

#30 Oneida Trail 8 Boardwalk

State of Wisconsin
 Department of Natural Resources
dnr.wi.gov

Motorized Recreation Grant Application

For: (choose all that apply)

Form 8700-159 (R 04/22)
 Page 1 of 5

- ATV/UTV Trail Aid
- Snowmobile Trail Aid

Due Date: April 15

Notice: Completion of this form is required under Wisconsin Statutes 23.09(26) and 23.33. Failure to complete this form will result in denial of financial assistance. Personally identifiable information found on this form is not intended to be used for any other purpose. The Department of Natural Resources (DNR) may provide this information to requesters as required by Wisconsin's Public Records law (ss. 19.31 – 19.39, Wis. Stats.).

Instructions: Applications may combine more than one source of funds. They may be submitted for consideration of traditional ATV, UTV, Snowmobile and Motorized Stewardship funding. Submit one copy of all forms and attachments. See Page 2 for necessary attachments. Send applications to your [Community Services Specialist](#).

DNR Use Only	
Category	Number

Section 1: Applicant Information

Applicant / Organization Name Oneida County Forestry Department			Check Recipient: Individual other than authorized individual to act on behalf of the applicant. <input type="checkbox"/> Select if the same as applicant.		
Individual Authorized to Act on Behalf of Applicant per Resolution Eric Rady			Check Recipient Name (Name to Appear on Check) ATTN: Forestry Department		
Title Assistant Forest Director			Title		
Address PO Box 400 - Courthouse			Address		
City Rhinelander	State WI	ZIP Code 54501	City	State	ZIP Code
Telephone Number (715) 369-6234		Email Address erady@co.oneida.wi.us			

Section 2: Project Information Required for all Projects

Project Title Burrows Boardwalk Rehab						Current Funded Miles	New Miles (if applicable)
County Oneida	Township 36 N	Range 5	Section 10	¼ ¼ E W	¼	GPS Coordinates: Lat. _____ Long. _____	

Project Description Summary

See attached narrative.
 Will be applying for ATV, Snowmobile and \$100,000 RTP.

I certify that all maintenance land use agreements are on file.

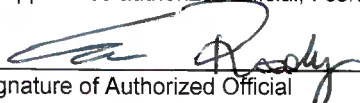
Estimated Cost

Maintenance	Acquisition	Insurance	Development	Bridge Rehab.	Trail Rehab.	Total Estimated Cost
				\$292,650.00		\$292,650.00
Leave Blank – DNR Use Only						

Applicant Certification

Printed Name of Authorized Official Eric Rady	Official's Title Assistant Forest Director
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As the applicant's authorized official, I certify that, to the best of my knowledge, the information in this application is true and correct.


 Signature of Authorized Official

4-12-23
 Date Prepared

Appendix A – Required for Bridge Rehab/Replace, New, or Reroute with New Bridge

Bridge Rehab/Replace New Bridge Reroute with new bridge

County	Township	Range	<input checked="" type="radio"/> E <input type="radio"/> W	Section	¼ ¼	¼	GPS Coordinates: Lat. Long.
Oneida	36 N	5		10			

Water Body Name	Bridge Name	County Inventory Number
n/a	Burrows Boardwalks	

Funded Trail Name or Number (SNARS if applicable)	Has this bridge site ever received development or rehabilitation funds in the past? <input checked="" type="radio"/> Yes <input type="radio"/> No Year: <u>2012</u> \$ <u>158,000.00</u>
8	

Bridge is located on: <input type="radio"/> Private property <input checked="" type="radio"/> Public property	Old Bridge/Culvert Size _____ New Bridge/Culvert Size _____
--	--

Landowner Where Bridge is Located	Telephone Number	Length of Trail Use Agreement (5 year minimum)
Oneida County	(715) 369-6140	

Current maximum load <u>19,000</u> lbs.	Age of Bridge	Bridge Material
Proposed maximum load <u>19,000</u> lbs.	11	wooden

Sponsoring Club Name	Club Contact	Telephone Number
Little Rice ATV Club	Jim Kocher	

Do you have your trail bridges posted as to maximum load? <input type="radio"/> Yes <input checked="" type="radio"/> No	What is the maximum load of the other bridges on the system if groomed with this bridge? 19,000 lbs
--	--

What is the weight of your puller & drag/grading equipment?
~17,000 lbs

What other recreational trail uses are planned for this bridge?
snowmobile/ATV

If there are other Recreational uses planned, how much of the bridge cost will be paid for by non-snowmobile or non-ATV users?

- Yes No Have you contacted your local [DNR Water Management Specialist \(WMS\)](#) regarding a permit?
- Yes No Is a permit needed? (Please provide any written correspondence from WMS.)
- Yes No Have you contacted your County Zoning Dept. regarding a floodplain determination?
- Yes No Will an H & H (hydrologic and hydraulic) study be required?

Bridge Project Detailed Description

see narrative.

Appendix A (continued)

Summarize Costs in Appropriate Categories:

Bridge Structure			
		Quote 1	Quote 2
		<input type="radio"/> Steel <input checked="" type="radio"/> Wooden	<input checked="" type="radio"/> Steel <input type="radio"/> Wooden
Bridge Dimensions:		<u>12'x330'</u>	<u>12ft x 370ft - 4 bridges</u>
Bridge Manufacturer:	<u>Janke General</u>		<u>Custom Manufacturing</u>
Design Weight Load		<u>19,000 lbs.</u>	<u>25,000 lbs.</u>
Cost of Structure:	1. Engineering	\$ _____	\$ <u>11,000</u>
	2. Structure	\$ <u>181,400</u>	\$ <u>508,600</u>
	Subtotal	\$ <u>181,400</u>	\$ <u>519,600</u>
		Quote 1	Quote 2
		<input checked="" type="radio"/> Contractor or <input type="radio"/> Sponsor Estimate	<input checked="" type="radio"/> Contractor or <input type="radio"/> Sponsor Estimate
Installation Costs:			
1. Engineering		\$ _____	\$ _____
2. Site Preparation		\$ _____	\$ _____
3. Abutments		\$ _____	\$ _____
4. Pilings/Piers		\$ <u>42,900</u>	\$ _____
5. Approaches		\$ _____	\$ _____
6. Riprap		\$ _____	\$ _____
7. Labor		\$ <u>39,750</u>	\$ <u>72,000</u>
8. Equipment Rental		\$ _____	\$ <u>14,000</u>
9. Culverts		\$ _____	\$ _____
10. H & H Study		\$ _____	\$ _____
11. Wetland Delineation		\$ _____	\$ <u>5,400 Delivery</u>
12. Other <u>Old pile removal</u>		\$ <u>28,600</u>	\$ <u>15,000 Disposal</u>
	Subtotal	\$ <u>111,250</u>	\$ <u>106,400</u>
	Total Cost	\$ <u>292,650</u>	\$ <u>626,000</u>

For the application grant, you must take the lowest of the two quotes.

Entire Deck and Railing Projects		<input type="radio"/> Contractor	<input type="radio"/> Sponsor	<input type="radio"/> Club
Bridge Dimensions:	_____			
Design Weight Load	_____ lbs.			
1. Materials		\$ _____		
2. Labor		\$ _____		
	Total	\$ _____		

Burrows Boardwalk Rehabilitation

The Oneida County Forestry Department along with the Oneida County ATV Council would like to apply for a grant to rehabilitate a series of four elevated boardwalks in the Town of Little Rice. The boardwalks were originally constructed in 2012 through the ORV grant program. These boardwalks are an integral part of both the ATV and Snowmobile trail system. They are used for spring, summer, fall ATV and winter Snowmobile.

Over the past few years the local clubs (both ATV and Snowmobile) have been replacing rotten wear course boards as needed, but the problem was found to be much larger than that. The clubs noted that the subdeck boards were also starting to rot so much so that screws would no longer hold the wear course to the subdeck. This has caused a hazardous situation of loose boards and exposed screws on the boardwalks. The ATV club mentioned that they no longer drive maintenance equipment over the boardwalks due to their condition. Due to this issue an engineering company was hired to perform an inspection of the four boardwalks in the summer of 2022. (Inspection report attached to grant paperwork) The inspection noted numerous other issues that could/should be addressed during the total subdeck/wear course replacement. Those issues are as follows: additional helical pile should be installed to stop/prevent sag in the middle of each pier, remove old driven wooden piles, and inspect stringers/joists for potential rot.

Four bridge contractors were contacted for estimates, but I was only able to obtain one estimate. The estimate includes 22 new helical piles, new subdeck and wear course, removal of old wooden pile, mobilization and new stringers/joists. The new joists/stringers may not be needed if existing ones are in good shape. The existing curbing can be removed and reused after the new deck has been installed. No abutment work is anticipated for this project.

Estimate breakdown:

1. 22 new helical piles \$42,900
2. Install wear course and subdeck \$98,900
3. New joists (only if rot is found) \$82,500
4. Remove old wooden piles \$28,600
5. Mobilization \$39,750

DNR water regs staff were contacted and no permits will be necessary for this project.

Per Oneida County, the heaviest groomer to use the boardwalks is currently 17,000 lbs. The County reviewed if there could be an alternative trail location, but this appears to be the best alternative given the terrain and wetlands in the area. ATVs could potentially use the blacktop town roads as a road route alternative, but the Town was not interested in allowing snowmobiles since the roads were blacktop surfaced.

From: [Jake Truitt](#)
To: [Pennucci, Jeff F - DNR](#)
Subject: FW: Oneida County ATV Trail Boardwalks
Date: Monday, July 31, 2023 2:28:21 PM
Attachments: [image002.png](#)

**CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.**

Jeff,

Here is what I received from Janke for the boardwalk replacement. Sounds like the Council wanted to see a formal quote/estimate, but this is all that I received and is what I used to write the grant.

JT

From: Bids <bids@jankegeneral.com>
Sent: Thursday, April 6, 2023 5:10 PM
To: Jake Truitt <jtruitt@co.oneida.wi.us>
Cc: Tyler Stieber <tstieber@jankegeneral.com>; Mike Rausch <mrausch@jankegeneral.com>
Subject: RE: Oneida County ATV Trail Boardwalks

Jake,

See estimated budget pricing for the Oneida Cty Boardwalk repairs below:

1. 22 New Helical Piles at center or header. (\$1,950.00 - Each) (\$42,900.00)
2. Install New Wear Course and Decking on all boardwalks approx. 317LF. (\$98,900.00 Lump Sum)
3. new joists if rot is found= (\$82,500.00)
4. Existing Wooden Piles to be pulled/removed before boardwalk reassembly – (\$28,600.00)
5. Mobilization – (\$39,750.00)

Total = \$292,650.00

Thanks,

Mike Rausch
Project Manager
Janke General Contractors, Inc

Cell: 715-551-3542

Email: mrausch@jankegeneral.com



From: Jake Truitt <jtruitt@co.oneida.wi.us>

Sent: Friday, March 3, 2023 10:16 AM

To: Bids <bids@jankegeneral.com>

Subject: Oneida County ATV Trail Boardwalks

Hello,

I am looking at getting an estimate to repair a set of boardwalks on our ATV trail system. I have attached an engineering report, original blueprints, and a general description of the work that needs to be done.

Please contact me with any questions that you may have.

Thank you,

Jake Truitt
Oneida County Forester
PO Box 400 – Courthouse
Rhinelander, WI 54501
Office: (715) 369-6281
Cell: (715) 401-1583



Custom Manufacturing, Inc.

606 Delco Drive, P.O. Box 279
Clinton, WI 53525
608-676-2282 Fax: 608-676-2283
tina@custommfginc.com

Quotation 6337

Please Indicate The Above Number When Ordering

Date: July 27, 2023	Salesperson: Tina Forrest
Inquiry Date:	Inquiry Number

To: Oneida County
P.O. Box 400 Courthouse
Rhineland, WI 54501

Estimated Ship Date 8 – 12 weeks	Shipped VIA Best way	F.O.B Clinton, WI	Terms Net 30	
1	Description		Price	Total
	2023 GRANT APPLICATION ESTIMATE Bridge #1			
	75' Arched Bridge x 12' Wide - 25,000# Load Double Decked - 42" Horizontal Railing – Hardware On 2 sets of Galvanized Sill Pans		\$ 104,000.00	
	Stamped Engineered Drawings		2,500.00	
	Installation & Site Preparation		14,500.00	
	Equipment Rental		3,000.00	
	Removal & Disposal of Existing Boardwalk		3,000.00	
	Delivery Charges		1,300.00	
	Total			\$128,300.00
	Above prices do not include sales tax or any necessary permits.			
Bridge kit includes all Steel I-Beams and Crossmembers, which are predrilled and have a red oxide primer finish, MCA Southern Yellow Pine treated lumber and all hardware. All lumber is Pre Stained.				
Bridge Kit Meets - WI DNR Guidelines – 25,000# Load				

We are pleased to submit the above quotation for your consideration. Should you place an order, be assured it will receive our prompt attention. This quotation is valid for 30 days. Thereafter it is subject to change without notice.

BY: Tina Forrest ACCEPTED: _____ DATE: _____



Custom Manufacturing, Inc.

606 Delco Drive, P.O. Box 279
Clinton, WI 53525
608-676-2282 Fax: 608-676-2283
tina@custommfginc.com

Quotation

6338

Please Indicate The Above Number When Ordering

Date: July 27, 2023	Salesperson: Tina Forrest
Inquiry Date:	Inquiry Number

To: Oneida County
P.O. Box 400 Courthouse
Rhineland, WI 54501

Estimated Ship Date	Shipped VIA	F.O.B	Terms	
8 – 12 weeks	Best way	Clinton, WI	Net 30	
	Description	Price	Total	
1	<p>2023 GRANT APPLICATION ESTIMATE Bridge #2</p> <p>75' Arched Bridge x 12' Wide - 25,000# Load Double Decked - 42" Horizontal Railing – Hardware On 2 sets of Galvanized Sill Pans</p> <p>Stamped Engineered Drawings 2,500.00 Installation & Site Preparation 14,500.00 Equipment Rental 3,000.00 Removal & Disposal of Existing Boardwalk 3,000.00 Delivery Charges 1,300.00</p> <p>Total \$128,300.00</p> <p>Above prices do not include sales tax or any necessary permits.</p> <p>Bridge kit includes all Steel I-Beams and Crossmembers, which are predrilled and have a red oxide primer finish, MCA Southern Yellow Pine treated lumber and all hardware. All lumber is Pre Stained.</p> <p>Bridge Kit Meets - WI DNR Guidelines – 25,000# Load</p>	\$ 104,000.00		

We are pleased to submit the above quotation for your consideration. Should you place an order, be assured it will receive our prompt attention. This quotation is valid for 30 days. Thereafter it is subject to change without notice.

BY: Tina Forrest ACCEPTED: _____ DATE: _____



Custom Manufacturing, Inc.

606 Delco Drive, P.O. Box 279
Clinton, WI 53525
608-676-2282 Fax: 608-676-2283
tina@custommfginc.com

Quotation 6339

Please Indicate The Above Number When Ordering

Date: July 27, 2023	Salesperson: Tina Forrest
Inquiry Date:	Inquiry Number

To: Oneida County
P.O. Box 400 Courthouse
Rhineland, WI 54501

Estimated Ship Date 8 – 12 weeks	Shipped VIA Best way	F.O.B Clinton, WI	Terms Net 30	
1	Description		Price	Total
	2023 GRANT APPLICATION ESTIMATE Bridge #3			
	90' Arched Bridge x 12' Wide - 25,000# Load Double Decked - 42" Horizontal Railing – Hardware On 2 sets of Galvanized Sill Pans		\$ 135,000.00	
	Stamped Engineered Drawings		2,500.00	
	Installation & Site Preparation		17,000.00	
	Equipment Rental		4,000.00	
	Removal & Disposal of Existing Boardwalk		4,000.00	
	Delivery Charges		1,300.00	
	Total			\$163,800.00
	Above prices do not include sales tax or any necessary permits.			
Bridge kit includes all Steel I-Beams and Crossmembers, which are predrilled and have a red oxide primer finish, MCA Southern Yellow Pine treated lumber and all hardware. All lumber is Pre Stained.				
Bridge Kit Meets - WI DNR Guidelines – 25,000# Load				

We are pleased to submit the above quotation for your consideration. Should you place an order, be assured it will receive our prompt attention. This quotation is valid for 30 days. Thereafter it is subject to change without notice.

BY: Tina Forrest

ACCEPTED: _____

DATE: _____



Custom Manufacturing, Inc.

606 Delco Drive, P.O. Box 279
Clinton, WI 53525
608-676-2282 Fax: 608-676-2283
tina@custommfginc.com

Quotation

6340

Please Indicate The Above Number When Ordering

Date: July 27, 2023	Salesperson: Tina Forrest
Inquiry Date:	Inquiry Number

To: Oneida County
P.O. Box 400 Courthouse
Rhinelander, WI 54501

Estimated Ship Date 8 - 12 weeks	Shipped VIA Best way	F.O.B Clinton, WI	Terms Net 30	
Description			Price	Total
1	2023 GRANT APPLICATION ESTIMATE Bridge #4			
	100' Arched Bridge w/ 2 - 15' Approaches 12' Wide - 25,000# Load Double Decked - 42" Horizontal Railing - Hardware On 2 sets of Galvanized Sill Pans		\$ 165,600.00	
	Stamped Engineered Drawings		3,500.00	
	Installation & Site Preparation		26,000.00	
	Equipment Rental		4,000.00	
	Removal & Disposal of Existing Boardwalk		5,000.00	
	Delivery Charges		1,500.00	
	Total			\$205,600.00
	Above prices do not include sales tax or any necessary permits.			
	Bridge kit includes all Steel I-Beams and Crossmembers, which are predrilled and have a red oxide primer finish, MCA Southern Yellow Pine treated lumber and all hardware. All lumber is Pre Stained.			
	Bridge Kit Meets - WI DNR Guidelines - 25,000# Load			

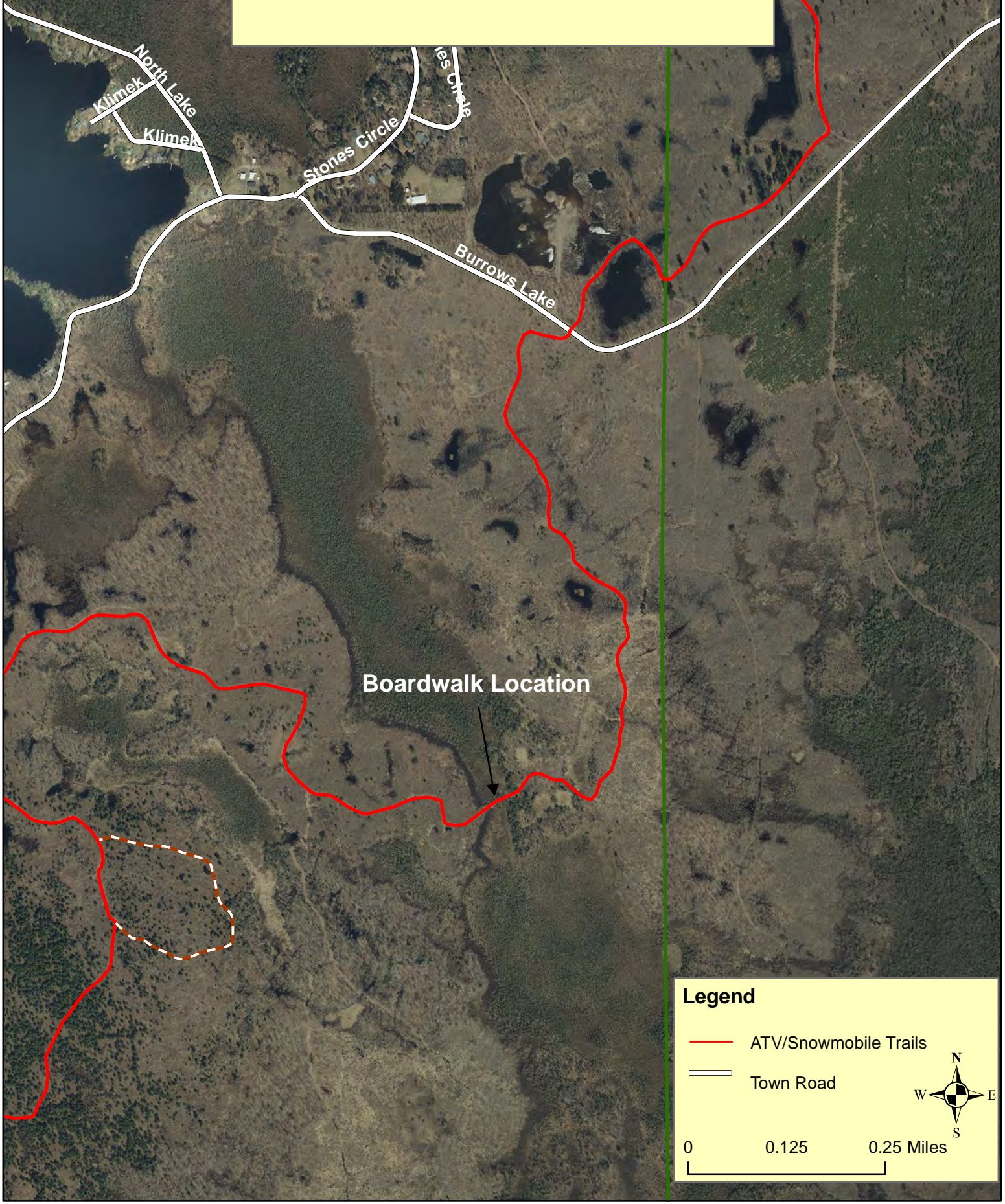
We are pleased to submit the above quotation for your consideration. Should you place an order, be assured it will receive our prompt attention. This quotation is valid for 30 days. Thereafter it is subject to change without notice.

BY: Tina Forrest

ACCEPTED: _____

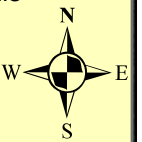
DATE: _____

Burrows Boardwalk Rehab T36N - R5E Section 10



Legend

- ATV/Snowmobile Trails
- Town Road



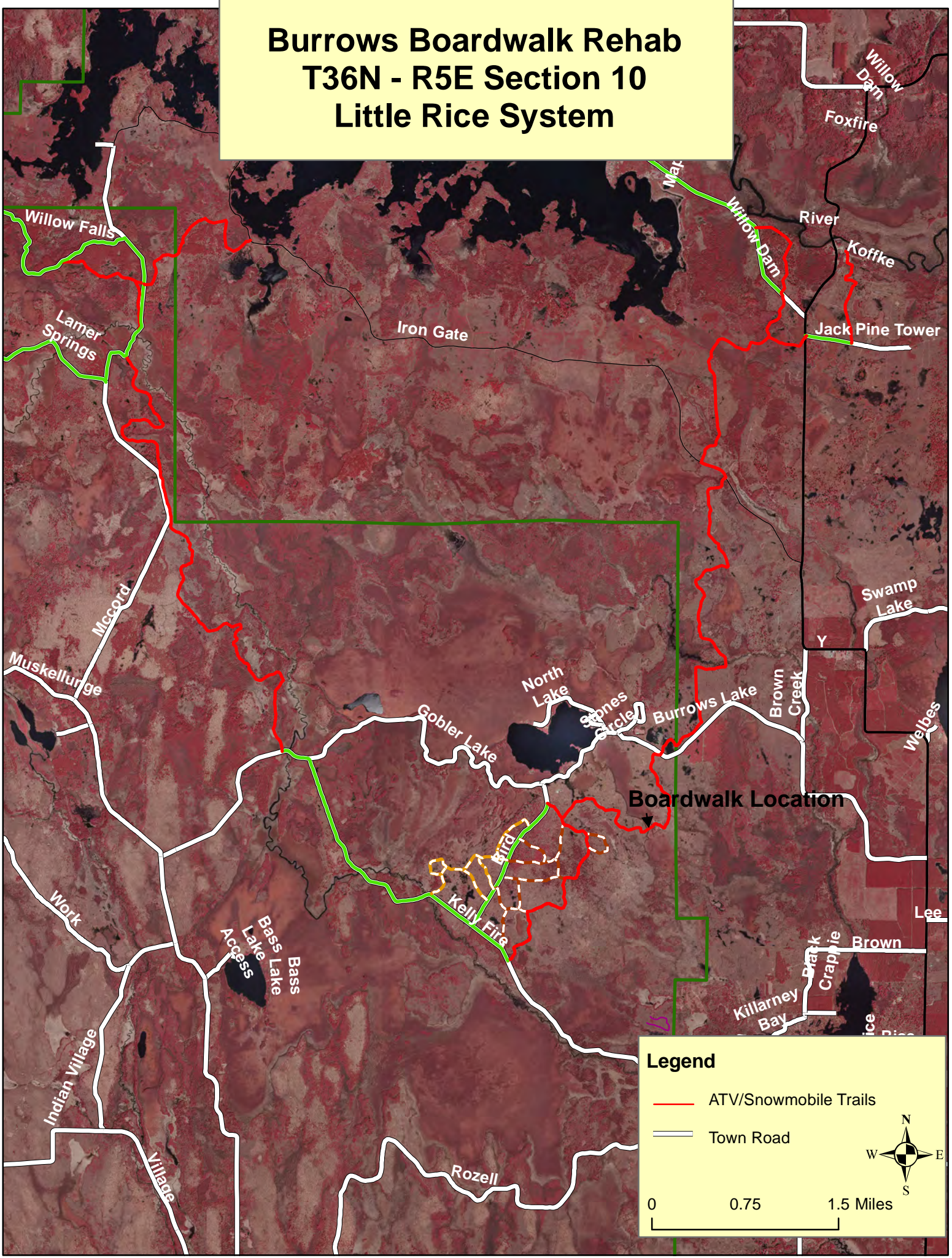
0 0.125 0.25 Miles



Burrows Boardwalk Rehab

T36N - R5E Section 10

Little Rice System

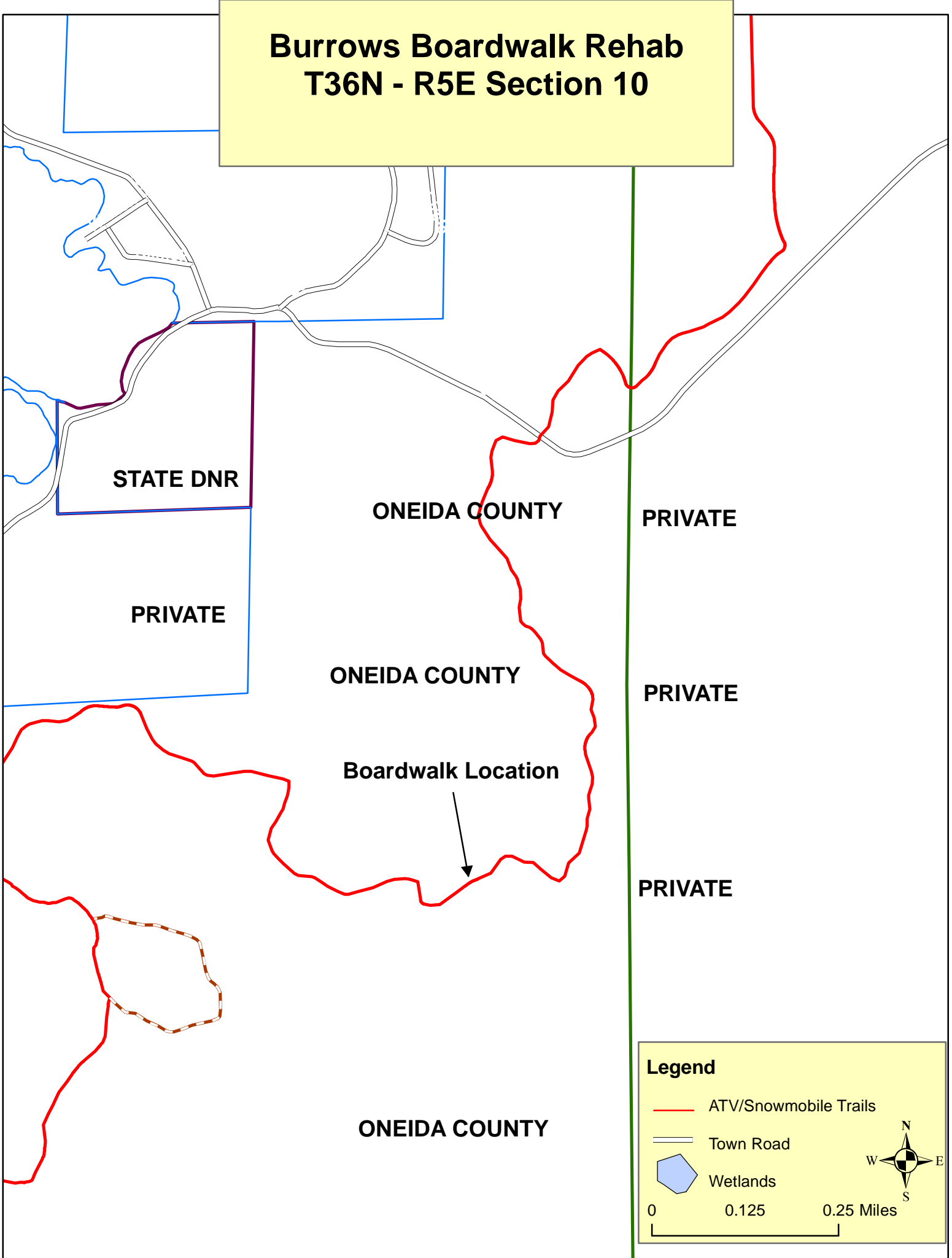


Legend

- ATV/Snowmobile Trails
- Town Road

0 0.75 1.5 Miles

Burrows Boardwalk Rehab T36N - R5E Section 10



STATE DNR

PRIVATE

ONEIDA COUNTY

PRIVATE

ONEIDA COUNTY

PRIVATE

Boardwalk Location

PRIVATE

ONEIDA COUNTY

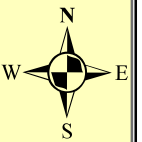
Legend

— ATV/Snowmobile Trails

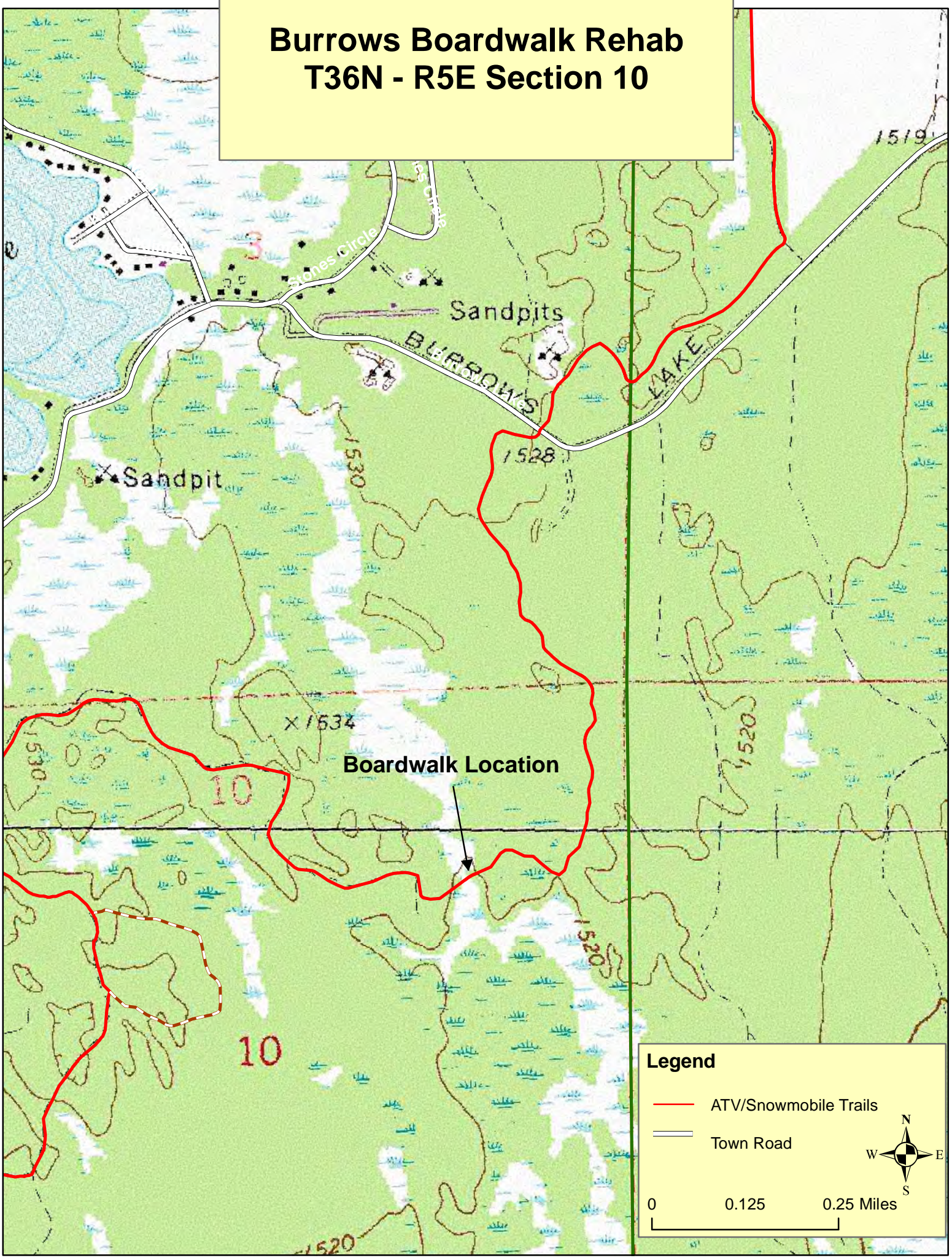
— Town Road

Wetlands

0 0.125 0.25 Miles



Burrows Boardwalk Rehab T36N - R5E Section 10



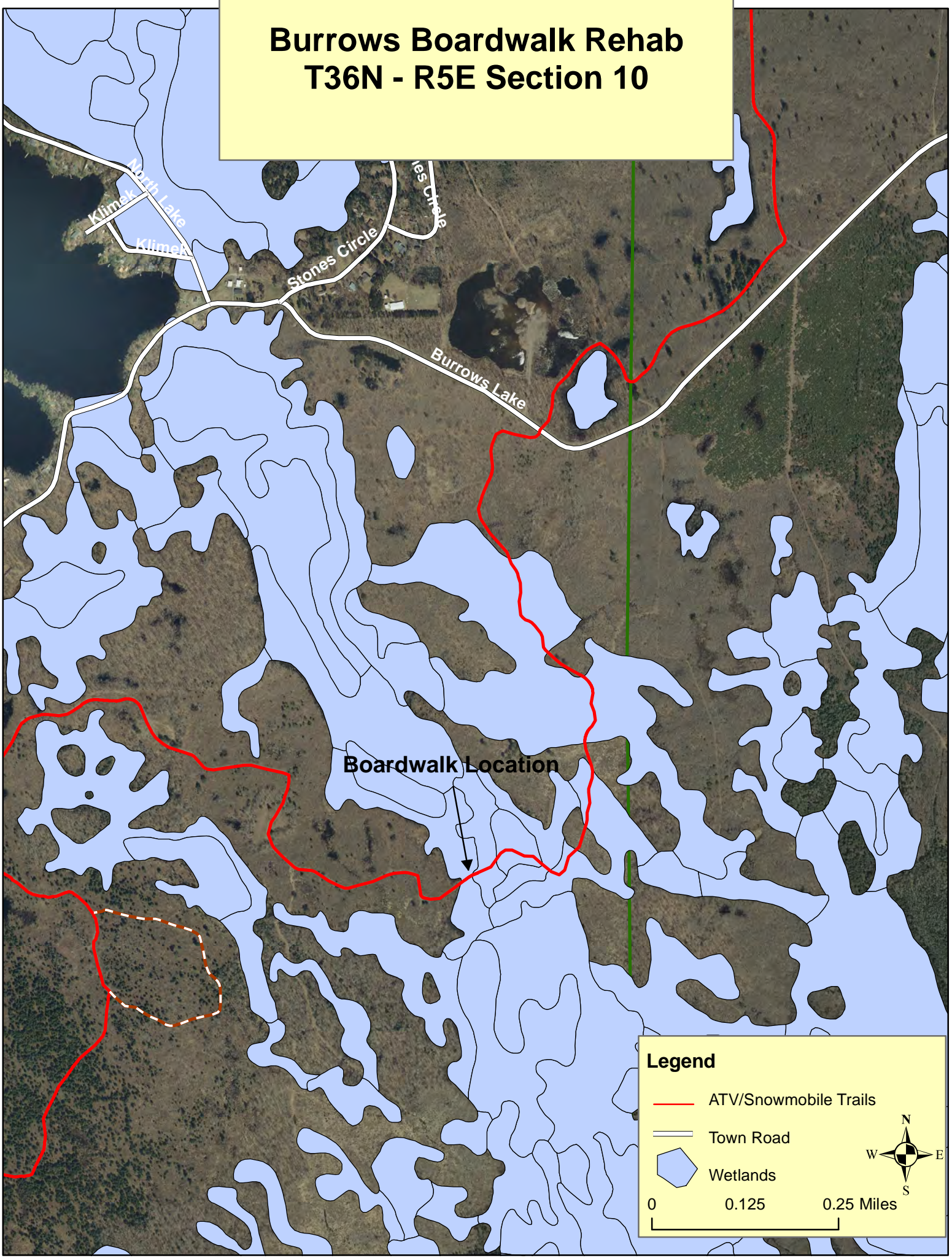
Legend

- ATV/Snowmobile Trails
- Town Road



0 0.125 0.25 Miles

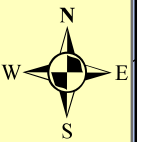
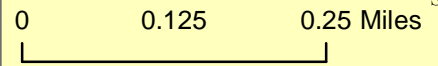
Burrows Boardwalk Rehab T36N - R5E Section 10



Boardwalk Location

Legend

- ATV/Snowmobile Trails
- Town Road
- Wetlands





Trail Bridge Inspection

Oneida County

Bridge Name

Little Rice ATV Trail Bridges 1-4

Inspected By:

William S. Knaack Jr., P.E.
William S Knaack Sr.

8/2/2022

Prepared By

KBIS, LLC





W7218 Hickory Lane
Phillips, WI 54555
wm.kbis@gmail.com
715.820.0095

Bridge Inspection Report

General Information

The structure in this report was inspected by certified Wisconsin Department of Transportation Bridge Inspectors. William S Knaack Jr., P.E., is Program Manager, Team Leader, Fracture Critical Inspector, and Underwater Inspector qualified. William S Knaack Sr, is Program Manager, Team Leader qualified.

The bridge was inspected with trail use in mind, using normal vehicle bridge standard to determine the condition of the structure.

All recommendations made in the report are also considering the use of the trail. Trail bridges in general should have a load rating considering all the possible uses of the structure. Even though the bridges may be just for snowmobiles, several types of vehicles may use the structure.

KBIS, recommends as a minimum that bridge owners load rate all the structures in their inventory and post a single ton sign at each bridge. It is a "insurance" policy for the owner if the bridge is damaged by a user that should not be using the structure. Also, grooming/trail equipment is getting larger every year, so bridges again should be rated.

Location information/General Description:

Lat and Long: Start: -89.840066, 45.632746 End: -89.842109, 45.624019

Bridge Condition

Bridge #1-Furthest South/West.

115 ft Long, 12 ft Wide, 2-6 ft of clearance.

Entire railing is checked and split. Minor damage SE corner, CS2-Fair

Deck-116 SF damage/decay, 21 SF loose ends of planks, CS3-Poor

West approach minor settlement, CS2.

West caution sign, CS2, West bridge ahead, CS2 minor damage.

All object markers are CS1-Good

All East signs are CS1.

Wearing surface is 2 layers of 2" x 12" boards.

10-2 x 16 inch S4S girders, bridging at 1/4 and mid points of each span.

6 spans, 5 piers, pile caps are 8x10 inch.

Some of the transverse decking and girders may be poor upon removal of the deck and further inspection.

The piers are sitting on helical piles, with corrosion.

The piers would favor a middle helical pile to prevent further creep of the pilecap at the mid points.



W7218 Hickory Lane
Phillips, WI 54555
wm.kbis@gmail.com
715.820.0095

NBI-Deck 5, Super 7, Substructure 6.

Bridge #2 from South

80ft Long, 12 ft Wide, 4+ ft of clearance.

Deck has 60 SF CS3 moderate decay. 4 SF of loose ends. NW corner has a 1 SF hole in deck, CS4.

Both approaches have CS3 settlement of 2 plus inches.

NW railing has minor CS2 damage.

Signs are good.

East pier has a 15 degree lean. All helicals have corrosion. All the piers would favor a middle helical being added to prevent further creep of the pilecaps at the mid points.

Embankment is good.

Some of the transverse decking and girders may be poor upon removal of the deck and further inspection.

NBI-Deck 5, Super 7, Substructure 6.

Bridge #3 from South

70ft Long, 12 ft Wide, 3-4 ft of clearance.

Deck has 95 SF CS3 moderate decay. 8 SF of loose ends.

Both approaches have CS3 settlement of 2 plus inches.

SW railing has minor CS2 damage. Checks and splits entire length, CS2.

Signs are good.

Pile caps are sagging at the mid point. All helicals have corrosion. All the piers would favor a middle helical being added to prevent further creep of the pilecap.

Some of the transverse decking and girders may be poor upon removal of the deck and further inspection.

NBI-Deck 5, Super 7, Substructure 6.

Bridge #4 from South or Most Northern

70ft Long, 12 ft Wide, 2-3 ft of clearance.

Deck has 90 SF CS3 moderate decay. 200 SF of CS2 decay. 50 SF Weathered CS2.

Both approaches have CS3 settlement of 2 plus inches.

SW railing has minor CS2 damage. Checks and splits entire length, CS2.

Signs are good.

Pile caps are sagging at the mid point. All helicals have corrosion. All the piers would favor a middle helical being added to prevent further creep of the pilecap.

Some of the transverse decking and girders may be poor upon removal of the deck and further inspection.

NBI-Deck 5, Super 7, Substructure 6.



Bridge Inspection Report

Report Summary

NBI Ratings: 9-7 Good, 6-5 Fair, 4-3 Poor, 2-1 Critical, 0-Closed

Deck	See each bridge for #'s
Superstructure	See each bridge for #'s
Substructure	See each bridge for #'s
Channel	See each bridge for #'s

Overall Condition Fair

Recommendations/Maintenance Items:

All bridges:

Replace the rotted deck boards. Upon removal of the deck, inspect the next wood member below it for rot. Consider adding a 3rd helical to each pier if the deck is to be replaced.

Fix the approaches so there is no "bump" on the deck which has a negative impact loading on the structure.

Cut the brush around the entire bridge so at least 4 ft is open. Timber bridges need to breath.

Clean the decks yearly.

Consider a load rating if a groomer is to be on these bridges or other heavy equipment. The design looks to be at the minimums.

Bridge 3:

Repair hole in deck in NW corner.

Signed By:

William S. Knaack Jr.,P.E.

8/02/22

Date

Bridge Inspection Report

Photo Observations



Bridge 1 (B1), Bottom of girders, end of East span.

Bridge Inspection Report

Photo Observations



Bridge 1, Pier

Bridge Inspection Report

Photo Observations



B1 typical Helical

Bridge Inspection Report

Photo Observations



B1, Typical Helical, corrosion.

Bridge Inspection Report

Photo Observations



Bridge 1 Abutment.

Bridge Inspection Report

Photo Observations



B1- CS3 rot and decay.

Bridge Inspection Report

Photo Observations



B1-Looking East.

Bridge Inspection Report

Photo Observations



B1- CS3 loose deck boards.

Bridge Inspection Report

Photo Observations



Bridge 2, East pier 15 degree lean.

Bridge Inspection Report

Photo Observations



B2- 2 inch plus sag , pier 2 from East, monitor. Consider adding a 3 pile in the middle.
Typical of all piers.

Bridge Inspection Report

Photo Observations



Elevation view of B2, typical of all 4 bridges.

Bridge Inspection Report

Photo Observations



B2-Looking East and West object markers.

Bridge Inspection Report

Photo Observations



B2-Looking West and East object markers.

Bridge Inspection Report

Photo Observations



B2- West approach 2 inch settlement and CS3 deck boards.

Bridge Inspection Report

Photo Observations



B2-CS3 Deck and maint note of clean deck, typ for all bridges.

Bridge Inspection Report

Photo Observations



B3-Object marker West end, looking East.

Bridge Inspection Report

Photo Observations



B3-Looking West, East object markers.

Bridge Inspection Report

Photo Observations



B3- 2inch settlement and CS3 deck boards.

Bridge Inspection Report

Photo Observations



B4, Looking East.

Bridge Inspection Report

Photo Observations



B4-Looking West.

Bridge Inspection Report

Photo Observations



B4-CS3 Deck.

Bridge Inspection Report

Photo Observations



B4 Wingwall damage.

Bridge Inspection Report

Photo Observations



Cut brush typical of all the bridges.

Bridge Inspection Report

Photo Observations



Typical Backing boards for all bridges,

ORIGINAL
P

GENERAL

1. ALL MATERIALS, WORKMANSHIP AND DETAILS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE "WISCONSIN COMMERCIAL BUILDING CODE".
2. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS TO VERIFY THE LOCATION AND DIMENSIONS OF CHASES, INSERTS, OPENINGS, SLEEVES, REGLETS, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
3. OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL NOT BE REVISED WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.
4. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS AND CONDITIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
5. THE TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL BE APPLICABLE TO ALL PARTS OF THE CONTRACT DRAWINGS UNLESS SPECIFICALLY NOTED OTHERWISE.
6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SAFETY DURING CONSTRUCTION.

DESIGN LOADS

- LIVE LOADS: (1) 85 PSF PEDESTRIAN
(2) 18,000 LB GROOMER
- SNOW LOADS: 30 PSF WITH LEVELLOAD (2)
- WIND LOADS: 30 PSF

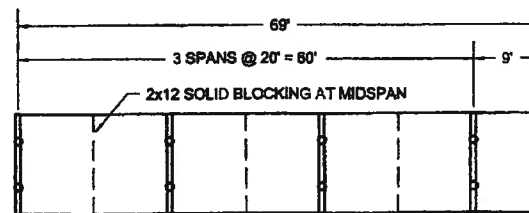
FOUNDATIONS

1. FOUNDATION WORK FOR THIS PROJECT SHALL CONSIST OF DRIVEN TIMBER PILES.
2. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE VALIDITY OF THE SUBSURFACE CONDITIONS DESCRIBED IN THE DRAWINGS, SPECIFICATIONS, TEST BORINGS OR GEOTECHNICAL REPORTS. THESE DATA ARE INCLUDED TO ASSIST THE CONTRACTOR DURING BIDDING AND SUBSEQUENT CONSTRUCTION AND TO REPRESENT CONDITIONS ONLY AT SPECIFIC LOCATIONS AT THE PARTICULAR TIME OBSERVATIONS WERE MADE.
3. ALL EXTERIOR FOUNDATIONS SHALL BEAR ON APPROVED SUBGRADE AT A MINIMUM DEPTH OF 4'-0" BELOW ADJACENT FINISH EXTERIOR GRADE.
4. PILING ELEVATIONS SHOWN ON THE DRAWINGS REPRESENT ESTIMATED DEPTHS AND ARE NOT TO BE CONSTRUED AS LIMITING THE AMOUNT OF EFFORT REQUIRED TO REACH SUITABLE BEARING MATERIAL.
5. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORTS AS REQUIRED TO PREVENT HORIZONTAL MOVEMENT OR VERTICAL SETTLEMENT WHICH WILL ENDANGER ADJACENT STRUCTURES, STREETS OR UTILITIES.
6. CONTRACTOR SHALL PROVIDE CONTROL OF SURFACE AND SUBSURFACE WATER PROMPTLY TO INSURE THAT ALL FOUNDATION WORK IS DONE IN THE DRY.

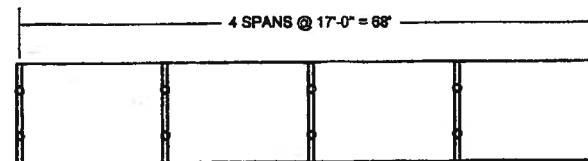
STRUCTURAL WOOD CONSTRUCTION

1. WOOD MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE FOLLOWING:
AF&PA - "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION"
AF&PA - "DESIGN VALUES FOR WOOD CONSTRUCTION"
AITC - "TIMBER CONSTRUCTION MANUAL, PART II, DESIGN SPECIFICATIONS"
APA - "U.S. PRODUCT STANDARD PS 1-83 FOR CONSTRUCTION AND INDUSTRIAL PLYWOOD"
2. STRUCTURAL WOOD SHALL BE VISUALLY GRADED IN ACCORDANCE WITH ASTM D1890-00a1 OR ASTM D245. WOOD SHALL BE IDENTIFIED BY A GRADE MARK OR CERTIFICATE OF INSPECTION ISSUED BY A RECOGNIZED INSPECTION AGENCY.
3. ALL WOOD SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 15% PRIOR TO INSTALLATION.

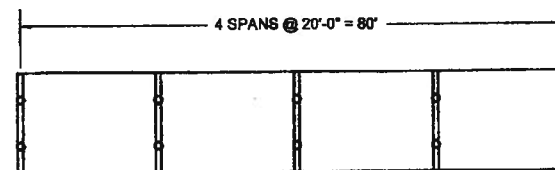
4. NEW WOOD SHALL HAVE ALLOWABLE UNIT STRESSES ACCORDING TO THE SCHEDULE OF WOOD DESIGN STRESSES SHOWN ON THE DRAWINGS.
5. JOISTS SHALL BE BRIDGED WITH 1 X 3 CROSS BRIDGING, OR EQUAL, AT INTERVALS NOT EXCEEDING 8'-0".
6. ALL JOISTS AND RAFTERS SHALL BE SUPPORTED BY DIRECT END BEARING ON WALLS, BEAMS, OR JOIST HANGERS.
7. ALL WOOD PERMANENTLY EXPOSED TO THE WEATHER OR IN CONTACT WITH THE GROUND SHALL HAVE A PRESERVATIVE TREATMENT EQUAL TO 0.4 P.C.F. RETENTION OF PRESSURE INJECTED PRESERVATIVE.
8. NO WOOD MEMBER SHALL BE CUT, NOTCHED, OR DRILLED WITHOUT THE SPECIFIC WRITTEN APPROVAL OF THE ENGINEER.
9. WOOD PLANK DECKING SHALL BE INSTALLED IN THE "CONTROLLED RANDOM LAY-UP" PATTERN, CONTINUOUS OVER THREE SPANS.
10. WOOD PLANK DECKING SHALL BE FACE NAILED TO EACH SUPPORT ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
11. USE COMMON WIRE NAILS UNLESS SPECIFICALLY NOTED OTHERWISE.
12. ALL BOLTS AND LAG SCREWS SHALL CONFORM TO ASTM A307. USE STEEL WASHER BETWEEN HEAD OF BOLT OR LAG SCREW AND WOOD. USE STEEL WASHER BETWEEN NUT AND WOOD.
13. ALL FASTENERS USED FOR PRESERVATIVE TREATED WOOD SHALL BE GALVANIZED OR STAINLESS STEEL. STAINLESS STEEL IS PREFERRED. SCREWS FOR ATTACHMENT OF WEAR COURSE TO SUB DECK SHALL BE RSS RUGGED STRUCTURAL SCREWS WITH CLIMATEX COATING BY GRK FASTENERS, OR EQUAL.
14. JOIST HANGER FASTENERS MUST BE AS SUPPLIED AND/OR REQUIRED BY THE JOIST HANGER MANUFACTURER.



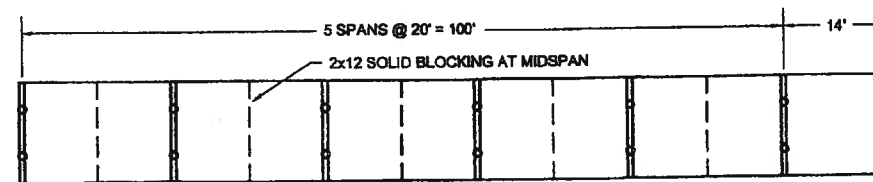
BOARDWALK 1



BOARDWALK 2

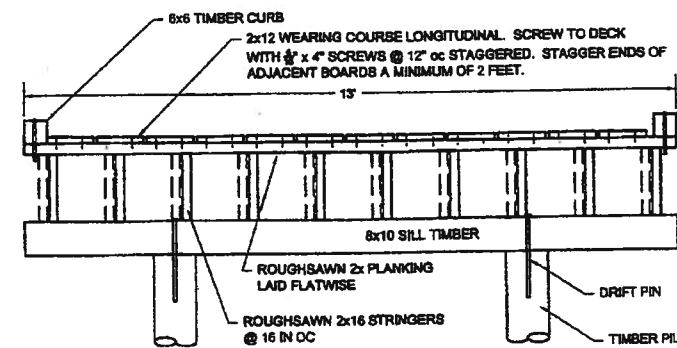


BOARDWALK 3



BOARDWALK 4

WOOD FRAMING DESIGN STRESSES						
MEMBER	SPECIES & GRADE	Fb Single Use (psi)	Fv (psi)	Fc (psi) PERP- ENDICULAR TO GRAIN	Fc (psi) PARALLEL TO GRAIN	E (psi)
JOISTS AND BEAMS	SYP #1	1,250	175	565	1600	1,700,000
DECK AND CURBS	DF #2	875	95	625	1,300	1,600,000
POSTS & TIMBERS	SYP #1	1,350	185	375	875	1,500,000
PILES		---	---	---	800	---



TYP SECTION THROUGH BOARDWALK AT PIER

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BURROWS LAKE BOARDWALK
ONEIDA COUNTY WISCONSIN

McMULLEN & PITZ
17 MARITIME DRIVE
MANITOWOC, WI

SEAL
WISCONSIN
STEVEN E. KAISER
E 26892
APPLETON, WI
PROFESSIONAL ENGINEER
Date: 9-27-12
Design Firm#

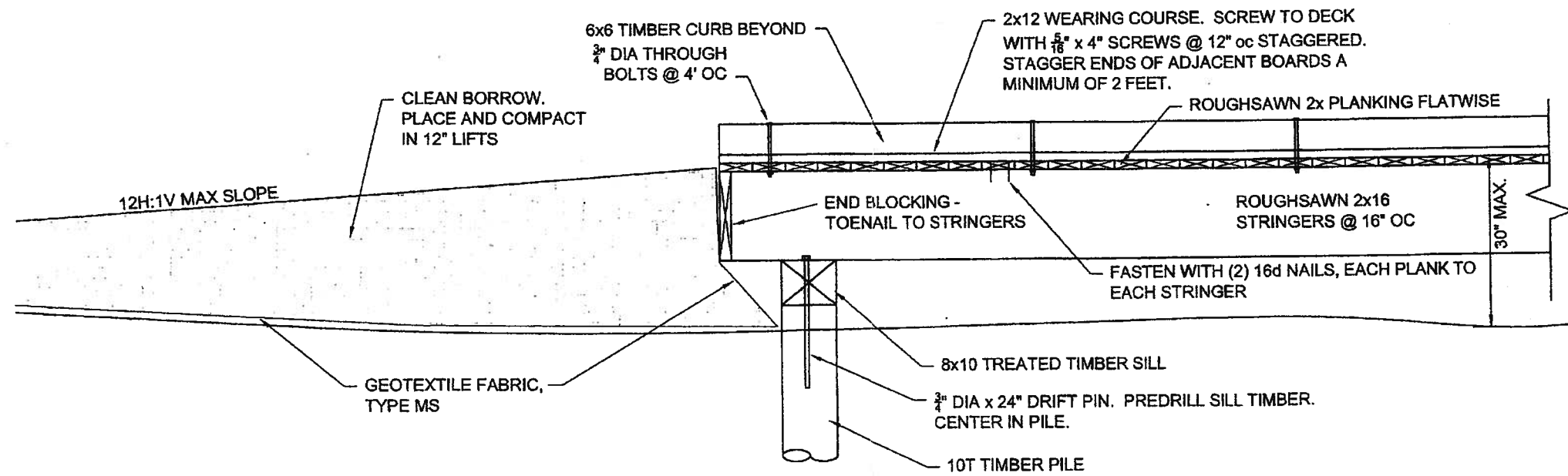
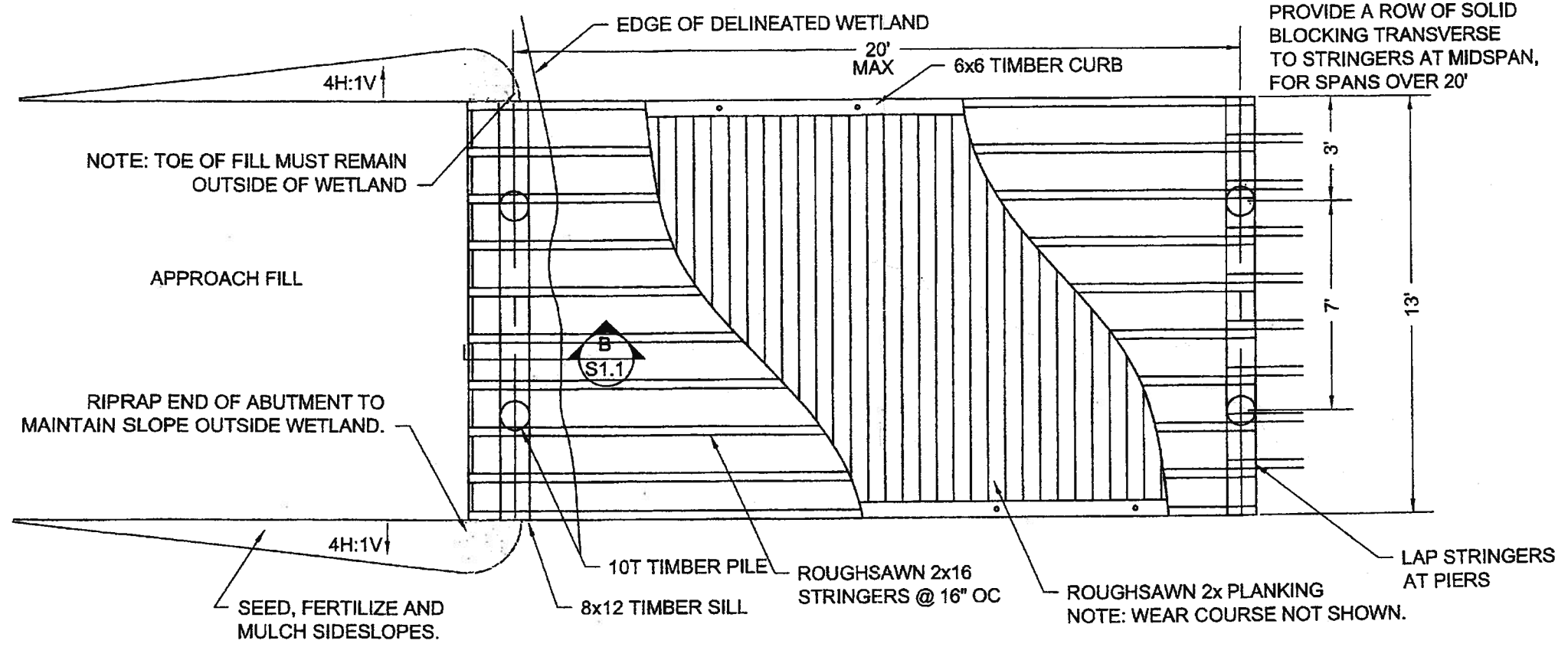
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1	9/18/12	ADJ-FV

Project#: 31120812.000
Drawn by: SEK
Checked by: SEK

Sheet Title:
NOTES AND SCHEDULES

S1.0

Structural Sheet: 1 of 2



SECTION B-B

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PROFESSIONAL ENGINEER

Date: 9/18/12
 Design Firm:

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1	9/18/12	ADJ.-FV

Project#: 31120312.000
 Drawn by: SEK
 Checked by: SEK

Sheet Title:
BOARDWALK PLAN

S1.1