

Outdoor Heritage Fund Grant Application

Buffalo Lodge Lake Outlet

McHenry County Water Resource District



Includes:

- Outdoor Heritage Fund Grant Application
- Budget Standard Form
- 90% Complete Construction Drawings

Outdoor Heritage Fund Grant Application



The purpose of the North Dakota Outdoor Heritage Fund is to provide funding to state agencies, tribal governments, political subdivisions, and nonprofit organizations, with higher priority given to projects that enhance conservation practices in this state by:

Directive A. Providing access to private and public lands for sportsmen, including projects that create fish and wildlife habitat and provide access for sportsmen;

Directive B. Improving, maintaining and restoring water quality, soil conditions, plant diversity, animal systems and by supporting other practices of stewardship to enhance farming and ranching;

Directive C. Developing, enhancing, conserving and restoring wildlife and fish habitat on private and public lands; and

Directive D. Conserving natural areas and creating other areas for recreation through the establishment and development of parks and other recreation areas.

Exemptions

Outdoor Heritage Fund grants may not be used to finance the following:

- A. Litigation;
- B. Lobbying activities;
- C. Any activity that would interfere, disrupt, or prevent activities associated with surface coal mining operations; sand, gravel, or scoria extraction activities; oil and gas operations; or other energy facility or infrastructure development;
- D. The acquisition of land or to encumber any land for a term longer than twenty years; or
- E. Projects outside this state or projects that are beyond the scope of defined activities that fulfill the purposes of Chapter 54-17.8 of the North Dakota Century Code.

NO CONSIDERATION:

In addition to those specific items in law that are ineligible for funding, in the absence of a finding of exceptional circumstances by the Industrial Commission, the following projects will NOT receive consideration for funding:

- A completed project or project commenced before the grant application is submitted;
- A feasibility or research study;
- Maintenance costs;
- A paving project for a road or parking lot;
- A swimming pool or aquatic park;
- Personal property that is not affixed to the land;
- Playground equipment, except that grant funds may be provided for up to 25% of the cost of the equipment not exceeding \$10,000 per project and all playground equipment grants may not exceed 5% of the total grants per year (see Budget Form for how this will be calculated);
- Staffing or outside consultants except for costs for staffing or an outside consultant to design and implement an approved project based on the documented need of the applicant and the expenditures may not exceed 5% of the grant to a grantee if the grant exceeds \$250,000 and expenditures may not exceed 10% of the grant to a grantee if the grant is \$250,000 or less (see Budget Form for how this will be calculated);

- A building except for a building that is included as part of a comprehensive conservation plan for a new or expanded recreational project (see Budget Form for definition of comprehensive conservation plan and new or expanded recreational project); or
- A project in which the applicant is not directly involved in the execution and completion of the project.

Application Deadline

Applications for this grant round cycle are due on **March 1, 2016 at 5:00 p.m. CT**. All information, including attachments, must be submitted by that date. See instructions below for submission information.

Instructions

Please download this Word document (available on the Industrial Commission/Outdoor Heritage Fund Program website at <http://www.nd.gov/ndic/outdoor-infopage.htm>) to your computer and provide the information as requested. You are not limited to the spacing provided except in those instances where there is a limit on the number of words. After completing the application, save it and attach it to an e-mail and send it to outdoorheritage@nd.gov or print it and mail it to the address noted in the next paragraph.

Attachments in support of your application may be sent by mail to North Dakota Industrial Commission, ATTN: Outdoor Heritage Fund Program, State Capitol – Fourteenth Floor, 600 East Boulevard Ave. Dept. 405, Bismarck, ND 58505 or by e-mail to outdoorheritage@nd.gov. The application and all attachments must be received or postmarked by the application deadline. You will be sent a confirmation by e-mail of receipt of your application.

You may submit your application at any time prior to the application deadline. Early submission is appreciated and encouraged to allow adequate time to review your application and ensure that all required information has been included. Incomplete applications may not be considered for funding. Any item noted with an * is required.

Oral Presentation. Please note that you will be given an opportunity to make a ten-minute Oral Presentation at a meeting of the Outdoor Heritage Fund Advisory Board. These presentations are strongly encouraged.

Open Record. Please note that your application and any attachments will be open records as defined by law and will be posted on the Industrial Commission/Outdoor Heritage Fund website.

Name of Organization *McHenry County Water Resource District*

Federal Tax ID# * *45-0368910*

Contact Person/Title *Mr. David Ashely, Chairman, McHenry County Water Resource District*
Ms. Lorinda Haman, Secretary, McHenry County Water Resource District

Address * *P.O Box 284*

City * *Towner*

State * *North Dakota*

Zip Code * *58788*

E-mail Address * *dwashley56@gmail.com*
mchenrywr@gmail.com

Web Site Address (Optional)

Phone * *Ashley (701)-626-1566*
Haman (701)-626-1512

Fax # (if available)

List names of co-applicants if this is a joint proposal

MAJOR Directive: (select the Directive that best describes your grant request)*

Choose only one response

Directive A. Providing access to private and public lands for sportsmen, including projects that create fish and wildlife habitat and provide access for sportsmen;

Directive B. Improving, maintaining and restoring water quality, soil conditions, plant diversity, animal systems and by supporting other practices of stewardship to enhance farming and ranching;

Directive C. Developing, enhancing, conserving and restoring wildlife and fish habitat on private and public lands; and

Directive D. Conserving natural areas and creating other areas for recreation through the establishment and development of parks and other recreation areas.

Additional Directive: (select the directives that also apply to the grant application purpose)*

Choose all that apply

Directive A. Providing access to private and public lands for sportsmen, including projects that create fish and wildlife habitat and provide access for sportsmen;

Directive B. Improving, maintaining and restoring water quality, soil conditions, plant diversity, animal systems and by supporting other practices of stewardship to enhance farming and ranching;

Directive C. Developing, enhancing, conserving and restoring wildlife and fish habitat on private and public lands; and

Directive D. Conserving natural areas and creating other areas for recreation through the establishment and development of parks and other recreation areas.

Type of organization: (select the category that describes your organization)*

State Agency

Political Subdivision

Tribal Entity

Tax-exempt, nonprofit corporation.

Project Name: *Buffalo Lodge Lake Outlet*

Abstract/Executive Summary. An Executive Summary of the project stating its objectives, expected results, duration, total project costs and participants.* (no more than 500 words)

Buffalo Lodge Lake is a 1395 acre water body that is a valuable recreational resource for McHenry County. This lake hosts a county park and several dozen private cabins on its lake shore. Buffalo Lodge Lake is a valuable fishery in which anglers could expect to catch Northern Pike, Walleye, and Yellow Perch. The North Dakota Game and Fish Department has stocked the lake with walleye fingerlings nine of the last 10 years.

The water elevation of Buffalo Lodge Lake is controlled by a legacy structure of unknown origin and age. The existing outlet structure is a 10 foot timber bridge with a 10 foot wide timber overflow weir and a 36-inch corrugated metal pipe installed at an elevation 2-feet lower than the weir. A minimum maintenance township road acts as the dam embankment.

The McHenry County Water Resource District (MCWRD) is planning to replace this aging timber structure and remove the corrugated metal pipe to stabilize the lake pool and provide a resilient outlet from the lake. The MCWRD has developed 90% complete engineered plans for the replacement of this structure.

The proposed outlet structure consists of a double 12-foot by 7-foot concrete box culvert with an overflow weir at elevation at the current weir elevation (1482). Within the overflow weir will be a 5-foot by 2-foot weir gate capable of adjusting the management elevation of the lake to the current low flow elevation or to the current overflow elevation. The proposed rehabilitation does not include replacement of the roadway embankment, but since outlet structure was sized to pass the 100-year

flood event without threatening the existing permanent structures along the lakeshore, modifications to the roadway will not increase the flood risk to upstream property owners.

If funding becomes available, the construction of the outlet structure is planned for September and October 2016. The total project cost is estimated to be \$375,755.

Project Duration:*

Construction of the outlet structure will occur during September and October 2016. The benefits of the resilient outlet structure will extend many decades into the future.

Amount of Grant request \$ * 281,800

This request represents 75% of the total project cost. The MCWRD has also submitted a cost share request in the amount of \$133,800 to the ND State Water Commission. If the NDSWC awards funding to the MCWRD, the MCWRD requests will be reduced by the same amount.

Total Project Costs \$* 375,755

(Note that in-kind and indirect costs can be used for matching funds)

A minimum of 25% Match Funding is required. Amount of Matching Funds \$* 93,955

Please indicate if the matching funds will be in-kind, indirect or cash.

Matching funds will be cash.

Source(s) of Matching Funds*

Please provide verification that these matching funds are available for your project. Note that effective as of July 1, 2015 no State General Fund dollars can be used for a match unless funding was legislatively appropriated for that purpose.

The McHenry County Water Resource District is funded based from the McHenry County property taxes.

Certifications *

X I certify that this application has been made with the support of the governing body and chief executive of my organization.

X I certify that if awarded grant funding none of the funding will be used for any of the exemptions noted on Page 1 of this application.

Narrative

Organization Information – Briefly summarize your organization’s history, mission, current programs and activities. *

Include an overview of your organizational structure, including board, staff and volunteer involvement. (no more than 300 words)

The McHenry County Water Resource District is the local political subdivision that coordinates comprehensive management of water resources in McHenry County.

Pursuant to Chapter 61-16 of the North Dakota Century Code, McHenry County created the McHenry County Water Resource District. The McHenry County Water Resource District Board consists of 5 members appointed by the McHenry County Commission.

Purpose of Grant – Describe the proposed project identifying how the project will meet the specific directive(s) of the Outdoor Heritage Fund Program *

Identify project goals, strategies and benefits and your timetable for implementation. Include information about the need for the project and whether there is urgency for funding. Please indicate if this is a new project or if it is replacing funding that is no longer available to your organization. Identify any innovative features or processes of your project. If your project includes tree/shrub/grass planting, please provide a planting plan describing the site design, planting methods, number of trees/shrubs by species and stock size, grass species and future maintenance. A statement certifying that the applicant will adhere to USDA-NRCS tree/shrub/grass planting specifications along with the name of the governmental entity designing the planting may be substituted for a planting plan. If your project includes Section 319 program funding, please provide, in detail, the specific best management practices that will be implemented and the specific projects for which you are seeking funding. Please note that if your proposal provides funding to an individual, the names of the recipients must be reported to the Industrial Commission/Outdoor Heritage Fund. These names will be disclosed upon request.

The project is intended to meet the Major Directive C: Developing, enhancing, conserving and restoring wildlife and fish habitat on private and public lands.

Buffalo Lodge Lake has experienced winter and summer fish kills in the past. The project will enhance the Buffalo Lodge Lake fish habitat by stabilizing the lake pool at the high overflow level. In addition, the structure will conserve the existing habitat by replacing the undersized, deteriorated structure with a concrete outflow structure capable of passing the 100-year discharge without overtopping and erosion of earthen embankments.

If funded, the McHenry County Water Resources District will proceed to bid, hire a contractor and construct this project in the Fall of 2016.

The project is intended to meet the Additional Directive D. Conserving natural areas and creating other areas for recreation through the establishment and development of parks and other recreation areas.

The project will conserve the recreational value Buffalo Lodge Lake by stabilizing the lake pool for boating and fishing activities.

Management of Project – Provide a description of how you will manage and oversee the project to ensure it is carried out on schedule and in a manner that best ensures its objectives will be met.*

Include a brief background and work experience for those managing the project.

The McHenry County Water Resources District board has hired Ackerman-Estvold to develop engineered construction drawings and provide construction management. Ackerman-Estvold, is a professional civil engineering and architectural consulting firm headquartered in Minot, North Dakota

that serves clients in areas of planning, design and construction services. The Buffalo Lodge Lake outlet structure project team is personally led by Mr. Ryan Ackerman, a professional engineer with over 15-years of experience.

Evaluation – Describe your plan to document progress and results. *

How will you tell if the project is successful? Please be specific on the methods you will utilize to measure success. Note that regular reporting, final evaluation and expenditure reports will be required for every grant awarded.

Project engineer will prepare monthly progress reports for the MCWRD to review and forward to the Commission. These reports will record the following milestones:

1. *Project Construction Plans and Specifications 100% Complete*
2. *Water Appropriation and Construction Permits received from the State Water Commission*
3. *Project Bid*
4. *Contractor chosen*
5. *Notice to Proceed*
6. *Construction with monthly progress reports if needed*
7. *Construction contract closeout*
8. *Permit Close-out with submittal of as-built information to the State Water Commission*

Financial Information

ATTACHMENT: Project Budget – Using the standard project budget format that is available on the website at <http://www.nd.gov/ndic/outdoor-infopage.htm> , please include a detailed total project budget that specifically outlines all the funds you are requesting. Note that a minimum of 25% match funding is required.*

The project budget should identify all matching funds, funding sources and indicate whether the matching funds are in the form of cash or in-kind services. Effective July 1, 2015 no State General Fund dollars can be used for a match unless funding was legislatively appropriated for that purpose. As noted on the standard project budget format, certain values have been identified for in-kind services. Please utilize these values in identifying your matching funds. **NOTE: No indirect costs will be funded.**

X I certify that a project budget will be sent to the Commission*

Sustainability – Indicate how the project will be funded or sustained in future years. *

Include information on the sustainability of this project after all the funding from the Outdoor Heritage Fund has been expended and whether the sustainability will be in the form of ongoing management or additional funding from a different source.

The Buffalo Lodge Lake outlet structure is designed as a resilient concrete structure and riprap abutment protection requiring little maintenance. Annual inspection of the structure and exercising of the weir gate will be conducted as required by the ND State Water Commission and as directed by the McHenry County Water Resource District. The cost of this annual inspection and reporting to the State Water Commission and ordinary maintenance will be borne by the MCWRD annual budget.

Extraordinary maintenance, such as embankment washouts, would likely result from extreme flood events. It is assumed that if such an event would occur, disaster relief funding would be available to make the repairs.

Partial Funding – Indicate how the project will be affected if less funding is available than that requested. *

Partial funding / no funding would result in the project being built from the McHenry County Water Resource District budget. This would have two consequences:

- 1. The project would be delayed as required to accumulate necessary funds through the regular mill levy process.*
- 2. Other necessary McHenry County water resource projects would be delayed or be shelved indefinitely as funds are accumulated.*

Partnership Recognition - If you are a successful recipient of Outdoor Heritage Fund dollars, how would you recognize the Outdoor Heritage Fund partnership? * Please note it is a requirement that there be signage at the location of the project acknowledging the funding from the Outdoor Heritage Fund if appropriate for your project.

The McHenry County Water Resource District (MCWRD) will work with the McHenry County Park Board to install a sign either adjacent to the existing interpretive signage within the park, within a one of the picnic shelters, or attached to the structure acknowledging funding sources. In addition, the MCWRD will work with the McHenry County government to add a recognition statement to the MCWRD page of the McHenry County website.

Scoring of Grants

All applications will be scored by the Outdoor Heritage Fund Advisory Board after your ten-minute oral presentation. The ranking sheet(s) that will be used by the Board is available on the website at <http://www.nd.gov/ndic/outdoor-infopage.htm> .

Awarding of Grants*

All decisions on requests will be reported to applicants no later than 30 days after Industrial Commission consideration. The Commission can set a limit on duration of an offer on each application or if there isn't a specific date indicated in the application for implementation of the project, then the applicant has until the next Outdoor Heritage Fund Advisory Board regular meeting to sign the contract and get the project underway or the commitment for funding will be terminated and the applicant may resubmit for funding. Applicants whose proposals have been approved will receive a contract outlining the terms and conditions of the grant. Please note the appropriate sample contract for your organization on the website at <http://www.nd.gov/ndic/outdoor-infopage.htm> that set forth the general provisions that will be included in any contract issued by the North Dakota Industrial Commission. Please indicate if you can meet all the provisions of the sample contract. If there are provisions in

that contract that your organization is unable to meet, please indicate below what those provisions would be. *

The McHenry County Water Resource District has no objections to the provisions of the Sample Political Subdivision Contract referenced above.

Responsibility of Recipient

The recipient of any grant from the Industrial Commission must use the funds awarded for the specific purpose described in the grant application and in accordance with the contract. The recipient cannot use any of the funds for the purposes stated under Exemptions on the first page of this application.

If you have any questions about the application or have trouble submitting the application, please contact Karlene Fine at 701-328-3722 or kfine@nd.gov

Revised: December 16, 2015

Budget Standard Form

Please use the table below to provide a detailed total project budget that specifically outlines all the funds you are requesting and the matching funds being utilized to fund this project. Please note if the matching funds are in the form of cash, indirect costs or in-kind services. The budget should identify all other committed funding sources and the amount of funding from each source. Match can come from any source (i.e. private sources, State and Federal funding, Tribal funding, etc.) Effective as of July 1, 2015 no State General Fund dollars can be used for a match unless funding was legislatively appropriated for that purpose. Note a minimum of 25% match funding is required. An application will be scored higher the greater the amount of match funding provided. (See Scoring Form.)

Please feel free to insert columns and rows as needed. Please include narrative to fully explain the proposed budget.

Note that NO INDIRECT COSTS will be funded from the Outdoor Heritage Fund. Also by law several items are ineligible for funding -- see Exemptions in the Application Form. Effective June 10, 2015 the following guidelines were approved by the Industrial Commission:

NO CONSIDERATION:


In addition to those specific items in law that are ineligible for funding, in the absence of a finding of exceptional circumstances by the Industrial Commission, the following projects will NOT receive consideration for funding:

- A completed project or project commenced before the grant application is submitted;
- A feasibility or research study;
- Maintenance costs;
- A paving project for a road or parking lot;
- A swimming pool or aquatic park;
- Personal property that is not affixed to the land;
- Playground equipment, except that grant funds may be provided for up to 25% of the cost of the equipment not exceeding \$10,000 per project and all playground equipment grants may not exceed 5% of the total grants per year; (See Definitions/Clarifications below)
- Staffing or outside consultants except for costs for staffing or an outside consultant to design and implement an approved project based on the documented need of the applicant and the expenditures may not exceed 5% of the grant to a grantee if the grant exceeds \$250,000 and expenditures may not exceed 10% of the grant to a grantee if the grant is \$250,000 or less; (See Definitions/Clarifications below)
- A building except for a building that is included as part of a comprehensive conservation plan for a new or expanded recreational project; (See Definitions/Clarifications below)
- A project in which the applicant is not directly involved in the execution and completion of the project.

Project Expense	OHF Request	Applicant's Match Share (Cash)	Applicant's Match Share (In-Kind)	Applicant's Match Share (Indirect)	Other Project Sponsor's Share	Total Each Project Expense
Outlet Construction	\$ 281,800*	\$ 52,700	\$	\$	\$	\$ 334,500
Engineering	\$	\$ 41,255	\$	\$	\$	\$ 41,255
	\$	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$	\$
Total Costs	\$ 281,800*	\$ 93,955	\$	\$	\$	\$ 375,755

* This request represents 75% of the total project cost. The MCWRD has also submitted a cost share request in the amount of \$133,800 to the ND State Water Commission. If the NDSWC awards funding to the MCWRD, the MCWRD requests will be reduced by the same amount.

DRAW TEXT BOX FOR DETAILS HERE

ENGINEERS OPINION OF PROBABLE COSTS			
CLIENT	McHenry County Water Resources District	AE R15095	1 of 1
PROJECT	Buffalo Lodge Lake Outlet	TRJ	
SUBJECT	Estimated Project Costs	RBA	February 4, 2016

Item No.	Description	Quantity	Unit	Unit Price	Subtotal
1	General Conditions (Mobilization, Bonding, Insurance)	1	LS	\$ 35,000.00	\$ 35,000.00
2	Erosion and Sedimentation Control	1	LS	\$ 7,000.00	\$ 7,000.00
3	Remove Existing Structure	1	LS	\$ 20,000.00	\$ 20,000.00
4	Remove Riprap	80	CY	\$ 60.00	\$ 4,800.00
5	Remove Pipe (All Types and Sizes)	80	LF	\$ 50.00	\$ 4,000.00
6	Remove Fence	1	LS	\$ 500.00	\$ 500.00
7	NDDOT Cl. 13 Aggregate	230	TON	\$ 50.00	\$ 11,500.00
8	Geotextile Fabric - NDDOT Type RR	350	SY	\$ 5.00	\$ 1,750.00
9	Riprap	350	TON	\$ 110.00	\$ 38,500.00
10	Double 12' by 7' Box Culvert	18	LF	\$ 2,800.00	\$ 50,400.00
11	Double 12' by 7' End Section (North Lake)	1	EA	\$ 35,000.00	\$ 35,000.00
12	Double 12' by 7' End Section (Buffalo Lodge Lake)	1	EA	\$ 50,000.00	\$ 50,000.00
13	Guardrail	1	LS	\$ 17,000.00	\$ 17,000.00
14	Fence and Gate	1	LS	\$ 3,300.00	\$ 3,300.00
TOTAL CONSTRUCTION					\$ 278,750.00
Contingency (20%)					\$ 55,750.00
Engineering (14.8%)					\$ 41,255.00
TOTAL PROJECT COSTS					\$ 375,755.00

Since the Engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, this Opinion of Probable Cost is made on the basis of Engineer's experience and qualifications and represent Engineer's best judgment as an experienced and qualified professional engineer, familiar with the construction industry. The Engineer cannot and does not guarantee nor warranty, expressed or implied, that proposals, bid, or actual Construction Costs or Total Project Costs will not vary from the Opinion of Probable Cost shown.

In-kind services used to match the request for Outdoor Heritage Fund dollars shall be valued as follows:

- Labor costs \$15.00 an hour
- Land costs Average rent costs for the county as shown in the most recent publication of the USDA, National Agricultural Statistics Services, North Dakota Field Office
- Permanent Equipment Any equipment purchased must be listed separately with documentation showing actual cost. (For example: playground equipment)
- Equipment usage Actual documentation
- Seed & Seedlings Actual documentation
- Transportation Mileage at federal rate
- Supplies & materials Actual documentation

More categories will be added as we better understand the types of applications that will be submitted. We will use as our basis for these standards other State and Federal programs that have established rates. For example the North Dakota Nonpoint Source Pollution Management Program has established rates. If your project includes work that has an established rate under another State Program please use those rates and note your source.

Definitions/Clarifications:

Building - Defined as "A structure with a roof either with walls or without walls and is attached to the ground in a permanent nature."

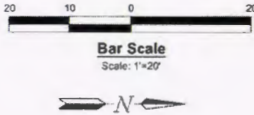
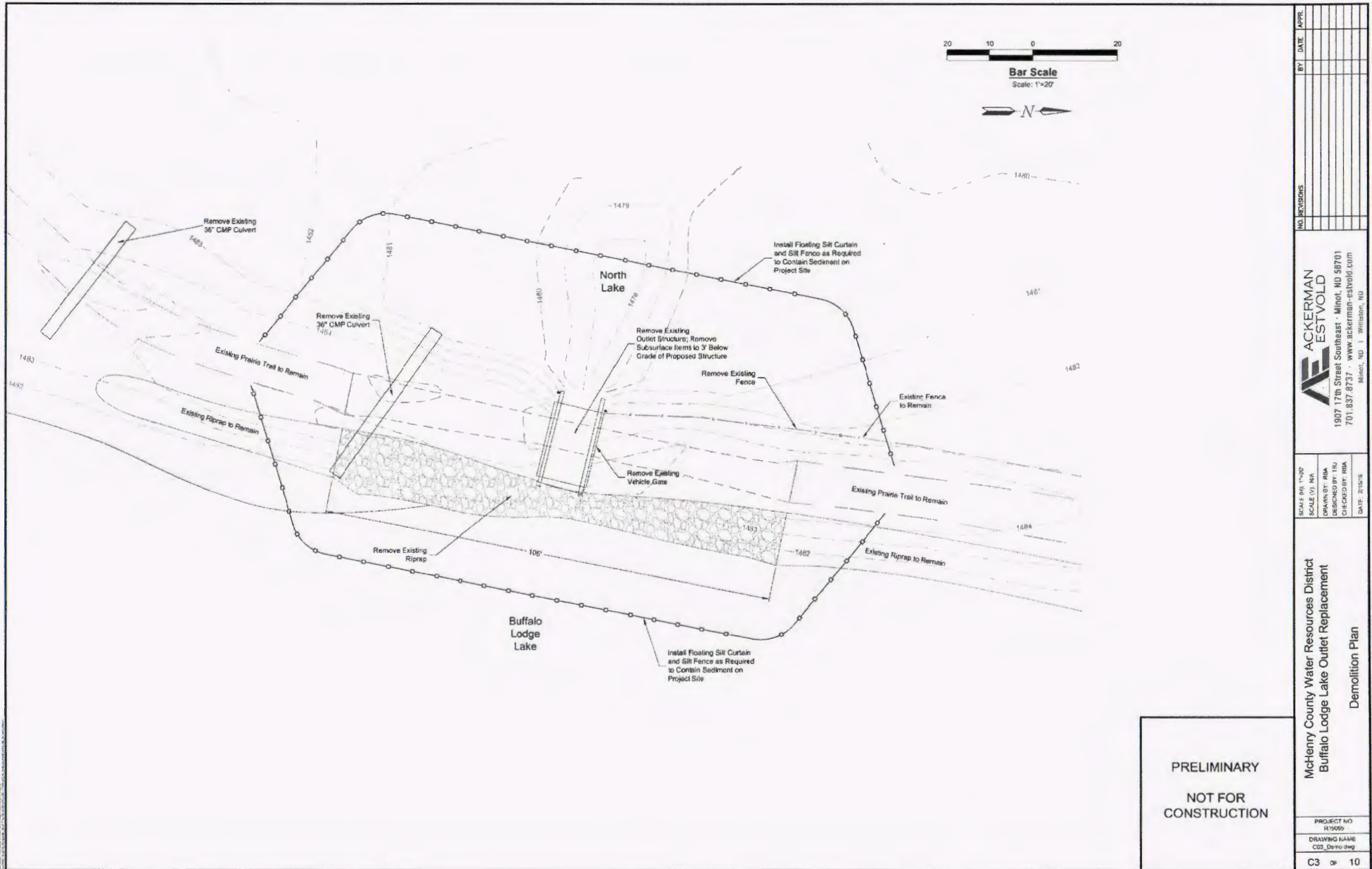
Comprehensive Conservation Plan - Defined as "A detailed plan that has been formally adopted by the governing board which includes goals and objectives--both short and long term, must show how this building will enhance the overall conservation goals of the project and the protection or preservation of wildlife and fish habitat or natural areas." This does not need to be a complex multi-page document. It could be included as a part of the application or be an attachment.

New and Expanded Recreational Project means that the proposed building cannot be a replacement of a current building. The proposed building must also be related to either a new or expanded recreational project--either an expansion in land or an expansion of an existing building or in the opportunities for recreation at the project site.

Playground equipment calculation - Only the actual costs of the playground equipment (a bid or invoice showing the amount of the equipment costs must be provided) - cannot include freight or installation or surface materials or removal of old equipment, etc.

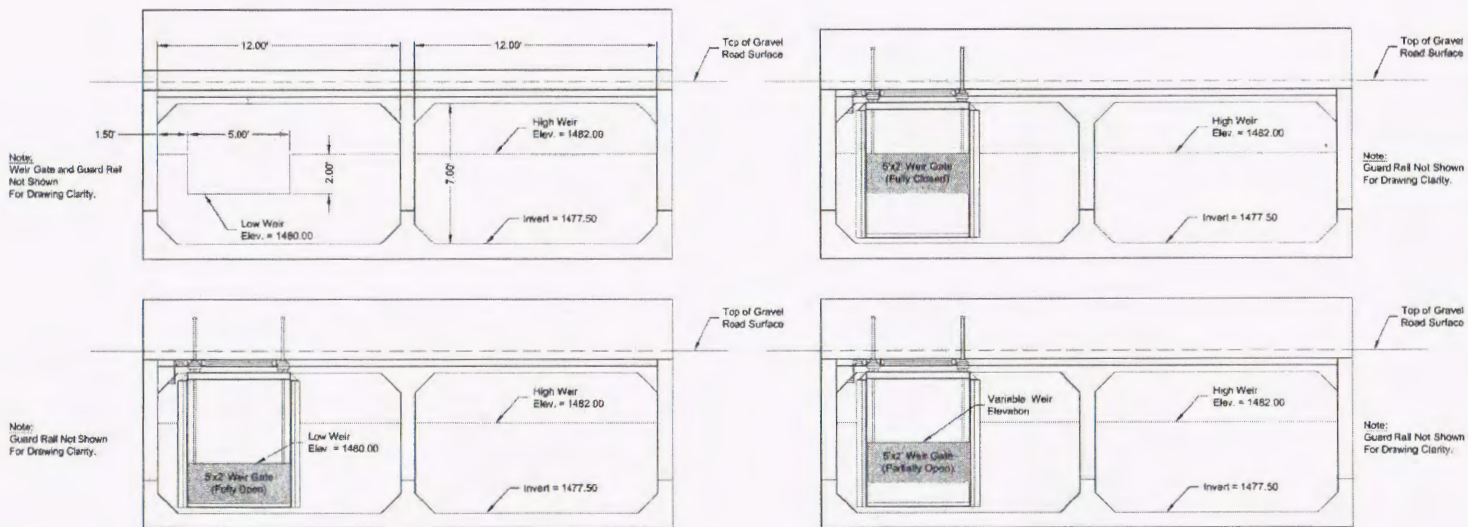
Staffing/Outside Consultants Costs - If you are requesting OHF funding for staffing or for an outside consultant, you must provide information in your application on the need for OHF funding to cover these costs. For example, if you are an entity that has engineering staff you must explain why you don't have sufficient staff to do the work or if specific expertise is needed or whatever the reason is for your entity to retain an outside consultant. If it is a request for reimbursement for staff time then a written explanation is required in the application of why OHF funding is needed to pay for the costs of that staff member(s)' time. **The budget form must reflect on a separate line item the specific amount that is being requested for staffing and/or the hiring of an outside consultant.** This separate line item will then be used to make the calculation of 5% or 10% as outlined in the law. Note that the calculation will be made on the grant less the costs for the consultant or staff.

Recommended by OHF Advisory Board: October 17, 2013
Approved by Industrial Commission: October 22, 2013
Revisions recommended by OHF Advisory Board: January 22, 2014
Approved by Industrial Commission: January 29, 2014
Revisions recommended by OHF Advisory Board: May 13, 2014
Approved by Industrial Commission: May 27, 2014
Revisions recommended by OHF Advisory Board: June 3, 2015
Approved by Industrial Commission: June 10, 2015



PRELIMINARY
NOT FOR
CONSTRUCTION

<p>McHenry County Water Resources District Buffalo Lodge Lake Outlet Replacement Demolition Plan</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;"> <p>ACKERMAN ESTVOLD</p> <p>1907 17th Street Southeast • Minnetonka, MN 55701 701.837.8737 • www.ackerman-estvold.com</p> </td> <td style="width: 50%; text-align: center;"> <p>MINNESOTA REGISTERED PROFESSIONAL ENGINEER No. 10000 Date: 1/15/09</p> </td> </tr> <tr> <td style="width: 50%; text-align: center;"> <p>SCALE: 1"=20'</p> <p>DRAWN BY: RMA</p> <p>CHECKED BY: MDA</p> <p>DATE: 2/15/18</p> </td> <td style="width: 50%; text-align: center;"> <p>PROJECT NO. 115559</p> <p>DRAWING NAME C03_Demo.dwg</p> <p>C3 of 10</p> </td> </tr> </table>	<p>ACKERMAN ESTVOLD</p> <p>1907 17th Street Southeast • Minnetonka, MN 55701 701.837.8737 • www.ackerman-estvold.com</p>	<p>MINNESOTA REGISTERED PROFESSIONAL ENGINEER No. 10000 Date: 1/15/09</p>	<p>SCALE: 1"=20'</p> <p>DRAWN BY: RMA</p> <p>CHECKED BY: MDA</p> <p>DATE: 2/15/18</p>	<p>PROJECT NO. 115559</p> <p>DRAWING NAME C03_Demo.dwg</p> <p>C3 of 10</p>
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1 Box Culvert Detail - Section
 C6 Scale: 1" = 6'

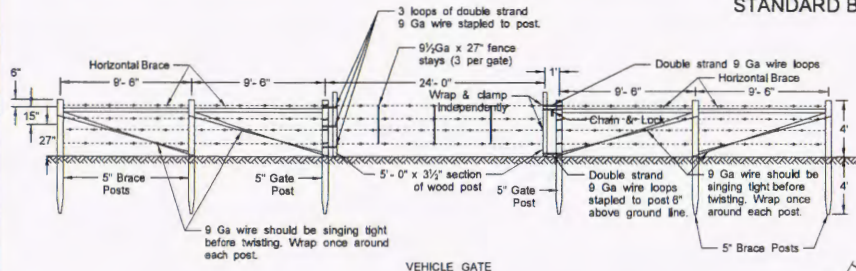
PRELIMINARY
 NOT FOR
 CONSTRUCTION

NO. REVISIONS	BY	DATE
1907 17th Street Southeast - Minnet, ND 58701 701.837.8737 - www.ackerman-estvold.com Minnet, ND 58102011		
SCALE (S) N/A	SCALE (D) N/A	DATE: 2/15/18
DESIGNED BY: RBA	DESIGNED BY: TBA	
PROJECT NO. R15050	DRAWING NAME C05_C07_80CD09A.dwg	
C7	OK	10

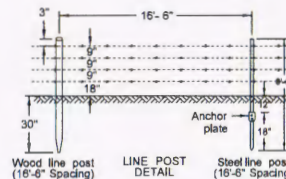
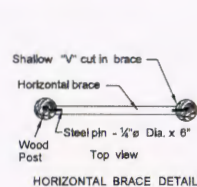
McHenry County Water Resources District
 Buffalo Lodge Lake Outlet Replacement
 Box Culvert Section

STANDARD BARBED WIRE FENCE

D-752-1



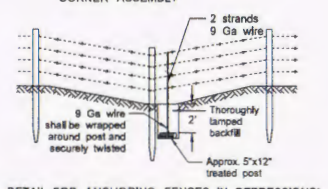
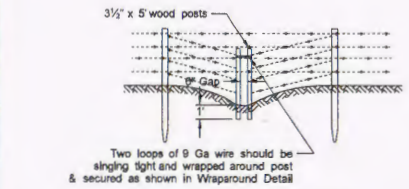
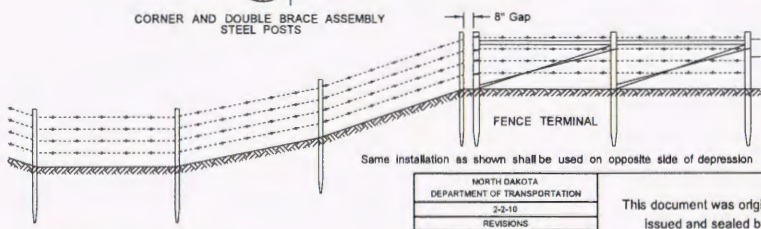
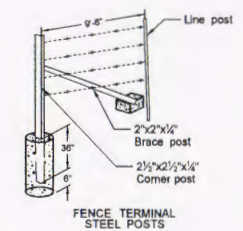
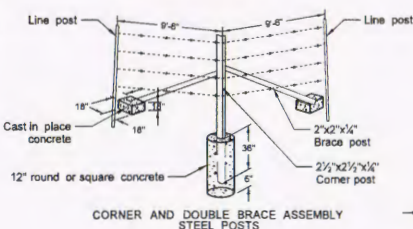
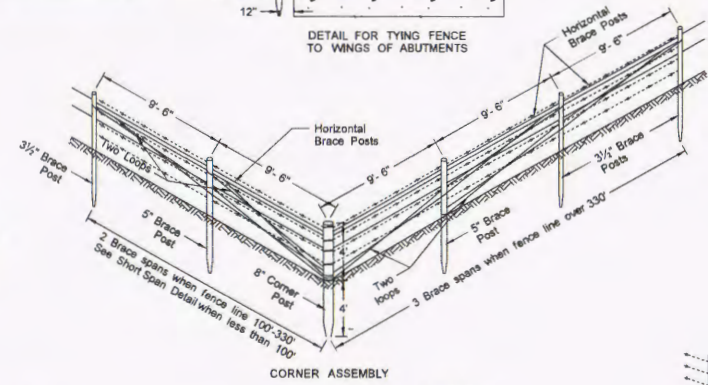
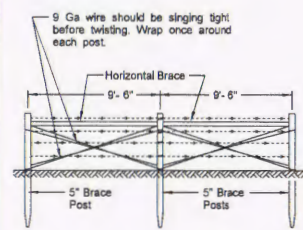
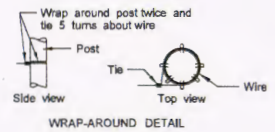
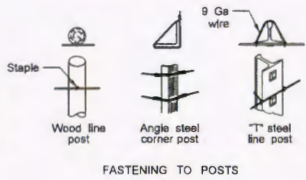
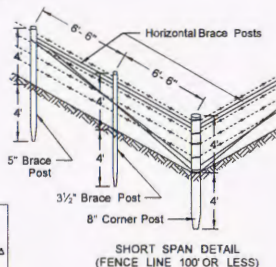
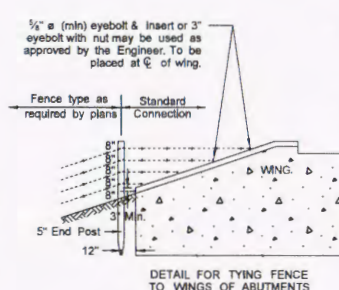
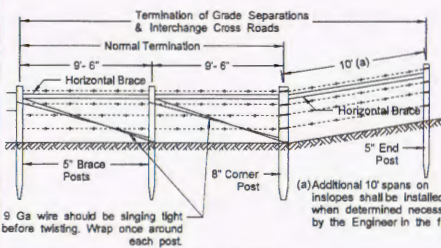
VEHICLE GATE



NOTES

- No deduction in measured pay length of cable fence will be made for gates, corner assemblies, double brace assemblies, fence terminals, or depression fencing. Abutment fencing shall be included in the price bid for fencing bid items.
- Double brace assemblies shall be installed at locations shown on the plans or established by the Engineer. The distance between adjacent fence terminals, corner assemblies, or double brace assemblies shall not exceed 1,320 feet.
- Cost of furnishing and installing inserts and eyebolts shall be included in the unit price bid for fencing bid items. Eyebolts shall be galvanized according to AASHTO designation M-30; inserts of corrosion resistant material need not be galvanized. Concrete inserts shall be of such design that, when installed in the concrete, will be capable of developing the full strength of the 3/4" diameter threaded eyebolt.
- The type of posts to be used, either wood or steel shall be determined by the contractor unless otherwise specified in the plans.

USE OF POST	TREATED WOOD		STEEL	
	Post dia.	Post length	Post length	Post wt. Lbs/Ft
Line post	3 1/2"	6'-6"	6'-6"	1.33
Corner post	6"	8'	7'	4.10 (Conc.)
End post	5"	8'		
Brace post	5"	3 1/2"	8'	7'
Gate post	5"	8'		
Horizontal brace	3 1/2"	Var.	As approved by the Engineer	



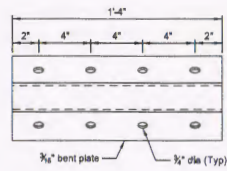
*Locations shall be determined in the field and included in price bid for fencing. Other methods of anchoring the fence may be used if approved by the Engineer.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
2-2-10	
REVISIONS	
DATE	CHANGE
10-02-12	Notes, steel assemblies/posts
11-25-13	Revised Vehicle Gate

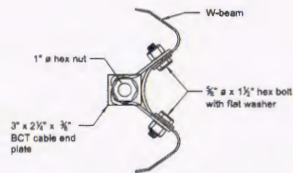
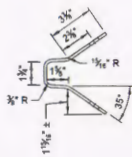
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SPECIAL W-BEAM GUARDRAIL ANCHOR

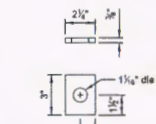
D-764-14



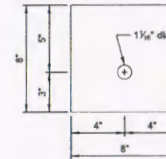
BCT ANCHOR PLATE



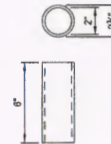
SECTION B-B



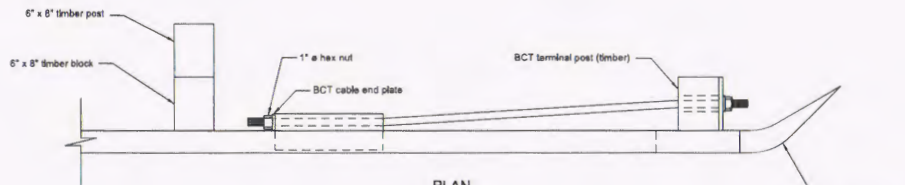
BCT CABLE END PLATE



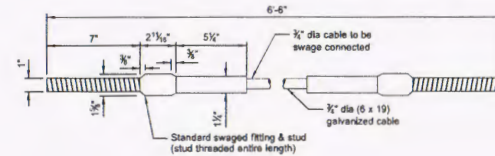
BEARING PLATE



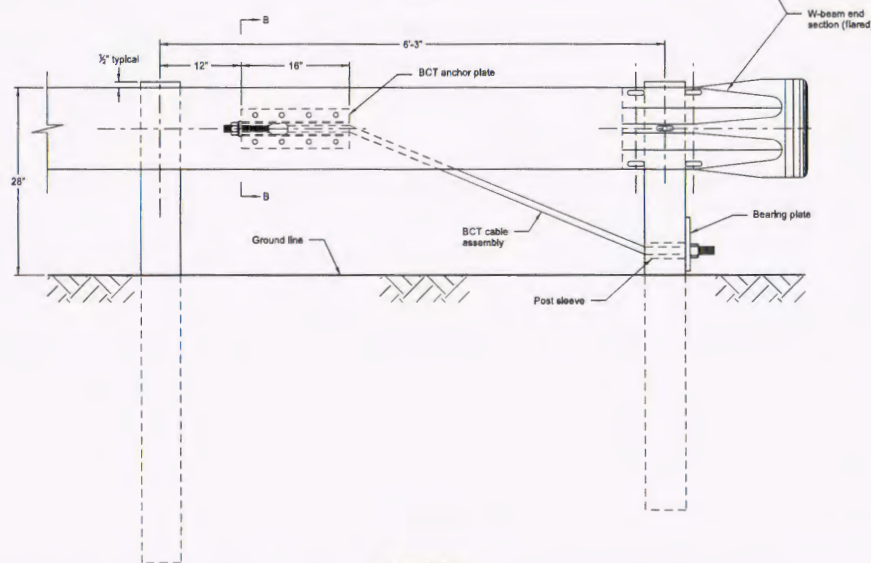
POST SLEEVE



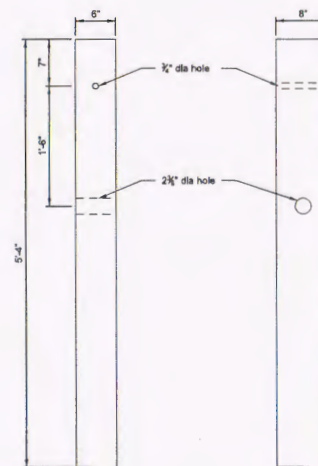
PLAN



BCT CABLE ASSEMBLY



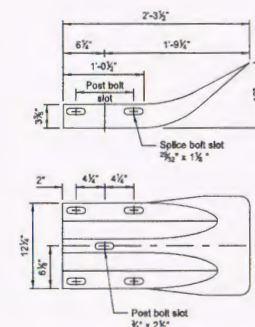
ELEVATION



FRONT VIEW

SIDE VIEW

BCT TERMINAL POST DETAILS



W BEAM END SECTION (FLARED)

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION 10-11-13	
REVISIONS	
DATE	CHANGE

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