

WATER PERMIT NO. 8890-3

Name of Applicant: **South Dakota Game, Fish and Parks**

Address: **523 E Capitol Avenue, Pierre SD 57501**

Phone: **605-773-4521**

Amount of Water Claimed: **161 AF**

Total Acres: **N/A**

Source of Water Supply: **Surface**

Water to be used for: **Dam**

County: **Aurora**

Type of Waste Disposal System:

Location: **Approx. 8 miles southeast of Plankinton SD**

PRIORITY Date Received: **03-01-23**

Application/License Fee: **\$950.00**

Corrected Application Received: **08-02-24**

Period of Annual Use: **January 1 – December 31**

Remarks: **Project will replace the structure to the same height.**

Diversion Point: **Near the center of the W 1/2 Sec
22-T102N-R63W.**

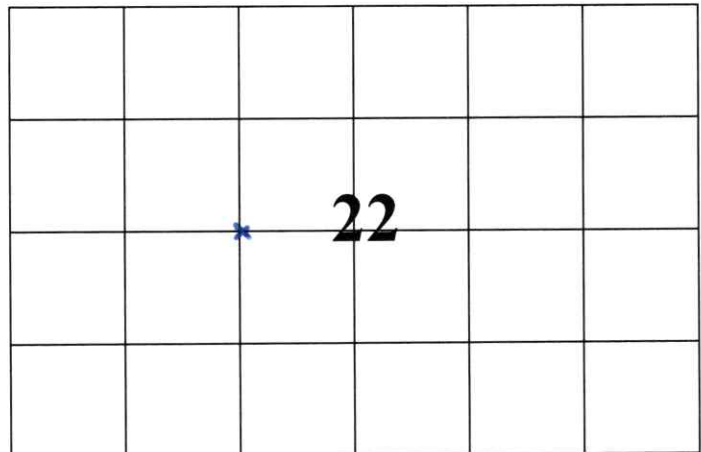
Land to be Irrigated: **N/A**

Depth of Well: **N/A**

Well Driller: **N/A**

Remarks:

Type of Map: **aerial**



Reviewed and the Number Assigned on: **08-05-24**

By: **Rachel Rodriguez**

Notice of Hearing - date to intervene: _____

SOUTH DAKOTA
WATER PERMIT NO. 8890-3

Date of first receipt of application March 1, 2023.

Date of return to applicant for corrections, amendments or changes March 2, 2023.

Date of receipt of corrected application August 2, 2024.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8890-3 to South Dakota Game, Fish and Parks, 523 East Capitol Avenue, Pierre SD 57501, 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. 8890-3 appropriates sufficient runoff annually from Enemy Creek to maintain the water level to a normal pool elevation of 1561.5 feet mean sea level (NAVD88) at the primary spillway outlet in New Stickney Dam. The reconstructed dam (83 acre-feet storage capacity at the normal pool elevation) is to be located near the center of the W 1/2 Section 22 with water impounded in the SW 1/4 Section 22; all in T102N-R63W. Water is to be used for recreation & fish and wildlife purposes. This site is located approximately three and one half miles northeast of Stickney SD.
2. The water appropriated shall be used for the purpose of recreation & fish and wildlife use 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. 8890-3 is September 30, 2024.
5. The date from which applicant may claim right is August 2, 2024.
6. One-fifth of the construction is to be completed on or before March 30, 2027.
7. All construction is to be completed on or before September 30, 2029.
8. Water is to be put to beneficial use on or before September 30, 2033.
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. 8890-3 authorizes an impoundment with a storage capacity of 83 acre-feet of water at the normal pool elevation and sufficient water annually to maintain the water level to the primary outlet elevation of 1561.5 feet mean sea level (NAVD88).
1. After an annual fill to the primary outlet elevation is satisfied, no unlawful impairment of this Permit exists by a water permit/right holder placing water to beneficial use under their water permit/right with a junior priority date.
2. Low flows as needed for downstream domestic use, including livestock water must be by-passed.

WATER MANAGEMENT BOARD

By: Eric Gronlund
Eric Gronlund, Chief Engineer
Water Rights Program
Department of Agriculture and Natural Resources

OCT 25 2024
date



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

Mail to: SD DANR, Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8890-3</u> Hydrologic Unit <u>10160011</u>
	Basin <u>James R</u>
	Newspaper <u>Plankinton South Dakota Mail</u>
	<u>Auron Plainsman</u> (office use only)

RECEIVED

MAR 01 2023

OFFICE OF
WATER

Application for Permit to Appropriate Water in South Dakota

Check use(s) of water:

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

Type of Application:
(check one)

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

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

Renewal of water right for the New Stickney dam in Aurora County that failed in 2019.

- Name to Appear on Water Permit South Dakota Game, Fish and Parks
Mailing Address 523 E Capitol Ave. Pierre SD 57501
(Address) (City) (State) (Zip Code)
Phone 605-773-4521 Mobile _____ Email james.gilkerson@state.sd.us
- Amount of water claimed _____ *CFS or _____ **GPM and 161-83 ***AF or _____ Gallons
Flow rate and volume are both required. (*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use)
- Source of water supply Enemy Creek near center of W1/2
- Location of point of diversion Dam Embankment with Spillway in N Section 22 T102N R63W County Aurora
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
If not a public water supply (e.g. municipal), will water be used outside of the area described above? ☐ Yes ☒ No
If "Yes," where will water be used? _____
(example - NW1/4 section 12-T104N-R53W)
- County or counties where water will be used Aurora
- Annual period during which water is to be used Water used for recreation and fish & wildlife year round
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

Project to repair/reconstruct the dam embankment and spillway at New Stickney Lake. The spillway failed and the embankment washed out to approximately half the height. The project will bring replace the structure to the same height and hydraulic properties as the previous structure.

I, James Gilkerson Engineer, the applicant, certify under
Name of Person Title (if applicable)

penalty of perjury that I have read this application, examined the attached map, and that the matters stated are true. I further certify, if acting on behalf of an entity or individual other than myself, that I am authorized to submit this application.

2021-08

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

Supplemental Information

(type or print)

1. Well Information (check one or both as applicable) ☐ Drilling new well(s) ☐ Using existing well(s)

- a) If new wells, how many _____ Have test holes been drilled? ☐ Yes ☐ No Drilled by _____
(if yes, please provide copies of logs)
- b) If existing wells, how many _____ Provide copy of log(s), if available. Drilled by _____

For either existing or proposed wells:

- c) Well Depth (required) _____ Depth to Top of Water Bearing Material _____ Depth to Water from Surface _____
- d) Distance to nearest domestic well on applicant's property _____ Property owned by others _____

2. Wastewater Disposal System Information

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

3. Dugout Information

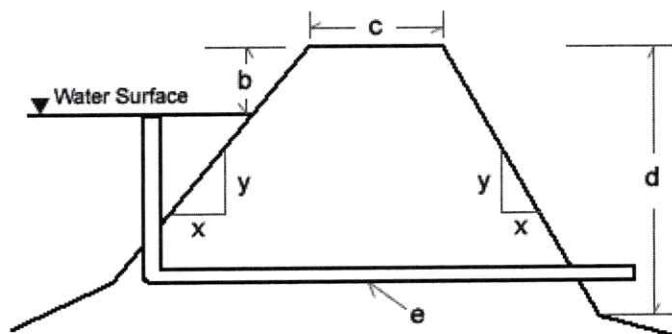
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

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

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

Michael K. Sotak, MBA, PE, D.WRE
Houston Engineering, Inc.
12702 WESTPORT PARKWAY
OMAHA NE 68138



- b) Freeboard 6ft
- c) Crest Width 15ft
Crest Length 370ft
- d) Height 18ft
- e) Primary Outlet Capacity 242cfs
If pipe, diameter 48in
- f) Secondary Spillway Capacity 210fs
Spillway Width 50ft
- g) X & Y Slope (e.g. 3 to 1 is a typical slope)
Upstream ~2:1
Downstream ~3:1
- h) Area of Impoundment 19.5 Acres
- i) Storage 161.2 Acre Feet
- j) Drainage Area Above Dam 5926 Acres



Thanks!

James Gilkerson, P.E. | *Engineer III*
South Dakota Game, Fish and Parks
523 East Capitol Avenue | Pierre, SD 57501
O: 605.773.4521 | C: 605.280.2197 | James.Gilkerson@state.sd.us



102N 63W
Section: 09

102N 63W
Section: 10

102N 63W
Section: 11

102N 63W
Section: 16

102N 63W
Section: 15

102N 63W
Section: 14

259 ST

102N 63W
Section: 21

102N 63W
Section: 22

102N 63W
Section: 23

10160011 Lower James

James

260 ST

102N 63W
Section: 28

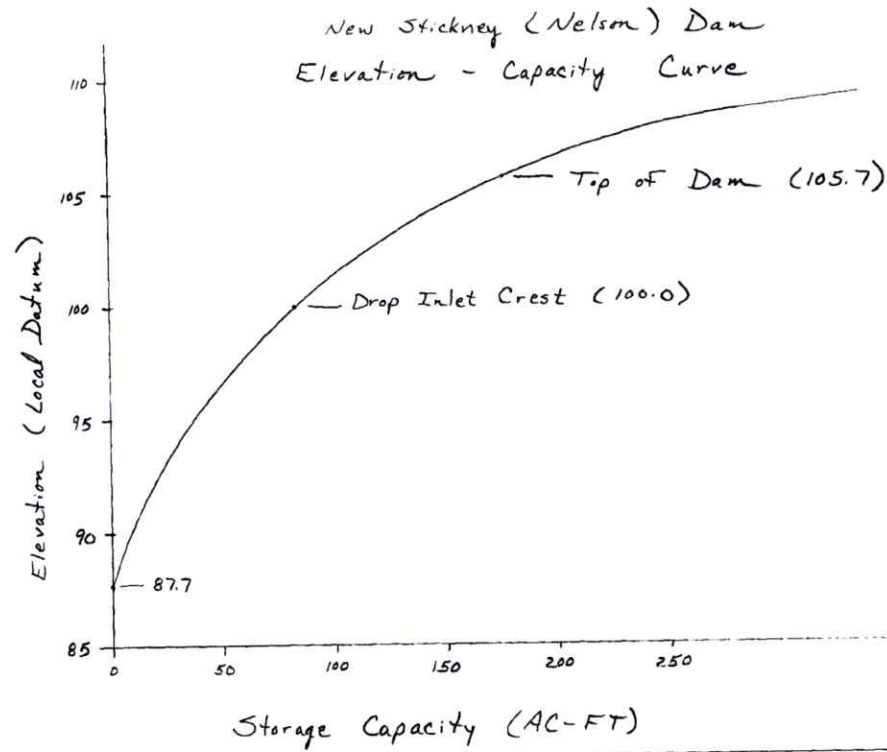
102N 63W
Section: 27

102N 63W
Section: 26

261 ST

102N 63W

102N 63W





INVOICE

SD Agriculture and Natural Resources
Water Rights
Attn: Rachel Rodriguez
523 East Capitol Ave.
Pierre SD 57501

DATE: OCTOBER 7, 2024
INVOICE

TO SD Game Fish & Parks
523 E Capitol Ave
Pierre SD 57501

SALESPERSON		JOB	PAYMENT TERMS	DUE DATE
			Due upon receipt	
QTY	DESCRIPTION		UNIT PRICE	LINE TOTAL
1	Water Permit Application Fee		\$750.00	\$750.00
1	Inspection Fee		\$200.00	\$200.00
			SUBTOTAL	\$950.00
			SALES TAX	
			TOTAL	\$950.00

Make all checks payable to DANR/Water Rights

APPL. AREA	34	VOUCHER #: N06510M008
DATE	10/11/2024	
NUMBER		
DATA TYPE	1	

FROM: Dept of Game, Fish & Parks
TO: Dept of Agriculture & Natural Resources

LINE	COMP	ACCOUNT	CENTER	PROJECT ID	AMOUNT	DR CR
1		3122 52d42005	0612000	NSti23Wa	950.00	DR
2					950.00	CR
3						CR
4						CR
5						DR
6						DR
7						DR
8						DR
9						DR
10						DR
TOTAL					DR	\$950.00
TOTAL					CR	\$950.00
VOUCHER TOTAL						\$1,900.00

Description of service, product, or transfer

Water Permit Application Fee & Inspection Fee at New Stickney Dam

I declare and affirm under the penalties of perjury that this claim has been examined by me, and to the best of my knowledge and belief, is in all things true and correct. I further agree to comply with the provisions of the Civil Rights Act of 1964 and regulations issued thereunder relating to non-discrimination in federally assisted programs.

10/11/2024

AUTHORIZATION

AUTHORIZATION

**STATE OF SOUTH DAKOTA
DIRECT VOUCHER**

Application 34	Vendor Number STATE A2	Invoice Number N06510M008	DEPARTMENT OF GAME FISH AND PARKS
Date 10/08/2024	Purchase Order ID	Document ID	
Payee, Billed Agency To: DEPT OF AGRICULTURE & NATURAL RESOURCES, 523 E CAPITOL AVE PIERRE, SD 575013182			Department, Billing Agency From: SD GAME FISH AND PARKS 523 E CAPITOL AVE PIERRE, SD 57501

Account			Center		Project		
Comp	Required	User	Required	User	Comp	Project Code	Amount
3122	52d42005		0612000		0008	NSti23Wa	\$950.00
						Total Amount	\$950.00

Description of Service, Product or Transfer
Area/Project: New Stickney, Rebuild Dam SAC #: Water Permit Application Fee & Inspection Fee at New Stickney Dam



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

File No. 8890-3

WATER RIGHTS PROGRAM -- FILE DOCUMENTATION

NAME: SD Game, Fish and Parks, James Gilkerson

DATE: August 13, 2024

RE: Water Permit Application No. 8890-3

COMMENTS:

I called James Gilkerson concerning the amount of the storage capacity at the normal pool elevation for New Stickney Dam. I indicated that 161 acre-feet seemed excessive and was perhaps the storage to the top of dam. Mr. Gilkerson indicated the normal pool capacity should be 83 acre-feet. I asked if I could make that change to the application and was given permission to by Mr. Gilkerson.

We also discussed whether the application was intended to be an entirely new application of if possibly some amount of water still being stored following the partial failure of the dam. After discussion about the priority dates involved, it was decided to pursue the application as an entirely new application since there are no other water rights on Enemy Creek.

Ron Duvall, Engineer III
SD DANR, Water Rights Program

Rodriguez, Rachel

From: Gilkerson, James
Sent: Friday, August 2, 2024 11:10 AM
To: Rodriguez, Rachel
Cc: Kongslien, Julie
Subject: RE: [EXT] New Stickney Current Conditions

Whoops, I forgot to CC Julie in.

Julie, could you help get DANR paid for the water right permit?

Thanks!

James

From: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Sent: Friday, August 2, 2024 10:58 AM
To: Gilkerson, James <James.Gilkerson@state.sd.us>
Subject: RE: [EXT] New Stickney Current Conditions

Excellent! Regarding a voucher, please contact Darcy Keiser 605-773-6704 in our fiscal department for a non-cash voucher.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



From: Gilkerson, James <James.Gilkerson@state.sd.us>
Sent: Friday, August 2, 2024 10:52 AM
To: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Subject: RE: [EXT] New Stickney Current Conditions

Rachel,

See attached map with a red "X" over the dam spillway location.

I've CC'd Julie to help with paying the application fee.

Could you send over an inter-agency voucher? I'm unsure of the preferred payment method.

Thanks!

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Friday, August 2, 2024 10:58 AM
To: Gilkerson, James
Subject: RE: [EXT] New Stickney Current Conditions

Excellent! Regarding a voucher, please contact Darcy Keiser 605-773-6704 in our fiscal department for a non-cash voucher.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



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To: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Subject: RE: [EXT] New Stickney Current Conditions

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Thanks!

James Gilkerson, P.E. | *Engineer III*
South Dakota Game, Fish and Parks
523 East Capitol Avenue | Pierre, SD 57501
O: 605.773.4521 | C: 605.280.2197 | James.Gilkerson@state.sd.us



From: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Sent: Friday, August 2, 2024 10:15 AM

Rodriguez, Rachel

From: Gilkerson, James
Sent: Friday, August 2, 2024 10:52 AM
To: Rodriguez, Rachel
Subject: RE: [EXT] New Stickney Current Conditions
Attachments: map.pdf

Rachel,

See attached map with a red "X" over the dam spillway location.

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Thanks!

James Gilkerson, P.E. | *Engineer III*
South Dakota Game, Fish and Parks
523 East Capitol Avenue | Pierre, SD 57501
O: 605.773.4521 | C: 605.280.2197 | James.Gilkerson@state.sd.us



From: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Sent: Friday, August 2, 2024 10:15 AM
To: Gilkerson, James <James.Gilkerson@state.sd.us>
Subject: FW: [EXT] New Stickney Current Conditions

Good morning,

In looking over your application, it seems that we need the following items:

- A map outlining the dam area and an "X" marking the diversion point. For your convenience, attached is a map of Section 22-T102N-R63W.
- The application/license fee is \$950.00.

Once I receive the items above, I can begin processing your application.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us

Rodriguez, Rachel

From: Kilts, Whitney (DENR)
Sent: Friday, August 2, 2024 9:52 AM
To: Gilkerson, James
Cc: Rodriguez, Rachel; Dewell, Amanda; Duvall, Ron
Subject: RE: [EXT] New Stickney Current Conditions

James,

Keep in mind this one needs a water permit also before construction can begin. I think GF&P had an application put together and into Water Rights but put it on hold until the plans and specs were done.

The water permitting process is the one that takes longer with a 60-review period and public notice so you will want to get that rolling here too.

Thanks,



Whitney Kilts
Office of Water-Water Rights Program
Department of Agriculture and Natural Resources
523 E. Capitol Ave. Pierre SD, 57501
605.773.3352
danr.sd.gov

From: Gilkerson, James <James.Gilkerson@state.sd.us>
Sent: Friday, August 2, 2024 9:44 AM
To: Kilts, Whitney (DENR) <Whitney.Kilts@state.sd.us>
Subject: RE: [EXT] New Stickney Current Conditions

Here's the latest tech memo that was used during our correspondence and discussions with FEMA. It shows more of the H&H information, showing we pass the 25yr event & have increased capacity from the previous structure.

I looked through my emails and it doesn't look like I've sent you any preliminary design plans, I apologize for dropping this on you.

James

From: Gilkerson, James
Sent: Friday, August 2, 2024 9:34 AM
To: Kilts, Whitney (DENR) <Whitney.Kilts@state.sd.us>
Subject: FW: [EXT] New Stickney Current Conditions

Good morning Whitney,

Please see attached final construction plans for the New Stickney Dam Replacement project. We're hoping to get the project advertised next week for a December completion date.

This project was in FEMA limbo for a long time, so I apologize if I haven't been keeping you in the loop on this one.

Thanks!

James Gilkerson, P.E. | *Engineer III*
South Dakota Game, Fish and Parks
523 East Capitol Avenue | Pierre, SD 57501
O: 605.773.4521 | C: 605.280.2197 | James.Gilkerson@state.sd.us



From: Mike Sotak <msotak@houstoneng.com>
Sent: Tuesday, July 30, 2024 1:11 PM
To: Gilkerson, James <James.Gilkerson@state.sd.us>
Cc: Theilen, Travis <Travis.Theilen@state.sd.us>
Subject: RE: [EXT] New Stickney Current Conditions

Technical specs have not changed, so those are good to go.

Stamped drawings attached.

Rather than bury any permitting requirements in the specs, I added General Notes 19-21 (and changed 11) and added Permitting Note 6 as per our discussion.

Mike Sotak, PE*, BC.WRE
Senior Civil Engineer | Principal
Houston Engineering, Inc.
O 402.407.1099 | D 402.934.8328 | C 402.850.6169
*Licensed in IA, KS, NE, SD

From: Gilkerson, James <James.Gilkerson@state.sd.us>
Sent: Tuesday, July 30, 2024 11:10 AM
To: Mike Sotak <msotak@houstoneng.com>
Cc: Theilen, Travis <Travis.Theilen@state.sd.us>
Subject: RE: New Stickney Current Conditions

[External Email]

Mike,

Written sections compiled similar to the attached specs you provided earlier will suffice. Compiled into one pdf works best.

We will attach them to the project manual prior to bid advertisement.

Thanks!

James

From: Mike Sotak <msotak@houstoneng.com>
Sent: Tuesday, July 30, 2024 10:09 AM
To: Gilkerson, James <James.Gilkerson@state.sd.us>

Cc: Theilen, Travis <Travis.Theilen@state.sd.us>
Subject: RE: [EXT] New Stickney Current Conditions

For the technical specs...are you looking for me just to provide written sections, or have them in some sort of book that is stamped?

Since you are preparing the front end documents, just making sure I know what format to provide this in...stand alone or just files for you to insert?

Mike Sotak, PE*, BC.WRE

Senior Civil Engineer | Principal

O 402.407.1099 | D 402.934.8328 | C 402.850.6169



*Licensed in IA, KS, NE, SD

This message shall not be construed as official project information or direction except as expressly provided in the contract documents. This entire message (including all forwards and replies) and any attachments are for the sole use of the intended recipient(s) and may contain proprietary, confidential, trade secret, work-product, attorney-client or privileged information. Any unauthorized review, use, disclosure or distribution is prohibited and may be a violation of law. If you are not the intended recipient, please contact the sender by reply email and destroy all copies of the original message.

From: Gilkerson, James <James.Gilkerson@state.sd.us>

Sent: Monday, July 29, 2024 4:13 PM

To: Mike Sotak <msotak@houstoneng.com>

Cc: Theilen, Travis <Travis.Theilen@state.sd.us>

Subject: RE: New Stickney Current Conditions

[External Email]

Mike,

Do you have an update on when we can expect the final plans for New Stickney?

Thanks!

James

From: Gilkerson, James

Sent: Friday, July 19, 2024 11:34 AM

To: Mike Sotak <msotak@houstoneng.com>

Cc: Theilen, Travis <Travis.Theilen@state.sd.us>

Subject: FW: New Stickney Current Conditions

Mike,

I received the attached photos from our field staff.

Like they said below, there doesn't appear to be any new damage. We should be good to proceed with the current plans quantities.

Thanks!

James Gilkerson, P.E. | Engineer III
South Dakota Game, Fish and Parks

Rodriguez, Rachel

8890-3

SD GF&P

From: Rousseau, Caitlin
Sent: Friday, August 16, 2024 7:59 AM
To: Rodriguez, Rachel
Subject: FW: [EXT] New Stickney Current Conditions

From: Keiser, Darcy <Darcy.Keiser@state.sd.us>
Sent: Thursday, August 15, 2024 11:50 AM
To: Rousseau, Caitlin <Caitlin.Rousseau@state.sd.us>
Subject: FW: [EXT] New Stickney Current Conditions

Please initiate a noncash and send it to Jeremy T for the below thread.

Thanks
Darcy

From: Gilkerson, James <James.Gilkerson@state.sd.us>
Sent: Friday, August 2, 2024 11:37 AM
To: Kongslien, Julie <Julie.Kongslien@state.sd.us>
Cc: Tentinger, Jeremy <Jeremy.Tentinger@state.sd.us>; Keiser, Darcy <Darcy.Keiser@state.sd.us>
Subject: RE: [EXT] New Stickney Current Conditions

I've CC'd Darcy with DANR in. I'm out of my element here.

James

From: Gilkerson, James <James.Gilkerson@state.sd.us>
Sent: Friday, August 2, 2024 11:23 AM
To: Kongslien, Julie <Julie.Kongslien@state.sd.us>
Subject: RE: [EXT] New Stickney Current Conditions

Julie,

I haven't seen an invoice, we were told to contact Darcy Keiser 605-773-6704 in DANR's fiscal department for a non-cash voucher.

Thanks,

James

From: Kongslien, Julie <Julie.Kongslien@state.sd.us>
Sent: Friday, August 2, 2024 11:15 AM
To: Gilkerson, James <James.Gilkerson@state.sd.us>
Subject: RE: [EXT] New Stickney Current Conditions

Did they send an invoice? Jeremy has been paying DANR for storm water and the like.

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Friday, August 2, 2024 10:15 AM
To: Gilkerson, James
Subject: FW: [EXT] New Stickney Current Conditions
Attachments: map.pdf

Good morning,

In looking over your application, it seems that we need the following items:

- A map outlining the dam area and an "X" marking the diversion point. For your convenience, attached is a map of Section 22-T102N-R63W.
- The application/license fee is \$950.00.

Once I receive the items above, I can begin processing your application.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



From: Kilts, Whitney (DENR) <Whitney.Kilts@state.sd.us>
Sent: Friday, August 2, 2024 9:52 AM
To: Gilkerson, James <James.Gilkerson@state.sd.us>
Cc: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>; Dewell, Amanda <Amanda.Dewell@state.sd.us>; Duvall, Ron <Ron.Duvall@state.sd.us>
Subject: RE: [EXT] New Stickney Current Conditions

James,

Keep in mind this one needs a water permit also before construction can begin. I think GF&P had an application put together and into Water Rights but put it on hold until the plans and specs were done.

The water permitting process is the one that takes longer with a 60-review period and public notice so you will want to get that rolling here too.

Thanks,

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, April 17, 2023 4:50 PM
To: Gilkerson, James
Subject: RE: Water Permit Application for Stickney Dam

I talked with Whitney Kilts with our office. Whitney indicated that with the basic dam information submitted on Form 2A with the application, we could start the review process of the application once we have the location map and fee. The application/license fee will be \$950.00.

And assuming the plans/specs will be submitted when you reach the 60%.

From: Gilkerson, James <James.Gilkerson@state.sd.us>
Sent: Monday, April 17, 2023 4:21 PM
To: Schlaak, Karen <Karen.Schlaak@state.sd.us>
Subject: RE: Water Permit Application for Stickney Dam

Thanks for the reminder, Karen. We are still working through the design process and do not have the plans completed yet. I'll send them over once we have 60% design plans/specs.

Thanks!

James

From: Schlaak, Karen <Karen.Schlaak@state.sd.us>
Sent: Monday, April 17, 2023 4:11 PM
To: Gilkerson, James <James.Gilkerson@state.sd.us>
Subject: FW: Water Permit Application for Stickney Dam

Just a reminder that we have not received the required info to proceed with processing this water permit application. Let me know if you have questions.
Karen

From: Schlaak, Karen
Sent: Thursday, March 2, 2023 2:29 PM
To: Gilkerson, James <James.Gilkerson@state.sd.us>
Subject: Water Permit Application for Stickney Dam

James,
We received the water permit application for Stickney Dam. Once we receive the required maps, plans and specifications and application/license fee, we will continue processing the application.

Karen Schlaak
DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

September 4, 2024

James Gilkerson
South Dakota Department of Game, Fish & Parks
523 East Capitol Ave
Pierre, SD 57501

Dear Mr. Gilkerson:

We have reviewed the plans and specifications prepared by Houston Engineering, Inc. and submitted by the South Dakota Department of Game, Fish & Parks for the New Stickney reconstruction project located in the W ½ Sec. 22-T102N-R63W in Aurora County. The project is to replace the primary spillway and repair the breach areas in the dam. No change in dam height, normal storage, or maximum storage is proposed as part of this project. The plans and specifications for the reconstruction of this dam are approved, however, construction cannot begin until a water permit is issued for the dam. Approval of these plans and specifications does not release the South Dakota Department of Game, Fish, and Parks, the owner of the dam, from the responsibility for operating and maintaining the dam to ensure the safety of the dam.

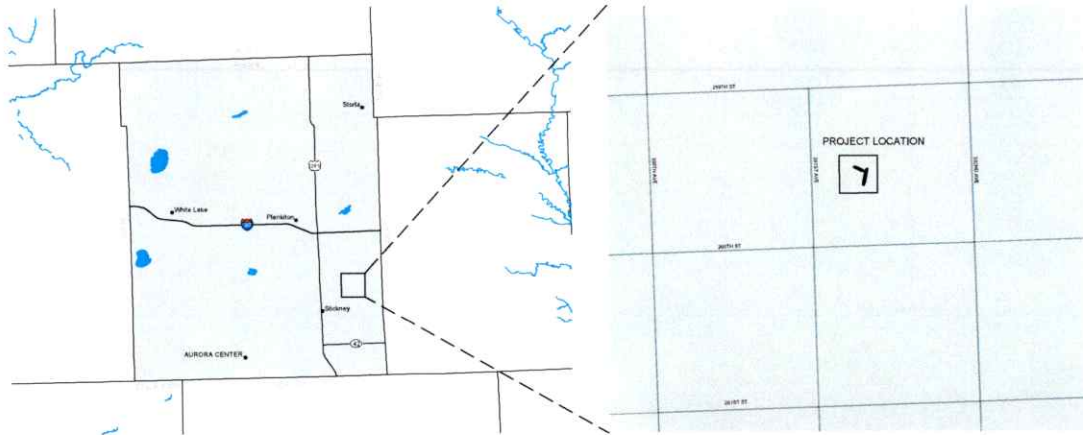
Our review was to determine compliance with the requirements of the Administrative Rules of South Dakota (ARSD) Chapter 74:02:08 Safety of Dams. New Stickney is classified as a small sized, category 3 (low hazard) dam. The design information provided by Houston Engineering, Inc. indicated that once the project is complete the combined capacities of the primary and the auxiliary spillways can meet the minimum spillway capacity requirements in ARSD Chapter 74:02:08 for a small sized, category 3 dam. Please be aware that future downstream development could change this hazard classification.

If a set of as-built plans are prepared for this dam repair project as part of South Dakota Department of Game, Fish, and Parks' standard procedure, the Water Rights Program requests a copy of them for our records. If a set of as-built plans are not prepared the Water Rights Program requests to be notified when the project is completed. If you have any questions, please feel free to contact the Water Rights Program at (605) 773-3352.

Sincerely,

Eric Gronlund, PE
Chief Engineer, Water Rights Program

SOUTH DAKOTA DEPARTMENT OF GAME, FISH AND PARKS NEW STICKNEY DAM SPILLWAY REPLACEMENT AURORA COUNTY, SD



LOCATION MAP

SITE MAP
NOT TO SCALE

QUANTITIES

ITEM	Unit	Quantity
MOBILIZATION	LS	1
CLEARING AND GRUBBING	LS	1
SEEDING AND EROSION CONTROL	LS	1
WATER MANAGEMENT	LS	1
EXCAVATE, STOCKPILE AND REPLACE DAM EMBANKMENT	CY	1000
EXCAVATE, HAUL, AND PLACE DAM EMBANKMENT	CY	990
STRIP, STOCKPILE AND REPLACE TOPSOIL	SY	1742
PIPE REMOVAL/DISPOSAL	LF	100
CONCRETE REMOVAL/DISPOSAL	LS	1
12" DIAMETER HOPE, 12'-2" TALL RISER WITH 48" PIPE TEE	EA	1
DEBRIS RACK FOR 12" DIAMETER RISER WITH ANTI-VORTEX	EA	1
48" DIAMETER HOPE, PRINCIPAL SPILLWAY PIPE	LF	34
CONCRETE FOR RISER BASE	CY	2.4
CONCRETE FOR IMPACT BASIN	CY	46
STEEL REINFORCING BARS FOR RISER BASE	LBS	80.2
STEEL REINFORCING BARS FOR IMPACT BASIN	LBS	7120
GRouted ROCK RIPRAP	TN	18
TYPE 'B' RIPRAP	TN	135
DIAPHRAGM FILTER AGGREGATE	TN	47
PERIMETER DRAIN AGGREGATE	TN	26
DIAPHRAGM FILTER GEOTEXTILE FILTER FABRIC	SY	131
PERIMETER DRAIN GEOTEXTILE FILTER FABRIC	SY	27
8" SOLID WALL PVC DIAPHRAGM FILTER DRAIN PIPE	LF	60
8" SLOTTED WALL PVC DIAPHRAGM FILTER DRAIN PIPE	LF	27
8" SOLID WALL PVC PERIMETER DRAIN PIPE	LF	50
8" SLOTTED WALL PVC PERIMETER DRAIN PIPE	LF	62
METAL FABRICATION - IMPACT BASIN	LS	1
SEEDING	AC	2.6
EROSION CONTROL BLANKET	SY	2117

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SOUTH DAKOTA 811 (www.sdacall.com) WAS NOT CONTACTED DURING THE PRELIMINARY DESIGN PHASE OF THIS PROJECT. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITIES AS NOTED IN GENERAL NOTE #3 ON THIS SHEET.



GENERAL NOTES:

- LIMITS OF CONSTRUCTION ARE INDICATED ON THE PLAN SHEET. AVOID ACCESS ONTO THE DAM EMBANKMENT OUTSIDE OF THE EXCAVATION AREA AND AUXILIARY SPILLWAY UNLESS REQUIRED TO CLEAR TREES AND STUMPS. SEE SHEET B.1 FOR PRIMARY ACCESS ROUTE.
- CONTRACTOR CAN SUBMIT ALTERNATIVE CONSTRUCTION LIMITS FOR ENGINEER'S APPROVAL WITHIN THE SOUTH DAKOTA GAME, FISH AND PARKS PARCEL BY COORDINATING WITH THE FIELD ENGINEER. CONTRACTOR WILL NOT BE REIMBURSED FOR ADDITIONAL SEEDING UNLESS ALTERNATIVE LIMITS ARE APPROVED PRIOR TO CONSTRUCTION.
- UNDERGROUND UTILITIES SHALL BE LOCATED AND FLAGGED BY THE CONTRACTOR. CONTRACTOR TO CALL ONE CALL (1-800-781-7474) PRIOR TO PERFORMING ANY EXCAVATION. CONFIRM WITH CENTRAL ELECTRIC COOPERATIVE (WWW.CENTRALECCOOP.COM) THAT NO PRIVATE UTILITIES EXIST ON SITE BEFORE ANY WORK PROCEEDS.
- ANY DAMAGE TO THE PROPERTY, UTILITIES AND/OR PAVED ROADS CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL CONDITIONS BY DISKING OR ROTO-TILLING COMPACTED SOILS PRIOR TO FINISHED GRADING AND SEEDING.
- CONTRACTOR IS RESPONSIBLE FOR THE HANDLING OF WATER DURING ALL PHASES OF CONSTRUCTION.
- TEMPORARY DRAINAGE OF WATER SURFACE LEVEL IS EXPECTED WITH REMOVAL OF THE PRINCIPAL SPILLWAY PIPE. WORK SHOULD BE SCHEDULED TO AVOID RAIN EVENTS TO PREVENT FLOW THROUGH PRINCIPAL SPILLWAY DURING CONSTRUCTION.
- STAKING POINTS FOR ALIGNMENT OF THE PRINCIPAL SPILLWAY PIPE WILL BE COORDINATED WITH THE ENGINEER IN THE FIELD.
- THE CONTRACTOR IS RESPONSIBLE FOR MEETING THE PROJECT SPECIFICATIONS FOR BACKFILL. SHOULD THE ENGINEER REQUEST TESTING RESULTS CONTRACTOR SHALL PROVIDE TEST AND RESULTS AT THE CONTRACTOR'S SOLE EXPENSE.
- SWPPP TO BE IMPLEMENTED AS DESCRIBED ABOVE. CONTRACTOR IS RESPONSIBLE FOR CLEAN OUT AND MAINTENANCE OF ALL SWPPP ITEMS AND REMOVAL ONCE ENGINEER'S APPROVAL IS PROVIDED.
- 14 DAYS NOTICE TO BE GIVEN TO THE ENGINEER PRIOR TO INITIATING CONSTRUCTION.
- IF SEEDING CANNOT BE ACCOMPLISHED AT THE TIME OF PROJECT COMPLETION, THEN AN EROSION CONTROL BLANKET SHALL BE PLACED ON THE DISTURBED AREAS. IF SEEDING CAN BE ACCOMPLISHED AT THE TIME OF PROJECT COMPLETION ALL SEEDING AREAS SHALL BE PROPERLY MULCHED TO PREVENT EROSION. SEEDING AREAS WITH A SLOPE GREATER THAN OR EQUAL TO 3:1 V MUST HAVE AN EROSION CONTROL BLANKET.
- CONTOURS SHOWN ON THE PLANS ARE 2' CONTOURS FROM LIDAR DATA. ELEVATIONS CALLED OUT ON THE PLANS ARE REFERENCED TO NAVD 88 VERTICAL DATUM. HORIZONTAL CONTROL IS NAD83 SOUTH DAKOTA STATE PLANE SOUTH ZONE.
- AS-BUILT PLANS FOR THE ORIGINAL DAM DESIGN ARE AVAILABLE TO THE CONTRACTOR. CONTACT HOUSTON ENGINEERING AT 402.502.7131 FOR AN ELECTRONIC COPY.
- SCALES ON PLAN VIEWS ARE APPROXIMATE. AND PLAN VIEWS DO NOT REPRESENT SURVEYED DATA.
- IF SEEDING CANNOT BE ACCOMPLISHED AT THE TIME OF PROJECT COMPLETION, THEN AN EROSION CONTROL BLANKET SHALL BE PLACED ON THE DISTURBED AREAS. IF SEEDING CAN BE ACCOMPLISHED AT THE TIME OF PROJECT COMPLETION ALL SEEDING AREAS SHALL BE PROPERLY MULCHED TO PREVENT EROSION. SEEDING AREAS WITH A SLOPE GREATER THAN OR EQUAL TO 3:1 V MUST HAVE AN EROSION CONTROL BLANKET.
- CONTRACTOR WILL BE PROVIDED A COPY OF ALL APPLICABLE PERMITS OBTAINED FOR THE PROJECT INCLUDING THE NPDES AND USACE 404 NWP OBTAINED BY ENGINEER. CONTRACTOR MUST ADHERE TO CONDITIONS OF THE PERMIT WITHOUT EXCEPTION.
- ANY SUPPLEMENTAL BORROW MATERIAL NEEDED TO PERFORM THE WORK SHALL BE EXCAVATED FROM THE OUTER BEND OF THE AUXILIARY SPILLWAY UPSTREAM OF THE CREST. THIS WILL BE SUBSIDIARY TO ORIGINAL BID ITEMS. TOPSOIL MUST BE STRIPPED, STOCKPILED AND REPLACED AND THE DISTURBED AREA MUST BE SEEDDED. THE TOPSOIL AND SEEDING QUANTITIES HAVE BEEN ESTIMATED AND INCLUDED IN THE ORIGINAL BID ITEMS.
- FIELD ENGINEER WILL PROVIDE DIGITAL DOCUMENTATION OF SITE CONDITIONS BEFORE AND AFTER CONSTRUCTION ACTIVITIES. CONTRACTOR MAY REQUEST DIGITAL FILES FOR VERIFICATION.
- ANY MATERIAL DISPOSED OF OFF-SITE MUST AT A LOCATION APPROVED BY SD GFF AHEAD OF DISPOSAL ACTIVITIES. THIS GENERALLY INCLUDES ANY LANDFILL/JUMPIT WITH DANR APPROVAL AND NOT IN A DELINEATED FLOODPLAIN.
- CONTRACTOR TO LOG DATES AND QUANTITIES FOR ALL TRUCKS HAULING MATERIAL OFF-SITE FOR DISPOSAL.

PERMITTING NOTES:

- AVOID WORK ON CULTIVETS BETWEEN JUNE 1ST AND JULY 31ST.
- IF PREVIOUS UNKNOWN HISTORIC, CULTURAL, OR ARCHAEOLOGICAL REMAINS OR ARTIFACTS ARE DISCOVERED DURING CONSTRUCTION, IMMEDIATELY CONTACT SOUTH DAKOTA STATE HISTORICAL SOCIETY AT 605-773-3458.
- IF YOU DISCOVER ANY PREVIOUSLY UNKNOWN HISTORIC, CULTURAL OR ARCHAEOLOGICAL REMAINS AND ARTIFACTS YOU MUST IMMEDIATELY NOTIFY THE DISTRICT ENGINEER OF WHAT YOU HAVE FOUND, AND TO THE MAXIMUM EXTENT PRACTICABLE, AVOID CONSTRUCTION ACTIVITIES THAT MAY AFFECT THE REMAINS AND ARTIFACTS UNTIL THE REQUIRED COORDINATION HAS BEEN COMPLETED. THE DISTRICT ENGINEER WILL INITIATE THE FEDERAL, TRIBAL, AND STATE COORDINATION REQUIRED TO DETERMINE IF THE ITEMS OR REMAINS WARRANT A RECOVERY EFFORT OR IF THE SITE IS ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES.
- TREE REMOVAL AND WORK ON CULTIVETS DURING THE MATERNITY ROOSTING SEASON (APRIL 14TH - NOVEMBER 1ST) WILL BE AVOIDED IN ORDER TO AVOID ADVERSE IMPACTS TO NORTHERN LONG-EARED BAT.
- COFFER DAM SHALL BE CONSTRUCTED BY PLACING FILL ON THE UPSTREAM DAM TOE AND PUSHING FILL INTO ANY REMAINING RESERVOIR VS. PLACING ANY FILL IN OPEN WATER TO AVOID TRAPPING ANY FISH INSIDE THE COFFER DAM.
- IF A PUMP IS USED FOR ANY DEWATERING ACTIVITIES, A #2 SCREEN MUST BE USED TO HELP PREVENT HARM TO FISH.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

- INSTALL SWPPP BEST MANAGEMENT PRACTICES (BMPs) PRIOR TO GRADING OPERATIONS
- SWPPP FACILITIES TO BE INSPECTED BY ENGINEER WEEKLY OR AFTER ANY 1/2" OR GREATER RUNOFF EVENT
- REMOVE CAPTURED SEDIMENT FROM ANY SWPPP BMPs AS PER DIRECTION FROM FIELD ENGINEER TO ENSURE PROPER BMP FUNCTION
- IF SEEDING CANNOT BE PERFORMED WITHIN 7 DAYS OF FINISHED GRADING, PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITH SLOPES 3:1 OR GREATER AND MULCH REMAINING DISTURBED AREA.
- IF ANY POOLED WATER IS PRESENT WHEN BREACHING DAM, LOWER OVERFLOW "WEIR" ELEVATION OF DAM BREACH SO THAT NO MORE THAN 3" OF FLOW PASSES THROUGH DAM AT ANY GIVEN TIME.
- ONCE DAM IS BREACHED, CONSTRUCT SEDIMENT CONTROL BERM IN RESERVOIR TO CONTROL RUNOFF WHILE DAM EMBANKMENT IS BEING CONSTRUCTED.
- RE-USE RIPRAP IN RESERVOIR SEDIMENT CONTROL BERM FOR GROUTED ROCK RIPRAP AROUND RISER.
- RE-GRADE RESERVOIR SEDIMENT CONTROL BERM AS DIRECTED BY FIELD ENGINEER TO PRE-CONSTRUCTION CONDITIONS AND SEED IMMEDIATELY.

DESIGNED BY:



12702 WESTPORT PARKWAY, SUITE 300
OMAHA, NE 68138
402.502.7131
WWW.HOUSTONENG.COM

OWNER:



523 EAST CAPITOL AVE.
PIERRE, SD 57501
605.223.7660
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NEW STICKNEY DAM SPILLWAY REPLACEMENT
SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS
AURORA COUNTY, SD
2023

ENGINEER'S SEAL



NO.	DATE

DESIGNED BY: MKS
DRAWN BY: ERS
QA / QC BY: MKS
PROJECT NO: R10019-0011
DATE: 12.19.2023

TITLE
COVER SHEET,
GENERAL
NOTES AND
QUANTITIES

SHEET
A.1

ENVIRONMENTAL COMMITMENTS

The SDGFP is committed to protecting the environment and uses Section A Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDGFP.

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the SDGFP Office to determine whether an environmental analysis and/or resource agency coordination is necessary.

COMMITMENT B4: BALD EAGLE

Bald eagles are known to occur in this area.

Action Taken/Required:

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the SDGFP Office for an appropriate course of action.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the SDGFP Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

COMMITMENT J: CONSTRUCTION PRACTICES FOR TEMPORARY WORKS IN WATERWAYS OF THE U.S.

The Contractor is advised that special construction measures must be taken to ensure that the waterways of the U.S. are not impacted.

Action Taken/Required:

Excavation will not occur below the ordinary high water elevation (1561.50') in waterways outside of caissons, cribs, cofferdams, steel piling, or sheeting. The natural streambed will not be disturbed unless specified by the plans and under the observation of the Project Engineer.

All dredged or excavated materials will be placed at a site above the ordinary high water elevation in a confined area (not classified as a wetland) that is a minimum of 50 feet away from concentrated flows of storm water, drainage courses, and inlets to prevent return of such material to the waterway.

The construction of temporary work platforms, crossings, or berms below the ordinary high water elevation will be allowed if all material placed below the ordinary high water elevation consists of Class B or larger riprap.

All temporary caissons, cribs, cofferdams, steel piling, sheeting, work platforms, crossings, and berms will be removed with minimal disturbance to the lakebed. Proper construction practices will be used to minimize increases in suspended solids and turbidity in the waterway.

Bridge berms, wing dams, traffic diversions, channel reconstruction, stream diversions, grading, etc. will be constructed in close conformity with the plans to ensure that the hydraulic capacity of the waterway is not changed.

Temporary waterway crossings required for the Contractor's construction operations will be constructed with an adequate drainage structure size and minimum fill height to reduce the potential for upstream flooding. The Contractor will be responsible for sizing the temporary drainage structure for these crossings.

Table of U.S. Waterways to Protect

Station Waterway Ordinary High Water Elevation 1561.50 (1 FT.) Stream channel excavation within "Waters of the US" is subject to USACE regulatory jurisdiction. Stream channel excavation cannot exceed the permitted quantities and/or surface area. The 404 Permit is included in the Special Provisions.

The Contractor will take all precautions necessary to prevent any incidental discharges associated with the excavation and hauling of material from the stream channel. This pertains to any excavation operations such as, foundation, pier, or abutment excavation, channel cleanout, excavation for riprap protection, and removal of any temporary fill associated with construction activities.

COMMITMENT N: SECTION 404 PERMIT

The SDGFP has obtained a Section 404 Permit from the USACE for the permanent actions associated with this project.

Action Taken/Required:

The Contractor will comply with all requirements contained in the Section 404 Permit.

The Contractor will also be responsible for obtaining a Section 404 Permit for any dredge, excavation, or fill activities associated with material sources, storage areas, waste sites, and Contractor work sites outside the plan work limits that affect wetlands, floodplains, or waters of the United States.

SURFACING THICKNESS DIMENSIONS

Plans quantity will be applied even though the thickness may vary from that shown on the plans.

At those locations where material must be placed to achieve a required elevation, plans quantity may be varied to achieve the required elevation.

SURFACE ROUGHENING

Surface roughening will be done after topsoil placement and before permanent seeding, fertilizing, and mulching applications. Refer to Standard Plate 734.25 for details.

PERMANENT SEEDING

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways, temporary easements under cultivation, and areas designated to be sod.

Type F Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	7
Green Needlegrass	Lodorm, AC Mallard Ecovar	4
Sideoats Grama	Butte, Pierre	3
Blue Grama	Bad River	2
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
		Total: 26



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NEW STICKNEY DAM SPILLWAY REPLACEMENT
SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS
AURORA COUNTY, SD
2023

ENGINEER'S SEAL

South Dakota
Michael K. Sater
#13788
Professional Engineer
7-30-24

NO.	DATE

DESIGNED BY: MKS
DRAWN BY: ERS
QA/QC BY: MKS
PROJECT NO: R10015-0011
DATE: 12.19.2023

TITLE
SDDOT
ENVIRONMENTAL
NOTES
(1 OF 2)

SHEET

A.2

FERTILIZING

The Contractor will apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer will have a minimum guaranteed analysis of 4-4-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WN) fraction of 2.07%, a minimum of 4% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer will be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer will have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer will also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The fertilizer will be applied at a rate of 2,000 pounds per acre in accordance with the manufacturer's recommended method of application.

The all-natural slow release fertilizer will be as shown below or an approved equal:

Product	Manufacturer
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 www.sustane.com
Perfect Blend	Perfect Blend, LLC Bellevue, WA Phone: 1-866-456-8890 www.perfect-blend.com

EROSION CONTROL BLANKET

The erosion control blanket provided will be from the approved product list. The approved product list for erosion control blanket may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

An additional quantity of Erosion Control Blanket has been added to the Estimate of Quantities for temporary erosion control.

WASTE EXCAVATION

Waste Excavation shall become the property of the contractor and disposed of by the contractor, and removed from Game, Fish and Park property.

DISCHARGE OF CHLORINATED WATER

Water from the project that is drained into work areas or open trenches must be discharged without impact to the environment. The Contractor shall review locations of discharge hydrants relative to open areas and shall meet with property owners to discuss discharge locations and obtain property owner approval if water will be discharged across their private property.

RIPRAP TIE-IN

Contractor shall excavate bank a minimum of 3' to taper riprap into existing slope as directed in the field by the Engineer.

AQUATIC INVASIVE SPECIES PREVENTION GUIDELINES FOR CONTRACTORS AND CONSTRUCTION EQUIPMENT

Aquatic Invasive Species (AIS) are a significant threat to the biodiversity and ecological health of the aquatic resources of South Dakota. These species have the potential to dramatically alter the ecology of a lake or river, impose substantial economic costs to maintain water infrastructure and decrease the recreational value and use of a waterbody. While South Dakota has largely remained free of AIS, the recent discovery of a Zebra Mussel infestation highlights the need to prevent the introduction of AIS that may impact the aquatic resources of the state.

A major vector for the movement of AIS into the state is the interstate transport of construction equipment. Some areas of the United States, especially the Great Lakes Region, have established AIS populations that currently do not exist or exist in limited areas of South Dakota. It is essential that the following guidelines are followed to prevent these species from establishing throughout South Dakota.

- Any boat, barge or floating structure must be transported with all drain plugs, valves, bailers or similar devices removed or open when not being launched or loaded. (SD Administrative Rule 41:10.04.03). When possible, any equipment that will be used in or on a waterbody should be allowed to dry for at least seven days prior to launching in a South Dakota waterbody.
- Any boat, barge or floating structure or equipment that has significant dried organic matter or mud on the exterior surfaces should be powerwashed prior to launching in a South Dakota waterbody.
- Any boat, barge or floating structure or equipment that has been used in the Great Lakes watershed or in a waterbody known to be infested with zebra or quagga mussels within the past 30 days shall be inspected for the presence of AIS prior to use. All interior compartments or storage holds should be free of standing water.
- Any boat, barge or floating structure or equipment that has been used in the Great Lakes watershed or in a waterbody known to be infested with zebra or quagga mussels within the past 7 days shall be decontaminated with a hot-water power wash, or shall be allowed to completely dry. In addition all boats, barges, floating structures and equipment shall be inspected for the presence of AIS by a SDGFP representative prior to use within South Dakota. All interior compartments or storage holds should be free of standing water.

Additional information on construction equipment cleaning and decontamination techniques can be found at: <http://www.usbr.gov/mussels/prevention/docs/EquipmentInspectionandCleaningManual2010.pdf>



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SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS
AURORA COUNTY, SD
2023

ENGINEER'S SEAL



NO.	DATE

DESIGNED BY: MKS
DRAWN BY: ERS
QA / QC BY: MKS
PROJECT NO: R10018-0011
DATE: 12.19.2023

TITLE
SDDOT
ENVIRONMENTAL
NOTES
(2 OF 2)

SHEET
A.3

STORMWATER POLLUTION PREVENTION PLAN CHECKLIST
(The numbers left of the title headings are reference numbers to the GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES (Stormwater Permit))

5.3 (2): STAFF TRAINING/SWPPP IMPLEMENTATION

To promote stormwater management awareness specific for this project, the Contractor's Erosion Control Supervisor should provide correspondence of how the SWPPP will be implemented. The Contractor's Erosion Control Supervisor is responsible for providing this information at the preconstruction meeting, and subsequently completing an attendance log, which should identify site-specific implementation of the SWPPP and the names of the personnel who attended the preconstruction meeting. Documentation of the preconstruction meeting will be filed with the SWPPP documents.

5.3 (3): DESCRIPTION OF CONSTRUCTION ACTIVITIES

- 5.3 (3a): Project Limits (See Title Sheet)
- 5.3 (3a): Project Description (See Title Sheet)
- 5.3 (4): Site Map(s) (See Title Sheet and Plans)
- Major Soil Disturbing Activities (check all that apply)
 - ☒ Clearing and grubbing
 - ☒ Excavation/borrow
 - ☒ Grading and shaping
 - ☒ Filling
 - ☐ Other (describe):
- 5.3 (3b): Total Project Area 2.6 AC
- 5.3 (3b): Total Area to be Disturbed 2.6 AC
- 5.3 (3c): Maximum Area Disturbed at One Time 2.6 AC
- 5.3 (3d): Existing Vegetative Cover (%) 100
- 5.3 (3d): Description of Vegetative Cover Grass, Trees, Shrubs
- 5.3 (3e): Soil Properties: Unknown
- 5.3 (3f): Name of Receiving Water Body/Bodies Unnamed Creek
- 5.3 (3g): Location of Construction Support Activity Areas N/A

5.3 (3h): ORDER OF CONSTRUCTION ACTIVITIES

The Contractor will enter the Estimated Start Date.

Description	Estimated Start Date
Install perimeter protection where runoff may exit site.	
Install perimeter protection around stockpiles.	
Install channel and ditch bottom protection.	
Clearing and grubbing.	
Remove and stockpile topsoil.	
Stabilize disturbed areas.	
Install utilities, storm sewers, curb and gutter.	
Install inlet and culvert protection after completing storm drainage and other utility installations.	
Final grading.	
Removal of protection devices.	
Reseed areas disturbed by removal activities.	

5.3 (5): DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES

All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report. Include the technical reasoning for selecting each control. (check all that apply)

Perimeter Controls (See Detail Plan Sheets)

Description	Estimated Start Date
☐ Natural Buffers (within 50 ft of Waters of State)	
☐ Silt Fence	
☐ Erosion Control Wattles	
☒ Temporary Berm / Windrow	
☐ Floating Silt Curtain	
☐ Stabilized Construction Entrances	
☐ Entrance/Exit Equipment Tire Wash	
☐ Other:	

Structural Erosion and Sediment Controls

Description	Estimated Start Date
☐ Silt Fence	
☒ Temporary Berm/Windrow	
☐ Erosion Control Wattles	
☐ Temporary Sediment Barriers	
☒ Erosion Bales	
☐ Temporary Slope Drain	
☐ Turf Reinforcement Mat	
☒ Riprap	
☐ Gabions	
☐ Rock Check Dams	
☐ Sediment Traps/Basins	
☐ Culvert Inlet Protection	
☐ Transition Mats	
☐ Median/Area Drain Inlet Protection	
☐ Curb Inlet Protection	
☐ Interceptor Ditch	
☐ Concrete Washout Facility	
☐ Work Platform	
☐ Temporary Water Barrier	
☐ Temporary Water Crossing	
☐ Permanent Stormwater Ponds	
☐ Permanent Open Vegetated Swales	
☐ Natural Depressions to allow for infiltration	
☐ Sequential Systems that combine several practices	
☐ Other:	

Dust Controls

Description	Estimated Start Date
☐ Tarps & Wind impervious fabrics	
☐ Watering	
☐ Stockpile location/orientation	
☐ Dust Control Chlorides	
☐ Other	

Dewatering BMPs

Description	Estimated Start Date
☐ Sediment Basins	
☐ Dewatering bags	
☐ Weir tanks	
☐ Temporary Diversion Channel	
☐ Other:	

Stabilization Practices (See Detail Plan Sheets)

(Stabilization measures will begin the following work day whenever earth disturbing activity on any portion of the site has temporarily or permanently ceased. Temporary stabilization will be completed as soon as practicable but no later than 14 days after initiating soil stabilization activities (3.18))

Description	Estimated Start Date
☐ Vegetation Buffer Strips	
☐ Temporary Seeding (Cover Crop Seeding)	
☒ Permanent Seeding	
☐ Sodding	
☐ Planting (Woody Vegetation for Soil Stabilization)	
☒ Mulching (Grass Hay or Straw)	
☐ Fiber Mulching (Wood Fiber Mulch)	
☐ Soil Stabilizer	
☐ Bonded Fiber Matrix	
☐ Fiber Reinforced Matrix	
☒ Erosion Control Blankets	
☒ Surface Roughening (e.g. tracking)	
☐ Other:	

Wetland Avoidance

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes ☐ No ☒ If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.



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NEW STICKNEY DAM SPILLWAY REPLACEMENT
SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS
AURORA COUNTY, SD
2023



NO.	DATE

DESIGNED BY: MKS
DRAWN BY: ERS
QA / QC BY: MKS
PROJECT NO.: R10016-0011
DATE: 12.18.2023

TITLE
SDDOT
SWPPP
NOTES
(1 OF 3)

SHEET
A.4

5.3 (6): PROCEDURES FOR INSPECTIONS

- Inspections will be conducted at least once every 7 days.
- All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
- Silt fence will be inspected for depth of sediment and for tears to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches $\frac{1}{2}$ of the height of the silt fence.
- Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
- Check dams will be inspected for stability. Sediment will be removed when depth reaches $\frac{1}{2}$ the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
- The SDDOT Project Engineer and Contractor's Erosion Control Supervisor are responsible for inspections. Maintenance and repair activities are the responsibility of the Contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

5.3 (7): POST CONSTRUCTION STORMWATER MANAGEMENT

Stormwater management will be handled by temporary controls outlined in "DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES" above, and any permanent controls needed to meet permanent stormwater management needs in the post construction period will be shown in the plans and noted as permanent.

5.3 (8): POLLUTION PREVENTION PROCEDURES

5.3 (8a): Spill Prevention and Response Procedures

➤ Material Management

• Housekeeping

- Only needed products will be stored on-site by the Contractor.
- Except for bulk materials the contractor will store all materials under cover and/or in appropriate containers.
- Products must be stored in original containers and labeled.
- Material mixing will be conducted in accordance with the manufacturer's recommendations.
- When possible, all products will be completely used before properly disposing of the container off-site.
- The manufacturer's directions for disposal of materials and containers will be followed.
- The Contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
- Dust generated will be controlled in an environmentally safe manner.

• Hazardous Materials

- Products will be kept in original containers unless the container is not resealable and provide secondary containment as applicable.
- Original labels and material safety data sheets will be retained in a safe place to relay important product information.

- If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
- Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any stormwater system or stormwater treatment system.
- Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of stormwater runoff.

➤ Spill Control Practices

In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.

- For all hazardous materials stored on site, the manufacturer's recommended methods for spill cleanup will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
- Appropriate cleanup materials and equipment will be maintained by the Contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for cleanup purposes.
- All spills will be cleaned immediately after discovery and the materials disposed of properly.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
- The Contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator.

➤ Spill Response

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into stormwater runoff and conveyance systems. If the release has impacted on-site stormwater, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens stormwater or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.

- The Contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.

- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the Contractor at the site.
- If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The Contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
- If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SDDANR.
- Personnel with primary responsibility for spill response and cleanup will receive training by the Contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

5.3 (8b): WASTE MANAGEMENT PROCEDURES

➤ Waste Disposal

- All liquid waste materials will be collected and stored in approved sealed containers. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal and notices stating proper practices will be posted. The Contractor is responsible for ensuring waste disposal procedures are followed.

➤ Hazardous Waste

- All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the Contractor will be responsible for seeing that these practices are followed.

➤ Sanitary Waste

- Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units which must be secured to prevent tipping and serviced in a timely manner by a licensed waste management Contractor or as required by any local regulations.



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AURORA COUNTY, SD
2023

ENGINEER'S SEAL



NO.	DATE

DESIGNED BY: MKS
DRAWN BY: ERS
QA/QC BY: MKS
PROJECT NO.: R10016-0011
DATE: 12-19-2023

TITLE
SDDOT
SWPPP
NOTES
(2 OF 3)

SHEET
A.5

5.3 (9): CONSTRUCTION SITE POLLUTANTS

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the heading "POLLUTION PREVENTION PROCEDURES" (check all that apply).

- ☒ Concrete and Portland Cement
- ☐ Detergents
- ☐ Paints
- ☒ Metals
- ☐ Bituminous Materials
- ☐ Petroleum Based Products
- ☐ Diesel Exhaust Fluid
- ☐ Cleaning Solvents
- ☒ Wood
- ☐ Cure
- ☐ Texture
- ☒ Chemical Fertilizers
- ☐ Other:

Product Specific Practices

• Petroleum Products

All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.

• Fertilizers

Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to stormwater. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

• Paints

All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.

• Concrete Trucks

Contractors will provide designated truck washout facilities on the site. These areas must be self-contained and not connected to any stormwater outlet of the site. Upon completion of construction, the area at the washout facility will be properly stabilized.

5.3 (10): NON-STORMWATER DISCHARGES

The following non-stormwater discharges are anticipated during the course of this project (check all that apply).

- ☐ Discharges from water line flushing.
- ☐ Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
- ☒ Uncontaminated ground water associated with dewatering activities.

5.3 (11): INFEASIBILITY DOCUMENTATION

If it is determined to be infeasible to comply with any of the requirements of the Stormwater Permit, the infeasibility determination must be thoroughly documented in the SWPPP.

7.0: SPILL NOTIFICATION

In the event of a spill, the Contractor's site superintendent will make the appropriate notification(s), consistent with the following procedures:

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to SDDANR immediately if any one of the following conditions exists:
 - The release or spill threatens or is able to threaten waters of the state (surface water or ground water)
 - The release or spill causes an immediate danger to human health or safety
 - The release or spill exceeds 25 gallons
 - The release or spill causes a sheen on surface water
 - The release or spill of any substance that exceeds the ground water quality standards of ARSD Chapter 74:54:01
 - The release or spill of any substance that exceeds the surface water quality standards of ARSD Chapter 74:51:01
 - The release or spill of any substance that harms or threatens to harm wildlife or aquatic life
 - The release or spill is required to be reported according to Superfund Amendments and Reauthorization Act (SARA) Title III List of Lists, Consolidated List of Chemicals Subject to Reporting Under the Emergency Planning and Community Right to Know Act, US Environmental Protection Agency.
- To report a release or spill, call SDDANR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central Standard Time). To report the release after hours, on weekends or holidays, call South Dakota Emergency Management at 605-773-3231. Reporting the release to SDDANR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, you must also contact local authorities to determine the local reporting requirements for releases. A written report of the unauthorized release of any regulated substance, including quantity discharged, and the location of the discharge will be sent to SDDANR within 14 days of the discharge.



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AURORA COUNTY, SD
2023

ENGINEER'S SEAL

South Dakota
Michael K. Sotak
#13370
Professional
Engineer
7.30.24

NO.	DATE

DESIGNED BY: MKS
DRAWN BY: ERS
QA / QC BY: MKS
PROJECT NO.: R10016-0011
DATE: 12.18.2023

TITLE:
SDDOT
SWPPP
NOTES
(3 OF 3)

SHEET
A.6

PARCEL ID: 05-000-022-102-63-3-001
OWNER: GAME, FISH & PARKS

LEGEND

LIMITS OF CONSTRUCTION:

PARCEL BOUNDARY LINE:

ACCESS ROUTE:

STOCKPILE AREA:



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SOUTH DAKOTA DEPARTMENT OF GAME, FISH AND PARKS
AURORA COUNTY, SD
2023

ENGINEER'S SEAL

South Dakota
Michael K. Katak
#13785
Professional Engineer

7-30-24

NO.	DATE

DESIGNED BY: MKS
DRAWN BY: CRS
QA / QC BY: MKS
PROJECT NO: R10016-0011
DATE: 12.19.2023

TITLE
SITE ACCESS

SHEET
B.1

Point Table			Point Table		
Point #	Northing	Easting	Point #	Northing	Easting
177	N43° 37' 20.41"	W98° 23' 06.55"	192	N43° 37' 19.89"	W98° 22' 43.93"
178	N43° 37' 20.38"	W98° 23' 05.05"	193	N43° 37' 19.47"	W98° 22' 42.77"
179	N43° 37' 19.88"	W98° 23' 05.07"	194	N43° 37' 19.81"	W98° 22' 42.65"
180	N43° 37' 19.91"	W98° 23' 06.57"	195	N43° 37' 20.38"	W98° 22' 41.52"
181	N43° 37' 20.65"	W98° 22' 50.85"	196	N43° 37' 20.11"	W98° 22' 41.34"
182	N43° 37' 20.69"	W98° 22' 49.35"	197	N43° 37' 16.95"	W98° 22' 42.29"
183	N43° 37' 20.20"	W98° 22' 49.33"	198	N43° 37' 14.38"	W98° 22' 42.21"
184	N43° 37' 20.16"	W98° 22' 50.82"	199	N43° 37' 16.35"	W98° 22' 44.20"
185	N43° 37' 20.54"	W98° 22' 48.08"	200	N43° 37' 16.21"	W98° 22' 43.84"
186	N43° 37' 20.89"	W98° 22' 47.84"	201	N43° 37' 18.73"	W98° 22' 43.03"
187	N43° 37' 20.89"	W98° 22' 47.07"	202	N43° 37' 19.18"	W98° 22' 44.28"
188	N43° 37' 20.82"	W98° 22' 46.53"	203	N43° 37' 19.55"	W98° 22' 45.31"
189	N43° 37' 20.22"	W98° 22' 44.85"	204	N43° 37' 20.18"	W98° 22' 47.06"
190	N43° 37' 20.84"	W98° 22' 44.43"	205	N43° 37' 20.28"	W98° 22' 47.34"
191	N43° 37' 20.51"	W98° 22' 43.51"			

0.5 MILES TO 259TH ST
0.5 MILES TO 260TH ST

PARKING AREA. PARKING AREA MAY BE USED FOR CONSTRUCTION STAGING

SEE SHEET P 1 FOR DETAILED LIMITS OF CONSTRUCTION

STICKNEY LAKE



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ENGINEER'S SEAL

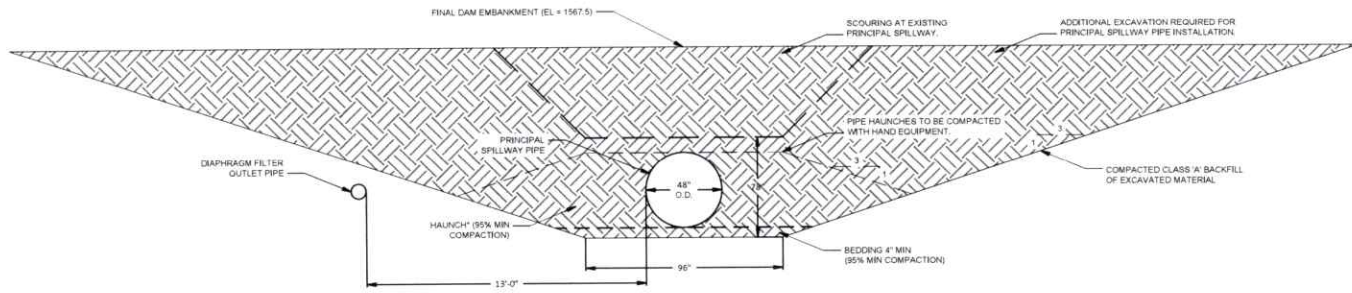
South Dakota
Michael K. Sotak
#13380
Professional
Engineer
7-30-24

NO.	DATE

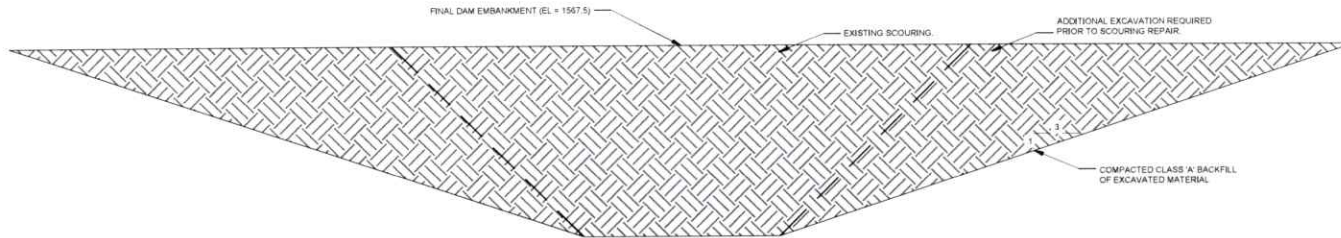
DESIGNED BY: MKS
DRAWN BY: ERS
QA/QC BY: MKS
PROJECT NO: R10016-0011
DATE: 12-19-2023

TITLE
PIPE
REMOVAL
AND
INSTALLATION
DETAILS

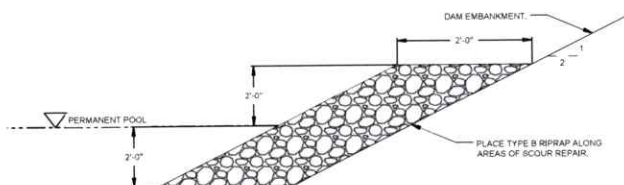
SHEET
D.1



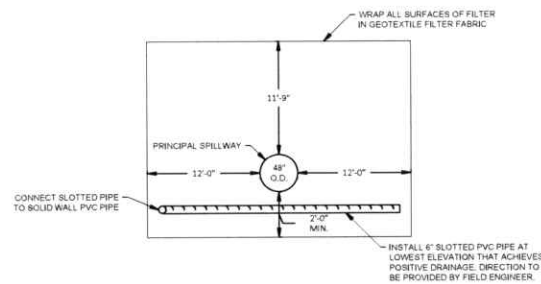
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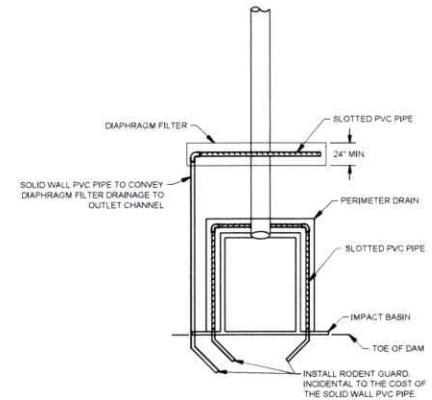
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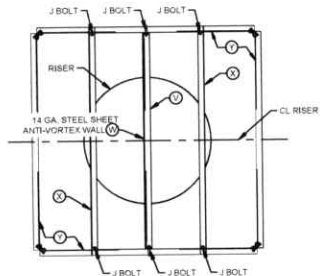
RIPRAP PLACEMENT DETAIL 4 D.1
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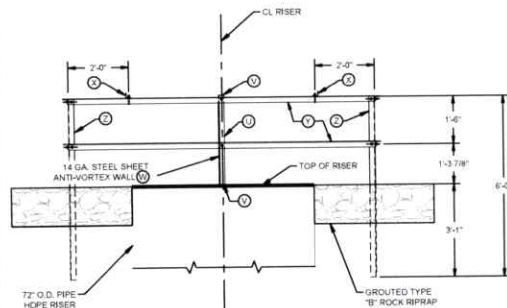
DIAPHRAGM FILTER DETAIL 4 D.1
NOT TO SCALE



DIAPHRAGM FILTER DRAIN PIPE DETAIL 5 D.1
NOT TO SCALE



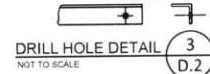
DEBRIS RACK PLAN VIEW DETAIL 1 D.2
NOT TO SCALE



DEBRIS RACK ELEVATION DETAIL 2 D.2
NOT TO SCALE

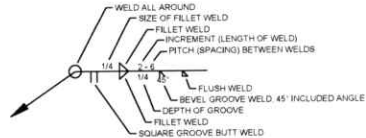
R = 1 3/4\"/>

R = 2 1/2\"/>

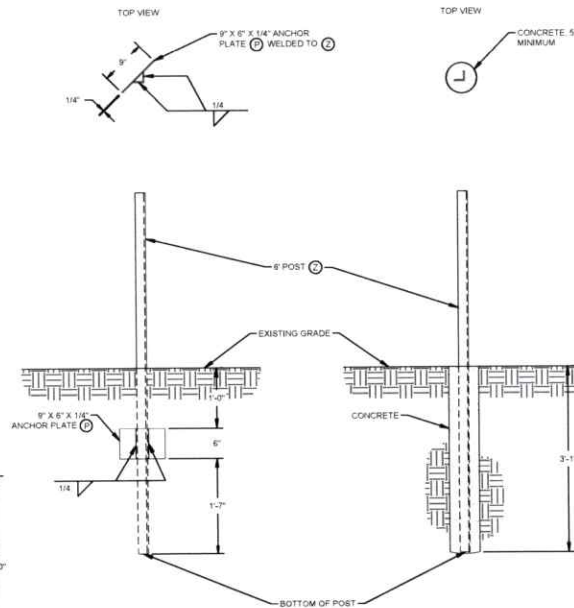


DRILL HOLE DETAIL 3 D.2
NOT TO SCALE

WELD SYMBOLS



NOTE:
-WELD SYMBOL ABOVE LINE INDICATES WELD IS ON OPPOSITE SIDE OF JOINT TO WHICH ARROW POINTS.
-WELD SYMBOL BELOW THE LINE INDICATES WELD IS ON SIDE OF JOINT TO WHICH ARROW POINTS.
-2/4 INDICATES MAKING A 2 INCH WELD EVERY 4 INCHES.

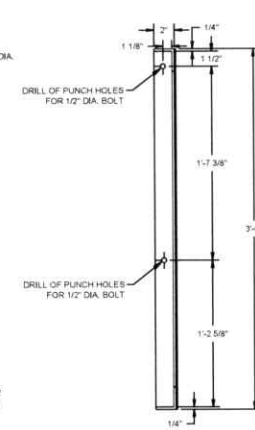


ANGLE POST ANCHORING DETAILS 4 D.2
NOT TO SCALE

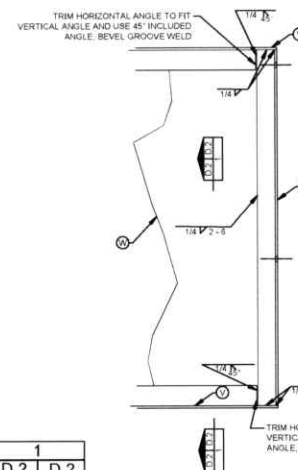
MATERIAL LIST		
MARK	ITEM	NUMBER REQUIRED
U	2" X 1/4" X 2 - 11 1/2" ANGLES	2
V	2" X 1/4" X 9 - 9" ANGLES	2
X	2" X 1/4" X 9 - 4" ANGLES	2
Y	2" X 1/4" X 9 - 9" ANGLES	8
Z	2" X 1/4" X 14" XP - 4 ANGLES (POST)	4
P	9" X 1/4" ANCHOR PLATES (SHEAL 2" X 1/2" X 1/2")	1
W	14 GA. STEEL SHEET 3" X 9" X 1/2"	1
	1/2" X 1/2" HEX BOLTS (INCLUDING NUTS)	18
	1/2" X 1/2" X	

ITEM	WEIGHT IN POUNDS (STEEL)
2" X 2" X 1/4" ANGLES (18)	44
ANTI-VORTEX STEEL SHEET (1)	34
STEEL BOLTS, NUTS AND LOCK WASHERS (26)	6
ANCHOR PLATES (4) (DETAIL 1 ONLY)	16
TOTAL STEEL (DETAIL 1 ONLY)	547
TOTAL STEEL (DETAIL 2 ONLY)	530

TOTAL (MIN.) CONCRETE REQUIRED (DETAIL 2 ONLY) 9.96 CU. YDS.



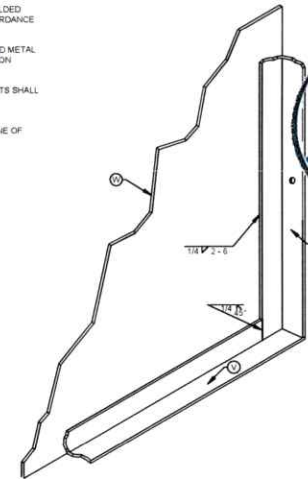
ANTI-VORTEX WALL SECTION 1 D.2 D.2
NOT TO SCALE



ANTI-VORTEX WALL DETAIL 5 D.2
NOT TO SCALE

FABRICATION NOTES

1. ALL ANGLES, SHEETS AND PLATES TO BE SECURELY WELDED AND/OR BOLTED AS SHOWN ON THIS DRAWING, IN ACCORDANCE WITH SPECIFICATIONS.
2. ALL WELDS AND HEAT AFFECTED AREAS, ON GALVANIZED METAL, SHALL BE TREATED IN ACCORDANCE WITH CONSTRUCTION SPECIFICATIONS.
3. WHEN MATERIALS USED ARE NOT GALVANIZED, ALL PARTS SHALL BE PAINTED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS.
4. INSTALL METAL ANTI-VORTEX WALL AT 90° TO CENTERLINE OF STRUCTURE.



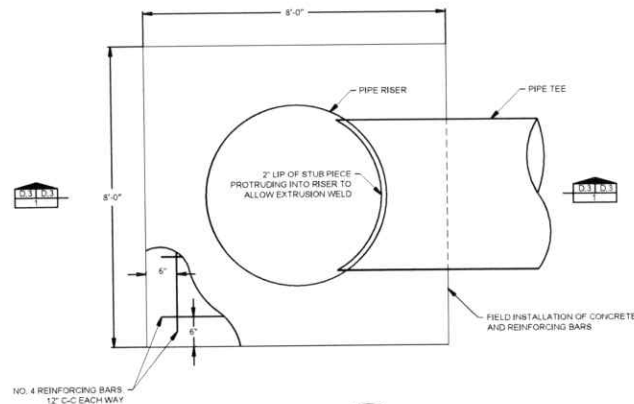
ANTI-VORTEX SHEET CORNER DETAIL 6 D.2
NOT TO SCALE

NO.	DATE

DESIGNED BY MKS
DRAWN BY ERS
QA/QC BY MKS
PROJECT NO. R10016-0011
DATE 12.19.2023

TITLE
DEBRIS RACK WITH ANTI-VORTEX PLATE DETAILS

SHEET
D.2



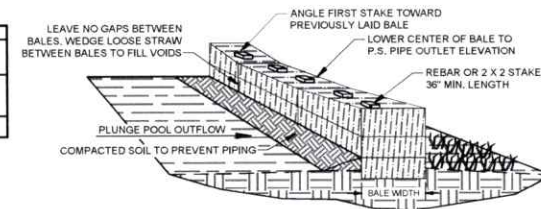
RISER PLAN VIEW 1
D.3
NOT TO SCALE

REQUIREMENT TABLE			
[X] IN BOX INDICATES THE REQUIREMENTS THAT APPLY TO STRUCTURE [] INDICATES - NOT APPLICABLE			
CONCRETE CLASS	3000	3000M	4000 2.37 CU.YD.
REINFORCING STEEL	80.2 LBS.		
HDPE PIPE RISER	72" OUTSIDE DIA.	32.5 SDR	12'-2" FT.
NOMINAL LENGTH WITH A	48" OUTSIDE DIA.	32.5 SDR	PIPE TEE 4 FT. NOMINAL LENGTH
FUSED TO IT 8" FROM THE LOWER END			
HDPE PRINCIPAL SPILLWAY PIPE	48" OUTSIDE DIA.	32.5 SDR	54 FT.

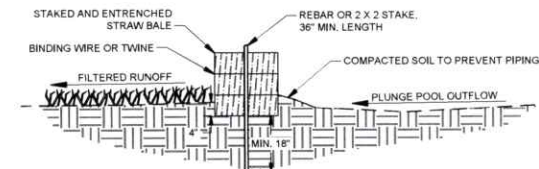
NOMINAL PIPE PROPERTIES			
DENSITY	gms / cm ³	ASTM D1505	0.960 (BLACK)
MELT INDEX (MI) CONDITIONS	190° C / 2.16kg	ASTM D1238	0.08
HYDROSTATIC DESIGN BASIS	73° F (23° C)	ASTM D2837	1600
HYDROSTATIC DESIGN BASIS	140° F (60° C)	ASTM D2837	1000
COLOR / UV STABILIZER (C)		ASTM D3350	MIN. 2% CARBON BLACK
NOMINAL MATERIAL PROPERTIES			
FLEXURAL MODULUS	psi	ASTM D790	>120,000
2% SECANT - 16.1 SPAN DEPTH 0.5 IN. / MIN			
TENSILE STRENGTH AT YIELD	psi	ASTM D638 TYPE IV	>3500
ELONGATION AT BREAK	%	ASTM D638	>800
2 IN. / MIN. TYPE IV BAR			
ELASTIC MODULUS	psi	ASTM D638	>175,000
HARDNESS	SHORE D	ASTM D2240	62
PENT	HRS	ASTM F1473	>500
VICAT SOFTENING TEMPERATURE	°F	ASTM D1525	256
BRITTLENESS TEMPERATURE	°F	ASTM D746	<-103
THERMAL EXPANSION	IN. / IN. / °F	ASTM D696	1.0 X 10 ⁻⁴

CONSTRUCTION NOTES

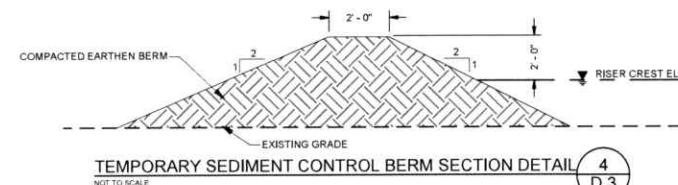
- CONCRETE SHALL NOT BE ALLOWED TO FREE FALL MORE THAN SIX (6) FEET DURING CONSTRUCTION OF RISER BASE.
- MATERIAL COST FOR ROCK RIPRAP IS TO BE INCLUDED IN THE PAY ITEM FOR GROUTED ROCK RIPRAP.



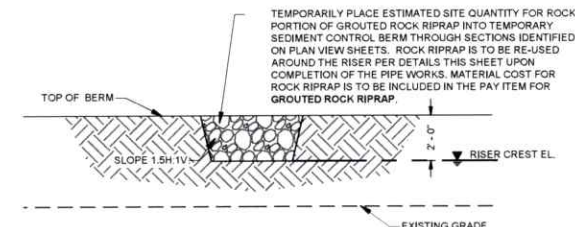
STRAW BALE SEDIMENT BARRIER DETAIL 2
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NOT TO SCALE



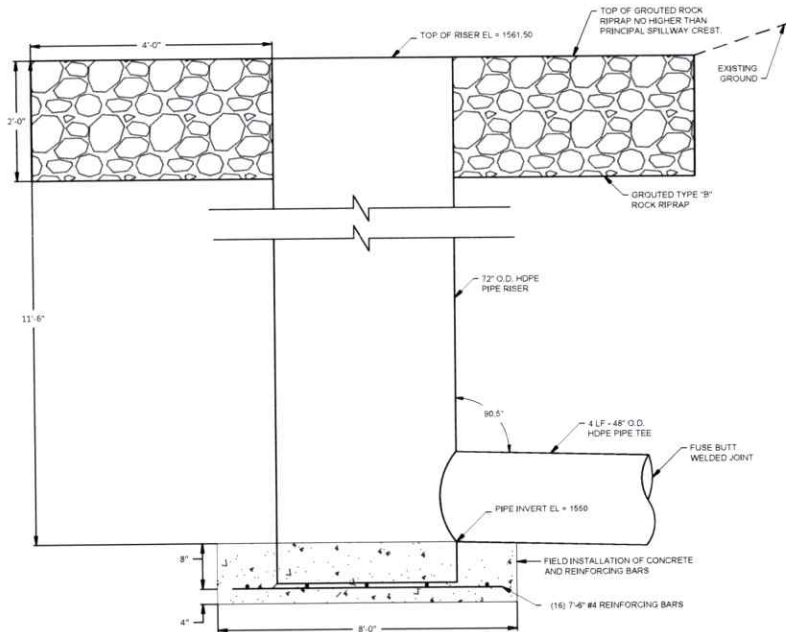
STRAW BALE SEDIMENT BARRIER SECTION DETAIL 3
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NOT TO SCALE



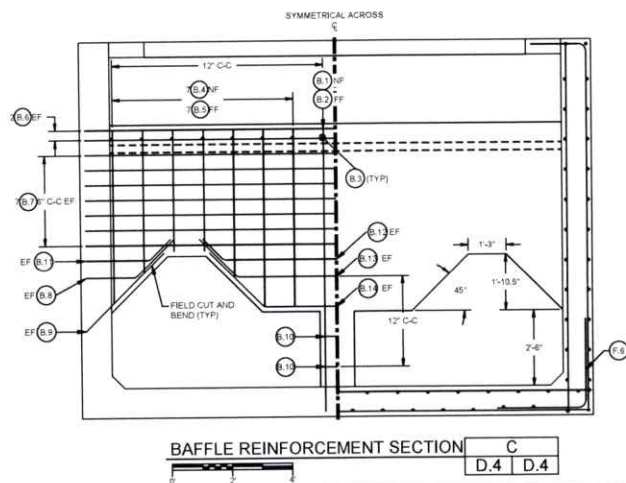
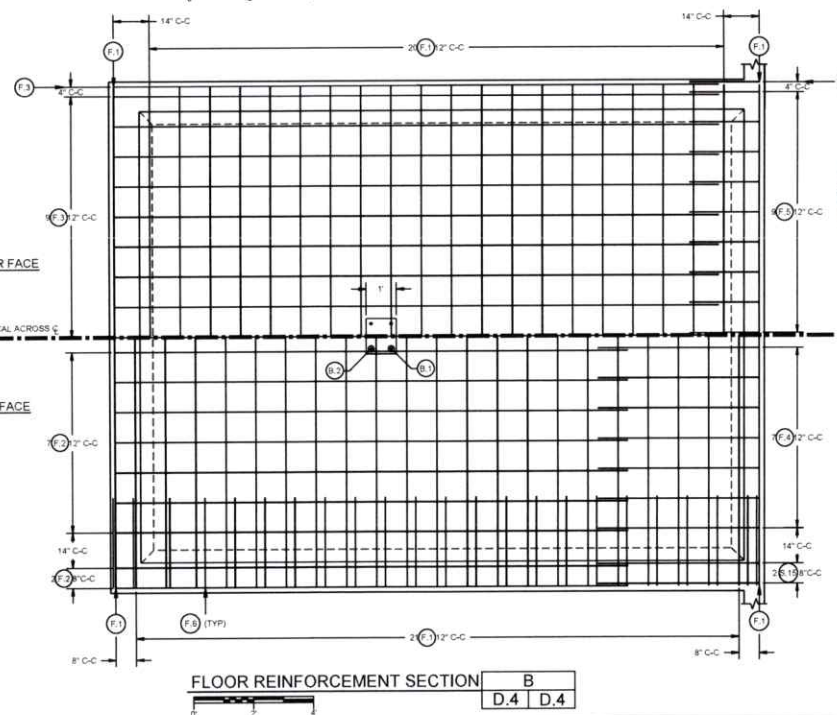
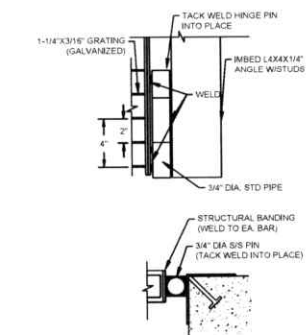
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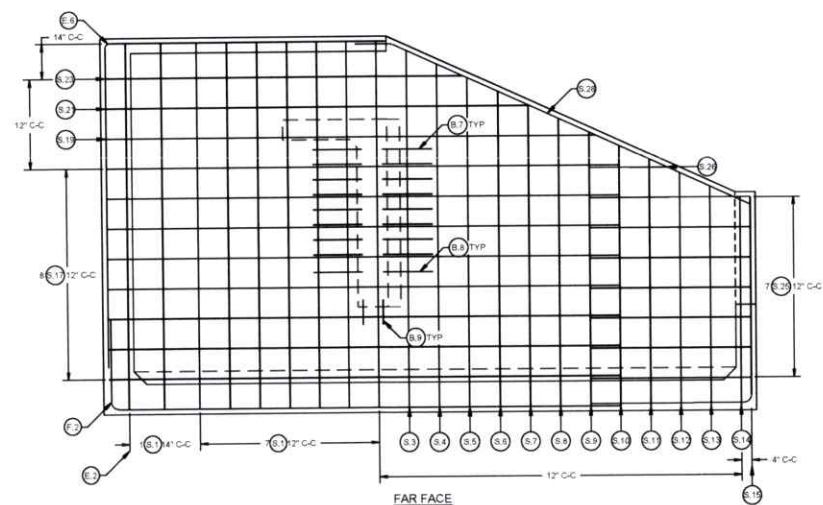
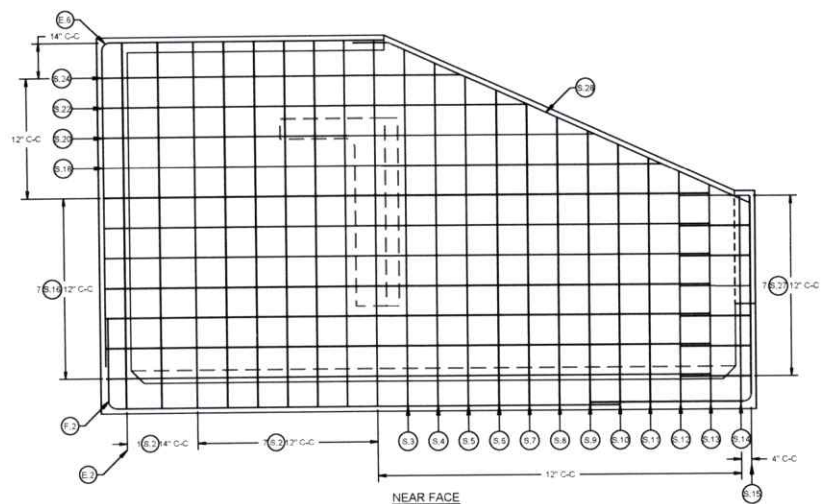


TEMPORARY SEDIMENT CONTROL BERM SECTION DETAIL 5
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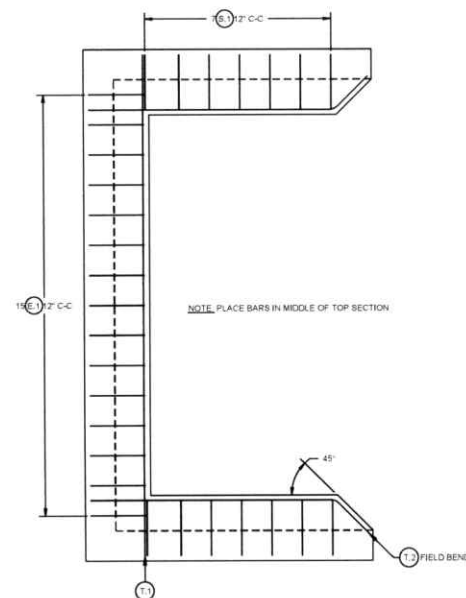


RISER SECTION 1
D.3 D.3
NOT TO SCALE

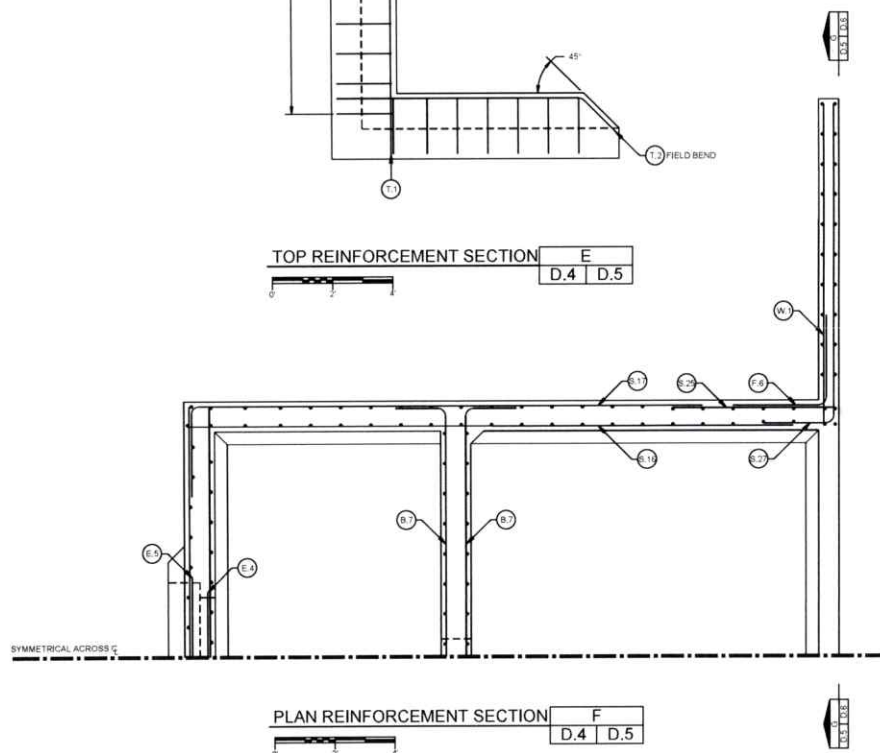




SIDEWALL REINFORCEMENT SECTION		D
		D.4 D.5



TOP REINFORCEMENT SECTION	E	
	D.4	D.5



PLAN REINFORCEMENT SECTION	F	
	D.4	D.



12702 Westport Pkwy, Ste 300
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NEW STICKNEY DAM SPILLWAY REPLACEMENT
SOUTH DAKOTA DEPARTMENT OF GAME, FISH AND PARKS
AURORA COUNTY, SD
2023



NO.	DATE

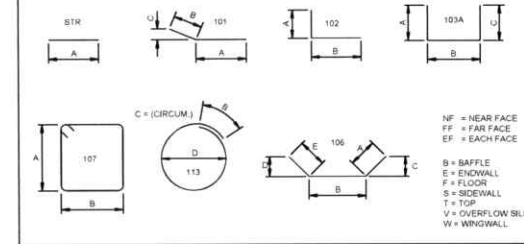
DESIGNED BY: MKS
DRAWN BY: ERS
QA / QC BY: MKS
PROJECT NO. R10016-0011
DATE 12.19.2023

TITLE
IMPACT
BASIN
DETAILS
(2 OF 3)

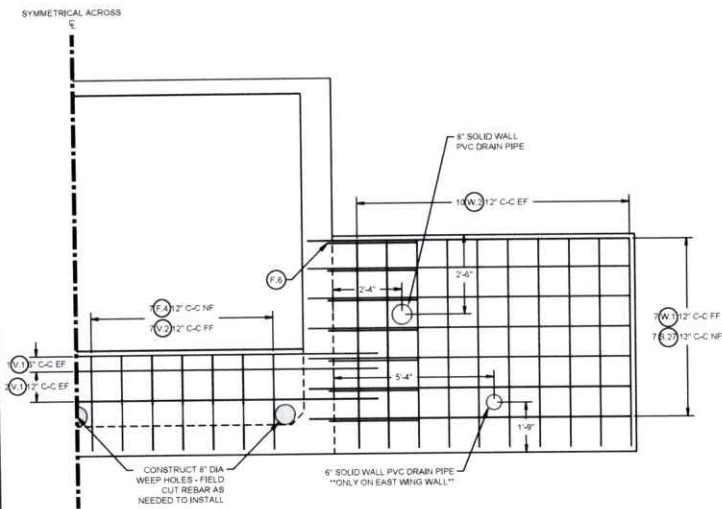
SHEET
D.5

BAR NAME	BEND TYPE	BAR SIZE	BAR LENGTH	A	B	C	D	E	PR	TOTAL NUMBER OF BARS (FT.)	TOTAL LENGTH OF BARS (FT.)	TOTAL BAR WEIGHT (LBS.)
T 1	STR	5	16'-8"	16'-8"						1	18.7	17
T 2	STR	5	8'-8"	8'-8"						2	19.4	20
E 1	STR	102	16'-8"	16'-8"	1'-0"			3'-0"		15	210.0	218
E 2	STR	5	12'-2"	12'-2"						18	219.0	228
E 3	STR	5	16'-8"	16'-8"						26	433.0	452
E 4	STR	113	16'-8"	16'-8"	7'-0"	12'-3"	9'-3"			14	146.8	15
E 5	STR	5	13'-3"	13'-3"	7'-0"	10'-0"	4'-4"			1	17.3	18
E 6	STR	8	20'-4"	19'-5"	9'-3"			4'-0"		4	80.0	120
E 7	STR	152	16'-8"	16'-8"	1'-0"			3'-0"		18	210.0	218
S 2	STR	5	12'-2"	12'-2"						16	184.0	203
S 3	STR	5	11'-9"	11'-9"						4	47.4	49
S 4	STR	5	16'-8"	16'-8"						4	69.4	47
S 5	STR	5	10'-11"	10'-11"						4	43.7	46
S 6	STR	5	16'-8"	16'-8"						4	43.0	44
S 7	STR	5	16'-8"	16'-8"						4	40.0	42
S 8	STR	5	9'-4"	9'-4"						4	38.0	40
S 9	STR	5	8'-1"	8'-1"						4	36.4	38
S 10	STR	5	16'-8"	16'-8"						4	34.7	36
S 11	STR	5	8'-2"	8'-2"						4	32.7	34
S 12	STR	5	7'-8"	7'-8"						4	31.0	32
S 13	STR	5	7'-0"	7'-0"						4	29.0	30
S 14	STR	5	8'-10"	8'-10"						4	37.0	38
S 15	STR	102	5	12'-2"	12'-2"	8'-4"		3'-0"		4	48.7	51
S 16	STR	5	16'-8"	16'-8"						14	240.0	249
S 17	STR	102	5	20'-4"	19'-5"	2'-4"		3'-0"		16	320.0	334
S 18	STR	5	16'-8"	16'-8"						2	36.7	38
S 19	STR	5	16'-8"	16'-8"				3'-0"		2	38.3	39
S 20	STR	5	16'-8"	16'-8"						2	34.5	36
S 21	STR	152	5	17'-0"	16'-8"	7'-0"		3'-0"		2	32.0	33
S 22	STR	5	16'-8"	16'-8"						2	35.0	36
S 23	STR	102	5	14'-10"	11'-10"	7'-0"		3'-0"		2	29.7	29
S 24	STR	5	11'-9"	11'-9"						2	23.7	25
S 25	STR	5	16'-8"	16'-8"						4	54.7	58
S 26	STR	5	2'-1"	2'-1"						2	9.2	5
S 27	STR	102	8	13'-6"	2'-4"	10'-8"		4'-0"		4	162.0	273
S 28	STR	5	16'-8"	16'-8"						4	54.7	58
B 1	STR	102	7	12'-3"	9'-4"	3'-0"		3'-0"		2	25.2	52
B 2	STR	7	9'-5"	9'-5"						2	18.8	28
B 3	STR	102	2	16'-8"	16'-8"					2	19.8	53
B 4	STR	102	5	9'-11"	6'-11"	2'-0"		3'-0"		14	127.2	133
B 5	STR	5	9'-11"	9'-11"						14	62.8	66
B 6	STR	5	16'-8"	16'-8"						10	106.0	114
B 7	STR	102	5	20'-4"	2'-1"	18'-8"	2'-1"	3'-0"		14	231.0	304
B 8	STR	102	8	2'-4"	1'-3"	1'-5"	2'-1"	3'-0"		4	19.4	25
B 9	STR	102	6	2'-4"	1'-3"	1'-5"	2'-1"					

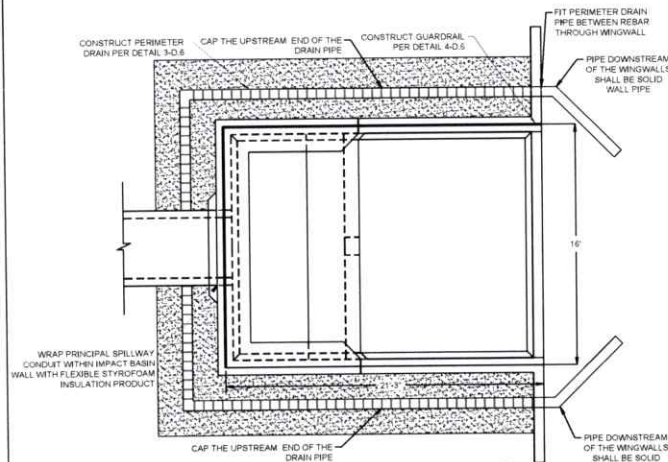
1 ALL DETAILING DIMENSIONS ARE FROM OUTSIDE TO OUTSIDE OF BAR.
2 REINFORCING BARS SHALL HAVE A2" CLEAR SPACE TO SURFACE OF CONCRETE, UNLESS OTHERWISE STATED.
3 FIELD REINFORCING AND CUTS OF BARS WHICH ARE NOT NOTED ON PLANS REQUIRE COORDINATION WITH FIELD ENGINEER.
4 MINIMUM REBAR OVERLAP SHALL BE 40 TIMES THE DIAMETER OF THE REBAR. IF REBAR OF VARYING SIZES ARE OVERLAPPING, THE THICKER REBAR SHALL BE OVER THE THINNER REBAR.
5 STEEL PLACEMENT SHALL BE CHECKED BY THE FIELD ENGINEER PRIOR TO CONCRETE PLACEMENT.
6 HYDROPHILIC WATERSTOPPS SHALL BE PLACED IN CONSTRUCTION JOINTS AND WHERE NOTED AND SHALL BE CONTINUOUS HYDROPHILIC C-7275-73 (OR APPROVED EQUAL) AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7 CONCRETE STRENGTH MUST BE 4000 PSI AT 28 DAYS. SEE SPECIFICATIONS FOR MIX DESIGN GUIDELINES.



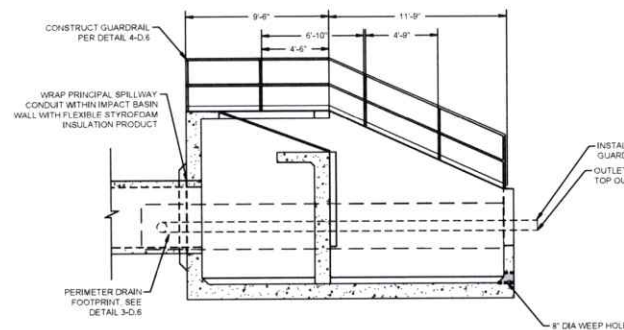
G	
D.5	D.6



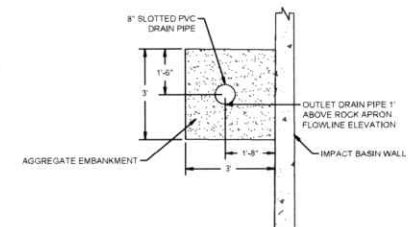
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D.6



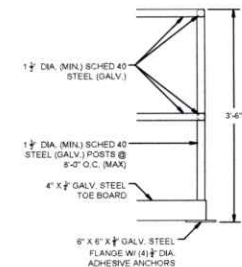
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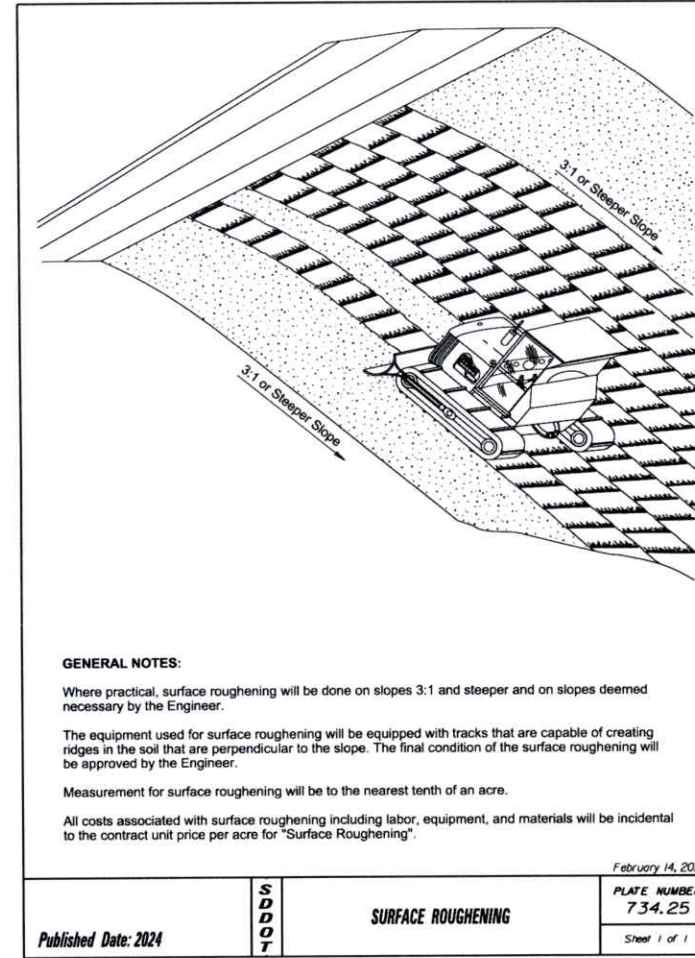
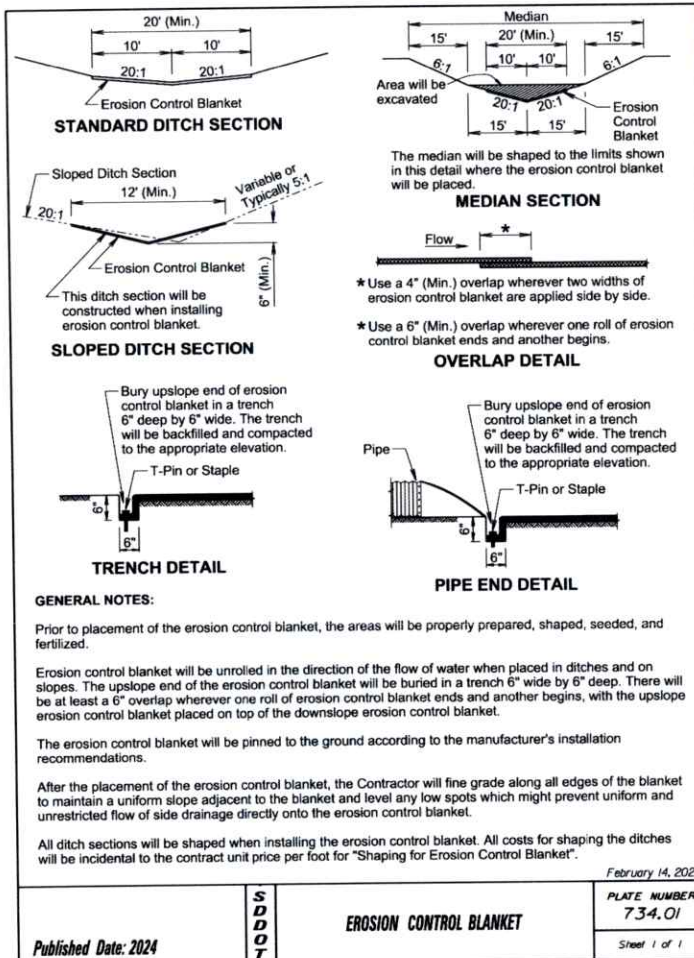


3
D.6



4
D.6



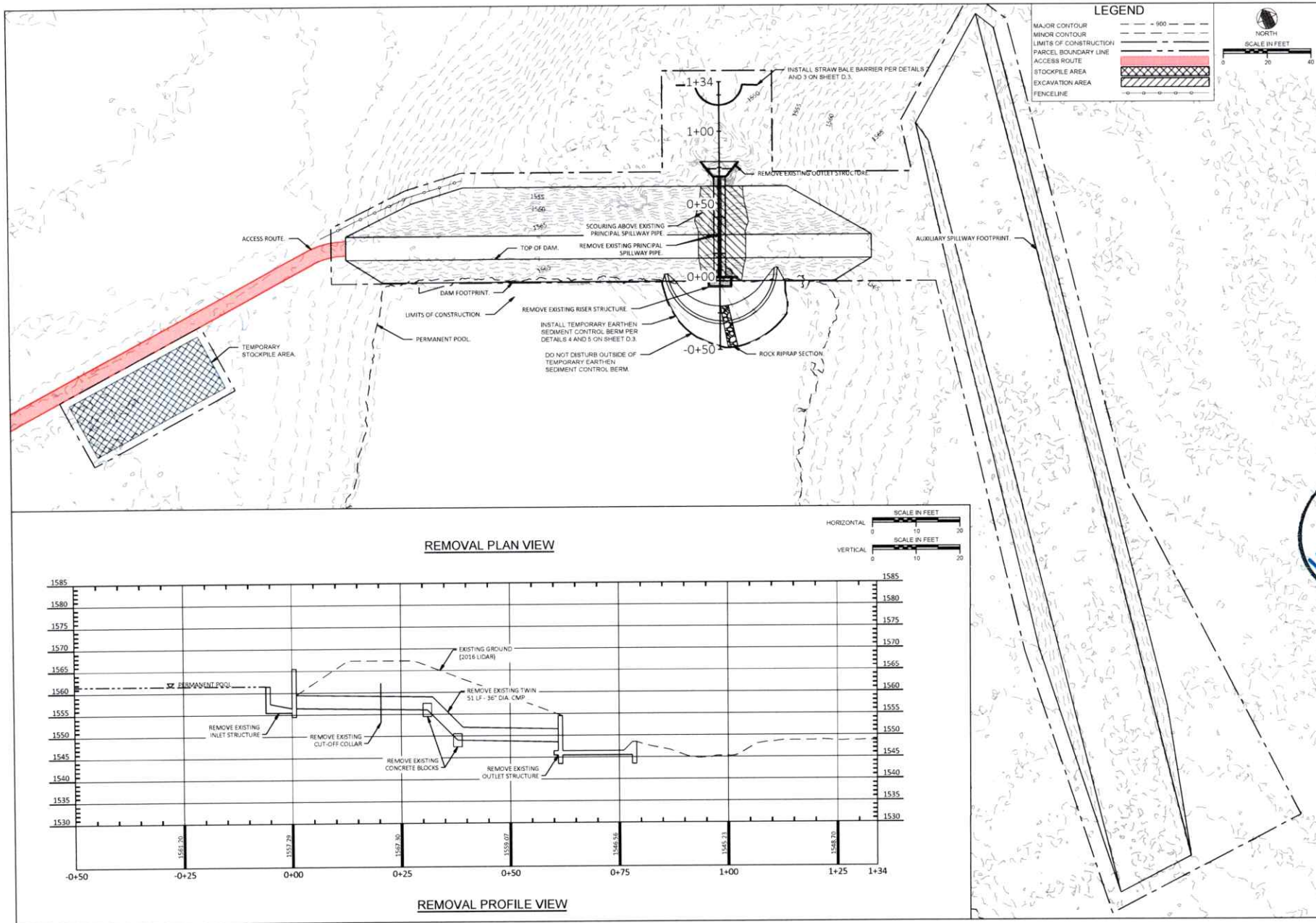


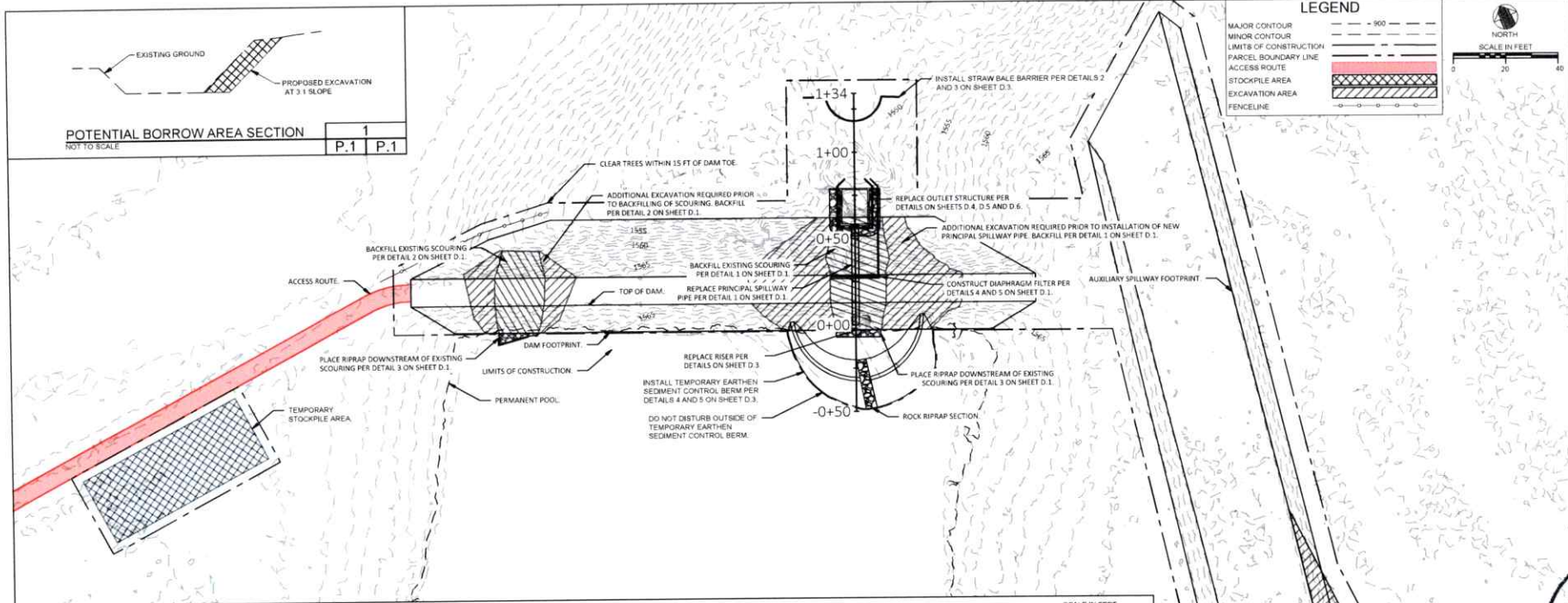
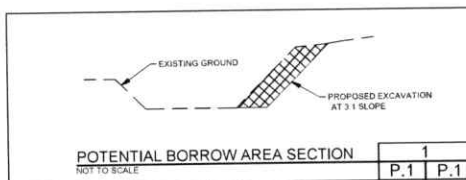
NO.	DATE

DESIGNED BY: MKS
DRAWN BY: ERS
QA/QC BY: MKS
PROJECT NO.: R10016-0011
DATE: 12.19.2023

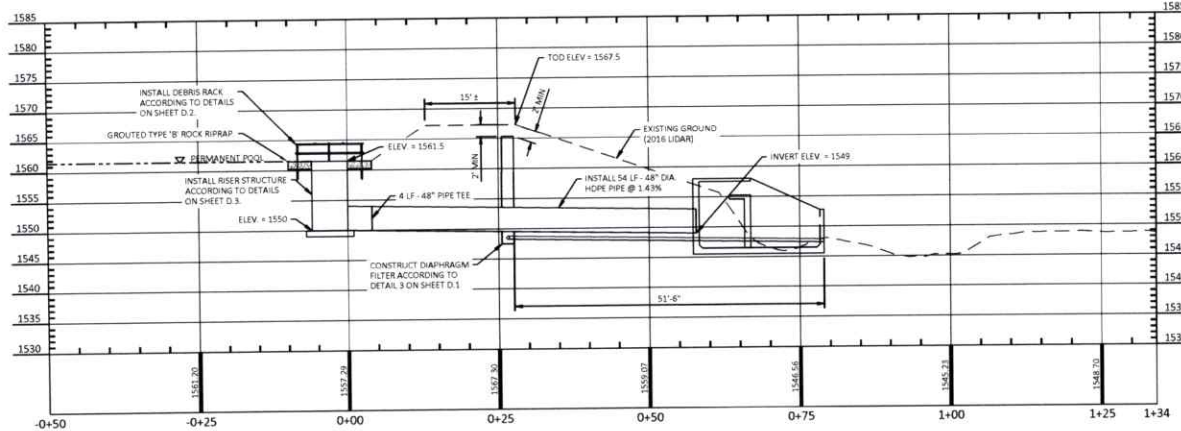
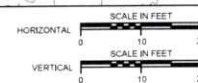
TITLE
SDDOT
STANDARD
PLATES

SHEET
D.7





PLAN VIEW



PROFILE VIEW



NO.	DATE

DESIGNED BY: MKS
DRAWN BY: ERS
QA/QC BY: MKS
PROJECT NO.: R10016-0011
DATE: 12.19.2023

TITLE
INSTALLATION
PLAN AND
PROFILE

Technical Memorandum

To: James Gilkerson, PE
SD Department of Game, Fish, and Parks

From: Michael K. Sotak, MBA, PE, D.WRE
Houston Engineering, Inc.

Subject: New Stickney Dam

Date: August 14, 2023

Project: 10016-0011

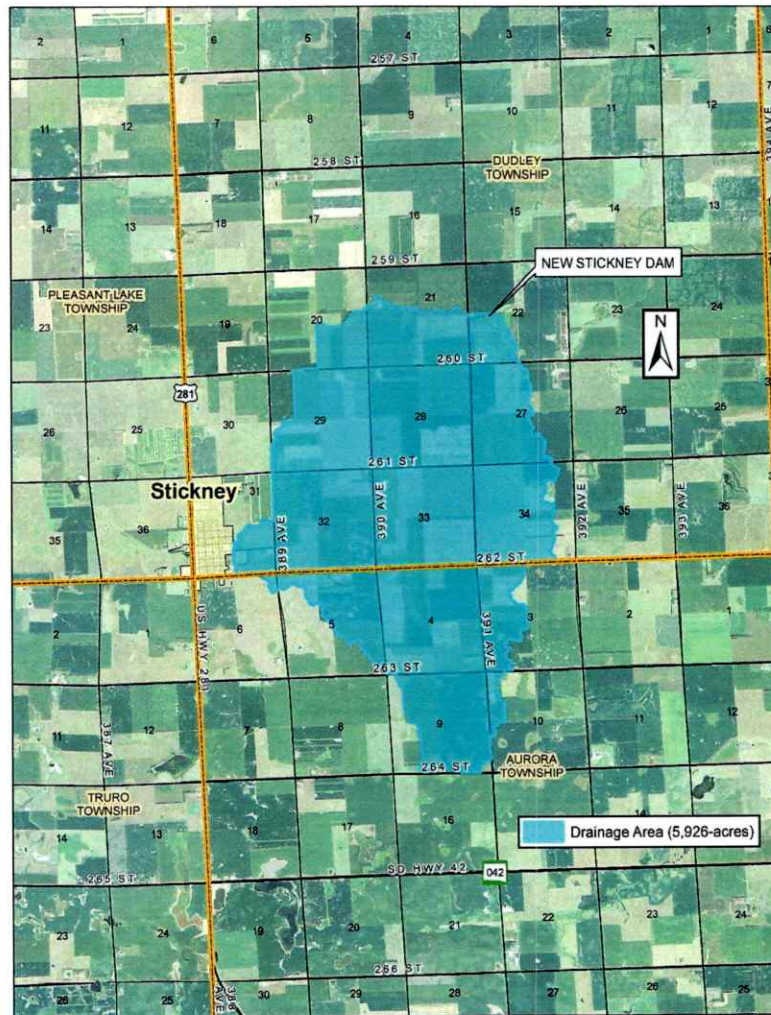


INTRODUCTION

Houston Engineering, Inc. was contracted by the South Dakota Department of Game, Fish, and Parks (SDGFP) to investigate the costs and benefits of upgrades to the New Stickney Dam. The dam is located in Dudley Township Range 102 North 63 West in Section 22, Aurora County, South Dakota. The dam is currently owned by SD GFP. The existing condition of the dam is in poor state due to flood water exceeding the principal spillway capacity in 2019 and overtopping the embankment. Currently the dam is breached, and the principal spillway is exposed due to the overtopping event during the flooding. This technical memorandum (TM) addresses the repairs and improvements required, the potential costs of such improvements and other related items.

HYDROLOGY

HEI prepared a hydrologic model for the site using the HEC-HMS software package. The model was assembled with an appropriate level of detail to route the 2-year through the 500-year, 24-hour storm events across the watershed and through the dam structure. The model used Atlas 14 rainfall depths and the associated fourth quartile temporal distribution for the routings. A table showing the results of those routings is provided below in the hydraulics section.



The above image shows the drainage area of the New Stickney Dam. The drainage area of the dam was determined to be 5,926-acres, determined from a delineation performed using 2016 LiDAR imagery and contours.

HYDRAULICS

As mentioned above, the hydrologic model was used to assess hydraulic improvements to the dam. The dam is currently breached in two different locations and the foundation around the principal spillway (PS) structure is compromised due to erosion. The dam is currently 370 feet long with a 15-foot-wide crest and the top of dam elevation is 1567.5. The existing auxiliary spillway width is 50 feet with a crest elevation of 1565.4. The existing principal spillway is two 36" CMP conduits that are constructed through the dam as a double broke-back system. The inlet structure is a concrete weir with a reservoir controlling (top) elevation of 1561.5 ft. A rating curve for the existing principal spillway configuration was prepared using HY-8 and is shown below in Figure 1.

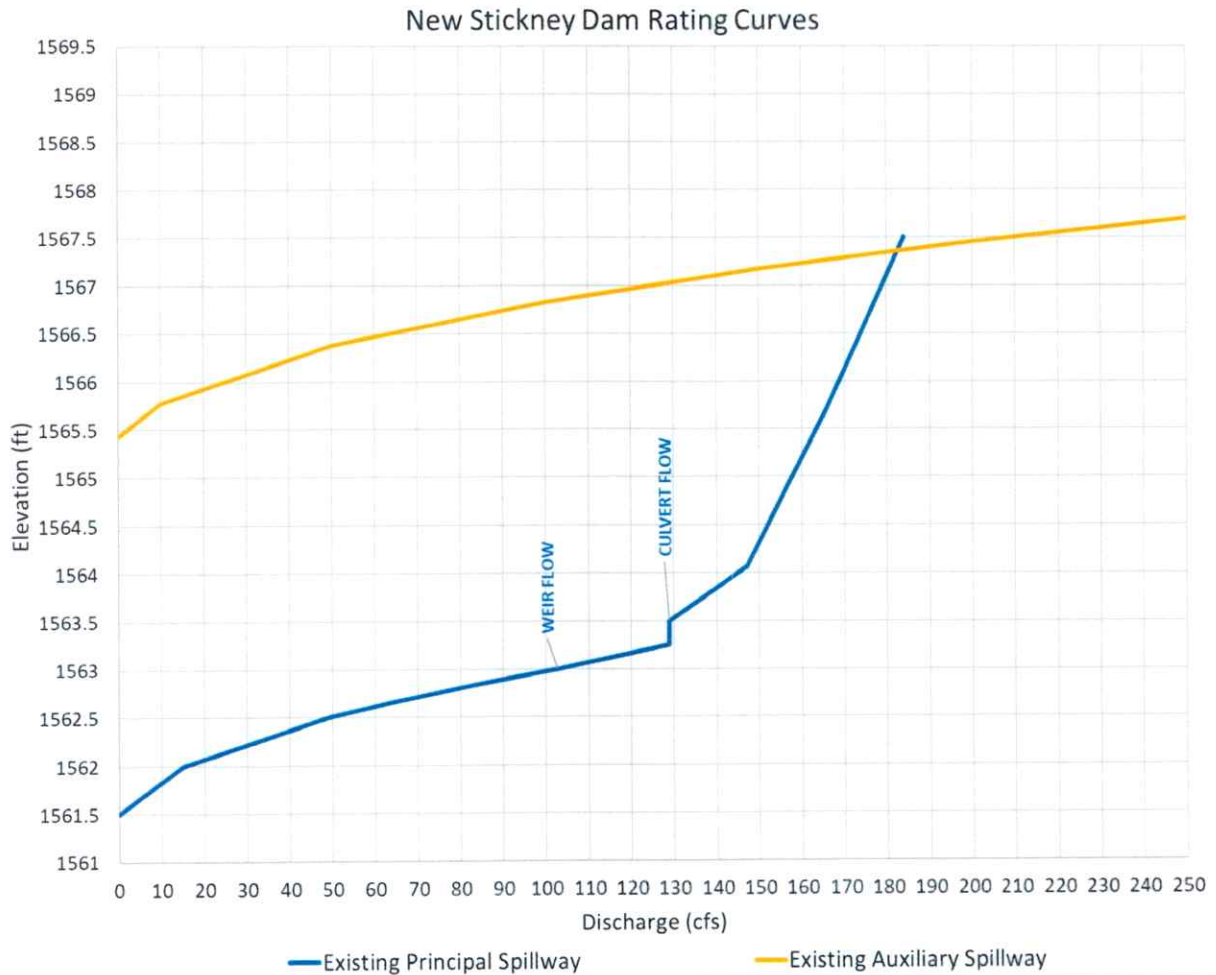


Figure 1: Existing Principal Spillway and Existing Auxiliary Spillway Stage-Discharge curves.

Table 1 below shows the results of the routings performed on the existing principal spillway configuration. Following the Safety of Dams Administrative Rule, the dam was determined to be Category 3 small dam. In accordance with directions from Administration Rule, a 25-year, 24-hour storm event of 4.25" was used to determine the minimum dam upgrades required to meet the desired hydraulic capacity of the dam.

Table 1: Inputs and Results of a 25-year, 24-hour storm event.

New Stickney Dam Existing Conditions				
Storm Event	Rainfall (IN)	Peak Elevation (FT)	Peak Inflow (CFS)	Peak Storage (ACRE-FT)
25yr	4.25	1566.2	346.6	161.2

Due to the dam breach and principal spillway structure washout, the remaining principal spillway conduits need to be removed and replaced. While the conduits and concrete inlet/outlet structures remain, they would be nearly impossible to backfill properly and would likely cause future problems related to settlement and

embankment voids. For that reason, it is my recommendation that the spillway system should be replaced with a more modern configuration to meet the requirements of the Administrative Rule and safely pass the 25-year event without overtopping. A more current spillway configuration with a drop riser and straight conduit is proposed to meet today's standards. See attached drawing Sheet 1 of 1 for an example of how the spillway alignment would be reconfigured on a plan and profile sheet. Three proposed spillway conduit/riser size configurations are shown below in Table 2 to replace the existing principal spillway structure using CMP pipe materials.

Table 2: Results of a 25-year, 24-hour storm event for different principal spillway structure

Storm Event	Peak Elevation at Dam (FT)			
	Existing Condition	48-inch Conduit / 72-inch Riser	54-inch Conduit / 78-inch Riser	60-inch Conduit / 84-inch Riser
25yr	1566.2	1565.5	1564.6	1564.2

While it is possible that a 36-inch diameter principal spillway conduit can also meet the hydraulic requirements of the Administrative Rules, a 48-inch conduit is the industry norm for readily allowing internal inspections by dam safety personnel, and the material cost savings to reduce the principal spillway size would be minimal.

There are several reasons why this proposed/updated configuration is recommended for this repair. The reasons are listed below:

1. USDA-NRCS has long been the federal agency with the most experience in the design of small, earthen dams. And while alternative spillway configurations exist, the vast majority of their dams are designed with a riser/spillway conduit configuration. USDA-NRCS' [Technical Release \(TR\) 210-60 Earth Dams and Reservoirs](#) is a 2019 update of their design guidance for such dams. In this document, NRCS states the value of the inclusion of risers in the spillway configuration beginning on Page 6-2. The justification is largely related to improved hydraulics.
2. The proposed configuration allows for the installation of a low-level drawdown pipe. A drawdown pipe allows for the lowering of the reservoir to a level lower than the permanent pool elevation. This is an invaluable tool for maintenance activities on the dam, work in the reservoir and for habitat enhancement. While a drawdown may or may not be incorporated into this project due to available funds, it can be added in the future should SDGFP desire as such. A drawdown pipe also allows for the passage of downstream flows to meet the requirements of water rights or water needed downstream for other reasons.
3. With the level top of the riser, accompanied by either a riser cover or combination anti-vortex/trash rack configuration (proposed), the spillway has a reduced change of clogging and functioning when debris/blockage is present than the current configuration, which is likely why the dam failed in the 2019 event.
4. Regarding hydraulics, the stage-discharge data compiled for the proposed modification has been added to the same information for the existing configuration previously shown in Figure 1 above. Figure 2 below shows how, in the riser configuration, the transition from weir to orifice to culvert flow happens more efficiently than an orifice to culvert flow transition that the current configuration.

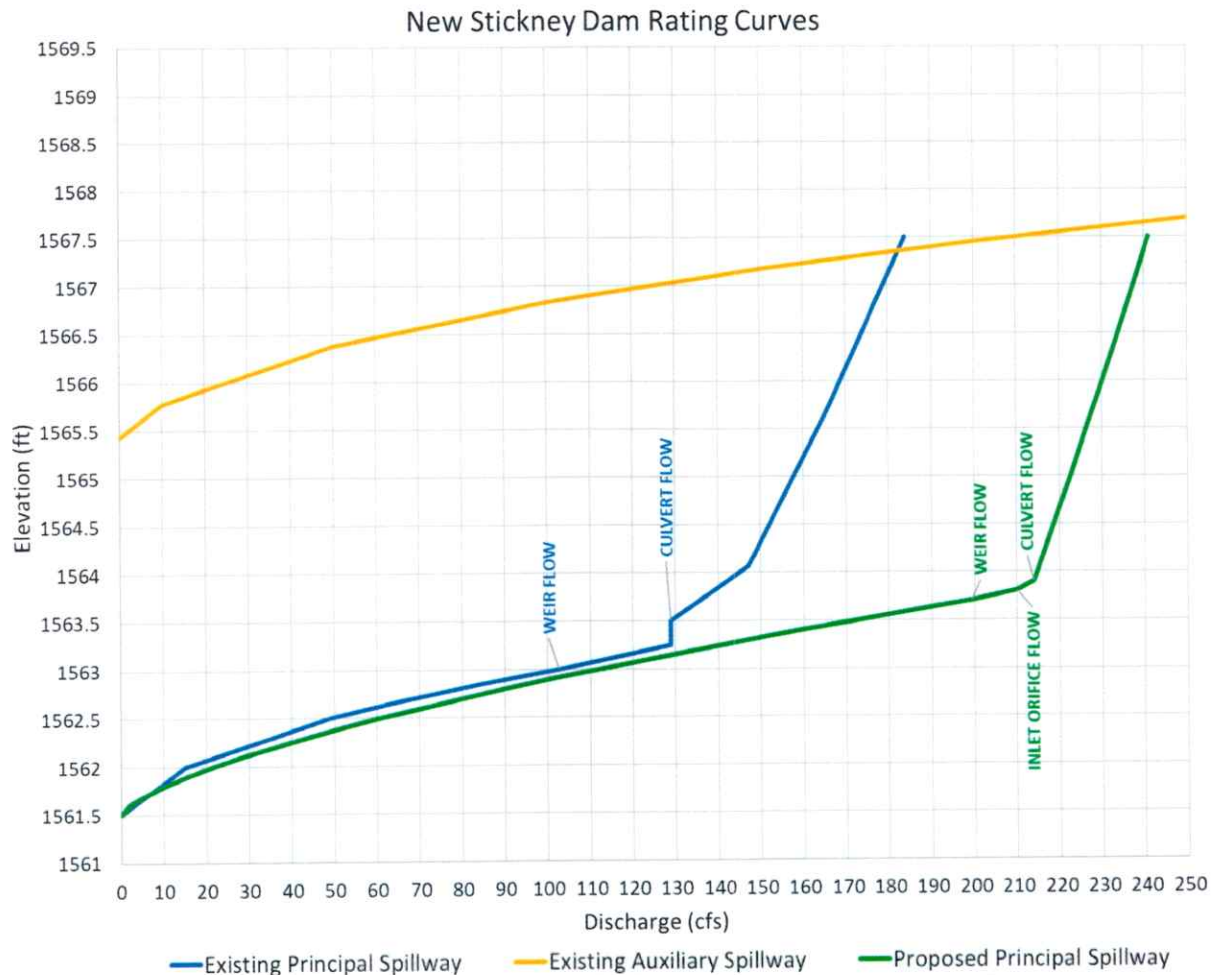


Figure 2: Existing and Proposed Principal Spillway and Existing Auxiliary Spillway Stage-Discharge curves.

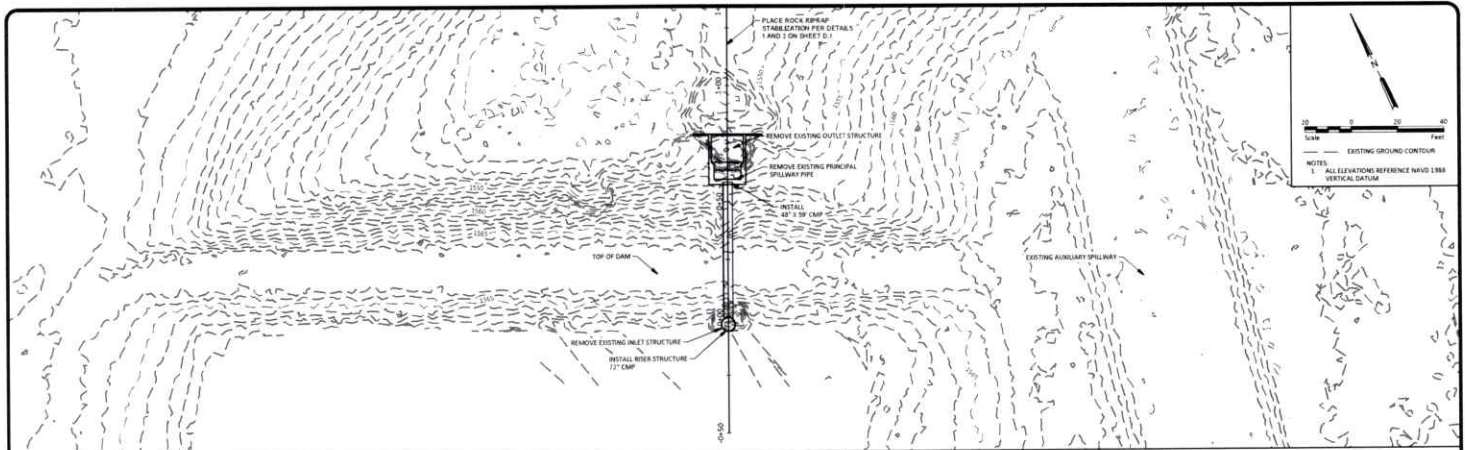
The existing energy dissipation basin at the end of the PC conduits is essentially a short, depressed culvert end wall. The damage downstream of this current structure is minimal, and therefore it can be assumed that the basin is doing what was intended. An assessment was made to try and fit a more updated design into the existing configuration. An armored plunge pool constructed of rock riprap was assessed, but due to the length of the basin (as calculated from available design guidance), it would not fit within the existing dam footprint. This would cause project delays from the USACE 404 and FEMA EHP permitting routines, and therefore, another solution was investigated. A USBR Type-VI Stilling basin was sized and will fit within the available profile. See attached Sheet 1. This basin is the industry standard for high velocity conduit energy dissipation but may come at a higher cost than desired for this structure. The proposed spillway configuration does not cause adverse impacts either upstream or downstream of the project and fits entirely within the existing dam footprint.

PROBABLE COSTS

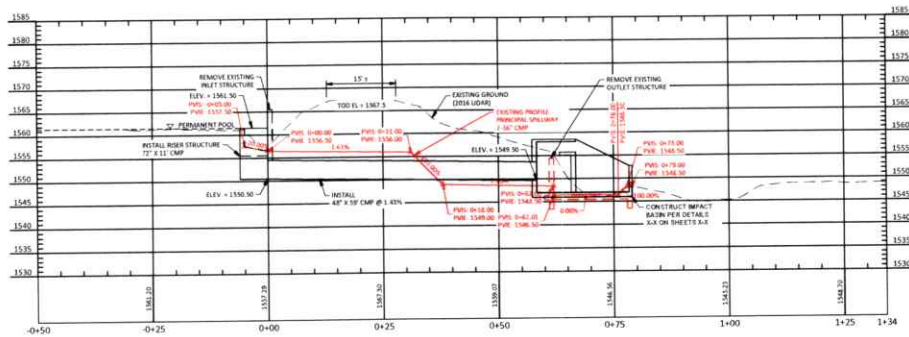
A cost summary table has been prepared for 48-inch conduit/72-inch riser alternative described above and shown in attached drawing Sheet 1 of 1.

48-inch PS Conduit and 72-inch Riser Tower

SUMMARY TABLE OF QUANTITIES				
ITEM	Unit	Total	Unit Cost	Extension
MOBILIZATION	LS	1	\$15,000.00	\$15,000.00
CLEARING AND GRUBBING	LS	1	\$4,500.00	\$4,500.00
SEDIMENT AND EROSION CONTROL	LS	1	\$4,500.00	\$4,500.00
HANDLING OF WATER	LS	1	\$2,250.00	\$2,250.00
STRIP, STOCKPILE AND REPLACE TOPSOIL	SY	704	\$20.00	\$14,080.00
EXCAVATE, STOCKPILE AND REPLACE DAM EMBANKMENT	CY	1800	\$15.00	\$27,000.00
PS PIPE REMOVAL/DISPOSAL	LF	124	\$40.00	\$4,960.00
PS RISER AND DRAWDOWN REMOVAL/DISPOSAL	EA	1	\$2,700.00	\$2,700.00
72" DIAMETER CMP, 12'-0" TALL RISER WITH 48" PIPE TEE	EA	1	\$13,500.00	\$13,500.00
DEBRIS RACK FOR 72" DIAMETER RISER WITH ANTI-VORTEX	EA	1	\$7,500.00	\$7,500.00
48" DIAMETER CMP PRINCIPAL SPILLWAY PIPE	LF	70	\$450.00	\$31,500.00
CONCRETE FOR RISER BASE	CY	2.4	\$1,350.00	\$3,240.00
STEEL REINFORCING BARS FOR RISER PAD	LBS	80	\$15.00	\$1,200.00
GROUTED ROCK RIPRAP	TN	18	\$300.00	\$5,400.00
CLASS "B" RIPRAP	TN	20	\$165.00	\$3,300.00
DIAPHRAGM FILTER AGGREGATE	TN	56	\$105.00	\$5,880.00
GEOTEXTILE FILTER FABRIC	SY	116	\$9.00	\$1,044.00
6" SOLID WALL PVC DIAPHRAGM FILTER DRAIN PIPE	LF	32	\$55.00	\$1,760.00
6" SLOTTED WALL PVC DIAPHRAGM FILTER DRAIN PIPE	LF	20	\$55.00	\$1,100.00
SEEDING	AC	1.0	\$4,500.00	\$4,500.00
CONCRETE FOR IMPACT BASIN	CY	40.2	\$1,350.00	\$54,270.00
STEEL REINFORCING BARS FOR IMPACT BASIN	LBS	6051.2	\$5.00	\$30,256.00
			Subtotal:	\$239,440.00
			Contingencies @ 25%	\$59,860.00
			Total	\$299,300.00



PLAN VIEW



PROFILE VIEW

			PRELIMINARY NOT FOR CONSTRUCTION		HOUSTON engineering, inc.	Drawn by CJJ Date 2-27-2023		NEW STICKNEY DAM REPAIR - PHASE 1 SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS AURORA COUNTY, SD		PLAN AND PROFILE NEW STICKNEY DAM PROJECT NO. 10016-0011		SHEET 1 OF 1
No.	Revision		Date	By		Checked by	Scale					
						MKS	AS SHOWN					

PHOTOGRAPH LOG





























**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8890-3, South Dakota Dept. of Game, Fish and Parks**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning Water Permit Application No. 8890-3, South Dakota Dept. of Game, Fish and Parks, 523 E Capitol Avenue, Pierre SD 57501.

The Chief Engineer is recommending APPROVAL of Application No. 8890-3 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 domestic water uses and water rights, 3) the proposed use is a beneficial use and 4) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board with the following qualifications:

1. Water Permit No. 8890-3 authorizes an impoundment with a storage capacity of 83 acre-feet of water at the normal pool elevation and sufficient water annually to maintain the water level to the primary outlet elevation of 1561.5 feet mean sea level (NAVD88).
2. After an annual fill to the primary outlet elevation is satisfied, no unlawful impairment of this Permit exists by a water permit/right holder placing water to beneficial use under their water permit/right with a junior priority date.
3. Low flows as needed for downstream domestic use, including livestock water must be by-passed.

See report on application for additional information.

Eric Gronlund, Chief Engineer
September 4, 2024

Report to the Chief Engineer
Water Permit No. 8890-3
SD Game, Fish, and Parks
September 4, 2024

Water Permit Application No. 8890-3 for South Dakota Department of Game, Fish, and Parks proposes to appropriate sufficient runoff annually from Enemy Creek to maintain the normal pool elevation at the primary spillway elevation of 1561.5 ft (NAVD88) of New Stickney dam, once reconstructed. The storage capacity of the reconstructed dam at normal pool (primary spillway elevation) is to be 83 acre-feet with the dam located near the center of the W ½ Section 22 and water impounded in the SW ¼ Section 22; all in T102N-R63W. Water will be used for recreation and fish and wildlife purposes. The site is located approximately 3.5 miles northeast of Stickney, SD in Aurora County.

New Stickney Dam was initially constructed by SD Game, Fish, and Parks in 1965 under Water Right No. 1216-3 (Water Rights, 2024b). On September 12, 2019, New Stickney Dam failed through the primary spillway during a heavy precipitation event on saturated ground that occurred September 11-12, 2019. It has been in excess of three years since the dam authorized by Water Right No. 1216-3 has been able to impound water. Pursuant to South Dakota Codified Law 46-5-37 and Administrative Rules of South Dakota 74:02:01:37, Water Right No. 1216-3 is subject to cancellation due to forfeiture. Therefore, a new water right permit is needed to reconstruct New Stickney Dam and place water to beneficial use.

Water Source: Enemy Creek

South Dakota Codified Laws (SDCL) and Administrative Rule of South Dakota (ARSD)

SDCL 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability there is unappropriated water available for the applicant's proposed use, the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, and the proposed use is a beneficial use and in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board. This report will address availability of unappropriated water and potential for unlawful impairment to existing rights that are pertinent to this application.

ARSD Chapter 74:02:08

Administrative Rule of South Dakota (ARSD) Chapter 74:02:08 provides the minimum design standards for dams above the heights and storages specified in ARSD 74:02:07:01(7). Construction may not begin on a new dam as defined by ARSD 74:02:07:01(7) until plans and specifications have been approved by the Chief Engineer and a water permit application, if needed, has been approved.

Review of the Water Source

Water Permit Application No. 8890-3 proposes to impound 83 acre-feet of water from runoff by constructing a dam on Enemy Creek in Aurora County. Enemy Creek is located within the James River basin with its headwaters in southeastern Aurora County near Stickney, SD. It flows in a generally eastern direction across Davison County with several unnamed tributaries discharging into the creek before it eventually confluences with the James River in Hansen County approximately 6.3 miles southeast of Mitchell, SD. The confluence of Enemy Creek and the James River is approximately 47.7 stream miles below New Stickney Dam (USGS, 2023). Hamilton (1985) describes streams in Aurora County as generally ephemeral, typically flowing only in late winter to early spring due to snow melt and as a result of intense thunderstorms in late spring and summer.

Water Availability

The watershed area above the dam location was estimated to be 5,926 acres or 9.26 square miles based on the 2016 LiDAR data for Aurora County (Houston Engineering, Inc). The watershed is shown in Figure 1. The soils in the watershed are primarily in hydrologic soil group C (USDA-NRCS, 2022). Land cover in the watershed is a mix of pasture/hay and cultivated crops (MRLC, 2022). Using fair hydrologic conditions, the curve number (or soil cover complex number) for pasture is 79 and for straight row crops in good hydrologic condition the curve number is 85 for soils in hydrologic soil group C (USDA-NRCS, 1986). The higher the curve number means greater runoff occurs when estimating average watershed runoff, and so a curve number of 79 will be used to yield a more conservative estimate of water availability.

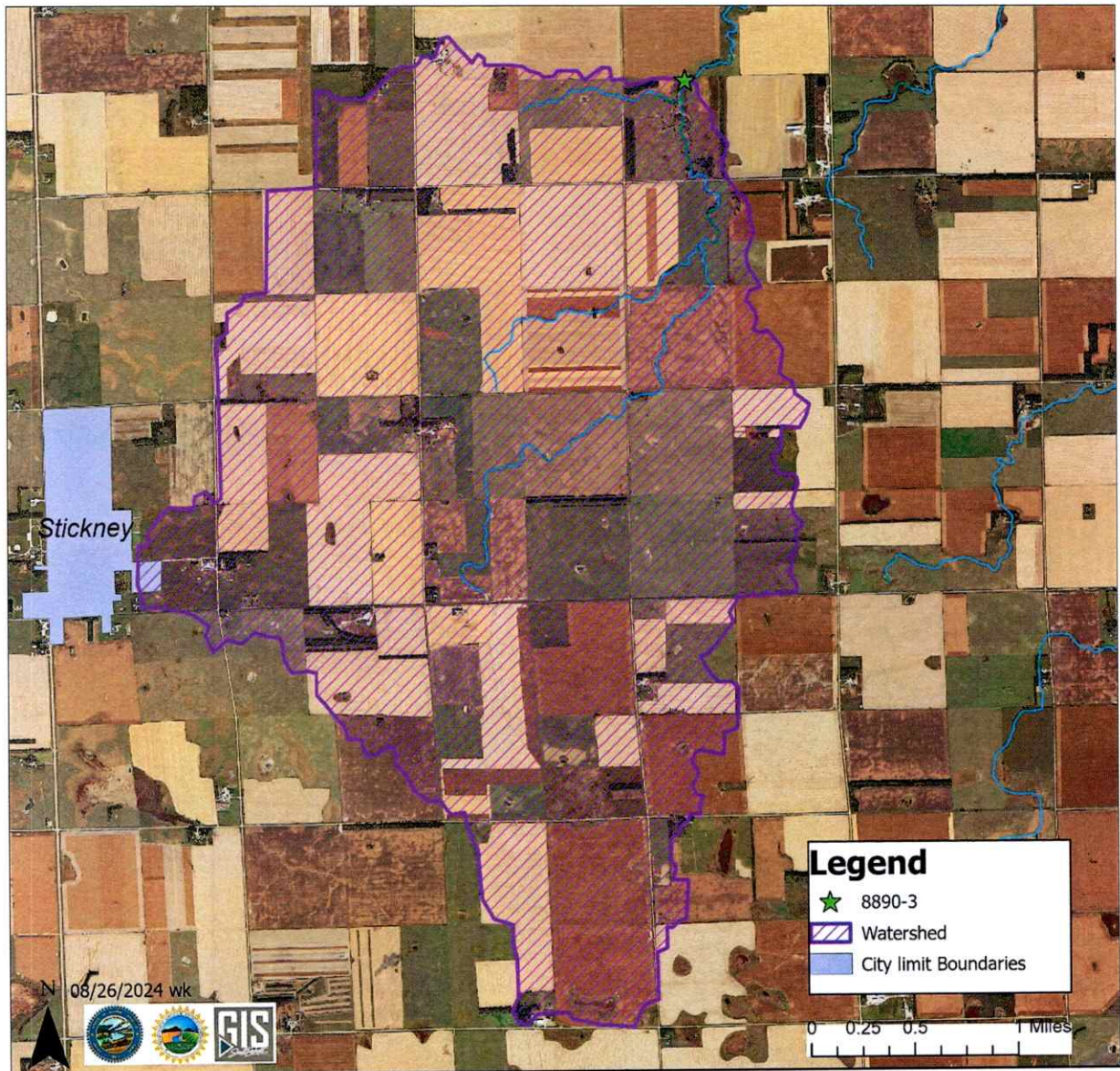


Figure 1: Area of watershed upstream of New Stickney dam (Houston Engineering Inc, 2023)

The NRCS annual surface yield method for South Dakota was used to estimate annual surface yield for the drainage area upstream of the proposed dam location (USDA-NRCS, 1984). This NRCS method estimates the volume of runoff which is expected to be exceeded for a twelve-month period at certain annual probabilities using contributing drainage area, soil cover complex number, and watershed location (USDA-NRCS, 1984). For example, the 80 percent exceedance estimate has an 80 percent chance of being exceeded each year. The annual surface yields for the drainage area at the percent chances of exceedance provided by the NRCS method are presented in Table 1.

To estimate the percent chance of occurrence of enough annual runoff to provide a full fill of the reservoir to the elevation of the primary spillway (normal storage, 83 acre-feet), the total runoff from Table 1 was plotted against probability of exceedance (showing in Figure 2) The plotted data

shows a very good correlation (the closer a r square value is to 1 the better the fit or correlation of the trendline to the data points) to a logarithmic trendline (shown on Figure 2). Solving the trendline for a volume of 83 acre-feet results in an estimated percent chance of annual exceedance of 83 percent to go from dry to full normal storage. Typically, a lesser amount of runoff will be needed since the dam will not be starting from a dry condition each year.

Percent Chance of Exceedance	Total Runoff (acre inches per acre)	Total Runoff (acre-feet)
80	0.3	148.2
50	0.72	355.6
20	1.9	938.3
10	2.9	1432.1

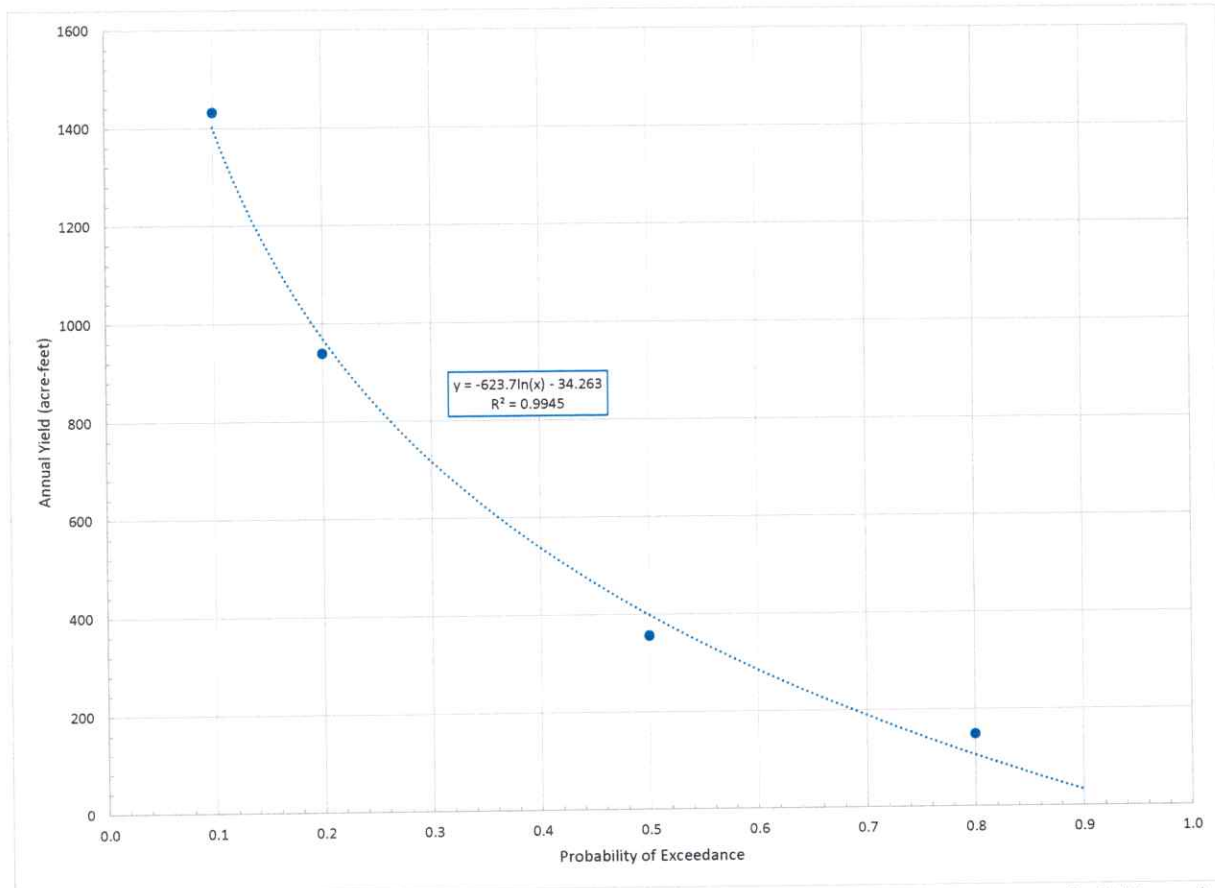


Figure 2: Plot of total runoff for the watershed above the proposed dam against probability of exceedance (note percent in Table 1 have been converted to decimal). Note this plot and trendline is only applicable for this specific watershed location and area.

Once filled, annual water losses from the reservoir will be likely due to evaporation, wildlife use, and seepage. Using data from 1956 to 1970, NOAA (1982) provided annual free water surface

evaporation data for the contiguous United States. Utilizing NOAA (1982), the estimated annual free water surface evaporation for the proposed dam site is 44 inches per year (approximately 3.7 ft per year). Average annual precipitation in the Mitchell, SD area (approximately 17 miles to the northeast of the proposed dam site) is 22.83 inches per year (1.9 feet) (US Climate Data, 2024). So net loss between direct precipitation and evaporation is 1.76 feet. Based on the reservoir information, estimated net loss between evaporation and direct precipitation at normal pool is approximately 23.8 acre-feet. Solving the trendline equation in Figure 2, results in an estimated percent chance of annual exceedance of 91 percent. Information is not available to estimate losses to seepage since losses to seepage from this dam have not been measured. However, dam inspections have not historically reported excessive seepage at this dam. Water loss to wildlife use of the reservoir is expected to be minimal compared to evaporation losses.

Based on the annual surface runoff yield estimates, the amount of runoff needed to fill the proposed reservoir to the primary spillway elevation from dry has an approximately 83 percent chance of exceedance annually. To put this into a frame of reference of a 10-year period, on average, enough annual runoff to fill the reservoir to normal storage from dry is estimated to occur about 8 years out of a 10-year period. Only looking at replenishing average evaporation losses, enough annual runoff to replenish evaporation loss is estimated to occur about 9 years out of a 10-year period. These estimates are not a guarantee of what will occur in any given 10-year period, but an on average, over time estimate.

The annual surface runoff yield estimates indicate there is a high probability of sufficient runoff occurring to support the request of this application. Only in extremely dry years, or extreme dry multiyear periods, would water availability be expected to be insufficient to provide the reservoir with a fill to normal pool.

Existing Users

There are no water rights/permits on Enemy Creek between the dam site and the James River (Water Rights, 2024a). Given this lack of water rights/permit, this application, if approved, is not expected to unlawfully impair existing appropriative users. There are several small dugouts instream or directly adjacent to the stream for domestic use downstream of the dam with the nearest located approximately 0.23 miles downstream (USDA, 2023; Water Rights, 2024d). Given the high chance of annual exceedance (91 percent), for sufficient runoff to occur to offset average evaporation losses, the impacts of repairing this dam on downstream users is expected to be minimal.

Additionally, this dam was in place from 1965 to 2019 without a history of complaints (Water Rights, 2024b and 2024c). Out of an abundance of caution, a low flow bypass requirement for downstream domestic use is recommended as a qualification. Historically, this dam has not had a low-level outlet to bypass low flows. The design for the reconstruction does not include a low-level outlet; however, the design for the primary spillway is conducive to the addition of a low-level outlet should one be needed long term to bypass low flows.

The relatively short distance between the proposed dam location and the confluence with another tributary, in addition to there being an 80% probability of annual watershed yield exceeding the requested dam storage, indicates that this application, if approved, would not be expected to unlawfully impair downstream domestic users.

Review of the Proposed Dam

The reconstruction of the dam was designed by Houston Engineering, Inc. The reconstruction is designed to match the normal, intermediate, and maximum pool elevations of the original structure. Key parameters of the dam are summarized in Table 2. The dam is designed to have a height of 18 feet and a maximum (top of dam) storage of 177 acre-feet. The results in a size classification of small based on the maximum storage per ARSD 74:02:08:06.

Parameter	Value	Unit	Comments
Height	18	feet	Water Rights, 2024b
Dam crest length	370	feet	Houston Engineering, Inc. 2023
Elevation primary spillway crest	1561.5	feet, NAVD88	Houston Engineering, Inc. 2023
Normal Storage	83	acre-feet	Water Rights, 2024b
Elevation Auxiliary Spillway	1565.4	feet, NAVD88	Houston Engineering, Inc. 2023
Intermediate Storage	125	acre-feet	Water Rights, 2024b
Elevation top of dam	1567.5	feet, NAVD88	Houston Engineering, Inc. 2023
Maximum storage	177	acre-feet	Water Rights, 2024b

Dams to which the South Dakota Safety of Dams Rules apply are defined in ARSD 74:02:07:01(7) as “ an artificial barrier, including appurtenant works, which impounds or diverts water and which is 25 feet or more in height from the natural bed of the stream or watercourse measured at the downstream toe of the barrier or from the lowest elevation of the outside limit of the barrier, if it is not across a stream channel or watercourse, to the maximum water storage elevation or has an impounding capacity at maximum water storage elevation of 50 acre-feet or more. A barrier is not considered a dam for the purpose of this chapter if the height does not exceed 6 feet regardless of storage capacity or if the storage capacity at maximum water storage elevation does not exceed 15 acre-feet regardless of height.” Since the height of the dam to be reconstructed exceeds 6 feet and the maximum storage exceeds 50 acre-feet, the South Dakota Safety of Dams Rules will continue to apply to this structure based on the reconstruction design information submitted with the application.

Based on the provided dam height, dam storage, and level of development in the area downstream of the dam site from a review of the 2023 NAIP imagery, the downstream hazard classification for this dam is category 3 or low hazard (USDA, 2023). Once reconstructed the dam will continue to be classified as a small sized, category 3 dam under the ARSD Chapter 74:02:08 Safety of Dams rules. A category 3 dam is defined as a low hazard dam whose failure may cause limited damage to agricultural lands or county and township roads or minimum economic loss.

Since this is a category 3 dam that has failed and is being reconstructed, the reconstructed dam must comply with the minimum spillway requirements of ARSD 74:02:08:07. Pursuant to

ARSD 74:02:08:07 and ARSD 74:02:08:07.1, this dam must have the hydraulic capacity to pass at minimum a design flood of a 25-year, 24-hour storm unless the owner can provide information and justification to show that the design flow can be stored, passed through, or passed over the dam without failure of the dam. Houston Engineering, Inc. (2023) used HEC-HMS modeling to estimate a peak inflow into the reservoir of 346.6 cubic feet per second (cfs) during the 25-year, 24-hour storm using a rainfall of 4.25 inches from the National Oceanic and Atmospheric Administration's (NOAA) Atlas 14. The runoff information from Houston Engineering, Inc. (2023) was accepted since the watershed was delineated using LiDAR derived elevation data and HEC-HMS modeling tends to be more watershed specific and detailed than the more generalized estimate from USGS Streamstats. Houston Engineering, Inc. (2023) provided the spillway rating curves for the existing and reconstructed primary spillway designs shown in Figure 3. Figure 3 indicates that between the primary and auxiliary earthen spillway the reconstructed dam is expected to have sufficient spillway capacity to meet minimum South Dakota design standards.

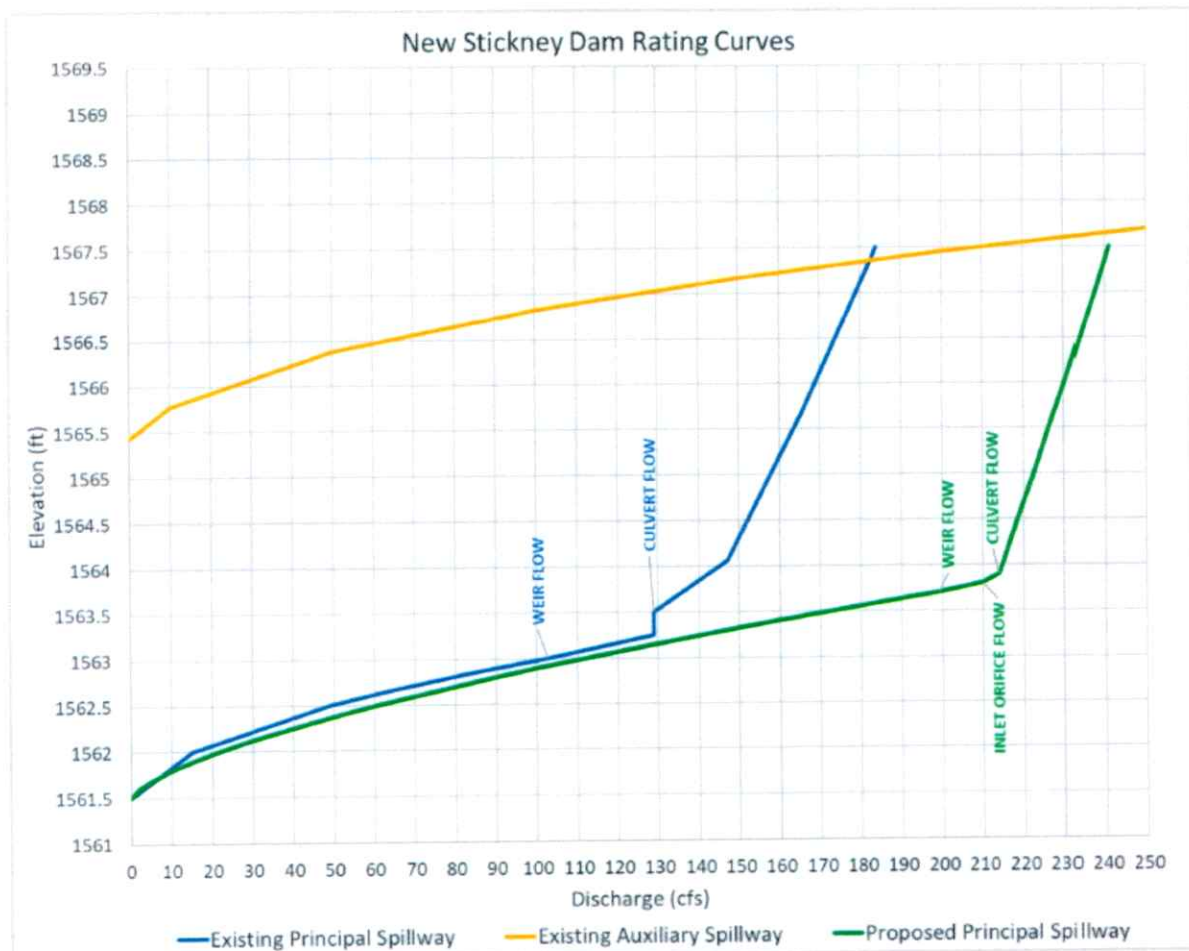


Figure 3: Existing and proposed primary spillway and auxiliary spillway design curves (Houston Engineering, Inc., 2023). Note there is no combine rating curve, so discharge for the principal (primary) and auxiliary spillways must be added to get total discharge at a given elevation.

Conclusions

1. Water Permit Application No. 8890-3 proposes to impound 83 acre-feet of water from runoff by constructing a dam on an Enemy Creek located near the center of the W ½ Section 22 with water impounded in the SW ¼ Section 22; all in T102N-R63W for recreation and fish and wildlife propagation.
2. The annual surface runoff yield estimates indicated that on average sufficient water is expected to be available for the project.
3. Approval of this application is not expected to unlawfully impair existing water rights/permits or domestic users.
4. If the application is approved, a low flow bypass requirement for downstream domestic use is recommended as a qualification.
5. The design for dam reconstruction meets the minimum design requirements of ARSD Chapter 74:02:08 Safety of Dams.



Whitney Kilts
SDDANR-Water Rights Program

References

- Hamilton, L.J. 1985. Geology and Water Resources of Aurora and Jerauld Counties, South Dakota, Water-Resources Investigation Report 84-4030. United States Geologic Survey, Huron, SD.
- Houston Engineering, Inc. 2023. Technical Memorandum: New Stickney Dam.
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Water Rights. 2024a. Water Right/Permit Files. SD DANR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.

Water Rights, 2024b. Safety of Dams Files. SD DANR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.

Water Rights, 2024c. County Complaint Files. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

Water Rights. 2022d. Location Notices. SD DANR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

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

September 9, 2024

South Dakota Game, Fish and Parks
c/o James Gilkerson
523 E Capitol Avenue
Pierre SD 57501

Dear Mr. Gilkerson:

Water Permit Application No. 8890-3 for recreation, and fish and wildlife use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the South Dakota Mail printed in Plankinton SD (Ph # 605 942-7770) and the Plainsman printed in Huron SD (Ph # 605 353-7414). You will need to contact the newspapers and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and 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 newspapers to authorize publication of your Notice and to arrange for payment. Early contact with the papers can eliminate delays. Upon receiving authorization from you, the publishers have been instructed to publish your notice. The newspapers have also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Rachel Rodriguez

Rachel Rodriguez
Water Rights Program
(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.

Instruction to Newspaper - Publish the Notice on September 19, 2024. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 8890-3 to Appropriate Water

Notice is given that South Dakota Game, Fish and Parks, 523 E Capitol Avenue, Pierre SD 57501 has filed an application for a water permit to appropriate sufficient runoff annually from Enemy Creek to maintain the water level to a normal pool elevation of 1561.5 feet mean sea level (NAVD88) at the primary spillway outlet in New Stickney Dam. The reconstructed dam (83 acre-feet storage capacity at the normal pool elevation) is to be located near the center of the W 1/2 Section 22 with water impounded in the SW 1/4 Section 22; all in T102N-R63W. Water is to be used for recreation, and fish and wildlife purposes. This site is located approximately three and one half miles northeast of Stickney SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8890-3 with qualifications because 1) unappropriated water is available, 2) existing domestic water uses and water rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest as it pertains to matters within the regulatory authority of the Water Management Board. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <https://danr.sd.gov/public> or contact Ron Duvall for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing this application or recommendation shall allege that the application, upon approval, will cause injury to the person that is unique from any injury suffered by the public in general. The injury must concern a matter either within the regulatory authority found in SDCL 46-2A-9 for approval or denial of the application, or other matter concerning the application within the regulatory authority of the board to act upon as defined by SDCL 46-2-9 and 46-2-11, or both. Any person meeting the petitioner requirements and wishing to be a party of record in a contested case hearing shall file a written petition to oppose the application with BOTH the applicant and Chief Engineer. A petition opposing the application shall be filed on a form provided by the Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Chief Engineer. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501" or call (605) 773-3352. The applicant's mailing address is given above. If contesting the Chief Engineer's recommendation, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by September 30, 2024.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by September 30, 2024.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. 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 this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Published once at the total approximate cost of_

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Monday, September 9, 2024 9:19 AM
To: sdmail@siouxvalley.net
Subject: 8890-3 SD Game, Fish & Parks - Public Notice
Attachments: 8890-3 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on September 19, 2024.

South Dakota Game, Fish and Parks, 523 E Capitol Avenue, Pierre SD 57501, 605-773-4521, has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol Ave, Pierre SD 57501.

Let me know if you have questions. **Please acknowledge receipt of this email.**

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Monday, September 9, 2024 9:22 AM
To: Ruby Crandall
Subject: 8890-3 SD Game, Fish & Parks - Public Notice
Attachments: 8890-3 Plainsman public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on September 18, 2024.

South Dakota Game, Fish and Parks, 523 E Capitol Avenue, Pierre SD 57501, 605-773-4521, has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol Ave, Pierre SD 57501.

Let me know if you have questions. **Please acknowledge receipt of this email.**

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA)

SS

COUNTY OF AURORA)

J.P. Studeny, Jr.

of said County and State, being first duly sworn, on his/her oath says:

THE SOUTH DAKOTA MAIL is a weekly newspaper of general circulation, printed and published in Plankinton, in Aurora County and State of South Dakota by John Paul Studeny, Jr. and Gayle A. Van Genderen and has been such newspaper during the times hereinafter mentioned; that the said newspaper is a legal newspaper, that it has a bonafide circulation of more than 200 copies weekly, that it has been published within said county of Aurora in the English language for more than fifty-two successive weeks next prior to the publication of the notice hereinafter mentioned, and has been printed during said period and at the present time, in whole or in part in an office maintained at the said place of publication; and that I, the undersigned, am

Publisher

of said newspaper, in charge of the advertising department thereof, and have personal knowledge of all the facts in this affidavit; that the advertisement headed

Notice of Application No. 8890-3
to Appropriate Water

a printed copy of which is hereto attached, was printed and published in the said newspaper for One week; that said notice was published in the issues of said newspaper on the dates as follows, to-wit:

The first publication being made on September 19, 2024;
the second publication on _____, 20____;
the third publication on _____, 20____;
the fourth publication on _____, 20____;
and subsequent publications on _____, 20____;

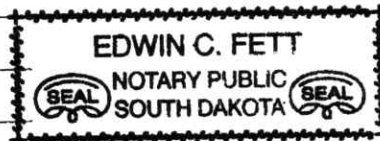
that \$ 60³⁶, the full amount of the fee charged for publication of the annexed notice, insures solely to the benefit of the publishers of the said newspaper; that no arrangement or understanding for a division thereof has been made with any person, and that no part thereof has been agreed to be paid to be any person whomsoever.

subscribed and sworn to before me this 20th

day of September, 2024.

Notary Public, Aurora

My Commission Expires 6/27/30



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APPLICATION
NO. 8890-3 to
Appropriate Water**

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(Published once at the total approximate cost of \$60.38.)

Proof Of Publication

Huron Plainsman
49 3rd Street SE
Huron, SD 57350
605-353-7402
Legal Notice Number: 2762

I, Kim Davis, being duly sworn on oath say that the Plainsman is a daily paper published at Huron, Beadle County South Dakota, and that said newspaper has a bona fide circulation of at least 250 copies daily; that said newspaper has been published within said county for fifty-two consecutive weeks immediately prior to this date, that said newspaper is printed in whole or in part, in an office maintained at said place of publication; that I am a Legal Advertising Coordinator of said newspaper and know that facts herein state. The annexed notice headed: SD Game Fish & Parks – Notice of Application was published for one day, in said newspaper and not in any supplement of the said newspaper; the publication was on 09/18/2024. That the full amount of the fee charged for the \$46.89 to be paid to any person whom so ever.

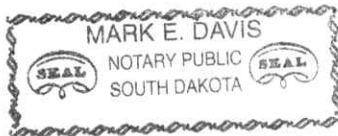


Subscribed and sworn to me before this date 9/18/24.



Notary Public, South Dakota

My Term Expires 12/27/2024



RECEIVED

SEP 20 2024

OFFICE OF
WATER

F. P. 09-18-24

**NOTICE OF
APPLICATION
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Appropriate Water

Notice is given that South Dakota Game, Fish and Parks, 523 E Capitol Avenue, Pierre SD 57501 has filed an application for a water permit to appropriate sufficient runoff annually from Enemy Creek to maintain the water level to a normal pool elevation of 1561.5 feet mean sea level (NAVD88) at the primary spillway outlet in New Stickney Dam. The reconstructed dam (83 acre-feet storage capacity at the normal pool elevation) is to be located near the center of the W 1/2 Section 22 with water impounded in the SW 1/4 Section 22; all in T102N-R63W. Water is to be used for recreation, and fish and wildlife purposes. This site is located approximately three and one half miles northeast of Stickney SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8890-3 with qualifications because 1) unappropriated water is available, 2) existing domestic water uses and water rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest as it pertains to matters within the regulatory authority of the Water Management Board. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <https://danr.sd.gov/public> or contact Ron Duvall for

this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing this application or recommendation shall allege that the application, upon approval, will cause injury to the person that is unique from any injury suffered by the public in general. The injury must concern a matter either within the regulatory authority found in SDCL 46-2A-9 for approval or denial of the application, or other matter concerning the application within the regulatory authority of the board to act upon as defined by SDCL 46-2-9 and 46-2-11, or both. Any person meeting the petitioner requirements and wishing to be a party of record in a contested case hearing shall file a written petition to oppose the application with BOTH the applicant and Chief Engineer. A petition opposing the application shall be filed on a form provided by the Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Chief Engineer. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501" or call (605) 773-3352. The applicant's mailing address is given above. If contesting the Chief Engineer's recommendation, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by September 30, 2024.

The petition shall include a statement describing the unique

injury upon approval of the application on the petition, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by September 30, 2024.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. 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 this application. Notice of the hearing will be given to the applicant and any person filing a petition.

No. 2762 (adv.)

Published once at the total approximate cost of \$46.89 and may be viewed free of charge at www.sdpublicnotices.com.

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Monday, September 9, 2024 9:31 AM
To: Gilkerson, James
Subject: 8890-3 SD Game, Fish & Parks - Public Notice
Attachments: 8890-3 Rec.pdf; 8890-3 Ltr.pdf; 8890-3_PubNotice.pdf

Good morning,

Attached is a copy of the report, chief engineer's recommendation, and information regarding the public notice for your water permit application. As stated in the letter, **please contact the paper(s) as soon as possible to authorize publication and arrange for payment.** This information is also being inter-office mailed to you today.

Let me know if you have questions. Please acknowledge receipt of this email.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

OCT 25 2024

South Dakota Game, Fish and Parks
c/o James Gilkerson
523 East Capitol Avenue
Pierre SD 57501

Dear Mr. Gilkerson:

Enclosed is Water Permit No. 8890-3 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

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

Sincerely,

Eric Gronlund, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

**Affidavit of Public Notice
Posting on DANR Website**

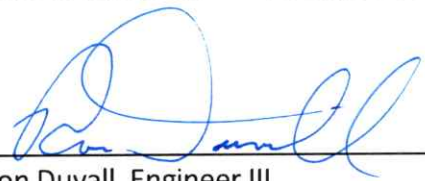
Pursuant to SDCL § 46-2A-4, public notice of the following application was posted on the DANR web site at <https://danr.sd.gov/public>. The posted public notice is the same notice as published in the pertinent newspaper(s) and a copy of the public notice is maintained in the application file. If the application is contested, the posting is moved to the DANR contested case website at <https://danr.sd.gov/public/ContestedCase.aspx> until final action is taken on the application pursuant to SDCL § 46-2A-4.

Application No.: 8890-3

Name of Applicant: South Dakota Dept. of Game, Fish & Parks, c/o James Gilkerson

Date of Posting: 9/17/2024

Date of Removal: 10/25/2024



Ron Duvall, Engineer III

10/25/2024

Date

Subscribed and sworn to before me, a notary public, this 25th day of Oct, 2024.



Notary Public - South Dakota
My commission expires May 16, 2029



(SEAL)