



Village Creek Assessment Report



Village of Island Lake, Illinois

June 2022



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Village of Island Lake, Illinois Village Creek Assessment Report

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EXECUTIVE SUMMARY

Baxter & Woodman Natural Resources, LLC was retained by the Village of Island Lake to conduct an investigation of Mutton Creek (Cotton Creek), in order to assess the overall state of repair and vegetative health as well as to develop a maintenance plan. An initial investigation was conducted by Baxter & Woodman Natural Resources and started with an on-site visit to determine areas in need of repair.

This on-site visit was done using GPS equipment to locate and identify specific areas along the creek that has erosion and sediment concerns. The information will be entered and stored in a GIS map inventory with notes and photos of problematic areas to better understand client needs and for future reference.

This site is located in the northern part of Island Lake and flows East to West into Island Lake. The assessment was requested because of erosion and sediment issues and environmental issues they are having downstream in the lake. The targeted area of the creek runs just under 4,000 linear feet, of which the village only owns about 400 feet. Along this stretch, the creek flows in and out of private property, which will likely need to be addressed when work begins to get permission from the landowners to work on their property.

Currently, Mutton Creek does not seem to be used for anything other than drainage for the nearby roads and subdivision. The creek has the potential for recreational use for kayaks and small boats coming from the lake. At present, the water levels are too low and the sediment build up prevents such uses. Downed trees and other natural obstructions also cause the flow of the creek to be disrupted. The creek's flow bottlenecks at the intersection of Section A and B, which has created a fishhook landform.

1. INTRODUCTION

1.1 GIS Field Mapping Approach

GPS location equipment was used in the field to locate and identify areas throughout the creek. This information was entered with notes and photos pertaining to any maintenance or repair issues. The information is stored in a digital GIS map for easy reference and, as repairs are made, updated with existing conditions; photos will be added to this data base. The photographs will be stored in a digital GIS map for easy reference. A picture of this map can be view in Exhibit A-A through A-C.

Each Section of the creek has a detailed picture of this map data to show a better location for much of the issues that were mapped. The large area of brush that will need to be cleared is shown in green for these sections. Any erosion is highlighted in blue, and there are special markers for anything else, such as natural dams and culverts. This mapping data allows for better viewing and more precise measurements when it comes to budgeting for the project.

2. EXISTING CONDITIONS

2.1 Section A Existing Conditions

Section A is located on the west part of the targeted area of Mutton Creek and is accessed by Channel Park off Channel Drive. This section of the creek is located between the west-most portion of the project area and a fishhook land structure towards the middle of the project area. Section A has the most severe incision of the banks based on the greatest drop in elevation with some being up to four feet in change. This will create the largest amount of stone armament to restore and solve the issue from future impacts. This section is covered in dense brush on both sides of the creek. The creek is shallow throughout most of this section and has several pockets of sediment deposits with some of them exceeding the water level.

2.2 Section B Existing Conditions

Section B is in the central part of the targeted area and is between two large patches of Phragmites and Cattails. Burnett Road intersects between this section of the creek assessment. This intersection makes Bank B6 easy to access, which allows the native work to be done here easily. The rest of this section, however, is located further west down the creek with no good access point, which limits how much work can be done without burning or mowing a large section of the vegetation away. This section does have significant erosion damage ranging from 5-10 inches. Several areas throughout this section have significant sediment deposits and loose sediment over 12 inches along the creek's edges and bed and will need to be addressed as well.

2.3 Section C Existing Conditions

Section C is located along the eastern part of the targeted area near the intersection of N. Darrell Road and E. Burnett Road. This section has a few areas of potential erosion concern but may be minimal because of the marshy environment that turns the areas into small overflow drainage areas. The area is greatly overgrown with wetland vegetation on both side of the creek. An item to note is that the outflow drain at the intersection of N. Darrell Road and E. Burnett Road was broken and may be causing some back up of debris and water, causing reduced flow through the outflow pipe. It is recommended that this part of the section be redone.

3. CONSTRUCTION RECOMMENDATIONS

Before any other work can be done, an area of approximately 30-50 feet from the water's edge must be cleared to create a pathway for our machines to get access to the areas where erosion work will be needed.

Repair work will be implemented to repair erosion that is occurring. Regardless of the exact type of erosion a bank is experiencing, the repairs will mostly be the same with a few very minor differences. Repairs must be done after initial maintenance work so that there is no vegetation in the way of performing these repairs. This work will first involve re-grading the slopes with excavation equipment to a less severe slope, generally 3:1. Some erosion concerns will call for the channel to be dug out slightly. Rock rip-rap will be placed along the banks within the outside curve where high velocity flow is anticipated to occur. When the final grading is complete, the slopes will be seeded with native seed mixtures and protected with erosion blanket to protect the slopes until the vegetation can establish and provide protection. In the future, this vegetation will be managed with similar methods to the initial maintenance work to control the emergence of nonnative or undesirable species.

Sediment will also be removed for better water flow through the center of the creek. Rock rip-rap will be placed in locations where large incising has occurred based on large flow volumes and cross vanes and rock weirs will be installed to decrease and recenter the flow. These areas are generally within the outside bends of the channel. When the final grading is complete, any exposed soil above the rock armament will be seeded with a native seed mixture and protected with erosion blanket to create stabilization.

3.1 Section A Construction Recommendations

Recommended repair work in this section would consist of large regrading and reshaping of the existing banks. Rock armaments would be implemented in areas with higher water flow. Cross veins would be put in areas where the flow needs to be redirected away from the banks. This can solve some erosion problems without the use of large armament walls. Native vegetation will be installed to hold the slopes in place.

3.2 Section B Construction Recommendations

After burning or mowing, construction work would start and consist of mostly reshaping with some regrading of the slopes. Some cross veins would be put in to direct the flow of the river, but large rock armaments should not be necessary for this section. Sediment removal will also need to be implemented to remove several inches of loose sediment that has settled in the slower parts of this section.

3.3 Section C Construction Recommendations

The construction in this section would be focused on the culvert at the east-most end of the project area. Recommended work here would be to repair the existing drainage area next to the culvert. This would be done by digging out the area to regrade, then reenforce with rock to allow better drainage.

4. MAINTENANCE RECOMMENDATIONS

Initial native maintenance work will be performed by small crews under the supervision of an experienced ecologist, involving the use of brush mowers, hand tools, chainsaws, a woodchipper, and herbicide. Maintenance will involve removal of all nonnative vegetation, brush, and trees to allow for native vegetation to grow during future seasons. Mowing, weeding, and other small hand work can be performed during the spring, summer, and winter seasons. The species being targeted with this work are mostly phragmite, cattail, reed canary grass, as well as any other nonnative grassy vegetation that may be present. Where mowing is not feasible due to the size of the brush or the presence of trees, chainsaw work will be implemented. This will particularly be used to remove species such as buckthorn and honeysuckle. The debris will be removed by hand or with a skid steer, processed with an on-site woodchipper, and taken off site with a truck or can be burned on site within brush piles. This larger tree and brush work is best suited during the fall and winter months. The removal of vegetation or brush will be followed up with a treatment of herbicide specific to the type of vegetation that was removed, which will be applied by a licensed applicator.

Before any other work can be done, an area of approximately 30-50 feet from the water's edge must be cleared to create a pathway for our machines to get access to the areas where erosion work will be needed.

4.1 Section A Maintenance Recommendations

All the banks in Section A will require, at the very least, minimal maintenance work to remove nonnative vegetation and debris to allow for better conveyance. Banks A1.1-A7 all require some degree of repair to address the erosion concerns present in each. Most of these are of high priority as they are experiencing a higher degree of erosion.

All maintenance work will generally be performed by a crew of two or three workers, typically working on one or two banks at a time. Maintenance will involve removing nonnative vegetation to allow space for healthier, native vegetation to grow during future seasons. The majority of this will be high mowing with a brush mower. This will be done during the spring, which would remove nonnative vegetation and brush before it can establish for the season while allowing native growth to be left alone to establish. Where mowing is not feasible due to the size of the brush or trees, chainsaw work will be implemented. The removed debris will be put into burn piles to be disposed of in the winter months. If burning is not feasible, the piles will be processed with a woodchipper and taken off site with a truck for disposal. This is best done during the winter. Each removal of vegetation or brush will be followed up with a treatment of herbicide specific to the type of vegetation that was removed.

4.2 Section B Maintenance Recommendations

This section will need to be burned or mowed in the late winter or early spring in order to clear the vegetation. Parts of this section have heavier brush that the burn will not eradicate and clearing with saws come in before or after. This would be to remove nonnative vegetation and debris to allow for better conveyance and access for erosion work.

All maintenance work will generally be performed by a crew of two or three workers, typically working on one or two banks at a time. Maintenance will involve removing nonnative vegetation to allow space for healthier, native vegetation to grow during future seasons. The majority of this will be hand work with brush cutters. This will be done during the spring, which would remove nonnative vegetation and brush before it can establish for the season while allowing native growth to be left alone to establish. Where mowing is not feasible due to the size of the brush or trees, chainsaw work will be implemented. The removed debris will be put into burn piles for disposal in the winter months, if burning is not feasible the piles will be processed with a woodchipper and taken off site with a truck for disposal. This is best done during the winter. Each removal of vegetation or brush will be followed up with a treatment of herbicide specific to the type of vegetation that was removed.

Native seed mix will be used after the clearing of nonnative vegetation to make the site a better quality, as well improve water flow and aesthetics.

4.3 Section C Maintenance Recommendations

Section C is mostly marsh land with dense wetland vegetation and scattered trees. There are a few areas of erosion concerns, but because of the wetland environment, these areas turn into overflow areas and may be able to be left alone for now. If any work needs be done in this section, burning a large area of vegetation is required and would be done in the spring prior. Most of the areas in Section C were low priority with the biggest area of concern being the drainpipe area.

All maintenance work will generally be performed by a crew of two or three workers, typically working on one or two areas at a time. Maintenance will involve removing nonnative vegetation to allow space for healthier, native vegetation to grow during future seasons. The majority of this will be burning. This will be done during the spring, which would remove nonnative vegetation and brush before it can establish for the season while allowing native growth to be left alone to establish. Where burning is not feasible due to the size of the brush or trees, chainsaw work will be implemented. The removed debris will be put into burn piles for disposal in the winter months. If burning is not feasible, the piles will be processed with a woodchipper and taken off site with a truck for disposal. This is best done during the winter. Each removal of vegetation or brush will be followed up with a treatment of herbicide specific to the type of vegetation that was removed.

The maintenance plan will focus differently for construction work and maintenance work. Small crews of two to four will start with brush work to clear the site to allow for construction work to ensue. The brush work will be broken up by section with a cost estimate provided below.

After the initial clearing dewatering will need to be down for the grading and stonework to commence. Prices for each section is also broken up and listed below. Maintenance for the site after the construction will consist of seeding and blanketing the newly repaired areas.

The estimated cost for the project is broken down into each section and listed below. The work would start in the fall months with brush clearing and the repair work would be done over the summer. Typical maintenance projects have a three-year timeline in order to make sure the native areas have time recover properly and is the timeline we will work with.

Year 1 consists of as much brush work as possible over the fall and winter months followed by the repair work and maintenance. By Year 2, whatever repair work has not been finished will be completed so that the rest of Year 2 and Year 3 will be maintenance work to ensure the new native area recovers properly.

5. SCHEDULE PRICES FOR CONSTRUCTION

Schedule of Prices - Mutton Creek - Section A - 800 LF					
#	Description	Unit	Quantity	Unit \$	Amount
1	Mobilization	Lump	1	\$ 5,000.00	\$ 5,000.00
2	Clearing and Grubbing	Lump	1	\$18,000.00	\$ 18,000.00
3	Grading	Lump	1	\$10,000.00	\$ 10,000.00
4	Stone Rip Rap - 405 Linear Feet	CuYd	90	\$ 145.00	\$ 13,050.00
5	Seed and Blanket	SY	5333	\$ 3.25	\$ 17,333.33
6	Cross Vain - 60 Linear Feet	CuYd	15	\$ 275.00	\$ 4,125.00
7	Dewatering	Lump	1	\$ 5,000.00	\$ 5,000.00
				Total	\$ 72,508.33

Schedule of Prices - Mutton Creek - Section B - 1,300 LF					
#	Description	Unit	Quantity	Unit \$	Amount
1	Mobilization	Lump	1	\$ 5,000.00	\$ 5,000.00
2	Clearing and Grubbing	Lump	1	\$18,000.00	\$ 18,000.00
3	Grading	Lump	1	\$15,000.00	\$ 15,000.00
4	Stone Rip Rap - 440 Linear Feet	CuYd	98	\$ 175.00	\$ 17,111.11
5	Seed and Blanket	SY	8667	\$ 3.25	\$ 28,166.67
6	Cross Vain - 60 Linear Feet	CuYd	15	\$ 275.00	\$ 4,125.00
7	Dewatering	Lump	1	\$ 5,000.00	\$ 5,000.00
				Total	\$ 92,402.78

Schedule of Prices - Mutton Creek - Section C - 1,700 LF					
#	Description	Unit	Quantity	Unit \$	Amount
1	Mobilization	Lump	1	\$ 5,000.00	\$ 5,000.00
2	Clearing and Grubbing	Lump	1	\$10,000.00	\$ 10,000.00
3	Grading	Lump	1	\$15,000.00	\$ 15,000.00
4	Seed and Blanket	SY	8000	\$ 3.25	\$ 26,000.00
5	Cross Vain - 60 Linear Feet	CuYd	15	\$ 275.00	\$ 4,125.00
6	Dewatering	Lump	1	\$ 5,000.00	\$ 5,000.00
				Total	\$ 65,125.00

EXHIBITS



- Special
- Culvert
- Brush Removal Line
- Native Maintenance Line
- Sediment Removal Line
- Erosion Line
- Ditch

Feet of Bank erosion
A1.1=60ft
A1.2=20ft
A2=80ft
A3=40ft
A4.1=45ft
A4.2=40ft
A5.1=90ft
A5.2=30ft
A6=TBD

- WETLAND BOUNDARY
- WETLAND AREA
- SAMPLE PLOT LOCATION
- WATERWAY BOUNDARY
- ASSESSMENT BOUNDARY

P:\SLK\220297-MUTTON CREEK RESTORA\30-REPORT\STUDY\08 ASSESSMENT\DRAWING\WETLAND EXHIBITS.DWG Location Map A
Plotted: 7/27/2022 11:01 AM By: Baxter & Woodman, Inc.
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License No. 184-001121 - Expires 4-30-23



Village of Island Lake
Mutton Creek, Island Lake, IL
Location Map A

SCALE: 1" = 10'

PROJECT NO: 220297.30

DESIGNED - RTD
DRAWN - RTD
CHECKED - CPM
DATE - 7/27/22

Exhibit A
TOTAL SHEETS
11
SHEET NO.
1

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Plotted: 7/27/2022 11:01 AM By: #####
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- Special
▲
Culvert
●
Brush Removal Line
Native Maintenance Line
Sediment Removal Line
Erosion Line
Ditch

Feet of Bank erosion
B1 = 60ft
B2 = 70ft
B3 = 80ft
B4 = 150ft
B5 = 80ft

- WETLAND BOUNDARY
WETLAND AREA
SAMPLE PLOT LOCATION
WATERWAY BOUNDARY
ASSESSMENT BOUNDARY



Village of Island Lake
Mutton Creek, Island Lake, IL
Location Map B

SCALE: 1" = 10'

PROJECT NO: 220297.30

DESIGNED - RTD
DRAWN - RTD
CHECKED - CPM
DATE - 7/8/22

Exhibit B

TOTAL SHEETS 11
SHEET NO. 2

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Plotted: 7/27/2022 11:01 AM By: Baxter & Woodman, Inc.
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Feet of Bank erosion
C6=40 ft

- Special
- Culvert
- Brush Removal Line
- Native Maintenance Line
- Sediment Removal Line
- Erosion Line

- WETLAND BOUNDARY
- WETLAND AREA
- SAMPLE PLOT LOCATION
- WATERWAY BOUNDARY
- ASSESSMENT BOUNDARY



Village of Island Lake
Mutton Creek, Island Lake, IL
Location Map C

SCALE:

1" = 10'

PROJECT NO:

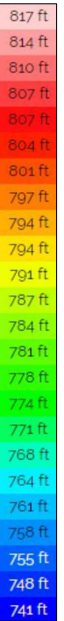
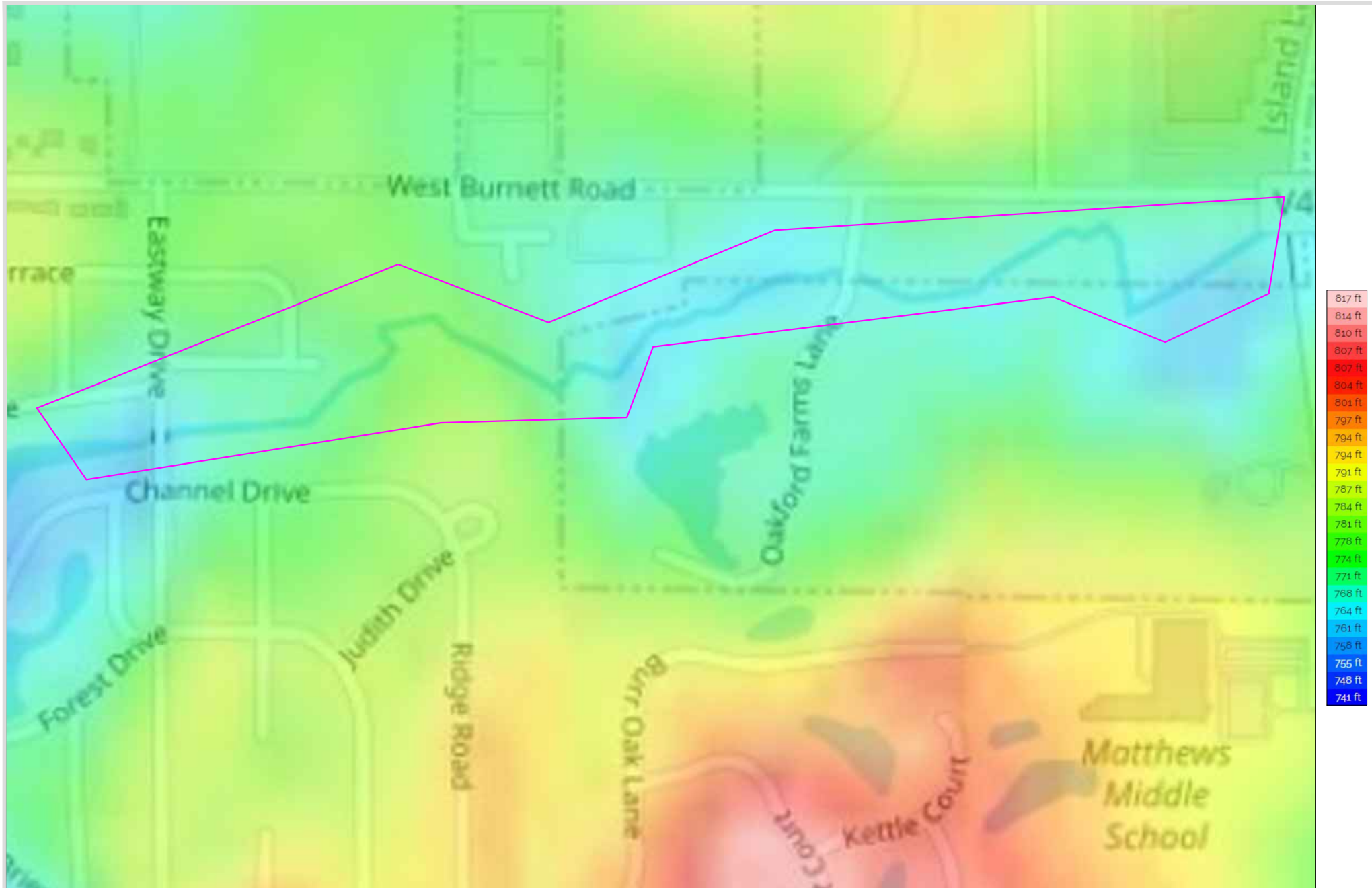
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DESIGNED - RTD
DRAWN - RTD
CHECKED - CPM
DATE - 7/8/22

Exhibit C

TOTAL SHEETS
11






SHEET NO.
3

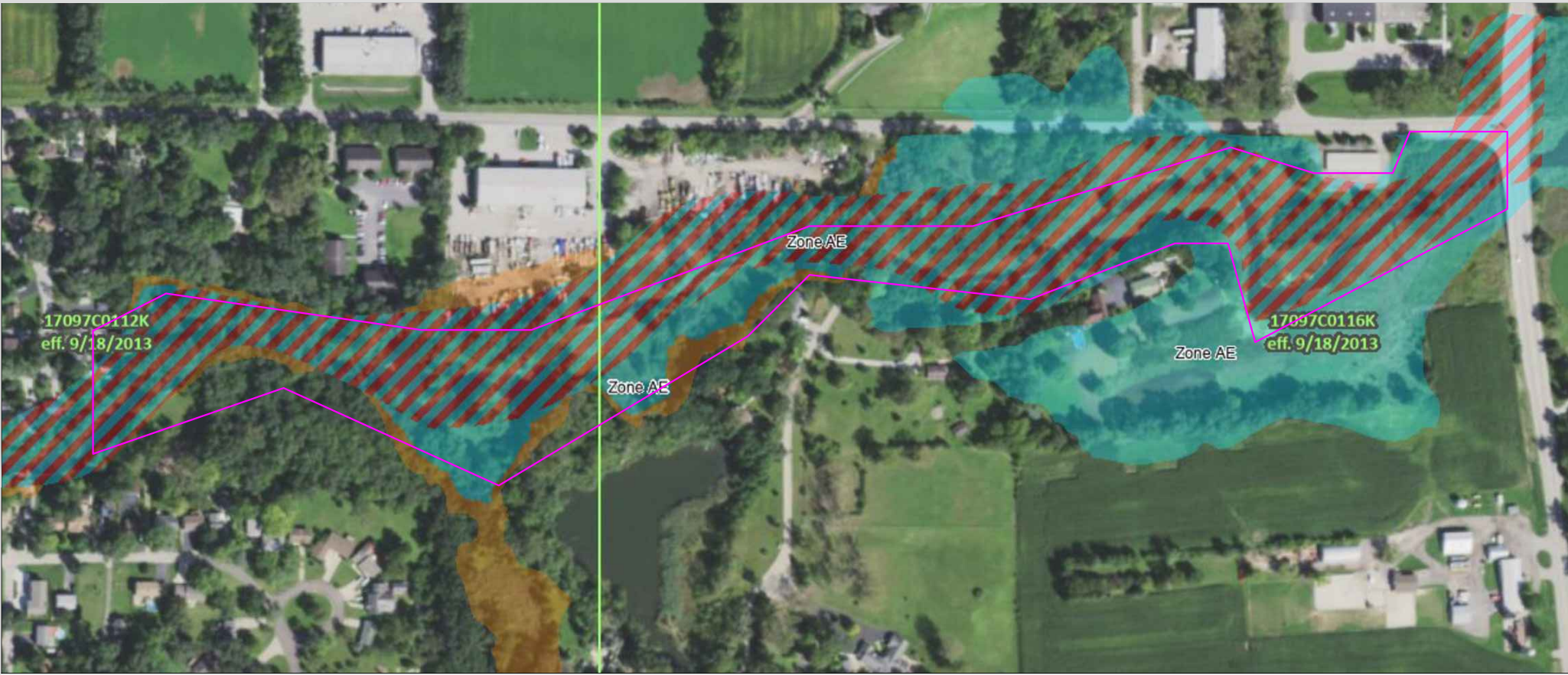


Village of Island Lake
 BWNR GIS
 Mutton Creek, Island Lake, IL
 Topography Map

DESIGNED BY RTD	SCALE 1"=300'
DRAWN BY RTD	PROJECT NO. 220297.30
CHECKED BY CPM	SHEET NO.
DATE 7/8/22	Exhibit D



-  WETLAND BOUNDARY
-  WETLAND AREA
-  SAMPLE PLOT LOCATION
-  WATERWAY BOUNDARY
-  ASSESSMENT BOUNDARY



NFHL

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee

- WETLAND BOUNDARY
- WETLAND AREA
- SAMPLE PLOT LOCATION
- WATERWAY BOUNDARY
- ASSESSMENT BOUNDARY



Village of Island Lake
 FEMA
 Mutton Creek, Island Lake, IL
 Floodplain Map

DESIGNED BY	RTD	SCALE	1"=300'
DRAWN BY	RTD	PROJECT NO.	220297.30
CHECKED BY	CPM	SHEET NO.	
DATE	7/8/22	Exhibit E	





Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
103A	Houghton muck, 0 to 2 percent slopes	1.1	8.2%
327B	Fox silt loam, 2 to 4 percent slopes	0.3	2.5%
327C2	Fox silt loam, 4 to 6 percent slopes, eroded	0.1	0.8%
330A	Peatone silty clay loam, 0 to 2 percent slopes	0.4	2.9%
530B	Ozaukee silt loam, 2 to 4 percent slopes	0.0	0.1%
530F	Ozaukee silt loam, 20 to 30 percent slopes	0.1	1.1%
696A	Zurich silt loam, 0 to 2 percent slopes	0.0	0.0%
696C2	Zurich silt loam, 4 to 6 percent slopes, eroded	0.4	2.9%
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded	0.1	0.5%
1103A	Houghton muck, undrained, 0 to 2 percent slopes	10.7	81.0%
Totals for Area of Interest		13.2	100.0%

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points



Village of Island Lake
NRCS Web Soil Survey
Mutton Creek, Island Lake, IL

Soils Map

DESIGNED BY
RTD

DRAWN BY
RTD

CHECKED BY
CPM

DATE
7/8/22

SCALE
1"=9,000'

PROJECT NO.
220297.30

SHEET NO.

Exhibit F



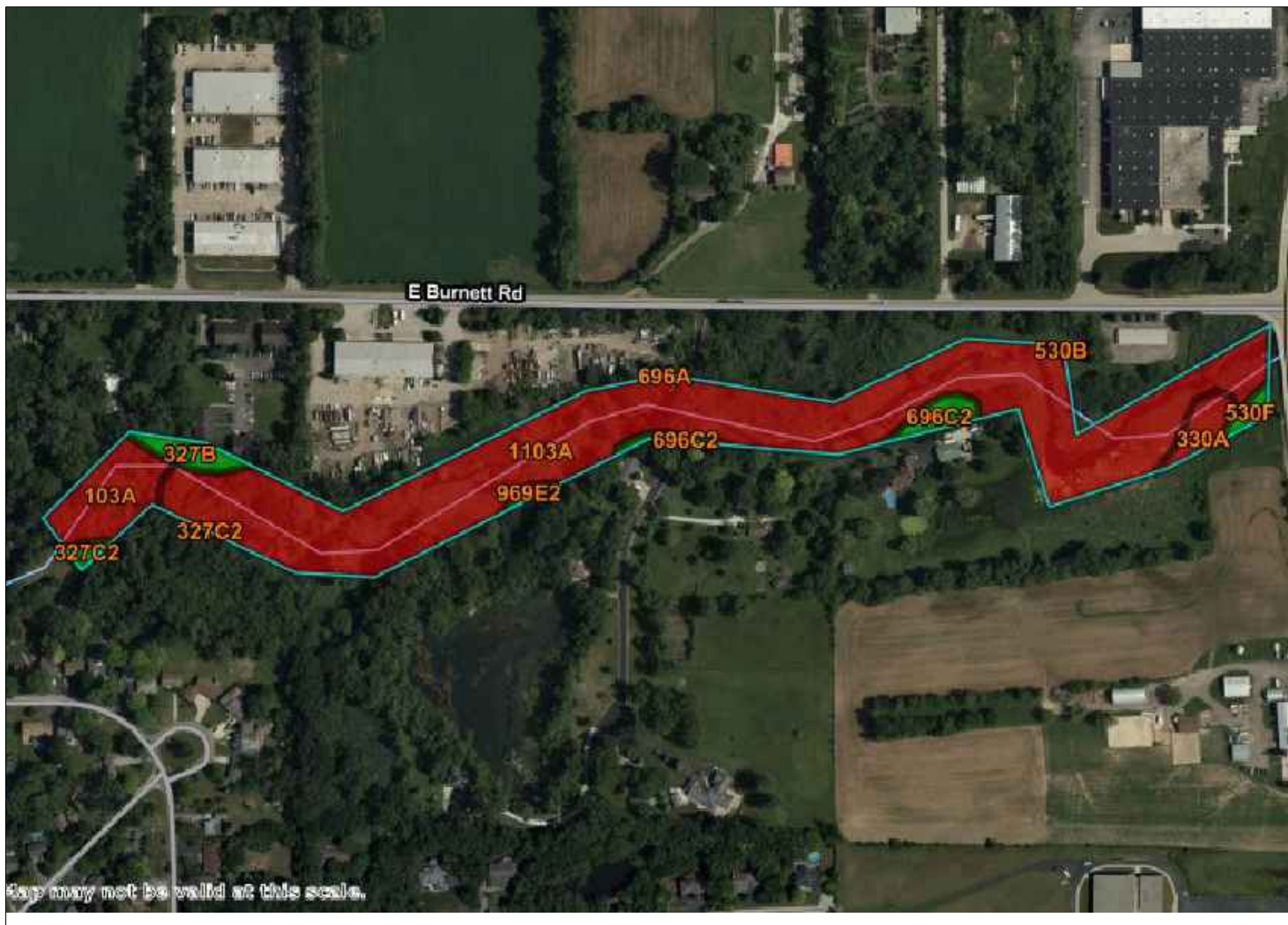
WETLAND BOUNDARY

WETLAND AREA

SAMPLE PLOT LOCATION

WATERWAY BOUNDARY

ASSESSMENT BOUNDARY



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
103A	Houghton muck, 0 to 2 percent slopes	1.1	8.2%
327B	Fox silt loam, 2 to 4 percent slopes	0.3	2.5%
327C2	Fox silt loam, 4 to 6 percent slopes, eroded	0.1	0.8%
330A	Pestone silty clay loam, 0 to 2 percent slopes	0.4	2.9%
530B	Ozaukee silt loam, 2 to 4 percent slopes	0.0	0.1%
530F	Ozaukee silt loam, 20 to 30 percent slopes	0.1	1.1%
696A	Zurich silt loam, 0 to 2 percent slopes	0.0	0.0%
696C2	Zurich silt loam, 4 to 6 percent slopes, eroded	0.4	2.9%
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded	0.1	0.5%
1103A	Houghton muck, undrained, 0 to 2 percent slopes	10.7	81.0%
Totals for Area of Interest		13.2	100.0%

Area of Interest (AOI)



Area of Interest (AOI)

Soils

Soil Rating Polygons



Hydric (100%)



Hydric (66 to 99%)



Hydric (33 to 65%)



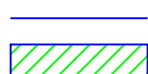
Hydric (1 to 32%)



Not Hydric (0%)



Not rated or not available



WETLAND BOUNDARY

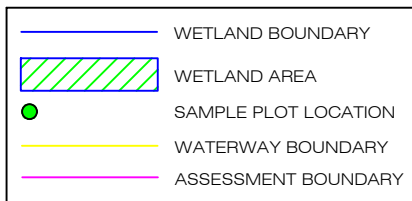
WETLAND AREA

SAMPLE PLOT LOCATION

WATERWAY BOUNDARY

ASSESSMENT BOUNDARY



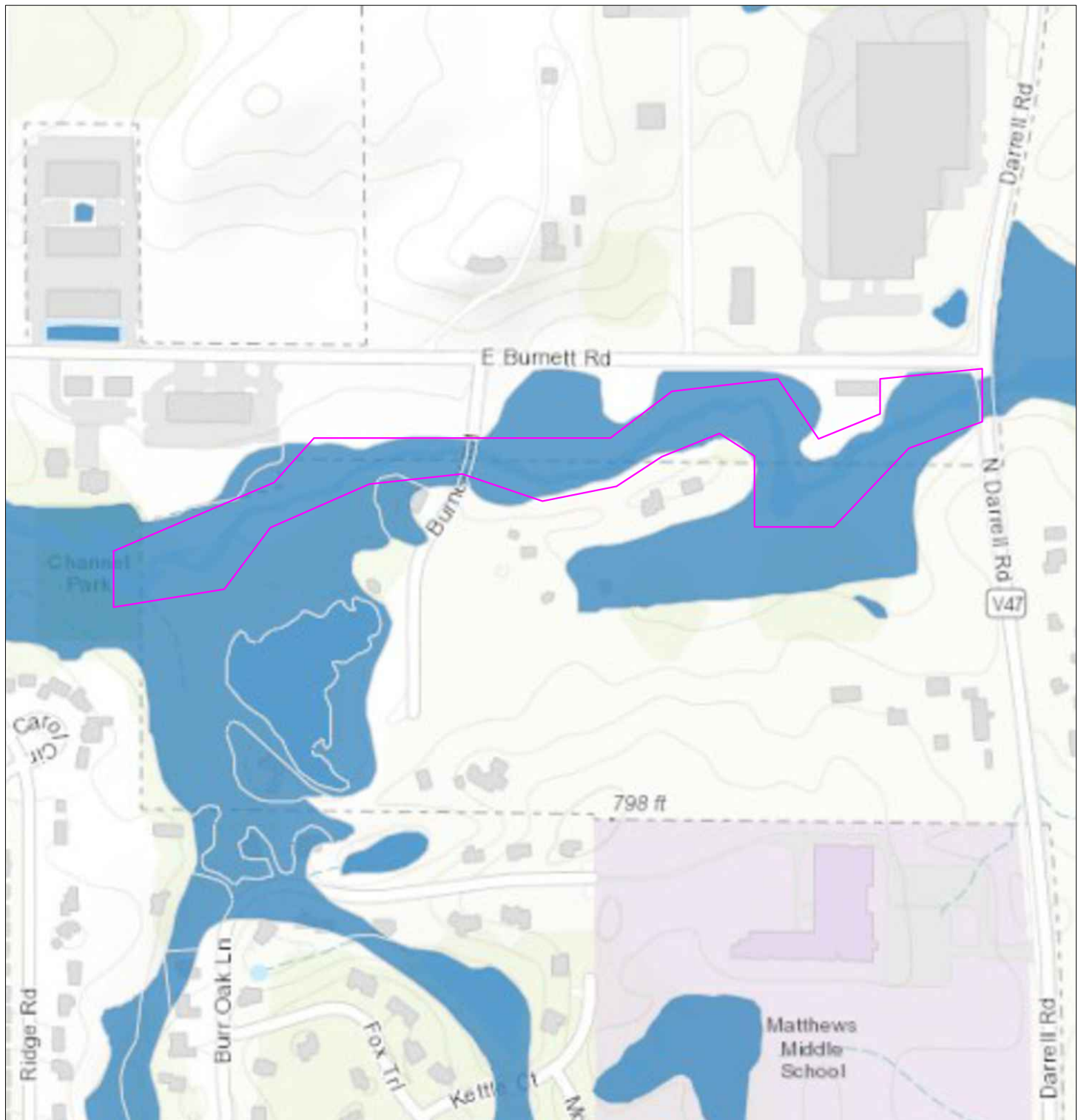


Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Riparian

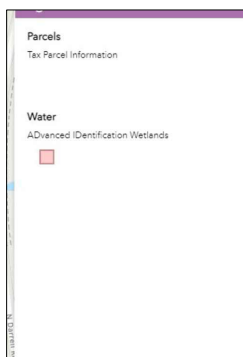
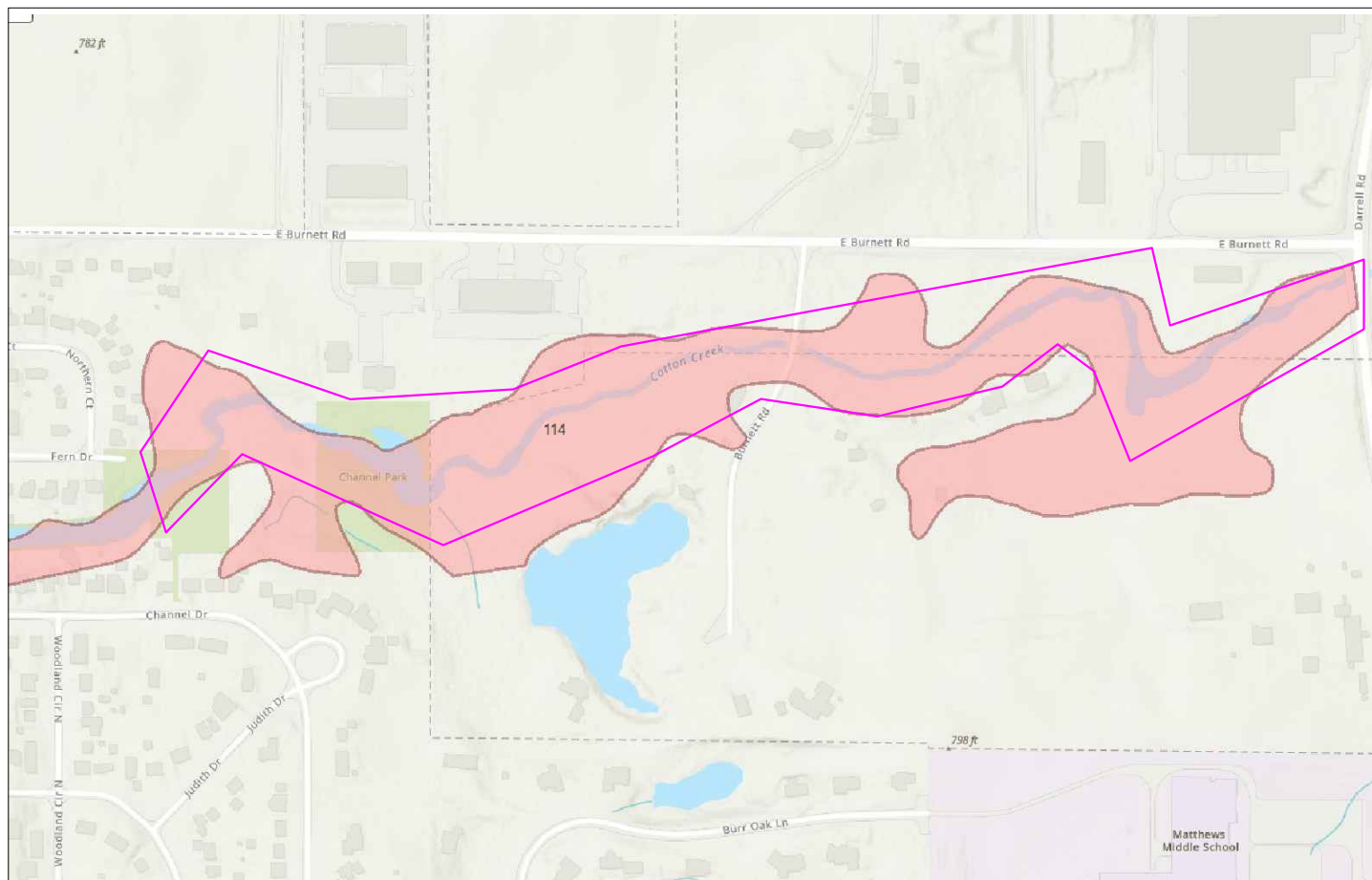
- Forested/Shrub
- Herbaceous



Wetland

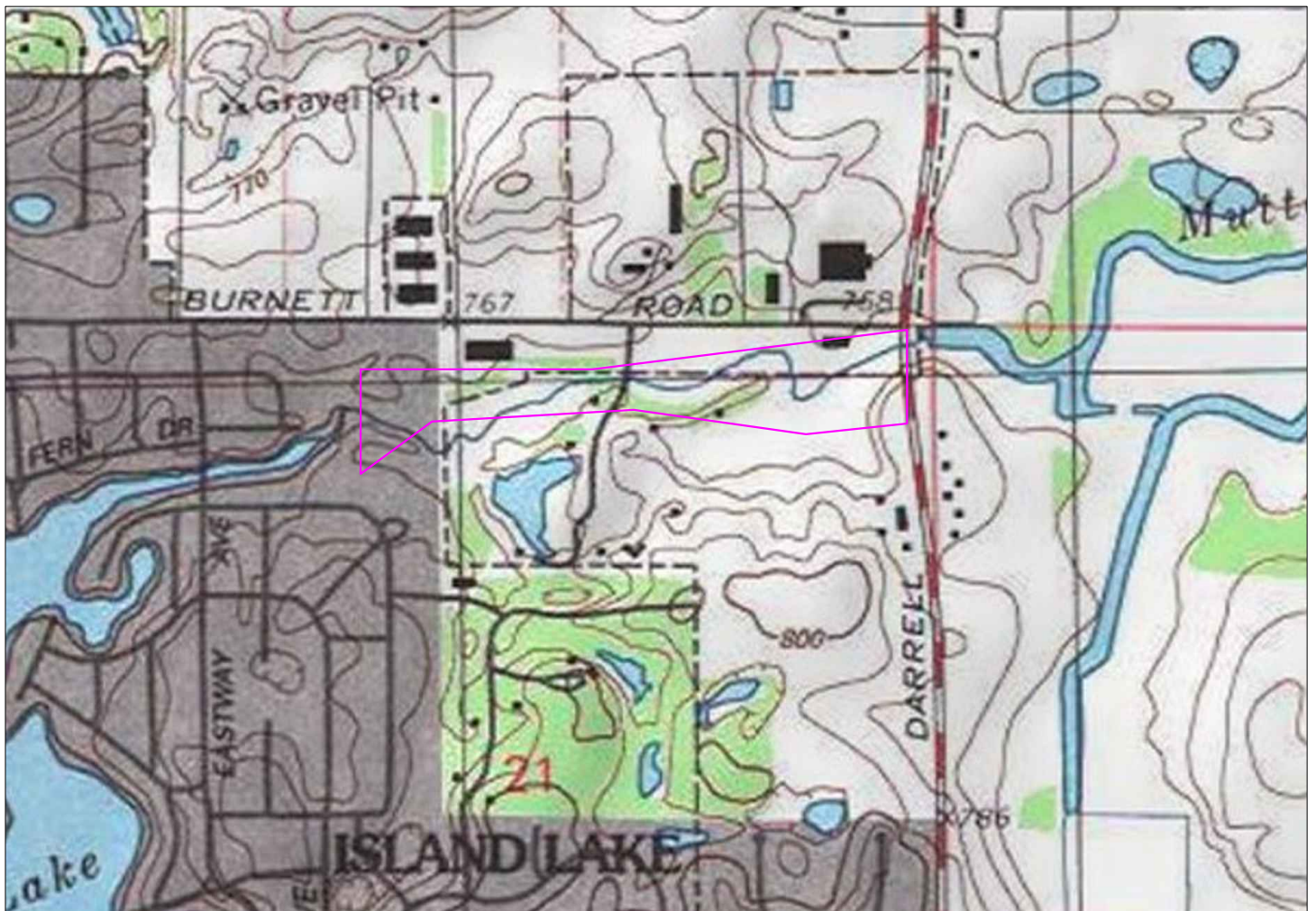
	WETLAND BOUNDARY
	WETLAND AREA
	SAMPLE PLOT LOCATION
	WATERWAY BOUNDARY
	ASSESSMENT BOUNDARY





	WETLAND BOUNDARY
	WETLAND AREA
	SAMPLE PLOT LOCATION
	WATERWAY BOUNDARY
	ASSESSMENT BOUNDARY





	WETLAND BOUNDARY
	WETLAND AREA
	SAMPLE PLOT LOCATION
	WATERWAY BOUNDARY
	ASSESSMENT BOUNDARY

Village of Island Lake

BWNR GIS
Mutton Creek, Island Lake, IL

Quadrangle Map

 **Baxter & Woodman**
Natural Resources

DESIGNED BY	SCALE
RTD	1"=300'
DRAWN BY	PROJECT NO.
RTD	220297.30
CHECKED BY	SHEET NO.
CPM	
DATE	
7/8/22	Exhibit K



APPENDIX A

EXISTING CONDITIONS DETAILS

Existing Conditions Details

Section A Existing Conditions

Bank A1.1 Existing Conditions

This Bank is located on the far west side of the creek and would be the start of the erosion work. A minimum of 20 feet of this section has erosion damage. Regrading and sediment removal would both be needed. This section has medium ground cover with a mix of scattered trees and shrubs containing both large and small trees. The edge of the bank shows erosion damage cutting along the base of a large tree with about 12 inches soil loss. Brush would need to be cleared prior to any work on this bank.

Bank A1.2 Existing Conditions

This section is adjacent to section A1.1, runs about 70 feet, and has fairly dense ground cover with scattered smaller honeysuckles. The bank shows about 60 feet of erosion with a drop of roughly three feet of soil height. Brush would need to be cleared before any work could be done and regrading and sediment removal would be needed. Brush would need to be cleared prior to any work on this bank.

Bank A2 Existing Conditions

This section runs 80 feet and has dense ground cover with scattered small to medium trees and has a couple of large trees as well. This section has medium to high erosion and would need regrading and sediment removal. Brush would need to be cleared prior to any work on this bank.

Bank A3 Existing Conditions

This section runs 40 feet and has dense ground cover as well as dense medium-sized brush. There is an obstruction of a fallen tree just before the bank creating a small dam. The bank has several feet of soil loss and would need much regrading and sediment removal. Brush would need to be cleared prior to any work on this bank.

Bank A4.1 Existing Conditions

This section runs just past A3 and is 45 feet in length with dense ground cover as well as small trees. This section has significant soil loss with three to four feet of erosion at the bank. Heavy regrading and sediment removal would be needed. Brush would need to be cleared prior to any work on this bank.

Bank A4.2 Existing Conditions

This section is 45 feet and runs opposite to A4.1. It has dense ground cover as well as medium foliage with dense smaller trees. The bank also has had several feet of soil loss and would need to be regraded, most likely with soil removal as well. Brush would need to be cleared prior to any work on this bank.

Bank A5.1 Existing Conditions

This section runs 90 feet and is covered with thick foliage with scattered honeysuckle trees and minimal ground cover. The erosion here is not as severe of a grade than other banks but has a longer slope. Regrading will need to be done but sediment removal is not needed. Brush would need to be cleared prior to any work on this bank.

Bank A5.2 Existing Conditions

This section runs 40 feet and has a mix of small medium and large trees with some ground foliage. The erosion on this bank undercut some of the medium size trees exposing the root system. The soil drops about two feet and would need regrading. Brush would need to be cleared prior to any work on this bank.

Bank A6 Existing Conditions

This section has some issues caused from back up of water most likely created from the bottlenecking of the creek near section A5.2. This area has turned into a small pond-like feature creating a small island as well as fishhook land structure. There are still pockets of sediment deposits that have been left where cattails and other wetland vegetation have grown. Brush would need to be cleared before any work can be done.

Bank A7 Existing Conditions

This section has some issues caused from back up of water most likely created from the bottlenecking of the creek near section A5.2. There are still pockets of sediment deposits that have been left where cattails and other wetland vegetation have grown. Brush would need to be cleared before any work can be done. There is also some erosion work that would need to be addressed on the South side of this bank. It has a mix of brush and wetland vegetation.

Section B Existing Conditions

Almost all the erosion in this section is between 5-10 inches. The sediment through this section constantly goes back and forth from normal creek sediment to sections of loose sediment that gets as deep as a foot. These areas will need to be addressed as we come across them.

Bank B1 Existing Conditions

This section is made of almost entirely wetland vegetation such as cattails and phragmites and has a fair bit of erosion. Minimal brush clearing would need to be done and most of the work should be burning or mowing.

Bank B2 Existing Conditions

This section is made of almost entirely wetland vegetation such as cattails and phragmites and has a fair bit of erosion. Minimal brush clearing would need to be done and most of the work should be burning or mowing.

Bank B3 Existing Conditions

This section is made of almost entirely wetland vegetation such as cattails and phragmites and has a fair bit of erosion. Minimal brush clearing would need to be done and most of the work should be burning or mowing. There is a small stream running from the nearby lake. The intersection point has been overgrown and is hard to find.

Bank B4 Existing Conditions

This section is made of almost entirely wetland vegetation such as cattails and phragmites and has a fair bit of erosion. Minimal brush clearing would need to be done and most of the work should be burning or mowing.

Bank B5 Existing Conditions

This section is made of almost entirely wetland vegetation such as cattails and phragmites and has a fair bit of erosion. Minimal brush clearing would need to be done and most of the work should be burning or mowing.

Bank B6 Existing Conditions

This section is just off of the Oxford Farms Lane where the creek intersects the road. The bridge that goes over the creek has nonnative vegetation growing. This would need to be cleared and replaced with native seed.

Section C Existing Conditions

The entire Section C is covered with wetland vegetation such as cattails and phragmites. Erosion in this section is less severe than section A or B. Most of these areas will not need to be touched. Most of the work here will be minimal.

Bank C1 Existing Conditions

This section is made of almost entirely wetland vegetation such as cattails and phragmites and has a lesser amount of erosion. Minimal brush clearing would need to be done and most of the work should be burning or mowing.

Bank C2 Existing Conditions

This section is made of almost entirely wetland vegetation such as cattails and phragmites and has a lesser amount of erosion. Minimal brush clearing would need to be done and most of the work should be burning or mowing.

Bank C3 Existing Conditions

This section is made of almost entirely wetland vegetation such as cattails and phragmites and has a lesser amount of erosion. Minimal brush clearing would need to be done and most of the work should be burning or mowing.

Bank C4 Existing Conditions

This section is made of almost entirely wetland vegetation such as cattails and phragmites and has a

lesser amount of erosion. Minimal brush clearing would need to be done and most of the work should be burning or mowing. This area has a larger overflow flood plain and may need to be fixed.

Bank C5 Existing Conditions

This section is made of almost entirely wetland vegetation such as cattails and phragmites and has a lesser amount of erosion. Minimal brush clearing would need to be done and most of the work should be burning or mowing.

Bank C6 Existing Conditions

This section is at the very edge of the project boundary and has a rocky drainage area with thick wetland vegetation surrounding the area as well as a broken grate. A burn would take out most of the vegetation, but some brush work may need to be done.

APPENDIX B

Photos



Photo 1. Bank A1.1



Photo 2. Bank A1



Photo 3. Bank A2



Photo 4. Opposite side of Bank A2



Photo 5. Obstruction near Bank A3



Photo 6. Bank A3



Photo 7. Bank A4



Photo 8. Bank A4.1



Photo 9. Bank A5



Photo 10. Bank A5.1



Photo 11. Looking southeast upstream towards Bank A6



Photo 12. Northwest side of Bank A6 looking east



Photo 13. Bank A6 looking south from the same point as Photo 12



Photo 14. Bank A6 looking southwest from same point as Photo 12



Photo 15. Taken from the fishhook land structure looking at the sediment deposit at Bank A6



Photo 16. Bank A7 looking at the south side of the bank



Photo 17. Bank A7 looking at the northeast side of the bank



Photo 18. Bank B1 looking at the north side of the bank



Photo 19. Bank B2 looking at the south side of the bank



Photo 20. Bank B6 at the bridge looking at the west side



Photo 21. Taken from street overlooking most of Section C



Photo 22. Bank C6 looking at broken drainage grate