



CONSTRUCTION PLAN

AS BUILT PLAN COMPLETED 8-21  
2018 IN THE FIELD AND 9-4 IN  
THE OFFICE BY BRENT EDLIN

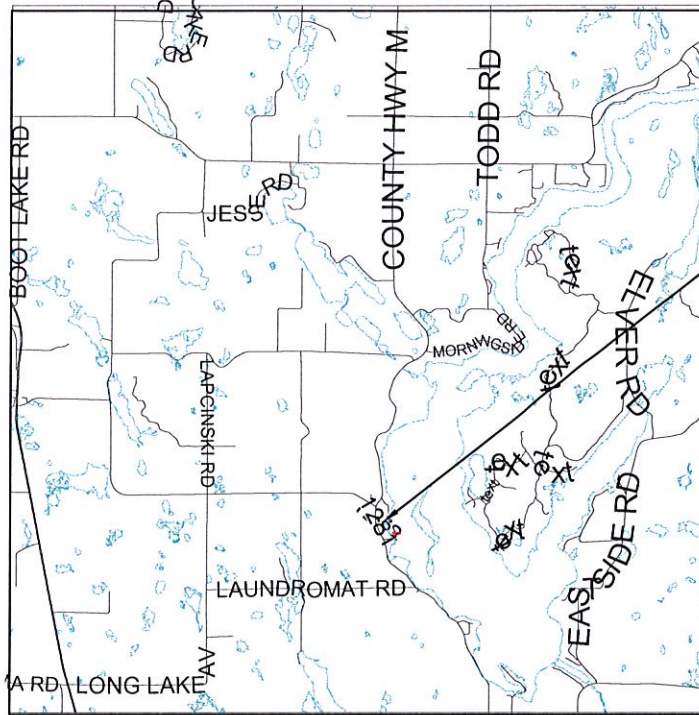
PRACTICE(S) Lined Waterway or Outlet 468  
STORMWATER RUNOFF CONTROL 570  
LANDOWNER Long Lake Township MICK GIVENS - CHAIRMAN  
ADDRESS N 1584 COUNTY HWY MD  
LANDOWNER PHONE NO. (715) 354-7623 COUNTY WASHBURN  
TOWNSHIP Long Lake T 37N N, R 11W E/W, Sec. 16  
FIELD OFFICE Washburn Co Land Conservation TELEPHONE NO. 715 468-4654

DIGGERS HOTLINE  
Call 3 Work Days  
Before You Dig!

Nationwide  
811  
Toll Free  
1-800-242-8511

TDD  
1-800-542-2289

Website  
www.diggershotline.com



One Inch = Two Miles

LOCATION MAP

NOTICE TO LANDOWNERS AND EXCAVATORS

Any representation made by the USDA, Natural Resources Conservation Service, or the WASHBURN County LCD, as to the approximate location or nonexistence of above or under ground hazards does not relieve the owner of the property or the excavator that is hired to complete construction, from notifying Diggers Hotline of the pending construction. You will be liable for damages resulting from construction activities.  
Call Diggers Hotline! Ticket Number \_\_\_\_\_

CONSTRUCTION DRAWINGS AND SPECIFICATIONS ACCEPTANCE

I have reviewed and understand the construction plans and specifications and agree to complete the work accordingly. Failure to meet these plans and specifications may jeopardize any continued NRCS technical assistance or program cost sharing applied for. I understand that it is my responsibility to secure all necessary permits and licenses, and to complete the work in accordance with all local, state, and federal laws. Modification of these construction plans or specifications must be approved by the NRCS before installation. I assume all responsibility for negotiations and contract agreements with the construction contractors.

Landowner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Designed by: Brent Edlin Date: 12-2017

Checked by: \_\_\_\_\_ Date: \_\_\_\_\_

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

The installed practices comply with applicable NRCS technical standards and specifications. The "redlined" construction plans (as-built drawings) reflect changes made during construction.

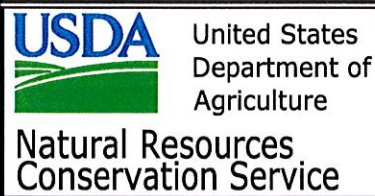
Construction Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Lined Waterway or Outlet 468 - JAC II  
Job Approval Class STORMWATER RUNOFF CONTROL 570 - JAC III

**ESTIMATED QUANTITIES**

ITEM	UNIT	QUANTITY	SHEET NUMBER	WI CONSTRUCTION SPEC. OR JOB SHEET NUMBER
POND		1	2 TO 6	
CLEARING	ACRES	0.1 .1	2 TO 6	1-Clearing
EXCAVATION POND	CUYDS	270 228	2 TO 6	2-Excavation
FILL FOR BERM	CUYDS	52	2 TO 6	3a-Earthfill
TOPSOIL 4 INCH	CUYDS	56	2 TO 6	026-Topsoiling
SEED	ACRES	0.2	11 to 12	WI-710 SEEDING
				BASED ON FG SHOTS BEING CLOSE
ROCK LINED WATERWAY	FEET	376	2,3 & 7-10	
EXCAVATION CUT	CUYDS	335	2,3 & 7-10	2-Excavation
ROCK D 50 6 INCH angular or 8 inch Round	CUYDS	238 210	2,3 & 7-10	9-Rock Riprap
CLASS 1 NON-WOVEN Geotextile	SQYDS	630	2,3 & 7-10	013-Geotextiles
				PLACED AS NEEDED, ASSUME VOLUME CLOSE
POLLUTION CONTROL		1	2 thru 12	5-Construction Site Pollution
Mobilization and Demobilization		1	2 thru 12	7-Mobilization and Demobilization
POND AND LINED				
Erosion Control Mat	SQYDS	800	2 thru 12	
				LESS BLANKET WAS USED. PLANNED FOR BUT DID NOT USE ALONG LINED WATERWAY. POND AREA WAS COVERED PER PLAN REQUIREMENTS.

QUANTITIES ARE ESTIMATED TO THE NEAT LINES AND GRADES OF IN-PLACE MATERIALS SHOWN ON THE CONSTRUCTION PLAN UNLESS OTHERWISE STATED. TRUCK YARDAGE, LOOSEFILL, SHRINKAGE, ETC..., MUST BE CALCULATED AND COMPENSATED FOR BY THE CONTRACTOR PREPARING A BID OR CONSTRUCTING.



**ESTIMATED QUANTITIES**

CLIENT: Long Lake Township  
 COUNTY: WASHBURN

Designed BJE Date 1/26/2018  
 Drawn \_\_\_\_\_  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_

File Name WI-005A  
 Date 08/14  
 Sheet 2 of 13

## CONSTRUCTION NOTES

### GENERAL NOTES:

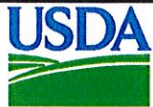
- All underground Hazards and utilities must be investigated prior to construction. Notification of affected utility companies is the responsibility of the contractor. 7/27/2018 VERIFIED, CONTRACTOR DID
- A pre-construction meeting shall be scheduled with the Washburn County Land Conservation personnel, the contractor, and the landowner prior to construction. 7/27/2018 – STEVE MADISON
- The contractor and or landowner shall notify the Washburn County Land Conservation Department at least three days prior to the start of construction. ✓
- All work to be performed in accordance with Wisconsin NRCS Construction Specifications. ✓
- Seed all exposed soil areas and cover with erosion control blanket. A seeding sheet with more detail is included in the plan for this. ✓
- Once the soil areas have become exposed place silt fence to capture and filter the runoff water. This done not have to be done if rain is not in the forecast and these areas will be seeded and covered with erosion mat within 24 hours of soil exposure. SILT FENCE WAS NOT USED ON THE LWW OR POND AREA. LWW CONSTRUCTED IN 2 DAYS, AS DUG BLANKET & ROCK PLACED. CLEARED POND AREA, VEGETATION AT OUTLET MAINTAINED, THEN DUG POND AND BANK AND SEEDED, COVERED WITH E MAT IN ONE DAY

### STORM WATER DETENTION POND NOTES:

- The Land Conservation Department personnel will stake the pond prior to construction when given enough time to do so (minimum of 2 days). The stakes will show the finished grade elevations. ✓
- Excavate beyond finished grade elevations in the pond area to make room for four inches of topsoil. The four-foot level area around the top of the pond edge and the area to be seeded will also be covered with four inches of topsoil. It is not necessary to do additional excavation here but placed and then blended into the surrounding area. ✓
- Seed area with the included seed mix. ✓
- Stake the erosion control blanket following the manufacturer's recommendations. ✓

### Rock Lined Waterway Notes:

- The Land Conservation Department personnel will stake the lined waterway as specified by the contractor. ✓
- Class one non-woven geotextile will be placed underneath the rock. Verify with Land Conservation Department prior to purchasing. ✓
- From the road edge, there will be a one-foot shoulder, then a three to one slope to a depth where the finished grade is one foot below the road, then a finished grade that is level and three feet wide for the bottom of the waterway. The outside slope of the waterway will have a two to one slope finished grade.
- For the rock use D50 6 inch angular or D50 8 inch round. Verify gradation and suitability with Land Conservation personnel prior to purchasing. 8 INCH ANGULAR WAS USED
- The volume of the waterway will be consistent throughout the entire waterway. YES, REASONABLE WELL
- At the bottom of the waterway there is a level section referred to as the plunge pool. It is a level area running longitudinally for ten feet. Except for it being level construction here is the same as the other cross sections, side slope, depth, bottom and width. YES, REASONABLE WELL



United States  
Department of  
Agriculture

Natural Resources  
Conservation Service

### CONSTRUCTION NOTES

CLIENT: Long Lake Township

COUNTY: WASHBURN

Designed <u>BJE</u>	Date <u>1/26/2018</u>	File Name
Drawn _____		Date
Checked _____		<u>08/14</u>
Approved _____		

Sheet 3 of 13



CONSTRUCTION DIARY

CLIENT: Long Lake Township

COUNTY: WASHBURN

Approved \_\_\_\_\_

Checked \_\_\_\_\_

Drawn \_\_\_\_\_

Designed \_\_\_\_\_

Date

B/E 1/26/2018

File Name

08/14

Date

Sheet XX of 13

Page 1

Long Lake L.W.W. - Sed Rd  
7/27  
Met with contractor for  
showed location of  
stakes and elevation  
marks on the stakes.  
He verified layers  
No line was checked  
(Contractor Steve Madison)  
will not be starting  
work until August 6th  
Rock had been hauled  
to site. Good amount  
of fines in with  
the rock. Steve said he  
would clean it up but  
it may not. Rock looked  
good for size of gradation.  
I worked with Kraemer's  
Trac. who did the clearing  
Used 1.5 brexton plan  
Rock broken with hammer  
a 501 Sorath.

Page 2

8-8-2018 Construction  
check - Brent Eakin  
Arrived at 1:00. They  
were about half of  
the way done with  
the L.W.W. Geotextile  
placement was as  
planned. Rock thickness  
was as planned. With  
the large rock being  
used in the valley in  
depth at spots. Did not  
verify depth with  
instrument but based  
on design using a  
depth of 1 foot below  
road edge it looked  
to be close to being  
correct. Mention to the  
contractor to maintain  
Volume. Some areas  
there was some concern  
with this and covered some  
roads for this.

Pg. 3

10-10-2018  
 Arrived at site around noon. They were about done with ERM. Stake I placed for construction still in place. They had dug out extra fur double thickness section and were placing rock into this area. The pond area was cleared out and stakes were still intact.

10-12 stopped out No both there - Steve mentioned he might not work on this project any more this week. Site was the same.

Pg 4

8-17-2018 BJE  
 10:00 AM arrived at site. Construction was completed. Erosion mat in place and staked. Spool was observed on the surface along edge of blanket + arda took GPS shots of pond construction area. Complete check of LAW. This included using a tape to determine locations of cross sections using an plan. At those locations a level and flag were used for doing sections.



United States  
Department of  
Agriculture

Natural Resources  
Conservation Service

# CONSTRUCTION DIARY

CLIENT: Long Lake Township

COUNTY: WASHBURN

Designed: BJE 1/26/2018  
Date: 1/26/2018  
File Name: WI-007

Drawn: \_\_\_\_\_

Checked: \_\_\_\_\_

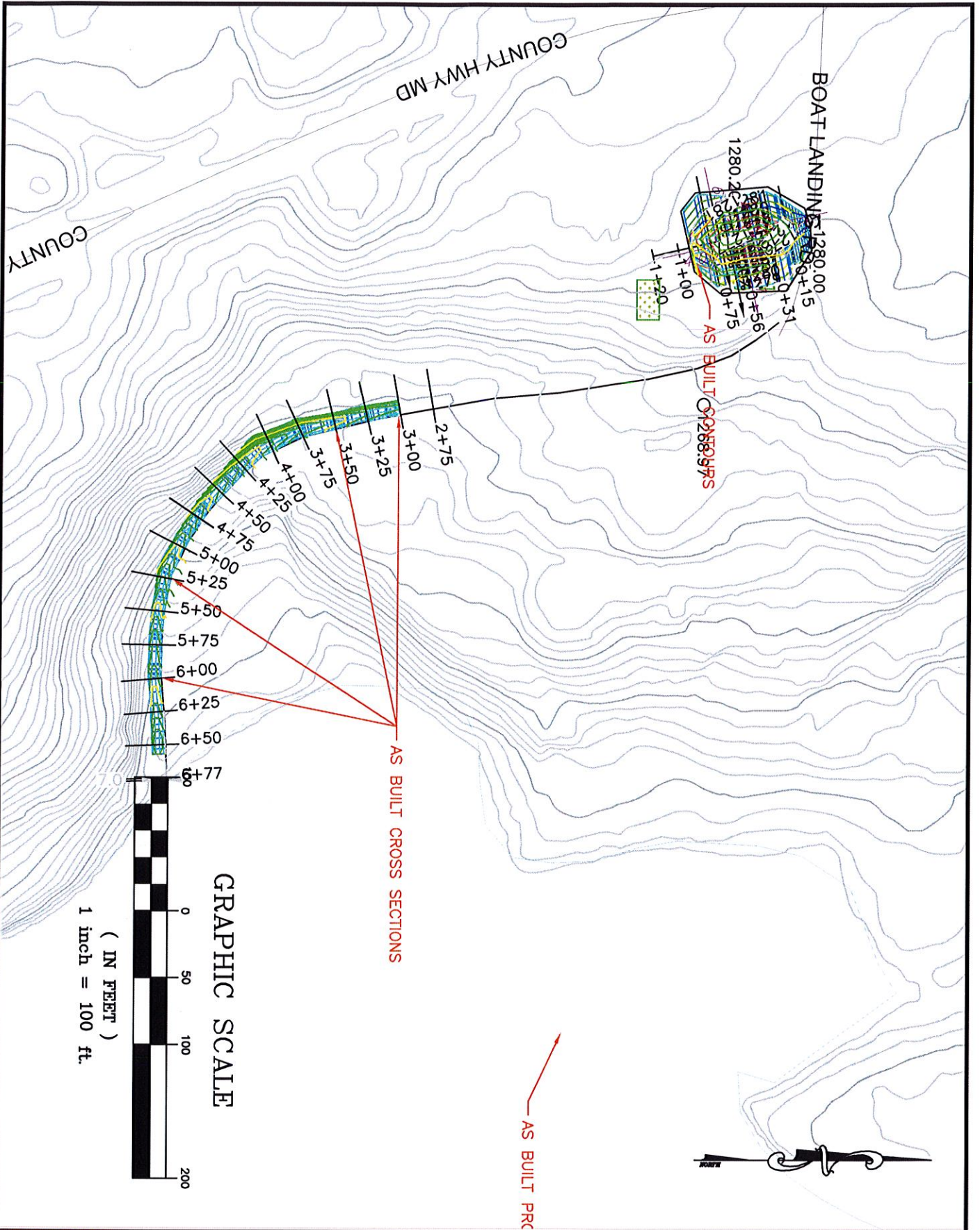
Approved: \_\_\_\_\_

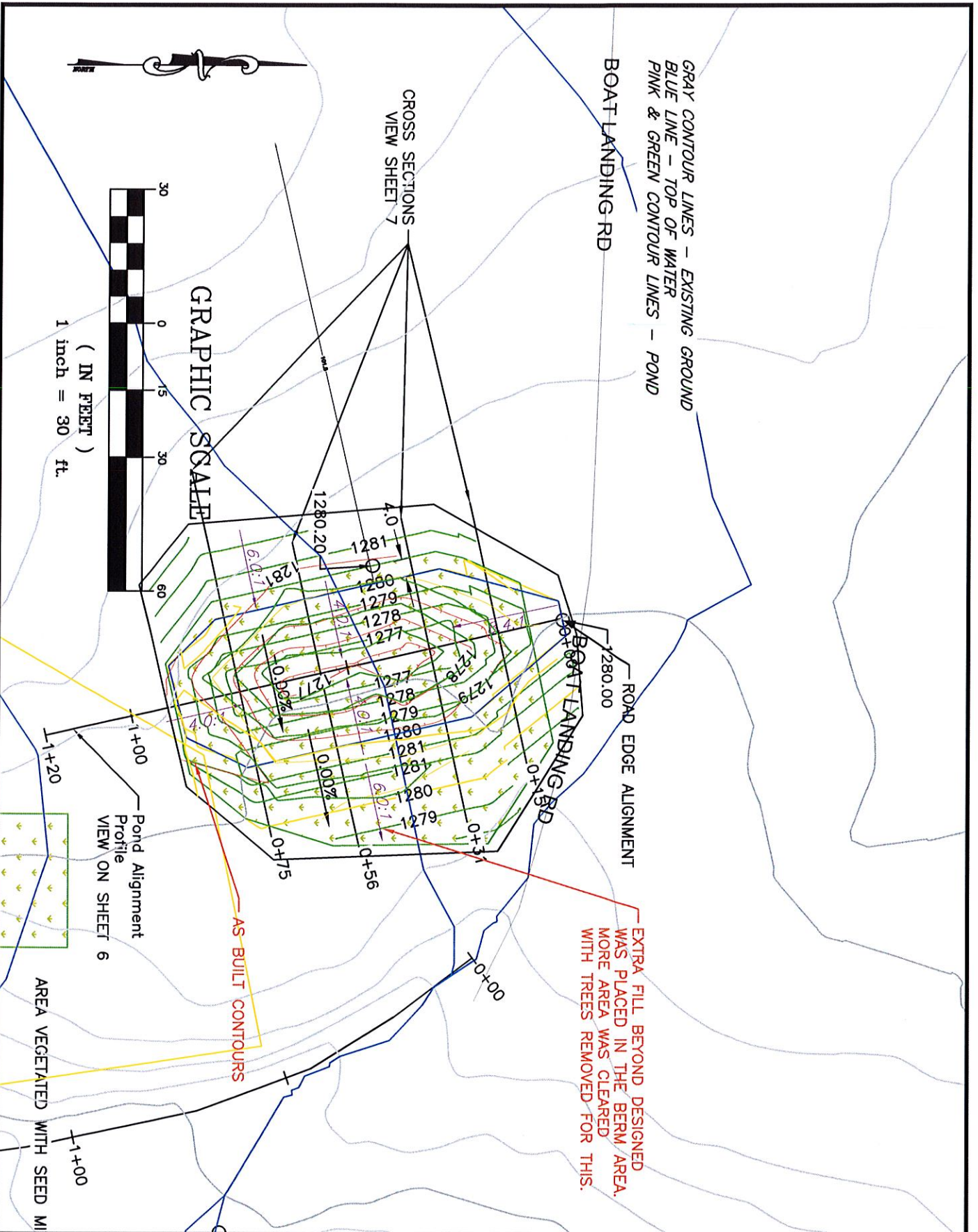
Sheet XX of 13

Pg 7

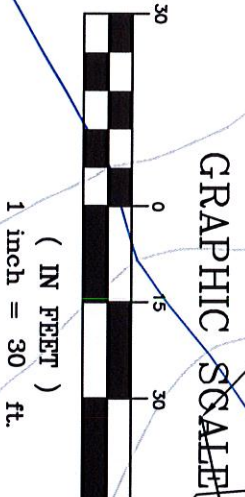
8/13/2018 Reg E

I had a substantial  
rain last night. Went out  
to look at site to see  
how it looked & took photos.  
Photos will be put in the  
as built & plan. Upon  
viewing things looked  
good. Sealing is 3/4 inches  
in height. No erosion  
occurring in new area  
or pond. However the  
silt on along road (above USW)  
had gullied more with  
contract township to buy  
with me putting in a  
jute netting. I had already  
contracted them to purchase  
for installing next spring  
when vegetation was not  
present. Could be spread  
out into place ASAP





GRAY CONTOUR LINES - EXISTING GROUND  
 BLUE LINE - TOP OF WATER  
 PINK & GREEN CONTOUR LINES - POND



EXTRA FILL BEYOND DESIGNED  
 WAS PLACED IN THE BERM AREA.  
 MORE AREA WAS CLEARED  
 WITH TREES REMOVED FOR THIS.

**USDA** United States Department of Agriculture  
 Natural Resources Conservation Service

**PLAN VIEW**  
 CLIENT: Long Lake Township  
 COUNTY: WASHBURN

Designed: BJE  
 Drawn: \_\_\_\_\_  
 Checked: \_\_\_\_\_  
 Approved: \_\_\_\_\_

Date: 1/26/2016  
 File Name: WI-007  
 Date: 08/14  
 Sheet 5 of 13

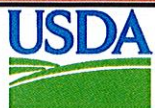




WW TO BACK



BEFORE



United States  
Department of  
Agriculture

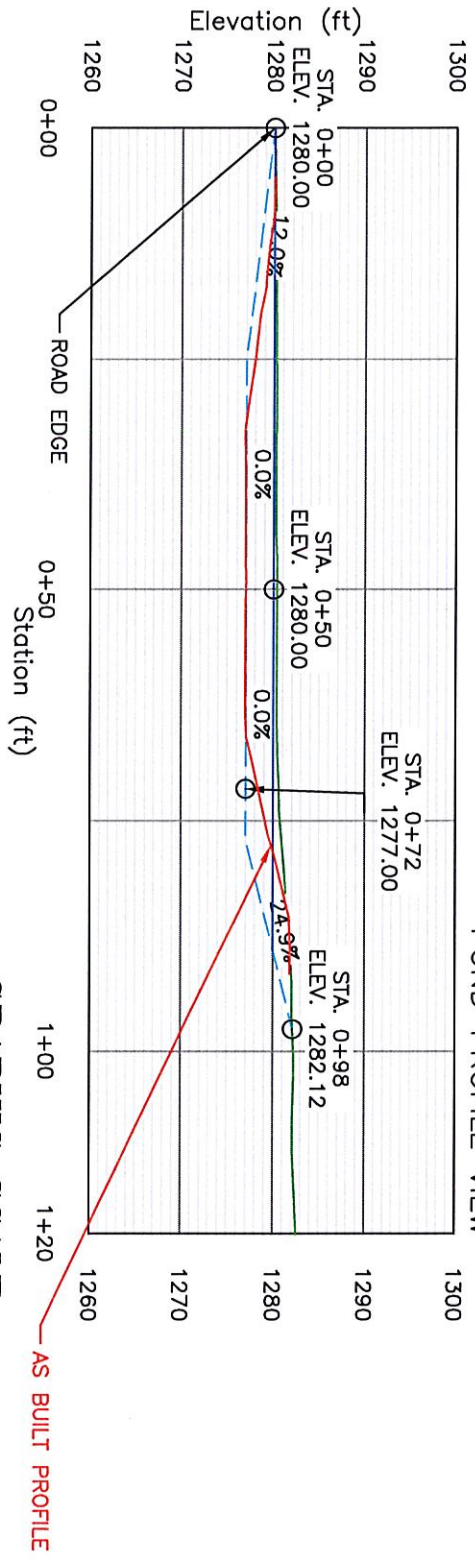
Natural Resources  
Conservation Service

PLAN VIEW PONDS AS BUILT  
PHOTOS

CLIENT: Long Lake Township  
COUNTY: WASHBURN

Designed BJE Date 1/26/2018  
Drawn \_\_\_\_\_  
Checked \_\_\_\_\_  
Approved \_\_\_\_\_

File Name	<u>WI-002</u>
Date	<u>08/14</u>
Sheet	<u>XX</u> of 13






 United States  
 Department of  
 Agriculture  
 Natural Resources  
 Conservation Service

**PLAN VIEW LWV AS BUILT  
 PHOTOS**

CLIENT: Long Lake Township  
 COUNTY: WASHBURN

Designed BJE Date 1/26/2018  
 Drawn \_\_\_\_\_  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_

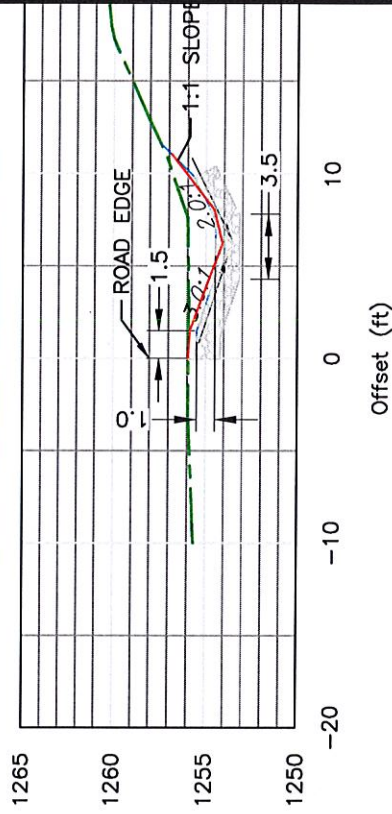
File Name WI-002  
 Date 08/14  
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File Name: WI-007  
 Date: 1/26/2018  
 Drawn: BJE  
 Checked: 08/14  
 Approved: \_\_\_\_\_  
 Sheet 10 of 13

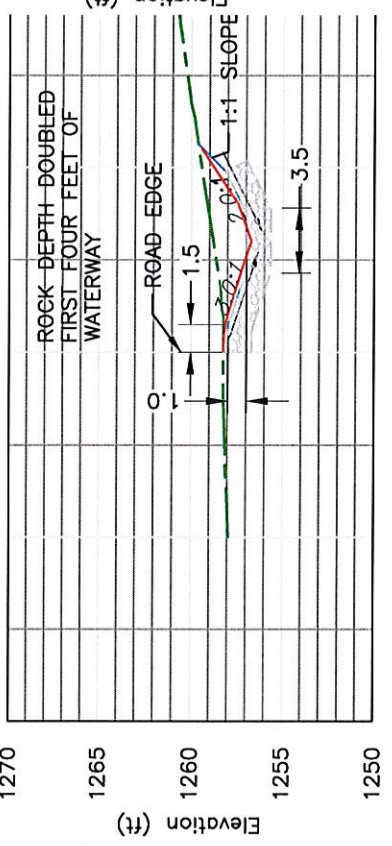
CLIENT: Long Lake Township  
 COUNTY: WASHBURN  
 CROSS SECTION LINED WW

United States of America  
 Department of Agriculture  
 USDA  
 Natural Resources Conservation Service

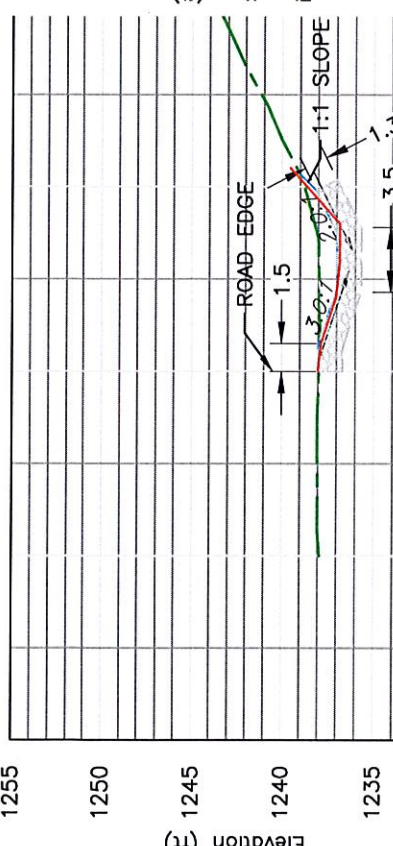
Alignment - RD EDGE  
 CROSS SECTION AT STATION 3+50



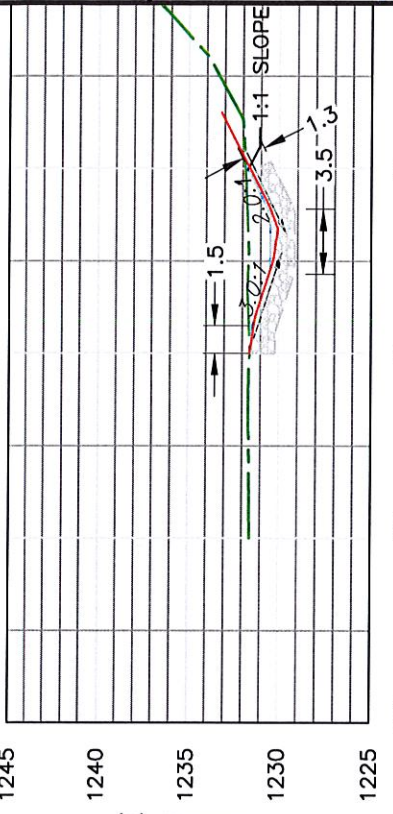
Alignment - RD EDGE  
 CROSS SECTION AT STATION 3+00



Alignment - RD EDGE  
 CROSS SECTION AT STATION 5+25



Alignment - RD EDGE  
 CROSS SECTION AT STATION 6+00



Green Line - Existing Ground  
 Blue Line - Top of Rock  
 Rock Depth 1.2', EXCEPT FIRST FOUR FEET 2.4'  
 Place Class 1 Non-Woven Geotextile Underneath Rock  
 Rd Edge TO ROCK 1.5' > -3:1 SS > 3' Level > +2:1 SS > 1:1  
**AS BUILT - RED LINE**

Page 5  
Cross Section

Sta	BS	FS	HI	Dist	TBM
1	4.8			Rd Edge	0
2		4.9			1.5
3		5.8			4.5
4		6.3		Ch	6
5		5.6			8
6		3.6		Top Road	11

Cross Section

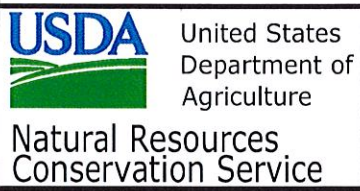
Shot STA	BS+SD	TBM	Dist
1	4.4		Rd Edge 0
2		4.5	
3		5.6	
4		6.7	Ch 6
5		5.9	
6		3.6	Top Road 11

Page 6  
Cross Section

Sta	BS	FS	HI	Dist	TBM
1	5.1			Rd Edge	0
2		5.3			1.5
3		6.1			4.5
4		6.3		Ch	6
5		6.5			8.5
6		3.8		Top Road	13

Cross Section

Sta	BS+SD	TBM	Dist
1	5.4		Rd Edge 0
2		5.7	
3		6.7	
4		7.3	Ch 6
5		7.1	
6		4.2	Top Road 13.6



AS BUILT LWW SURVEY NOTES

CLIENT: Long Lake Township  
 COUNTY: WASHBURN

Designed: BJE  
 Date: 1/26/2016  
 Drawn: \_\_\_\_\_  
 Checked: \_\_\_\_\_  
 Approved: \_\_\_\_\_

File Name: WI-007  
 Date: 08/14  
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**SEEDING DATES**

**NORTH**

TIME PERIOD	DATES			TYPE OF SEEDING
Spring	May 1	through	June 15	Permanent
Summer	June 16	through	see WI-710 ss pg 2	Temporary *
Late Summer	July 15	through	August 10	Permanent
Fall	August 11	through	see WI-710 ss pg 2	Temporary *
Late Fall	November 1	through	Snow Cover	Dormant
Winter	Snow Cover	through	April 30	Not Allowed

**MATERIALS**

If no soil test is available, apply a minimum of 150 pounds of 20-10-10 fertilizer per acre. This is equivalent to 30 pounds nitrogen (N), 15 pounds phosphate (P205), and 15 pounds potash (K2O) per acre. Apply two tons of 80-89 lime or equivalent.

\* Seed a temporary cover crop of **Winter Cereal Rye** at 112 #/ac ( 2 bu/ac)  
 A permanent seeding shall be completed during the next acceptable time period following a temporary seeding.

— USED ALONG LWV & POND

**MINIMUM PURE LIVE SEED (PLS) <sup>1</sup> RATE PER ACRE AND TOTAL POUNDS OF SEED NEEDED**

SEEDING MIX (DESIGN)	LOCATION: ACRES:	POUND	SEEDING MIX (AS-BUILT)	LOCATION ACRES	RATE	POUNDS
16	POND & WW	2.00				
SPECIES	RATE	POUNDS	SPECIES	RATE	POUNDS	
Tall Fescue	5.0	10.0				
Timothy	3.0	6.0				
Perennial Ryegrass	3.0	6.0				
Red Clover	3.0	6.0				
Smooth Bromegrass	6.0	12.0				
Kentucky Bluegrass	2.0	4.0				
** Oats	64.0	128.0				

<sup>1</sup> PLS = (% Germination x % Purity)

ADDITIONAL SEED PERCENTAGE:          %

\*\* Companion Crop

Mulching Required USE EROSION MAT

Additional native seeds may be required by permitting agencies. These addition are allowed.

Seed mixture shall meet all requirements of the WI weed laws.

Species identified as restricted or prohibited by law shall not be planted.

Certified seed shall be used, and the seeding rates will be based on pure

For dormant seedings, increase the seeds per square foot by 15%.

SEED MIX CHANGED, WILL USE A NATIVE SEED MIX INSTEAD. TOWN WILL ORDER AND I WILL PLANT IN OCTOBER. USED A TEMPORARY COVER CROP

**SEEDBED PREPARATION**

Seedbed preparation shall immediately follow construction activities.

Prepare a fine, firm seedbed to a minimum depth of three inches. A seedbed is considered firm when a footprint penetrates 1/4 to 1/2 inch deep.

**SEEDING**

Inoculate legumes with the specific inoculum for the species in accordance with the manufacturer's recommendations. When using a hydroseeder, five times the recommended rate of inoculant shall be added to the hydroseeder. Inoculant shall not be mixed with liquid fertilizer.

Seed may be broadcast or drilled as appropriate to the site.

Seed, fertilize, and lime as soon as possible after construction.

Seeding perpendicular to direction of flow is required to limit erosion.



United States Department of Agriculture

Natural Resources Conservation Service

**INTRODUCED SPECIES SEEDING ESTABLISHMENT**

CLIENT: Long Lake Township  
 COUNTY: WASHBURN

Date 1/26/2018  
 Designed BJE  
 Drawn \_\_\_\_\_  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_

File Name WI-710  
 Date 08/14