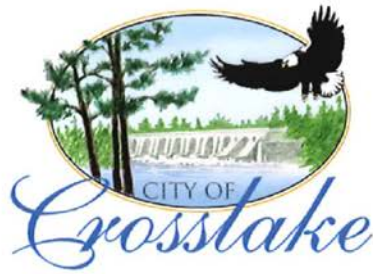


City Hall: 218-692-2688
Planning & Zoning: 218-692-2689
Fax: 218-692-2687



13888 Daggett Bay Rd
Crosslake, Minnesota 56442
www.cityofcrosslake.org

CITY OF CROSSLAKE

PLANNING COMMISSION/BOARD OF ADJUSTMENT

November 22, 2014

9:00 A.M.

Crosslake City Hall
13888 Daggett Bay Rd, Crosslake MN 56442
(218) 692-2689

PUBLIC HEARING NOTICE

Applicant: National Loon Center Foundation

Site Location: Off of Swann Dr & Pioneer Dr, Crosslake, MN 56442

Request:

- Conditional Use Permit for event centers

Notification: Pursuant to Minnesota Statutes Chapter 462, and the City of Crosslake Zoning Ordinance, you are hereby notified of a public hearing before the City of Crosslake Planning Commission/Board of Adjustment. Property owners have been notified according to MN State Statute 462 & published in the local newspaper. Please share this notice with any of your neighbors who may not have been notified by mail.

Information: Copies of the application and all maps, diagrams or documents are available at Crosslake City Hall or by contacting the Crosslake Planning & Zoning staff at 218-692-2689. Please submit your comments in writing including your name and mailing address to Crosslake City Hall or (crosslakepz@cityofcrosslake.org).



STAFF REPORT

Property Owner/Applicant: National Loon Center Foundation

Parcel Number(s): 14210763, 104210614, 14210615, 14210608

Application Submitted: November 4, 2024

Action Deadline: January 2, 2025

City 60 Day Extension Letter sent / Deadline: NA / NA

Applicant Extension Received / Request: NA / NA

City Council Date: NA

Authorized Agent: Jon Mobeck, Nation Loon Center

Request:

Conditional Use Permit for Event Centers

Current Zoning: Downtown Commercial

Adjacent Land Use/Zoning:

North – Downtown Commercial

South – Limited Commercial

East – Downtown Commercial

West – Downtown Commercial

Parcel History:

- Pioneer Addition to Crosslake established in 2006
- Reed, William & Sharon 14210615 - 2006 Pioneer Addition to Crosslake Plat
- Reed, William & Sharon 14210614 – 2006 Pioneer Addition to Crosslake Plat
- National Loon Center Foundation 14210763:
 - 1989 – septic system installed
 - 1995 – storage shed 18x12
 - 2017 – Abandonment of septic system & well sealed
 - 2017 – Demo of building
 - 2019 – Denied variance for height of 40 feet at mid-peak & density of 60 residential units

City Ordinance:

Event center – Allowed in Downtown Commercial zoning with an approved conditional use permit (Article 10, Sec. 26-281)

Agencies Notified and Responses Received:

County Highway Dept: No comment received before packet cutoff date

DNR: No comment received before packet cutoff date

City Engineer: No comment received before packet cutoff date

Lake Association: No comment received before packet cutoff date

Crosslake Public Works: No comment received before packet cutoff date

Crosslake Park, Recreation & Library: No comment received before packet cutoff date

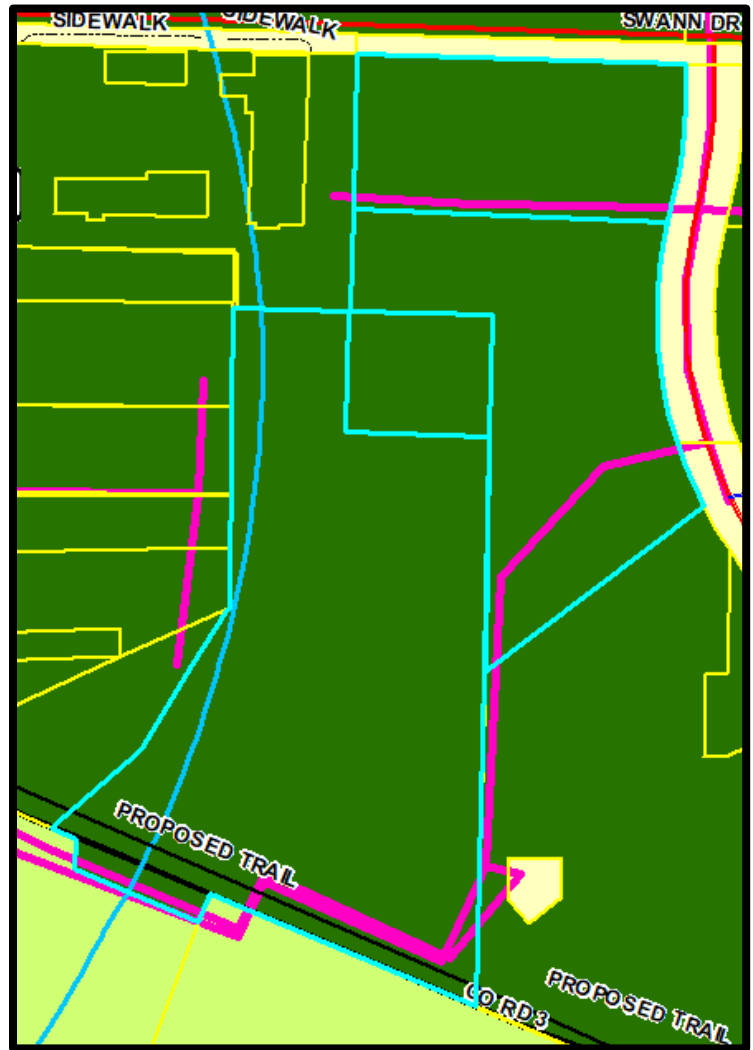
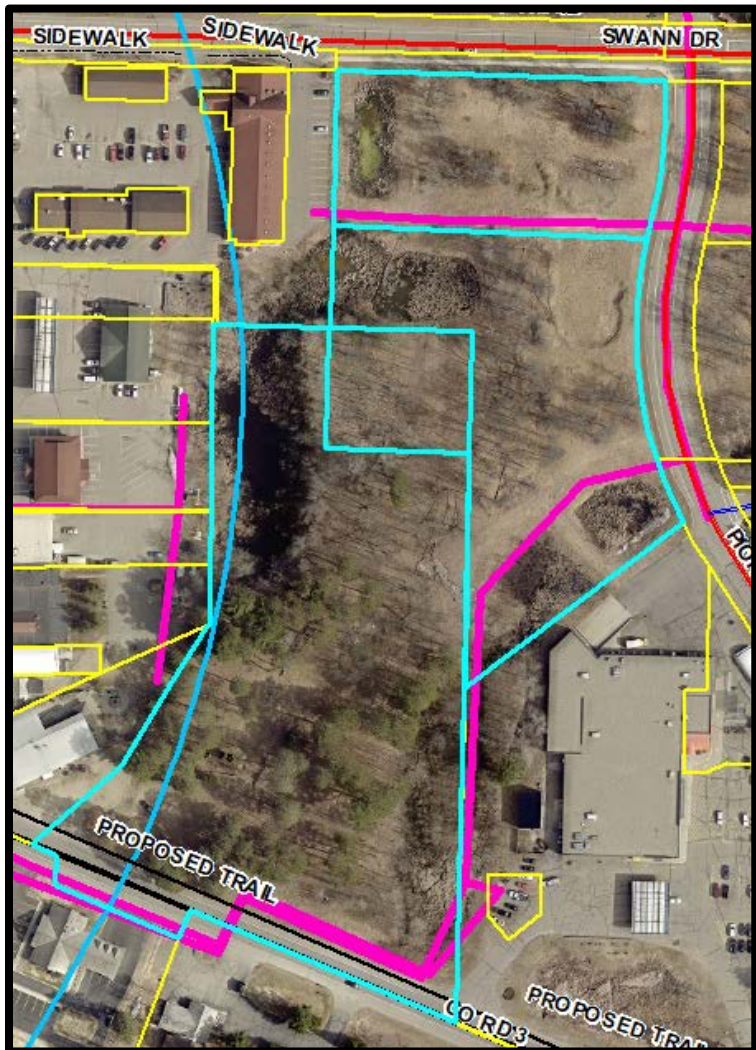
Concerned Parties: No comment received before packet cutoff date

POSSIBLE MOTION:

To approve/table/deny the Conditional Use Permit for event centers involving approximately 9.17 acres less R/W is 8.62 acres located off of Swann Dr & Pioneer Dr, City of Crosslake

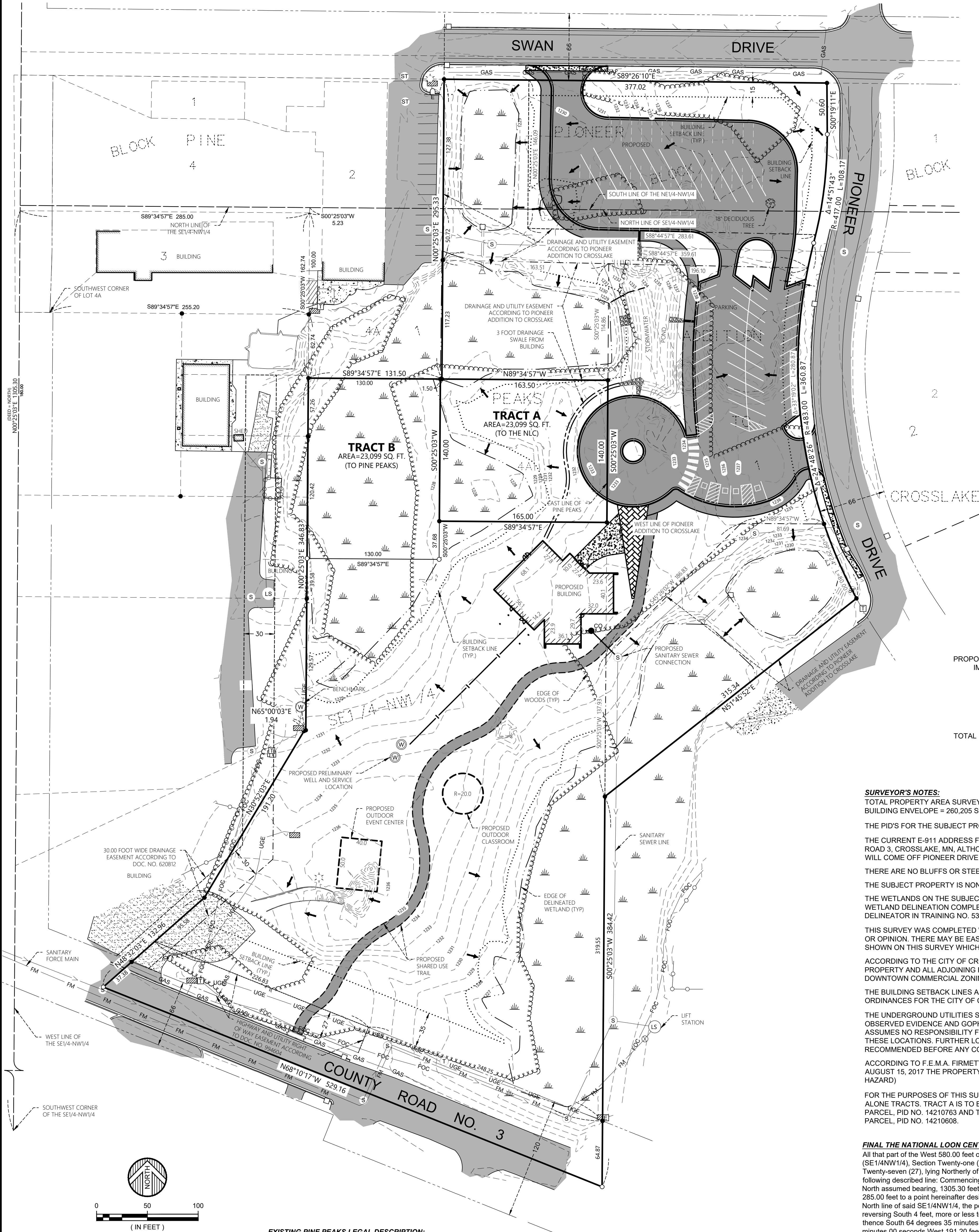
POSSIBLE CONDITIONS:

1. Verification that the stormwater management is being provided for on parcels 14210764 (City of Crosslake, 14210768 (Reed's Country Market), 14210767 (Reed's Country Market) & 14210608 (Pine Peaks Owners' Association)
2. All driving/parking/storage areas to be paved or concrete surface
3. No structure development over city utility easements
4. Developer agreement and/or escrow and/or letter of credit



CERTIFICATE OF SURVEY

LOTS 1 AND 2 BLOCK 1, PIONEER ADDITION TO CROSSLAKE,
AND PART OF THE SE1/4-NW1/4,
SECTION 21, TOWNSHIP137, RANGE 27,
CROW WING COUNTY, MINNESOTA



IMPERVIOUS SURFACE CALCULATIONS:
TOTAL AREA = 399,602 SQ. FT. (9.17 ACRES)
LESS RW = 375,581 SQ. FT. (8.62 ACRES)

EXISTING CONDITIONS (LESS RW):
IMPERVIOUS COVERAGE = 4,525 SQ.FT
GRAVEL = 4,525 SQ. FT.
IMPERVIOUS PERCENTAGE = 1.2 %
(4,525 / 375,581 = 0.0120)

PROPOSED CONDITIONS:
IMPERVIOUS COVERAGE = 83,902 SQ.FT
BUILDING = 7,000 SQ. FT.
PAVEMENT AND CURB AND
GUTTER = 64,600 SQ.FT.
SIDEWALK = 2,645 SQ. FT.
TRAILS = 6,400 SQ. FT.
OUTDOOR CLASSROOM = 1,257SQ. FT.
EVENT SPACE = 2,000 SQ. FT.
TOTAL IMPERVIOUS PERCENTAGE = 21%
(83,902 / 399,602 = 0.21)

SURVEYOR'S NOTES:

TOTAL PROPERTY AREA SURVEYED = 9.2 ACRES
BUILDING ENVELOPE = 260,205 SQ. FT. (5.97 ACRES)

THE PID'S FOR THE SUBJECT PROPERTY ARE 14210763, 14210614 AND 14210615.

THE CURRENT E-911 ADDRESS FOR THE SUBJECT PROPERTY IS 35463 COUNTY ROAD 3, CROSSLAKE, MN, ALTHOUGH FOR FUTURE IMPROVEMENTS SITE ACCESS WILL COME OFF PIONEER DRIVE OR SWAN DRIVE.

THERE ARE NO BLUFFS OR STEEP SLOPES ON THE SUBJECT PROPERTY.

THE SUBJECT PROPERTY IS NON-RIPARIAN.

THE WETLANDS ON THE SUBJECT PROPERTY ARE SHOWN ACCORDING TO THE WETLAND DELINEATION COMPLETED BY DUNCAN WIDMANN, CERTIFIED WETLAND DELINEATOR IN TRAINING NO. 5359, ON SEPTEMBER 12, 2024

THIS SURVEY WAS COMPLETED WITHOUT THE BENEFIT OF A TITLE COMMITMENT OR OPINION. THERE MAY BE EASEMENTS OR OTHER LIMITING FACTORS NOT SHOWN ON THIS SURVEY WHICH AFFECT THE SUBJECT PROPERTY.

ACCORDING TO THE CITY OF CROSSLAKE LAND USE DISTRICTS MAP, THE SUBJECT PROPERTY AND ALL ADJOINING PROPERTIES ARE LOCATED WITHIN THE DOWNTOWN COMMERCIAL ZONING DISTRICT.

THE BUILDING SETBACK LINES ARE SHOWN ACCORDING TO THE CODE OF ORDINANCES FOR THE CITY OF CROSSLAKE, MINNESOTA, CHAPTER 26, LAND USE.

THE UNDERGROUND UTILITIES SHOWN ON THIS SURVEY ARE ACCORDING TO OBSERVED EVIDENCE AND GOPHER ONE, TICKET NO. 233320938. WIDSETH ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS AND ACCURACY OF THESE LOCATIONS. FURTHER LOCATIONS AND VERIFICATIONS ARE RECOMMENDED BEFORE ANY CONSTRUCTION OR EXCAVATION.

ACCORDING TO F.E.M.A. FIRMETTE MAP NO. 2703500190C EFFECTIVE DATE AUGUST 15, 2017 THE PROPERTY IS WITHIN ZONE "X" (AREA OF MINIMAL FLOOD HAZARD)

FOR THE PURPOSES OF THIS SURVEY TRACTS A AND B ARE NOT TO BE STAND ALONE TRACTS. TRACT A IS TO BE COMBINED WITH THE NATIONAL LOON CENTER PARCEL, PID NO. 14210763 AND TRACT B IS TO BE COMBINED WITH THE PINE PEAKS PARCEL, PID NO. 14210608.

FINAL THE NATIONAL LOON CENTER LEGAL DESCRIPTION:

All that part of The West 580.00 feet of the Southeast Quarter of the Northwest Quarter, (SE1/4NW1/4), Section Twenty-one (21), Township One Hundred Thirty-seven (137), Range Twenty-seven (27), lying Northerly of County State Aid Highway No. 3 and lying Easterly of the following described line: Commencing at the Southwest corner of said SE1/4NW1/4; thence North assumed bearing, 1305.30 feet along the West line of said SE1/4NW1/4; thence East 285.00 feet to a point hereinafter designated Point "A"; thence North 4 feet, more or less, to the North line of said SE1/4NW1/4, the point of beginning of the line to be described; thence reversing South 4 feet, more or less to said Point "A"; thence continuing South 508.55 feet; thence South 64 degrees 35 minutes 00 seconds West 1.94 feet; thence South 30 degrees 27 minutes 00 seconds West 191.20 feet; thence South 48 degrees 07 minutes 00 seconds West 130 feet, more or less, to said County State Aid Highway No. 3 and said line there ending. EXCEPT that part of SE1/4NW1/4 deeded to Reed by the deed recorded in Book 350 of Deeds, page 340;

EXCEPT That part of the East Half of the Northwest Quarter (E1/2NW1/4) of Section 21, Township 137 North, Range 27 West, Crow Wing County, Minnesota, described as follows: Commencing at the Southwest corner of said E1/2-NW1/4; thence North, assumed bearing, 1462.30 feet along the West line of said E1/2-NW1/4 to the Southwest corner of the tract deeded to the Church of the Immaculate Heart by the deed recorded in Book 191 of Deeds, page 60, in the Office of the Crow Wing County Recorder; thence South 89 degrees 51 minutes East 416.50 feet along the South line of said Church tract and its Easterly extension to the point of beginning of the tract to be described; thence South 89 degrees 51 minutes East 629.5 feet; thence South 457.0 feet; thence West 466.0 feet; thence North 140 feet; thence West 295 feet; thence North 160.00 feet to the Easterly extension of the North line of the tract deeded to Moritz by the Deed recorded in Book 205 of Deeds, page 112, in the Office of the Crow Wing County Recorder; thence East 131.5 feet along said Easterly extension; thence North 155.90 feet to the point of beginning.

EXCEPT That part of the Southeast Quarter of the Northwest Quarter (SE1/4-NW1/4), Section 21, Township 137, Range 27, Crow Wing County, Minnesota, described as follows: Commencing at the southwest corner of Lot 4A, Block 1, PINE PEAKS, according to the recorded plat thereof on file in the Crow Wing County, Minnesota, Recorder's Office; thence South 89 degrees 34 minutes 57 seconds East, bearing based on the Crow Wing County Coordinate Database NAD 83, 255.20 feet along the southerly line of Lot 4A; thence South 00 degrees 25 minutes 03 seconds West 62.74 feet along said southerly line of Lot 4A to the point of beginning of the tract to be described; Thence South 89 degrees 34 minutes 57 seconds East 131.50 feet along said southerly line of Lot 4A; thence South 00 degrees 25 minutes 03 seconds West 177.68 feet along said southerly line of Lot 4A and its southerly extension; thence North 89 degrees 34 minutes 57 seconds West 165.00 feet along the southerly line of said Lot 4A to the point of beginning of the tract to be described; thence South 89 degrees 34 minutes 57 seconds East 163.50 feet along said easterly line of Lot 4A; thence South 00 degrees 25 minutes 03 seconds West 140.00 feet along said easterly line of Lot 4A; thence North 89 degrees 34 minutes 57 seconds West 165.00 feet along the southerly line of said Lot 4A; thence North 00 degrees 25 minutes 03 seconds East 140.00 along said southerly line of Lot 4A to the line that bears North 89 degrees 34 minutes 57 seconds West from the point of beginning; thence South 89 degrees 34 minutes 57 seconds East 1.50 feet to the point of beginning.

AND Lot 1, Block 1, PIONEER ADDITION TO CROSSLAKE according to the recorded plat thereof on file in the Crow Wing County, Minnesota, Recorder's Office

AND Lot 2, Block 1, PIONEER ADDITION TO CROSSLAKE according to the recorded plat thereof on file in the Crow Wing County, Minnesota, Recorder's Office.

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EXISTING PINE PEAKS LEGAL DESCRIPTION:

According to Doc. No. 744836

EXISTING THE NATIONAL LOON CENTER LEGAL DESCRIPTION:

According to Doc. No. A993392
According to Doc. No. T274500
According to Doc. No. T274503

PROPOSED LEGAL DESCRIPTION TRACT A (Pine Peaks to The National Loon Center):

That part of Lot 4A, Block 1, PINE PEAKS, according to the recorded plat thereof on file in the Crow Wing County, Minnesota, Recorder's Office, described as follows: Commencing at the northeast corner of said Lot 4A; thence South 00 degrees 25 minutes 03 seconds West, bearing based on the Crow Wing County Coordinate Database NAD 83, 162.74 feet along the easterly line of said Lot 4A to the point of beginning of the tract to be described; thence South 89 degrees 34 minutes 57 seconds East 163.50 feet along said easterly line of Lot 4A; thence South 00 degrees 25 minutes 03 seconds West 140.00 feet along said easterly line of Lot 4A; thence North 89 degrees 34 minutes 57 seconds West 165.00 feet along the southerly line of said Lot 4A to the point of beginning of the tract to be described; Thence South 89 degrees 34 minutes 57 seconds East 131.50 feet along said southerly line of Lot 4A and its southerly extension; thence North 89 degrees 34 minutes 57 seconds West 130.00 feet to the line that bears South 00 degrees 25 minutes 03 seconds East 177.68 feet from the point of beginning; thence North 00 degrees 25 minutes 03 seconds East 177.68 feet to the point of beginning.

PROPOSED LEGAL DESCRIPTION TRACT B (The National Loon Center to Pine Peaks):

That part of the Southeast Quarter of the Northwest Quarter (SE1/4-NW1/4), Section 21, Township 137, Range 27, Crow Wing County, Minnesota, described as follows: Commencing at the southwest corner of Lot 4A, Block 1, PINE PEAKS, according to the recorded plat thereof on file in the Crow Wing County, Minnesota, Recorder's Office; thence South 89 degrees 34 minutes 57 seconds East, bearing based on the Crow Wing County Coordinate Database NAD 83, 255.20 feet along the southerly line of said Lot 4A; thence South 00 degrees 25 minutes 03 seconds West 62.74 feet along said southerly line of Lot 4A to the point of beginning of the tract to be described; Thence South 89 degrees 34 minutes 57 seconds East 131.50 feet along said southerly line of Lot 4A; thence South 00 degrees 25 minutes 03 seconds West 177.68 feet along said southerly line of Lot 4A and its southerly extension; thence North 89 degrees 34 minutes 57 seconds West 130.00 feet to the line that bears South 00 degrees 25 minutes 03 seconds West from the point of beginning; thence North 00 degrees 25 minutes 03 seconds East 177.68 feet to the point of beginning.

FINAL PINE PEAKS LEGAL DESCRIPTION:

That part of Lot 4A, Block 1, Pine Peaks, according to the recorded plat on file in the office of the Crow Wing County Recorder and in the office of the Crow Wing County Registrar of Titles. Together with that part of the Southeast Quarter of the Northwest Quarter (SE1/4-NW1/4), Section 21, Township 137, Range 27, Crow Wing County, Minnesota, described as follows: Commencing at the southwest corner of Lot 4A, Block 1, PINE PEAKS, according to the recorded plat thereof on file in the Crow Wing County, Minnesota, Recorder's Office; thence South 89 degrees 34 minutes 57 seconds East, bearing based on the Crow Wing County Coordinate Database NAD 83, 255.20 feet along the southerly line of said Lot 4A; thence South 00 degrees 25 minutes 03 seconds West 62.74 feet along said southerly line of Lot 4A to the point of beginning of the tract to be described; Thence South 89 degrees 34 minutes 57 seconds East 131.50 feet along said southerly line of Lot 4A; thence South 00 degrees 25 minutes 03 seconds West 177.68 feet along said southerly line of Lot 4A and its southerly extension; thence North 89 degrees 34 minutes 57 seconds West 165.00 feet along the southerly line of said Lot 4A to the point of beginning of the tract to be described; thence South 89 degrees 34 minutes 57 seconds East 163.50 feet along said easterly line of Lot 4A; thence South 00 degrees 25 minutes 03 seconds West 140.00 feet along said easterly line of Lot 4A; thence North 89 degrees 34 minutes 57 seconds West 165.00 feet along the southerly line of said Lot 4A; thence North 00 degrees 25 minutes 03 seconds East 140.00 along said southerly line of Lot 4A to the line that bears North 89 degrees 34 minutes 57 seconds West from the point of beginning; thence South 89 degrees 34 minutes 57 seconds East 1.50 feet to the point of beginning.

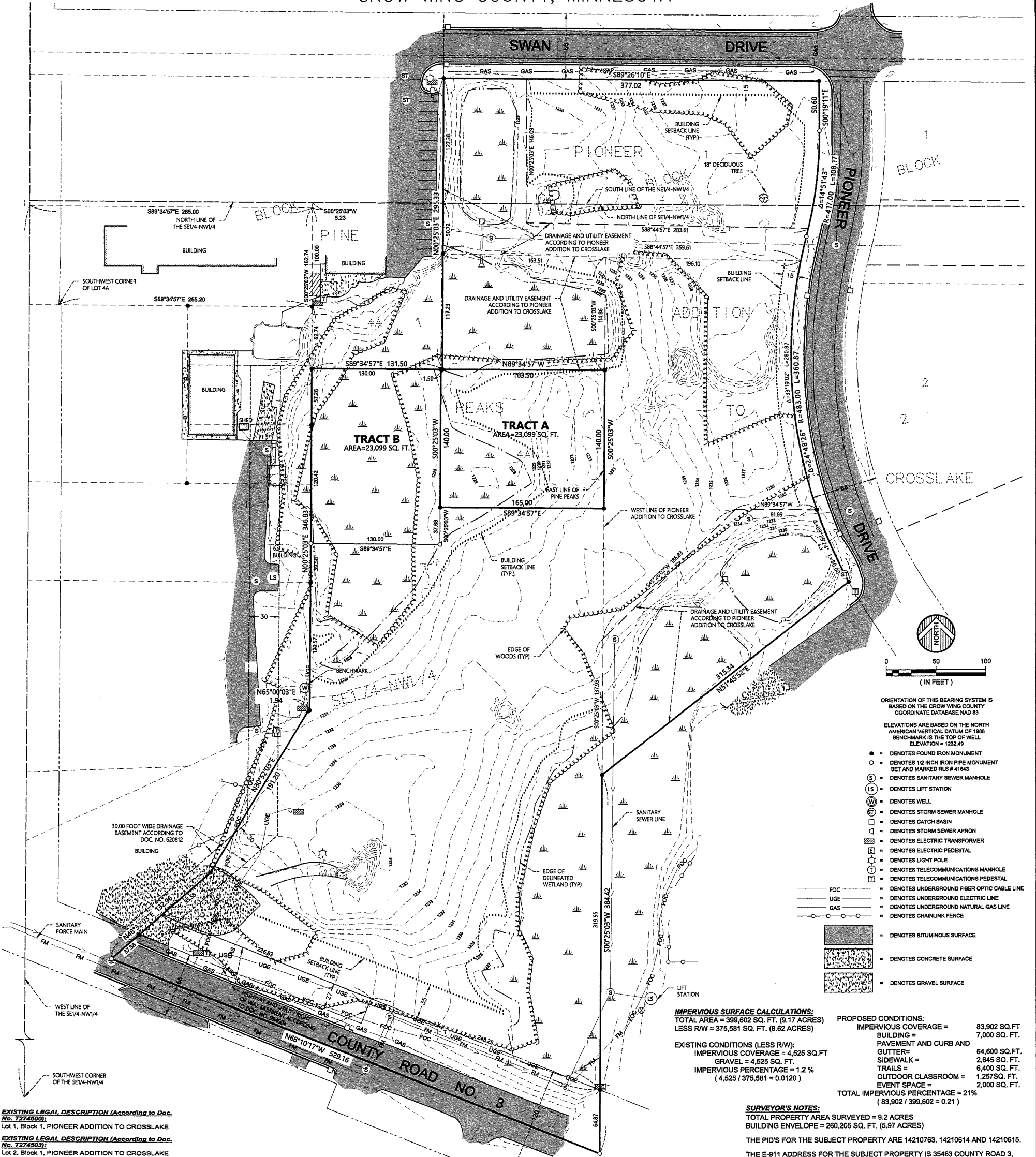
Except That part of Lot 4A, Block 1, PINE PEAKS, according to the recorded plat thereof on file in the Crow Wing County, Minnesota, Recorder's Office, described as follows: Commencing at the northeast corner of said Lot 4A; thence South 00 degrees 25 minutes 03 seconds West, bearing based on the Crow Wing County Coordinate Database NAD 83, 162.74 feet along the easterly line of said Lot 4A to the point of beginning of the tract to be described; thence South 89 degrees 34 minutes 57 seconds East 163.50 feet along said easterly line of Lot 4A; thence South 00 degrees 25 minutes 03 seconds West 140.00 feet along said easterly line of Lot 4A; thence North 89 degrees 34 minutes 57 seconds West 165.00 feet along the southerly line of said Lot 4A to the point of beginning of the tract to be described; thence South 89 degrees 34 minutes 57 seconds East 163.50 feet along said easterly line of Lot 4A; thence South 00 degrees 25 minutes 03 seconds West 140.00 feet along said easterly line of Lot 4A; thence North 89 degrees 34 minutes 57 seconds West 165.00 feet along the southerly line of said Lot 4A; thence North 00 degrees 25 minutes 03 seconds East 140.00 along said southerly line of Lot 4A to the line that bears North 89 degrees 34 minutes 57 seconds West from the point of beginning; thence South 89 degrees 34 minutes 57 seconds East 1.50 feet to the point of beginning.

DATE:	OCTOBER 07, 2024	DATE:		AMENDMENTS	BY:	PREPARED FOR:
SCALE:	AS SHOWN	10-18-2024	AMENDED PER THE CITY OF CROSSLAKES COMMENTS		CPS	THE NATIONAL LOON CENTER FOUNDATION
DRAWN BY:	CPS	11-08-2024	AMENDED PER THE CITY OF CROSSLAKES COMMENTS		CPS	I HEREBY CERTIFY THAT THIS SURVEY, PLAN, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.
CHECKED BY:	CMC					<i>Curtis P. Sanow</i>
FILE NUMBER:	2023-12079					CURTIS P. SANOW
						DATE: 11-08-2024 LIC. NO. 59005

WIDSETH
ARCHITECTS ■ ENGINEERS ■ SCIENTISTS ■ SURVEYORS

CERTIFICATE OF SURVEY

LOTS 1 AND 2 BLOCK 1, PIONEER ADDITION TO CROSSLAKE,
AND PART OF THE SE1/4-NW1/4,
SECTION 21, TOWNSHIP 137, RANGE 27,
CROW WING COUNTY, MINNESOTA



EXISTING LEGAL DESCRIPTION (According to Doc. No. 1274500):
Lot 1, Block 1, PIONEER ADDITION TO CROSSLAKE

EXISTING LEGAL DESCRIPTION (According to Doc. No. 1274503):
Lot 2, Block 1, PIONEER ADDITION TO CROSSLAKE

EXISTING LEGAL DESCRIPTION (According to Doc. No. 993392):
All that part of the West 580.00 feet of the Southeast Quarter of the Northwest Quarter, (SE1/4NW1/4), Section Twenty-one (21), Township One Hundred Thirty-seven (137), Range Twenty-seven (27), lying Northerly of County State Aid Highway No. 3 and lying Easterly of the following described line: Commencing at the Southwest corner of said SE1/4NW1/4; thence North assumed bearing, 1305.30 feet along the West line of said SE1/4NW1/4; thence East 285.00 feet to a point hereinafter designated Point "A"; thence North 4 feet, more or less, to the North line of said SE1/4NW1/4, the point of beginning of the line to be described; thence reversing South 4 feet, more or less to said Point "A"; thence continuing South 509.55 feet; thence South 64 degrees 35 minutes 00 seconds West 1.94 feet; thence South 30 degrees 27 minutes 00 seconds West 191.20 feet; thence South 48 degrees 07 minutes 00 seconds West 130 feet, more or less, to said County State Aid Highway No. 3 and said line there ending, EXCEPT that part of SE1/4NW1/4 deeded to Reed by the deed recorded in Book 350 of Deeds, page 340; AND EXCEPT that part thereof conveyed in Book 344 of Deeds, page 423; AND EXCEPT that part thereof conveyed as Document No. 450829

Conveyance in Book 350 of Deeds, page 340 more fully described as follows:
That part of the East Half of the Northwest Quarter (E1/2NW1/4) of Section 21, Township 137 North, Range 27 West, Crow Wing County, Minnesota, described as follows: Commencing at the Southwest corner of said E1/2NW1/4; thence North assumed bearing, 1462.30 feet along the West line of said E1/2NW1/4 to the Southwest corner of the tract deeded to the Church of the Immaculate Heart by the deed recorded in Book 191 of Deeds, page 60, in the Office of the Crow Wing County Recorder; thence South 89 degrees 51 minutes East 416.50 feet along the South line of said Church tract and its Easterly extension; thence South 155.90 feet to the Easterly extension of the North line of said Moritz tract, thence West 416.50 feet along said Easterly extension and said North line of the Moritz tract to the point of beginning, subject to the right of way for CSAH #6 along the West line thereof.

Conveyance in Document No. 450829 more fully described as follows:
That part of the Southeast Quarter of the Northwest Quarter of Section 21, Township 137 North, Range 27 West, Crow Wing County, Minnesota, described as follows:
Commencing at the Southwest corner of said Southeast Quarter of the Northwest Quarter being a concrete monument established by the U.S. Corps of Engineers; thence on an assumed bearing of North, along the West line of said Southeast Quarter of the Northwest Quarter as established and monumented by the U.S. Corps of Engineers 1462.30 feet to the Southwest corner of the tract deeded to the Church of the Immaculate Heart by the deed recorded in Book 191 of Deeds, page 60, in the Office of the Crow Wing County Recorder; thence South 89 degrees 51 minutes East 416.50 feet along the South line of said Church tract and its Easterly extension; thence South 155.90 feet to the Easterly extension of the North line of said Moritz tract, thence West 416.50 feet along said Easterly extension and said North line of the Moritz tract to the point of beginning, subject to the right of way for CSAH #6 along the West line thereof.

PROPOSED LEGAL DESCRIPTION TRACT A:
That part of Lot 4A, Block 1, PINE PEAKS, according to the recorded plat thereof on file in the Crow Wing County, Minnesota, Recorder's Office, described as follows: Commencing at the northeast corner of said Lot 4A; thence South 00 degrees 25 minutes 03 seconds West, bearing based on the Crow Wing County Coordinate Database NAD 83, 162.74 feet along the easterly line of said Lot 4A to the point of beginning of the tract to be described; thence South 89 degrees 34 minutes 57 seconds East 163.50 feet along said easterly line of Lot 4A; thence South 00 degrees 25 minutes 03 seconds West 140.00 feet along said easterly line of Lot 4A; thence North 89 degrees 34 minutes 57 seconds West 165.00 feet along the southerly line of said Lot 4A; thence North 00 degrees 25 minutes 03 seconds East 140.00 feet along said southerly line of Lot 4A to the line that bears North 89 degrees 34 minutes 57 seconds West from the point of beginning; thence South 89 degrees 34 minutes 57 seconds East 1.50 feet to the point of beginning.

PROPOSED LEGAL DESCRIPTION TRACT B:
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SURVEYOR'S NOTES:
TOTAL PROPERTY AREA SURVEYED = 9.2 ACRES
BUILDING ENVELOPE = 260,205 SQ. FT. (5.97 ACRES)
THE PID'S FOR THE SUBJECT PROPERTY ARE 14210763, 14210614 AND 14210615.
THE E-911 ADDRESS FOR THE SUBJECT PROPERTY IS 35463 COUNTY ROAD 3, CROSSLAKE, MN.
THERE ARE NO BLUFFS OR STEEP SLOPES ON THE SUBJECT PROPERTY.

THE SUBJECT PROPERTY IS NON-RIPARIAN.
THE WETLANDS ON THE SUBJECT PROPERTY ARE SHOWN ACCORDING TO THE WETLAND DELINEATION COMPLETED BY DUNCAN WIDMAN, CERTIFIED WETLAND DELINEATOR IN TRAINING NO. 5359, ON SEPTEMBER 12, 2024

THIS SURVEY WAS COMPLETED WITHOUT THE BENEFIT OF A TITLE COMMITMENT OR OPINION. THERE MAY BE EASEMENTS OR OTHER LIMITING FACTORS NOT SHOWN ON THIS SURVEY WHICH AFFECT THE SUBJECT PROPERTY.

ACCORDING TO THE CITY OF CROSSLAKE LAND USE DISTRICTS MAP, THE SUBJECT PROPERTY AND ALL ADJOINING PROPERTIES ARE LOCATED WITHIN THE DOWNTOWN COMMERCIAL ZONING DISTRICT.

THE BUILDING SETBACK LINES ARE SHOWN ACCORDING TO THE CODE OF ORDINANCES FOR THE CITY OF CROSSLAKE, MINNESOTA, CHAPTER 26, LAND USE.

THE UNDERGROUND UTILITIES SHOWN ON THIS SURVEY ARE ACCORDING TO OBSERVED EVIDENCE AND GOPHER ONE, TICKET NO. 233320938. WIDSETH ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS AND ACCURACY OF THESE LOCATIONS. FURTHER LOCATIONS AND VERIFICATIONS ARE RECOMMENDED BEFORE ANY CONSTRUCTION OR EXCAVATION.

ACCORDING TO F.E.M.A. FIRMETTE MAP NO. 27035C0190C EFFECTIVE DATE AUGUST 15, 2017 THE PROPERTY IS WITHIN ZONE "X" (AREA OF MINIMAL FLOOD HAZARD)

FOR THE PURPOSES OF THIS SURVEY TRACTS A AND B ARE NOT TO BE STAND ALONE TRACTS. TRACT A IS TO BE COMBINED WITH THE NATIONAL LOON CENTER PARCEL, PID NO. 14210763 AND TRACT B IS TO BE COMBINED WITH THE PINE PEAKS PARCEL, PID NO. 14210608.

SHEET 1 OF 2 SHEETS

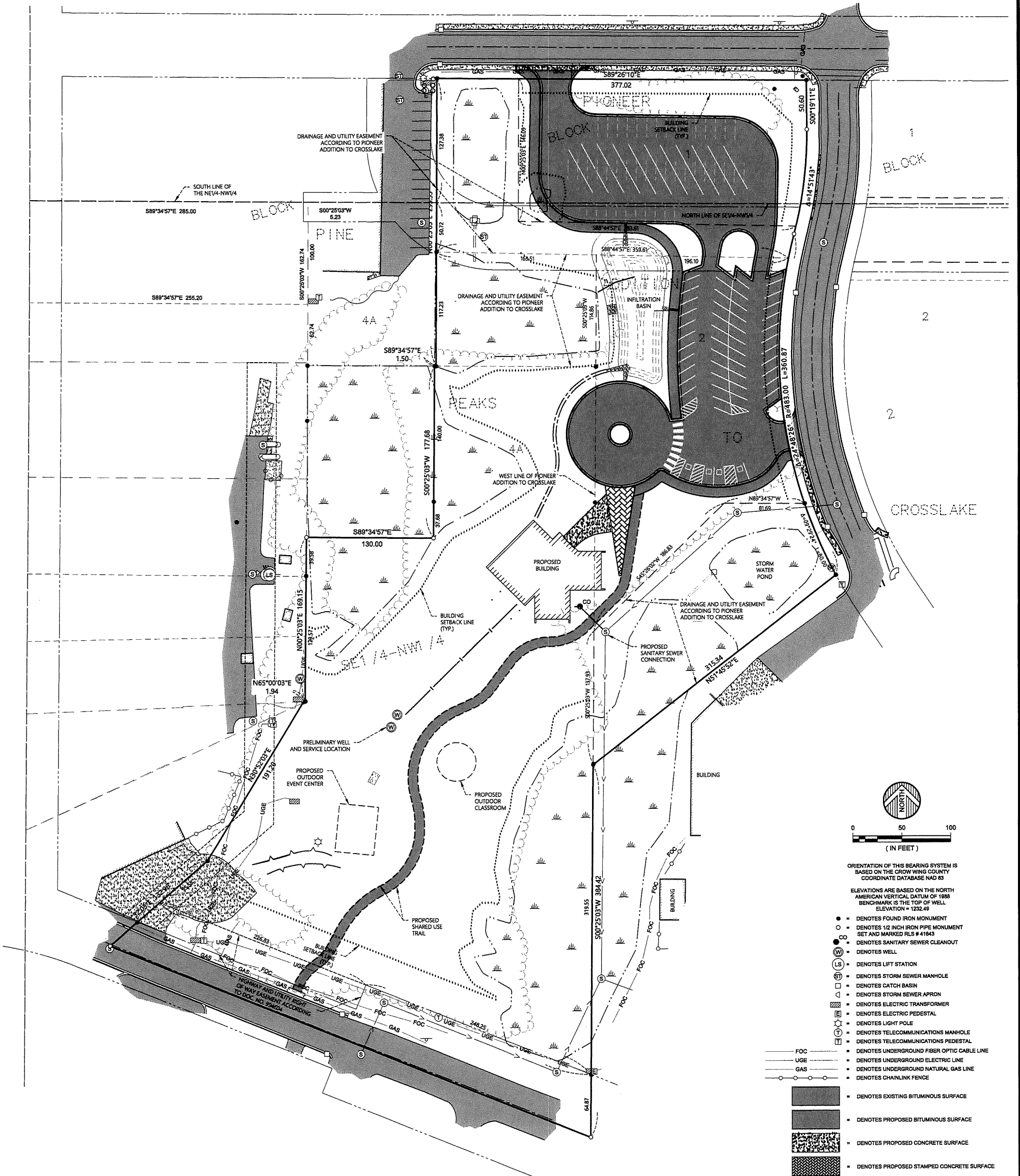
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DATE:	OCTOBER 07, 2024	DATE:	AMENDMENTS	BY:	PREPARED FOR:
SCALE:	AS SHOWN	01-18-2024	AMENDED PER THE CITY OF CROSSLAKES COMMENTS	CPS	THE NATIONAL LOON CENTER FOUNDATION
DRAWN BY:	CPS				I HEREBY CERTIFY THAT THIS SURVEY, PLAN, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.
CHECKED BY:	CMC				<i>Curtis P. Sanow</i>
FILE NUMBER:	2023-12079			CURTIS P. SANOW	DATE: 10-18-2024 LIC. NO. 59005

WIDSETH
ARCHITECTS • ENGINEERS • SCIENTISTS • SURVEYORS

PROPOSED IMPROVEMENTS

LOTS 1 AND 2 BLOCK 1, PIONEER ADDITION TO CROSSLAKE,
AND PART OF THE SE1/4-NW1/4,
SECTION 21, TOWNSHIP137, RANGE 27,
CROW WING COUNTY, MINNESOTA

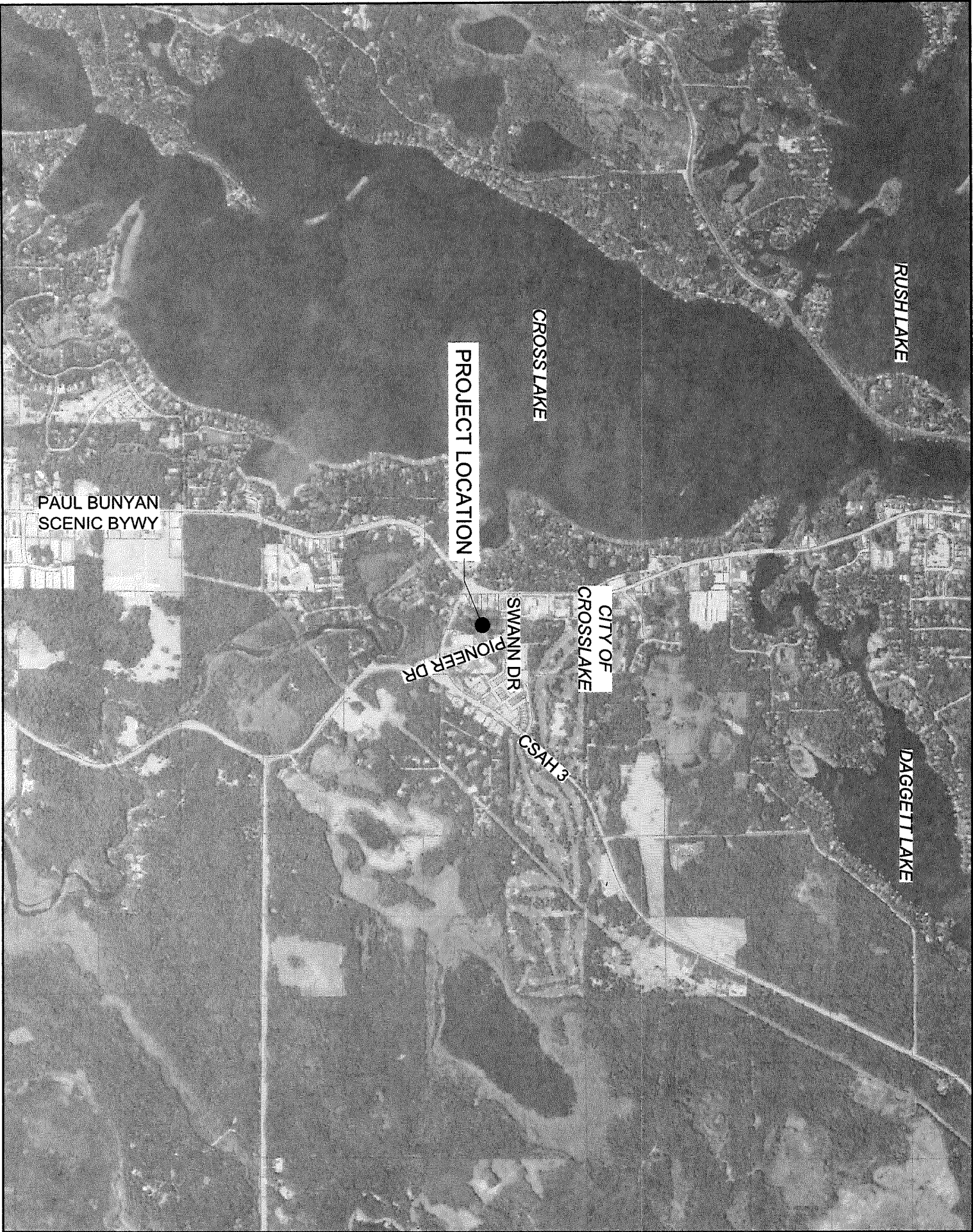


SURVEY NOTES:
SEE CIVIL PLAN SET FOR UTILITY PLANS.

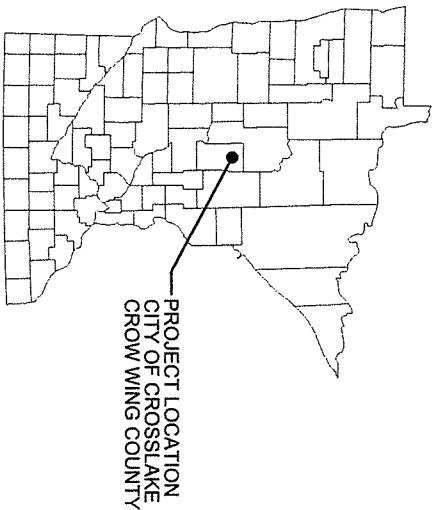
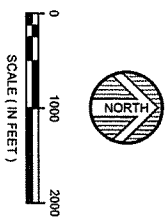
DATE:	OCTOBER 07, 2024	DATE:	AMENDMENTS	BY:	PREPARED FOR: THE NATIONAL LOON CENTER FOUNDATION
SCALE:	AS SHOWN	10-18-2024	AMENDED PER THE CITY OF CROSSLAKES COMMENTS	CPS	I HEREBY CERTIFY THAT THIS SURVEY, PLAN, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.
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CHECKED BY:	CMC				
FILE NUMBER:	2023-12079				

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NATIONAL LOON CENTER - ACTIVITY #2
THE NATIONAL LOON CENTER FOUNDATION
CITY OF CROSSLAKE, MINNESOTA



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NATIONAL LOON CENTER - ACTIVITY #2
THE NATIONAL LOON CENTER FOUNDATION
35463 COUNTY ROAD 3 CROSSLAKE, MN

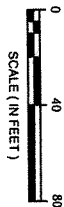
TITLE SHEET

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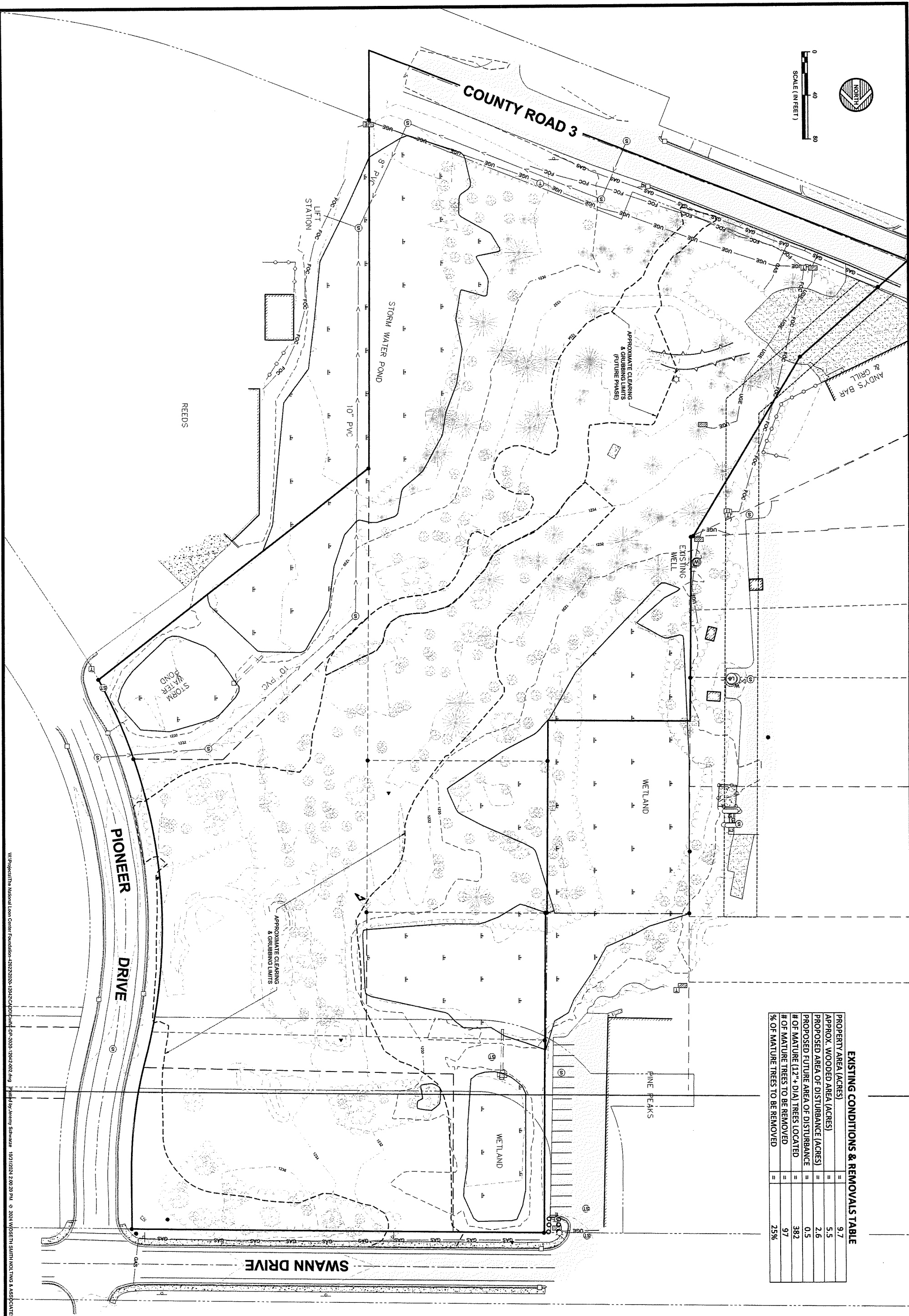
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Greg Selberg
DATE: MM/DD/YYYYIC. NO. --

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EXISTING CONDITIONS & REMOVALS TABLE			
PROPERTY AREA (ACRES)	=	9.7	
APPROX. WOODED AREA (ACRES)	=	5.5	
PROPOSED AREA OF DISTURBANCE (ACRES)	=	2.6	
PROPOSED FUTURE AREA OF DISTURBANCE	=	0.5	
# OF MATURE (12" + DIA) TREES LOCATED	=	382	
# OF MATURE TREES TO BE REMOVED	=	97	
% OF MATURE TREES TO BE REMOVED	=	25%	



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Jeremy Schwarz

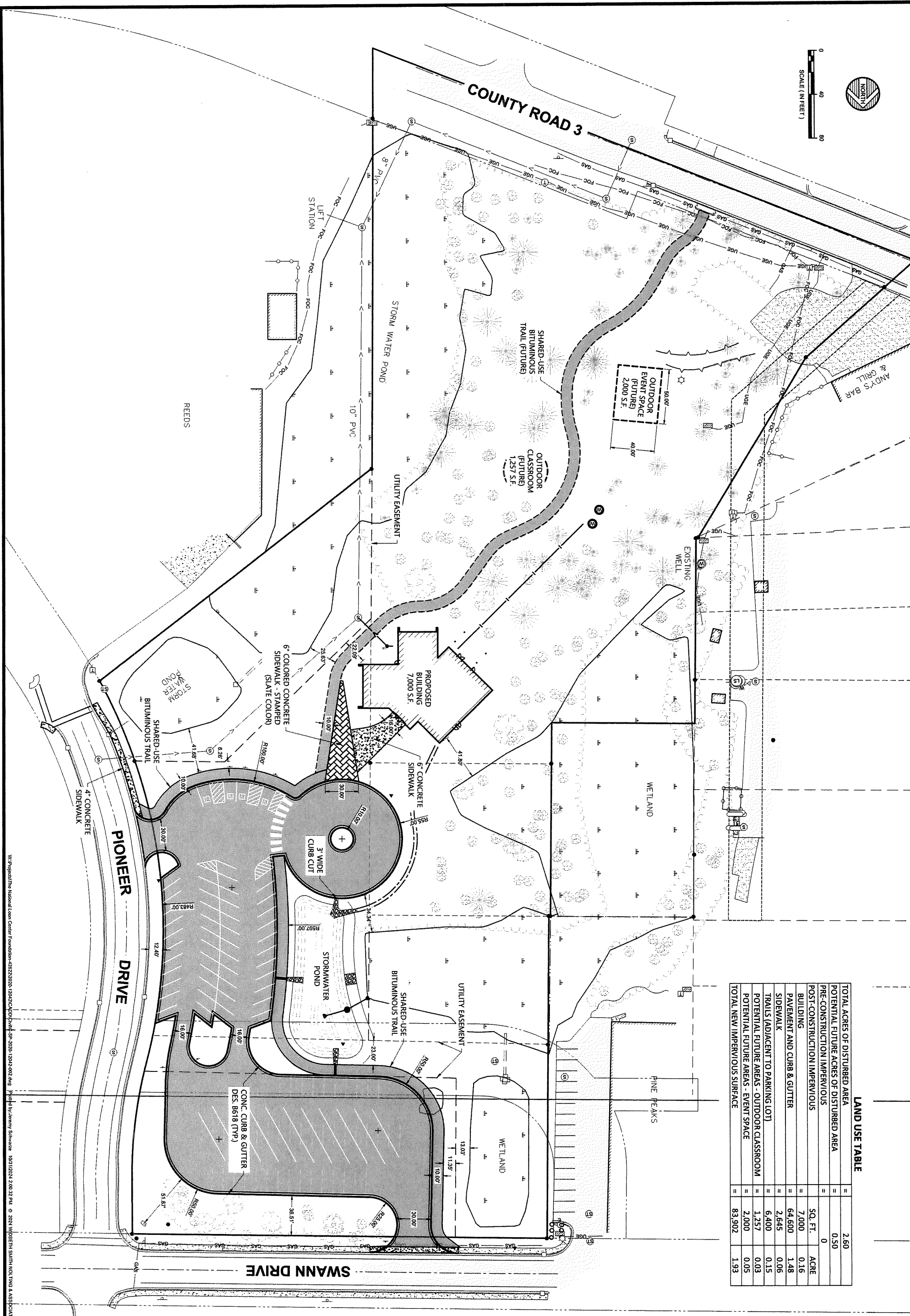
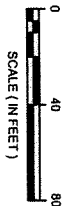
JEREMY SCHWARZ DATE: 10-31-2024 LIC. NO. 55488

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NATIONAL LOON CENTER - ACTIVITY #2
THE NATIONAL LOON CENTER FOUNDATION
35463 COUNTY ROAD 3 CROSSLAKE, MN
EXISTING CONDITIONS & REMOVALS



LAND USE TABLE			
TOTAL ACRES OF DISTURBED AREA	=	2.60	
POTENTIAL FUTURE ACRES OF DISTURBED AREA	=	0.50	
PRE-CONSTRUCTION IMPERVIOUS	=	0	
POST-CONSTRUCTION IMPERVIOUS	=	7,000	0.16
BUILDING	=	64,600	1.48
PAVEMENT AND CURB & GUTTER	=	2,645	0.06
TRAILS (ADJACENT TO PARKING LOT)	=	6,400	0.15
POTENTIAL FUTURE AREAS - OUTDOOR CLASSROOM	=	1,257	0.03
POTENTIAL FUTURE AREAS - EVENT SPACE	=	2,000	0.05
TOTAL NEW IMPERVIOUS SURFACE	=	83,902	1.93

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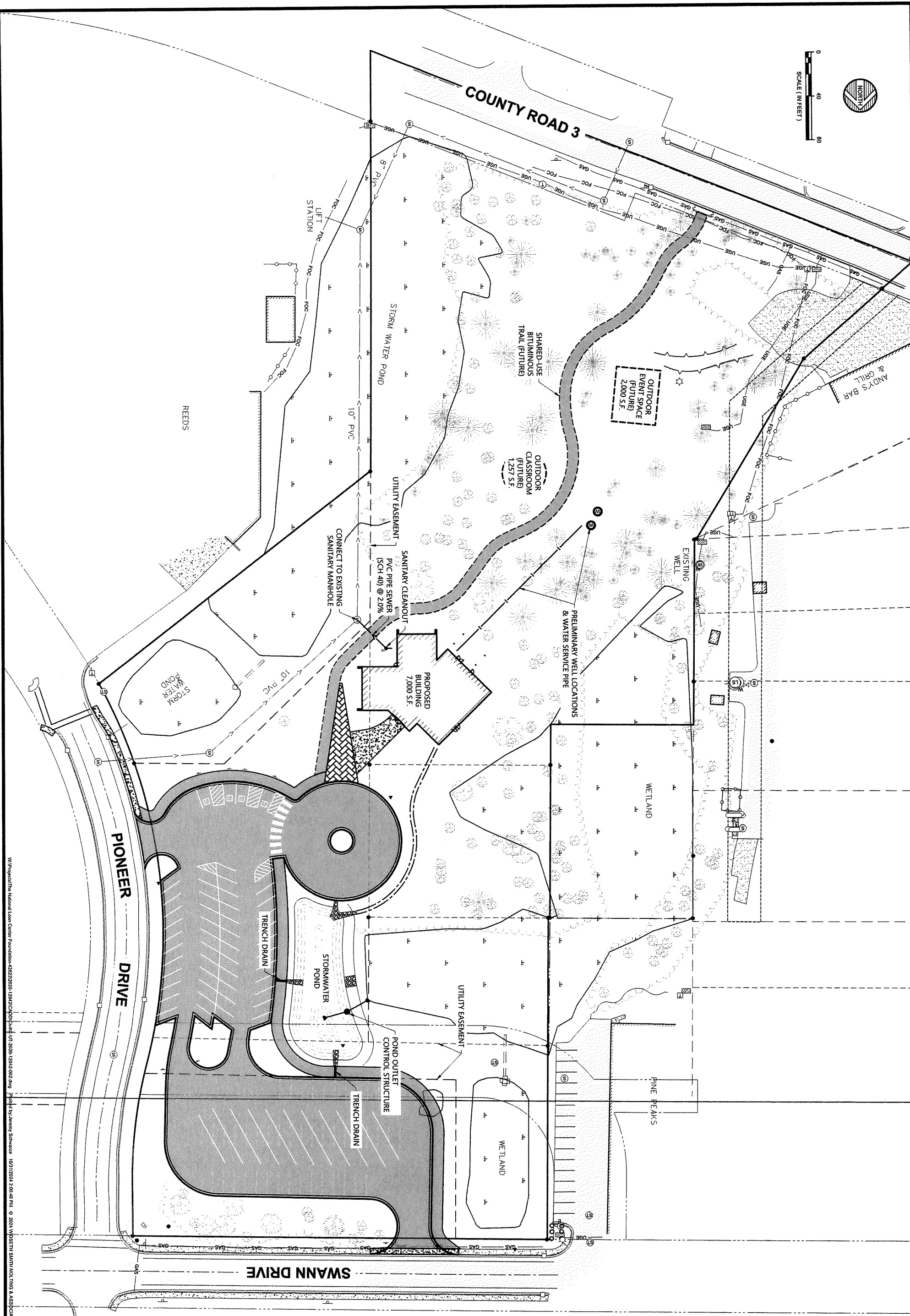
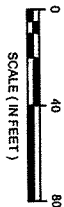
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35463 COUNTY ROAD 3 CROSSLAKE, MN

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J. Schwarz
JEREMY SCHWARZ DATE: 10-31-2024 LIC. NO. 55498

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35463 COUNTY ROAD 3 CROSSLAKE, MN

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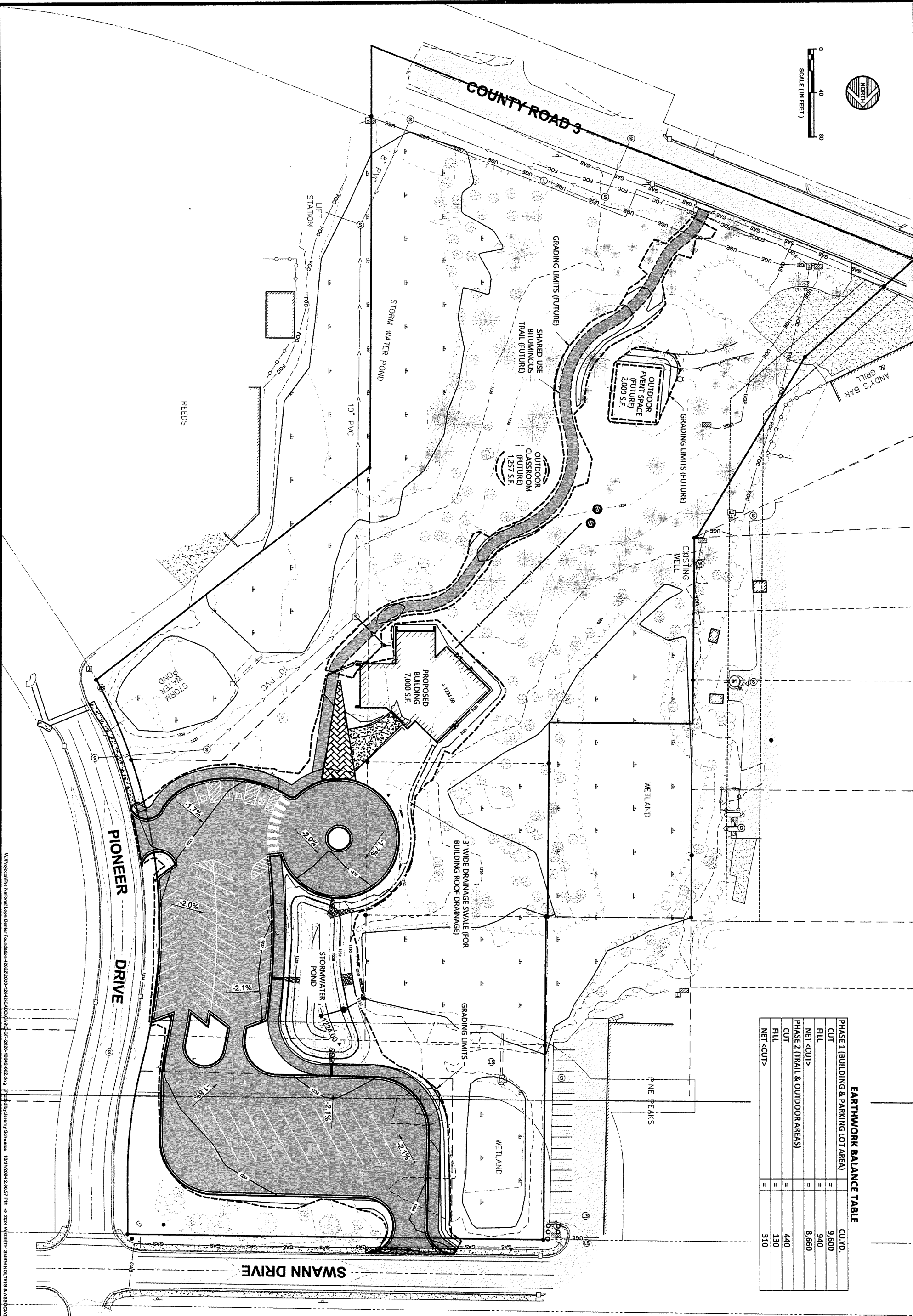
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Jeremy Schwarz

JEREMY SCHWARZ DATE: 10-31-2024 LIC. NO. 55498

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EARTHWORK BALANCE TABLE	
PHASE 1 (BUILDING & PARKING LOT AREA)	CU YD.
CUT	= 9,600
FILL	= 940
NET <CUT>	= 8,660
PHASE 2 (TRAIL & OUTDOOR AREAS)	
CUT	= 440
FILL	= 130
NET <CUT>	= 310

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35463 COUNTY ROAD 3 CROSSLAKE, MN

GRADING PLAN

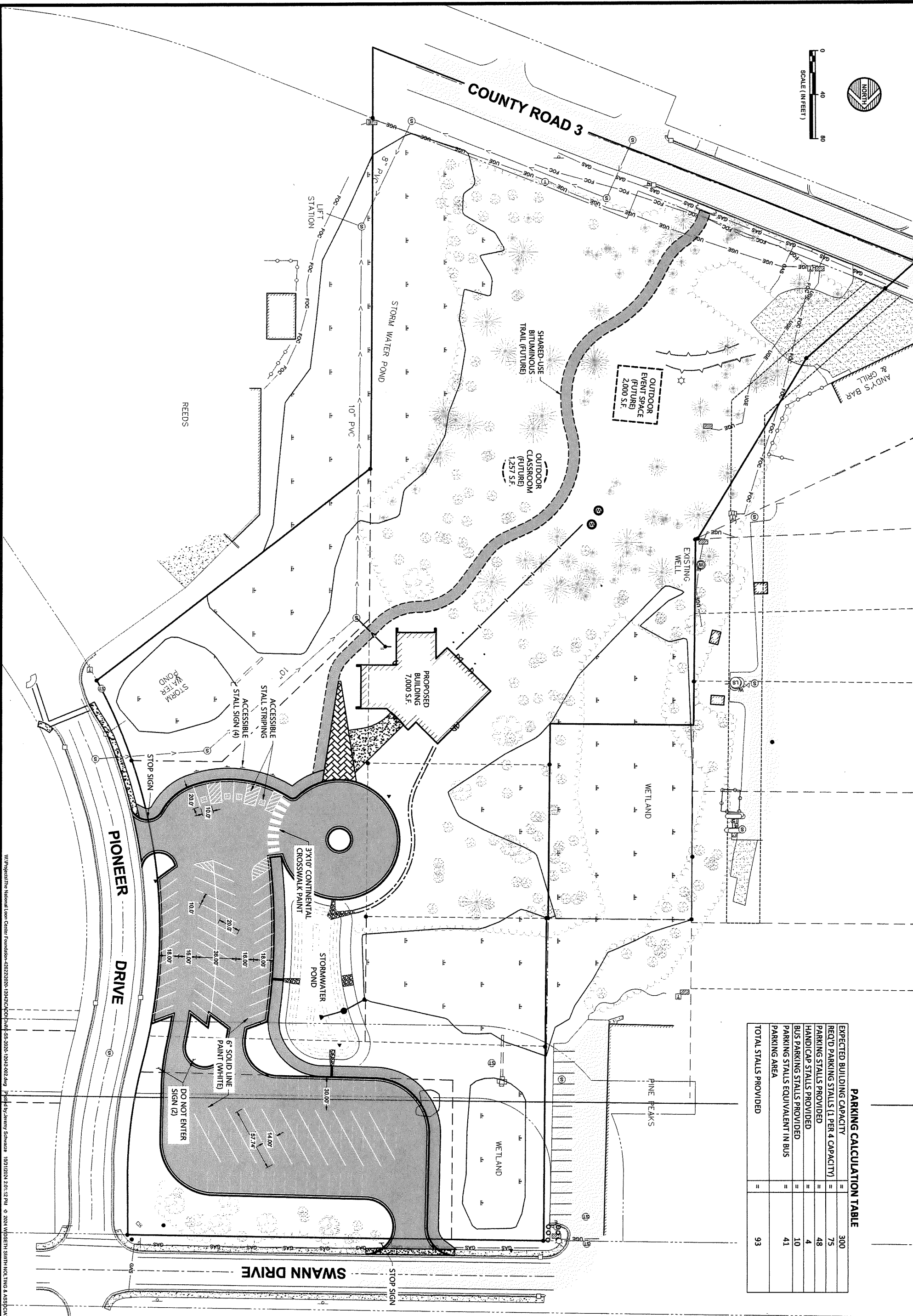
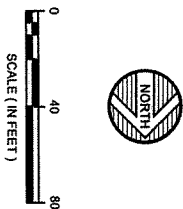
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JEREMY SCHWARZE DATE: 10-31-2024 LIC. NO. 5569A

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PARKING CALCULATION TABLE			
EXPECTED BUILDING CAPACITY	=	300	
REQ'D PARKING STALLS (1 PER 4 CAPACITY)	=	75	
PARKING STALLS PROVIDED	=	48	
HANDICAP STALLS PROVIDED	=	4	
BUS PARKING STALLS PROVIDED	=	10	
PARKING STALLS EQUIVALENT IN BUS PARKING AREA	=	41	
TOTAL STALLS PROVIDED	=	93	

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SIGNING & PAVEMENT MARKING PLAN

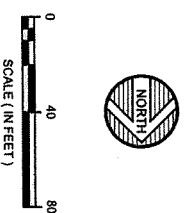
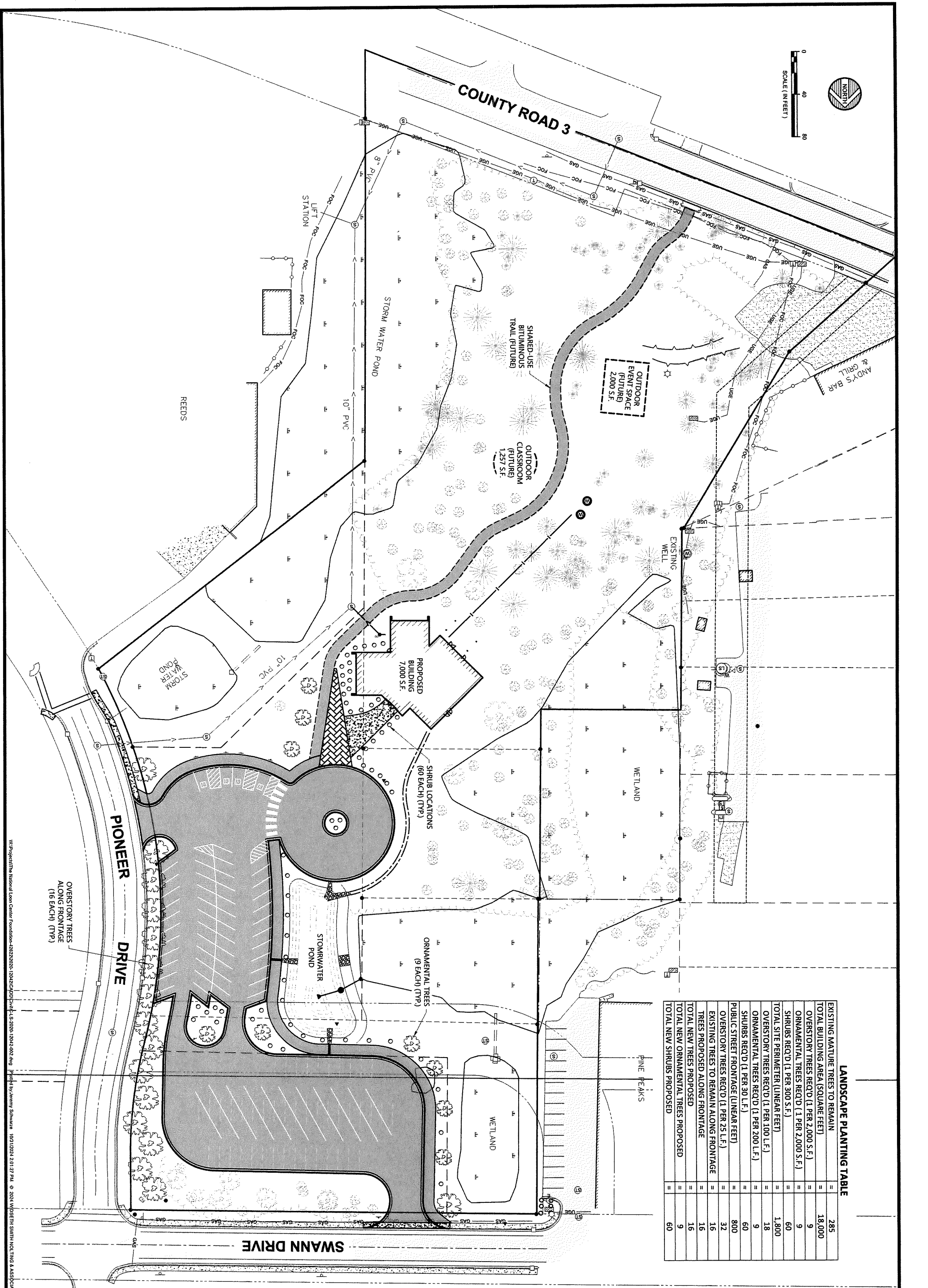
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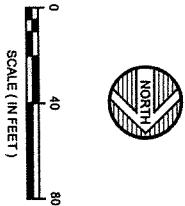
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Jeremy Schwarze
JEREMY SCHWARZE DATE: 10-31-2024 I.D. NO. 66494

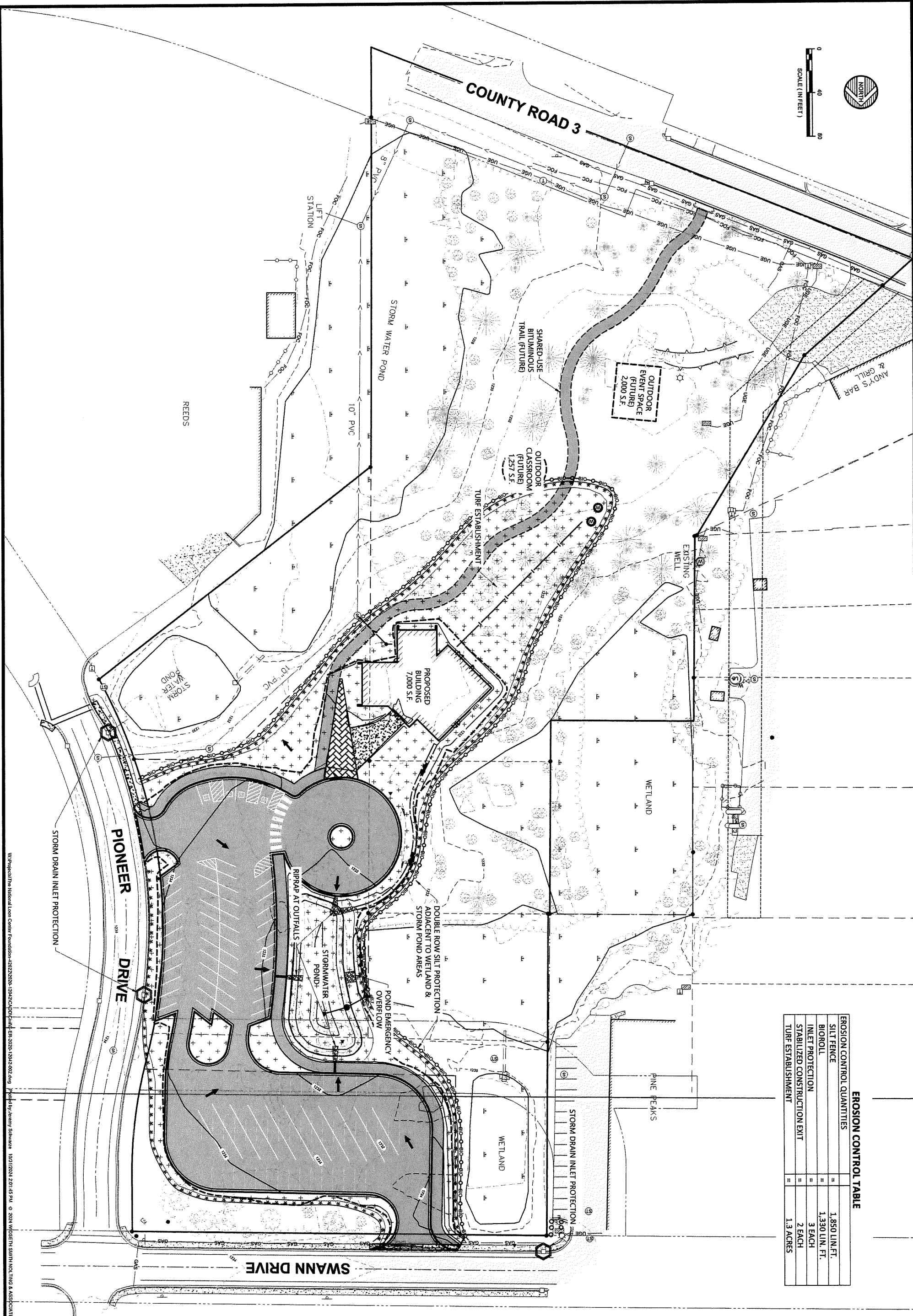
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LANDSCAPE PLANTING TABLE	
EXISTING MATURE TREES TO REMAIN	= 285
TOTAL BUILDING AREA (SQUARE FEET)	= 18,000
OVERSTORY TREES REQ'D (1 PER 2,000 S.F.)	= 9
ORNAMENTAL TREES REQ'D (1 PER 2,000 S.F.)	= 9
SHRUBS REQ'D (1 PER 300 S.F.)	= 60
TOTAL SITE PERIMETER (LINEAR FEET)	= 1,800
OVERSTORY TREES REQ'D (1 PER 100 L.F.)	= 18
ORNAMENTAL TREES REQ'D (1 PER 200 L.F.)	= 9
SHRUBS REQ'D (1 PER 30 L.F.)	= 60
PUBLIC STREET FRONTAGE (LINEAR FEET)	= 800
OVERSTORY TREES REQ'D (1 PER 25 L.F.)	= 32
EXISTING TREES TO REMAIN ALONG FRONTAGE	= 16
TREES PROPOSED ALONG FRONTAGE	= 16
TOTAL NEW TREES PROPOSED	= 9
TOTAL NEW ORNAMENTAL TREES PROPOSED	= 9
TOTAL NEW SHRUBS PROPOSED	= 60



EROSION CONTROL TABLE			
EROSION CONTROL QUANTITIES			
SILT FENCE	=	1,850 LIN. FT.	
BIOROLL	=	1,330 LIN. FT.	
INLET PROTECTION	=	3 EACH	
STABILIZED CONSTRUCTION EXIT	=	2 EACH	
TURF ESTABLISHMENT	=	1.3 ACRES	



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35463 COUNTY ROAD 3 CROSSLAKE, MN

EROSION CONTROL PLAN

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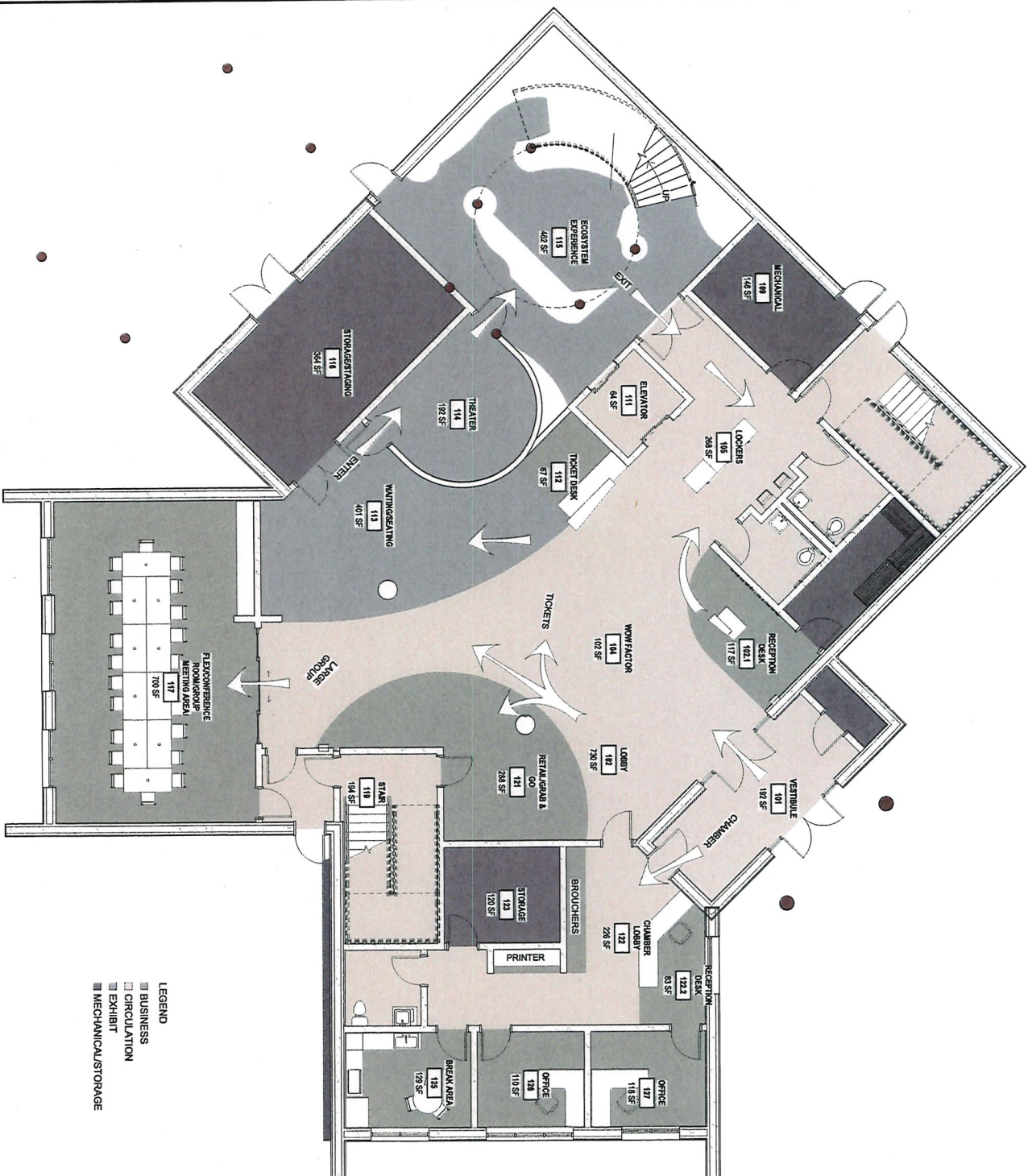
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JEREMY SCHWARZE

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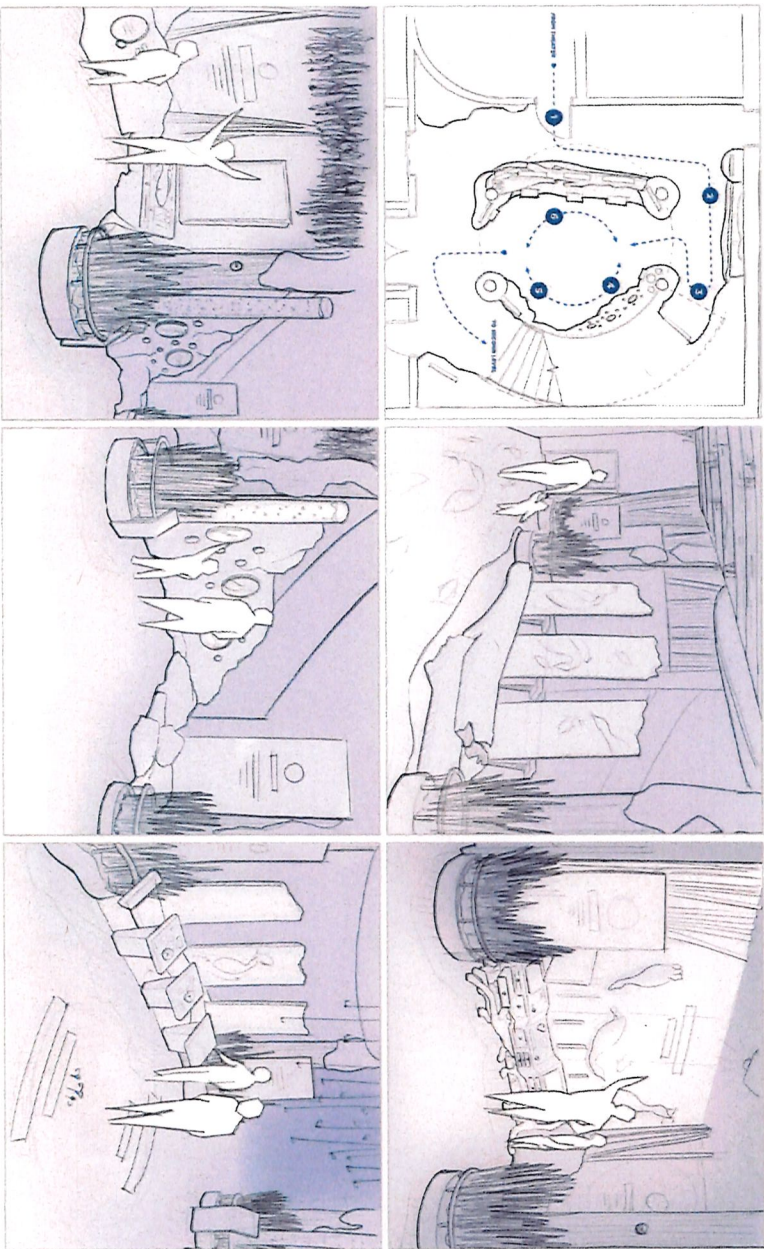
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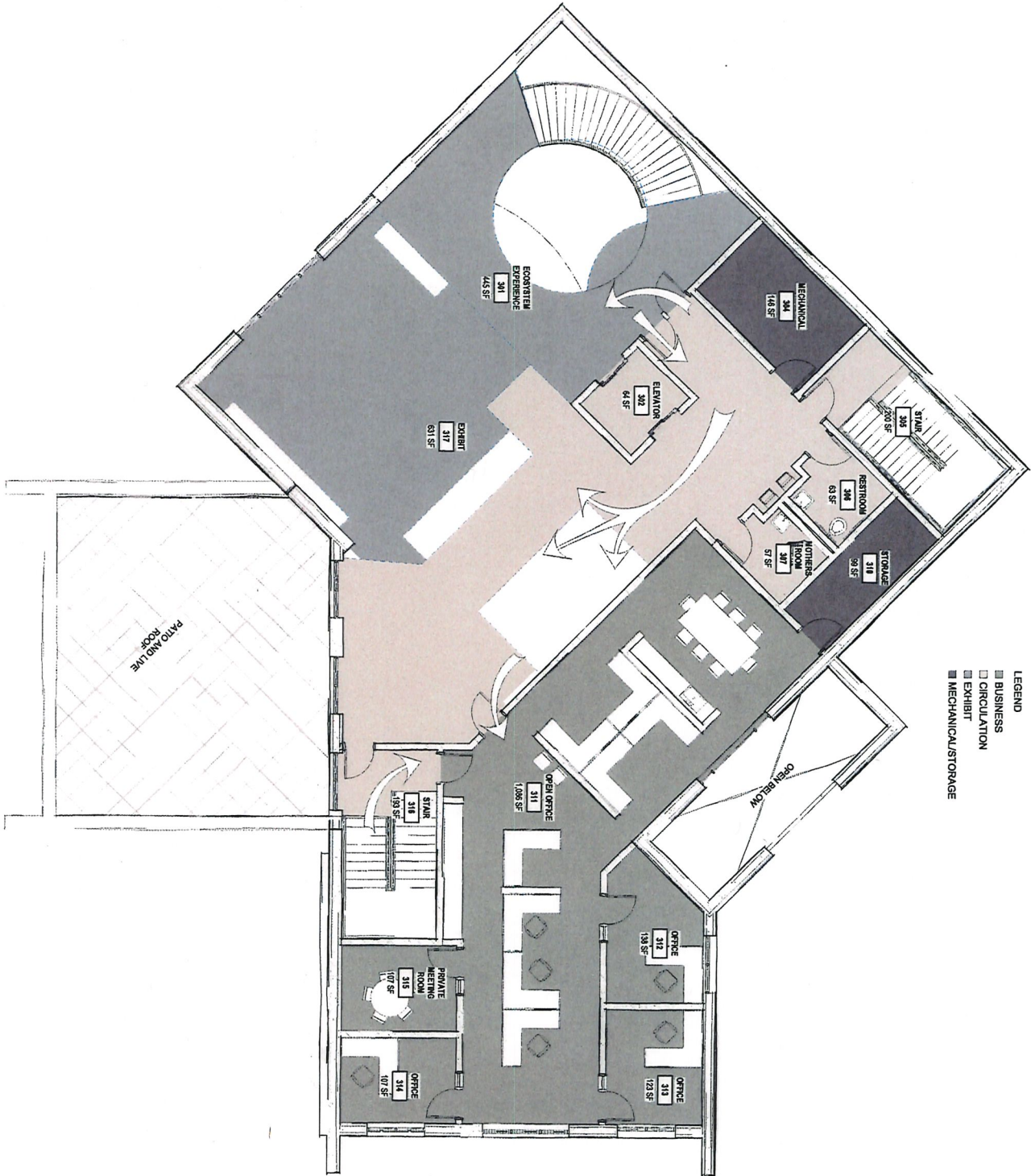
SPACE NEEDS INVENTORY												
Room Number	Rooming/Space Name	Occupancy Type	Seating Capacity	Occ. Driver	Occ. Count	Floor Finish	Wall Finish	Ceiling Finish	Lighting	Function	Appendices	FILE
101	VESTIBULE	N/A	182 SF	0 SF		WALK OFF CARPET	GYPSUM BOARD	TAG WOOD	LED	MAIN ENTRANCE	LOBBY, RECEPTION, RESTROOMS, OFFICES, STAIR STORAGE	N/A
101.1	STORAGE	N/A	29 SF	300 SF	0.10	SEALED CONCRETE	GYPSUM BOARD	TAG WOOD	LED	EXHIBIT/BUCK THERMAL/TOOL STORAGE	RECEPTION DESK	SHELVING
102	LOBBY	BUSINESS	726 SF	0 SF		TERRAZZO	GYPSUM BOARD	TAG WOOD	LED	GATHERING AREA FOR RECEPTION DESK, DONOR WALL	VESTIBULE, RECEPTION, OFFICES, RESTROOMS	N/A
102.1	RECEPTION DESK	BUSINESS	111 SF	150 SF	0.78	TERRAZZO	GYPSUM BOARD	TAG WOOD	LED	WELCOME/POINT PERSON TO DIRECT VISITORS	LOBBY, NOW Awaiting OFFICES	DESK, CHAIR
103	STORAGE	N/A	99 SF	300 SF	0.33	SEALED CONCRETE	GYPSUM BOARD	TAG WOOD	LED	EXHIBIT/BUCK THERMAL/TOOL STORAGE	RECEPTION DESK	SHELVING
104	WORK FACTOR	ASSEMBLY - EXHIBIT	102 SF	30 SF	3.39	TERRAZZO	GYPSUM BOARD	TAG WOOD	LED	ENGAGING PREVIEW OF WHAT LIES WITHIN THE REST OF THE LOOK CENTER, VISIBLE TO PUBLIC, CIRCULATION	TICKETING, RECEPTION DESK, RESTROOMS, STAIRS, ELEVATOR	EXHIBIT INSTALLMENTS
105	LOCKERS	N/A	286 SF	0 SF		TERRAZZO	GYPSUM BOARD	TAG WOOD	LED			N/A
106	RESTROOM	N/A	67 SF	0 SF		TERRAZZO	TILE	ACT	LED	INDIVIDUAL RESTROOM FACILITY	CIRCULATION	N/A
107	RESTROOM	N/A	63 SF	0 SF		TERRAZZO	TILE	ACT	LED	INDIVIDUAL RESTROOM FACILITY	EXTERIOR	N/A
108	STAIR	N/A	200 SF	0 SF		RUBBER TREADS	GYPSUM BOARD	TAG WOOD	LED	CIRCULATION, EGRESS	STAIRS, NEAR UTILITIES, EXTERIOR WALL	N/A
109	MECHANICAL	MECHANICAL	146 SF	300 SF	0.49	SEALED CONCRETE	GYPSUM STRUCTURE	EXPOSED	LED	MECHANICAL/ELECTRICAL	BETWEEN ECOSYSTEM EXPERIENCE AND OTHER EXHIBITS	N/A
110	ELEVATOR	N/A	64 SF	0 SF		TERRAZZO	GYPSUM BOARD	TAG WOOD	LED	EXIT AND BUFFER BETWEEN ECOSYSTEM EXPERIENCE AND THE REST OF THE FACILITY, TICKET STAKES FOR LOOK CENTER EXPERIENCE	BETWEEN ECOSYSTEM EXPERIENCE AND OTHER EXHIBITS	N/A
111	ELEVATOR	N/A	64 SF	0 SF		TERRAZZO	GYPSUM BOARD	TAG WOOD	LED	EXIT AND BUFFER BETWEEN ECOSYSTEM EXPERIENCE AND THE REST OF THE FACILITY, TICKET STAKES FOR LOOK CENTER EXPERIENCE	NEAR LOCKERS, THEATER, AND TICKETING	LOCKERS, LOUNGE SEATING
112	TICKET DESK	BUSINESS	67 SF	150 SF	0.45	TERRAZZO	GYPSUM BOARD	TAG WOOD	LED	QUEING AREA FOR THEATER		PROTECTION AND SOUND SYSTEM FOR EXHIBIT INSTALLMENTS
113	WAINWRIGHT AVENUE	ASSEMBLY - EXHIBIT	401 SF	30 SF	13.36	TERRAZZO	GYPSUM BOARD	TAG WOOD	LED	MERISSE	BETWEEN WAITING AND TICKETING, CONNECTED TO OTHER LEVELS OF ECOSYSTEM EXPERIENCE, ELEVATOR, VESTIBULE	N/A
114	THEATER	ASSEMBLY - EXHIBIT	186 SF	30 SF	6.40	CARPET TILE	GYPSUM BOARD	TAG WOOD	LED	IMMERSIVE EDUCATIONAL EXHIBITS THAT TEACH ON THE INDIVIDUAL ECOSYSTEM OF LOOKS	OUTDOOR ACCESS, OPEN TO PUBLIC, MULTIFUNCTION	TABLES & CHAIRS
115	ECOSYSTEM EXPERIENCE	EXHIBIT	462 SF	30 SF	15.40	VARIOUS SENSORY MATERIAL, CARPET, MURAL, ELM ETC.	GYPSUM BOARD	TAG WOOD	LED	EXHIBIT STORAGE AND STAGING	NEAR WAITING, P.O.S. & DESK FOR CONFERENCE	N/A
116	STORAGE/STAGING	STORAGE	364 SF	300 SF	1.21	SEALED CONCRETE	GYPSUM BOARD	TAG WOOD	LED	MULTI-PURPOSE BOARD ROOM, CONFERENCE ROOM, LARGE GROUP MEETING AREA	CONFERENCE ROOM, STAIR	N/A
117	PLANNING/CONFERENCE EDUCATION	EDUCATION	706 SF	20 SF	35.00	CARPET TILE	GYPSUM BOARD	TAG WOOD	LED	SOFT PRIVATE ENTRANCE FOR OFFICES AND CONFERENCE ROOM	EXTERIOR	N/A
118	VESTIBULE	N/A	62 SF	0 SF		WALK OFF CARPET	GYPSUM BOARD	TAG WOOD	LED			N/A
119	VESTIBULE	N/A	194 SF	0 SF		RUBBER TREADS	GYPSUM BOARD	TAG WOOD	LED	CIRCULATION, EGRESS		N/A
121	RETAIL/STAIR & GO	BUSINESS	286 SF	60 SF	4.80	CARPET TILE	GYPSUM BOARD	TAG WOOD	LED	PLACE TO GRAB SOUVENIRS AND SNACK ITEMS	NEAR WAITING, P.O.S. & DESK FOR CONFERENCE	SHELVING, COOLERS
122	CHAMBER LOBBY	BUSINESS	226 SF	150 SF	1.51	CARPET TILE	GYPSUM BOARD	TAG WOOD	LED	GATHERING AREA FOR OFFICES	SEPARATE ACCESS BUT ACCESSIBLE FROM CENTER	N/A
122.1	BROCHURES	BUSINESS	26 SF	150 SF	0.17	CARPET TILE	GYPSUM BOARD	TAG WOOD	LED	WALL SPACE FOR COMMUNITY INFORMATION, BROCHURES	WALL STORAGE SYSTEM	DESK, CHAIR
122.2	RECEPTION DESK	BUSINESS	63 SF	150 SF	0.56	CARPET TILE	GYPSUM BOARD	TAG WOOD	LED	CHAMBER VOLUNTEER STAFF	NEAR BROCHURES, NEAR ENTRANCES	CORNER CABINETS
122.3	CORNER	BUSINESS	17 SF	0 SF		CARPET TILE	GYPSUM BOARD	TAG WOOD	LED	WORK AREA FOR OFFICES	CENTRALLY LOCATED	SHELVING
123	STORAGE	STORAGE	326 SF	300 SF	0.40	SEALED CONCRETE	GYPSUM BOARD	TAG WOOD	LED	EXHIBIT/BUCK THERMAL/TOOL STORAGE		N/A
124	RESTROOM	N/A	62 SF	0 SF		TILE	TILE	ACT	LED	INDIVIDUAL RESTROOM FACILITY	ACCESS AFTER HOURS FOR NEAR OFFICES	N/A
125	BREAK AREA	BUSINESS	123 SF	150 SF	0.56	TILE	GYPSUM BOARD	TAG WOOD	LED	STAFF MEETINGS, GATHERING AREA, EMPLOYEE MEETINGS	NEAR OFFICES	TABLE & CHAIRS, BARGE
126	OFFICE	BUSINESS	110 SF	150 SF	0.74	CARPET TILE	GYPSUM BOARD	TAG WOOD	LED	WALLED IN SINGLE PERSON OFFICE FOR STAFF	NEAR LOBBY	DESK, CHAIR

MECHANICAL/HVAC/PIPPING REQUIREMENTS: GEOTHERMAL/VRF TECHNOLOGY REQUIREMENTS: WI-FI THROUGHOUT THE BUILDING TO ACCOMMODATE MOBILE AND STATIONARY DEVICES

MECHANICAL/HVAC/PIPING REQUIREMENTS: GEOTHERMAL/VRF



- LEGEND
- BUSINESS
 - CIRCULATION
 - EXHIBIT
 - MECHANICAL/STORAGE



1 THIRD LEVEL FLOOR PLAN
1/8" = 1'-0"



SPACE NEEDS INVENTORY												
Room Number	Room/Space Name	Occupancy Type	Square Feet Area	Occ. Density	Coord.	Floor Finish	Wall Finish	Ceiling Finish	Lighting	Function	Adjacencies	F.F.E.
301	ECOSYSTEM EXPERIENCE	ASSEMBLY - EXHIBIT	445 SF	30 SF	14.85	VARIOUS SENSORY MATERIAL, CARPET, MARBLE, ETC.	GYPSONUM BOARD	T&G WOOD	LED	IMMERSIVE EDUCATIONAL EXHIBITS THAT TEACH ON THE AIR ECOSYSTEM OF LOONS	CONNECTED TO OTHER LEVELS OF EXHIBIT INSTALLMENTS	
302	ELEVATOR	N/A	64 SF	0 SF		SEALED CONCRETE	GYPSONUM BOARD	T&G WOOD	LED	CIRCULATION	ELEVATOR, VESTIBULE	
304	MECHANICAL	MECHANICAL	148 SF	300 SF	0.49	SEALED CONCRETE	GYPSONUM BOARD	EXPOSED STRUCTURE	LED	MECHANICAL/ELECTRICAL	CENTRALLY LOCATED	N/A
305	STAIR	N/A	200 SF	0 SF		RUBBER TREADS	GYPSONUM BOARD	T&G WOOD	LED	CIRCULATION, EGRESS	STAIRS, MECHANICAL, EXTERIOR	N/A
306	RESTROOM	N/A	63 SF	0 SF		TILE	TILE	ACT	LED	INDIVIDUAL RESTROOM FACILITY	NEAR OFFICES AND PLUMBING	N/A
307	MOTHERS ROOM	BUSINESS	57 SF	0 SF		CARPET TILE	GYPSONUM BOARD	ACT	LED	QUIET AREA FOR MOTHERS FOR VISITORSHIP, OFFICES	CHAIR, FRIDGE, SINK	N/A
308	CORRIDOR	N/A	819 SF	0 SF		VARIOUS SENSORY MATERIAL, CARPET, MARBLE, ETC.	GYPSONUM BOARD	T&G WOOD	LED	CIRCULATION	OFFICES	N/A
310	STORAGE	STORAGE	99 SF	300 SF	0.33	CONCRETE	GYPSONUM BOARD	T&G WOOD	LED	EXHIBIT/BACKLIT/MONITORIAL STORAGE	CENTRALLY LOCATED	SHELVING
311	OPEN OFFICE	BUSINESS	1,088 SF	160 SF	7.24	CARPET TILE	GYPSONUM BOARD	T&G WOOD	LED	TOUCH-DOWN, CHIBIC SPACE FOR MORE INTERACTIVE OFFICE STAFF	NEAR OFFICES	SMALL CHIBIC ES
312	OFFICE	BUSINESS	138 SF	160 SF	0.92	CARPET TILE	GYPSONUM BOARD	T&G WOOD	LED	WALLED IN SINGLE PERSON OFFICE FOR STAFF	CENTRALLY LOCATED	DESK, CHAIR
313	OFFICE	BUSINESS	123 SF	160 SF	0.82	CARPET TILE	GYPSONUM BOARD	T&G WOOD	LED	WALLED IN SINGLE PERSON OFFICE FOR STAFF	NEAR OPEN OFFICE	DESK, CHAIR
314	OFFICE	BUSINESS	107 SF	160 SF	0.71	CARPET TILE	GYPSONUM BOARD	T&G WOOD	LED	WALLED IN SINGLE PERSON OFFICE FOR STAFF	NEAR OPEN OFFICE	DESK, CHAIR
315	PRIVATE MEETING ROOM	BUSINESS	107 SF	160 SF	0.71	CARPET TILE	GYPSONUM BOARD	T&G WOOD	LED	WALLED IN SINGLE PERSON OFFICE FOR STAFF	NEAR OPEN OFFICE	DESK, CHAIR
316	STAIR	N/A	183 SF	0 SF		RUBBER TREADS	GYPSONUM BOARD	T&G WOOD	LED	CIRCULATION, EGRESS	EXTERIOR	N/A
317	EXHIBIT	ASSEMBLY - EXHIBIT	631 SF	30 SF	21.05	VARIOUS SENSORY MATERIAL, CARPET, MARBLE, ETC.	GYPSONUM BOARD	T&G WOOD	LED	EDUCATIONAL EXHIBIT	CIRCULATION	EXHIBIT INSTALLMENTS

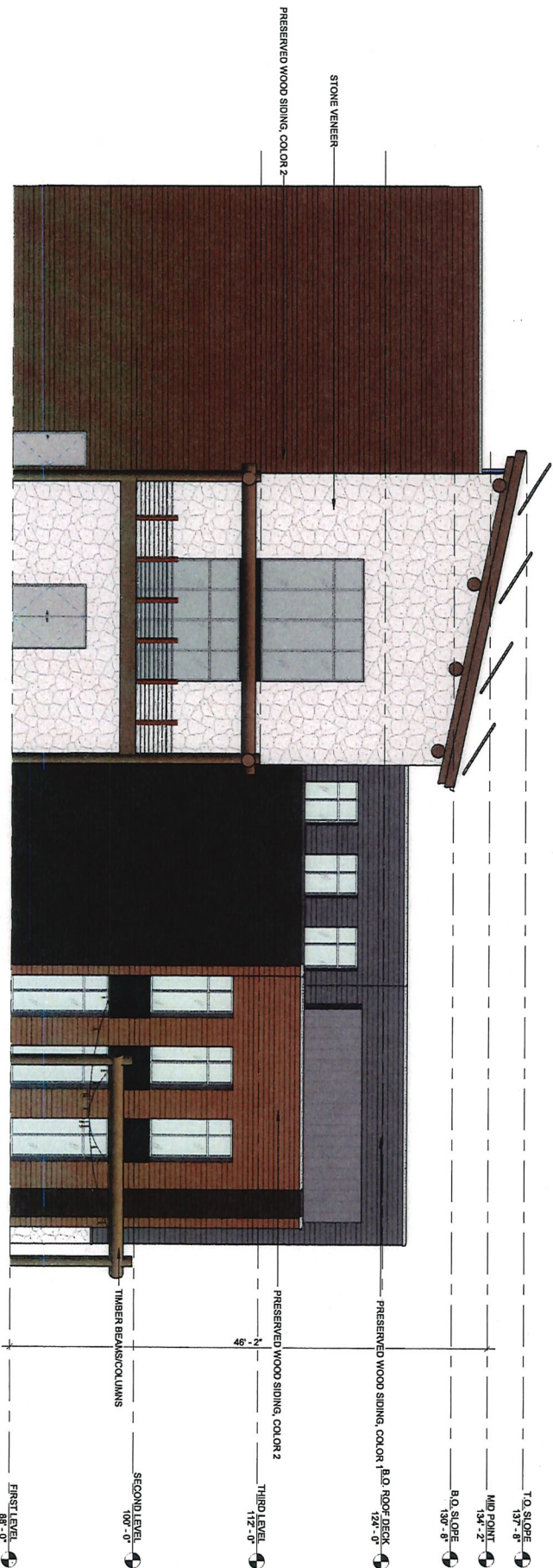
TECHNOLOGY REQUIREMENTS: WIFI THROUGHOUT THE BUILDING TO ACCOMMODATE MOBILE AND STATIONARY DEVICES
MECHANICAL/PLUMBING REQUIREMENTS: GEOTHERMAL/HP



1
ELEVATION
1/8" = 1'-0"



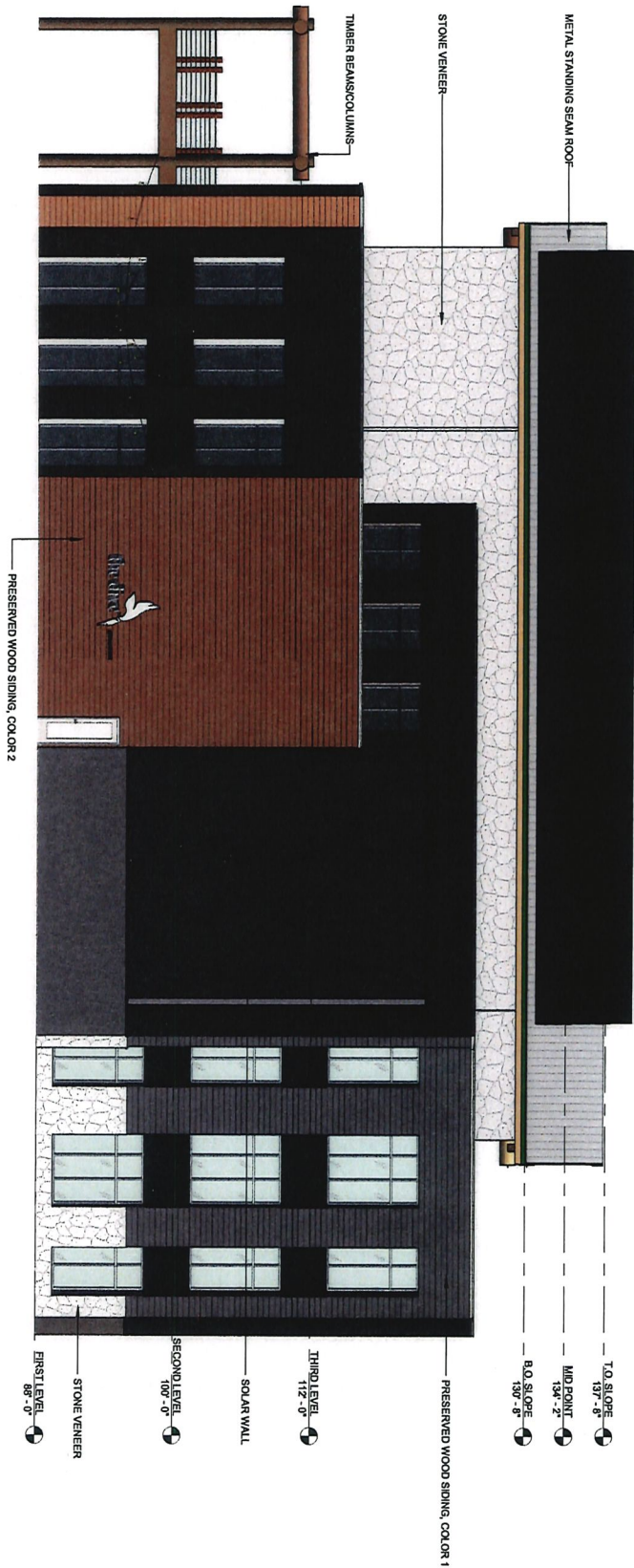
2
ELEVATION
1/8" = 1'-0"



DATE	REV#	REVISION DESCRIPTION	BY

DATE: OCTOBER 7, 2024
SCALE: AS NOTED
DRAWN BY: AGM
CHECKED BY: MJA
JOB NUMBER: 2020-12042

NATIONAL LOON CENTER - ACTIVITY #2
THE NATIONAL LOON CENTER FOUNDATION
35463 COUNTY ROAD 3 CROSSLAKE, MN
BUILDING ELEVATIONS



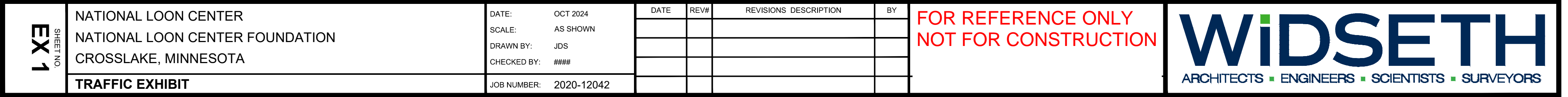
1 ELEVATION
1/8" = 1'-0"

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER, UNDER THE LAWS OF THE STATE OF NORTH DAKOTA

DATE	REV	REVISIONS DESCRIPTION	BY

DATE: OCTOBER 7, 2024
SCALE: AS NOTED
DRAWN BY: AGM
CHECKED BY: MJA
JOB NUMBER: 2020-12042

NATIONAL LOON CENTER - ACTIVITY #2
THE NATIONAL LOON CENTER FOUNDATION
35463 COUNTY ROAD 3 CROSSLAKE, MN
BUILDING ELEVATIONS



**NATIONAL LOON CENTER
CROSSLAKE, MN**

**HYDRAULIC DESIGN
SUMMARY REPORT**

For

NATIONAL LOON CENTER SITE DEVELOPMENT

Oct 2024

Prepared by:
Widseth Smith Nolting & Associates
Consulting Engineers, Hibbing, Minnesota

Project # 2020-12042

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.



10/31/2024

Jeremy Schwarze

Lic. No. 55498

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SITE IMPERVIOUSNESS CALCULATIONS WORKSHEET

STORMWATER POND STORAGE WORKSHEET

WEB SOIL SURVEY HYDROLOGIC SOIL MAP

NOAA ATLAS 14 PRECIPITATION FREQUENCY TABLE

HYDROCAD SUMMARY REPORT: MSE 24-HR 100-YEAR RAINFALL ANALYSIS

EXISTING CONDITIONS

LAND USE (COVER TYPE)	IMPERVIOUS AREA	IMPERVIOUS AREA
	(sf)	(acre)
Existing	0.00	0.00
IMPERVIOUSNESS-EXISTING		0.00

PROPOSED CONDITIONS

LAND USE (COVER TYPE)	IMPERVIOUS AREA	IMPERVIOUS AREA
	(sf)	(acre)
Building	7000.00	0.16
Pavement and Curb & Gutter	64600.00	1.48
Sidewalk	2645.00	0.06
Trails (adjacent to parking lot)	6,400	0.15
IMPERVIOUSNESS-PROPOSED	80645.00	1.85

NEW IMPERVIOUS SURFACE AREA=

1.85

LIVE STORAGE-WATER QUALITY VOLUME

The basin's water quality volume is calculated as a 1.1" (per MIDS) of runoff from the **new** impervious surfaces created by the project.

IMPERVIOUS AREA	DRAINAGE CRITERIA	WATER QUALITY VOLUME	
(acres)	(inches)	(cubic-feet)	(acre-feet)
1.85	1.10	7,392	0.1697

TOTAL POND STORAGE	ELEVATION (FT)	AREA (SF)	DELTA VOLUME (CF)	STORAGE VOLUME (CF)	STORAGE VOLUME (AC-FT)
	1224.00	170	0	0	0.0000
	1225.00	500	321	321	0.0074
	1226.00	1,170	812	1,132	0.0260
	1227.00	3,970	2,432	3,564	0.0818
	1228.00	4,950	4,451	8,015	0.1840
	1229.00	5,990	5,462	13,477	0.3094
	1230.00	7,085	6,530	20,006	0.4593

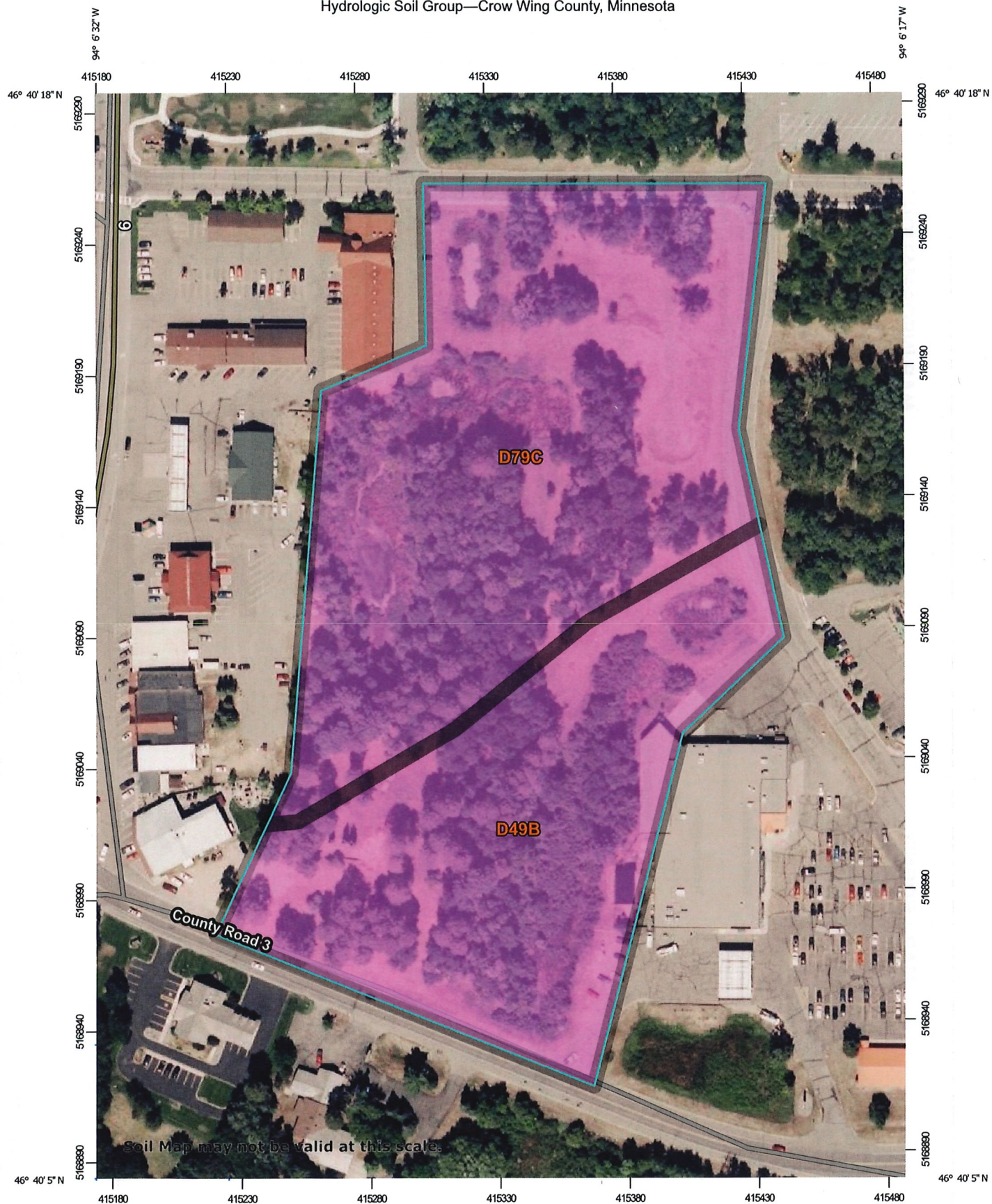
DEAD STORAGE	ELEVATION (FT)	AREA (SF)	DELTA VOLUME (CF)	STORAGE VOLUME (CF)	STORAGE VOLUME (AC-FT)	
	1224.00	170	0	0	0.0000	
	1225.00	500	321	321	0.0074	
	1226.00	1,170	812	1,132	0.0260	
	1227.00	3,970	2,432	3,564	0.0818	
<i>Perm. Pool</i>	1227.01	3,978			0.0826	(meets 3' min.)
	1228.00	4,950	4,451	8,015	0.1840	

LIVE STORAGE	ELEVATION (FT)	AREA (SF)	DELTA VOLUME (CF)	STORAGE VOLUME (CF)	STORAGE VOLUME (AC-FT)	Max. Discharge for 90% Removal (CFS)
	1227.00	3,970	0	0	0.0000	0.52
	1228.00	4,950	4,451	4,451	0.1022	0.64
<i>Water Quality</i>	1228.54	5,510			0.1697	0.72
	1229.00	5,990	5,462	9,913	0.2276	0.78
	1230.00	7,085	6,530	16,443	0.3775	0.92

The Permanent Pool Volume (Dead Storage) required is: 0.0826 acre-feet
The Permanent Pool Volume (Dead Storage) provided is: 0.0818 acre-feet

The Water Quality Volume (Live Storage) required is: 0.1697 acre-feet
The corresponding water quality elevation is: 1,228.54 feet

Hydrologic Soil Group—Crow Wing County, Minnesota



Map Scale: 1:2,020 if printed on A portrait (8.5" x 11") sheet.

0 25 50 100 150 Meters

0 50 100 200 300 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 15N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

9/27/2024
Page 1 of 4

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A	C
A/D	C/D
B	D
B/D	Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

Soil Rating Lines

A	A/D	B	B/D	C	C/D	D	Not rated or not available
---	-----	---	-----	---	-----	---	----------------------------

Soil Rating Points

A	A/D	B	B/D
---	-----	---	-----

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Crow Wing County, Minnesota
Survey Area Data: Version 19, Sep 10, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 13, 2021—Aug 14, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
D49B	Graycalm loamy sand, 2 to 8 percent slopes	A	5.0	41.2%
D79C	Graycalm-Rifle complex, 0 to 10 percent slopes	A	7.2	58.8%
Totals for Area of Interest			12.2	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



NOAA Atlas 14, Volume 8, Version 2
Location name: Crosslake, Minnesota, USA*
Latitude: 46.6705°, Longitude: -94.1063°
Elevation: 1235 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffrey Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aeriels](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.337 (0.270-0.437)	0.400 (0.320-0.518)	0.504 (0.403-0.655)	0.592 (0.470-0.772)	0.715 (0.546-0.958)	0.812 (0.604-1.10)	0.910 (0.651-1.26)	1.01 (0.690-1.43)	1.15 (0.749-1.65)	1.25 (0.794-1.83)
10-min	0.493 (0.396-0.639)	0.585 (0.469-0.759)	0.738 (0.589-0.959)	0.867 (0.688-1.13)	1.05 (0.800-1.40)	1.19 (0.884-1.61)	1.33 (0.953-1.84)	1.48 (1.01-2.09)	1.68 (1.10-2.42)	1.83 (1.16-2.67)
15-min	0.602 (0.483-0.780)	0.714 (0.572-0.926)	0.900 (0.719-1.17)	1.06 (0.839-1.38)	1.28 (0.975-1.71)	1.45 (1.08-1.96)	1.62 (1.16-2.24)	1.81 (1.23-2.55)	2.05 (1.34-2.95)	2.24 (1.42-3.26)
30-min	0.829 (0.666-1.08)	0.986 (0.790-1.28)	1.25 (0.995-1.62)	1.47 (1.16-1.91)	1.78 (1.36-2.39)	2.02 (1.51-2.74)	2.28 (1.63-3.14)	2.53 (1.73-3.58)	2.88 (1.88-4.16)	3.16 (2.00-4.60)
60-min	1.05 (0.845-1.36)	1.26 (1.01-1.64)	1.61 (1.29-2.10)	1.92 (1.52-2.50)	2.35 (1.80-3.17)	2.70 (2.01-3.67)	3.06 (2.20-4.24)	3.44 (2.35-4.87)	3.96 (2.59-5.72)	4.37 (2.77-6.37)
2-hr	1.28 (1.04-1.63)	1.54 (1.25-1.96)	1.98 (1.60-2.54)	2.37 (1.90-3.04)	2.93 (2.27-3.89)	3.38 (2.55-4.53)	3.85 (2.80-5.26)	4.35 (3.01-6.07)	5.04 (3.34-7.18)	5.58 (3.58-8.02)
3-hr	1.41 (1.16-1.79)	1.70 (1.39-2.15)	2.20 (1.80-2.79)	2.64 (2.14-3.37)	3.29 (2.58-4.35)	3.82 (2.91-5.09)	4.38 (3.20-5.94)	4.97 (3.47-6.89)	5.80 (3.87-8.21)	6.46 (4.18-9.21)
6-hr	1.67 (1.39-2.08)	1.99 (1.64-2.47)	2.55 (2.10-3.18)	3.05 (2.50-3.82)	3.82 (3.04-4.98)	4.45 (3.44-5.85)	5.13 (3.81-6.88)	5.87 (4.15-8.03)	6.91 (4.67-9.65)	7.75 (5.07-10.9)
12-hr	1.96 (1.65-2.40)	2.27 (1.91-2.79)	2.84 (2.38-3.49)	3.37 (2.80-4.16)	4.19 (3.39-5.40)	4.88 (3.83-6.33)	5.64 (4.24-7.45)	6.46 (4.64-8.72)	7.64 (5.24-10.5)	8.61 (5.70-11.9)
24-hr	2.24 (1.91-2.70)	2.58 (2.20-3.11)	3.20 (2.71-3.87)	3.78 (3.18-4.58)	4.65 (3.81-5.89)	5.40 (4.28-6.88)	6.20 (4.73-8.07)	7.08 (5.14-9.41)	8.34 (5.79-11.3)	9.36 (6.28-12.8)
2-day	2.51 (2.16-2.97)	2.94 (2.54-3.49)	3.70 (3.18-4.40)	4.38 (3.74-5.22)	5.39 (4.45-6.68)	6.22 (4.99-7.77)	7.10 (5.47-9.05)	8.04 (5.90-10.5)	9.36 (6.57-12.5)	10.4 (7.08-14.0)
3-day	2.75 (2.40-3.23)	3.21 (2.79-3.77)	4.02 (3.48-4.73)	4.74 (4.08-5.60)	5.82 (4.85-7.14)	6.71 (5.43-8.31)	7.66 (5.95-9.68)	8.67 (6.42-11.2)	10.1 (7.15-13.3)	11.2 (7.70-15.0)
4-day	2.98 (2.61-3.48)	3.45 (3.02-4.02)	4.27 (3.72-4.99)	5.02 (4.34-5.88)	6.12 (5.13-7.47)	7.05 (5.74-8.67)	8.03 (6.28-10.1)	9.09 (6.77-11.7)	10.6 (7.53-13.9)	11.8 (8.11-15.6)
7-day	3.61 (3.19-4.15)	4.09 (3.61-4.70)	4.93 (4.34-5.68)	5.69 (4.98-6.58)	6.82 (5.78-8.20)	7.77 (6.39-9.42)	8.77 (6.93-10.9)	9.85 (7.41-12.5)	11.4 (8.18-14.7)	12.6 (8.76-16.4)
10-day	4.16 (3.71-4.74)	4.68 (4.16-5.33)	5.57 (4.94-6.36)	6.36 (5.60-7.28)	7.51 (6.40-8.92)	8.46 (7.01-10.1)	9.47 (7.52-11.6)	10.5 (7.98-13.2)	12.0 (8.70-15.4)	13.2 (9.25-17.1)
20-day	5.74 (5.19-6.42)	6.42 (5.80-7.19)	7.55 (6.79-8.47)	8.49 (7.59-9.57)	9.81 (8.43-11.3)	10.8 (9.06-12.7)	11.9 (9.54-14.2)	12.9 (9.89-15.8)	14.3 (10.5-18.0)	15.4 (10.9-19.6)
30-day	7.04 (6.42-7.79)	7.88 (7.18-8.74)	9.24 (8.38-10.3)	10.3 (9.32-11.5)	11.8 (10.2-13.5)	12.9 (10.9-14.9)	14.0 (11.3-16.5)	15.1 (11.6-18.2)	16.5 (12.1-20.4)	17.5 (12.5-22.0)
45-day	8.68 (7.98-9.51)	9.73 (8.94-10.7)	11.4 (10.4-12.5)	12.7 (11.5-14.0)	14.4 (12.5-16.2)	15.6 (13.2-17.8)	16.8 (13.7-19.5)	17.9 (13.9-21.3)	19.2 (14.2-23.5)	20.2 (14.5-25.2)
60-day	10.1 (9.32-11.0)	11.3 (10.4-12.3)	13.2 (12.1-14.4)	14.7 (13.4-16.1)	16.6 (14.5-18.4)	17.9 (15.2-20.2)	19.1 (15.6-22.1)	20.3 (15.8-24.0)	21.6 (16.1-26.2)	22.5 (16.3-27.9)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

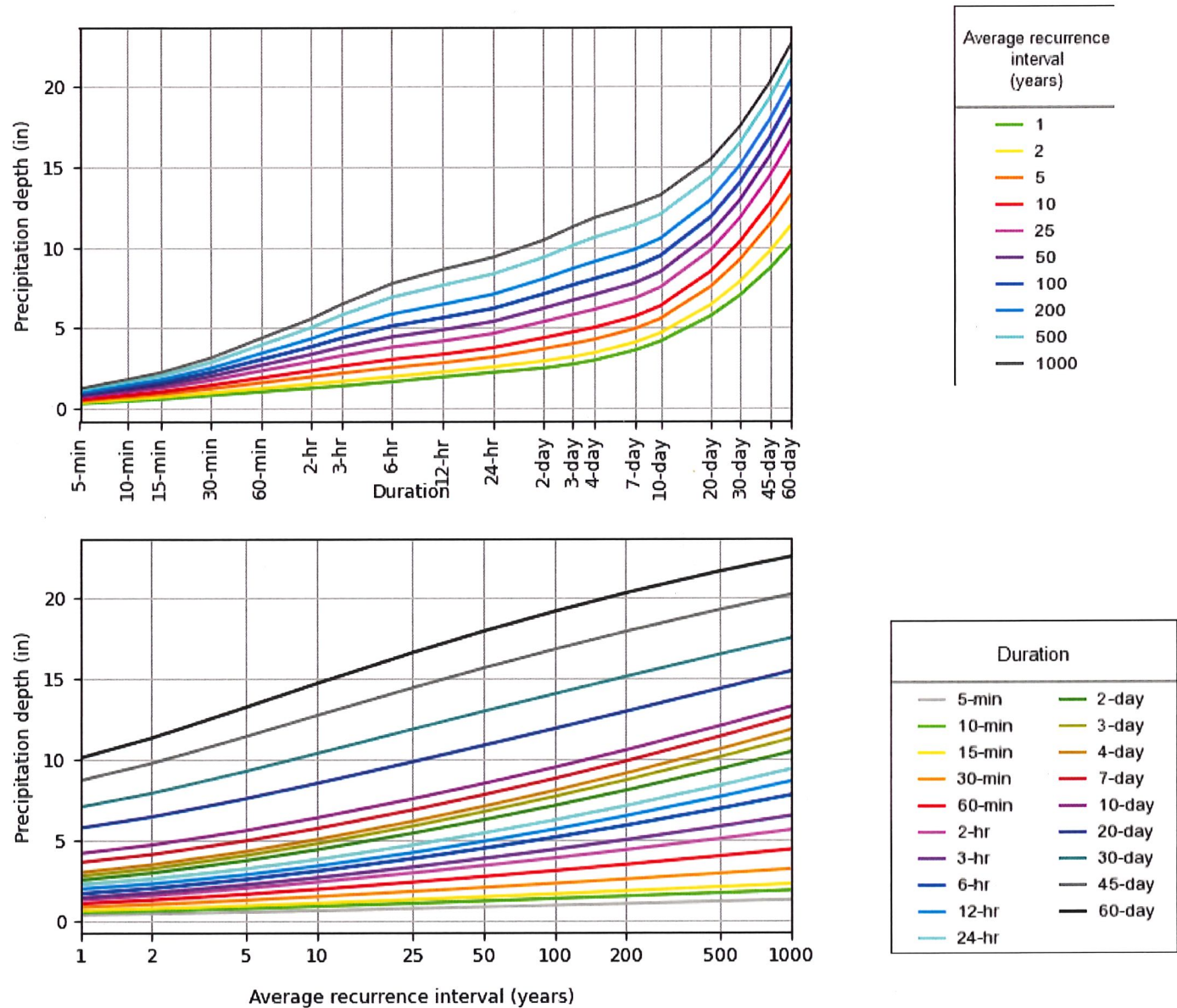
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

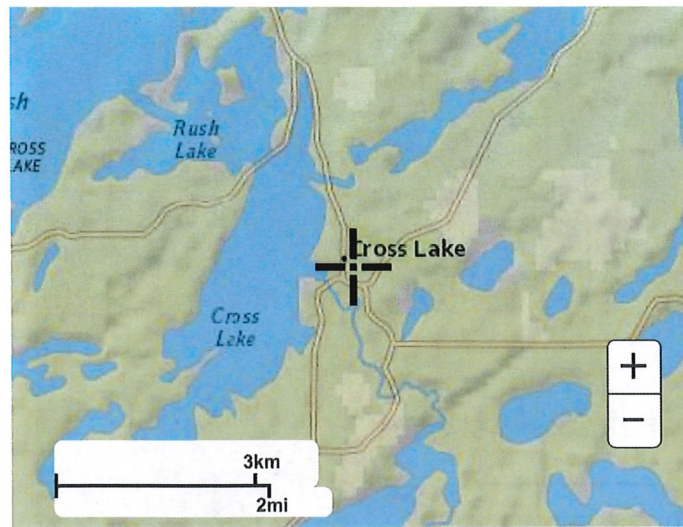
PDS-based depth-duration-frequency (DDF) curves
Latitude: 46.6705°, Longitude: -94.1063°



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Maps & aerials

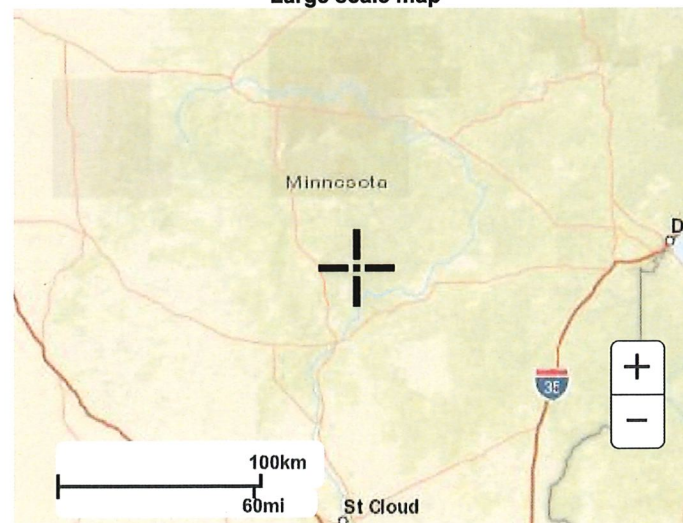
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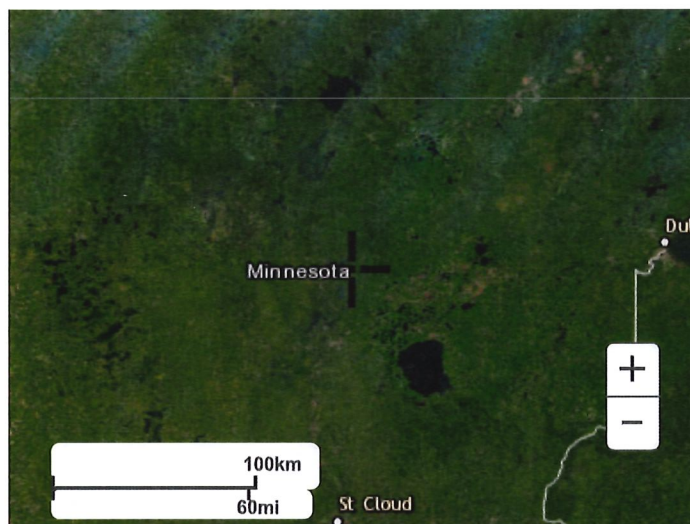
Large scale terrain



Large scale map



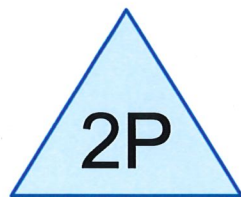
Large scale aerial



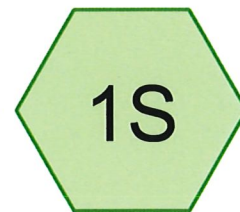
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[National Water Center](#)
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Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

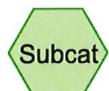
[Disclaimer](#)



Wet Pond



Drainage Area



Routing Diagram for NLC_HydroCalcs

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NLC_HydroCalcs

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Project Notes

Rainfall events imported from "Atlas-14-Rain.txt" for 527 MN Crow Wing

NLC_HydroCalcs

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.195	39	>75% Grass cover, Good, HSG A (1S)
1.483	98	Paved parking, HSG A (1S)
0.161	98	Roofs, HSG A (1S)
0.061	98	Sidewalks (1S)
1.900	92	TOTAL AREA

NLC_HydroCalcs

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
1.839	HSG A	1S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.061	Other	1S
1.900		TOTAL AREA

NLC_HydroCalcs

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.195	0.000	0.000	0.000	0.000	0.195	>75% Grass cover, Good	1S
1.483	0.000	0.000	0.000	0.000	1.483	Paved parking	1S
0.161	0.000	0.000	0.000	0.000	0.161	Roofs	1S
0.000	0.000	0.000	0.000	0.061	0.061	Sidewalks	1S
1.839	0.000	0.000	0.000	0.061	1.900	TOTAL AREA	

NLC_HydroCalcs

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	2P	1,227.00	1,227.00	20.0	0.0000	0.010	0.0	12.0	0.0	

NLC_HydroCalcs

MSE 24-hr 3 100-Year Rainfall=6.20"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Drainage Area

Runoff Area=82,763 sf 89.74% Impervious Runoff Depth=5.27"

Flow Length=250' Slope=0.0200 '/' Tc=3.2 min CN=92 Runoff=18.20 cfs 0.834 af

Pond 2P: Wet Pond

Peak Elev=1,229.55' Storage=16,931 cf Inflow=18.20 cfs 0.834 af

Primary=5.41 cfs 0.831 af Secondary=0.36 cfs 0.003 af Outflow=5.77 cfs 0.833 af

Total Runoff Area = 1.900 ac Runoff Volume = 0.834 af Average Runoff Depth = 5.27"
10.26% Pervious = 0.195 ac 89.74% Impervious = 1.705 ac

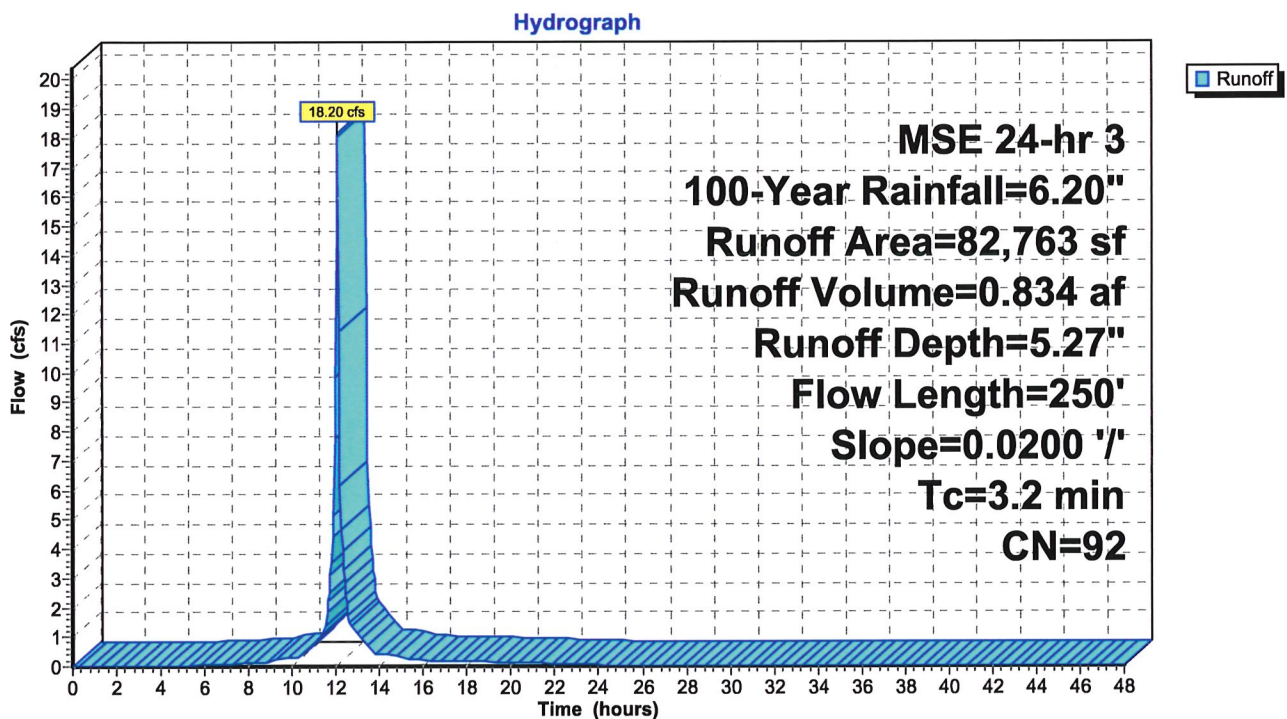
Summary for Subcatchment 1S: Drainage Area[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 18.20 cfs @ 12.09 hrs, Volume= 0.834 af, Depth= 5.27"
 Routed to Pond 2P : Wet Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, $dt=0.05$ hrs
 MSE 24-hr 3 100-Year Rainfall=6.20"

Area (sf)	CN	Description
7,013	98	Roofs, HSG A
8,494	39	>75% Grass cover, Good, HSG A
64,599	98	Paved parking, HSG A
* 2,657	98	Sidewalks
82,763	92	Weighted Average
8,494		10.26% Pervious Area
74,269		89.74% Impervious Area

T_c (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	250	0.0200	1.31		Sheet Flow, Time of Concentration
Smooth surfaces $n=0.011$ $P2=2.00''$					

Subcatchment 1S: Drainage Area

Summary for Pond 2P: Wet Pond

[58] Hint: Peaked 0.05' above defined flood level

Inflow Area = 1.900 ac, 89.74% Impervious, Inflow Depth = 5.27" for 100-Year event
 Inflow = 18.20 cfs @ 12.09 hrs, Volume= 0.834 af
 Outflow = 5.77 cfs @ 12.22 hrs, Volume= 0.833 af, Atten= 68%, Lag= 7.6 min
 Primary = 5.41 cfs @ 12.22 hrs, Volume= 0.831 af
 Secondary = 0.36 cfs @ 12.22 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Starting Elev= 1,227.00' Surf.Area= 3,970 sf Storage= 3,564 cf
 Peak Elev= 1,229.55' @ 12.22 hrs Surf.Area= 6,581 sf Storage= 16,931 cf (13,368 cf above start)
 Flood Elev= 1,229.50' Surf.Area= 6,526 sf Storage= 16,605 cf (13,041 cf above start)

Plug-Flow detention time= 129.2 min calculated for 0.752 af (90% of inflow)
 Center-of-Mass det. time= 67.1 min (831.5 - 764.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,224.00'	20,006 cf	Custom Storage (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,224.00	170	77.0	0	0	170
1,225.00	500	154.0	321	321	1,590
1,226.00	1,170	239.0	812	1,132	4,256
1,227.00	3,970	318.0	2,432	3,564	7,768
1,228.00	4,950	337.0	4,451	8,015	8,811
1,229.00	5,990	356.0	5,462	13,477	9,915
1,230.00	7,085	375.0	6,530	20,006	11,079

Device	Routing	Invert	Outlet Devices
#1	Primary	1,227.00'	12.0" Round RCP_Round 12" L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,227.00' / 1,227.00' S= 0.0000 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	1,227.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,228.00'	4' Conc Weir Wall, Cv= 2.62 (C= 3.28) Head (feet) 0.00 1.00 Width (feet) 4.00 4.00
#4	Device 1	1,229.00'	Control Structure 48.0-in Head (feet) 0.00 0.15 0.30 0.45 0.60 0.70 0.80 0.90 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 Disch. (cfs) 0.000 0.390 3.440 10.620 19.440 24.500 29.930 35.710 41.820 51.300 59.240 66.230 72.560 78.370 83.780 88.860 93.670
#5	Secondary	1,229.50'	10.0' long + 4.0 '/' SideZ x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

NLC_HydroCalcs

Prepared by Widseth Smith Nolting

HydroCAD® 10.20-5b s/n 01722 © 2023 HydroCAD Software Solutions LLC

MSE 24-hr 3 100-Year Rainfall=6.20"

Printed 10/31/2024

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Primary OutFlow Max=5.40 cfs @ 12.22 hrs HW=1,229.54' (Free Discharge)

1=RCP_Round 12" (Inlet Controls 5.40 cfs @ 6.87 fps)

2=Orifice/Grate (Passes < 1.43 cfs potential flow)

3=4' Conc Weir Wall (Passes < 19.82 cfs potential flow)

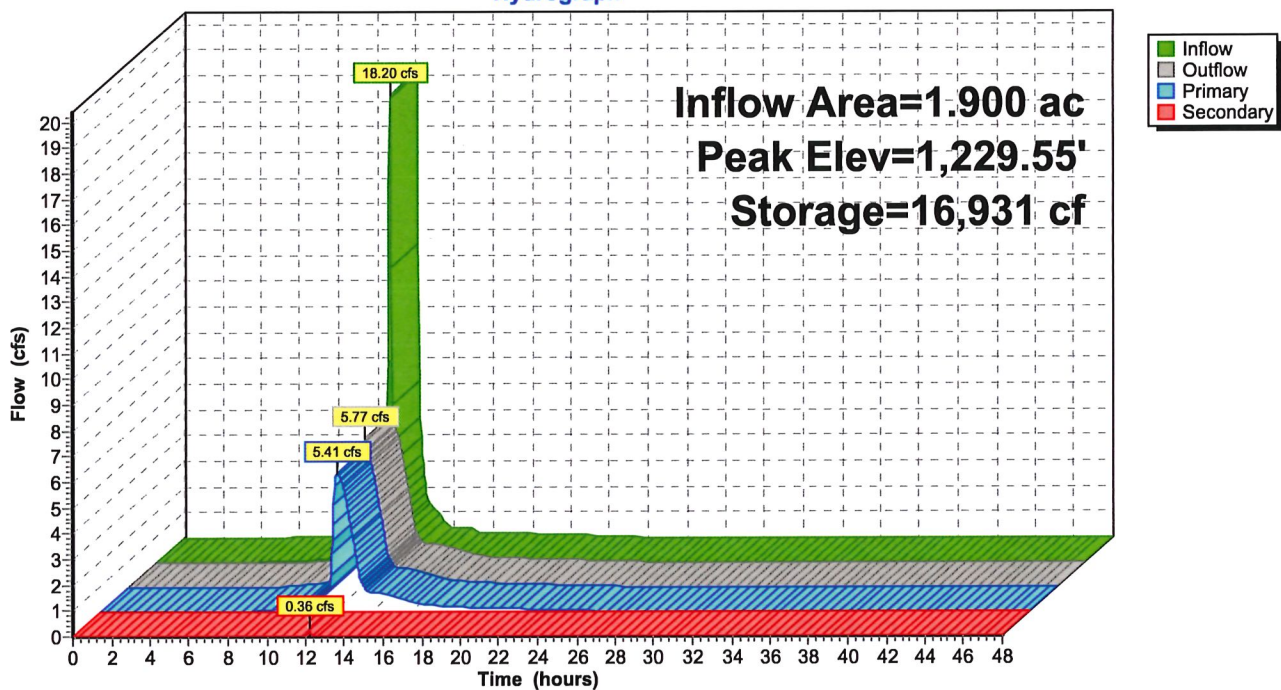
4=Control Structure 48.0-in (Passes < 15.79 cfs potential flow)

Secondary OutFlow Max=0.19 cfs @ 12.22 hrs HW=1,229.54' (Free Discharge)

5=Broad-Crested Rectangular Weir (Weir Controls 0.19 cfs @ 0.49 fps)

Pond 2P: Wet Pond

Hydrograph



Mike Angland

From: Jeremy Schwarze <Jeremy.Schwarze@widseth.com>
Sent: Wednesday, October 2, 2024 1:27 PM
To: City of Crosslake
Cc: Mike Angland
Subject: RE: NLC - Draft Civil Plan
Attachments: NLC_Traffic-Exhibit_241002.pdf

Categories: Filed by Newforma

Good afternoon, Chief,

The outer radius of the drop-off zone is 55' with a 10' radius inner island. For comparison, this is similar to the nearby community school but with a smaller island (the school island appears to have about a 25' radius).

I've attached a drawing showing the approximate wheel paths and turning movements to hopefully illustrate emergency access from either driveway.

Please let me know if you have any questions or concerns.

Thank you,

Jeremy Schwarze, PE

Civil Engineer
218-274-6058
704 E Howard Street
Hibbing, MN 55746

WIDSETH

Widseth.com

50 Best Places to Work (*Prairie Business Magazine, 2024*)

From: Mike Angland <Mike.Angland@widseth.com>
Sent: Wednesday, October 2, 2024 10:10 AM
To: City of Crosslake <chief1@crosslake.net>; Jeremy Schwarze <Jeremy.Schwarze@widseth.com>
Subject: RE: NLC - Draft Civil Plan

Good morning Jeremy,

Can you provide Chief Lohmiller with information related to a fire truck having access within the circle drop-off area? See below for his question.

Thanks,

Mike Angland, AIA, LEED AP

Architect, VP
218-316-3608



Widseth.com

File Transfer | [Click here to transfer large files](#)

50 Best Places to Work (*Prairie Business Magazine, 2024*)

From: City of Crosslake <chief1@crosslake.net>
Sent: Wednesday, October 2, 2024 9:43 AM
To: Mike Angland <Mike.Angland@widseth.com>
Subject: Re: NLC - Draft Civil Plan

Mike,

I think that would work. What are you thinking?

How big is the circle in the front. Wondering if I can get a truck in there and make the turn.

Chip Lohmiller
Chief
Crosslake Fire Department
612-868-6744
Chief1@crosslake.net



From: "Mike Angland" <Mike.Angland@widseth.com>
To: "Chip Lohmiller" <chief1@crosslake.net>
Sent: Wednesday, October 2, 2024 9:14:03 AM
Subject: FW: NLC - Draft Civil Plan

Good morning Chief,

See attached revised site plan that we'll be submitting to the City of Crosslake next week for P&Z. You and I talked about having access to the building, would you think having access off towards the CR66 side of the building would work?

Thanks in advance for your help.

Mike Angland, AIA, LEED AP
Architect, VP
218-316-3608



Widseth.com

File Transfer | [Click here to transfer large files](#)

50 Best Places to Work (*Prairie Business Magazine, 2024*)

From: Jeremy Schwarze <Jeremy.Schwarze@widseth.com>

Sent: Monday, September 30, 2024 1:52 PM

To: Mike Angland <Mike.Angland@widseth.com>; Ashley Martel <Ashley.Martel@widseth.com>

Cc: Jillian Reiner <Jillian.Reiner@widseth.com>

Subject: NLC - Draft Civil Plan

Good afternoon,

Please review the attached permit set and let me know your thoughts. I believe the included tables should satisfy most, if not all, of the ordinances. If Jillian has time, we can look at the landscaping piece, but for now, I just included some conceptual values based on the ordinance. For stormwater, I am showing that the project will direct runoff to an infiltration basin as well as the existing storm ponds.

Any questions, let me know! Otherwise, I'll wait to hear about a meeting with the city.

Jeremy Schwarze, PE

Civil Engineer

218-274-6058

704 E Howard Street

Hibbing, MN 55746

WIDSETH

Widseth.com

50 Best Places to Work (*Prairie Business Magazine, 2024*)

From: [Frie, Jacob \(DNR\)](#)
To: [Cheryl Stuckmayer](#)
Cc: [Paul Satterlund](#)
Subject: RE: PC/BOA 11.22.2024
Date: Tuesday, November 5, 2024 8:56:28 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[Agency_Devak.pdf](#)
[Agency CUP-Variance Loon.pdf](#)

Hello Cheryl:

The Minnesota DNR offers the following comment(s) for the National Loon Center CUP and variance within the City of Crosslake:

- As the proposed parking areas and Loon Center itself is located just outside of 1,000 feet of Crosslake and outside of 300 feet from the Pine River, much of the project proposal is outside the Shoreland Area. This means there are almost no areas within the project that need review to ensure heights and uses meets Minnesota Shoreland Rules and your Shoreland District section of the Code/Ordinance. Therefore, the Minnesota DNR has no comments regarding this proposal.

Thank you for your time in this regard.

Sincerely,

Jacob Frie

Area Hydrologist | Division of Ecological and Water Resources

Minnesota Department of Natural Resources

1601 Minnesota Drive

Brainerd, MN, 56401

Phone: 218-203-4367

Email: Jacob.frie@state.mn.us

mndnr.gov



From: Cheryl Stuckmayer <cstuckmayer@cityofcrosslake.org>

Sent: Monday, November 4, 2024 12:54 PM

To: Frie, Jacob (DNR) <Jacob.Frie@state.mn.us>

Cc: Paul Satterlund <psatterlund@cityofcrosslake.org>

Subject: PC/BOA 11.22.2024



Conditional/Interim Use Permit Application
Planning and Zoning Department
13888 Daggett Bay Rd, Crosslake, MN 56442
218.692.2689 (Phone) 218.692.2687 (Fax) www.cityofcrosslake.org

Receipt Number: 244325

Permit Number: 240222C

Property Owner(s): National Loon Center Foundation

Mailing Address: P.O. Box 642

Site Address: 35463 County Road 3 Crosslake, MN 56442

Phone Number: 970-418-0043

E-Mail Address: jon@nationallooncenter.org

Parcel Number(s): 14210763, 14210614, 14210615, 14210608

Legal Description: Refer to attached additional sheet for Legal Descriptions

Sec 21 Twp 137 Rge 26 ☐ 27 ☒ 28 ☐

Land Involved: Width: Refer to Length: Civil Acres: Drawings

Lake/River Name: N/A

Do you own land adjacent to this parcel(s)? X Yes No

If yes, list Parcel Number(s) 14210763

Authorized Agent: Jon Mobeck

Agent Address: 14303 Gould St, Crosslake, MN 56442

Agent Phone Number: 970-418-0043

Signature of Property Owner(s) [Signature]

Date 2024-10-07

Signature of Authorized Agent(s) Jon Mobeck

Digitally signed by Jon Mobeck
Date: 2024.10.07 10:25:25 -05'00'

Date 2024-10-07

- All applications must be accompanied by a site plan
- Fee \$750 for Residential and Commercial Payable to "City of Crosslake"
- No decisions were made on an applicant's request at the DRT meeting. Submittal of an application after DRT does not constitute approval. Approval or denial of applications is determined by the Planning Commission/Board of Adjustment at a public meeting as per Minnesota Statute 462 and the City of Crosslake Land Use Ordinance.

For Office Use:

Application accepted by CS Date 11-4-24 Land Use District DC Lake Class na

Septic: Compliance na SSTS Design na city sewer Installation na

(Check applicable requests)

☐ **Residential & Related Uses:**

Specify

- ☐ Shoreland District
- ☐ Rural Residential District (5 A Min.)
- ☐ Sensitive Shoreland District
- ☐ Limited Commercial District
- ☐ Downtown Commercial District
- ☐ Waterfront Commercial District
- ☐ Commercial/Light Industrial District

☐ **Recreational Uses:**

Specify

- ☐ Shoreland District
- ☐ Rural Residential District (5 A Min.)
- ☐ Limited Commercial District
- ☐ Waterfront Commercial District
- ☐ Commercial/Light Industrial District

☐ **Civic, Edu & Institutional Uses:**

Specify

- ☐ Shoreland District
- ☐ Rural Residential District (5 A Min.)
- ☐ Limited Commercial District
- ☐ Waterfront Commercial District
- ☐ Commercial/Light Industrial District

☐ **Commercial & Industrial Uses:**

Specify

- ☐ Shoreland District
- ☐ Rural Residential District (5 A Min.)
- ☐ Sensitive Shoreland District
- ☐ Limited Commercial District
- ☒ Downtown Commercial District
- ☐ Waterfront Commercial District
- ☐ Commercial/Light Industrial District

City of Crosslake Planning Commission/Board of Adjustment

Conditional Use Permit Application

Findings of Fact

Supporting/Denying a Conditional Use Permit Request

Findings shall be made in either recommending approval or denial of a Conditional Use Permit application, and should reference Chapter 26, Article 7 of the City of Crosslake Ordinance. The following questions are to be considered, but are not limited to:

- (1) Will the proposed use impact the health, safety, and general welfare of the occupants in the surrounding neighborhood?

YES ☒ NO ☐

Why? The NLC project will enhance and preserve an existing green space within the heart of Crosslake. The overall plans of the NLC project will include pedestrian connectivity, that will provide pedestrian connectivity from Cross Lake to Crosslake Town Square. This will provide walking paths through preserved trees within this area of Crosslake for residents and visitors to the area.

- (2) Does the proposed use meet the standards of this Chapter?

YES ☒ NO ☐

Why? The proposed NLC building and site amenities do meet the standards of this chapter within a CUP approval process. There will be a variance requested for the structure that exceeds the allowable height limit.

- (3) Will the proposed use meet goals and policies adopted within the Crosslake Comprehensive Plan?

YES ☒ NO ☐

Why? The NLC project will provide economic development, preservation of Crosslake's natural resources, and amenities that provide outdoor spaces and pedestrian connections for residents of Crosslake and visitors.

- (4) Will the proposed use adversely affect property values and future development of the land in the surrounding neighborhood?

YES ☐ NO ☒

Why? The NLC project will align well with neighboring properties that rely on visitors to the Crosslake area. The proposed pedestrian connectivity will also provide access through the NLC property, to other neighboring properties, which will promote economic development. The NLC is committed to preserving a majority of the existing trees located on the site, in response to their own mission as an organization and for the residents and visitors to Crosslake.

- (5) Will the proposed negatively impact public utility, public services, roads and schools?

YES ☐ NO ☒

Why? The NLC project was taken into consideration with the planning and construction of the recent round about, located at the intersection of CR 3 and CR 66. Site access, pedestrian connectivity, programmatic partnerships with the Crosslake Community School, tying into the existing sanitary sewer line and existing and proposed pedestrian trails were all taken into consideration and will be enhanced with this project.

- (6) Will the proposed use impact the environment adversely, considering its impact on groundwater, surface water and air quality?

YES ☐ NO ☒

Why? The NLC project will be designed to minimally impact the environment. Storm water will be treated and stored within the existing regional storm water system, existing trees will be preserved, and the project will also be designed to comply with the State of Minnesota's B3 Sustainable Guidelines.

- (7) Are the water supply, public sewer or subsurface sewage treatment system facilities, erosion control and stormwater management provided for pursuant to applicable standards of the Ordinance?

YES ☒ NO ☐

Why? The overall design of the NLC will comply with the standards of this ordinance, and exceed the standards due to the goals and expectations of the NLC and conditions of funding through the State of Minnesota placed on this project.

City of Crosslake Planning Commission/Board of Adjustment

Conditional Use Permit Application

Findings of Fact

Supporting/Denying a Conditional Use Permit Request

Findings shall be made in either recommending approval or denial of a Conditional Use Permit application, and should reference Chapter 26, Article 7 of the City of Crosslake Ordinance. The following questions are to be considered, but are not limited to:

- (1) Will the proposed use impact the health, safety, and general welfare of the occupants in the surrounding neighborhood?

YES ☐ NO ☐

Why?

- (2) Does the proposed use meet the standards of this Chapter?

YES ☐ NO ☐

Why?

- (3) Will the proposed use meet goals and policies adopted within the Crosslake Comprehensive Plan?

YES ☐ NO ☐

Why?

- (4) Will the proposed use adversely affect property values and future development of the land in the surrounding neighborhood?

YES ☐ NO ☐

Why?

- (5) Will the proposed negatively impact public utility, public services, roads and schools?

YES ☐ NO ☐

Why?

(6) Will the proposed use impact the environment adversely, considering its impact on groundwater, surface water and air quality?

YES ☐ NO ☐

Why?

(7) Are the water supply, public sewer or subsurface sewage treatment system facilities, erosion control and stormwater management provided for pursuant to applicable standards of the Ordinance?

YES ☐ NO ☐

Why?