scale

PURPOSE: DAM
 DATUM M.S.L.
 ADJACENT PROPERTY OWNERS:
 1 Lloyd Dennert
 2

IN JAMES RIVER 199170124
 AT RM. 450
 COUNTY OF BROWN STATE SOUTH DAKOTA
 APPLICATION BY U.S. FISH AND WILDLIFE SER.
 SHEET 2 OF 5 DATE 5/22/91

PURPOSE: DAM
 DATUM M.S.L.
 ADJACENT PROPERTY OWNERS:
 1 Lloyd Danner
 2



CHANNEL & PROFILE

No Scale

NO TOPSOIL STRIPPING REQUIRED ON CHANNEL EXCAVATION. EXCAVATED MATERIAL IS TO BE USED IN ISLAND CONSTRUCTION. COST OF EXCAVATION IS INCIDENTAL TO ISLAND EMBANKMENT CONSTRUCTION.

EXIST. GND.

1281.50 TOP OF COMPACTED EMBANKMENT

APPROX. EXISTING GROUND SURFACE

1281.50 TOP OF COMPACTED EMBANKMENT

APPROX. STA. 0+76

BEGIN CHANNEL EXCAVATION

HAVER RIVER

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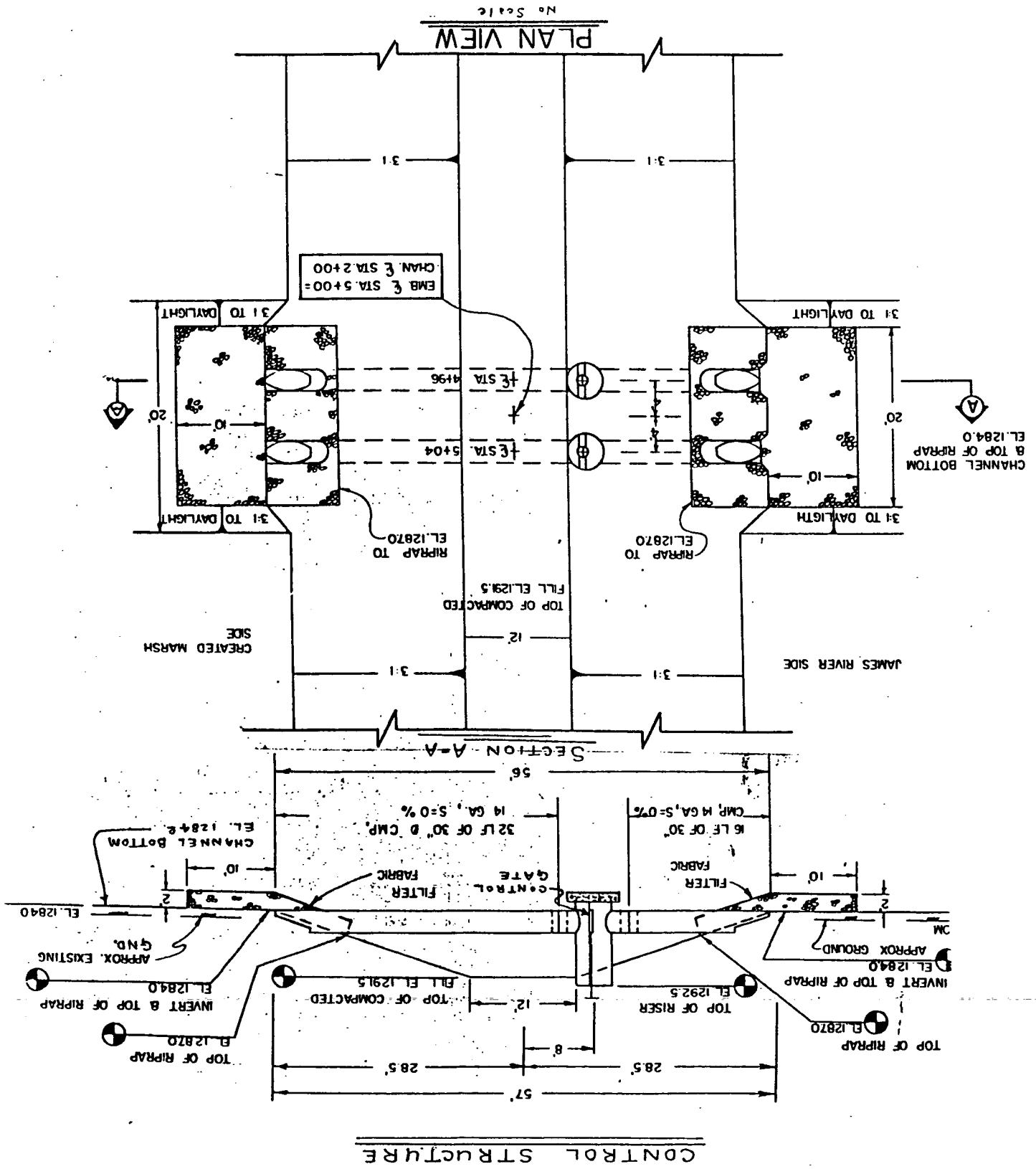
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IN JAMES RIVER
AT R.M. 450
COUNTY OF Brown
STATE SOUTH DAKOTA
APPLICATION BY U.S. FISH AND WILDLIFE SER.
SHEET 4 OF 5 DATE 5/22/91

PURPOSE: DAM
DATUM: M.S.L.
ADJACENT PROPERTY OWNERS:
1 Lloyd Dement
2





I, William A. Godby, Regional Engineer, do hereby certify that this map was prepared under my direction and correctly represents the works for the accompanying application.

William A. Godby
William A. Godby

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
ENGINEERING

SAND LAKE NWR - COLUMBIA MARSH
BROWN COUNTY, SOUTH DAKOTA

WATER RIGHTS FILING MAP

DESIGNED LC	DRAWN MCG	CHECKED LC	DATE 2/91	DENVER, COLO.
DRAWING NO. 6R-SD-165-WR-P-23.0			SHEET 1 OF 1	

RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

412574

Pierre, March 8, 19 91

RECEIVED OF US Fish & Wildlife, PO Box 25486, DFC, Denver, CO

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

Fee for Application for Permit No. <u>5516-3</u> to Appropriate Water, to construct works and to put water to beneficial use _____	250	00
Fee for Application for Permit No. _____ to Appropriate Water for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for Certified Copy of _____		
Fee for Print Copy of Map _____		
Fee for Certifying _____		
Fee for _____		
(Any Other Work Provided by Law)	Total	250 00

By John Hatch / [Signature]
Chief Engineer



United States Department of the Interior
FISH AND WILDLIFE SERVICE



IN REPLY REFER TO:

BA/EN
WR SD
Mail Stop 60190

MAILING ADDRESS:
Post Office Box 25486
Denver Federal Center
Denver, Colorado 80225

STREET LOCATION:
134 Union Blvd.
Lakewood, Colorado 80228

FEB 28 1991

Mr. Ron Duvall
Department of Water and
Natural Resources
Joe Foss Building, 523 East Capitol
Pierre, South Dakota 57501-3181



Dear Mr. Duvall:

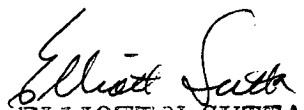
In a January 30, 1991, telephone conversation, Cheryl Williss of our Division of Engineering discussed with you and Del Brosz the proposed construction of the Columbia Marsh impoundment at the Sand Lake National Wildlife Refuge.

The impoundment will be filled each year with spring flood flows and the water level then allowed to decline through evaporation. However, if there are years when water would be available later in the season, we would want the option of maintaining water levels for a longer period of time. Mr. Brosz agreed that he would look at water availability and advise us of the Chief Engineer's recommendation on the application prior to public notice. If your analysis indicates that water is available only during spring runoff and the river is fully appropriated during the irrigation season, we would request that the application be limited to flood flows only.

We are currently discussing the project with county officials because water would be impounded against the embankment of County Highway 16. We would appreciate it if you could begin evaluating the water permit application while these negotiations continue, and we will forward a copy of their agreement as soon as it is received.

In addition to the application for permit to appropriate water, we have enclosed the design report and engineering drawings prepared by Ducks Unlimited, a filing map and a money order in the amount of \$250. Please contact Cheryl at 303/236-5321 if you need additional information about this project.

Sincerely,


ELLIOTT N. SUTTA

Acting Regional Director

Enclosures

cc: Ducks Unlimited, Inc.

OFFICE OF
Brown County Auditor

Phone 622-7110

• 25 Market Street •

Aberdeen, South Dakota 57401

March 12, 1991



John Koerner
Rt. 1, Box 25
Columbia, SD 57433

Dear Mr. Koerner,

The following is an excerpt from the Brown County Commission Meeting minutes of March 12, 1991:

John Koerner, US Fish & Wildlife Service met with the Commission to obtain authorization to continue the establishment of a wetlands enhancement project area on the Columbia Marsh, adjacent to Sand Lake Refuge. This project is co-sponsored by Ducks Unlimited and the North American Wetlands Council to improve water fowl nesting at Sand Lake.

Moved by Fischbach, seconded by Schliebe to approve continuation of the Columiba Marsh Project as a federal water fowl production area, for the purpose of improving the water fowl nesting at Sand Lake Refuge. All members present voting aye. Motion carried.

Sincerely,

Maxine Taylor

Maxine Taylor
Brown County Auditor



SAND LAKE NATIONAL WILDLIFE REFUGE
U.S. FISH AND WILDLIFE SERVICE
Rural Route 1, Box 25
Columbia, South Dakota 57433

JOHN W. KOERNER
Refuge Manager

Report on Water Permit Application No. 5516-3
U.S. Fish and Wildlife Service
March 18, 1991

Application No. 5516-3, U.S. Fish and Wildlife Service, proposes to impound 295 acre-feet (ac-ft) by diverting James River overflow during spring runoff events and when sufficient flows are available at other times by constructing a dam in the Sand Lake National Wildlife Refuge to contain water in a marsh area. The dam site is to be located in the NW1/4 SW1/4 of Section 4 and water will be impounded in the SW1/4 Section 4 and a portion of the NW1/4 Section 9; all in T125N-R62W. Water is to be stored annually to an approximate elevation of 1288.5 feet mean sea level and used to provide habitat for fish and wildlife production. The proposed dam site is located in northcentral Brown County 2 miles north of Columbia.

Water Source

The source of water for the proposed project is from the James River and runoff from a 200 acre watershed. The diversion point from the river will be located just below the Columbia Road Dam. This application proposes to divert water from the river whenever the James River is above bank level primarily during spring runoff. The channel capacity in the James River near the proposed diversion point is between 75 and 200 cubic feet of water per second (cfs). The USGS maintains several gaging stations on the James River in South Dakota. The James River gaging station at Columbia is located approximately 4 miles below the proposed dam site. The gaging station at Ashton is located 124 river miles below the Columbia gaging station. Table 1 is flow hydrograph data for 30% and 50% probability of flow from these stations.

Table 1. Flow hydrograph data for James River Gaging Stations at Columbia and Ashton.

<u>Month</u>	<u>Columbia</u>		<u>Ashton</u>	
	<u>30%</u>	<u>50%</u>	<u>30%</u>	<u>50%</u>
Oct	29	2	25	1
Nov	51	8	62	7
Dec	33	6	34	6
Jan	10	0	15	15
Feb	4	0	7	2
Mar	21	10	75	26
Apr	395	181	516	250
May	448	126	701	278
Jun	183	102	416	138
Jul	193	67	226	114
Aug	65	4	124	39
Sep	39	1	47	3

The hydrograph data indicate that there are periods of high flow in the river, but the James River is also subject to periods of low flow. An appropriation of this type would need to be subject to a minimum bypass qualification, to protect existing water rights.

Review of Existing Water Rights

Below the proposed diversion point to the 3rd Street Dam at Huron, there are 60 water right/permits which appropriate 127.28 cfs. Between the Columbia gage and the Ashton gage there are 17 water rights/permits which appropriate 29.87 cfs. Water Permit No. 5027-3, Lake Byron Watershed District which appropriates 12.0 cfs, authorizes river diversion only when 60 cfs is bypassed after diversion during April 1 - June 30 of each calendar year. Between the proposed diversion point and the diversion point for Water Permit No. 5027-3 there are 39 existing water rights/permits, including Water Permit No. 5027-3, which appropriate 97.34 cfs.

Discussion

A 1980 James River study by the Water Rights Division assumed that only 50% of the total appropriations are being diverted at any one time. Based on this assumption a desirable bypass for this project would be 50% of 97.34 cfs plus the 60 cfs bypass which is required by Water Permit 5027-3. This equals approximately 110 cfs. This bypass can be monitored at the Columbia gage.

The dam specifications as submitted have been reviewed and were found to be in compliance with Water Management Board Safety of Dams Rules, Chapter 74:02:08. Approval of these plans and specifications does not release the U.S. Fish and Wildlife Service as owner of the proposed project from the responsibility for operating and maintaining the dam in good repair to assure the safety of the dam.

Conclusions

1. Water Permit Application No. 5516-3 proposes to construct a dam with a 295 ac-ft capacity and divert over bank flood flows from the James River for the purpose of containing water in a marsh area.
2. The James River has 60 water rights/permits appropriating 127.28 cfs located between the proposed diversion point and the 3rd Street Dam at Huron.
3. If this water permit application is approved it should contain the following qualifications:
 - A. Low flows as needed for downstream domestic use and prior water rights must be bypassed.

- B. Diversions are authorized only when 110 cfs or more are bypassed as measured at the Columbia gage, unless written orders allowing diversion at a lower flow have been issued by the Chief Engineer.

Mark D. Rath/gmk

Mark D. Rath
Natural Resources Engineer II

Approved by,

Delvin D. Brosz
Delvin D. Brosz, P.E.
Natural Resources Engineer IV

References

1. SDDWNR. 1991. South Dakota Department of Water and Natural Resources, Division of Water Rights Records.
2. USGS. 1989. USGS Water Resources Data - South Dakota. U.S. Geological Survey Water-Data Report SD-89-1.

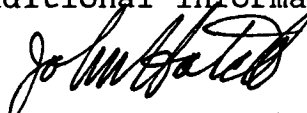
RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 5516-3, U.S. Fish and Wildlife Service

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Water and Natural Resources concerning Water Permit Application No. 5516-3, U.S. Fish and Wildlife Service, PO Box 25486, Denver Federal Center, Denver, CO 80225.

The Chief Engineer is recommending APPROVAL of Application No. 5516-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use, and 4) in the public interest with the following qualification:

Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed. This permit does not authorize diversion of water from the James River after May 1 of each calendar year, nor at any time when the river flow is low, unless at least 110 cfs are by-passed when diverting water, or written orders have been issued by the Chief Engineer. Diversions under this permit shall be in accordance with any written orders issued by the Chief Engineer.

See report on application for additional information.


JOHN HATCH, Chief Engineer
April 29, 1991

Conversation or File Documentation

NAME OF PERSON OR FILE: FISH & WILDLIFE SERVICE (CHERYL LEWIS)ADDRESS: DENVER COUNTY BROWNDATE: 4/8/91 TELEPHONE _____RE: AD 5516-3

COMMENTS:

CHERYL LEWIS (WATER RIGHTS SPECIALIST) CALLED
SAID THAT SHE WASN'T SURE WHAT THE JAMES RIVER
CHANNEL CAPACITY WAS AT THE PROPOSED DIVERSION POINT.

I ASKED ~~WHAT~~ ABOUT THEIR PROPOSAL FOR SUMMER
TIME DIVERSIONS. SHE SAID THAT IF WATER WAS
AVAILABLE THEY WOULD LIKE TO DIVERT IT.
I TOLD HER WE WOULD HAVE TO PUT A BYPASS
QUALIFICATION ON THEIR PERMIT FOR THIS.

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: Mack Pratt

Conversation or File Documentation

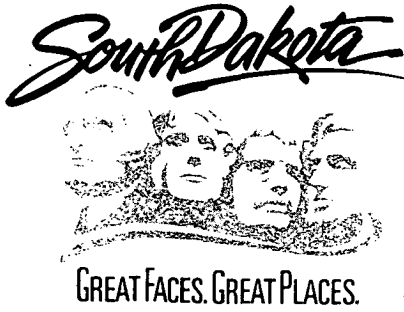
NAME OF PERSON OR FILE: USFWS Columbia Marsh ProjectADDRESS: _____ COUNTY BrownDATE: April 29, 1991 TELEPHONE _____RE: Agreement with Brown County

COMMENTS:

I talked to John Koerner, Refuge Manager, about the excerpt from the Brown County Commission Meeting minutes we received on April 26, 1991. Told him we were expecting a more detailed agreement. He said they did not really have one. He said he had the Brown Co. Highway Supt. (Larry Mitzel) and other County Officials at the site to explain the Project prior to the Commission Meeting. He said he did not know of any problems that they might have.

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: Timi Shoop



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

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

May 15, 1991

Elliott N. Sutta
U.S. Fish and Wildlife Service
Denver Federal Center
PO Box 25486
Denver, CO 80225

Dear Mr. Sutta:

Water Permit Application No. 5516-3 for habitat for fish and wildlife production 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 Aberdeen American News printed at Aberdeen, SD. 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.

cc: John Koerner, Refuge Manager, Sand Lake National Wildlife Refuge, RR 1, Box 25,
Columbia, SD 57433

South Dakota



GREAT FACES. GREAT PLACES.

May 15, 1991

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

Aberdeen American News
Box 4430
Aberdeen, SD 57402

ATTENTION: Legal Department

Enclosed is a Notice of Hearing on Application No. 5516-3 to be published twice. Please publish the first notice on May 22, 1991, 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 U.S. Fish and Wildlife Service, Denver Federal Center, PO Box 25486, Denver, CO 80225.

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

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

Sincerely,

Eric Gronlund

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

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

FIRST TRANSMITTAL NOTICE

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

No. _____

Date _____

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

Name

Newspaper

REVISED RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 5516-3, U.S. Fish and Wildlife Service

Pursuant to SDCL 46-2A-2, the following is the revised recommendation of the Chief Engineer, Water Rights Division, Department of Water and Natural Resources concerning Water Permit Application No. 5516-3, U.S. Fish and Wildlife Service, PO Box 25486, Denver Federal Center, Denver, CO 80225.

The Chief Engineer is recommending APPROVAL of Application No. 5516-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) in the public interest with the following qualifications:

Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed. This permit does not authorize diversion of water at any time when the river flow is low, unless at least 110 cfs are by-passed when diverting water, or written orders have been issued by the Chief Engineer. Diversions under this permit shall be in accordance with any written orders issued by the Chief Engineer.

See report on application for additional information.

A handwritten signature in black ink, appearing to read "John Hatch", is written over the typed name.

JOHN HATCH, Chief Engineer
May 22, 1991

South Dakota



GREAT FACES. GREAT PLACES.

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

May 22, 1991

United State of America
Fish & Wildlife Service
ATTN: ELLIOTT N. SUITTA
P.O. Box 25486
Denver Federal Center
Denver, CO 80225

Dear Mr. Suitta:

Enclosed please find the revised Recommendation of Chief Engineer for
Water Permit Application No. 5516-3.

Sincerely,

Cheryl F. Frost

Cheryl F. Frost
Secretary
Water Rights Division
(605) 773-3352

encl

cc: Cheryl Williss

Instruction to Newspaper - Publish first Notice on May 22, 1991, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 5516-3 to Appropriate Water

Notice is given that the U.S. Fish and Wildlife Service, Denver Federal Center, PO Box 25486, Denver CO 80225 has filed an application for a water permit to impound 295 acre-feet by diverting James River overflow during high spring runoff events and constructing a dam in the Sand Lake National Wildlife Refuge to contain the water in a marsh area. The dam site is to be located in the NW 1/4 SW 1/4 Section 4 and water will be impounded in the SW 1/4 Section 4 and a portion of the NW 1/4 Section 9; all in T125N, R62W. Water is to be stored annually to an approximate elevation of 1288.5 feet mean sea level and used to provide habitat for fish and wildlife production.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 5516-3 with a 110 cubic feet per second by-pass qualification, because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. Unless a petition is filed opposing the application or the applicant files a petition contesting the chief engineer's recommendation, the Water Management Board will NOT CONDUCT a HEARING to consider this application and the chief engineer will issue the permit as recommended. Petitions filed in support of the application will NOT require the Board to hear the application.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Division, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by June 10, 1991. 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.

For purposes of publishing 1) the notice of hearing on Application No. 5516-3 and 2) the chief engineer's recommendation, a special Board meeting is scheduled for June 19, 1991, at 9:00 am in Room 413, Joe Foss Building, 523 E Capitol, Pierre, SD. If this application is opposed or the recommendation is contested, the June 19, 1991, hearing date may be rescheduled for another Board meeting. If the hearing is rescheduled, notice of the time and place will be given by First Class Mail to the applicant and persons filing petitions. Anyone not filing a petition, but interested in attending the hearing, may contact the Division of Water Rights to confirm a hearing date and location. The June 19, 1991, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by June 10, 1991.

If a hearing is held, the Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing. Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact the Water Rights Division to request copies of information pertaining to this application or to assure access to the hearing by the handicapped.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

Notice is given that the U.S. Fish and Wildlife Service, Denver Federal Center, PO Box 25486, Denver, CO 80225 has filed an application for a water permit to impound 295 acre-feet by diverting James River overflow during high spring runoff events and constructing a dam in the Sand Lake National Wildlife Refuge to contain the water in a marsh area. The dam site is to be located in the NW 1/4 SW 1/4 Section 4 and water will be impounded in the SW 1/4 Section 4 and a portion of the NW 1/4 Section 9; all in T125N, R62W. Water is to be stored annually to an approximate elevation of 1288.5 feet mean sea level and used to provide habitat for fish and wildlife production.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 5516-3 with a 110 cuf/s per second by-pass qualification, because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. Unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation, the Water Management Board will NOT CONDUCT a HEARING to consider this application, and the Chief Engineer will issue the permit as recommended. Petitions filed in support of the application will NOT require the Board to hear the application.

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This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16, 46-2-3-1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 16, 46-2-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-1 thru 46-5-11, 46-5-13 thru 46-5-2A-15; 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

Aberdeen American News

ABERDEEN, SOUTH DAKOTA



Date

FIRST PUBLICATION

Gentlemen:

Attached is a clipping from our edition
of May 22, 1991

showing first insertion of _____
Notice of Hearing _____

which we shall publish as ordered as
follows: May 29, 1991

Kindly check notice immediately and
return if incorrect, noting corrections
to be made.

ABERDEEN AMERICAN-NEWS

Advertising Department

TOTAL PUBLICATION COST 71.23



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

GREAT FACES. GREAT PLACES.

JUL 29 1991

Elliott N. Sutta
U.S. Fish and Wildlife Service
Denver Federal Center
PO Box 25486
Denver, CO 80225

Dear Mr. Sutta:

Enclosed is Water Permit No. 5516-3 authorizing construction of your water diversion system and put the water to beneficial use, not exceeding the limits as specified in the Water Permit.

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

Very truly yours,

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

enclosures

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

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

FIELD INVESTIGATION REPORT FOR PERMIT NO. 5516-3

DATE OF INVESTIGATION:	24 Oct. 1997
NAME & ADDRESS OF INVESTIGATION CONTACT/ RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE	John Koerner Refuge Manager
NAME & ADDRESS OF PERMIT HOLDER	U. S. Fish and Wildlife Services P.O. Box 25486, Denver CO 80225
DIVERSION POINT LEGAL LOCATION	NW 1/4 SW 1/4 section 4 T125N R62W 1584 ft N. & 15 ft E sec. 4 T125N R62W

Other permit(s) associated with the project: _____

WELL INFORMATION:

- 1) Well Drilling Firm: _____
- 2) No. of Wells _____
- 3) Depth(s) _____ feet
- 4) Well log is available Y/N
- 5) Comment: _____

Casing:

- 1) Diameter _____ inches
- 2) Length _____ feet
- 3) Type _____

Screen:

- 1) Type _____
- 2) Length _____ feet
- 3) Static water level _____ feet

Pump:

- 1) Make _____
- 2) Model _____
- 3) Size _____
- 4) Capacity _____ GPM

Motor:

- 1) Make _____
- 2) Model No. _____
- 3) Horsepower rating _____ hp

DISTRIBUTION LINES OR CANALS:

- 1) Type _____
- 2) Size _____ inches
- 3) Length _____ feet

SYSTEM TYPE:

Center pivot:

- 1) Make _____
- 2) Overall length _____ feet
- 3) Number of towers _____
- 4) Distance between towers _____ feet
- 5) End gun Y/N
- 6) High or low pressure _____
- 7) Capacity _____ GPM

24 Oct 97
Sally N. Selken

Gun:

- 1) Make _____
- 2) Nozzle size _____ inches
- 3) Capacity _____ GPM
- 4) Hose size _____ inches

Sideroll:

- 1) Length _____ feet
- 2) Diameter of pipe _____ inches
- 3) Sprinkler spacing _____ feet

DAM INFORMATION:

- 1) Height to crest 7.5 feet
- 2) Height to primary spillway 2.45 feet
- 3) Height to secondary spillway _____ ft
- 4) Crest width 12 feet
- 5) Crest length 1015 feet
Full pool elevation 1288.5 fmsl

CHEMIGATION EQUIPMENT:

- 1) Does chemigate Y/N
- 2) Main line check valve Y/N
- 3) Inspection port/air relief Y/N
- 4) Low pressure drain Y/N
- 5) Discharge is 20' from source Y/N
- 6) Interlock type electrical or mechanical
- 7) Injection pump type piston or other

Towline:

- 1) Length _____ feet
- 2) Diameter _____ inches
- 3) Spacing of gates _____ inches

Siphons:

- 1) Size _____ inches
- 2) Number _____

- 6) Spillway length _____ feet *2-30" C.M.P.s*
- 7) Spillway width _____ feet
- 8) Approx. storage 295 ac-ft
- 9) Approx. storage to crest 440 ac-ft @ 1290.0 fmsl
- 10) Date constructed: 1991

- 8) Injection check valve Y/N
- 9) Injection line check valve or positive displacement pump Y/N
- 10) All chemigation equipment appears to be installed in the proper position and complies with chemigation laws and rules Y/N
- 11) Comments: _____

PERMIT QUALIFICATIONS:

- 1) Special qualifications to permit being abided by Y/N
- 2) All structures, wells and lands on map Y/N
- 3) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Y/N

Permit No. 5516-3
James 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, 24 October 1997, made a thorough examination of the water use system constructed by U.S. Fish and Wildlife Service of P.O. Box 25486 Denver Federal Center, Denver Colorado holder of Permit No. 5516-3, bearing the priority of 8 March 1991 authorizing the storage of 295 acre-feet of the waters of the James River for fish and wildlife purposes in Brown County.

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

A. Works used to divert the water:

1015 foot dam with two 30 inch corrugated metal pipes with gates. The dam is 7.5 feet high with a crest width of 12 feet and an operating pool elevation of 1288.5 fmsl with 2.45 feet of freeboard.

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

Two 30 inch corrugated metal pipes

C. Works used to apply water to beneficial use:

Water is stored behind the dam for fish and wildlife purposes.

The system is in the good condition. The point of diversion is located in the NW1/4 SW1/4 of section 4 T125N R62W or approximately 1584 feet north and 15 feet east of the southwest section corner of section 4 T125N R62W. The works are capable of diverting and storing 295 acre-feet of water, which is to be used for fish and wildlife purposes. Water is diverted from the James River when a minimum of 110 cubic feet per second is being bypassed. The structure stores 295 acre feet of water at an operating elevation of 1288.5 feet mean sea level. Water is impounded in portions of the SW1/4 of section 4 and NW1/4 of section 9 all in T125N R62W. The surface area of the impoundment is 90 acres and is described on page two of Ducks Unlimited Inc. plans and specifications dated 11-28-1990. The plans are entitled Columbia Marsh Vicinity Map project no. DU-1-SD-058-0. The plans and specifications are part of permit 5516-3.

Report was completed 29 October 1997



Gale N. Selken, P.E.
Natural Resources Engineer
DENR, Water Rights Program



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

December 10, 1997

5516-3

U.S. Fish and Wildlife Service
%Elliott N. Sutta
P.O. Box 25486
Denver Federal Center
Denver, CO 80225

Dear Mr. Sutta:

The investigation of your water use system was conducted on October 24, 1997, by Gale N. Selken, staff engineer. The dam is located in the Sand Lake National Refuge, Brown County, South Dakota. The investigation included the extent of application of water to beneficial use, as developed under Water Permit No. 5516-3. Your final water right document, the Water License, can now be issued.

Statutes require that we charge a \$50.00 fee for the investigation and issuance of the Water License. Upon receipt of the \$50.00 fee from you, we will begin processing your Water License.

Please remit fee to:
Department of Environment & Natural Resources
Water Rights Program
523 E. Capitol
Pierre, SD 57501-3181

Sincerely,

Cheryl F. Frost
Secretary
Water Rights Program
(605) 773-3352

NOTE: On check or money order, please specify your permit number. This will insure proper handling of the fee.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mountain-Prairie Region



IN REPLY REFER TO:

BA WTR
WTR SD
Mail Stop 60189

MAILING ADDRESS:
Post Office Box 25486
Denver Federal Center
Denver, Colorado 80225-0486

STREET LOCATION:
134 Union Blvd.
Lakewood, Colorado 80228-1807

Ms. Cheryl F. Frost
Department of Environment and
and Natural Resources
Water Rights Program
523 E. Capitol
Pierre, South Dakota 57501-3181

Dear Ms. Frost:

In response to your letter of December 10, enclosed is a check in the amount of \$50 for fees required for investigation and issuance of Water License No. 5516-3, located at the Sand Lake National Wildlife Refuge.

If you have questions or require further information, please contact me at (303) 236-5321 ext. 227.

Sincerely,

Linda Coe
Water Rights Technician

Enclosure

RECEIPT

Water Rights Program

South Dakota Department of Environment and Natural Resources

415574

Pierre, December 29, 19 97

RECEIVED OF USFWS, Denver Federal Center, P.O. Box 25486, Denver, CO 80225-0486
the following amount in fees for services rendered as provided for by law:

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

Fee for Application for Permit No. _____ to Appropriate Water, for Future
Use _____

Fee to retain Future Use Permit No. _____ after period of seven years.

Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water
License No. 5516-3 _____

Fee for Filing Transfer Form _____

Fee for Filing Extension Request _____

Fee for _____

(Any Other Work Provided by Law)

Total

50 00

By _____
Chief Engineer

John Hatch



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

JUL 2 1998

5516-3

Linda Coe, Water Rights Technician
U.S. Fish & Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, CO 80225

Dear Ms. Coe:

Enclosed is Water License No. 5516-3 and Receipt No. 415574 for \$50.00 which was assessed for an investigation and issuance of the license. Water License No. 5516-3 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

gm
enclosures

STATE OF SOUTH DAKOTA

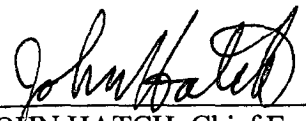
WATER LICENSE NO. 5516-3

(1) The U.S. Fish & Wildlife Service, PO Box 25486, Denver Federal Center, Denver, CO 80225 made Application No. 5516-3, March 8, 1991 for a water permit to impound 295 acre feet of water by diverting James River flows during high spring runoff events and constructing a dam in the Sand Lake National Refuge to contain water in a marsh area in Brown County, South Dakota. The water will be used for providing habitat for fish and wildlife production. Permit No. 5516-3, with a priority date of March 8, 1991 was approved June 19, 1991 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before June 19, 1996 and for the application to beneficial use of said water on or before June 19, 2000.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the storage dam and is entitled to impound 295 acre feet of water for beneficial use with sufficient water annually to maintain the water level to the outlet elevation of 1288.5 feet mean sea level. The location of the storage dam is in the NW ¼ SW ¼ Section 4, T125N, R62W (1,584'N and 15'E of the SW corner of Section 4).

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use.

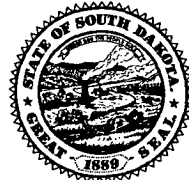
(4) Pursuant to South Dakota Water Law 46-5-30.1 the U.S. Fish & Wildlife Service, PO Box 25486, Denver Federal Center, Denver, CO 80225 the holder and/or owner of Water Permit No. 5516-3 is issued a license to appropriate water, the right to impound 295 acre feet of water from the James River with sufficient water annually to maintain the water level to the outlet elevation of 1288.5 feet mean sea level with a priority date of March 8, 1991 from the location specified in (2) of this license. The water is used for the purpose of providing habitat for fish and wildlife production. This license is subject to any limitations or qualifications listed in Water Permit No. 5516-3 and subject to South Dakota State Law.

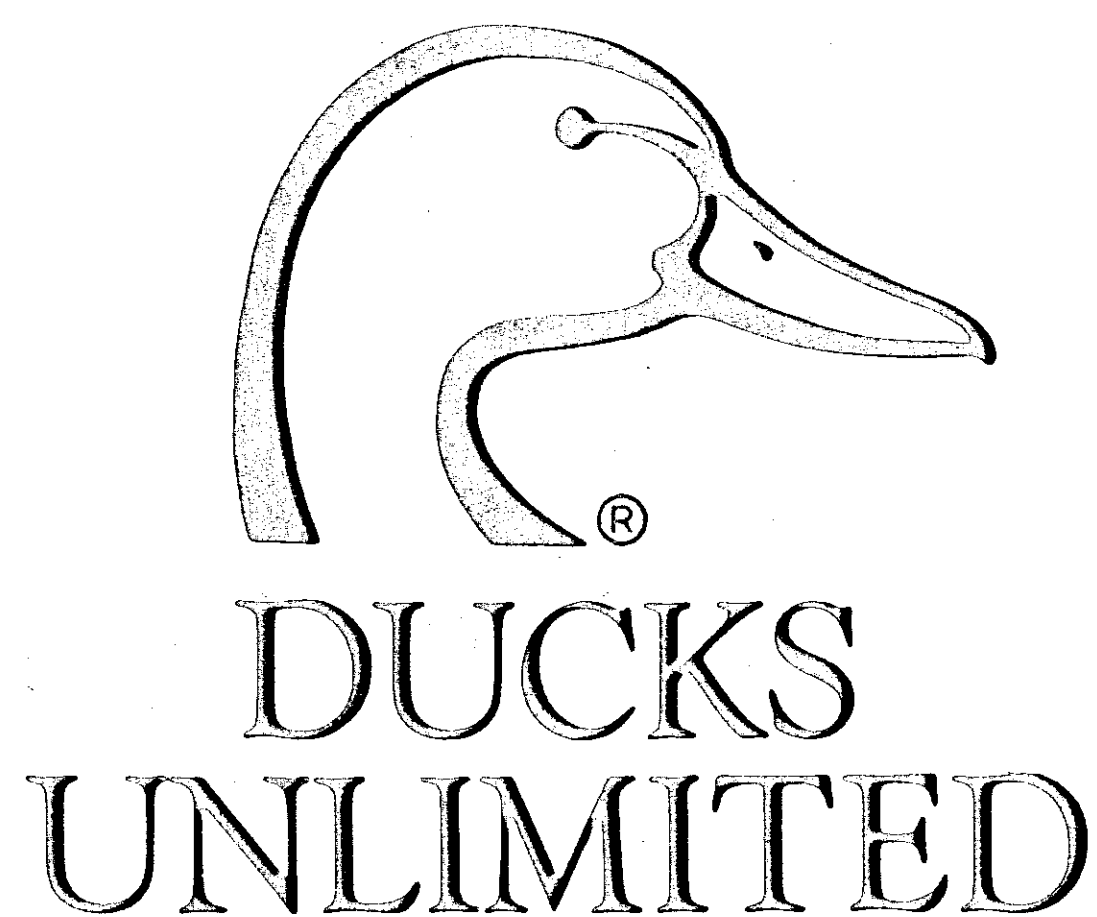
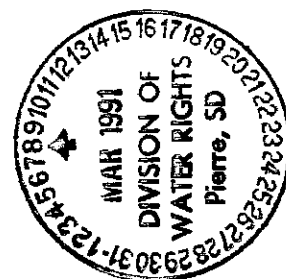

JOHN HATCH, Chief Engineer
Water Rights Program

Department of Environment and Natural Resources

JUL 2 1998

date





DUCKS UNLIMITED

PROJECT

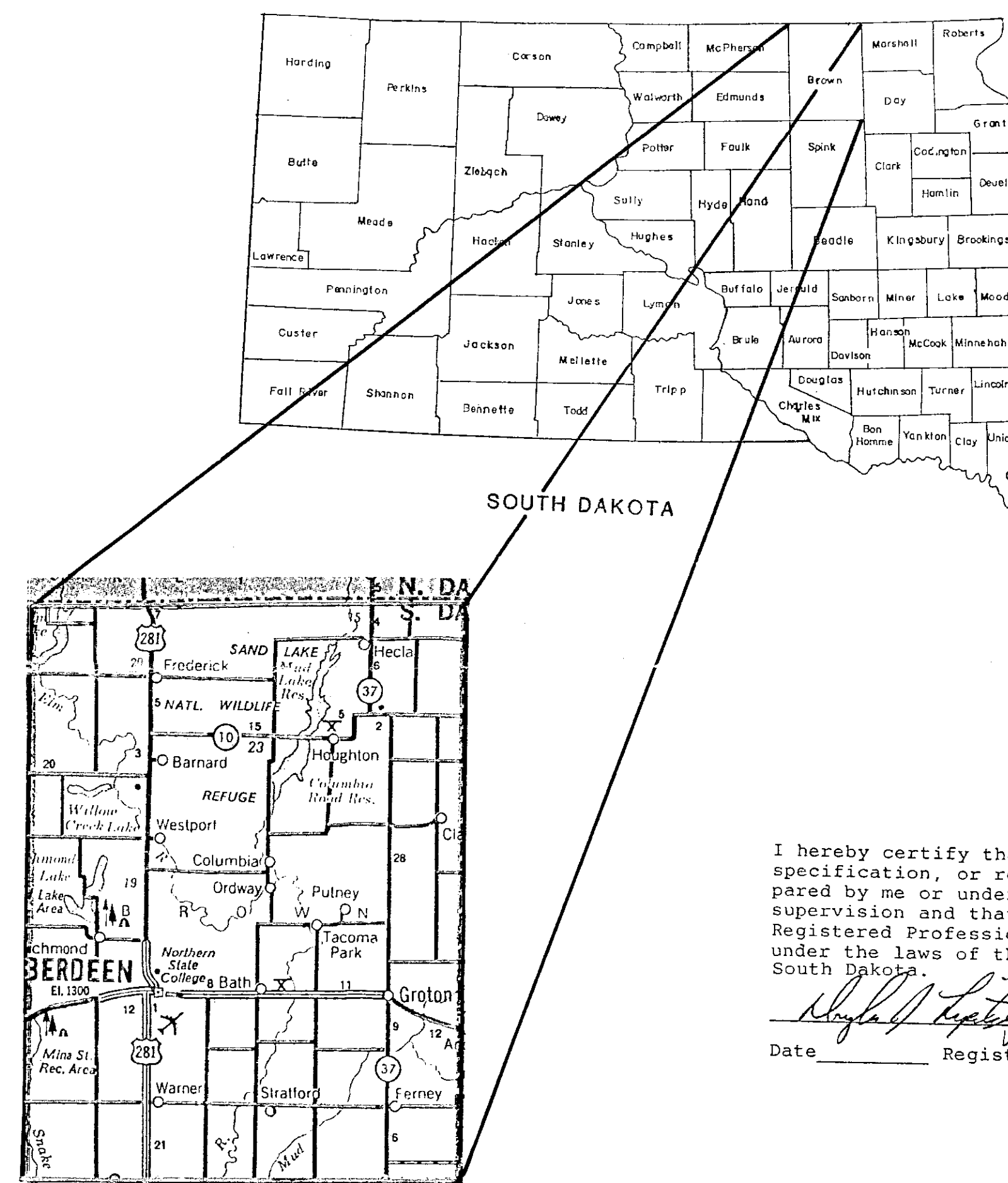
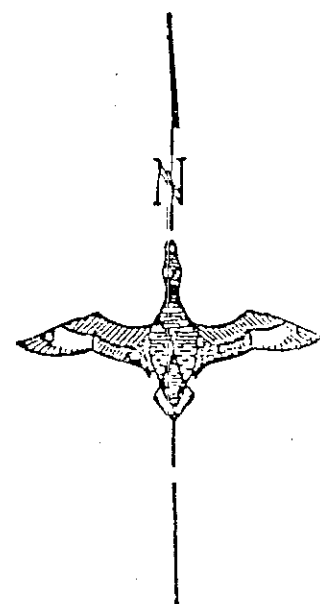
SAND LAKE NWR-COLUMBIA MARSH

SEC. 4 & 9 TWP. 125 N., RGE. 62 W.

BROWN COUNTY, SOUTH DAKOTA

IN COOPERATION WITH

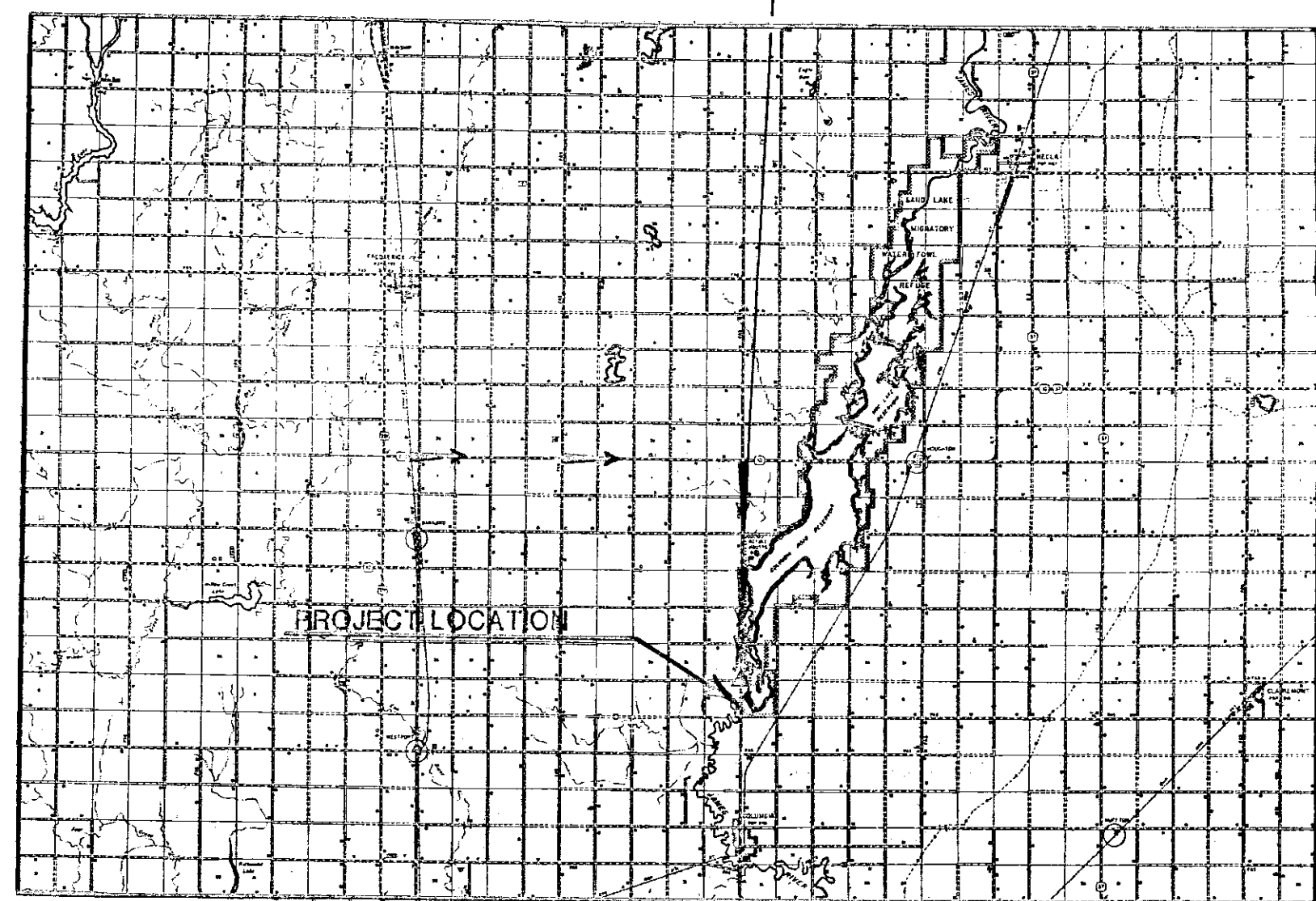
U.S. FISH & WILDLIFE SERVICE



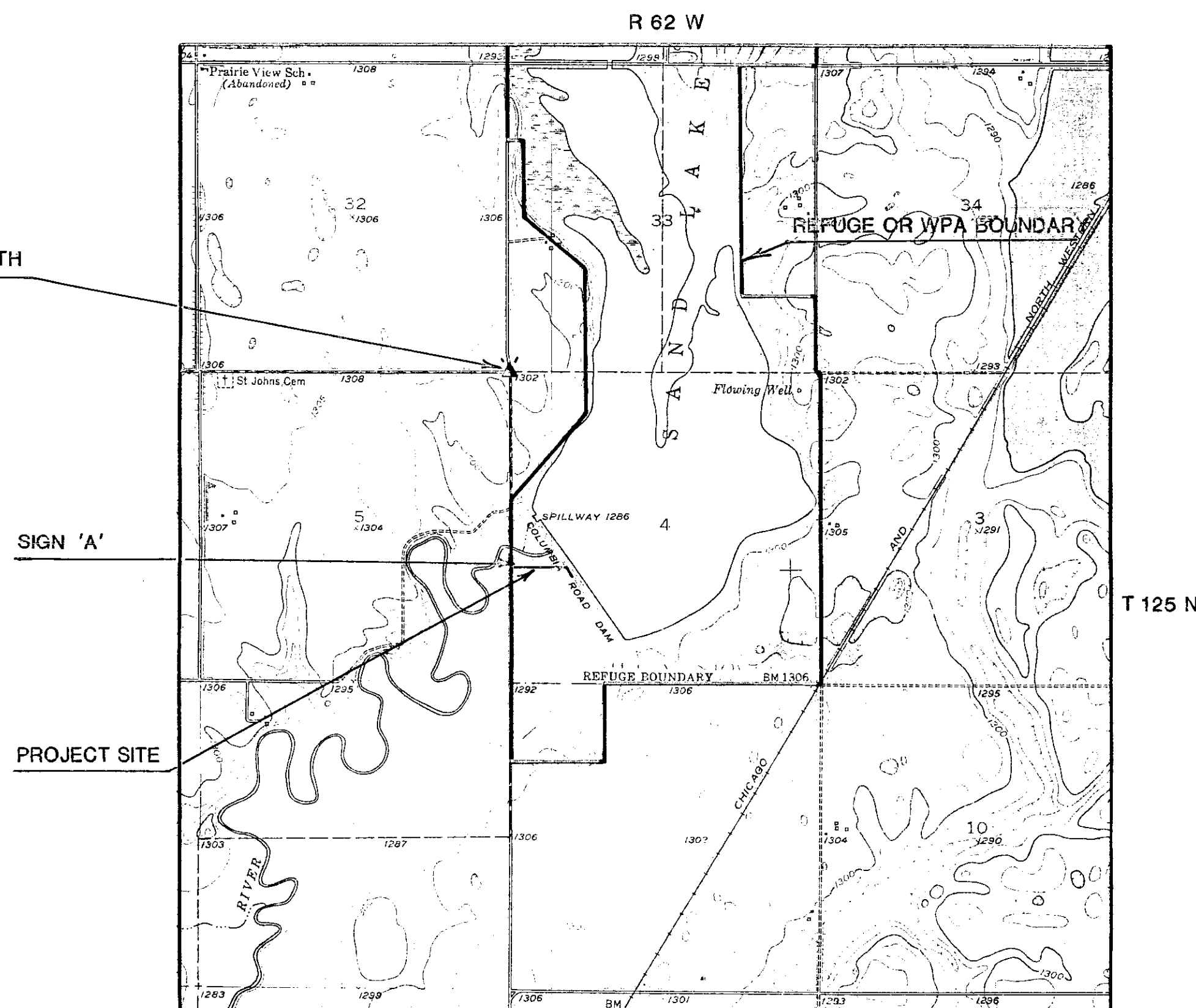
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota.

David J. Liddy
Date _____ Registration No. 4499

MAP POINT A IS LOCATED 10 MILES EAST & 6 MILES SOUTH OF JCT. OF HWY. #281 & HWY. #10 EAST.



LOCATION MAP



VICINITY MAP
SCALE: 1" = 2,000'

INDEX

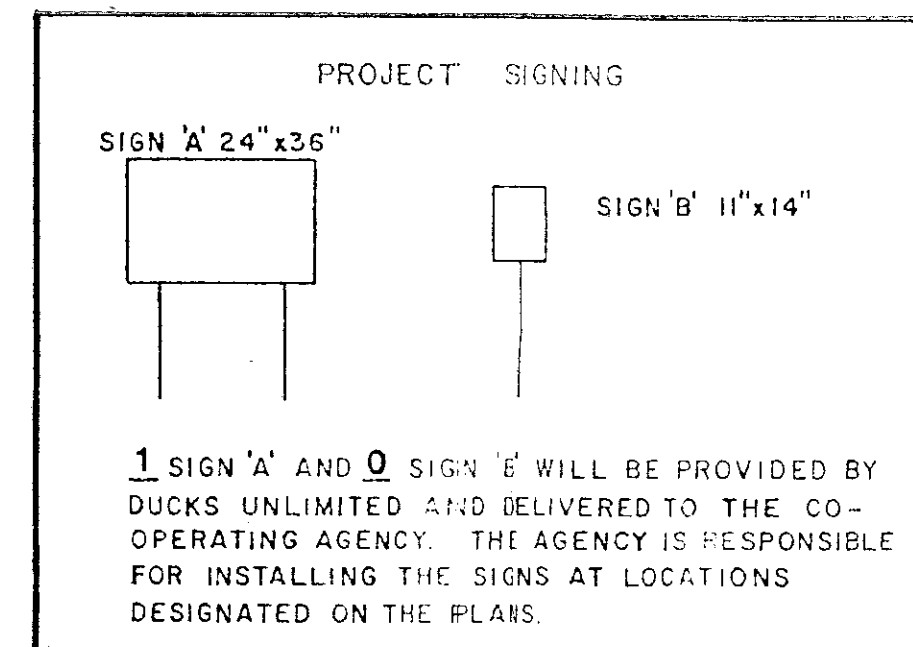
1. VICINITY MAP
2. SITE TOPOGRAPHY
3. SITE PLAN
4. STRUCTURE DETAILS
5. PROFILES & X-SECTIONS
6. SOILS INFORMATION

SPECIFICATIONS

GENERAL CONDITIONS	101
MOBILIZATION	201
SITE PREPARATION	202
EXCAVATION	203
EMBANKMENT CONSTRUCTION	204
WATER	205
WATER CONTROL STRUCTURE INSTALLATION	206
WATER CONTROL STRUCTURE & CULVERT APPURTENANCES	206A
CULVERT INSTALLATION	207
CAST-IN-PLACE REINFORCED CONCRETE	208
RIPRAP PLACEMENT	209
ISLAND EMBANKMENT CONSTRUCTION	211

ESTIMATED QUANTITIES

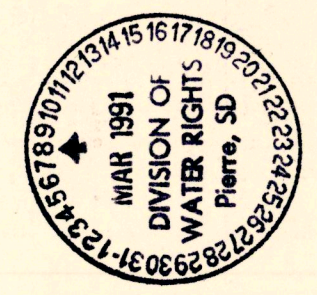
MOBILIZATION	1 L.S.
SITE PREPARATION	1644 C.Y.-P
EMBANKMENT*	9133 C.Y.-S
WATER	XXXX M-GAL.
WATER CONTROL STRUCTURE 48" RISER, 30" GATE, ETC.	2 EA.
WATER CONTROL STRUCTURE APPURT	1 INC.
CULVERT INSTALLATION 30" CMP	48 L.F.
RIP RAP PLACEMENT	56 C.Y.
ISLAND EMBANKMENT 1/10 ACRE NESTING	6 EA.



*INCLUDES 15% FOR SHRINKAGE

	PROJECT NO. DU-1-SD-058-0	DESIGNED BY: DJL
	COLUMBIA MARSH VICINITY MAP	DRAWN BY: TD
GREAT PLAINS REGIONAL OFFICE	CHECKED BY: BRK	
DATE: 11-28-90	SHEET NO: 1 OF 5	APPROVED BY:

App. No. 5516-3



DUCKS UNLIMITED

PROJECT

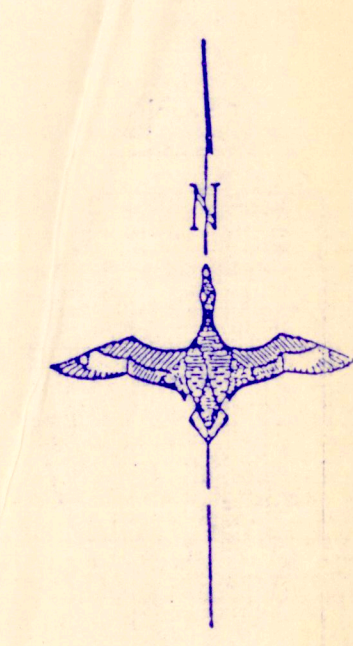
SAND LAKE NWR-COLUMBIA MARSH

SEC. 4 & 9 TWP. 125 N., RGE. 62 W.

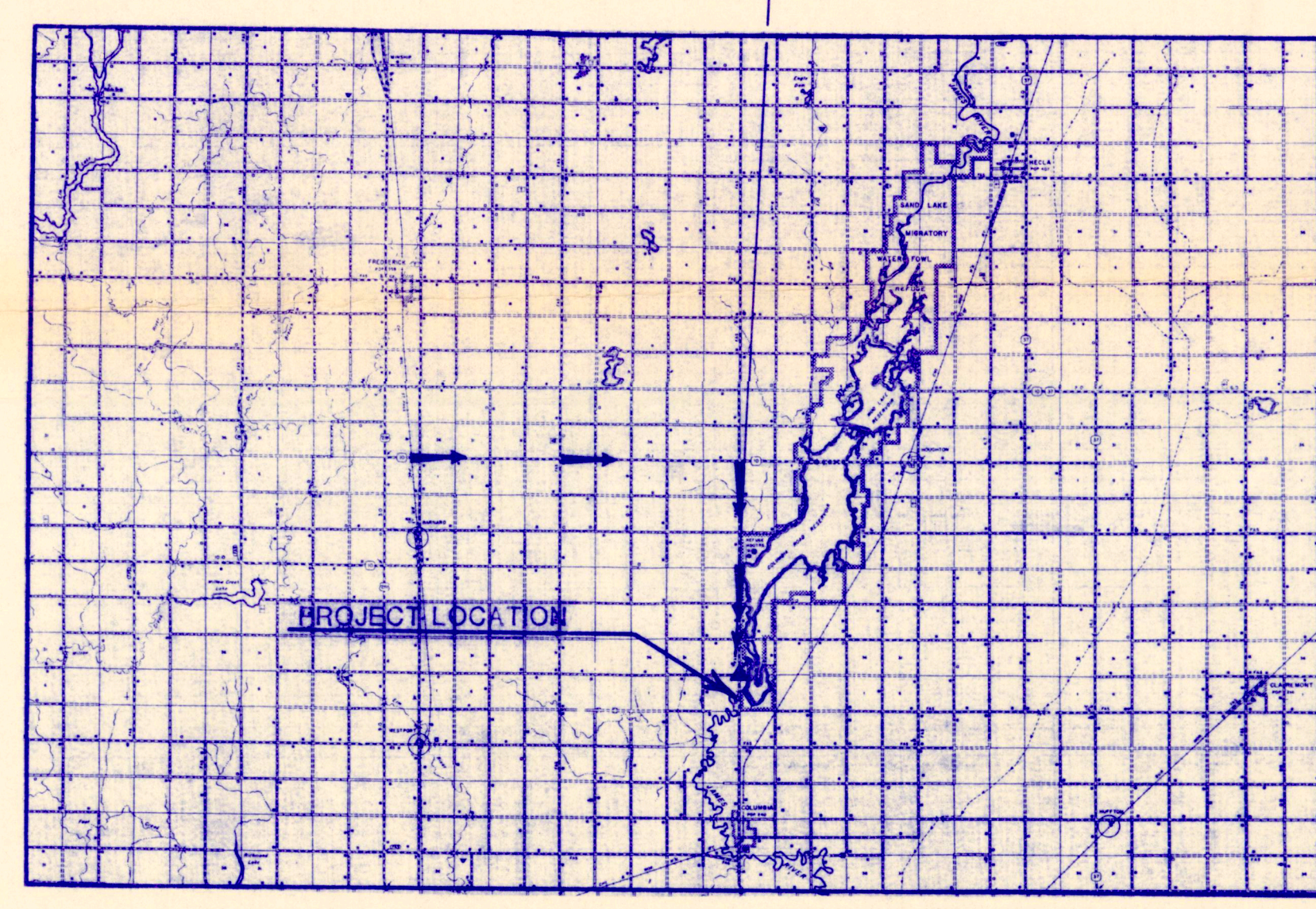
BROWN COUNTY, SOUTH DAKOTA

IN COOPERATION WITH

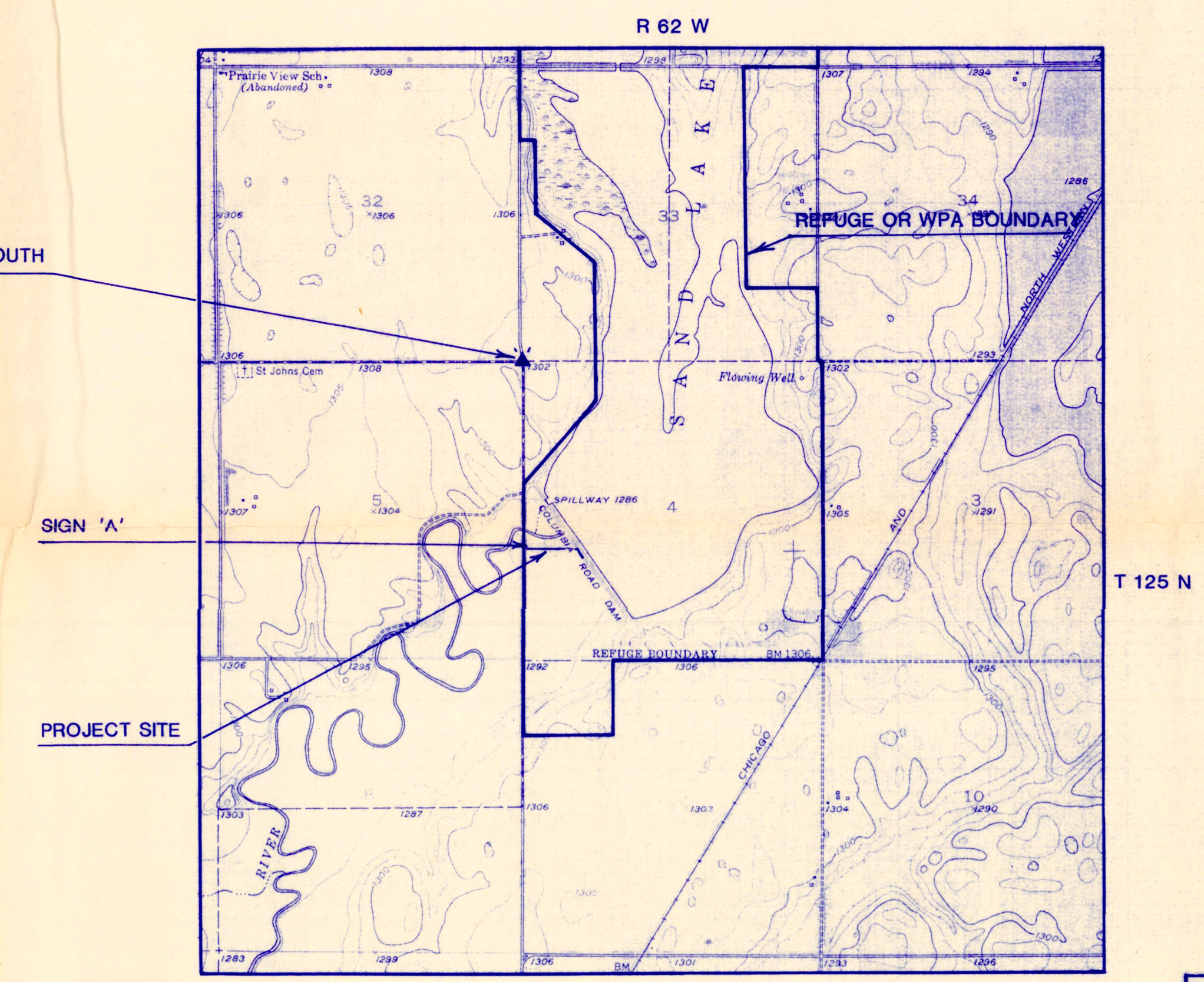
U.S. FISH & WILDLIFE SERVICE



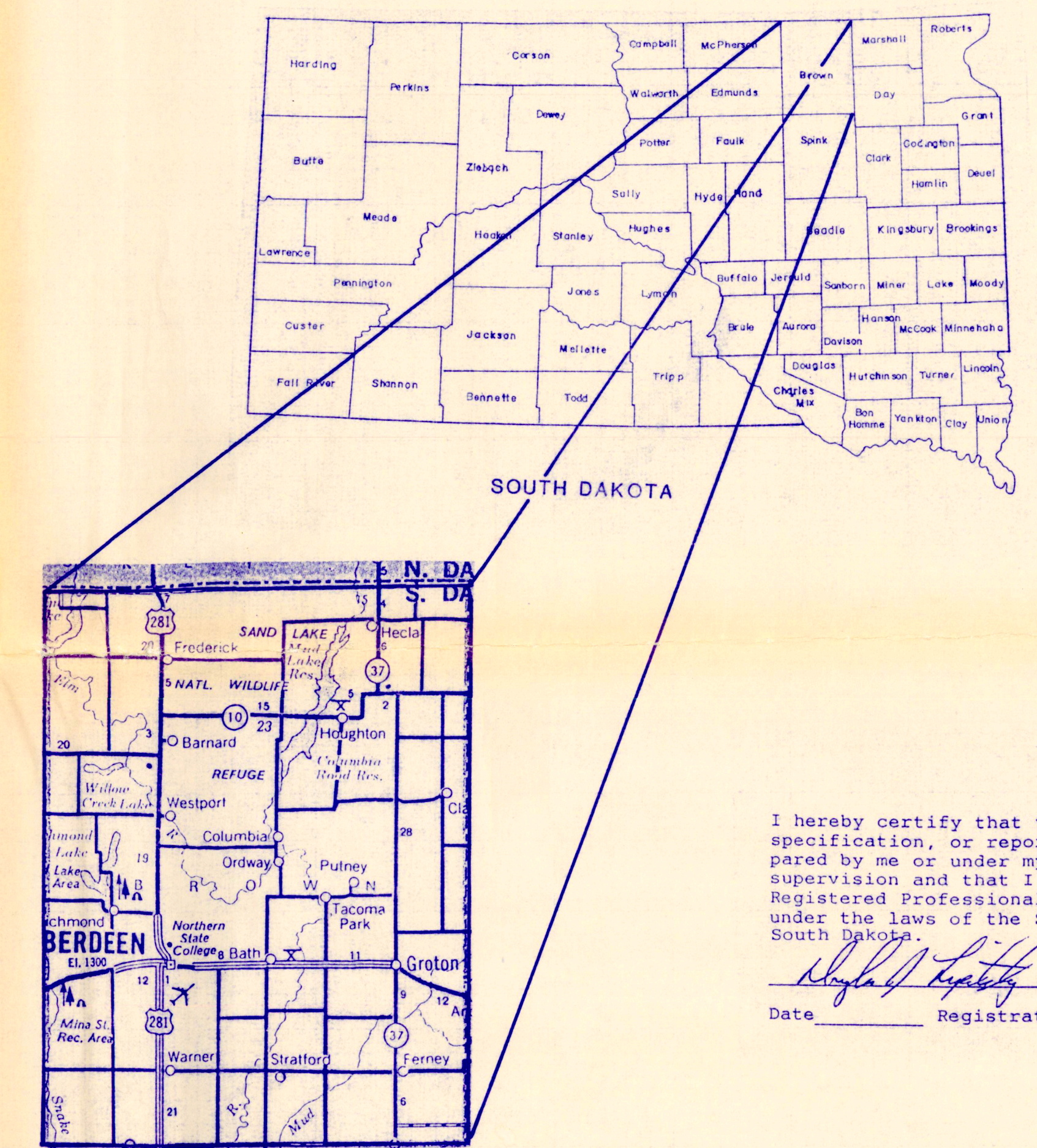
MAP POINT A IS LOCATED 10 MILES EAST & 6 MILES SOUTH OF JCT. OF HWY. #281 & HWY. #10 EAST.



LOCATION MAP



VICINITY MAP
SCALE: 1" = 2,000'



I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota.

David J. Lundy
Date: 11-28-90 Registration No. 4499

SPECIFICATIONS

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ISLAND EMBANKMENT 1/10 ACRE NESTING	6 EA.

PROJECT SIGNING

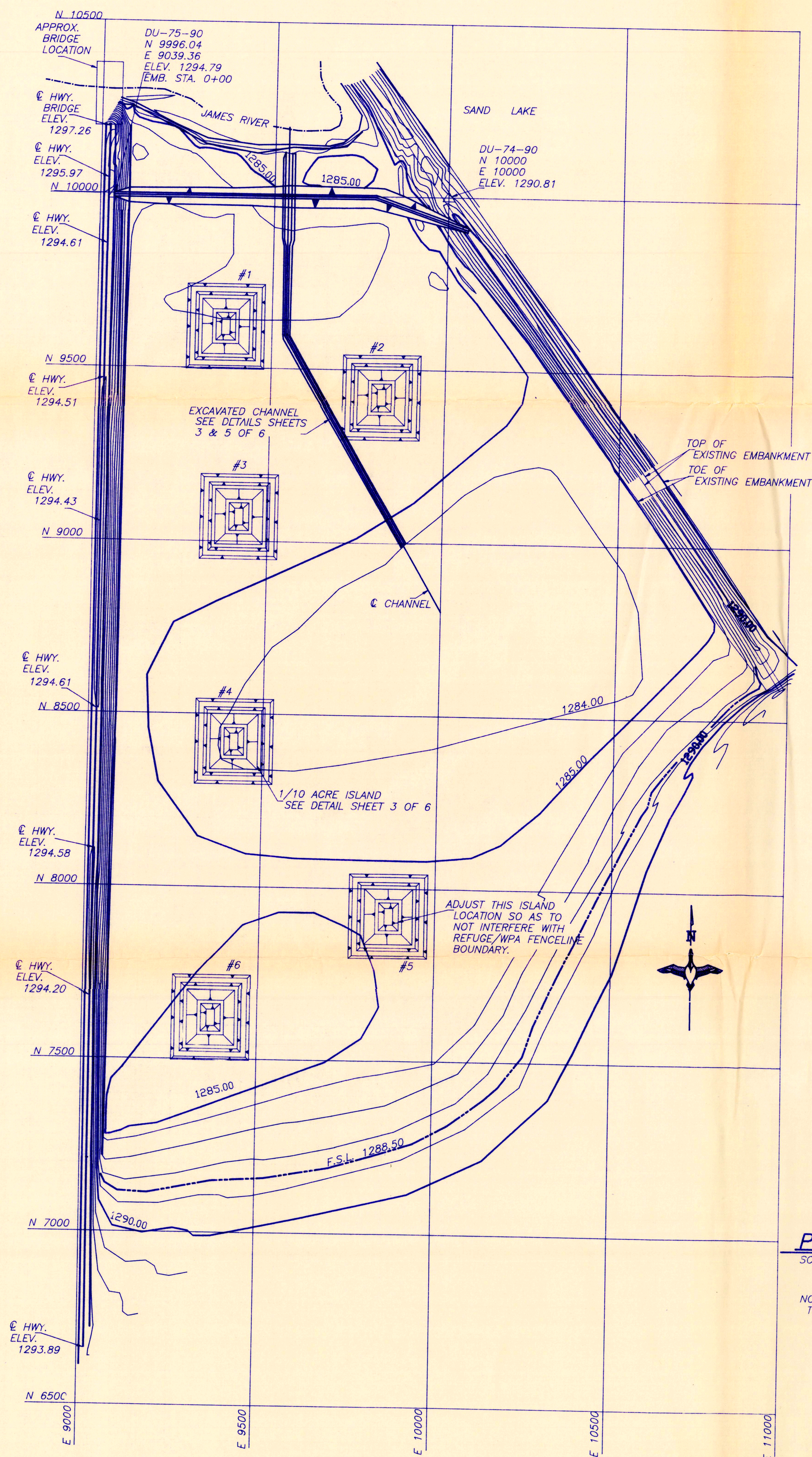
SIGN 'A' 24"x36"

SIGN 'B' 11"x14"

1 SIGN 'A' AND 0 SIGN 'B' WILL BE PROVIDED BY DUCKS UNLIMITED AND DELIVERED TO THE CO-OPERATING AGENCY. THE AGENCY IS RESPONSIBLE FOR INSTALLING THE SIGNS AT LOCATIONS DESIGNATED ON THE PLANS.

*INCLUDES 15% FOR SHRINKAGE

	PROJECT NO. DU-1-BD-038-V	DESIGNED BY: DJL
	COLUMBIA MARSH VICINITY MAP	DRAWN BY: TD
		SURVEYED BY:
		CHECKED BY: BRK
DATE: 11-28-90		APPROVED BY:
SHEET NO: 1 OF 5		APPROVED BY:



ISLAND LOCATION COORDINATES

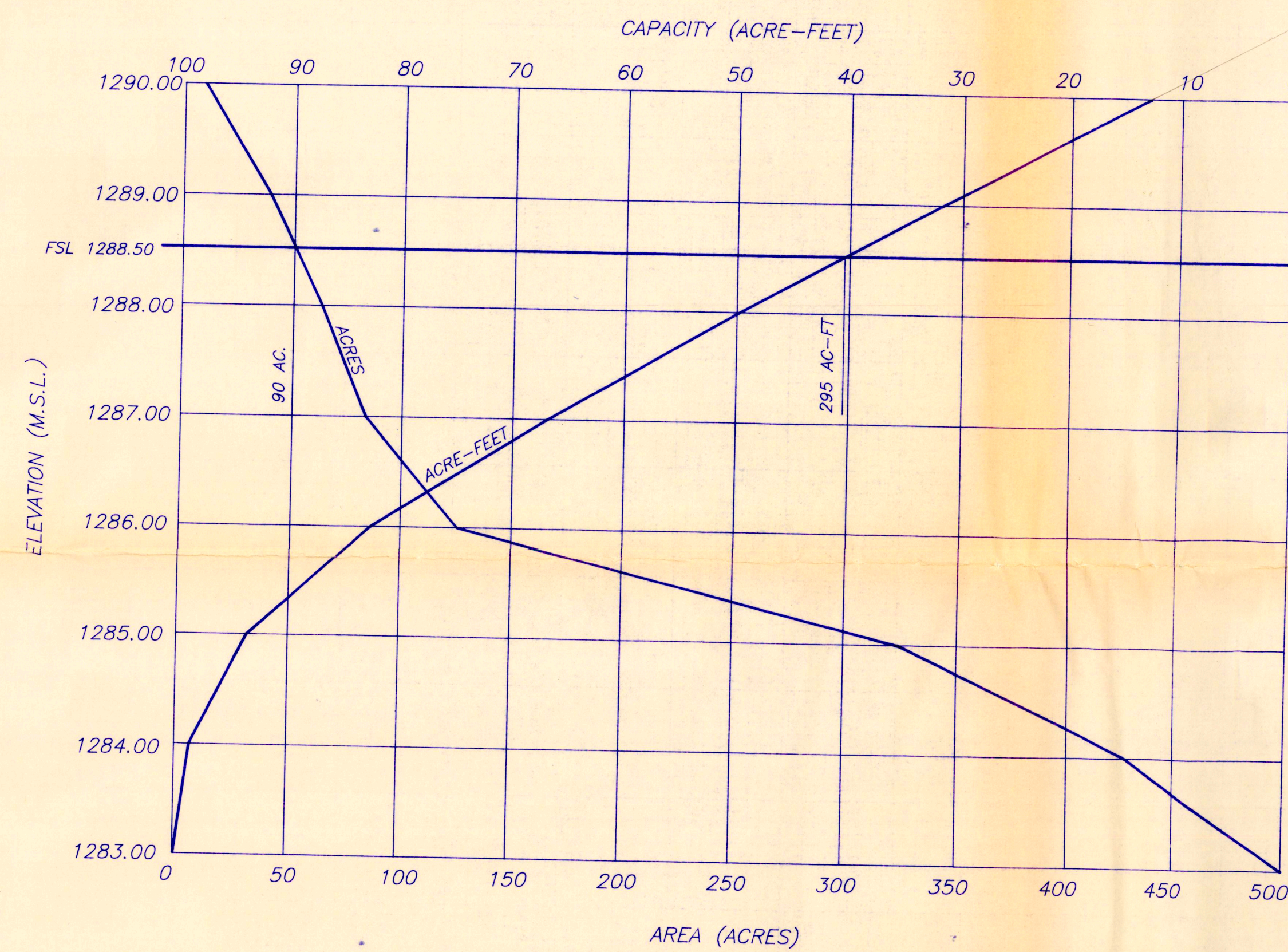
ISLAND #1	N 9700	E 9300
ISLAND #2	N 9500	E 9750
ISLAND #3	N 9150	E 9350
ISLAND #4	N 8500	E 9350
ISLAND #5	N 8000	E 9800 (ADJUST AS NECESSARY)
ISLAND #6	N 7700	E 9300

SEE ISLAND DETAIL SHEET 3 OF 6 FOR ISLAND LOCATION ORIENTATION POINT.

PROJECT TOPOGRAPHY

SCALE: 1"=200'

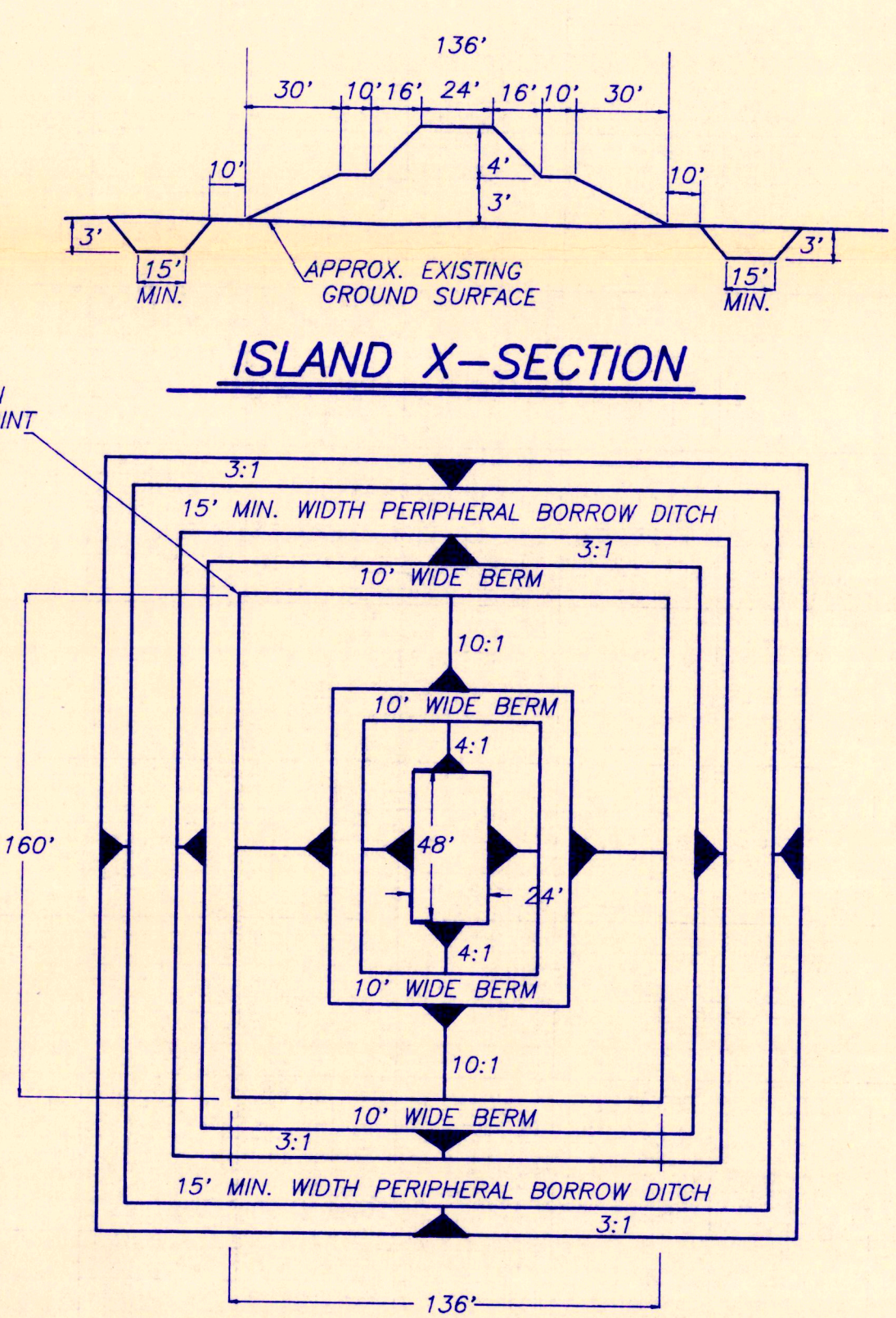
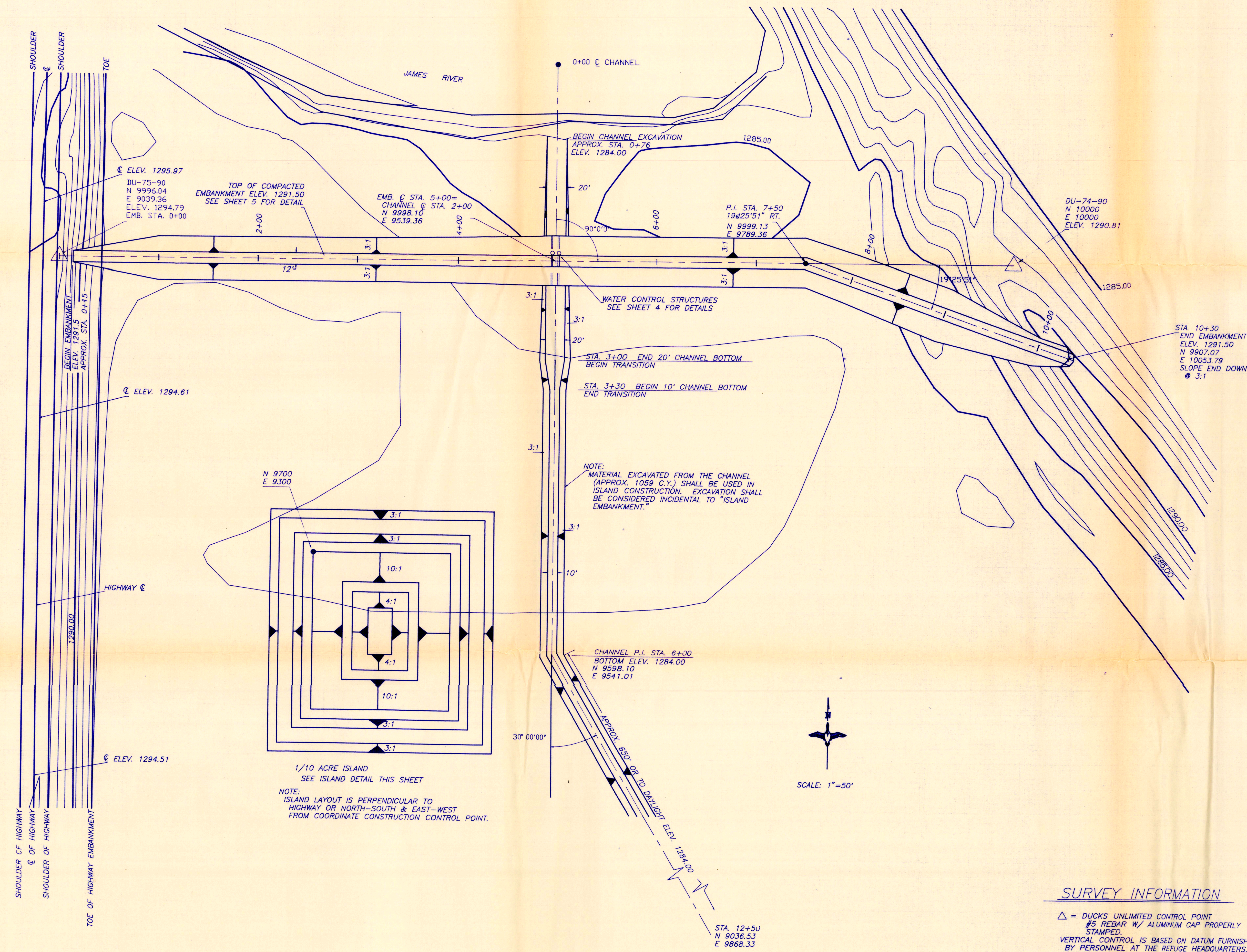
NOTE:
THE CONTOURS IN THE INTERIOR OF THE MARSH WERE INTERPOLATED BASED ON SURVEY DATA PROVIDED BY THE U.S. FISH & WILDLIFE SERVICE.



AREA-CAPACITY CURVE

MARSH DATA

FULL SUPPLY LEVEL (F.S.L.)	1288.5
FLOODED AREA @ F.S.L.	90 AC.
SHORELINE @ F.S.L.	APPROX. 1.5 MI.
CAPACITY @ F.S.L.	295 AC-FT.
U.T.M. COORDINATES	14-631E-5057N

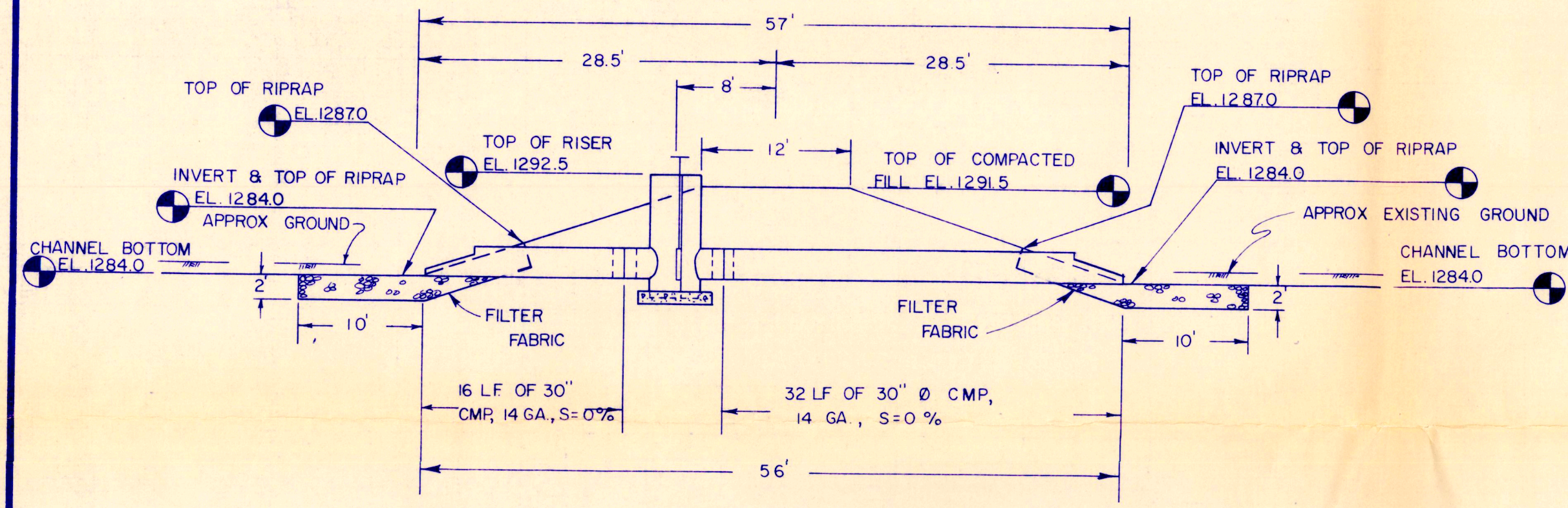


- ISLAND CONSTRUCTION NOTES:
1. THE ISLANDS SHALL BE CONSTRUCTED FROM MATERIAL FROM THE PERIPHERAL BORROW AREA AND CHANNEL EXCAVATION. STRIPPING BELOW THE ISLAND WILL NOT BE NECESSARY.
 2. THE ESTIMATED QUANTITY CONTAINED IN EACH ISLAND IS APPROXIMATELY 2621 C.Y. WHICH INCLUDES 15% FOR SHRINKAGE.
 3. THE VOLUME BASED ON THE IN-PLACE DIMENSIONS OF THE ISLAND. IT IS PROVIDED FOR INFORMATION ONLY. THE ISLAND WILL BE PAID FOR BASED ON A LUMP SUM BID FOR "ISLAND EMBANKMENT CONSTRUCTION."
 4. THE ISLAND LOCATION WILL BE STAKED BY THE ENGINEER IN THE FIELD. DIMENSIONS SHOWN ARE APPROXIMATE. THE SHAPE OF THE ISLAND SHALL BE CONSTRUCTED WITH IRREGULAR LINES AND ROUNDED CORNERS TO MAKE A MORE NATURAL APPEARANCE.
 5. A MINIMUM OF 4" TOPSOIL SHALL BE PLACED ON THE BERM AND ON THAT PORTION OF THE ISLAND ABOVE THE BERM (APPROX. 100 C.Y.). THE TOPSOIL SHALL BE OBTAINED FROM THE PERIPHERAL BORROW AREA. COST OF TOPSOIL PLACEMENT SHALL BE CONSIDERED INCIDENTAL TO "ISLAND EMBANKMENT CONSTRUCTION."
 6. DUCKS UNLIMITED CONSTRUCTION SPECIFICATIONS: 101 - GENERAL CONDITIONS 201 - MOBILIZATION 211 - ISLAND EMBANKMENT CONSTRUCTION
 7. NESTING AREA (AREA ABOVE THE BERM) = 0.10 ACRES IMPACTED AREA = 0.50 ACRES

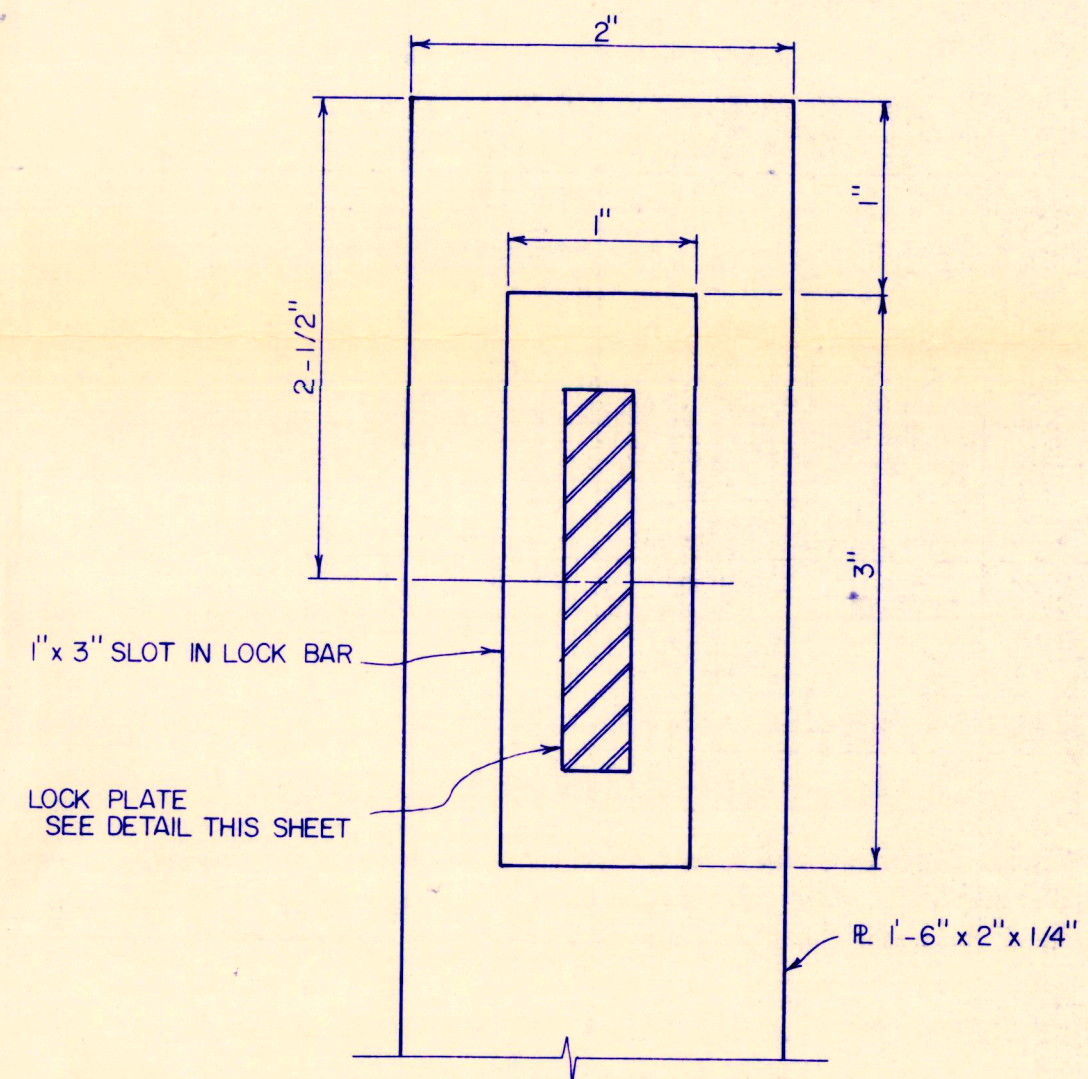
SURVEY INFORMATION

△ = DUCKS UNLIMITED CONTROL POINT
#5 REBAR W/ ALUMINUM CAP PROPERLY STAMPED.
VERTICAL CONTROL IS BASED ON DATUM FURNISHED BY PERSONNEL AT THE REFUGE HEADQUARTERS. ELEVATION 1290.00 = 10.0 ON GAUGE AT COLUMBIA ROAD DAM STRUCTURE.

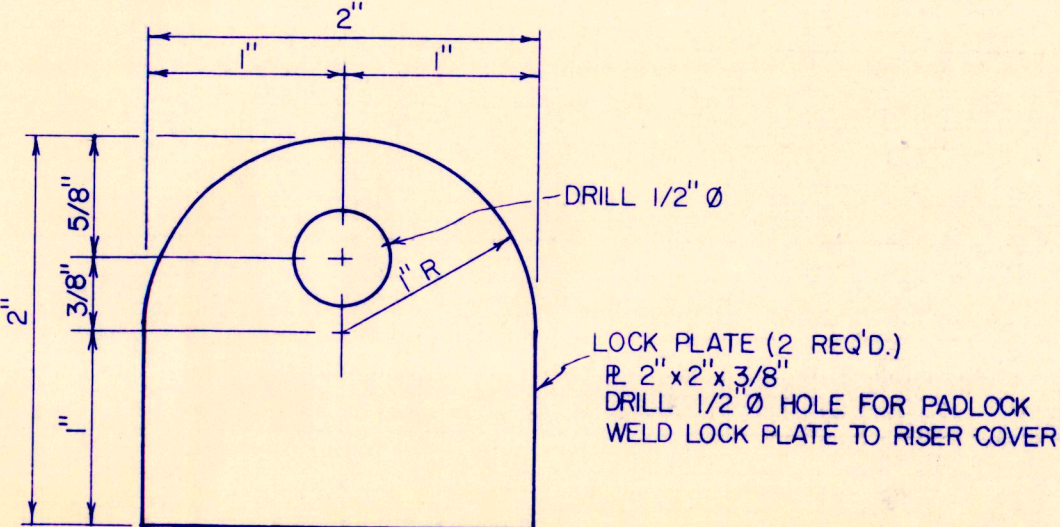
DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. DU-150-058-03 COLUMBIA MARSH	DESIGNED BY: D.J.L. DRAWN BY: B. GARD SURVEYED BY: CHECKED BY:
	SITE PLAN	
DATE: 1-23-91	SHEET NO.: 3 OF 6	APPROVED BY:



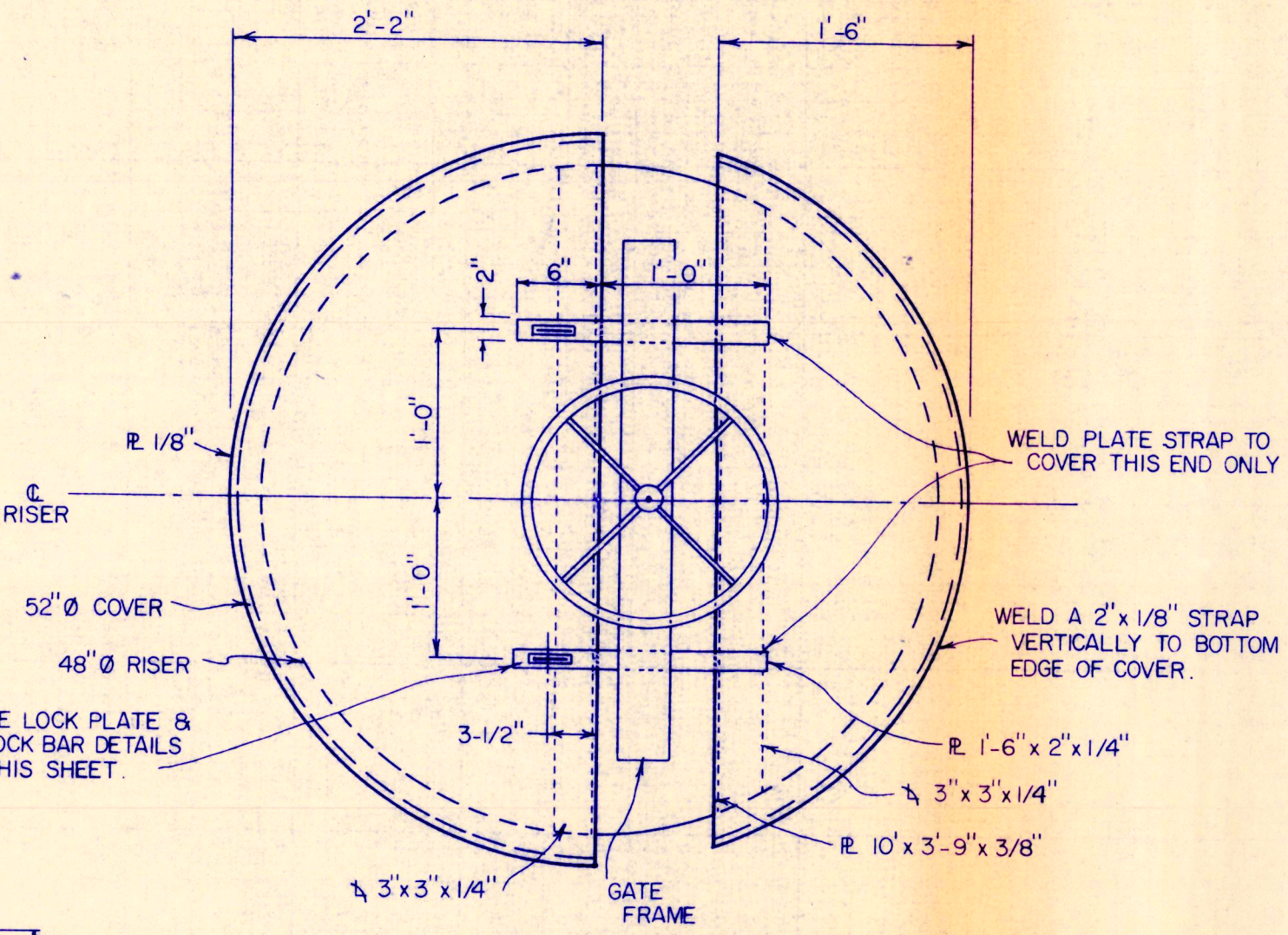
SECTION A-A
SCALE: 1"=10'



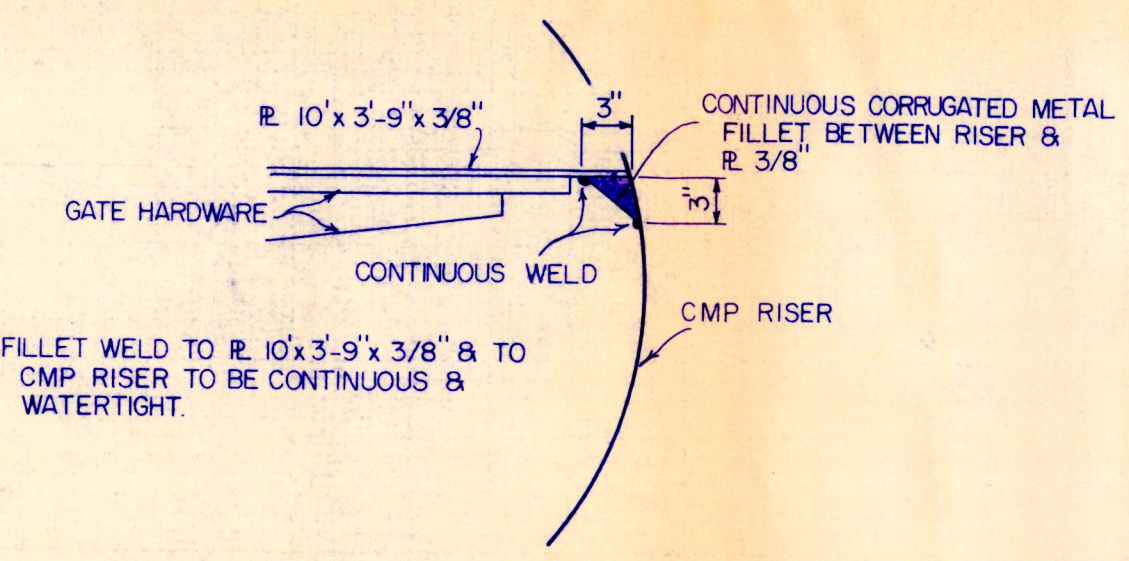
LOCK BAR DETAIL
SCALE: 1"=1"



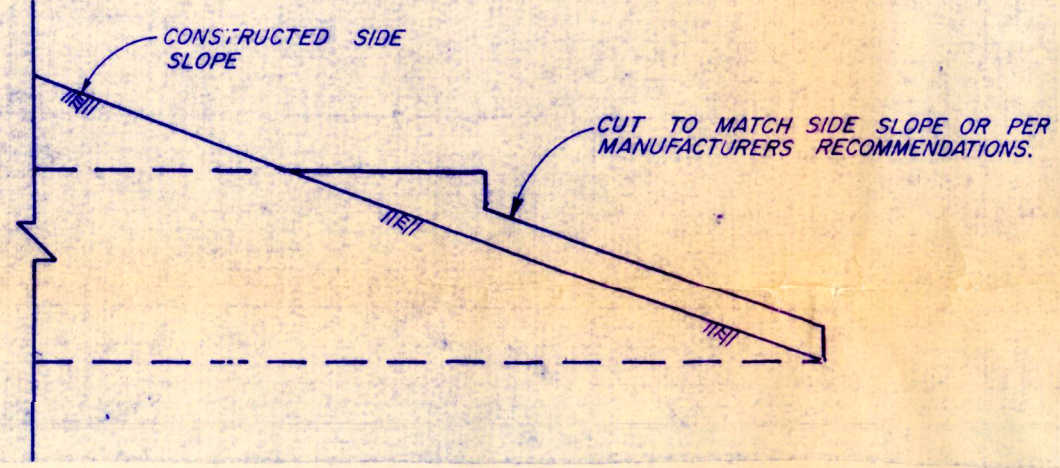
LOCK PLATE DETAIL
SCALE: 1"=1"



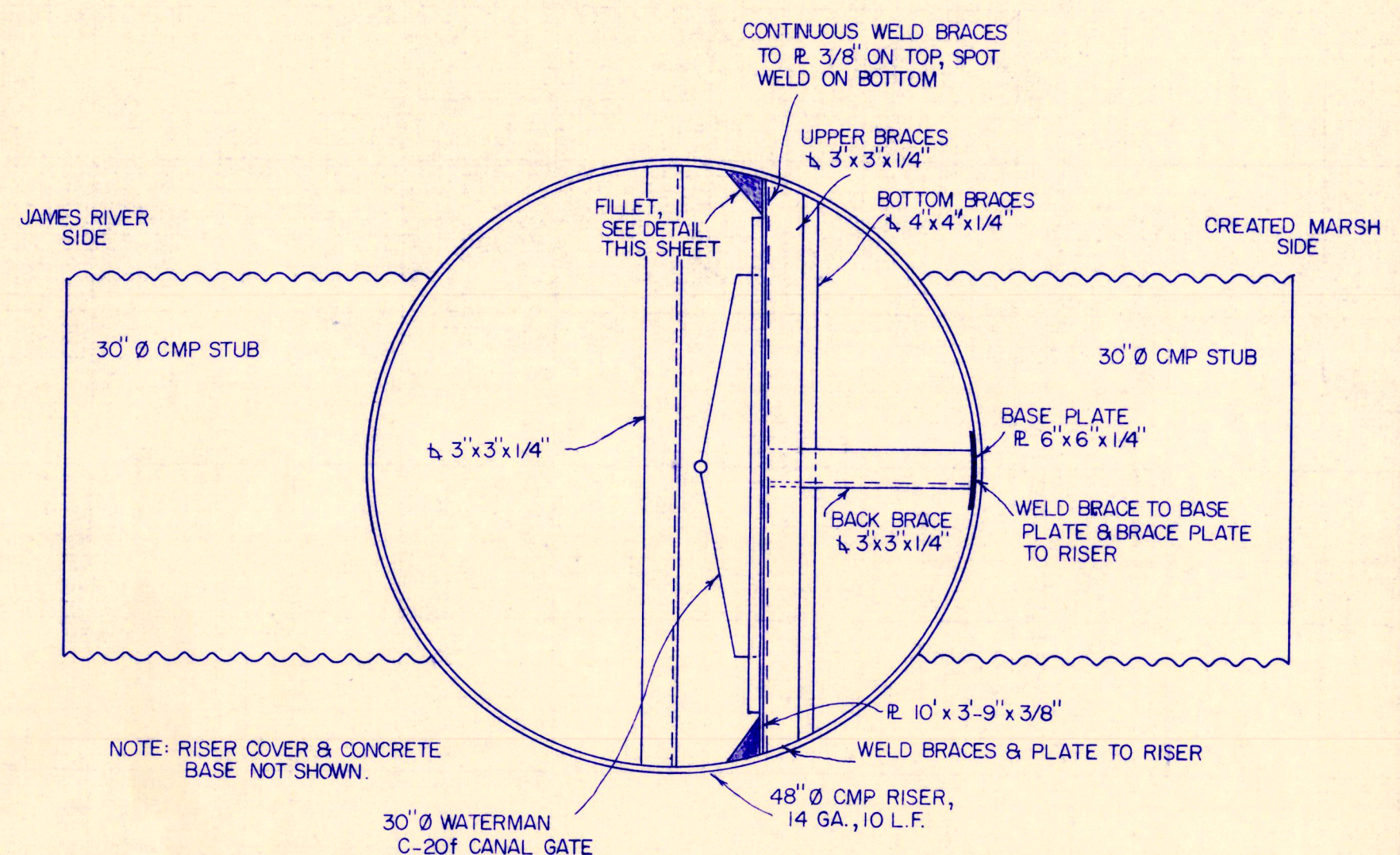
COVER DETAIL
SCALE: 1"=1'-0"



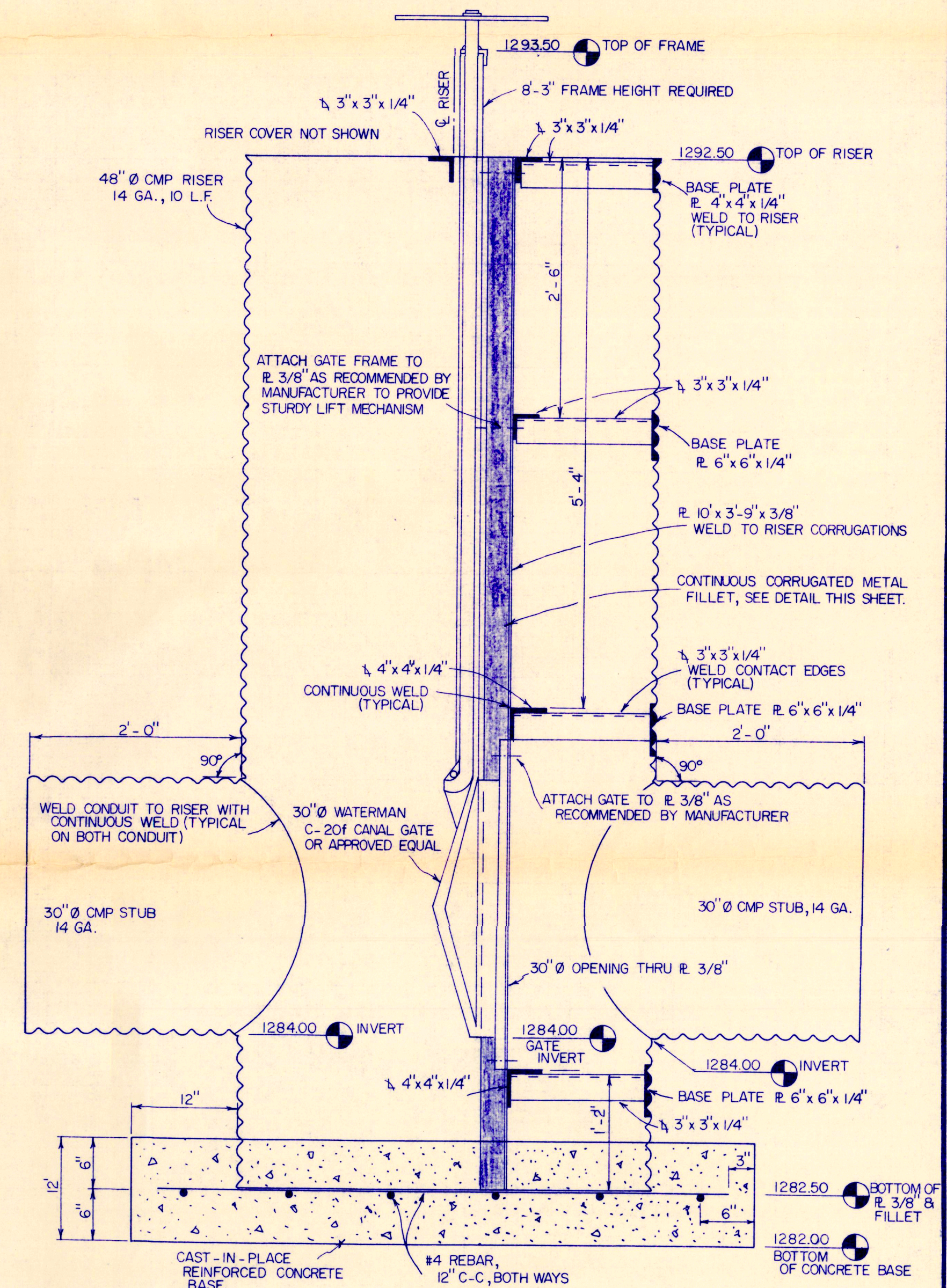
FILLET DETAIL
NOT TO SCALE



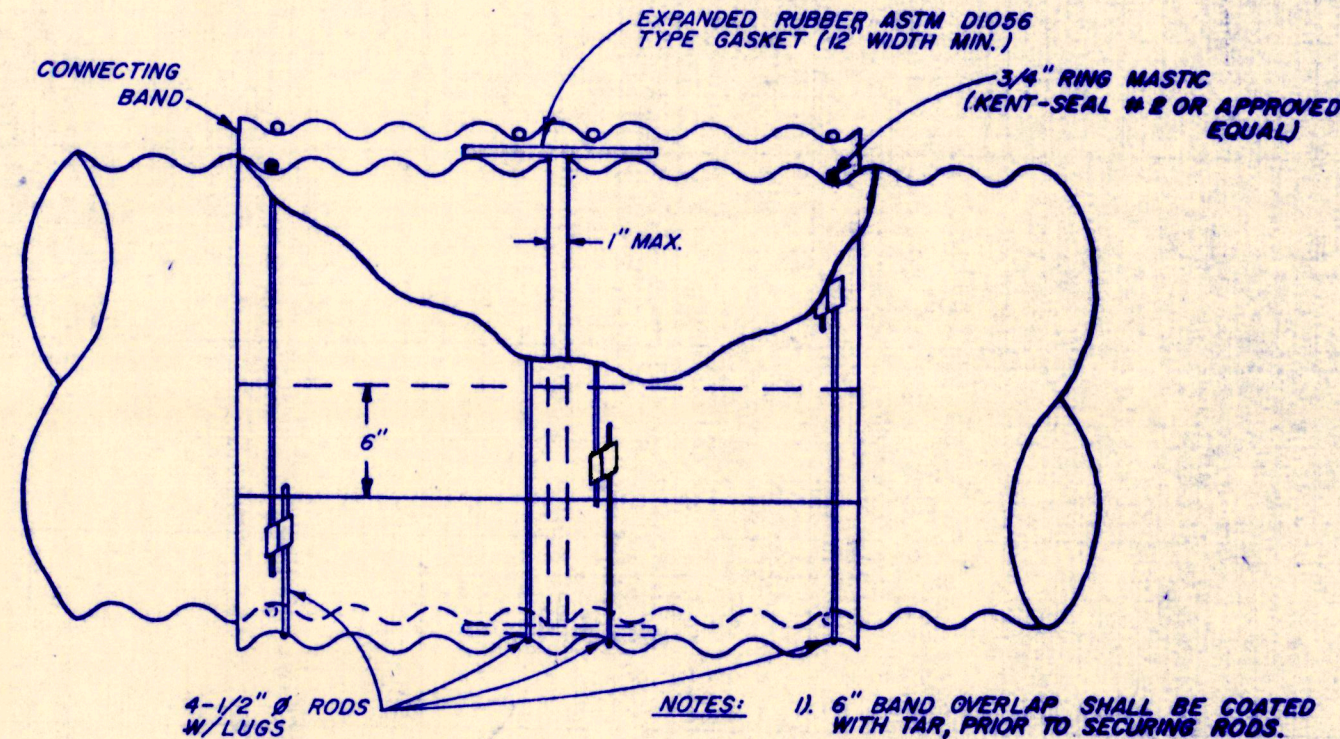
STEP BEVEL DETAIL
NOT TO SCALE



CONTROL STRUCTURE PLAN VIEW
SCALE: 1"=1'-0"

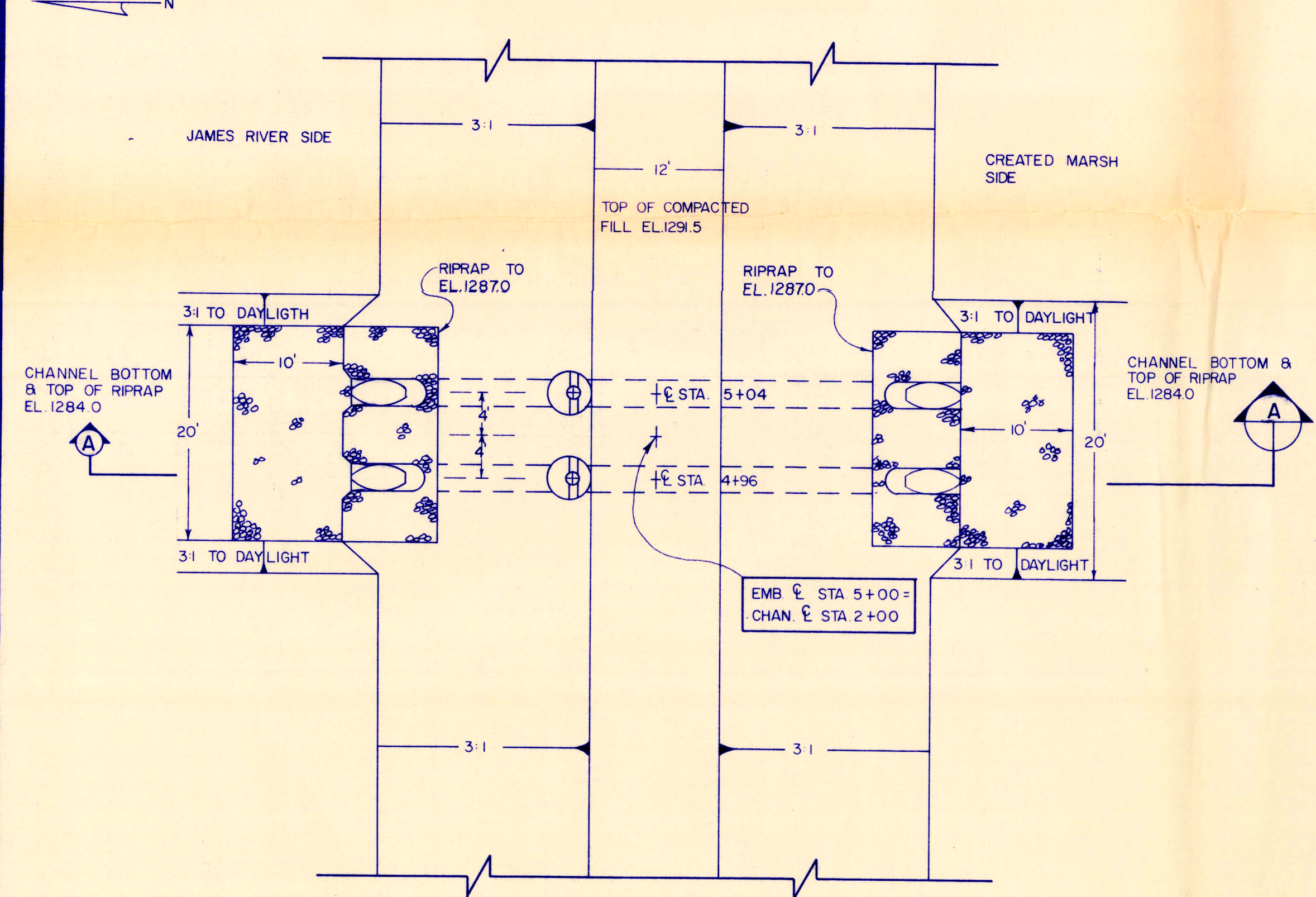


CONTROL STRUCTURE DETAIL
SCALE: 1"=1'-0" 2 REQ'D.



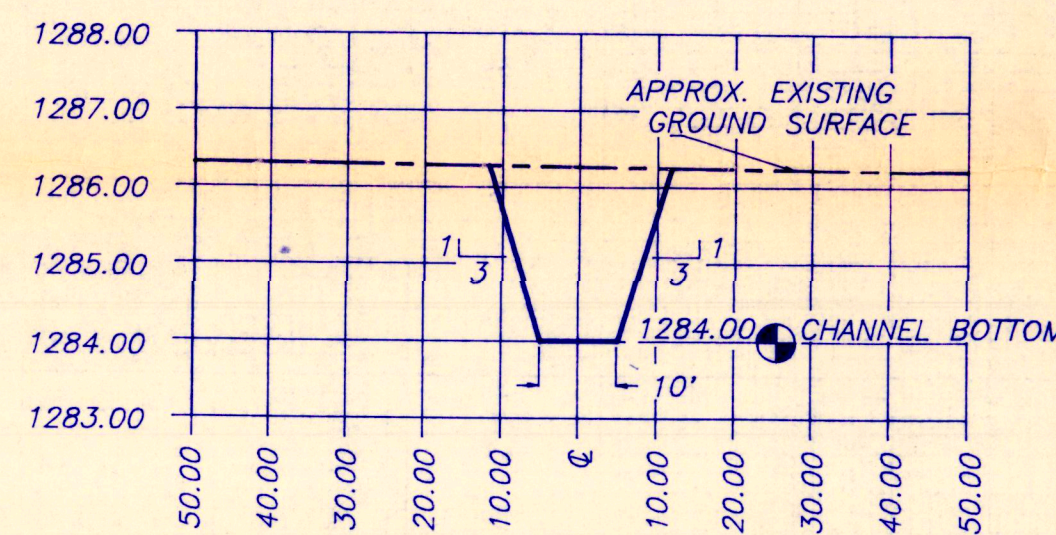
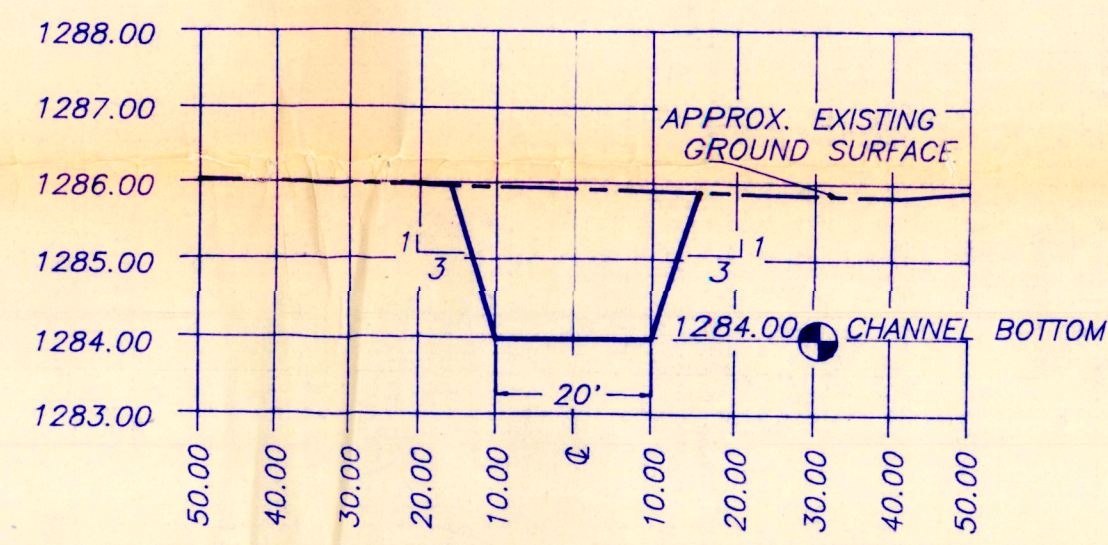
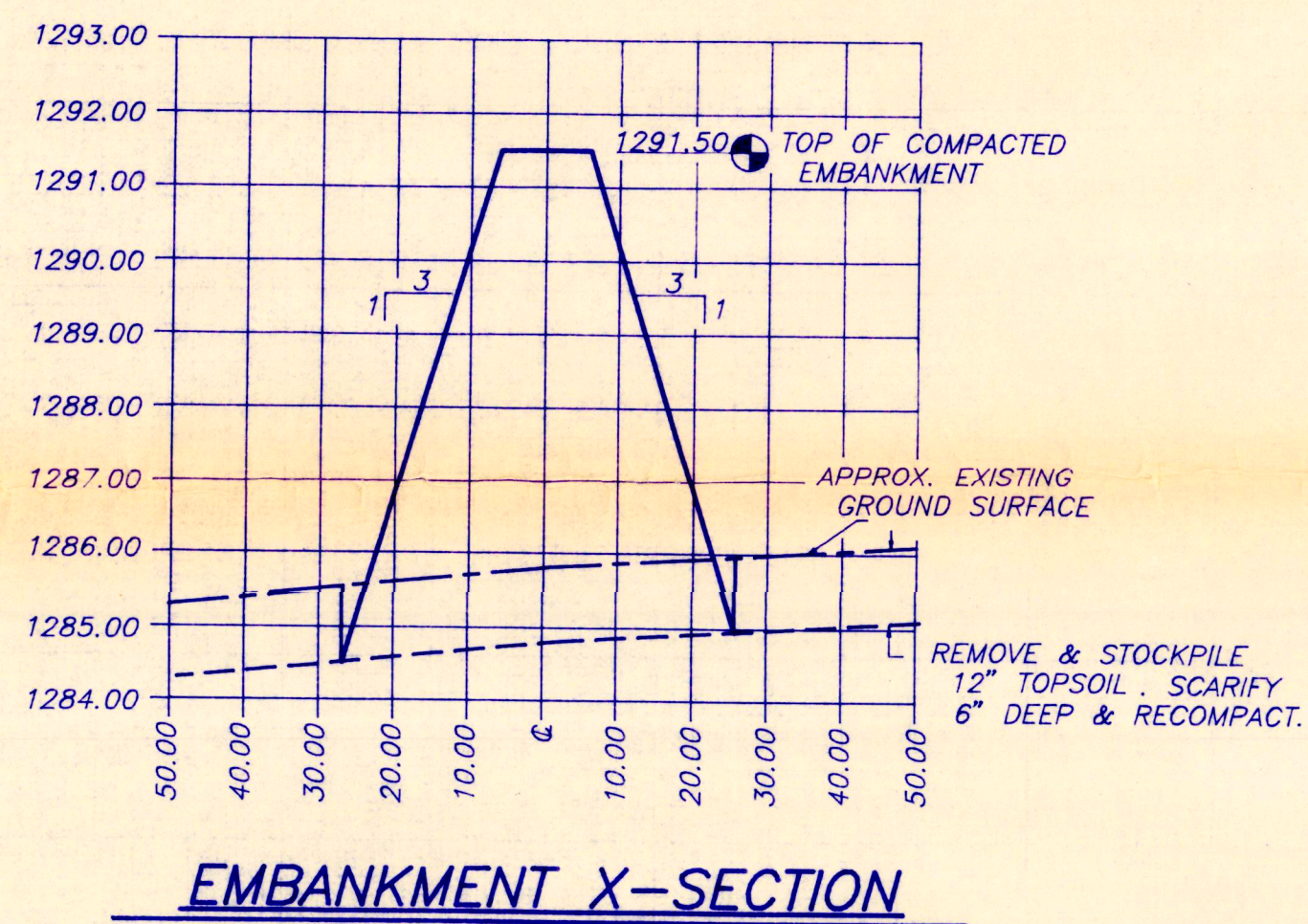
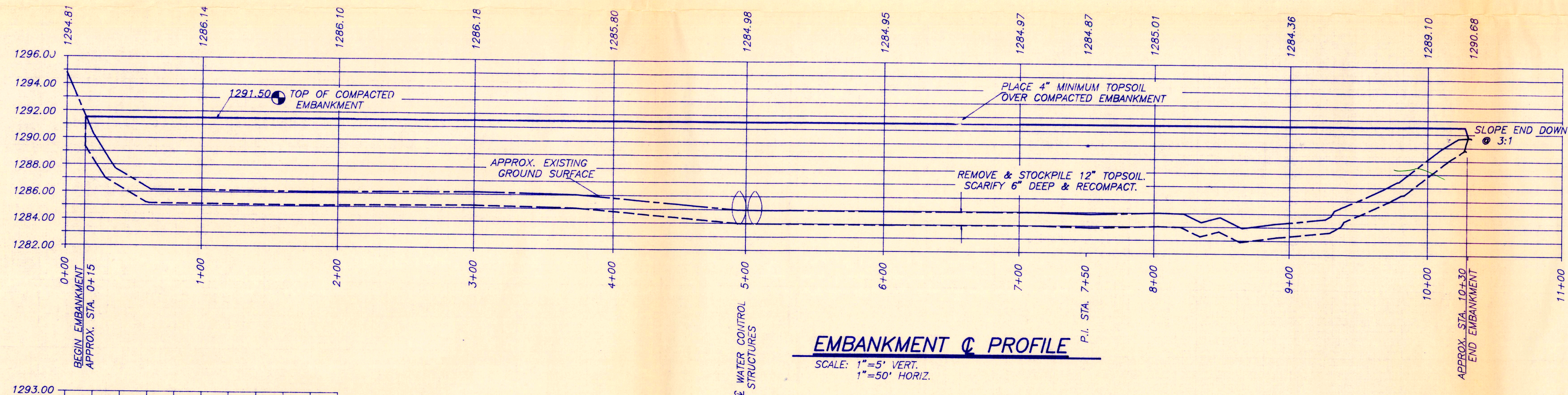
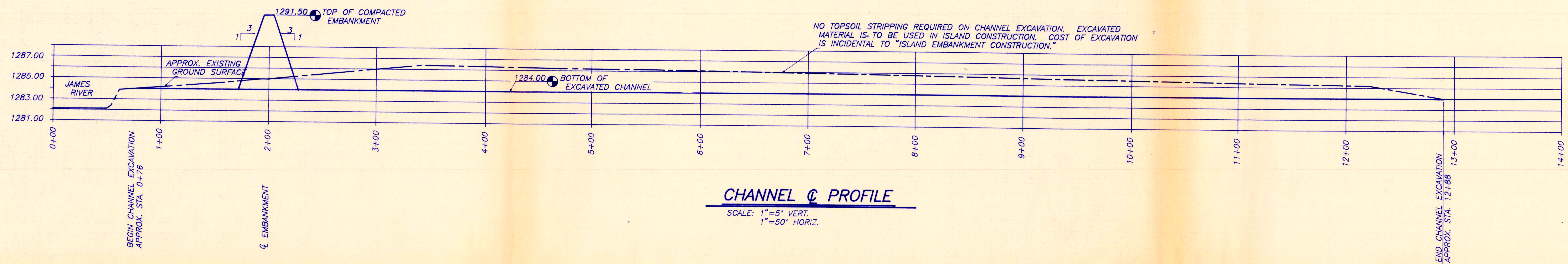
CONNECTING BAND DETAIL
NOT TO SCALE

- WELDING NOTES**
- WELD R 3/8" TO RISER CORRUGATION ON ALL CONTACT POINTS.
 - CONTINUOUS WELD METAL FILLET TO R 3/8" RISER.
 - CONTINUOUS WELD CROSS BRACE ANGLES TO R 3/8" ON TOP, SPOT WELD ON BOTTOM, & CONTINUOUS WELD ENDS TO RISER.
 - WELD BASE PLATES TO RISER ON ALL CONTACT POINTS.
 - WELD BACK BRACE TO CROSS BRACE & BASE PLATE ON ALL CONTACT EDGES.



PLAN VIEW
SCALE: 1"=10'

 GREAT PLAINS REGIONAL OFFICE DATE: 1-18-91 SHEET NO: 4 OF 6	PROJECT NO: DU-1-SO-058-03 COLUMBIA MARSH STRUCTURE DETAIL SHEET	DESIGNED BY: D.J.L. DRAWN BY: J.B. SURVEYED BY: CHECKED BY:
	APPROVED BY:	APPROVED BY:





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

May 27, 2021

Dear James River Water Right Holder:

I am writing to water right holders and operators who use water from the James River that river flow is much lower this year and to let them know that shutoff orders are possible this summer.

South Dakota law gives the highest priority to domestic use, including livestock watering. There is generally adequate water available to meet both domestic use and other needs. However, once water availability reaches critical low levels, other uses will begin to interfere with domestic use. If river levels become critically low, the department may be forced to issue shutoff orders to protect domestic use, including livestock watering and those water rights that are most senior.

We are only cautioning that shutoff orders may become necessary. **This not a shutoff order.** This letter is only intended to give you advanced warning that your ability to divert water may be cut short this year. If shutoff orders are issued, you will receive another letter from the department. In the meantime, water right holders can help by closely monitoring water usage and avoid wasting water.

If you are interested, the US Geological Survey has an Internet site showing river flows at 164 stream gauging stations across the state. To view the latest realtime stream flow, go to:

<https://waterdata.usgs.gov/sd/nwis/current/?type=flow>

Thank you for your cooperation. If you have any questions, please contact Mark Rath, Blaise Hansen, or Nakaila Steen at (605) 773-3352.

Sincerely,

Eric Gronlund, Chief Engineer
Water Rights Program