CITY OF HAM LAKE

15544 Central Avenue NE
Ham Lake, Minnesota 55304
(763) 434-9555
info@ci.ham-lake.mn.us

CITY OF HAM LAKE
CITY COUNCIL AND ECONOMIC DEVELOPMENT AUTHORITY AGENDA
MONDAY, JUNE 16, 2025

1.0 CALL TO ORDER - 6:00 P.M. – Pledge of Allegiance
2.0 PUBLIC COMMENT
3.0 SPECIAL APPEARANCES/PUBLIC HEARINGS
3.1 Presentation of a Certification of Appreciation for Eagle Scout Jonathan Kolk
3.2 Presentation of a Certification of Appreciation for Eagle Scout Jonathan Crooks
3.3 6:01 P.M. – Public Hearing – to consider the vacation of a portion of drainage and utility easement on Lot 4, Block 2, Majestic Oaks Commercial Center (13928 Lincoln Street NE)
3.4 6:01 P.M. – Public Hearing – For citizens to have an opportunity to given written or oral input to reduce or eliminate pollutants from storm water runoff as part of the National Pollution Discharge Elimination Systems (NPDES)

4.0 CONSENT AGENDA
These items are considered to be routine and will be enacted in one motion. There will be no separate discussion of these items unless a Councilmember or citizen so requests, in which event the item will be removed from the Consent Agenda and considered in normal sequence. (All items listed on the Consent Agenda are recommended for approval.)
4.1 Approval of minutes of June 2, 2025
4.2 Approval of claims
4.3 Approval of an Ordinance amending Article 9 of the Ham Lake City Code related to adding Cannabis Retail Business as a Permitted Use in CD-1 (Commercial Development 1) zoning, adding Therapeutic Massage Facilities as a Conditional Use in R-1 (Single Family Residential) zoning, removing Temporary Conditional Uses in its entirety in (R-1) Single Family Residential, Residential-Manufacturing (R-M) and Rural Single Family Residential (R-A) and remove the requirement of a maintenance fee for wetland banking under Article 9-330.8 and general edits related to the required trail easement
4.4 Approval of a variance to the buildable area requirement for Lot 8, Block 8, Birch View Acres (Pin #08-32-23-11-0018)
4.5 Approval of a Resolution requiring "No Parking" on 143rd Avenue NE (a traditional MSA street section) from Trunk Highway 65 to Lincoln Street NE
4.6 Approval of Plans and Specifications and authorization to advertise for bids for the construction of the 143rd Avenue NE (a traditional MSA street section) from Trunk Highway 65 to 108 feet West of Lincoln Street NE
4.7 Approval of Plans and Specifications and authorization to advertise for bids for the construction of the Trunk Highway 65 East Frontage Road from 171st Avenue NE to 334 feet South of Crosstown Boulevard NE

5.0 PLANNING COMMISSION RECOMMENDATIONS – None
6.0 ECONOMIC DEVELOPMENT AUTHORITY – None
7.0 APPEARANCES – None
8.0 CITY ATTORNEY
9.0 CITY ENGINEER
10.0 CITY ADMINISTRATOR

11.0 COUNCIL BUSINESS
11.1 Committee Reports
11.2 Announcements and future agenda items

CITY OF HAM LAKE

15544 Central Avenue NE
Ham Lake, Minnesota 55304
(763) 434-9555
Fax: (763) 434-9599

NOTICE OF PUBLIC HEARING
VACATION OF PUBLIC LAND

NOTICE IS HEREBY GIVEN, that a Public Hearing will be held before the Ham Lake City Council on June 16, 2025 at 6:01 p.m. in the City Council Chambers, City Hall, 15544 Central Avenue NE, Ham Lake, Minnesota 55304, to hear comments and questions concerning the proposed vacation of the following described land within the City of Ham Lake, Minnesota:

DESCRIPTION OF DRAINAGE AND UTILITY EASEMENT TO BE VACATED

That part of the drainage and utility easement dedicated over, under and across Lot 4, Block 2, MAJESTIC OAKS COMMERCIAL CENTER, Anoka County, Minnesota described as follows:

Commencing at the southwest corner of said Lot 4; thence on an assumed bearing of South 89 degrees 43 minutes 22 seconds East, along the south line of said Lot 4, a distance of 61.61 feet to the point of beginning of the area to be described; thence North 00 degrees 16 minutes 38 seconds East a distance of 142.33 feet; thence North 43 degrees 59 minutes 57 seconds West a distance of 60.00 feet; thence South 77 degrees 55 minutes 42 seconds West a distance of 25.00 feet to the west line of said Lot 4; thence North 01 degrees 13 minutes 02 seconds West, along said west line, a distance of 120.00 feet; thence South 34 degrees 58 minutes 58 seconds East a distance of 155.00 feet; thence South 25 degrees 21 minutes 46 seconds East a distance of 55.00 feet; thence South 14 degrees 32 minutes 56 seconds East a distance of 40.00 feet; thence South 49 degrees 04 minutes 13 seconds East a distance of 60.00 feet; thence South 84 degrees 32 minutes 14 seconds East a distance of 66.44 feet to the east line of said Lot 4; thence South 01 degree 07 minutes 44 seconds East, along said east line, a distance of 40.00 feet; to the southeast corner of said Lot 4; thence North 89 degrees 43 minutes 22 seconds West, along said south line of Lot 4, a distance of 166.75 feet to the point of beginning.

Excepting those parts of the above described area that lie within the west 10 feet, the south 10 feet and the east 10 feet of said Lot 4.

Said hearing is conducted pursuant to Minnesota Statutes Chapter 412.851.

Dated: May 23, 2025

Dawnette Shimek, Deputy City Clerk

Posted at City Hall between the dates of May 23, 2025 and June 16, 2025.

Published in the Star Tribune on May 23, 2025 and May 30, 2025.

PLEASE SEE REVERSE SIDE FOR EASEMENT VACATION SKETCH AND DESCRIPTION

RESOLUTION NO. 25-XX

WHEREAS, a public hearing was held before the Ham Lake City Council on the 16th day of June, 2025 at 6:01 p.m. to consider the proposed vacation of certain lands within the City of Ham Lake;

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Ham Lake, that the following described property be vacated;

DESCRIPTION OF DRAINAGE AND UTILITY EASEMENT TO BE VACATED

That part of the drainage and utility easement dedicated over, under and across Lot 4, Block 2, MAJESTIC OAKS COMMERCIAL CENTER, Anoka County, Minnesota described as follows:

Commencing at the southwest corner of said Lot 4; thence on an assumed bearing of South 89 degrees 43 minutes 22 seconds East, along the south line of said Lot 4, a distance of 61.61 feet to the point of beginning of the area to be described; thence North 00 degrees 16 minutes 38 seconds East a distance of 142.33 feet; thence North 43 degrees 59 minutes 57 seconds West a distance of 60.00 feet; thence South 77 degrees 55 minutes 42 seconds West a distance of 25.00 feet to the west line of said Lot 4; thence North 01 degrees 13 minutes 02 seconds West, along said west line, a distance of 120.00 feet; thence South 34 degrees 58 minutes 58 seconds East a distance of 155.00 feet; thence South 25 degrees 21 minutes 46 seconds East a distance of 55.00 feet; thence South 14 degrees 32 minutes 56 seconds East a distance of 40.00 feet; thence South 49 degrees 04 minutes 13 seconds East a distance of 60.00 feet; thence South 84 degrees 32 minutes 14 seconds East a distance of 66.44 feet to the east line of said Lot 4; thence South 01 degree 07 minutes 44 seconds East, along said east line, a distance of 40.00 feet; to the southeast corner of said Lot 4; thence North 89 degrees 43 minutes 22 seconds West, along said south line of Lot 4, a distance of 166.75 feet to the point of beginning.

Excepting those parts of the above described area that lie within the west 10 feet, the south 10 feet and the east 10 feet of said Lot 4.

Adopted by the City Council of the City of Ham Lake this 16th day of June, 2025.

_____
Brian Kirkham, Mayor

_____
Denise Webster, City Clerk

NOTICE OF COMPLETION OF VACATON PROCEEDINGS

NOTICE IS HEREBY GIVEN, pursuant to Minnesota Statues Chapter 412.851, that a Resolution was adopted by a 5-0 vote of the Ham Lake City Council on the 16th day of June, 2025, vacating the following described easements in the City of Ham Lake, Anoka County, Minnesota:

DESCRIPTION OF DRAINAGE AND UTILITY EASEMENT TO BE VACATED

That part of the drainage and utility easement dedicated over, under and across Lot 4, Block 2, MAJESTIC OAKS COMMERCIAL CENTER, Anoka County, Minnesota described as follows:

Commencing at the southwest corner of said Lot 4; thence on an assumed bearing of South 89 degrees 43 minutes 22 seconds East, along the south line of said Lot 4, a distance of 61.61 feet to the point of beginning of the area to be described; thence North 00 degrees 16 minutes 38 seconds East a distance of 142.33 feet; thence North 43 degrees 59 minutes 57 seconds West a distance of 60.00 feet; thence South 77 degrees 55 minutes 42 seconds West a distance of 25.00 feet to the west line of said Lot 4; thence North 01 degrees 13 minutes 02 seconds West, along said west line, a distance of 120.00 feet; thence South 34 degrees 58 minutes 58 seconds East a distance of 155.00 feet; thence South 25 degrees 21 minutes 46 seconds East a distance of 55.00 feet; thence South 14 degrees 32 minutes 56 seconds East a distance of 40.00 feet; thence South 49 degrees 04 minutes 13 seconds East a distance of 60.00 feet; thence South 84 degrees 32 minutes 14 seconds East a distance of 66.44 feet to the east line of said Lot 4; thence South 01 degree 07 minutes 44 seconds East, along said east line, a distance of 40.00 feet; to the southeast corner of said Lot 4; thence North 89 degrees 43 minutes 22 seconds West, along said south line of Lot 4, a distance of 166.75 feet to the point of beginning.

Excepting those parts of the above described area that lie within the west 10 feet, the south 10 feet and the east 10 feet of said Lot 4.

Said Resolution (Resolution No. 25-XX) as adopted after conducting a public hearing, which hearing was conducted on the 16th day of June 2025, pursuant to published and posted notice, which notice was posted in the City Hall between May 23, 2025 and June 16, 2025, and published in the qualified newspaper (Star Tribune) on May 23, 2025 and May 30, 2025.

Date: June 16, 2025

_____

Dawnette Shimek, Deputy City Clerk

RESOLUTION NO. 25-10

WHEREAS, the Ham Lake City Council, on its own motion, wishes to consider the vacation of the following described land in the City of Ham Lake, pursuant to Minnesota Statutes Chapter 412.851:

DESCRIPTION OF DRAINAGE AND UTILITY EASEMENT TO BE VACATED

That part of the drainage and utility easement dedicated over, under and across Lot 4, Block 2, MAJESTIC OAKS COMMERCIAL CENTER, Anoka County, Minnesota described as follows:

Commencing at the southwest corner of said Lot 4; thence on an assumed bearing of South 89 degrees 43 minutes 22 seconds East, along the south line of said Lot 4, a distance of 61.61 feet to the point of beginning of the area to be described; thence North 00 degrees 16 minutes 38 seconds East a distance of 142.33 feet; thence North 43 degrees 59 minutes 57 seconds West a distance of 60.00 feet; thence South 77 degrees 55 minutes 42 seconds West a distance of 25.00 feet to the west line of said Lot 4; thence North 01 degrees 13 minutes 02 seconds West, along said west line, a distance of 120.00 feet; thence South 34 degrees 58 minutes 58 seconds East a distance of 155.00 feet; thence South 25 degrees 21 minutes 46 seconds East a distance of 55.00 feet; thence South 14 degrees 32 minutes 56 seconds East a distance of 40.00 feet; thence South 49 degrees 04 minutes 13 seconds East a distance of 60.00 feet; thence South 84 degrees 32 minutes 14 seconds East a distance of 66.44 feet to the east line of said Lot 4; thence South 01 degree 07 minutes 44 seconds East, along said east line, a distance of 40.00 feet; to the southeast corner of said Lot 4; thence North 89 degrees 43 minutes 22 seconds West, along said south line of Lot 4, a distance of 166.75 feet to the point of beginning.

Excepting those parts of the above described area that lie within the west 10 feet, the south 10 feet and the east 10 feet of said Lot 4.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Ham Lake, that the City Clerk is directed to post in a conspicuous place in the City Hall between the dates of May 23, 2025 and June 16, 2025 and to cause publication of a NOTICE OF PUBLIC HEARING, a copy of which is attached to this Resolution, for a public hearing to be held on June 16, 2025, with publication to occur in the Star Tribune on May 23, 2025 and May 30, 2025.

Adopted by the City Council of the City of Ham Lake on this 19th day of May 2025.

Brian Kirkham, Mayor

Denise Webster, City Clerk

EASEMENT SKETCH AND DESCRIPTION

~for~ GLEN HARSTAD
~of~ HAM LAKE COMMERCIAL
13928 LINCOLN STREET NE
HAM LAKE, MN 55304

NOTES

- Bearings shown are on Anoka County Datum.
- Parcel ID Number: 32-32-23-21-0009.
- Wetland delineation completed by Jacobson Environmental in 2019. Wetland flags located by Jacobson Environmental.

EASEMENT DESCRIPTION:

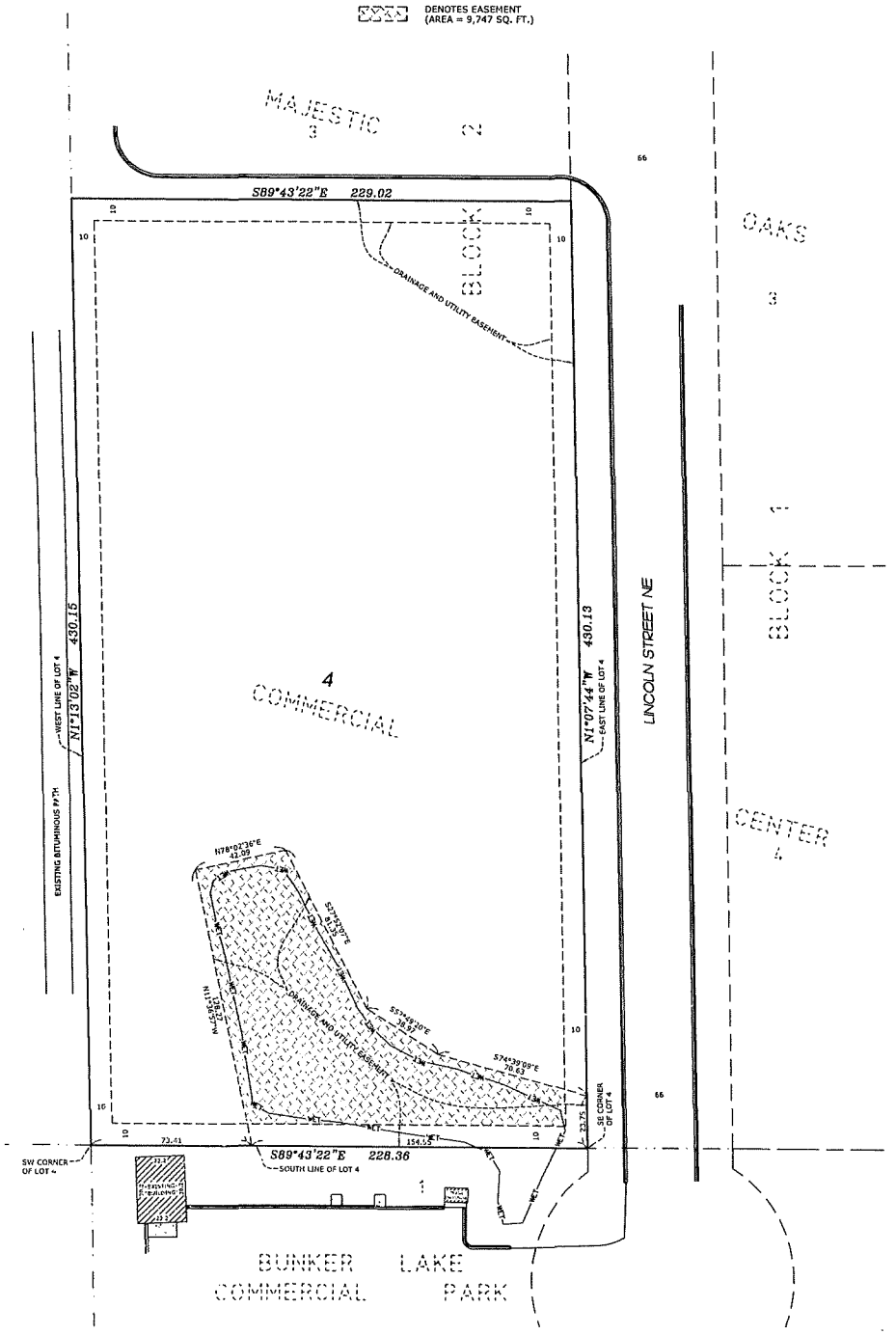
A perpetual easement for drainage and utility purposes over, under and across that part of Lot 4, Block 2, MAJESTIC OAKS COMMERCIAL CENTER, Anoka County, Minnesota described as follows:

Commencing at the southwest corner of said Lot 4; thence on an assumed bearing of South 89 degrees 43 minutes 22 seconds East, along the south line of said Lot 4, a distance of 73.41 feet to the point of beginning of the easement to be described; thence North 11 degrees 36 minutes 57 seconds West a distance of 128.27 feet; thence North 78 degrees 02 minutes 36 seconds East a distance of 42.09 feet; thence South 27 degrees 52 minutes 07 seconds East a distance of 81.35 feet; thence South 57 degrees 49 minutes 20 seconds East a distance of 38.97 feet; thence south 74 degrees 39 minutes 09 seconds East a distance of 70.63 feet to the east line of said Lot 4; thence South 01 degree 07 minutes 44 seconds East, along said east line, a distance of 23.75 feet to the southeast corner of said Lot 4; thence North 89 degrees 43 minutes 22 seconds West, along said south line of Lot 4, a distance of 154.95 feet to the point of beginning.

Excepting those parts of the above described area that lie within the south 10 feet and the east 10 feet of said Lot 4.

NORTH

GRAPHIC SCALE
30 0 15 30 60
1 INCH = 30 FEET



E. G. RUD & SONS, INC.
EST. 1977
Professional Land Surveyors
6776 Lake Drive NE, Suite 110
Lino Lakes, MN 55014
Tel. (651) 361-8200 Fax (651) 361-8701
www.egrud.com

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Registered Land Surveyor under the laws of the State of Minnesota.

JASON E. RUD
Date: 5/13/2025 License No. 41578

DRAWN BY: BAB	JOB NO: 24.0446BT	DATE: 5/9/2025
CHECK BY: JER	FIELD CREW: DT/CT & RW/HR	

NO.	DATE	DESCRIPTION	BY
1			
2			
3			

C:\USERS\BRAD.EGRUD\DESKTOP\DESKTOP JOBS - 2024\24.0446BT - GLEN HARSTAD\24.0446BT.DWG
SKETCH.DWG

24.0446BT

EASEMENT VACATION SKETCH AND DESCRIPTION

~for~ GLEN HARSTAD
~of~ HAM LAKE COMMERCIAL
13928 LINCOLN STREET NE
HAM LAKE, MN 55304

NOTES

- Bearings shown are on Anoka County Datum.
- Parcel ID Number: 32-32-23-21-0009.

DESCRIPTION OF EASEMENT TO BE VACATED:

That part of the drainage and utility easement dedicated over, under and across Lot 4, Block 2, MAJESTIC OAKS COMMERCIAL CENTER, Anoka County, Minnesota described as follows:

Commencing at the southwest corner of said Lot 4; thence on an assumed bearing of South 89 degrees 43 minutes 22 seconds East, along the south line of said Lot 4, a distance of 61.61 feet to the point of beginning of the area to be described; thence North 00 degrees 16 minutes 38 seconds East a distance of 142.33 feet; thence North 43 degrees 59 minutes 57 seconds West a distance of 60.00 feet; thence South 77 degrees 55 minutes 42 seconds West a distance of 25.00 feet to the west line of said Lot 4; thence North 01 degrees 13 minutes 02 seconds West, along said west line, a distance of 120.00 feet; thence South 34 degrees 58 minutes 58 seconds East a distance of 155.00 feet; thence South 25 degrees 21 minutes 46 seconds East a distance of 55.00 feet; thence South 14 degrees 32 minutes 56 seconds East a distance of 40.00 feet; thence South 49 degrees 04 minutes 13 seconds East a distance of 60.00 feet; thence South 84 degrees 32 minutes 14 seconds East a distance of 66.44 feet to the east line of said Lot 4; thence South 01 degree 07 minutes 44 seconds East, along said east line, a distance of 40.00 feet; to the southeast corner of said Lot 4; thence North 89 degrees 43 minutes 22 seconds West, along said south line of Lot 4, a distance of 166.75 feet to the point of beginning.

Excepting those parts of the above described area that lie within the west 10 feet, the south 10 feet and the east 10 feet of said Lot 4.

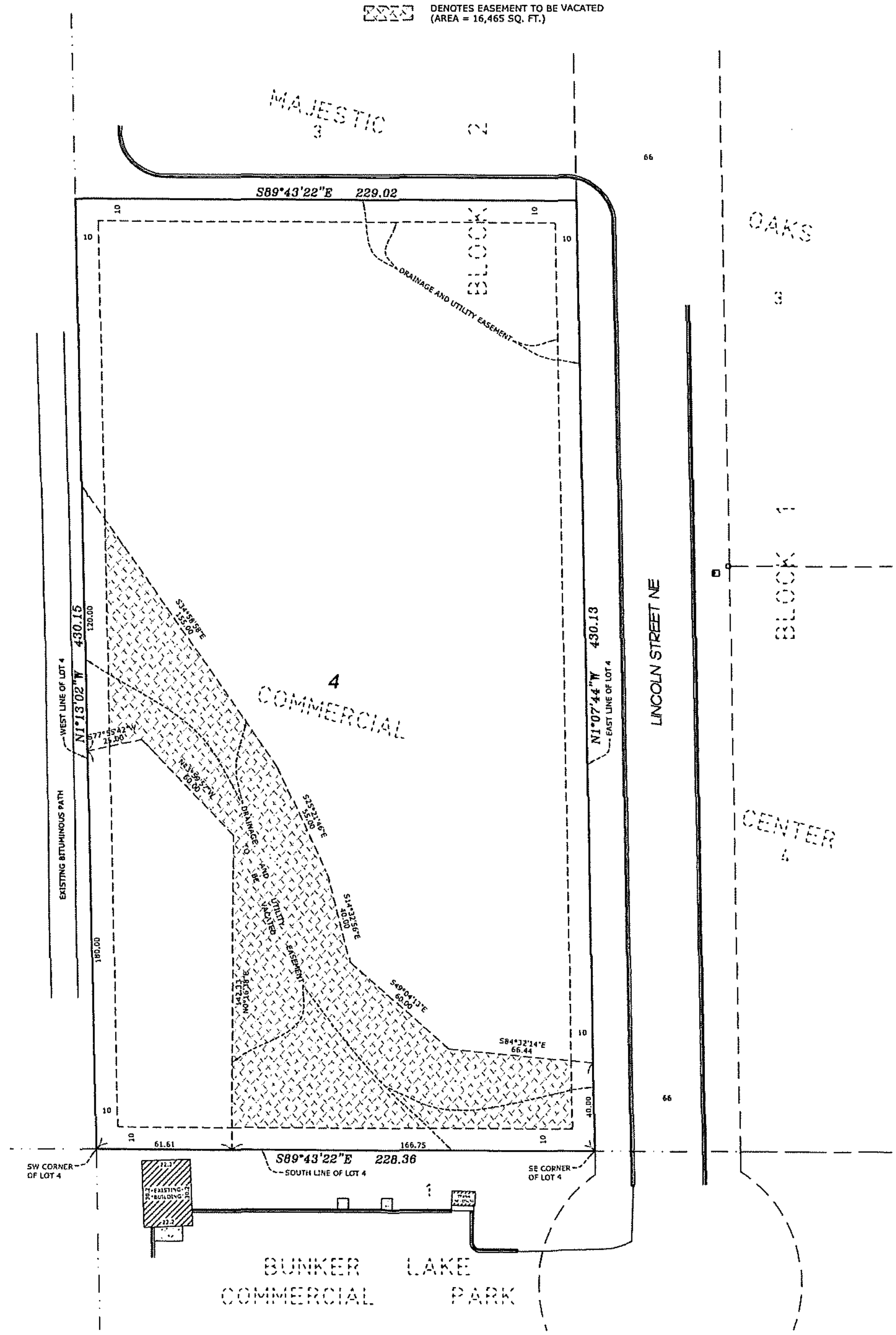
NORTH

GRAPHIC SCALE

30 0 15 30 60

1 INCH = 30 FEET

DENOTES EASEMENT TO BE VACATED
(AREA = 16,465 SQ. FT.)



I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Registered Land Surveyor under the laws of the State of Minnesota.

JASON E. RUD

Date: 5/13/2025 License No. 41578

E. G. RUD & SONS, INC.
EST. 1977
Professional Land Surveyors
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Lino Lakes, MN 55014
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DRAWN BY: BAB	JOB NO: 24.0446BT	DATE: 5/9/2025	
CHECK BY: JER	FIELD CREW: DT/CT & RW/HR		
1			
2			
3			
NO.	DATE	DESCRIPTION	BY

24.0446BT

BANDIMERE TRUSTEE, RICHARD WILLIAM	PIN: 32-32-23-22-0012	14018 PIERCE ST NE	HAM LAKE, MN 55304
BRENNAN DAVID P & JUDITH K	PIN: 32-32-23-23-0023	13836 PIERCE ST NE	HAM LAKE, MN 55304
CF MAJESTIC OAKS ARCIS LLC	PIN: 32-32-23-22-0011	36005 SE RIDGE ST	SNOQUALMIE, WA 98065
CSM LEASING LLC	PIN: 32-32-23-21-0007	14022 LINCOLN ST NE	HAM LAKE, MN 55304
DIAMOND REAL ESTATE LLC	PIN: 32-32-23-24-0015	13815 LINCOLN ST NE	HAM LAKE, MN 55304
ENTSMINGER ENTERPRISES LLC	PIN: 32-32-23-21-0009	14916 CENTRAL AVE NE	HAM LAKE, MN 55304
HARSTAD GLEN	PIN: 32-32-23-21-0004	14152 TERRACE RD	HAM LAKE, MN 55304
JRL INVESTMENTS LLC	PIN: 32-32-23-24-0016	13840 JOHNSON ST NE	HAM LAKE, MN 55303
MACIEJ PROPERTIES LLC	PIN: 32-32-23-21-0003	14043 LINCOLN ST NE	HAM LAKE, MN 55304
MAJESTIC OAKS HOMEOWNERS ASSN	PIN: 32-32-23-23-0002	838 133RD LN NE	HAM LAKE, MN 55304
MMI LLC	PIN: 32-32-23-21-0008	13956 LINCOLN ST NE	ANDOVER, MN 55304
NELSON LLOYD C	PIN: 32-32-23-24-0025	13828 LINCOLN ST NE	HAM LAKE, MN 55304
NEWBERG DARRELL	PIN: 32-32-23-23-0024	13840 PIERCE ST NE	HAM LAKE, MN 55304
P & R ENTERPRISES LLC	PIN: 32-32-23-21-0005	629 SIMS ROAD	EAST BETHEL, MN 55011
VOICE OF HOPE CHURCH	PIN: 32-32-23-24-0005	13850 LINCOLN ST NE	HAM LAKE, MN 55304

CITY OF HAM LAKE

REQUEST FOR AN APPEARANCE BEFORE THE CITY COUNCIL

15544 Central Avenue NE
Ham Lake, MN 55304
Phone (763) 434-9555
Fax (763) 434-9599

CK# 3687

Date of Application 5/15/25 **Deposit $** 200.00

Date of City Council appearance 5/19/2025 **Receipt #** 102377

60-day review deadline _____

APPLICANT'S NAME Glen Hartfad

STREET ADDRESS 14152 Terrace Rd

CITY, STATE ZIP Ham Lake MN 55304

PHONE (daytime) 763-234-0919

NATURE OF REQUEST

Vacate Easement L4, B2, Majestic Oaks Commercial Center
Dedication Easement

You are advised that the 60-day review period required by Minnesota Statutes Chapter 15.99 does not begin to run until all of the required items have been received by the City of Ham Lake.

Signature of Applicant **Date** 5/15/25

Please attach any relevant information including maps, diagrams, and/or a descriptive narrative. Failure to include relevant information may delay the review by staff and City Council.

CITY OF HAM LAKE
ACKNOWLEDGMENT OF RESPONSIBILITY
TO REIMBURSE EXPENSES

The undersigned, Glen Harstad **, having applied to the City of Ham Lake for consideration of a planning and zoning request, or any other permit, license, or action requiring review and/or approval of the City, as follows:**

Vacate Easement, dedicate Easement

Type of Application

acknowledges that the sum of $ 200 **, has been deposited with the City of Ham Lake to reimburse the City of Ham Lake for any out of pocket expenses incurred by the City in reviewing the proposal, including but not limited to a staff review fee, any signage required by ordinance, and City Engineer and City Attorney's fees for their review, in amounts which are not known to the City at this time. The applicant acknowledges that it is the responsibility of the undersigned to reimburse the City for any such engineering or attorney's fees incurred in review of the applicant's request, or any other expenses incurred by the City in connection with this requires, and further acknowledges that in the event that the undersigned fails to promptly remit any amounts incurred by the City in excess of the deposit, the City shall have the right to discontinue further consideration or action upon the undersigned's request, shall have the right to rescind any approvals, withdraw any permits, licenses or other consents, shall have the right to vacate any street or road, plat or other dedication, and the undersigned waives the right to claim damages arising out of any such act by the City. Furthermore, the applicant agrees that in the event that the City is required to take legal action in order to effect recovery of any of the expenses incurred by the City from the undersigned, the City shall be entitled, in addition to principle and interest, to recover its reasonable attorney's fees incurred in collecting said sums from the undersigned.**

Applicant Signature _____ **Dated** 5/15/21

The following statement must be signed if the applicant is not the property owner:

Eutsmidger Enterprises **, as owner of the property involved in the foregoing application, agrees to be jointly and severally liable for payment of the foregoing fees.**

Property Owner Signature _____ **Dated** _____

NOTICE TO ALL APPLICANTS FOR MUNICIPAL PERMITS, LICENSES, OR OTHER MUNICIPAL ACTION

1. ***If you are requesting municipal action on any request for any of the above, you will be required to furnish certain information about yourself, the project you are involved in, or other matters pertaining to the subject. Some of the information you are asked to provide is classified by state law as either private or confidential. Private data is information which generally cannot be given to the public but can be given to the subject of the data. Confidential data is information which generally cannot be given to either the public or the subject of the data.***

2. ***The purpose of this information is to enable the City Staff, Commissions, Council or other government agencies to evaluate relevant factors in considering your request. You are not legally required to provide this information. If you do not provide the requested information, the City may not act upon your request.***

3. ***The information you supply <u>will be public</u> and available to any entity requesting to inspect the information.***

DATA PRACTICES ADVISORY
TENNESSEN WARNING

REQUIRED BY MINNESOTA STATUTES CHAPTER 13.04

SIGNED BY _____

COMPANY/TITLE: Owner

DATE: 5/15/25

Voice your concerns on City storm water treatment June 16th

The City of Ham Lake obtained a National Pollutant Discharge Elimination System permit from the Minnesota Pollution Control Agency (MPCA), which addresses areas to reduce or eliminate pollutants from storm water runoff.

An important component of Ham Lake's permit is public education and outreach. Citizens are invited to participate in an annual public meeting and to report concerns or illicit discharges to City staff.

This meeting allows citizens an opportunity to give written or oral input on the program. The City must consider these suggestions and make appropriate adjustments to the program when submitting its annual report to the MPCA.

The meeting will be held at 6:01 p.m. on June 16, 2025, at the Ham Lake City Council meeting. The public is encouraged to submit written comments/concerns on the Storm Water Pollution Plan by June 19, 2025 to City Hall, 15544 Central Avenue NE, Ham Lake MN 55304.

A copy of the SWPPP will be available for review at City Hall or from the City website - *www.hamlakemn.gov* - under Services and Water/Stormwater.

For more information, contact the City at (763) 434-9555.

CITY OF HAM LAKE

15544 Central Avenue NE
Ham Lake, Minnesota 55304
(763) 434-9555
Fax: (763) 434-9599

CITY OF HAM LAKE
CITY COUNCIL AND ECONOMIC DEVELOPMENT AUTHORITY MINUTES
MONDAY, JUNE 2, 2025

The Ham Lake City Council and Economic Development Authority met for its regular meeting on Monday, June 2, 2025 at 6:00 p.m. in the Council Chambers at the Ham Lake City Hall located at 15544 Central Avenue NE in Ham Lake, Minnesota.

MEMBERS PRESENT: Mayor Brian Kirkham and Councilmembers Jim Doyle, Andrew Hallberg, and Al Parranto

MEMBERS ABSENT: Councilmember Mike Van Kirk

OTHERS PRESENT: City Engineer, Dave Krugler; City Administrator, Denise Webster; and Deputy City Clerk, Dawnette Shimek

1.0 CALL TO ORDER - 6:00 P.M. – Pledge of Allegiance
Mayor Kirkham called the meeting to order and the Pledge of Allegiance was recited by all in attendance.

2.0 PUBLIC COMMENT – None

3.0 SPECIAL APPEARANCES/PUBLIC HEARINGS
3.1 Update from the City Assessor's – Mary Wells and Erik Skogquist
Erk Skogquist, Mary Wells and Chris Larson were present. Mr. Skogquist gave an update on the assessment and valuation timeline for the 2025 Market Value for Taxes Payable in 2026. Mr. Skogquist reviewed the Minnesota Assessment Process.

4.0 CONSENT AGENDA
These items are considered to be routine and will be enacted in one motion. There will be no separate discussion of these items unless a Councilmember or citizen so requests, in which event the item will be removed from the Consent Agenda and considered in normal sequence. (All items listed on the Consent Agenda are recommended for approval.)

4.1 Approval of minutes of May 19, 2025
4.2 Approval of claims in the amount of $162,464.83
4.3 Approval of rescheduling the Budget Workshop meeting from Monday, June 2, 2025 to Monday, June 16, 2025 at 5:00 p.m.
4.4 Approval of scheduling a Workshop Meeting with Tonja West-Hafner, Executive Director of Anoka County HRA and Schane Rudlang, Ehlers, Inc. for Monday, July 7, 2025, at 5:00 p.m.
4.5 Approval of Resolution No. 25-12 accepting a $1,000 donation from the Ham Lake Chamber of Commerce
4.6 Approval of Ordinance No. 25-09 establishing Cannabis Retail Business Fee Schedule
4.7 Approval of the Cannabis Retail Business Registration Multiple Application Selection Process
4.8 Approval of Connectivity Services Agreement with Anoka County

4.9 Approval of the fiscal year 2027 Local Partnership Program grant application for the construction of 162nd Lane NE and Buchanan Street NE backage road and adoption of Resolution No. 25-13

4.10 Approval of Liquor Licenses - July 1, 2025 to June 30, 2026:

On-Sale and Sunday On-Sale

- Acapulco of Ham Lake Inc. dba Acapulco Mexican Restaurant, 18015 Ulysses Street NE, Suite 1000, Ham Lake, MN
- Dan Dahlin Inc. dba Ham Lake Lanes, 16465 Highway 65 NE, Ham Lake, MN
- EAGL Beverages Holdings, LLC dba Majestic Oaks Golf Club, 701 Bunker Lake Boulevard NE, Ham Lake, MN
- Elevage Management Group LLC dba T-Box Bar & Grill, 1431 147th Avenue NE, Ham Lake, MN
- Maxx Bar & Grill Inc. dba Maxx Bar & Grill, 17646 Highway 65 NE, Ham Lake, MN

Off-Sale

- Bidhipur Beverage, Inc. dba Ham Lake Liquors, 17720 Central Avenue NE, Ham Lake, MN
- Broadview Operations LLC, dba 1 Stop Liquor, 16205 Lexington Avenue NE, Ham Lake, MN
- Grape Expectations Inc. dba Tournament Liquor, 1434 147th Avenue NE, Ham Lake, MN
- Rama Corporation dba Network Liquors, 13548 Highway 65 NE, Ham Lake, MN

Wine and 3.2% Malt Liquor

- Mansettis-Ham Lake Inc. dba Mansetti's Pizza & Pasta, 16220 Aberdeen Street NE, Suite C, Ham Lake, MN

3.2% Off-Sale

- Northern Tier Retail LLC dba SuperAmerica #4537, 1442 Constance Boulevard NE, Ham Lake, MN

Motion by Parranto, seconded by Doyle, to approve the Consent Agenda as written. All present in favor, motion carried.

5.0 PLANNING COMMISSION RECOMMENDATIONS

5.1 Elizabeth Crawford requesting a Special Home Occupation Permit to operate Therapy Roots, LLC, a biodynamic, craniosacral and myofunctional therapy business at 1222 Constance Boulevard NE (17-32-23-24-0014) and adoption of Resolution No. 25-14

Motion by Kirkham, seconded by Doyle, to concur with the recommendation of the Planning Commission and approve Resolution No. 25-14 for a Special Home Occupation Permit as requested by Elizabeth Crawford of Therapy Roots, LLC, a Biodynamic Craniosacral Therapy and myofunctional therapy business at 1222 Constance Boulevard NE subject to:

1) **Meeting all the requirements of Ordinance 9-350 Home Occupation Permits.**
2) **Ms. Crawford being the only therapist practicing Biodynamic Craniosacral Therapy and myofunctional/speech therapy at this location.**
3) **Ms. Crawford providing the city with a copy of the required certification(s) as noted in Ordinance 9-220.2(b) for Therapeutic massage or obtain approval from the city that certification from the Biodynamic Craniosacral Therapy Association of North America (BCTA/NA) is acceptable.**
4) **No therapy can be performed until all course work has been completed, certifications have been obtained, and proof of certifications have been provided to the city.**
5) **Business hours from 9 am to 4 pm Monday through Friday.**

6) **All surfaces upon which motor vehicles will be parked, or driven, and all areas in which clients and pedestrians will be walking from point to point, shall be surfaced with asphalt or concrete, or a surface approved by the Building Official.**
7) **All areas that clients will travel, or have access to, shall meet the Minnesota Accessibility Code. This shall include the bathroom, walking surfaces and parking.**
8) **All parking surfaces must be marked per diagram and maintained.**
9) **The bathroom made available to clients must be in working order at all times.**
10) **Obtaining a building permit for the proposed building and a Certificate of Occupancy prior to the commencement of business.**
11) **Meeting all city, county and state codes.**

All present in favor, motion carried.

5.2 Consideration of amendments to Article 9 of the Ham Lake City Code related to adding Brewer Taproom and Cannabis Retail Business as a Permitted Use in CD-1 (Commercial Development 1) zoning, adding Therapeutic Massage Facilities as a Conditional Use in R-1 (Single Family Residential) zoning, removing Temporary Conditional Uses in its entirety in (R-1) Single Family Residential, Residential-Manufacturing (R-M) and Rural Single Family Residential (R-A) and remove the requirement of a maintenance fee for wetland banking under Article 9-330.8 and general edits related to the required trail easement (this is considered the First Reading of an Ordinance amending Article 9)

This is considered the First Reading of an Ordinance amending Article 9 as follows:

1) **Adding Brewer Taproom and Cannabis Retail Business as a Permitted Use in CD-1 (Commercial Development 1) zoning.**
2) **Adding Therapeutic Massage Facilities as a Conditional Use in R-1 (Single Family Residential) zoning.**
3) **Removing Temporary Conditional Uses in its entirety in (R-1) Single Family Residential, Residential-Manufacturing (R-M) and Rural Single Family Residential (R-A).**
4) **Removing the requirement of a maintenance fee for wetland banking under Article 9-330.8 and approving general edits related to the required trail easement for a Wetland Bank.**

6.0 ECONOMIC DEVELOPMENT AUTHORITY – None

7.0 APPEARANCES – None

8.0 CITY ATTORNEY

8.1 Discussion of approving Ordinance No. 25-10 amending Article 7, Licenses, Cannabis Business Retail and approval of Resolution No. 25-15 authorizing the publication of a Summary Ordinance No. 25-11

Mayor Kirkham stated that he spoke with Councilmember Van Kirk and he was in favor of starting out with one cannabis license to see how thing go. Mayor Kirkham stated that he doesn't like to see only one license, because it would create a monopoly. There was discussion of allowing one license for every 7,500 residents. Mayor Kirkham, and Councilmembers Doyle, Hallberg and Parranto agreed. **Motion by Kirkham, seconded by Parranto, to approve Ordinance No. 25-10 amending Article 7, Licenses, Cannabis Business Retail updating the Ordinance to allow one license for every 7,500 residents and approval of Resolution No. 25-15 authorizing the publication of a Summary Ordinance No 25-11. All present in favor, motion carried.**

9.0 CITY ENGINEER

Engineer Kruger stated that he received notice from MnDOT regarding the approval of the Crosstown Business Park East Frontage Road project located South of Crosstown Boulevard NE to 171st Avenue NE. Engineer Krugler stated that the ordering of the Plans and Specifications will be prepared and placed on the next City Council agenda for approval.

10.0 CITY ADMINISTRATOR – None

11.0 COUNCIL BUSINESS

11.1 Committee Reports – None

11.2 Announcements and future agenda items – None

Motion by Parranto, seconded by Hallberg, to adjourn the meeting at 6:31 p.m. All present in favor, motion carried.

_____

Dawnette Shimek, Deputy City Clerk

CITY OF HAM LAKE
CLAIMS SUBMITTED TO COUNCIL
June 16, 2025

CITY OF HAM LAKE

EFTS, CHECKS, AND BANK DRAFTS		**06/03/25 - 06/16/25**	
EFT	**# 2313 - 2322**		$ 45,586.98
REFUND CHECKS	**#67187 - 67194**		$ 5,750.00
CHECKS	**# 67195 - 67237**		$ 91,602.88
BANK DRAFTS	**DFT0002902 - DFT0002907**		$ 29,552.78
TOTAL EFTS, CHECKS, AND BANK DRAFTS			$ 172,492.64
PAYROLL CHECKS			
06/13/25	**Direct Deposits**		$ 40,511.59
TOTAL PAYROLL CHECKS			$ 40,511.59
VOID CHECKS			
CHECKS			$ -
ZERO CHECKS	**#67188, 67208, 67209, 67224**		$ -
ZERO EFT	**#2319**		$ -
BANK DRAFTS			$ -
TOTAL VOIDS			$ -
TOTAL OF ALL PAYMENTS			$ 213,004.23

APPROVED BY THE HAM LAKE CITY COUNCIL THIS 16TH DAY OF JUNE 2025

_____
MAYOR

_____
COUNCILMEMBER

_____
COUNCILMEMBER

_____
COUNCILMEMBER

_____
COUNCILMEMBER

Refund Check Register

City of Ham Lake, MN

Packet: ARPKT01421 - 06/04/25 TRUST REFUND

Refund Detail

Account Number	Name	Check Date	Check Number	Amount
00368	IAN IVERSON	6/4/2025	67187	2,500.00
			Total Refund Amount:	2,500.00

Revenue Totals

Revenue Code	Total Distribution
TRUST DEPOSITS - TRUST DEPOSITS	2,500.00
Revenue Totals:	2,500.00

General Ledger Distribution

Posting Date: 06/04/2025

	Account Number	Account Name		Posting Amount	IFT
Fund:	890 - TRUST FUND				
	890-10101	Cash-claim on pooled cash		-2,500.00	Yes
	890-11501	Misc receivables		2,500.00	
			890 Total:	0.00	
Fund:	999 - POOLED CASH				
	999-10100	Pooled Cash		-2,500.00	
	999-20702	Due to other funds		2,500.00	Yes
			999 Total:	0.00	
			Distribution Total:	0.00	

Refund Check Register

City of Ham Lake, MN

Packet: ARPKT01423 - 06/05/25 TRUST REFUNDS

Refund Detail

Account Number	Name	Check Date	Check Number	Amount
	** VOID **	6/5/2025	67188	0.00
00664	SUZANNE GORDON	6/5/2025	67189	150.00
00686	LYNN HUEBNER	6/5/2025	67190	150.00
00599	ERIC DUONG	6/5/2025	67191	2,500.00
			Total Refund Amount:	2,800.00

Revenue Totals

Revenue Code	Total Distribution
TRUST DEPOSITS - TRUST DEPOSITS	2,800.00
Revenue Totals:	2,800.00

General Ledger Distribution

Posting Date: 06/05/2025

	Account Number	Account Name		Posting Amount	IFT
Fund:	890 - TRUST FUND				
	890-10101	Cash-claim on pooled cash		-2,800.00	Yes
	890-11501	Misc receivables		2,800.00	
			890 Total:	0.00	
Fund:	999 - POOLED CASH				
	999-10100	Pooled Cash		-2,800.00	
	999-20702	Due to other funds		2,800.00	Yes
			999 Total:	0.00	
			Distribution Total:	0.00	

Refund Check Register

City of Ham Lake, MN

Packet: ARPKT01429 - 06/10/25 TRUST REFUNDS

Refund Detail

Account Number	Name	Check Date	Check Number	Amount
00630	MICHAEL WOLF	6/10/2025	67192	150.00
00631	TIM ARNTZEN	6/10/2025	67193	150.00
00693	RACHEL PETERSON	6/10/2025	67194	150.00
			Total Refund Amount:	450.00

Revenue Totals

Revenue Code	Total Distribution
TRUST DEPOSITS - TRUST DEPOSITS	450.00
Revenue Totals:	450.00

General Ledger Distribution

Posting Date: 06/10/2025

	Account Number	Account Name		Posting Amount	IFT
Fund:	890 - TRUST FUND				
	890-10101	Cash-claim on pooled cash		-450.00	Yes
	890-11501	Misc receivables		450.00	
			890 Total:	0.00	
Fund:	999 - POOLED CASH				
	999-10100	Pooled Cash		-450.00	
	999-20702	Due to other funds		450.00	Yes
			999 Total:	0.00	
			Distribution Total:	0.00	

City of Ham Lake, MN

Council Approval List

By (None)

Payment Dates 6/3/2025 - 6/16/2025

Payment Number	Vendor Name	Description (Item)	Account Name	Account Number	Amount
2313	BERGLUND, BAUMGARTNER,	CITY HALL MEETING	Attorney	100-41101-3110	169.74
2313	BERGLUND, BAUMGARTNER,	5/19 COUNCIL MEETING	Attorney	100-41101-3110	196.84
2313	BERGLUND, BAUMGARTNER,	5/6 COUNCIL MEETING	Attorney	100-41101-3110	95.00
2313	BERGLUND, BAUMGARTNER,	DANGEROUS DOG FORMS	Attorney	100-41101-3110	135.79
2313	BERGLUND, BAUMGARTNER,	ARTICLE 9 REVISIONS	Attorney	100-41102-3110	237.63
2313	BERGLUND, BAUMGARTNER,	CANABIS ORDINANCE	Attorney	100-41102-3110	203.69
2313	BERGLUND, BAUMGARTNER,	POLLING PADS - ACE IT	Attorney	100-41302-3110	101.84
2313	BERGLUND, BAUMGARTNER,	ANOKA CONNECT CONTRACT	Attorney	100-41401-3110	84.87
2313	BERGLUND, BAUMGARTNER,	COOL AIR	Attorney	100-41601-3110	407.37
2313	BERGLUND, BAUMGARTNER,	CONTROLLED BURN AGREEM	Attorney	100-42201-3110	526.19
2313	BERGLUND, BAUMGARTNER,	1354 MCKAY VIOLATION LETT	Attorney	100-42401-3110	152.76
2313	BERGLUND, BAUMGARTNER,	716 - 169TH LANE VIOLATION	Attorney	100-42401-3110	84.87
2313	BERGLUND, BAUMGARTNER,	17159 HWY 65 VIOLATION LE	Attorney	100-42401-3110	84.87
2313	BERGLUND, BAUMGARTNER,	EVERGREEN ESTATES	Attorney	890-90001-3110	356.46
2313	BERGLUND, BAUMGARTNER,	THERAPY ROOTS CUP	Attorney	890-90001-3110	203.69
2313	BERGLUND, BAUMGARTNER,	15035 ABERDEEN (JBR)	Attorney	890-90001-3110	237.64
2313	BERGLUND, BAUMGARTNER,	MAY PROSECUTIONS	Attorney	100-41501-3110	6,895.85
2314	CINTAS CORP	UNIFORMS	Clothing & personal protectiv	100-43101-2210	138.01
2314	CINTAS CORP	UNIFORMS	Clothing & personal protectiv	100-44101-2210	57.55
2314	CINTAS CORP	UNIFORMS	Clothing & personal protectiv	100-43101-2210	141.73
2314	CINTAS CORP	CS - LOSS CHARGE	Clothing & personal protectiv	100-43101-2210	199.96
2314	CINTAS CORP	UNIFORMS	Clothing & personal protectiv	100-44101-2210	59.08
2315	GREATAMERICA FINANCIAL SE	JUNE MAILING MACHINE LEA	Equipment rentals	100-41701-3320	160.95
2316	HYDRAULIC SPECIALTY INC	#81 HOSE ASSEMBLY	Vehicle repair & maintenance	100-43101-3470	120.97
2317	O'REILLY AUTOMOTIVE STORE	#53, 62, 73 FUEL FILTERS	Equipment parts & supplies	100-44101-2320	13.81
2317	O'REILLY AUTOMOTIVE STORE	#68 U-JOINTS, POLISHING PA	Equipment parts & supplies	100-43101-2320	-56.05
2317	O'REILLY AUTOMOTIVE STORE	#55 OIL FILTER	Equipment parts & supplies	100-44101-2320	11.97
2317	O'REILLY AUTOMOTIVE STORE	MICROFIBER CLOTHS	Operating supplies	100-43101-2290	37.99
2317	O'REILLY AUTOMOTIVE STORE	#55 V-BELT	Equipment parts & supplies	100-44101-2320	22.76
2317	O'REILLY AUTOMOTIVE STORE	SUPERWELD	Operating supplies	100-43101-2290	12.99
2317	O'REILLY AUTOMOTIVE STORE	#53 TEMP SWITCH	Equipment parts & supplies	100-44101-2320	32.65
2317	O'REILLY AUTOMOTIVE STORE	CORE RETURNS - CREDITED U	Operating supplies	100-43101-2290	-90.00
2317	O'REILLY AUTOMOTIVE STORE	CORE RETURNS - CORRECT CR	Operating supplies	100-43101-2290	90.00
2318	RFC ENGINEERING, INC.	MEADOW PARK RECONSTRUC	Engineering	431-43301-3135	222.41
2318	RFC ENGINEERING, INC.	CREEK VALLEY RECONSTRUCTI	Engineering	431-43301-3135	555.28
2318	RFC ENGINEERING, INC.	TIPPECANOE STREET	Engineering	431-43301-3135	80.76
2318	RFC ENGINEERING, INC.	CROSSTOWN BUSINESS PARK	Engineering	262-46101-3135	716.05
2318	RFC ENGINEERING, INC.	CROSSTOWN SHOPPING CENT	Engineering	431-43301-3135	248.58
2318	RFC ENGINEERING, INC.	BASE MAP	Engineering	100-41101-3135	126.43
2318	RFC ENGINEERING, INC.	COUNCIL MEETING	Engineering	100-41101-3135	161.52
2318	RFC ENGINEERING, INC.	CITY CODE UPDATE	Engineering	100-41102-3135	376.88
2318	RFC ENGINEERING, INC.	PLANNING/POTENTIAL DEVEL	Engineering	100-41601-3135	457.64
2318	RFC ENGINEERING, INC.	AVAILABLE RESIDENTIAL LOTS	Engineering	100-41601-3135	95.61
2318	RFC ENGINEERING, INC.	ZONING MAP	Engineering	100-41601-3135	19.12
2318	RFC ENGINEERING, INC.	L4B2 STONE ESTATES DRAINA	Engineering	100-41601-3135	2,265.40
2318	RFC ENGINEERING, INC.	FIRE #3	Engineering	100-42201-3135	40.38
2318	RFC ENGINEERING, INC.	L2B5 PINGERS PLAZA	Engineering	100-42401-3135	107.68
2318	RFC ENGINEERING, INC.	17042 POLK STREET FEMA LO	Engineering	100-42401-3135	19.12
2318	RFC ENGINEERING, INC.	L8 B BIRCH VIEW ACRES - FEM	Engineering	100-42401-3135	26.92
2318	RFC ENGINEERING, INC.	HAM LAKE BUILDING PERMIT	Engineering	100-42401-3135	174.98
2318	RFC ENGINEERING, INC.	THOROUGHFARE PLAN	Engineering	100-43101-3135	9.56
2318	RFC ENGINEERING, INC.	CCWD RULES AMENDMENTS	Engineering	100-43201-3135	148.06
2318	RFC ENGINEERING, INC.	PARK & TREE MAP	Engineering	100-44101-3135	9.56
2318	RFC ENGINEERING, INC.	NPDES	Engineering	230-43201-3135	112.63

Payment Number	Vendor Name	Description (Item)	Account Name	Account Number	Amount
2318	RFC ENGINEERING, INC.	CSAH 17/CSAH60 ROUNDABO	Engineering	431-43301-3135	40.38
2318	RFC ENGINEERING, INC.	162ND LANE/BUCHANAN ST	Engineering	431-43301-3135	5,293.61
2318	RFC ENGINEERING, INC.	COUNTY DITCH #58	Engineering	431-43301-3135	769.15
2318	RFC ENGINEERING, INC.	BALTIMORE ST N OF 153RD A	Engineering	431-43301-3135	444.18
2318	RFC ENGINEERING, INC.	CSAH 116 FROM CSAH 52 TO	Engineering	431-43301-3135	282.66
2318	RFC ENGINEERING, INC.	CSAH 17 OF CSAH 18	Engineering	431-43301-3135	296.12
2318	RFC ENGINEERING, INC.	CSAH 116/BUNKER LAKE BLVD	Engineering	431-43301-3135	551.86
2318	RFC ENGINEERING, INC.	BUNKER, JEFFERSON - TH 65	Engineering	431-43301-3135	40.38
2318	RFC ENGINEERING, INC.	CSAH 116 FROM NAPLES TO	Engineering	431-43301-3135	40.38
2318	RFC ENGINEERING, INC.	2025 REHAB	Engineering	431-43301-3135	107.68
2318	RFC ENGINEERING, INC.	HFE PARK PARKING LOT	Engineering	440-44103-3135	3,303.06
2318	RFC ENGINEERING, INC.	KOHLER SKETCH	Engineering	890-90001-3135	53.84
2318	RFC ENGINEERING, INC.	HIDDEN FOREST EAST 4TH	Engineering	890-90001-3135	935.22
2318	RFC ENGINEERING, INC.	SWEDISH CHAPEL ESTATES	Engineering	890-90001-3135	1,223.81
2318	RFC ENGINEERING, INC.	ELWELL COMMERCIAL PARK	Engineering	890-90001-3135	586.48
2318	RFC ENGINEERING, INC.	ELWELL FARMS	Engineering	890-90001-3135	4,927.75
2318	RFC ENGINEERING, INC.	SOUTH SHORE ESTATES	Engineering	890-90001-3135	13.46
2318	RFC ENGINEERING, INC.	ALLSTATE DISTRIBUTIONS - LA	Engineering	890-90001-3135	25.00
2318	RFC ENGINEERING, INC.	14835 ABERDEEN ST CUP LAB	Engineering	890-90001-3135	25.00
2318	RFC ENGINEERING, INC.	HIDDEN FOREST EAST 3RD	Engineering	890-90001-3135	46.75
2318	RFC ENGINEERING, INC.	1222 CONSTANCE BOULEVAR	Engineering	890-90001-3135	25.00
2318	RFC ENGINEERING, INC.	SOUTH SHORE ESTATES 2ND	Engineering	890-90001-3135	38.24
2318	RFC ENGINEERING, INC.	ENCHANTED ESTATES 4TH	Engineering	890-90001-3135	170.73
2318	RFC ENGINEERING, INC.	15035 ABERDEEN STREET DR	Engineering	890-90001-3135	242.28
2318	RFC ENGINEERING, INC.	RUDS SKOGSTED	Engineering	890-90001-3135	228.82
2318	RFC ENGINEERING, INC.	ALLSTATE DISTRIBUTIONS	Engineering	890-90001-3135	80.76
2318	RFC ENGINEERING, INC.	HARMONY ESTATES 3RD	Engineering	890-90001-3135	161.52
2318	RFC ENGINEERING, INC.	MARKQUART RV	Engineering	890-90001-3135	94.22
2318	RFC ENGINEERING, INC.	GROUP PERMIT BILLING	Engineering	100-43501-3135	1,071.13
2318	RFC ENGINEERING, INC.	MSA GROUP BILLING	Engineering	431-43301-3135	211.46
2318	RFC ENGINEERING, INC.	143RD AVENUE	Engineering	431-43301-3135	5,353.14
2320	STAR TRIBUNE MEDIA COMPA	ZONING-THER. MASSAGE,TAP	Legal notices/publications/bid	100-41101-3950	77.42
2320	STAR TRIBUNE MEDIA COMPA	ORD 25-07 HENTGES REZONE	Legal notices/publications/bid	100-41102-3950	50.56
2320	STAR TRIBUNE MEDIA COMPA	ORD 25-08 FIELD PARTY & LR	Legal notices/publications/bid	100-41102-3950	93.22
2320	STAR TRIBUNE MEDIA COMPA	THERAPY ROOTS CUP	Legal notices/publications/bid	890-90001-3950	58.46
2320	STAR TRIBUNE MEDIA COMPA	L4B2 MAJESTIC OAKS COMME	Legal notices/publications/bid	890-90001-3950	268.60
2320	STAR TRIBUNE MEDIA COMPA	FROVIK CUP	Legal notices/publications/bid	890-90001-3950	55.30
2321	UNLIMITED SUPPLIES INC	FUSE HOLDER, MINI PLUG, RE	Operating supplies	100-43101-2290	26.31
2322	WRUCK SEWER & PORTABLE	HAM LAKE BALL FIELD TOILET	Rentals-other	100-44101-3390	39.50
2322	WRUCK SEWER & PORTABLE	SBAA HAM LAKE BALL FIELD T	Rentals-other	100-44101-3390	39.50
2322	WRUCK SEWER & PORTABLE	LARSON'S HERITAGE OAKS TOI	Rentals-other	100-44101-3390	50.00
2322	WRUCK SEWER & PORTABLE	SBAA PINGER'S PARK TOILET R	Rentals-other	100-44101-3390	25.00
2322	WRUCK SEWER & PORTABLE	PATRICIA'S WILDERNESS TOILE	Rentals-other	100-44101-3390	25.00
2322	WRUCK SEWER & PORTABLE	SBAA PATRICIA'S WILDERNESS	Rentals-other	100-44101-3390	25.00
2322	WRUCK SEWER & PORTABLE	SBAA TWIN BIRCH PARK TOILE	Rentals-other	100-44101-3390	25.00
2322	WRUCK SEWER & PORTABLE	TENNIS COURT TOILET RENTA	Rentals-other	100-44101-3390	108.00
2322	WRUCK SEWER & PORTABLE	CONSTANCE ESTATES PARK TO	Rentals-other	100-44101-3390	50.00
2322	WRUCK SEWER & PORTABLE	BLUEGRASS ESTATES TOILET R	Rentals-other	100-44101-3390	50.00
2322	WRUCK SEWER & PORTABLE	SODERVILLE PARK TOILET REN	Rentals-other	100-44101-3390	54.00
2322	WRUCK SEWER & PORTABLE	SBAA SODERVILLE PARK TOILE	Rentals-other	100-44101-3390	54.00
2322	WRUCK SEWER & PORTABLE	LION'S PARK PLAYGROUND TO	Rentals-other	100-44101-3390	79.00
2322	WRUCK SEWER & PORTABLE	HAM LAKE BOAT LANDING TO	Rentals-other	100-44101-3390	79.00
2322	WRUCK SEWER & PORTABLE	LION'S PARK TOILET RENTALS	Rentals-other	100-44101-3390	158.00
2322	WRUCK SEWER & PORTABLE	SBAA LION'S PARK TOILET REN	Rentals-other	100-44101-3390	158.00
2322	WRUCK SEWER & PORTABLE	TWIN BIRCH PARK TOILET REN	Rentals-other	100-44101-3390	25.00
2322	WRUCK SEWER & PORTABLE	GRANT PARK	Rentals-other	100-44101-3390	50.00
2322	WRUCK SEWER & PORTABLE	WISEN'S PARK TOILET RENTAL	Rentals-other	100-44101-3390	25.00
2322	WRUCK SEWER & PORTABLE	PINGER'S PARK TOILET RENTA	Rentals-other	100-44101-3390	25.00
2322	WRUCK SEWER & PORTABLE	SBAA WISEN'S PARK TOILET R	Rentals-other	100-44101-3390	25.00
67195	ACCESS	MAY SHREDDING	Waste management & recycli	231-43601-3630	156.34

Payment Number	Vendor Name	Description (Item)	Account Name	Account Number	Amount
67195	ACCESS	SPRING RECYCLING DAY SHRE	Waste management & recycli	231-43601-3630	610.35
67196	ACE SOLID WASTE INC	JUNE ORGANICS	Waste management & recycli	231-43601-3630	385.84
67197	ADAM'S PEST CONTROL, INC	PEST CONTROL	Building repair & maintenanc	100-41702-3420	232.14
67198	ANOKA COUNTY PROPERTY	PALMATEER SEPTIC LICENSE	Refunds & reimbursements	100-37601	46.00
67199	ASPEN MILLS INC	UNIFORM - JF	Clothing & personal protectiv	100-42201-2210	240.70
67200	BLUE CROSS BLUE SHIELD OF	JULY VISION	Vision Insurance	100-21715	37.00
67201	CARGILL SALT DIVISION	24.52 ST DEICER	Salt & sand	100-43102-2710	3,248.65
67202	CENTERPOINT ENERGY	CITY HALL	Natural gas	100-41702-3620	179.94
67202	CENTERPOINT ENERGY	FIRE #1	Natural gas	100-42202-3620	93.05
67202	CENTERPOINT ENERGY	FIRE #2	Natural gas	100-42202-3620	149.73
67202	CENTERPOINT ENERGY	PW	Natural gas	100-43104-3620	313.12
67202	CENTERPOINT ENERGY	H.L. PARK PAVILION	Natural gas	100-44102-3620	51.61
67202	CENTERPOINT ENERGY	H.L. PARK BUILDING	Natural gas	100-44102-3620	417.99
67202	CENTERPOINT ENERGY	SR CENTER	Natural gas	100-44202-3620	96.89
67203	CITY OF COLUMBUS	SIGNAL LEXINGTON & BROAD	Electricity	100-43401-3610	23.77
67204	COMCAST BUSINESS-INTERNE	JUNE FIRE #3 INTERNET	Internet	100-42201-3220	367.04
67205	COMPENSATION CONSULTAN	2ND QTR FLEX ADMINISTRATI	Other professional services	100-41701-3190	75.00
67206	COMPUTERSHARE TRUST CO	2010 CIP BOND INTEREST	Interest	370-47101-6120	3,325.00
67207	CONNEXUS ENERGY	CITY HALL	Electricity	100-41702-3610	790.44
67207	CONNEXUS ENERGY	GARAGE	Electricity	100-41702-3610	31.82
67207	CONNEXUS ENERGY	SOUTH WELCOME	Electricity	100-41703-3610	16.32
67207	CONNEXUS ENERGY	CITY SIGN	Electricity	100-41703-3610	245.37
67207	CONNEXUS ENERGY	FIRE #1	Electricity	100-42202-3610	415.24
67207	CONNEXUS ENERGY	FIRE #3	Electricity	100-42202-3610	269.86
67207	CONNEXUS ENERGY	FIRE #2	Electricity	100-42202-3610	247.94
67207	CONNEXUS ENERGY	SIRENS	Electricity	100-42302-3610	70.20
67207	CONNEXUS ENERGY	PW	Electricity	100-43104-3610	808.04
67207	CONNEXUS ENERGY	HWY 65/BUNKER SIGNALS	Electricity	100-43401-3610	80.54
67207	CONNEXUS ENERGY	HWY 65/CONSTANCE SIGNALS	Electricity	100-43401-3610	112.83
67207	CONNEXUS ENERGY	STREET LIGHTS #2	Electricity	100-43401-3610	274.85
67207	CONNEXUS ENERGY	CROSSTOWN/HWY 65 SIGNAL	Electricity	100-43401-3610	73.62
67207	CONNEXUS ENERGY	STREET LIGHTS #1	Electricity	100-43401-3610	23.80
67207	CONNEXUS ENERGY	LEXINGTON/CROSSTOWN SIG	Electricity	100-43401-3610	43.79
67207	CONNEXUS ENERGY	BUNKER/JEFFERSON SIGNALS	Electricity	100-43401-3610	57.65
67207	CONNEXUS ENERGY	RADISSON/BUNKER SIGNALS	Electricity	100-43401-3610	72.67
67207	CONNEXUS ENERGY	BUNKER/LEXINGTON SIGNALS	Electricity	100-43401-3610	63.87
67207	CONNEXUS ENERGY	HWY 65/ANDOVER BLVD SIGN	Electricity	100-43401-3610	76.78
67207	CONNEXUS ENERGY	HAM LAKE PARK	Electricity	100-44101-3610	116.36
67207	CONNEXUS ENERGY	HAM LAKE WELL	Electricity	100-44101-3610	70.79
67207	CONNEXUS ENERGY	SODERVILLE PARK	Electricity	100-44101-3610	36.90
67207	CONNEXUS ENERGY	SODERVILLE PARK WELL	Electricity	100-44101-3610	15.50
67207	CONNEXUS ENERGY	HAM LAKE AERATOR	Electricity	100-44101-3610	15.50
67207	CONNEXUS ENERGY	HAM LAKE PARK CONCESSION	Electricity	100-44102-3610	90.16
67207	CONNEXUS ENERGY	LION'S PARK PAVILION	Electricity	100-44102-3610	93.65
67207	CONNEXUS ENERGY	HAM LAKE PARK BUILDING	Electricity	100-44102-3610	91.34
67207	CONNEXUS ENERGY	LION'S PARK CONCESSION	Electricity	100-44102-3610	46.85
67207	CONNEXUS ENERGY	HAM LAKE PARK SHELTER	Electricity	100-44102-3610	28.18
67207	CONNEXUS ENERGY	SR CENTER	Electricity	100-44202-3610	425.62
67207	CONNEXUS ENERGY	STREET LIGHTS	Electricity	232-43701-3610	4,759.10
67210	DEHN OIL CO	202.4 GAL GASOLINE	Fuel	100-44101-2230	488.77
67210	DEHN OIL CO	226.4 GAL DIESEL	Fuel	100-44101-2230	530.14
67211	DELL MARKETING L.P.	ELECTION OFFICE DELL MICR	Controllable assets	100-41701-5120	825.62
67211	DELL MARKETING L.P.	COUNCIL DELL PB14250 LAPT	Controllable assets	100-41701-5120	1,339.19
67211	DELL MARKETING L.P.	DW DELL PB14250 LAPTOP &	Controllable assets	100-41701-5120	1,580.19
67211	DELL MARKETING L.P.	ELECTION FRT DESK DELL MIC	Controllable assets	100-41701-5120	817.40
67211	DELL MARKETING L.P.	FRED DELL MICRO QCM1250	Controllable assets	100-42201-5120	817.40
67211	DELL MARKETING L.P.	FIRE #2 DELL MICRO QCM125	Controllable assets	100-42201-5120	817.40
67212	EMBEDDED SYSTEMS INC	JUL - DEC SIREN MAINTENAN	Equipment repair & maintena	100-42302-3440	3,897.66
67213	GAME TIME	CROSSTOWN ROLLING ACRES	Capital assets	440-44103-5110	10,966.11
67213	GAME TIME	CONSTANCE ESTATES PARK SH	Capital assets	440-44103-5110	10,966.11

Payment Number	Vendor Name	Description (Item)	Account Name	Account Number	Amount
67214	GOODYEAR TIRE	G-2 TIRES	Fire apparatus repair & maint	100-42201-3450	978.84
67215	HAM LAKE HARDWARE INC	LIQUID NAILS, BOLTS - CITY H	Operating supplies	100-41701-2290	13.83
67216	HAM LAKE HAULERS INC	1ST QTR RECYCLING	Waste management & recycli	231-43601-3630	8,127.50
67217	LEPAGE & SONS INC	5/27 YARDWASTE	Waste management & recycli	231-43601-3630	482.00
67218	LEW VANDENBERG	CONFERENCE FOOD	Training/conferences/schools	100-42201-3510	20.63
67218	LEW VANDENBERG	CONFERENCE HOTEL	Training/conferences/schools	100-42201-3510	362.76
67219	LINCOLN NATIONAL LIFE INSU	JULY ST DISABILITY	STD/LTD	100-21713	889.82
67219	LINCOLN NATIONAL LIFE INSU	JULY LT DISABILITY	STD/LTD	100-21713	831.33
67220	MCCLELLAN SALES INC	EARMUFF, SAFETY GLASSES, FI	Safety supplies	100-44101-2240	52.41
67221	MENARDS-BLAINE	HAM LAKE PARK - SPRINKLER	Operating supplies	100-44101-2290	32.87
67221	MENARDS-BLAINE	CONCRETE REPAIR MORTAR	Street repair & maintenance s	100-43101-2330	64.95
67222	MENARDS-CR	HINGES, ANCHORS - CITY HAL	Operating supplies	100-41701-2290	34.20
67222	MENARDS-CR	LAMINATE TRIMMER, ROUTE	Operating supplies	100-44101-2290	67.07
67223	METRO - INET	LASERFICHE & ADOBE LICENS	Software licenses & upgrades	100-41201-2510	36.90
67223	METRO - INET	LASERFICHE & ADOBE LICENS	Software licenses & upgrades	100-41301-2510	63.63
67223	METRO - INET	LASERFICHE & ADOBE LICENS	Software licenses & upgrades	100-41401-2510	63.63
67223	METRO - INET	LASERFICHE & ADOBE LICENS	Software licenses & upgrades	100-41601-2510	26.73
67223	METRO - INET	PHONES	Phones/radios/pagers	100-41701-3210	122.82
67223	METRO - INET	IT SUPPORT	Computer & software support	100-41707-3120	3,404.37
67223	METRO - INET	LASERFICHE & ADOBE LICENS	Software licenses & upgrades	100-42201-2510	47.07
67223	METRO - INET	IT SUPPORT	Computer & software support	100-42201-3120	1,037.35
67223	METRO - INET	PHONES	Phones/radios/pagers	100-42201-3210	37.79
67223	METRO - INET	LASERFICHE & ADOBE LICENS	Software licenses & upgrades	100-42401-2510	100.53
67223	METRO - INET	IT SUPPORT	Computer & software support	100-42401-3120	772.79
67223	METRO - INET	PHONES	Phones/radios/pagers	100-42401-3210	28.34
67223	METRO - INET	LASERFICHE & ADOBE LICENS	Software licenses & upgrades	100-43101-2510	26.42
67223	METRO - INET	IT SUPPORT	Computer & software support	100-43101-3120	993.91
67223	METRO - INET	PHONES	Phones/radios/pagers	100-43101-3210	18.90
67223	METRO - INET	IT SUPPORT	Computer & software support	100-44101-3120	257.58
67223	METRO - INET	PHONES	Phones/radios/pagers	100-44101-3210	9.45
67223	METRO - INET	PHONES	Phones/radios/pagers	100-44201-3210	37.79
67225	MINNESOTA EQUIPMENT	#53, 62, 73 BLADES	Equipment parts & supplies	100-44101-2320	191.38
67225	MINNESOTA EQUIPMENT	#113 TIRE	Equipment parts & supplies	100-44101-2320	112.93
67225	MINNESOTA EQUIPMENT	BOLTS	Operating supplies	100-44101-2290	6.06
67225	MINNESOTA EQUIPMENT	.095-3# BLACK DIAMOND	Operating supplies	100-44101-2290	37.49
67225	MINNESOTA EQUIPMENT	#73 CAPS	Equipment parts & supplies	100-44101-2320	8.54
67225	MINNESOTA EQUIPMENT	#53 GATORS	Equipment parts & supplies	100-44101-2320	74.97
67226	MINNESOTA PYROTECHNICS L	FREEDOM FEST FIREWORKS	Community celebrations	100-41701-4115	6,000.00
67227	MN PEIP	JULY HEALTH INSURANCE	Health Insurance	100-21710	10,728.82
67228	NCPERS GROUP LIFE INSURAN	JULY LIFE	Life Insurance	100-21714	96.00
67229	PREMIUM WATERS INC	MAY WATER	Equipment rentals	100-41701-3320	33.39
67229	PREMIUM WATERS INC	JUNE WATER COOLER RENTAL	Equipment rentals	100-41701-3320	14.00
67230	ROBERTO LLC	SR CTR COMMERCIAL WINDO	Building repair & maintenanc	100-44202-3420	1,788.00
67231	S & S INDUSTRIAL SUPPLY INC	CARRIAGE BOLTS NYLOCK NU	Operating supplies	100-43101-2290	2.42
67232	SITEONE LANDSCAPE SUPPLY	HAM LAKE PARK PARK - RISER	Operating supplies	100-44101-2290	97.47
67233	THE MPX GROUP	JUNE HAM LAKER DELIVERY	Other services and charges	211-41704-3990	400.00
67234	TURFWERKS	#65 BELT	Equipment parts & supplies	100-44101-2320	70.94
67235	WICK COMMUNICATIONS CO-	JUNE HAM LAKER EVENT INSE	Reimbursable expense	100-48101-4150	98.57
67236	WRIGHT-HENNEPIN COOPERA	JUNE ELEVATOR MONITORING	Monitoring	100-41702-3145	10.00
67236	WRIGHT-HENNEPIN COOPERA	JUNE SECURITY MONITORING	Monitoring	100-41702-3145	33.95
67236	WRIGHT-HENNEPIN COOPERA	JUNE PW FIRE PANEL MONIT	Monitoring	100-43104-3145	52.95
67237	XCEL ENERGY	MAY FIRE #3 NATURAL GAS	Natural gas	100-42202-3620	39.06
DFT0002902	MN STATE DEPT OF REVENUE-	MAY '25 FUEL TAX	Fuel	100-43101-2230	44.20
DFT0002903	COMPENSATION CONSULTAN	Health Savings Account	HSA Account	100-21712	150.00
DFT0002904	EMPOWER	Deferred Compensation	Deferred compensation	100-21704	2,435.00
DFT0002904	EMPOWER	Roth IRA	Deferred compensation	100-21704	50.00
DFT0002905	IRS-Payroll Tax	Federal Withholding	Federal WH/FICA/MC	100-21701	6,471.04
DFT0002905	IRS-Payroll Tax	Medicare Payable	Federal WH/FICA/MC	100-21701	1,791.44
DFT0002905	IRS-Payroll Tax	Social Security Payable	Federal WH/FICA/MC	100-21701	7,105.76
DFT0002906	MN STATE DEPT OF REVENUE-	MN State Withholding	State W/H	100-21702	2,843.35

Payment Number	Vendor Name	Description (Item)	Account Name	Account Number	Amount
DFT0002907	PERA	Retirement-Coordinated	PERA	100-21703	7,343.07
DFT0002907	PERA	Retirement-Police & Fire	PERA	100-21703	1,318.92
				Grand Total:	166,742.64

Report Summary

Fund Summary

Fund	Payment Amount
100 - GENERAL	97,835.49
211 - HAM LAKER	400.00
230 - FUTURE DRAINAGE	112.63
231 - RECYCLING	9,762.03
232 - STREET LIGHT	4,759.10
262 - HAM LAKE EDA	716.05
370 - 2010 CIP BOND DEBT	3,325.00
431 - REVOLVING STREET	14,538.03
440 - PARK & BEACH LAND	25,235.28
890 - TRUST FUND	10,059.03
Grand Total:	**166,742.64**

Account Summary

Account Number	Account Name	Payment Amount
100-21701	Federal WH/FICA/MC	15,368.24
100-21702	State W/H	2,843.35
100-21703	PERA	8,661.99
100-21704	Deferred compensation	2,485.00
100-21710	Health Insurance	10,728.82
100-21712	HSA Account	150.00
100-21713	STD/LTD	1,721.15
100-21714	Life Insurance	96.00
100-21715	Vision Insurance	37.00
100-37601	Refunds & reimburseme	46.00
100-41101-3110	Attorney	597.37
100-41101-3135	Engineering	287.95
100-41101-3950	Legal notices/publicatio	77.42
100-41102-3110	Attorney	441.32
100-41102-3135	Engineering	376.88
100-41102-3950	Legal notices/publicatio	143.78
100-41201-2510	Software licenses & upgr	36.90
100-41301-2510	Software licenses & upgr	63.63
100-41302-3110	Attorney	101.84
100-41401-2510	Software licenses & upgr	63.63
100-41401-3110	Attorney	84.87
100-41501-3110	Attorney	6,895.85
100-41601-2510	Software licenses & upgr	26.73
100-41601-3110	Attorney	407.37
100-41601-3135	Engineering	2,837.77
100-41701-2290	Operating supplies	48.03
100-41701-3190	Other professional servi	75.00
100-41701-3210	Phones/radios/pagers	122.82
100-41701-3320	Equipment rentals	208.34
100-41701-4115	Community celebrations	6,000.00
100-41701-5120	Controllable assets	4,562.40
100-41702-3145	Monitoring	43.95
100-41702-3420	Building repair & mainte	232.14
100-41702-3610	Electricity	822.26
100-41702-3620	Natural gas	179.94
100-41703-3610	Electricity	261.69
100-41707-3120	Computer & software su	3,404.37
100-42201-2210	Clothing & personal prot	240.70
100-42201-2510	Software licenses & upgr	47.07
100-42201-3110	Attorney	526.19
100-42201-3120	Computer & software su	1,037.35
100-42201-3135	Engineering	40.38
100-42201-3210	Phones/radios/pagers	37.79

Account Summary

Account Number	Account Name	Payment Amount
100-42201-3220	Internet	367.04
100-42201-3450	Fire apparatus repair &	978.84
100-42201-3510	Training/conferences/sc	383.39
100-42201-5120	Controllable assets	1,634.80
100-42202-3610	Electricity	933.04
100-42202-3620	Natural gas	281.84
100-42302-3440	Equipment repair & mai	3,897.66
100-42302-3610	Electricity	70.20
100-42401-2510	Software licenses & upgr	100.53
100-42401-3110	Attorney	322.50
100-42401-3120	Computer & software su	772.79
100-42401-3135	Engineering	328.70
100-42401-3210	Phones/radios/pagers	28.34
100-43101-2210	Clothing & personal prot	479.70
100-43101-2230	Fuel	44.20
100-43101-2290	Operating supplies	79.71
100-43101-2320	Equipment parts & suppl	-56.05
100-43101-2330	Street repair & mainten	64.95
100-43101-2510	Software licenses & upgr	26.42
100-43101-3120	Computer & software su	993.91
100-43101-3135	Engineering	9.56
100-43101-3210	Phones/radios/pagers	18.90
100-43101-3470	Vehicle repair & mainten	120.97
100-43102-2710	Salt & sand	3,248.65
100-43104-3145	Monitoring	52.95
100-43104-3610	Electricity	808.04
100-43104-3620	Natural gas	313.12
100-43201-3135	Engineering	148.06
100-43401-3610	Electricity	904.17
100-43501-3135	Engineering	1,071.13
100-44101-2210	Clothing & personal prot	116.63
100-44101-2230	Fuel	1,018.91
100-44101-2240	Safety supplies	52.41
100-44101-2290	Operating supplies	240.96
100-44101-2320	Equipment parts & suppl	539.95
100-44101-3120	Computer & software su	257.58
100-44101-3135	Engineering	9.56
100-44101-3210	Phones/radios/pagers	9.45
100-44101-3390	Rentals-other	1,169.00
100-44101-3610	Electricity	255.05
100-44102-3610	Electricity	350.18
100-44102-3620	Natural gas	469.60
100-44201-3210	Phones/radios/pagers	37.79
100-44202-3420	Building repair & mainte	1,788.00
100-44202-3610	Electricity	425.62
100-44202-3620	Natural gas	96.89
100-48101-4150	Reimbursable expense	98.57
211-41704-3990	Other services and charg	400.00
230-43201-3135	Engineering	112.63
231-43601-3630	Waste management & r	9,762.03
232-43701-3610	Electricity	4,759.10
262-46101-3135	Engineering	716.05
370-47101-6120	Interest	3,325.00
431-43301-3135	Engineering	14,538.03
440-44103-3135	Engineering	3,303.06
440-44103-5110	Capital assets	21,932.22
890-90001-3110	Attorney	797.79
890-90001-3135	Engineering	8,878.88

Account Summary

Account Number	Account Name	Payment Amount
890-90001-3950	Legal notices/publicatio	382.36
	Grand Total:	**166,742.64**

Project Account Summary

Project Account Key	Payment Amount
None	116,397.03
202102.053-100	80.76
202103-100	222.41
202105-100	555.28
202111-100	716.05
202205-100	248.58
202302.032-100	5,293.61
202302.038-101	769.15
202402.076-160	10,966.11
202402.084-100	282.66
202402.085-100	40.38
20250502.036-100	3,397.28
202505-100	5,353.14
231001001	8,127.50
231002001	610.35
231004009	482.00
231009001	385.84
231010001	156.34
Constance-160	10,966.11
MISC-100	1,692.06
Grand Total:	**166,742.64**

City of Ham Lake, MN

EFT Payroll Check Register

Report Summary

Pay Period: 5/25/2025-6/7/2025

Packet: PYPKT01774 - PPE 06/07/25 PAID 06/13/25
Payroll Set: City of Ham Lake - 01

Type	Count	Amount
Regular Checks	0	0.00
Manual Checks	0	0.00
Reversals	0	0.00
Voided Checks	0	0.00
Direct Deposits	34	40,511.59
Total	**34**	**40,511.59**

ORDINANCE NO. 25-XX

An Ordinance Amending ARTICLE 9, COMPREHENSIVE ZONING, to amend the Ham Lake City Code to add Brewer Taproom and Cannabis Retail Business as a permitted uses in Commercial Development 1 (CD-1), add Therapeutic Massage Facilities as a Conditional Use in Single Family Residential (R-1) and removing Temporary Conditional Uses in its entirety in Single Family Residential (R-1), Residential – Manufactured Home (R-M) and Rural Single Family Residential (R-A) and to remove the requirement of a maintenance fee for wetland banking under Article 9-330.8 and general edits related to the required trail easement dedication.

Be it Ordained by the City Council of the City of Ham Lake, Anoka County, Minnesota as follows:

ARTICLE 9, COMPREHENSIVE ZONING of the Ham Lake City Code is hereby amended as indicated in the following sections:

9-210.1 Single Family Residential (R-1)

b) *Conditional Uses*

- Therapeutic Massage Facilities

c) ~~*Temporary Conditional Uses*~~

- ~~Therapeutic Massage Facilities~~

AND

9-210.2 Residential – *Manufactured Home* (R-M)

~~c) Conditional Uses and Temporary Conditional Uses~~

- ~~None~~

AND

9-210.3 Rural Single Family Residential (R-A)

a) General Requirements for Conditional Uses

iv) Small Lots: Notwithstanding the following, for R-A lots of three acres or less in size, as measured from the centerline of adjacent roadways, the only Permitted Uses~~,~~ and Conditional Uses ~~and Temporary Conditional Uses~~ allowed shall be those in the R-1 zoning district.

AND

9-210.3 Rural Single Family Residential (R-A)

c) ~~*Temporary Conditional Uses*~~: ~~The following Temporary Conditional Uses shall apply in the R-A districts:~~

~~i) All *Temporary Conditional Uses* in the R-1 District.~~

AND

9-220.2 Commercial Development I (CD-1)

b) Permitted Uses (including uses that are ancillary to the main use)

…

- Retail Facilities – engaged in the sale of goods(Excluding Motor Vehicle/ Boat/RV/Camper Sales), from freestanding one-store locations, shopping centers, strip malls or enclosed malls, including, but not limited to:
    - …
    - Book Stores
    - Brewer Taproom
    - …
    - Candy Stores
    - Cannabis Retail Business
    - …

AND

9-330.8 Wetland Bank

C. Easement It shall be a mandatory condition of any Conditional Use Permit issued for a Wetland Bank that the permit holder dedicate to the City a 20-foot wide ~~an~~ easement through and/or adjacent to the Wetland Bank to accommodate ~~for~~ a 10-foot wide trail installed by the permit holder to include sufficient sloping and drainage as determined by the City Engineer. The easement shall be for public use. ~~The 20-foot wide minimum easement shall be maintained by the Maintenance Fee collected as part of this Article.~~

Presented to the Ham Lake City Council on June 2, 2025 and adopted by a unanimous vote this 16th day of June, 2025.

_____

Brian Kirkham, Mayor

_____

Denise Webster, City Clerk

June 16, 2025

CITY OF HAM LAKE
STAFF REPORT

To: **Mayor and City Council**

From: **Mark Jones, Building Official**

Subject: **Variance to Article 10-302, allowable buildable area from 29,500 square feet to allow 11,627 square feet**

Introduction:
Lot 8, Block 8, Birch View Acres (PIN #08-32-23-11-0018) is located at the northeast quadrant of 171st Avenue NE and Eveleth Street NE. Steve Strandlund, owner of Carrington Homes, LLC and property owner Harmeet Bhatia, are proposing to build a new home on this undeveloped parcel. This is an existing undeveloped lot of recorded, which was originally platted in June of 1974. An existing lot of recorded may be built on but needs to meet **Article 10-302 Livability Standards**, which requires that all residential lots shall contain at least 29,500 square feet of land which lies above the 100-year flood contour.

The FEMA Flood Zone and Wetland has made this lot difficult to build on. In trying to comply with Article 10-302, Carrington Homes has completed wetland delineation approved by the Coon Creek Watershed District and a Letter of Map Amendment (LOMA) has been completed with FEMA; soil borings were completed, along with a topographic survey. This information was then used as a basis to prepare a proposed site and grading plan for the construction of a new home. Through Carrington Homes due diligence, it has been determined that the lot has 11,627 square feet of buildable area (the area is above the 100-year flood contour). The minimum buildable area per Ham Lake City Code is 29,500 square feet. Despite this buildable area deficiency, the City Engineer has reviewed this information and approved the proposed site and grading plan.

Per Article 9-360 Variances, the City Council upon appeal or upon direct request made under this Code shall have the power to authorize variances from the requirements of this Code, and to attach such conditions to the variance as it deems necessary to assure compliance with the purpose of this Code. A variance may be permitted if the following requirements are met:

a) The variance is in harmony with the general purpose and intent of the Code and is consistent with the Comprehensive Plan.

b) There are practical difficulties in complying with the Code, meaning that:
   i) The property owner proposes to use the property in a reasonable manner that is otherwise not permitted by the Code; and
   ii) The plight of the landowner is due to circumstances unique to the property not created by the landowner; and
   iii) The variance, if granted, will not alter the essential character of the locality.

Variances may not be granted to permit a land use that is not a permitted, conditional or temporary conditional use in the particular zoning district.

Because of these reasons, Mr. Strandlund is requesting a variance to the buildable area requirement, so that a new home can be constructed.

Recommendation:
I recommend approving the attached Resolution approving the variance.

RESOLUTION NO. 25-XX

WHEREAS, Carrington Homes, LLC/Steve Strandlund ("Applicant/Builder") and Harmeet Bhatia ("Property Owner") in the City of Ham Lake at Lot 8, Block 8, Birch View Acres (Pin #08-32-23-11-0018), have requested a Variance to allow them to construct a home on the property with an allowable buildable area of 11,627 square feet, which is less than the 29,500 buildable area required, and

WHEREAS, the development of Birch View Acres was platted in 1974; and

WHEREAS, any existing lot of record may be built on, but needs to meet Article 10-302 Livability Standard, all residential lots shall contain at least 29,500 square feet of land which lies above the 100-year flood contour; and

WHEREAS, per Article 9-360 Variance, the City Council upon direct request made under this Code shall have the power to authorize variances from the requirements of this Code, and to attach such conditions to the variance as it deems necessary to assure compliance with the purpose of the code.

WHEREAS, the City has received a Letter of Map Amendment (LOMA) from FEMA, approval of the wetland delineation from the Coon Creek Watershed District, soil borings and a topographic survey; and

WHEREAS, through the due diligence of Carrington Homes, it has been determined that the lot has 11,627 square feet of buildable area, which is above the 100-year flood contour; and

WHEREAS, variances may not be granted to permit a land use that is not a permitted or conditional use in this particular zoning district (R-1, Single Family Residential).

WHEREAS, the City Engineer has reviewed the submitted information and approves the proposed site and grading plan.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF HAM LAKE, ANOKA COUNTY, MINNESOTA, AS FOLLOWS:

The City Council makes the following Findings of Fact:

a) The variance is in harmony with the general purpose and intent of the Code and is consistent with the Comprehensive Plan.

b) There are practical difficulties in complying with the Code, meaning that:

i) The property owner proposes to use the property in a reasonable manner that is otherwise not permitted by the Code; and

ii) The plight of the landowner is due to circumstances unique to the property not created by the landowner; and

iii) The variance, if granted, will not alter the essential character of the locality.

Therefore, the variance to the 29,500 square foot buildable area requirement as presented is APPROVED:

Adopted by the Ham Lake City Council on this 16th day of June 2025.

_____

Brian Kirkham, Mayor

_____

Denise Webster, City Clerk

9-360 Variances

The City Council upon appeal or upon direct request made under this Code shall have the power to authorize variances from the requirements of this Code, and to attach such conditions to the variance as it deems necessary to assure compliance with the purpose of this Code. A variance may be permitted if the following requirements are met:

a) The variance is in harmony with the general purpose and intent of the Code and is consistent with the Comprehensive Plan.

b) There are practical difficulties in complying with the Code, meaning that:

i) The property owner proposes to use the property in a reasonable manner that is otherwise not permitted by the Code; and

ii) The plight of the landowner is due to circumstances unique to the property not created by the landowner; and

iii) The variance, if granted, will not alter the essential character of the locality.

Variances may not be granted to permit a land use that is not a permitted, conditional or temporary conditional use in the particular zoning district. The provision of Minnesota Statutes Chapter 462.357 Subd. 6 (2) relating to solar energy and temporary two-family dwellings shall also be observed. Economic conditions alone do not constitute practical difficulties.

Authentisign ID: 151DB060-AB1F-F011-8B3D-00224822F75A

CITY OF HAM LAKE

REQUEST FOR AN APPEARANCE BEFORE THE CITY COUNCIL

15544 Central Avenue NE
Ham Lake, MN 55304
Phone (763) 434-9555

DATE OF APPLICATION 4-~~22~~24-25

DEPOSIT $ 100.00
RECEIPT # 102154

CITY COUNCIL MEETING DATE
(if all required information is received) _____

APPLICANT'S NAME Carrington Homes, LLC / Steve Strandlund

MAILING ADDRESS PO BOX 169

CITY, STATE, ZIP CODE Cedar, MN 55011

PHONE (daytime) 612.221.4476

EMAIL ADDRESS stevesr@dirtworksmn.com

SITE ADDRESS / NATURE OR REQUEST:
(Please attach any relevant information including maps, diagrams, and a descriptive narrative of the request)**
Lot 8 Block 8 Birch View Acres (Variance Request)

PIN 08-32-23-11-0018

4/23/25
Signature of Applicant **Date**

Authentisign
Harmeet Bhatia
Signature of Current Property Owner

04/22/25
Date

(If the applicant is not the property owner – the property owner signature is required)

****You are advised that the 60-day review period required by Minnesota Statutes Chapter 15.99 does not begin to run until all of the required information has been submitted to the City of Ham Lake.**

Authentisign ID: 151DB060-AB1F-F011-8B3D-00224822F75A

CITY OF HAM LAKE
ACKNOWLEDGMENT OF RESPONSIBILITY
TO REIMBURSE EXPENSES

The undersigned, Carrington Homes LLC, **having applied to the City of Ham Lake for consideration of a planning and zoning request, or any other permit, license, or action requiring review and/or approval of the City, as follows:**

Variance

Type of Application

acknowledges that the sum of $ 100.00, **has been deposited with the City of Ham Lake to reimburse the City of Ham Lake for any out of pocket expenses incurred by the City in reviewing the proposal, including but not limited to a staff review fee, any signage required by ordinance, and City Engineer and City Attorney's fees for their review, in amounts which are not known to the City at this time. The applicant acknowledges that it is the responsibility of the undersigned to reimburse the City for any such engineering or attorney's fees incurred in review of the applicant's request, or any other expenses incurred by the City in connection with this requires, and further acknowledges that in the event that the undersigned fails to promptly remit any amounts incurred by the City in excess of the deposit, the City shall have the right to discontinue further consideration or action upon the undersigned's request, shall have the right to rescind any approvals, withdraw any permits, licenses or other consents, shall have the right to vacate any street or road, plat or other dedication, and the undersigned waives the right to claim damages arising out of any such act by the City. Furthermore, the applicant agrees that in the event that the City is required to take legal action in order to effect recovery of any of the expenses incurred by the City from the undersigned, the City shall be entitled, in addition to principle and interest, to recover its reasonable attorney's fees incurred in collecting said sums from the undersigned.**

Applicant Signature _____ **Dated** 4-23-25

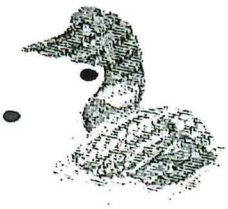
The following statement must be signed if the applicant is not the property owner:

Carrington Homes LLC, **as owner of the property involved in the foregoing application, agrees to be jointly and severally liable for payment of the foregoing fees.**

Harmeet Bhatia

Property Owner Signature _____ **Dated** 04/22/25

Authentisign ID: 151DB060-AB1F-F011-8B3D-00224822F75A



NOTICE TO ALL APPLICANTS FOR MUNICIPAL PERMITS, LICENSES, OR OTHER MUNICIPAL ACTION

1. ***If you are requesting municipal action on any request for any of the above, you will be required to furnish certain information about yourself, the project you are involved in, or other matters pertaining to the subject. Some of the information you are asked to provide is classified by state law as either private or confidential. Private data is information which generally cannot be given to the public but can be given to the subject of the data. Confidential data is information which generally cannot be given to either the public or the subject of the data.***

2. ***The purpose of this information is to enable the City Staff, Commissions, Council or other government agencies to evaluate relevant factors in considering your request. You are not legally required to provide this information. If you do not provide the requested information, the City may not act upon your request.***

3. ***The information you supply <u>will be public</u> and available to any entity requesting to inspect the information.***

DATA PRACTICES ADVISORY
TENNESSEN WARNING

REQUIRED BY MINNESOTA STATUTES CHAPTER 13.04

SIGNED BY _____

COMPANY/TITLE: Carrington Homes LLC/ President

DATE: 4-23-25

To: The City of Ham Lake

From: Steve Strandlund; Carrington Homes

Date: April 16, 2025

Re: Variance Application: Lot 8, Block 8, BIRCH VIEW ACRES

This memo has been prepared to accompany our variance application pertaining to Lot 8, Block 8, BIRCH VIEW ACRES; which is located at the northeast quadrant of 171st Avenue NE and Eveleth Street NE. We are proposing to build a new home on this undeveloped parcel, which was originally platted in June of 1974.

Research and due diligence have been completed on this parcel in that a wetland delineation has been completed and approved by the watershed; a prior LOMA has been completed with FEMA; soil borings were completed and a topographic survey. This information was then used as a basis to prepare a proposed site plan and grading plan for the construction of a new home.

The city engineer has reviewed this information and approved our proposed site and grading plan. Through our due diligence, it has been determined that the lot has 11,627 square feet of buildable area (area above the 100 year flood contour). The minimum buildable area per the Ham Lake city code is 29,500 square feet. It has also been determined that a Type 3 septic system will be required, versus a Type 1 system.

In summary, we ask that you provide a variance to the buildable area requirement, so that a new home can be constructed.

Federal Emergency Management Agency
Washington, D.C. 20472

May 30, 2025

THE HONORABLE BRIAN KIRKHAM
MAYOR, CITY OF HAM LAKE
15544 CENTRAL AVENUE NE
HAM LAKE, MN 55304

CASE NO.: 25-05-1362C
COMMUNITY: CITY OF HAM LAKE, ANOKA COUNTY, MINNESOTA
COMMUNITY NO.: 270674

DEAR MR. KIRKHAM:

This is in reference to a request that the Federal Emergency Management Agency (FEMA) determine if the property described in the enclosed document is located within an identified Special Flood Hazard Area, the area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood), on the effective National Flood Insurance Program (NFIP) map. Using the information submitted and the effective NFIP map, our determination is shown on the attached Conditional Letter of Map Revision based on Fill (CLOMR-F) Comment Document. This comment document provides additional information regarding the effective NFIP map, the legal description of the property and our comments regarding this proposed project.

Additional documents are enclosed which provide information regarding the subject property and CLOMR-Fs. Please see the List of Enclosures below to determine which documents are enclosed. Other attachments specific to this request may be included as referenced in the Determination/Comment document. If you have any questions about this letter or any of the enclosures, please contact the FEMA Map Insurance eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426.

Sincerely,

David N. Bascom

David N. Bascom, Acting Director
Engineering and Modeling Division
Risk Analysis, Planning and Information Directorate

LIST OF ENCLOSURES:
CLOMR-F COMMENT DOCUMENT

cc: Mr. Adam Ginkel

Federal Emergency Management Agency

Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION BASED ON FILL
COMMENT DOCUMENT

COMMUNITY AND MAP PANEL INFORMATION		LEGAL PROPERTY DESCRIPTION
COMMUNITY	CITY OF HAM LAKE, ANOKA COUNTY, MINNESOTA	A portion of Lot 8, Block 8, Birch View Acres, as shown on the Plat recorded as Document No. 412644, in Book 16, Page 11, in the Office of the Register of Deeds, Anoka County, Minnesota The portion of property is more particularly described by the following metes and bounds:
	COMMUNITY NO.: 270674	
AFFECTED MAP PANEL	NUMBER: 27003C0215E	
	DATE: 12/16/2015	
FLOODING SOURCE: LOCAL FLOODING		APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY:45.281168, -93.227283 SOURCE OF LAT & LONG: LOMA LOGIC DATUM: NAD 83

COMMENT TABLE REGARDING THE PROPOSED PROPERTY (PLEASE NOTE THAT THIS IS NOT A FINAL DETERMINATION. A FINAL DETERMINATION WILL BE MADE UPON RECEIPT OF AS-BUILT INFORMATION REGARDING THIS PROPERTY.)

LOT	BLOCK/ SECTION	SUBDIVISION	STREET	OUTCOME WHAT WOULD BE REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NAVD 88)	LOWEST ADJACENT GRADE ELEVATION (NAVD 88)	LOWEST LOT ELEVATION (NAVD 88)
8	8	Birch View Acres	--	Portion of Property	X (shaded)	904.8 feet	--	904.8 feet

Special Flood Hazard Area (SFHA) - The SFHA is an area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood).

ADDITIONAL CONSIDERATIONS (Please refer to the appropriate section on Attachment 1 for the additional considerations listed below.)

LEGAL PROPERTY DESCRIPTION
PORTIONS REMAIN IN THE SFHA
CONDITIONAL LOMR-F DETERMINATION
ZONE A
STATE LOCAL CONSIDERATIONS

This document provides the Federal Emergency Management Agency's comment regarding a request for a Conditional Letter of Map Revision based on Fill for the property described above. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we have determined that the proposed described portion(s) of the property(ies) would not be located in the SFHA, an area inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) if built as proposed. Our final determination will be made upon receipt of a copy of this document, as-built elevations, and a completed Community Acknowledgement form. Proper completion of this form certifies the subject property is reasonably safe from flooding in accordance with Part 65.5(a)(4) of our regulations. Further guidance on determining if the subject property is reasonably safe from flooding may be found in FEMA Technical Bulletin 10-01. A copy of this bulletin can be obtained by calling the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or from our web site at http://www.fema.gov/mit/tb1001.pdf. This document is not a final determination; it only provides our comment on the proposed project in relation to the SFHA shown on the effective NFIP map.

This comment document is based on the flood data presently available. The enclosed documents provide additional information regarding this request. If you have any questions about this document, please contact the FEMA Mapping and Insurance eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426.

David N. Bascom

David N. Bascom, Acting Director
Engineering and Modeling Division
Risk Analysis, Planning and Information Directorate

Federal Emergency Management Agency
Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION BASED ON FILL COMMENT DOCUMENT

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

LEGAL PROPERTY DESCRIPTION (CONTINUED)

Beginning at the southeast corner of said Lot 8; thence South 88 degrees 56 minutes 56 seconds West, along the south line of said Lot 8, a distance of 164.22 feet; thence North 79 degrees 40 minutes 25 seconds East, a distance of 33.60 feet; thence North 09 degrees 12 minutes 54 seconds East, a distance of 17.70 feet; thence North 19 degrees 05 minutes 46 seconds East, a distance of 13.62 feet; thence North 02 degrees 57 minutes 20 seconds East, a distance of 48.72 feet; thence North 35 degrees 00 minutes 00 seconds East, a distance of 13.00 feet; thence North 00 degrees 00 minutes 00 seconds East, a distance of 10.00 feet; thence North 35 degrees 00 minutes 00 seconds East, a distance of 15.00 feet; thence North 50 degrees 00 minutes 00 seconds East, a distance of 12.00 feet; thence South 72 degrees 00 minutes 00 seconds East, a distance of 25.00 feet; thence South 80 degrees 00 minutes 00 seconds East, a distance of 20.00 feet; thence South 55 degrees 00 minutes 00 seconds East, a distance of 30.00 feet; thence South 00 degrees 00 minutes 00 seconds East, a distance of 54.00 feet; thence South 70 degrees 00 minutes 00 seconds East, a distance of 23.00 feet; thence South 00 degrees 00 minutes 00 seconds East, a distance of 21.26 feet; thence South 30 degrees 00 minutes 00 seconds East, a distance of 12.85 feet to the point of beginning

PORTIONS OF THE PROPERTY REMAIN IN THE SFHA (This Additional Consideration applies to the preceding 1 Property.)

Portions of this property, but not the subject of the Determination/Comment document, may remain in the Special Flood Hazard Area. Therefore, any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management.

CONDITIONAL LOMR-F DETERMINATION (This Additional Consideration applies to the preceding 1 Property.)

Comments regarding this conditional request are based on the flood data presently available. Our final determination will be made upon receipt of this Comment Document, certified as-built elevations and/or certified as-built survey. Since this request is for a Conditional Letter of Map Revision based on Fill, we will also require the applicable processing fee, and the "Community Acknowledgement" form. Please note that additional items may be required before a final as-built determination is issued.

This letter does not relieve Federal agencies of the need to comply with Executive Order 11988 on Floodplain Management in carrying out their responsibilities and providing Federally undertaken, financed, or assisted construction and improvements, or in their regulating or licensing activities.

ZONE A (This Additional Consideration applies to the preceding 1 Property.)

The National Flood Insurance Program map affecting this property depicts a Special Flood Hazard Area that was determined using the best flood hazard data available to FEMA, but without performing a detailed engineering analysis. The flood elevation used to make this determination is based on approximate methods and has not been formalized through the standard process for establishing base flood elevations published in the Flood Insurance Study. This flood elevation is subject to change.

David N. Bascom

David N. Bascom, Acting Director
Engineering and Modeling Division
Risk Analysis, Planning and Information Directorate

Federal Emergency Management Agency

Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION BASED ON FILL COMMENT DOCUMENT

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

STATE AND LOCAL CONSIDERATIONS (This Additional Consideration applies to all properties in the CLOMR-F COMMENT DOCUMENT)

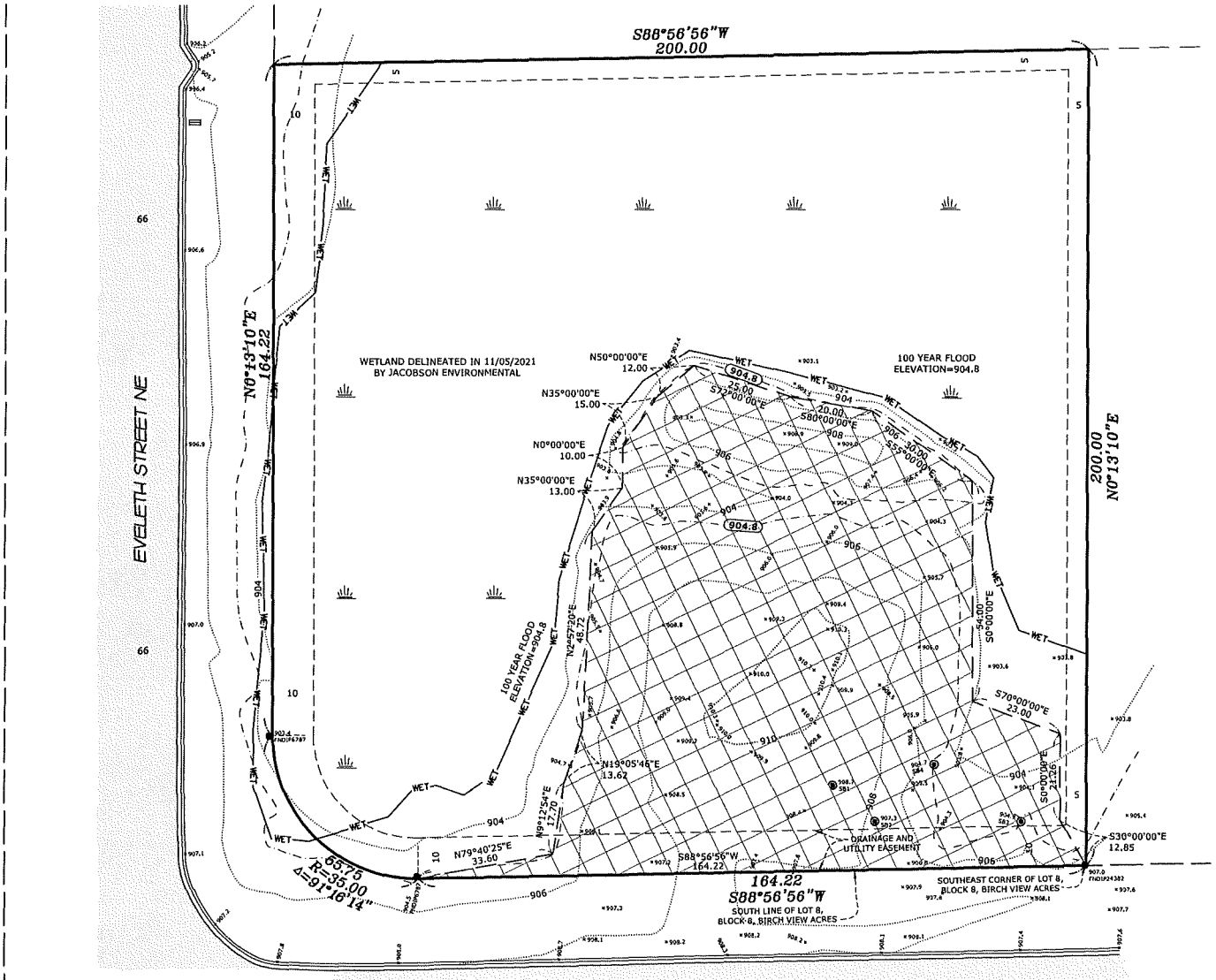
Please note that this document does not override or supersede any State or local procedural or substantive provisions which may apply to floodplain management requirements associated with amendments to State or local floodplain zoning ordinances, maps, or State or local procedures adopted under the National Flood Insurance Program.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Mapping and Insurance eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426.

David N. Bascom, Acting Director
Engineering and Modeling Division
Risk Analysis, Planning and Information Directorate

LOMR-F EXHIBIT

~for~ CARRINGTON HOMES
~of~ 17XX 171ST AVENUE NE
HAM LAKE, MN



LOMR-F DESCRIPTION

That part of Lot 8, Block 8, BIRCH VIEW ACRES, Anoka County, Minnesota, described as follows:

Beginning at the southeast corner of said Lot 8; thence South 88 degrees 56 minutes 56 seconds West, along the south line of said Lot 8, a distance of 164.22 feet; thence North 79 degrees 40 minutes 25 seconds East, a distance of 33.60 feet; thence North 09 degrees 12 minutes 54 seconds East, a distance of 17.70 feet; thence North 19 degrees 05 minutes 46 seconds East, a distance of 13.62 feet; thence North 02 degrees 57 minutes 20 seconds East, a distance of 48.72 feet; thence North 35 degrees 00 minutes 00 seconds East, a distance of 13.00 feet; thence North 00 degrees 00 minutes 00 seconds East, a distance of 10.00 feet; thence North 35 degrees 00 minutes 00 seconds East, a distance of 15.00 feet; thence North 50 degrees 00 minutes 00 seconds East, a distance of 12.00 feet; thence South 72 degrees 00 minutes 00 seconds East, a distance of 25.00 feet; thence South 80 degrees 00 minutes 00 seconds East, a distance of 20.00 feet; thence South 55 degrees 00 minutes 00 seconds East, a distance of 30.00 feet; thence South 00 degrees 00 minutes 00 seconds East, a distance of 54.00 feet; thence South 70 degrees 00 minutes 00 seconds East, a distance of 23.00 feet; thence South 00 degrees 00 minutes 00 seconds East, a distance of 21.26 feet; thence South 30 degrees 00 minutes 00 seconds East, a distance of 12.85 feet to the point of beginning.

DENOTES AREA TO BE REMOVED (11,627 S.F.)

GRAPHIC SCALE
20 0 10 20 40
1 INCH = 20 FEET

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Registered Land Surveyor under the laws of the State of Minnesota.

JASON E. RUD

Date: 4/1/2025 License No. 41578

E. G. RUD & SONS, INC.
EST. 1977
Professional Land Surveyors
6776 Lake Drive NE, Suite 110
Lino Lakes, MN 55014
Tel. (651) 361-8200 Fax (651) 361-8701
www.egrud.com

Lot 8, Block 8, BIRCH VIEW ACRES, Anoka County, Minnesota.

DRAWN BY: BCD	JOB NO: 250006HS	DATE: 04/01/25
CHECK BY: JER	FIELD CREW: BH/BJ	

NO.	DATE	DESCRIPTION	BY
1			
2			
3			

S:\RUD\CAD\25PROJ\250006HS\250006HS - (LOMA EXHIBIT).DWG

250006HS

CERTIFICATE OF SURVEY

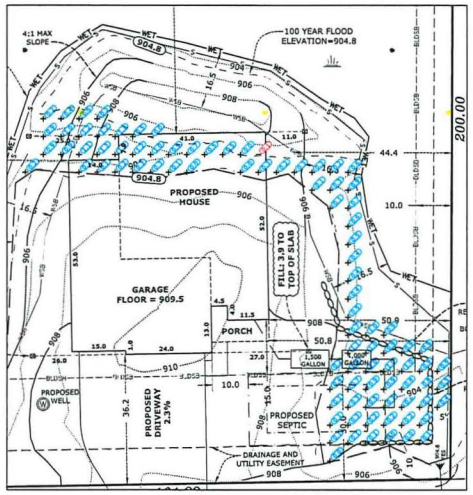
~for~ CARRINGTON HOMES
~of~ 17XX 171ST AVENUE NE
HAM LAKE, MN

LEGEND

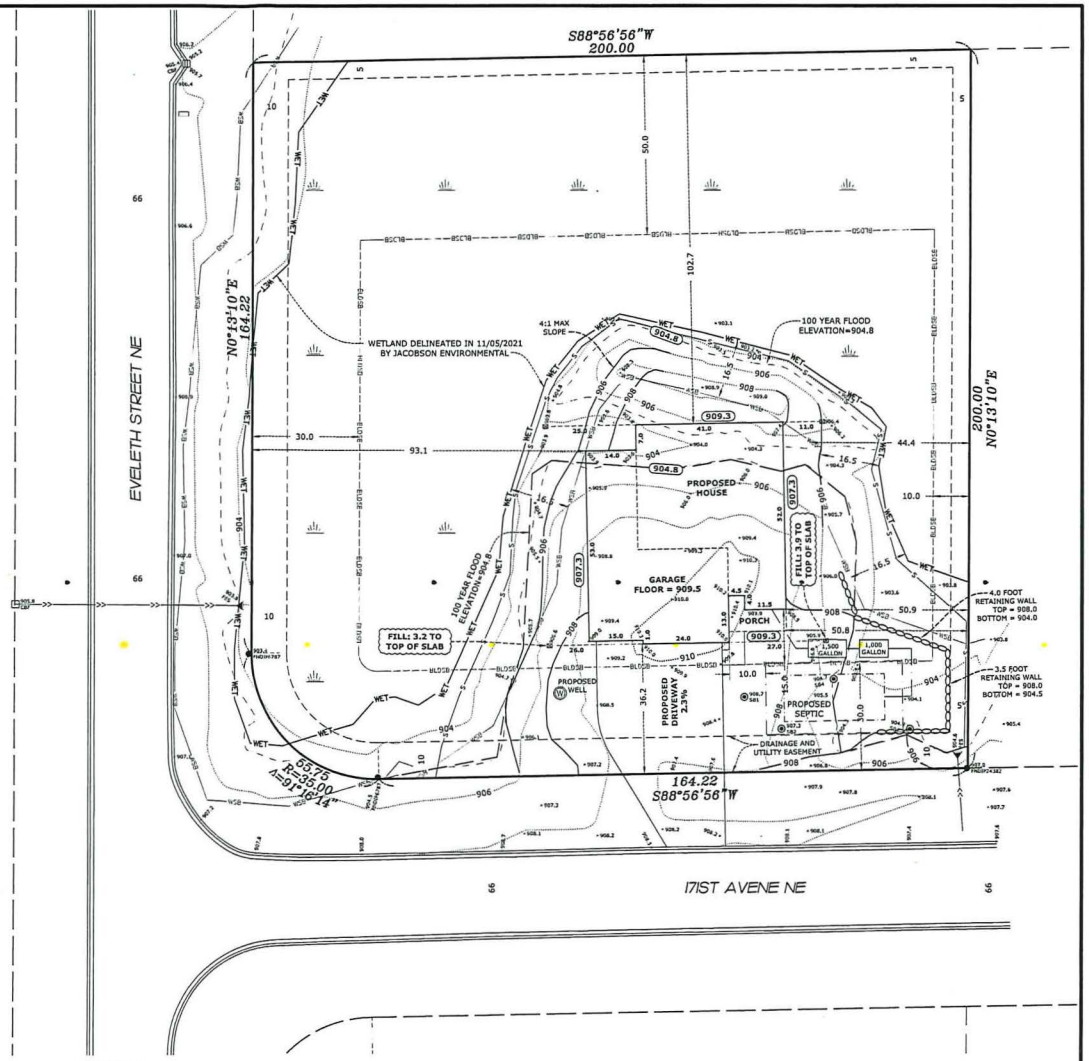
- DENOTES IRON MONUMENT FOUND
- DENOTES IRON MONUMENT SET
- 800.0 DENOTES PROPOSED ELEVATION
- x1011.2 DENOTES EXISTING ELEVATION
- DENOTES DIRECTION OF DRAINAGE
- DENOTES WOOD HUB/METAL SPIKE AT 11 FOOT OFFSET (UNLESS OTHERWISE NOTED)
- (W) DENOTES PROPOSED WELL
- DENOTES EXISTING CONTOURS
- DENOTES PROPOSED CONTOURS
- DENOTES EXISTING STORM SEWER
- DENOTES BUILDING SETBACK LINE
- DENOTES WETLAND BUFFER
- DENOTES PROPOSED RETAINING WALL
- DENOTES SILT FENCE
- DENOTES 904.8 ELEVATION
- DENOTES BITUMINOUS SURFACE

GRAPHIC SCALE
20 0 10 20 40
1 INCH = 20 FEET

FLOODPLAIN FILL EXHIBIT



FLOODPLAIN FILL = 46 CUBIC YARDS



NOTES

* BUILDER TO VERIFY HOUSE DIMENSIONS, SEWER DEPTH AND FOUNDATION DEPTH.
* DRIVEWAYS ARE SHOWN FOR GRAPHIC PURPOSES ONLY. FINAL DRIVEWAY DESIGN AND LOCATION TO BE DETERMINED BY CONTRACTOR.
* FINISHED GRADE ADJACENT TO HOME SHALL BE 0.5 FEET BELOW TOP OF BLOCK EXCEPT AT DRIVEWAY AND PATIO.
* FIELD WORK COMPLETED BY LANDFORM IN 2021.

DIAG: 77.00 X 61.00 = 98.23
(SLAB ON GRADE)

PROPOSED ELEVATIONS
TOP OF SLAB = 909.8
GARAGE FLOOR = 909.5

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Registered Land Surveyor under the laws of the State of Minnesota.

JASON E. RUD
Date: 4/9/2025 License No. 41578

E. G. RUD & SONS, INC.
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Lino Lakes, MN 55014
Tel. (651) 361-8200 Fax (651) 361-8701
www.egrud.com

Lot 8, Block 8, BIRCH VIEW ACRES, Anoka County, Minnesota.

DRAWN BY: BCD	JOB NO: 250006HS	DATE: 01/14/25	
CHECK BY: JER	FIELD CREW: BH/BJ		
1	02-11-25	UPDATED HOUSE PLAN	BCD
2	02-25-25	UPDATED HOUSE PLAN	BCD
3	03-05-25	UPDATED SITE PLAN	BCD
4	03-10-25	UPDATED HOUSE PLAN	RAF
5	03-13-25	ADDED FIELD INFO.	RAF
6	03-26-25	ADDED STAKING INFO.	RAF
7	04-09-25	CITY COMMENTS	BCD

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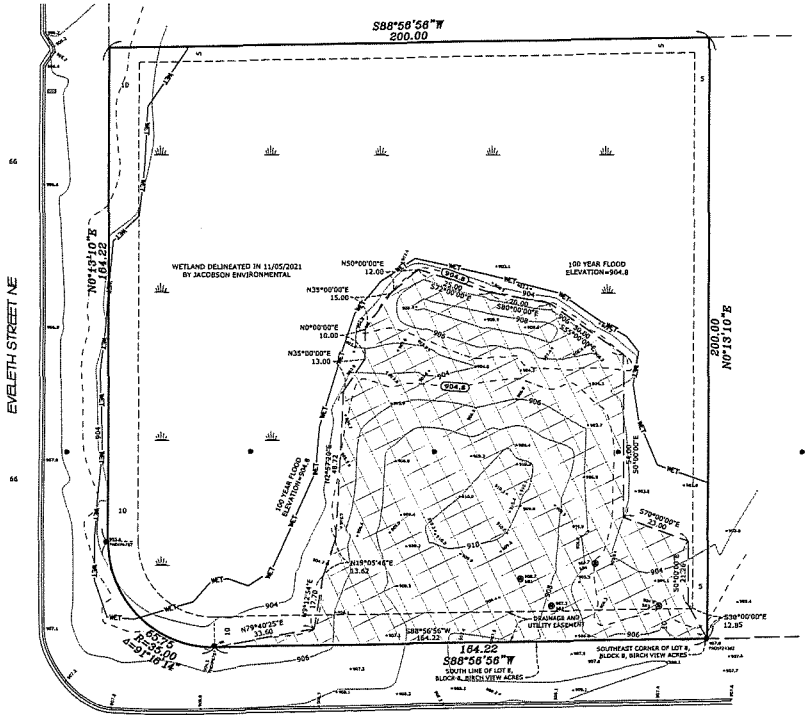
250006HS

LOMR-F EXHIBIT

~for~ CARRINGTON HOMES
~of~ 17XX 171ST AVENUE NE
HAM LAKE, MN



LOMR-F DESCRIPTION

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DENOTES AREA TO BE REMOVED (11,627 S.F.)

GRAPHIC SCALE
20 0 10 20 40
1 INCH = 20 FEET

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Registered Land Surveyor under the laws of the State of Minnesota.

JASON E. RUD
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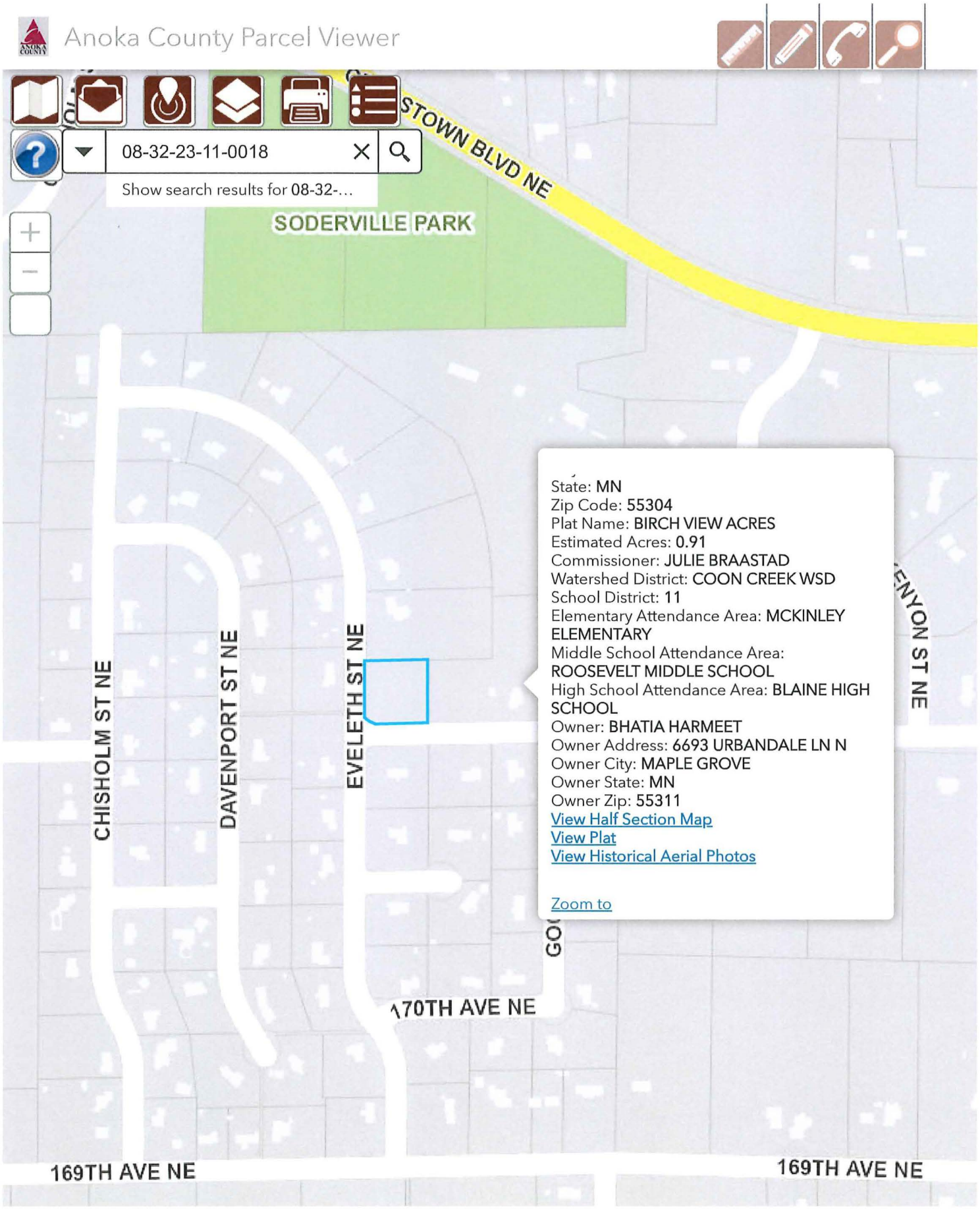
Lot 8, Block 8, BIRCH VIEW ACRES, Anoka County, Minnesota.

DRAWN BY: BCD	JOB NO: 250006HS	DATE: 04/01/25
CHECK BY: JER	FIELD CREW: BH/BD	

NO.	DATE	DESCRIPTION	BY
1			
2			
3			

S:\RUD\CAD STUFF\250006HS\250006HS - LOMR EXHIBIT.DWG

250006HS


Anoka County Parcel Viewer
08-32-23-11-0018
Show search results for 08-32-...
STOWN BLVD NE
SODERVILLE PARK
CHISHOLM ST NE
DAVENPORT ST NE
EVELETH ST NE
ENYON ST NE
170TH AVE NE
169TH AVE NE
169TH AVE NE
State: MN
Zip Code: 55304
Plat Name: BIRCH VIEW ACRES
Estimated Acres: 0.91
Commissioner: JULIE BRAASTAD
Watershed District: COON CREEK WSD
School District: 11
Elementary Attendance Area: MCKINLEY ELEMENTARY
Middle School Attendance Area: ROOSEVELT MIDDLE SCHOOL
High School Attendance Area: BLAINE HIGH SCHOOL
Owner: BHATIA HARMEET
Owner Address: 6693 URBANDALE LN N
Owner City: MAPLE GROVE
Owner State: MN
Owner Zip: 55311
View Half Section Map
View Plat
View Historical Aerial Photos
Zoom to
400ft
516,815.058 191,665.373 Feet

TRADEWELL SOIL TESTING
18330 Dahlia Street NW
Cedar, MN 55011
(763) 286-9095

Contractor/Owner: **Carrington Homes, LLC**

Address/Lot/Block: **Lot 8 Block 8 Birch View Acres**

City: **Ham Lake** **County:** **Anoka**

This on-site sewage treatment system is designed for a 3 bedroom, Type 1 home in accordance with the Minnesota Pollution Control Agency Chapter 7080 and local ordinance. This system is considered a "Type 3" system because it is going in the area that has been filled.

This system is considered a "Type 3" system because it is going in an area that will need soil corrections in order to place the new system there. In the designing of this septic system every effort has been made to comply with correct 7080 code standards, including water table separation and drainfield sizing.

NOTE: All "Type 3" systems are required to install a water meter and/or event counter to record water usage.

A seasonally high water table or saturated soil layer (mottled soil) was located at 14" at boring #4 (elevation- 903.5). A pressurized bed system (similar to a mound rock bed) will be needed on this site. The bottom of the rock must be located at least 3' above the seasonally high water table or saturated soil.

Carefully remove existing fill soils and organic material to a depth of about 30" below the existing grade at boring #4 (elevation- 902.0). At this point you should encounter the original fine sand. The bottom of the excavated area should be level. The area to be removed should be 38' long X 20' wide. The excavated area should then be filled with washed sand to an elevation of 907.5. Rock bed should be centered on excavated area and bottom of rock should be at an elevation of 906.5. Washed sand needed to fill excavated area is about 175 cubic yards. This amount could vary depending on amount of fill removed.

Tanks: Install new 1500 gallon 2- compartment septic tank and 1000 gallon pump tank. The pumping chamber is needed to lift effluent to the treatment area.

Drainfield: 29' long by 13' wide pressurized bed with 4- 2" laterals with ¼" perforations @ 3' O. C.. 375 square feet of drainfield total using 6" of rock below pipe. 12 cubic yards or 17 tons of clean rock.

- **General Notes**
  - Pressurized bed system
  - Use 2" pressurized supply line
  - Total pump out volume, 116 gallons per dose including drainback up to 4 times daily max.
  - Recommend 1/3 horse pump
  - Use site and sound alarm on pump tank.
  - Bottom of rock bed in washed sand to be 36" above mottled soil minimum.

Onsite Sewage Treatment Program

Preliminary Evaluation Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

Site within 200' of noncommunity transient well (Y/N)	No	Yes, source:	
Site within a drinking water supply management area (Y/N)	No	Yes, source:	
Site in Well Head Protection inner wellhead management zone (Y/N)	No	Yes, source:	
Buried water supply pipes within 50 ft of proposed system (Y/N)	No		
B. Site located in a shoreland district/area?	No	Yes, name:	N/A
Elevation of ordinary high water level:	N/A ft	Source:	N/A
Classification: N/A	Tank Setback: N/A ft.	STA Setback: N/A ft.	
C. Site located in a floodplain?	No	Yes, Type(s):	N/A
Floodplain designation/elevation (10 Year):	N/A ft	Source:	N/A
Floodplain designation/elevation (100 Year):	N/A ft	Source:	N/A

D. Property Line Id / Source: ☐ Owner ☑ Survey ☐ County GIS ☐ Plat Map ☐ Other:

E. ID distance of relevant setbacks on map: ☐ Water ☑ Easements ☑ Well(s) ☑ Building(s) ☑ Property Lines ☑ OHWL ☐ Other:

4. Preliminary Soil Profile Information From Web Soil Survey (attach map & description)

Map Units: Isanti Fine Sandy Loam Slope Range: %

List landforms: Swales on Outwash Plains

Landform position(s):

Parent materials: Outwash

Depth to Bedrock/Restrictive Feature: >80 in Depth to Watertable: in

Map Unit Ratings

Septic Tank Absorption Field- At-grade:	
Septic Tank Absorption Field- Mound:	
Septic Tank Absorption Field- Trench:	

5. Local Government Unit Information

Name of LGU:	City of Ham Lake
LGU Contact:	Mark Jones
LGU-specific setbacks:	Per 7080
LGU-specific design requirements:	Per 7080
LGU-specific installation requirements:	Per 7080

Notes:

ONSITE SEWAGE TREATMENT PROGRAM

Soil Observation Log

Project ID: 25047 v 04.02.2024

Client:	Carrington Homes, LLC	Location / Address:	17XX 171st Avenue NE, Ham Lake, MN 55304

Soil parent material(s): (Check all that apply) ☑ Outwash ☐ Lacustrine ☐ Loess ☐ Till ☐ Alluvium ☐ Bedrock ☐ Organic Matter ☐ Disturbed/Fill

Landscape Position:	Flat	Slope %:	0.0	Slope shape:	Linear, Linear	Flooding/Run-On potential:	No
Vegetation:	Forest	Soil survey map units:	Isanti Fine Sandy Loam			Surface Elevation-Relative to benchmark:	908.70
Date/Time of Day/Weather Conditions:		3/19/2025	10:30 AM	Mostly Cloudy		Limiting Layer Elevation:	903.40
Observation #/Location:	Boring #1			Observation Type:	Auger		

Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure: Shape	Structure: Grade	Structure: Consistence
0"- 6" (Fill)	Fill Soil	0	10YR 3/1				Blocky	Weak	Friable
6"- 54" (Fill)	Fine Sand	0	10YR 5/4 10YR 5/3				Single grain	Structureless	Loose
54"- 64" (Fill)	Fine Sand	0	10YR 5/2				Single grain	Structureless	Loose
64"- 74" Topsoil	Organic	0	10YR 2/1				Platy	Moderate	Firm
74"- 77"	Fine Sand	0	10YR 4/2 10YR 5/2			S1	Single grain	Structureless	Loose

Comments:

I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.

Mark Tradewell	Mark Tradewell	307	3/19/2025
(Designer/Inspector)	(Signature)	(License #)	(Date)

Optional Verification: I hereby certify that this soil observation was verified according to Minn. R. 7082.0500 subp. 3 A. The signature below represents an infield verification of the periodically saturated soil or bedrock at the proposed soil treatment and dispersal site.

(LGU/Designer/Inspector)	(Signature)	(Cert #)	(Date)

ONSITE SEWAGE TREATMENT PROGRAM

Soil Observation Log

Project ID: 25047 v 04.02.2024

Client:	Carrington Homes, LLC	Location / Address:	17XX 171st Avenue NE, Ham Lake, MN 55304

Soil parent material(s): (Check all that apply) ☑ Outwash ☐ Lacustrine ☐ Loess ☐ Till ☐ Alluvium ☐ Bedrock ☐ Organic Matter ☐ Disturbed/Fill

Landscape Position:	Flat	Slope %:	0.0	Slope shape:	Linear, Linear	Flooding/Run-On potential:	No
Vegetation:	Forest	Soil survey map units:	Isanti Fine Sandy Loam			Surface Elevation-Relative to benchmark:	904.90
Date/Time of Day/Weather Conditions:		3/19/2025	10:30 AM	Mostly Cloudy		Limiting Layer Elevation:	903.90
Observation #/Location:	Boring #3			Observation Type:	Auger		

Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure Shape	Structure Grade	Structure Consistence
0"- 12"	Organic	0	10YR 2/1				Platy	Weak	Friable
12"- 28"	Loamy Fine Sand	0	10YR 3/3			S1	Granular	Weak	Friable
28"- 40"	Fine Sand	0	10YR 4/2			S1	Single grain	Structureless	Loose

Comments:

I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.

Mark Tradewell	Mark Tradewell	307	3/19/2025
(Designer/Inspector)	(Signature)	(License #)	(Date)

Optional Verification: I hereby certify that this soil observation was verified according to Minn. R. 7082.0500 subp. 3 A. The signature below represents an infield verification of the periodically saturated soil or bedrock at the proposed soil treatment and dispersal site.

(LGU/Designer/Inspector)	(Signature)	(Cert #)	(Date)

Anoka County, Minnesota

Iw—Isanti fine sandy loam

Map Unit Setting

National map unit symbol: f907
Elevation: 840 to 950 feet
Mean annual precipitation: 25 to 34 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 120 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Isanti and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Isanti

Setting

Landform: Swales on outwash plains
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Outwash

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bg - 10 to 31 inches: fine sand
Cg - 31 to 60 inches: fine sand

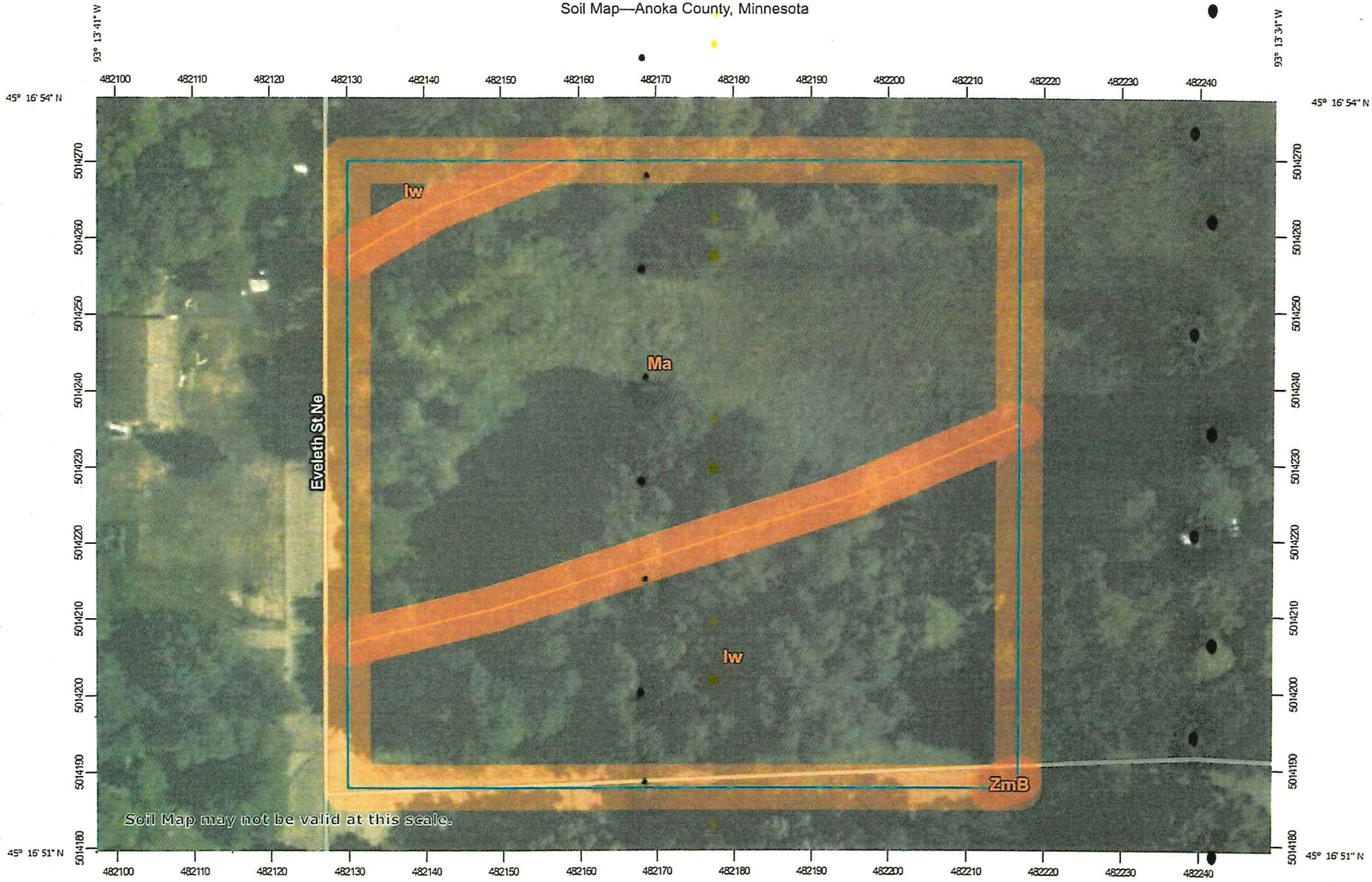
Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Ecological site: F091XY005WI - Wet Sandy and Loamy Lowland
Forage suitability group: Ponded If Not Drained (G091XN013MN)
Other vegetative classification: Ponded If Not Drained (G091XN013MN)
Hydric soil rating: Yes

Soil Map—Anoka County, Minnesota



Map Scale: 1:696 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 30 60 120 180

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

Onsite Sewage Treatment Program

Bed Design Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

1. SYSTEM SIZING: Project ID: 25047 v 04.02.2024

A. Design Flow: 450 GPD

B. Code Maximum Depth: Mound inches Designers Maximum Depth: inches

C. Soil Loading Rate: 1.20 GPD/sq.ft

D. Hydraulic Absorption Required Bottom Area: Design Flow (1A) ÷ Soil Loading Rate (1C)

450 GPD ÷ 1.20 GPD/sq.ft = 375 sq.ft

Optional Upsizing of Dispersal Media Area

E. Larger Bed Area Size or Organic Sizing of Bed Area (see organic loading sheet - 2G) 375 sq.ft

F. Select Distribution Method: Pressure Notes:

G. Select Dispersal Media: Rock Product:

H. If distribution media is installed in contact with sand or loamy sand or with a percolation rate of 0.1 to 5 mpi indicate distribution or treatment method:

2. BED CONFIGURATION: (Less than 6% slope required)

A. Select size Multiplier: 1.0 1.0 = pressurized or 1.5 = gravity

B. Required Bed Area =Hydraulic Absorption area (1D) or Upsized Bed Area (1E) X Size Multiplier (2A) =

375 sq.ft X 1.0 = 375 sq.ft

C. Select Bed Width: 13.0 ft

D. Calculate Bed Length: Designed Bottom Area (2B) ÷ Bed Width (2C) = Bed Length

375 sq.ft ÷ 13.0 ft = 28.8 ft

E. Contour Loading Rate: Bed Width (2C) x SHLR (1C) *Must be less then 12 to be a Type I system*

13.0 ft x 1.20 GPD/sq.ft = 15.6 gal/ft

3. ESTIMATED MATERIAL CALCULATION: ROCK

A. If drainfield rock is being used, select sidewall height

6 in 0.50 ft (0.33 ft for pressure, 0.5 ft for gravity)

B. Media Volume: (Media Depth(3A) + depth to cover pipe) X Designed Bottom Area(2B) = cu.ft

(0.5 ft + 0.33 ft) X 375.0 sq.ft = 311.3 cu.ft

C. Calculate Volume in cubic yards: Media volume in cubic feet (3A) ÷ 27 = cubic yards

311.3 cu.ft ÷ 27 = 11.5 cu.yd

Bed to be constructed to dimensions in design. This is an estimate of materials needed. Individual construction practices may vary quantities.

4. ESTIMATED MATERIAL CALCULATION: REGISTERED PRODUCTS - CHAMBERS AND EZFLOW

A. Registered Product:

B. Bed Width 13.0 ft

C. Bed Length Minimum 28.8 ft

D. Component depth (see Registration) in

Check registered product information for specific application details and design

ONSITE SEWAGE TREATMENT PROGRAM

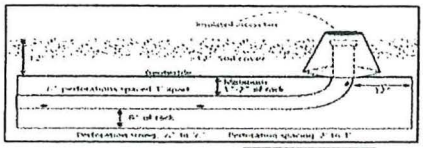
Pressure Distribution Design Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

Project ID: 25047 v 04.02.2024

1. Media Bed Width: 13.0 ft
2. Media Bed Length: 29.0 ft
3. Minimum Number of Laterals in system/zone = Rounded up number of [(Media Bed Width(1.) - 4) ÷ 3] + 1.

   [(13 - 4) ÷ 3] + 1 = 4 laterals *Does not apply to at-grades*
4. Designer Selected *Number of Laterals*: 4 laterals
   Cannot be less than line 2 (Except in at-grades)



5. Lateral spacing in Bed; *Must be greater than 1 foot and no more than 2 feet from Edge*: 3.00 ft
6. *Length of Laterals* = Media Bed Length(2.) - 2 Feet.

   29.0 - 2ft = 27.0 ft *Perforation can not be closer then 1 foot from edge.*
7. Select *Perforation Spacing*: 3.0 ft
8. Determine the *Number of Perforation Spaces*. Divide the *Length of Laterals(6.)* by the *Perforation Spacing* (7.) and round down to the nearest whole number.

   Number of Perforation Spaces = 27.0 ft ÷ 3.0 ft = 9 Spaces
9. *Number of Perforations per Lateral* is equal to 1.0 plus the *Number of Perforation Spaces(8.)*. Check table below to verify the number of perforations per lateral guarantees less than a 10% discharge variation. The value is double with a center manifold.

   Perforations Per Lateral = 9 Spaces + 1 = 10 Perfs. Per Lateral
10. Select *Perforation Diameter Size:* 1/4 in 0.25
11. *Select Lateral Diameter (See Table)*: 2.00 in
12. Select *Manifold Connection* (End or Center): End

If Center Manifold Connection the max number of perfs per lateral in the table can be doubled.

Maximum Number of Perforations Per Lateral to Guarantee <10% Discharge Variation

1/4 Inch Perforations						7/32 Inch Perforations					
Perforation Spacing (Feet)	Pipe Diameter (Inches)					Perforation Spacing (Feet)	Pipe Diameter (Inches)				
	1	1¼	1½	2	3		1	1¼	1½	2	3
2	10	13	18	30	60	2	11	16	21	34	68
2½	8	12	16	28	54	2½	10	14	20	32	64
3	8	12	16	25	52	3	9	14	19	30	60
3/16 Inch Perforations						1/8 Inch Perforations					
Perforation Spacing (Feet)	Pipe Diameter (Inches)					Perforation Spacing (Feet)	Pipe Diameter (Inches)				
	1	1¼	1½	2	3		1	1¼	1½	2	3
2	12	18	26	46	87	2	21	33	44	74	149
2½	12	17	24	40	80	2½	20	30	41	69	135
3	12	16	22	37	75	3	20	29	38	64	128

Onsite Sewage Treatment Program

Basic STA Pump Selection Design Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

1. PUMP CAPACITY Project ID: 25047 v 04.02.2024

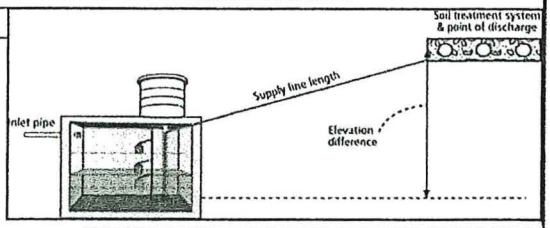
Pumping to Gravity or Pressure Distribution: Pressure

A. If pumping to gravity enter the gallon per minute of the pump: GPM *(10 - 45 gpm)*

B. If pumping to a pressurized distribution system: 30.0 GPM

C. Enter pump description: Demand Dosing

2. HEAD REQUIREMENTS



A. Elevation Difference between pump and point of discharge: 7.0 ft

B. Distribution Head Loss: 5 ft

C. Additional Head Loss*: 0.0 ft (due to special equipment, etc.)

* Common additional head loss: gate valve = 1 ft each, globe valve = 1.5 ft each, splitter valve = see manufacturers details

Distribution Head Loss	
Gravity Distribution = 0ft	
Pressure Distribution based on Minimum Average Head Value on Pressure Distribution Worksheet:	
Minimum Average Head	**Distribution Head Loss**
1ft	5ft
2ft	6ft
5ft	10ft

D. 1. Supply Pipe Diameter: 2.0 in

2. Supply Pipe Length: 25 ft

E. Friction Loss in Plastic Pipe per 100ft from Table I:

Friction Loss = 2.4 ft per 100ft of pipe

F. Determine *Equivalent Pipe Length* from pump discharge to soil dispersal area discharge point. Estimate by adding 25% to supply pipe length for fitting loss.
Supply Pipe Length X 1.25 = *Equivalent Pipe Length*

25 ft X 1.25 = 31.3 ft

Table I.Friction Loss in Plastic Pipe per 100ft

Flow Rate (GPM)	Pipe Diameter (inches) 1	1.25	1.5	2
10	9.1	3.1	1.3	0.3
12	12.8	4.3	1.8	0.4
14	17.0	5.7	2.4	0.6
16	21.8	7.3	3.0	0.7
18		9.1	3.8	0.9
20		11.1	4.6	1.1
25		16.8	6.9	1.7
30		23.5	9.7	2.4
35			12.9	3.2
40			16.5	4.1
45			20.5	5.0
50				6.1
55				7.3
60				8.6
65				10.0
70				11.4
75				13.0
85				16.4
95				20.1

G. Calculate *Supply Friction Loss* by multiplying *Friction Loss Per 100ft(E.)* by the *Equivalent Pipe Length(F.)* and divide by 100.

Supply Friction Loss =

2.4 ft per 100ft X 31.3 ft ÷ 100 = 0.7 ft

H. *Total Head* requirement is the sum of the *Elevation Difference(2A)* + Distribution Head Loss(2B) + Additional Head Loss(2C) + Supply Friction Loss(2G)

7 ft + 5.0 ft + 0.0 ft + 0.7 ft = 12.7 ft

3. PUMP SELECTION

A pump must be selected to deliver at least **30.0** GPM with at least **12.7** feet of total head.

Comments:

Onsite Sewage Treatment Program

Design Summary Page

MINNESOTA POLLUTION CONTROL AGENCY

1. PROJECT INFORMATION

v 04.02.2024

Property Owner/Client:	Carrington Homes, LLC	Project ID:	25047
Site Address:	17XX 171st Avenue NE, Ham Lake, MN 55304	Date:	03/24/25
Email Address:	stevesr@dirtworksmn.com	Phone:	(612) 221-4476

2. DESIGN FLOW & WASTE STRENGTH

Design Flow: 450 GPD Anticipated Waste Type: Residential

BOD: 170 mg/L TSS: 60 mg/L Oil & Grease: 25 mg/L

Treatment Level: C *Select Treatment Level C for residential septic tank effluent*

3. HOLDING TANK SIZING

Holding Tank Sizing: see 7080.2290

Code Minimum **Holding Tank Capacity:** _____ Gallons with _____ Tanks or Compartments

Recommended **Holding Tank Capacity:** _____ Gallons with _____ Tanks or Compartments

The holding tank(s) will be: _____ *Existing tank reuse requires a tank integrity assessment*

Type of High Level Alarm: _____

(Alarm Set @ 75% tank capacity measured from inlet to bottom)

Comments: _____

4. SEPTIC TANK SIZING

Sizing: See 7080.1930

A. Residential dwellings:

Number of Bedrooms (Residential): 3

Code Minimum **Septic Tank Capacity:** 1000 Gallons with 1 Tanks or Compartments

Recommended **Septic Tank Capacity:** 1500 Gallons with 2 Tanks or Compartments

The septic tank(s) will be: All New *Existing tank reuse requires a tank integrity assessment*

Comments: _____

Effluent Screen & Alarm (Y/N): No Model/Type: _____

B. Other Establishments:

Waste received by: _____ _____ GPD x _____ Days Hyd. Retention Time

7080 Minimum **Septic Tank Capacity:** _____ Gallons with _____ Tanks or Compartments

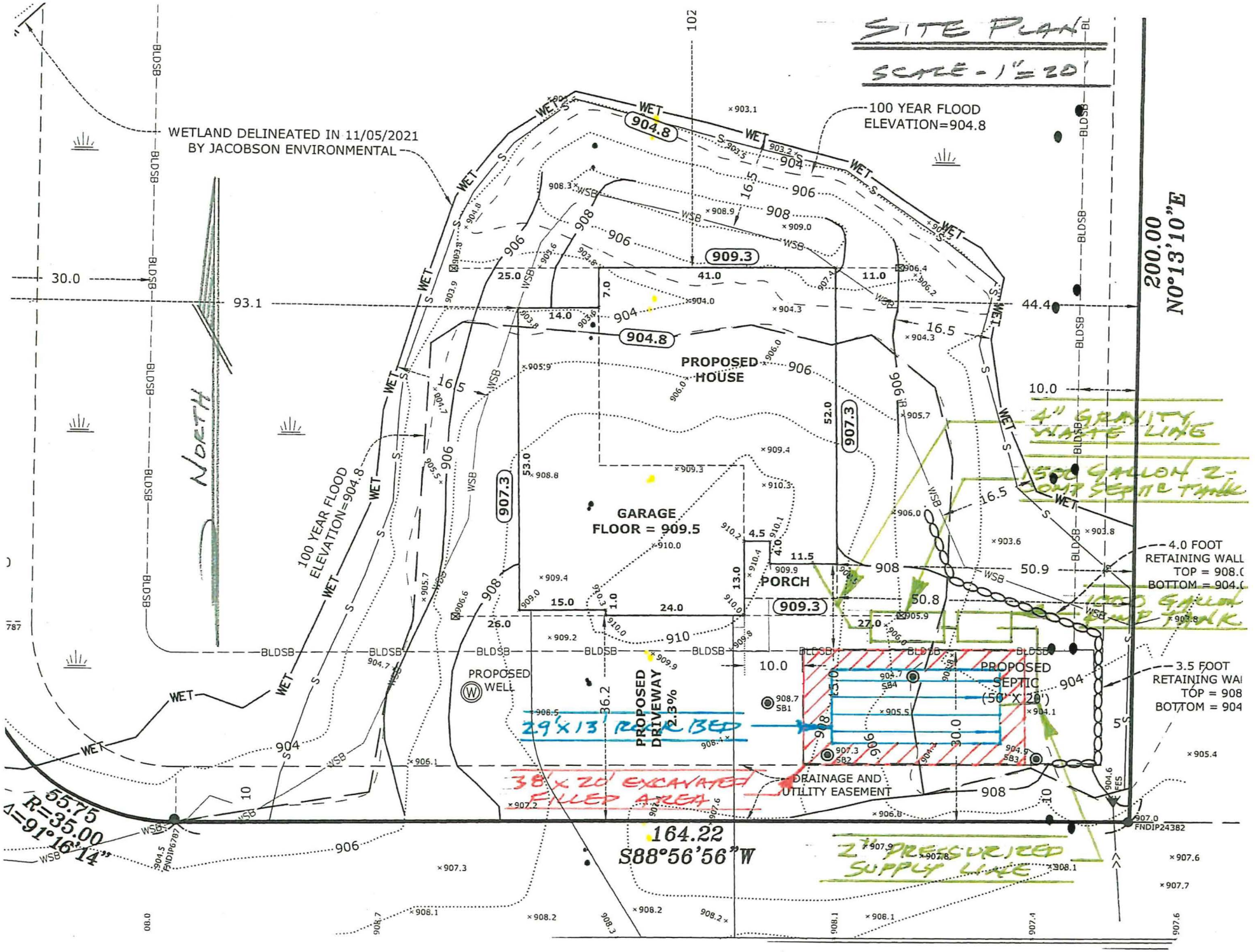
Designed **Septic Tank Capacity:** _____ Gallons with _____ Tanks or Compartments

The septic tank(s) will be: _____ *Existing tank reuse requires a tank integrity assessment*

Comments: _____

Effluent Screen & Alarm (Y/N): _____ Model/Type: _____

* Other Establishments Require Department of Labor and Industry Approval and Inspection for Building Sewer *


SITE PLAN
SCALE - 1" = 20'
WETLAND DELINEATED IN 11/05/2021
BY JACOBSON ENVIRONMENTAL
100 YEAR FLOOD
ELEVATION=904.8
NORTH
PROPOSED
HOUSE
GARAGE
FLOOR = 909.5
PORCH
PROPOSED
WELL
PROPOSED
DRIVEWAY
2.3%
PROPOSED
SEPTIC
(50' X 20')
2.9'x13' ROCK BED
38' x 20' EXCAVATED
FILLED AREA
DRAINAGE AND
UTILITY EASEMENT
4" GRAVITY
WASTE LINE
1500 GALLON 2-
COMPT SEPTIC TANK
1000 GALLON
PUMP TANK
4.0 FOOT
RETAINING WALL
TOP = 908.0
BOTTOM = 904.0
3.5 FOOT
RETAINING WAL
TOP = 908
BOTTOM = 904
2" PRESSURIZED
SUPPLY LINE
200.00
N0°13'10"E
164.22
S88°56'56"W
55.75
R=35.00
Δ=91°16'14"
904.8
909.3
907.3
BLDSB
WET
WSB

ONSITE SEWAGE TREATMENT PROGRAM

Design Summary Page

MINNESOTA POLLUTION CONTROL AGENCY

5. PUMP TANK SIZING *Sizing: see 7080.2100*

Soil Treatment Dosing Tank				Other Component Dosing Tank:			
Pump Tank Capacity (7080 Minimum):	1000 Gal			Pump Tank Capacity (7080 Minimum):	Gal		
Pump Tank Capacity (Designed):	1000 Gal			Pump Tank Capacity (Designed):	Gal		
Pump Req:	30.0 GPM	Total Head	12.7 ft	Pump Req:	GPM	Total Head	ft
Supply Pipe Dia.	2.00 in	Dose Vol:	112.0 gal	Supply Pipe Dia.	in	Dose Vol:	Gal

* Flow measurement device must be incorporated for any system with a pump *

6. SYSTEM AND DISTRIBUTION TYPE

Project ID: 25047

Soil Treatment Type:	Bed	Distribution Type:	Pressure Distribution-Level
Elevation Benchmark:	905.90 ft	Benchmark Location:	Right Front Offset- Top of spike s
MPCA System Type:	Type III	Distribution Media:	Rock
Type III/IV/V Details:			

7. SITE EVALUATION SUMMARY:

Describe Limiting Condition: Redoximorphic Features/Saturated Soils

Layers with >35% Rock Fragments? (yes/no) No If yes, describe below: % rock and layer thickness, amount of soil credit and any additional information for addressing the rock fragments in this design.

Note:

	Depth		Depth		Elevation	
Limiting Condition*:	14.0	inches	1.17	ft	903.50	ft
Minimum Req'd Separation:	36	inches	3.00	ft		
Distribution Media Bottom*:	Mound	inches	-1.83	ft	Elevation #VALUE!	ft

Elevations are critical for system compliance.

#VALUE!

*This is the maximum depth to the bottom of the distribution media for required separation. Negative Depth (ft) requires a mound.

Designed Distribution Bottom Elevation: 906.50 ft Mound Minimum Sand Depth: N/A inches

A. Soil Texture:	Fine Sand		
B. Soil Hyd. Loading Rate:	1.20 GPD/ft^2	C: Percolation Rate:	MPI
D. Contour Loading Rate:	15.6	Note:	
E. Measured Land Slope:	0.0 %	Note:	
Comments:			

8. SOIL TREATMENT AREA DESIGN SUMMARY

Trench:

Dispersal Area	sq.ft	Sidewall Depth	in	Trench Width	ft
Total Lineal Feet	ft	No. of Trenches		Code Max. Trench Depth	in
Contour Loading Rate	ft	Minimum Length	ft	Designed Trench Depth	in

Bed:

Dispersal Area	375.0 sq.ft	Sidewall Depth	6.0 in	Maximum Bed Depth	Mound in
Bed Width	13 ft	Bed Length	28.8 ft	Designed Bed Depth	in

UNIVERSITY
OF MINNESOTA

Septic System Management Plan for Below Grade Systems

The goal of a septic system is to protect human health and the environment by properly treating wastewater before returning it to the environment. Your septic system is designed to kill harmful organisms and remove pollutants before the water is recycled back into our lakes, streams and groundwater.

This **management plan** will identify the operation and maintenance activities necessary to ensure long-term performance of your septic system. Some of these activities must be performed by you, the homeowner. Other tasks must be performed by a licensed septic maintainer or service provider. However, it is **YOUR** responsibility to make sure all tasks get accomplished in a timely manner.

The University of Minnesota's *Septic System Owner's Guide* contains additional tips and recommendations designed to extend the effective life of your system and save you money over time.

Proper septic system design, installation, operation and maintenance means safe and clean water!

Property Owner	Carrington Homes	Email	
Property Address	17XX 11st Avenue NE	Property ID	
System Designer	Mark Tradewell	Contact Info	(763) 286-9095
System Installer	Dirtworks, Inc.	Contact Info	(612) 221-4478
Service Provider/Maintainer		Contact Info	
Permitting Authority	City of Ham Lake	Contact Info	(763) 434-9555
Permit #		Date Inspected	

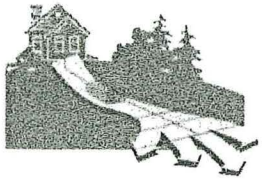
Keep this Management Plan with your Septic System Owner's Guide. The Septic System Owner's Guide includes a folder to hold maintenance records including pumping, inspection and evaluation reports. Ask your septic professional to also:

- Attach permit information, designer drawings and as-built of your system, if they are available.
- Keep copies of all pumping records and other maintenance and repair invoices with this document.
- Review this document with your maintenance professional at each visit; discuss any changes in product use, activities, or water-use appliances.

For a copy of the *Septic System Owner's Guide*, visit www.bookstores.umn.edu and search for the word "septic" or call 800-322-8642.

For more information see http://septic.umn.edu

Version: August 2015



Homeowner Management Tasks

These op*eration and maintenance ac*tivities are your responsibility. *Chart on page 6 can help track your activities.*

Your toilet is not a garbage can. Do not flush anything besides human waste and toilet paper. No wet wipes, cigarette butts, disposal diapers, used medicine, feminine products or other trash!

The system and septic tanks needs to be checked every 36 months

Your service provider or pumper/maintainer should evaluate if your tank needs to be pumped more or less often.

Seasonally or several times per year

- *Leaks.* Check (listen, look) for leaks in toilets and dripping faucets. Repair leaks promptly.
- *Soil treatment area.* Regularly check for wet or spongy soil around your soil treatment area. If surfaced sewage or strong odors are not corrected by pumping the tank or fixing broken caps and leaks, call your service professional. *Untreated sewage may make humans and animals sick.* Keep bikes, snowmobiles and other traffic off and control borrowing animals.
- *Alarms.* Alarms signal when there is a problem; contact your service professional any time the alarm signals.
- *Lint filter.* If you have a lint filter, check for lint buildup and clean when necessary. If you do not have one, consider adding one after washing machine.
- *Effluent screen.* If you do not have one, consider having one installed the next time the tank is cleaned along with an alarm.

Annually

- *Water usage rate.* A water meter or another device can be used to monitor your average daily water use. Compare your water usage rate to the design flow of your system (listed on the next page). Contact your septic professional if your average daily flow over the course of a month exceeds 70% of the design flow for your system.
- *Caps.* Make sure that all caps and lids are intact and in place. Inspect for damaged caps at least every fall. Fix or replace damaged caps before winter to help prevent freezing issues.
- *Water conditioning devices.* See Page 5 for a list of devices. When possible, program the recharge frequency based on *water demand (gallons)* rather than *time (days)*. Recharging too frequently may negatively impact your septic system. Consider updating to demand operation if your system currently uses time,
- *Review your water usage rate.* Review the Water Use Appliance chart on Page 5. Discuss any major changes with your service provider or pumper/maintainer.

During each visit by a service provider or pumper/maintainer

- Make sure that your service professional services the tank through the manhole. (NOT though a 4" or 6" diameter inspection port.)
- Ask how full your tank was with sludge and scum to determine if your service interval is appropriate.
- Ask your pumper/maintainer to accomplish the tasks listed on the Professional Tasks on Page 4.

Water-Use Appliances and Equipment in the Home

Appliance	Impacts on System	Management Tips
Garbage disposal	• Uses additional water. • Adds solids to the tank. • Finely-ground solids may not settle. Unsettled solids can exit the tank and enter the soil treatment area.	• Use of a garbage disposal is not recommended. • Minimize garbage disposal use. Compost instead. • To prevent solids from exiting the tank, have your tank pumped more frequently. • Add an effluent screen to your tank.
Washing machine	• Washing several loads on one day uses a lot of water and may overload your system. • Overloading your system may prevent solids from settling out in the tank. Unsettled solids can exit the tank and enter the soil treatment area.	• Choose a front-loader or water-saving top-loader, these units use less water than older models. • Limit the addition of extra solids to your tank by using liquid or easily biodegradable detergents. Limit use of bleach-based detergents and fabric softeners. • Install a lint filter after the washer and an effluent screen to your tank • Wash only full loads and think even – spread your laundry loads throughout the week.
Dishwasher	• Powdered and/or high-phosphorus detergents can negatively impact the performance of your tank and soil treatment area. • New models promote "no scraping". They have a garbage disposal inside.	• Use gel detergents. Powdered detergents may add solids to the tank. • Use detergents that are low or no-phosphorus. • Wash only full loads. • Scrape your dishes anyways to keep undigested solids out of your septic system.
Grinder pump (in home)	• Finely-ground solids may not settle. Unsettled solids can exit the tank and enter the soil treatment area.	• Expand septic tank capacity by a factor of 1.5. • Include pump monitoring in your maintenance schedule to ensure that it is working properly. • Add an effluent screen.
Large bathtub (whirlpool)	• Large volume of water may overload your system. • Heavy use of bath oils and soaps can impact biological activity in your tank and soil treatment area.	• Avoid using other water-use appliances at the same time. For example, don't wash clothes and take a bath at the same time. • Use oils, soaps, and cleaners in the bath or shower sparingly.
Clean Water Uses	**Impacts on System**	**Management Tips**
High-efficiency furnace	• Drip may result in frozen pipes during cold weather.	• Re-route water directly out of the house. Do not route furnace recharge to your septic system.
Water softener Iron filter Reverse osmosis	• Salt in recharge water may affect system performance. • Recharge water may hydraulically overload the system.	• These sources produce water that is not sewage and should not go into your septic system. • Reroute water from these sources to another outlet, such as a dry well, draintile or old drainfield. • When replacing, consider using a demand-based recharge vs. a time-based recharge. • Check valves to ensure proper operation; have unit serviced per manufacturer directions
Surface drainage Footing drains	• Water from these sources will overload the system and is prohibited from entering septic system.	

RFC Engineering, Inc.
13635 Johnson Street NE
Ham Lake, MN 55304
Office (763) 862-8000
Fax (763) 862-8042

Memorandum

Date: June 11, 2025

To: Mayor and Councilmembers

From: David A. Krugler, City Engineer

Subject: No Parking on 143rd Avenue NE from Trunk Highway 65 to Lincoln Street NE

Introduction:
The construction of 143rd Avenue NE from Trunk Highway 65 to 108 feet west of Lincoln Street NE will commence this summer. Construction will be to a traditional MSA street section of 29 feet of bituminous with concrete curb and gutter. The street section does not include bike lanes.

Discussion:
The 143rd Avenue NE from Lincoln Street NE to Trunk Highway 65 is designated as a municipal state aid road. MnDOT requires a resolution restricting parking for municipal and county state aid projects when the proposed street width is not adequate for parallel parking on both sides of the street. 143rd Avenue NE from Lincoln Street NE to Trunk Highway 65 will not be updated such that there will sufficient pavement be parallel parking.

Recommendation:
It is recommended that the attached Resolution be adopted that restricts parking on 143rd Avenue NE from Lincoln Street NE to Trunk Highway 65.

RESOLUTION NO. 25-XX

A RESOLUTION RESTRICTING PARKING

WHEREAS, Pursuant to a resolution passed by the Council the City Engineer (RFC Engineering, Incorporated) has prepared preliminary plans for the improvement of 143rd Avenue NE from Lincoln Street NE to Trunk Highway 65, and has presented such plans to the Council for approval;

WHEREAS, the "City" will be expending Municipal State Aid Funds on the improvement of said Street, and

WHEREAS, said proposed improvement does not conform to the approved minimum standards as previously adopted for such Municipal State Aid Streets and that approval of the proposed construction as a Municipal State Aid Street project must therefore be conditioned upon certain parking restrictions, and

WHEREAS, the extent of these restrictions that would be a necessary prerequisite to the approval of this construction as a Municipal State Aid project in the "City" has been determined.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF HAM LAKE, MINNESOTA:

That the "City" shall restrict the parking to no motor vehicles on both sides of 143rd Avenue NE from Lincoln Street NE to Trunk Highway 65 at all times.

Adopted by the Ham Lake City Council this 16th day of June, 2025

_____
Brian Kirkham, Mayor

_____
Denise Webster, City Clerk

RFC Engineering, Inc.
13635 Johnson Street NE
Ham Lake, MN 55304
Office (763) 862-8000
Fax (763) 862-8042

Memorandum

Date: June 10, 2025

To: Mayor and Councilmembers

From: David A. Krugler, City Engineer

Subject: 143rd Avenue from Trunk Highway 65 to 108 feet West of Lincoln Street

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Introduction:
The Plans for construction of 143rd Avenue from Trunk Highway 65 to 108 feet West of Lincoln Street have received approval from the Coon Creek Watershed District and MnDOT.

Discussion:
The street section will be 29 feet of bituminous with concrete curb and gutter. The project does not include bike lanes or paths. The project will coordinate construction with the Elwell Commercial Park that the preliminary plat was approved by the City Council on February 18th.

The estimated construction cost of this project is $342,188.35. The project development costs, which include engineering, are $58,172.02. Construction engineering/inspection costs are estimated at 8% of the construction costs, which is $27,375.07. The total estimated project cost is $427,735.44.

Additional roadway easements, drainage and utility easements and construction easements were provided from the Elwell Commercial Park plat. Storm water will be treated within the Elwell Commercial Park regional treatment pond and the MnDOT ditch along Trunk Highway 65.

Recommendation:
It is recommended that the Plans and Specifications be approved and advertisement for bids be ordered for construction of the 143rd Avenue from Trunk Highway 65 to 108 feet West of Lincoln Street.

CONSTRUCTION COST ESTIMATE
MSAP 197-127-001
143rd Avenue Street Reconstruction
6/10/2025

ITEM NUMBER	ITEM DESCRIPTION	UNIT	EST QTY	UNIT PRICE	TOTAL
2021.501	MOBILIZATION	LUMP SUM	1	$31,000.00	$31,000.00
2101.505	CLEARING (P)	ACRE	0.16	$10,000.00	$1,600.00
2101.505	GRUBBING (P)	ACRE	0.16	$15,000.00	$2,400.00
2104.502	SALVAGE SIGN	EACH	7	$225.22	$1,576.54
2104.502	SALVAGE MAIL BOX SUPPORT AND MAILBOX	EACH	3	$130.00	$390.00
2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)-DRIVEWAY	LIN FT	123	$2.00	$246.00
2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	93	$2.00	$186.00
2104.503	REMOVE METAL CULVERT	LIN FT	28	$10.00	$280.00
2104.503	REMOVE CURB AND GUTTER	LIN FT	126	$50.00	$6,300.00
2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	329	$5.00	$1,645.00
2106.507	EXCAVATION - COMMON (P)	CU YD	1,809	$24.00	$43,416.00
2106.507	COMMON EMBANKMENT (CV) (P)	CU YD	707	$30.00	$21,210.00
2211.509	AGGREGATE BASE CLASS 5	TON	1,267	$29.00	$36,743.00
2211.604	AGGREGATE BASE (CV) CLASS 5 4.0" THICK-DRIVEWAY	SQ YD	183	$20.00	$3,660.00
2211.604	AGGREGATE BASE (CV) CLASS 5 6.0" THICK-COMMERCIAL DRIVEWAY	SQ YD	120	$20.00	$2,400.00
2215.504	FULL DEPTH RECLAMATION (P)	SQ YD	2,712	$3.00	$8,136.00
2360.504	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 1.0" THICK-COMMERCIAL DRIVEWAY	SQ YD	77	$33.00	$2,541.00
2360.504	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 2.0" THICK-DRIVEWAY	SQ YD	183	$33.00	$6,039.00
2360.504	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C) 2.0" THICK-COMMERCIAL DRIVEWAY	SQ YD	77	$28.00	$2,156.00
2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	377	$120.00	$45,240.00
2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TON	377	$100.00	$37,700.00
2503.503	12" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	31	$100.00	$3,100.00
2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	19	$105.00	$1,995.00
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL-2X3	EACH	1	$3,000.00	$3,000.00
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1-48"	EACH	1	$5,000.00	$5,000.00
2506.602	CONNECT INTO EXISTING STORM SEWER	EACH	1	$1,000.00	$1,000.00
2511.504	GEOTEXTILE FILTER TYPE 4	SQ YD	39	$6.00	$234.00
2511.507	RANDOM RIPRAP CLASS III	CU YD	6	$180.00	$1,080.00
2531.503	CONCRETE CURB AND GUTTER DESIGN B612	LIN FT	47	$31.00	$1,457.00
2531.503	CONCRETE CURB AND GUTTER DESIGN B618	LIN FT	1,846	$21.00	$38,766.00
2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	34	$180.00	$6,120.00
2531.604	CONCRETE SPILLWAY	SQ YD	6	$180.00	$1,080.00
2540.602	INSTALL MAIL BOX SUPPORT WITH MAILBOX	EACH	3	$210.00	$630.00
2563.601	TRAFFIC CONTROL	LUMP SUM	1	$2,500.00	$2,500.00
2564.518	SIGN PANELS TYPE C	SQ FT	24	$115.94	$2,782.56
2564.602	INSTALL SALVAGED SIGNS	EACH	7	$520.00	$3,640.00
2573.501	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1	$2,500.00	$2,500.00
2573.502	STORM DRAIN INLET PROTECTION	EACH	2	$150.00	$300.00
2573.502	CULVERT END CONTROL	EACH	1	$150.00	$150.00
2573.503	SILT FENCE, TYPE MS	LIN FT	259	$4.75	$1,230.25
2575.605	TURF ESTABLISHMENT (25-131 SEEDING MIX)	ACRE	0.89	$10,000.00	$8,900.00
2582.503	4" DOUBLE YELLOW SOLID LINE PAINT	LIN FT	650	$2.86	$1,859.00
	TOTAL ESTIMATED CONSTRUCTION COST				$342,188.35
	PROJECT DEVELOPMENT COSTS (17%)				$58,172.02
	CONSTRUCTION ENGINEERING & INSPECTION COSTS (8%)				$27,375.07
	TOTAL PROJECT COST				$427,735.44

PLAN SYMBOLS

- EXISTING / PROPOSED — CENTERLINE
- EXISTING / PROPOSED — RIGHT-OF-WAY LINE
- CONSTRUCTION / PERMANENT — EASEMENT LINE
- LOT — PROPERTY LINE
- SECTION — CONSTRUCTION LIMITS / CLEAR ZONE
- INTERMEDIATE INDEX 900 / GRADE BREAK 901.25 — EXISTING CONTOURS
- INTERMEDIATE INDEX 900 / GRADE BREAK 901.25 — PROPOSED CONTOURS
- EXISTING / PROPOSED / EXISTING COUNTY — DITCH LINE
- FENCE LINE – ANY TYPE
- SILT FENCE
- WETLAND BOUNDARY
- TREE LINE / TREE SYMBOLS — EXISTING TREES (TO REMAIN)
- X BM — BENCH MARK / IRON MONUMENT
- LIGHT POLE / BOLLARD
- SOIL BORING
- BUILDING
- PROPOSED — RIPRAP
- MB — MAILBOX
- EXISTING / PROPOSED — SIGN

UTILITY SYMBOLS

- GAS — GAS LINE
- PETRO — PETROLEUM LINE
- OHE / UGE — OVERHEAD / UNDERGROUND — ELECTRIC
- T — UNDERGROUND TELEPHONE LINE
- CATV — UNDERGROUND CABLE TV LINE
- FO / MnDOT FO — PRIVATE / MnDOT — UNDERGROUND FIBER OPTIC LINE
- MANHOLE / T JUNC. BOX — TELEPHONE STRUCTURES
- X — ELECTRIC JUNC. BOX
- TV — CABLE TV JUNC. BOX
- MANHOLE / F JUNC. BOX — FIBER OPTIC STRUCTURES
- EXISTING — POWER POLE AND GUY WIRE
- EXISTING / PROPOSED — STORM DRAIN LINE
- EXISTING / PROPOSED — FLARED END SECTION
- EXISTING / PROPOSED — CATCH BASIN
- EXISTING / PROPOSED — MANHOLE
- W — WELL

HATCH LEGEND

- BITUMINOUS / CONCRETE
- GRAVEL / HYDROMULCH — EROSION CONTROL
- GRAVEL / CONCRETE / BITUMINOUS — REMOVAL

PLOT DATE: 6/02/2025 15:11

MINNESOTA DEPARTMENT OF TRANSPORTATION

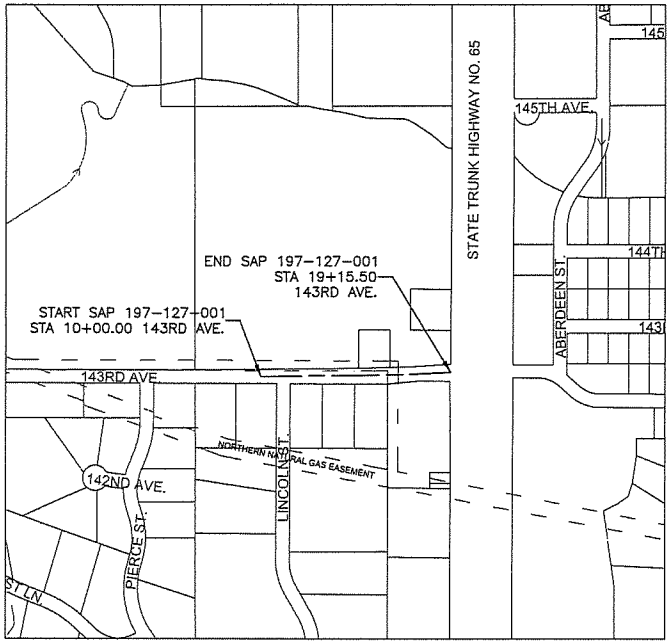
City of Ham Lake, Minnesota

CONSTRUCTION PLAN FOR GRADING, RECLAIM, AGGREGATE BASE, PLANT MIXED BITUMINOUS SURFACE, STORM DRAINS AND CONCRETE CURB

LOCATED ON 143RD AVENUE NE FROM TH 65 TO 108 FEET WEST OF LINCOLN STREET

HAM LAKE PROJECT NO. 2505
STATE AID PROJ. NO. 197-127-001

GROSS LENGTH	916 FEET	0.173 MILES
BRIDGES LENGTH	0 FEET	0 MILES
EXCEPTIONS LENGTH	0 FEET	0 MILES
NET LENGTH	916 FEET	0.173 MILES



143RD AVENUE NE
STATE PROJECT NO. 197-127-001

ADT (2025) 631 ADT (2045) 937
Design Speed 30 MPH
NO. OF TRAFFIC LANES 2 NO. OF PARKING LANES 0
FUNCTIONAL CLASSIFICATION COLLECTOR, LOW DENSITY
SOIL FACTOR 50% HCADT <150
TON DESIGN 9 TON
STOPPING SIGHT DISTANCE BASED ON:
HEIGHT OF EYE 3.5'
HEIGHT OF OBJECT 2.0'
Design Speed not achieved at:
STA. N/A TO STA. N/A

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MN MUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR THE INVESTIGATING AND DOCUMENTING EXISTING UTILITIES."

THE UTILITIES SHOWN ARE BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

N

0 150 300 600
FEET

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

STATE AID PROJ. NO.	CHARGE	IDENTIFIER
197-127-001		

STATE FUNDS

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION".

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE 2024 MnMUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

INDEX

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

THIS PLAN CONTAINS 23 SHEETS

I HEREBY CERTIFY THAT THIS PLAN 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.

SIGNED: Dave Krugler
David A. Krugler
DATE: 6/2/25 REG. NO. 48768

APPROVED: Dave Krugler 6/2/25
CITY ENGINEER – HAM LAKE

Lucas Lortie
Digitally signed by Lucas Lortie
Date: 2025.06.03 11:09:57 -05'00'
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

Lucas Lortie
Digitally signed by Lucas Lortie
Date: 2025.06.03 11:10:20 -05'00'
APPROVED FOR STATE AID FUNDING: FOR STATE AID ENGINEER

STATE AID PROJECT NO. 197-127-001

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street NE
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

JOB NO. 2505
FILE: 32-4-101

SHEET NO. 1 OF 23 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

TAB	SHEET	NOTES	ITEM NO.	ITEM	UNIT	ENTIRE PROJECT	S.A.P. 197-127-001	
							ROADWAY	STORM SEWER
						ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES
			2021.501	MOBILIZATION	LUMP SUM	1	1	
AA	3		2101.505	CLEARING (P)	ACRE	0.16	0.16	
AA	3		2101.505	GRUBBING (P)	ACRE	0.16	0.16	
AB	3	6	2104.502	SALVAGE SIGN	EACH	7	7	
AC	3	10	2104.502	SALVAGE MAIL BOX SUPPORT AND MAILBOX	EACH	3	3	
BD	3		2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)-DRIVEWAY	LIN FT	123	123	
AD	3		2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	93	93	
AE	3		2104.503	REMOVE METAL CULVERT	LIN FT	28	28	
AF	3		2104.503	REMOVE CURB AND GUTTER	LIN FT	128	128	
BD	4		2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	329	329	
AH	3	4	2106.507	EXCAVATION - COMMON (P)	CU YD	1 809	1 809	
AH	3	4	2106.507	COMMON EMBANKMENT (CV) (P)	CU YD	707	707	
BA	4		2211.509	AGGREGATE BASE CLASS 5	TON	1 267	1 267	
BD	4	8	2211.604	AGGREGATE BASE (CV) CLASS 5 4.0" THICK-DRIVEWAY	SQ YD	183	183	
BJ	4	8	2211.604	AGGREGATE BASE (CV) CLASS 5 6.0" THICK-COMMERCIAL DRIVEWAY	SQ YD	120	120	
AG	3		2215.504	FULL DEPTH RECLAMATION (P)	SQ YD	2 712	2 712	
BF	4	8	2360.504	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 1.0" THICK-COMMERCIAL DRIVEWAY	SQ YD	77	77	
BD	4	8	2360.504	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 2.0" THICK-DRIVEWAY	SQ YD	183	183	
BG	4	8	2360.504	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C) 2.0" THICK-COMMERCIAL DRIVEWAY	SQ YD	77	77	
BB	4	9	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	377	377	
BC	4	9	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TON	377	377	
	15	1, 5	2503.503	12" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	31		31
	15	1, 5	2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	19		19
	15	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL-2X3	EACH	1		1
	15	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1-48"	EACH	1		1
	15		2506.602	CONNECT INTO EXISTING STORM SEWER	EACH	1		1
BN		2	2511.504	GEOTEXTILE FILTER TYPE 4	SQ YD	39	39	
BM	4		2511.507	RANDOM RIPRAP CLASS III	CU YD	6	6	
BK	4		2531.503	CONCRETE CURB AND GUTTER DESIGN B612	LIN FT	47	47	
BL	4		2531.503	CONCRETE CURB AND GUTTER DESIGN B618	LIN FT	1 846	1 846	
BH	4	8	2531.504	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	34	34	
	4		2531.604	CONCRETE SPILLWAY	SQ YD	6	6	
BR	4	10	2540.602	INSTALL MAIL BOX SUPPORT WITH MAILBOX	EACH	3	3	
			2563.601	TRAFFIC CONTROL	LUMP SUM	1	1	
BP	4	6	2564.518	SIGN PANELS TYPE C	SQ FT	24	24	
BT	4	6	2564.602	INSTALL SALVAGED SIGNS	EACH	7	7	
	16-17	7	2573.501	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1	1	
BO	4,16-17	7	2573.502	STORM DRAIN INLET PROTECTION	EACH	2	2	
BS	4,16-17	7	2573.502	CULVERT END CONTROL	EACH	1	1	
BQ	4,16-17	7	2573.503	SILT FENCE, TYPE MS	LIN FT	259	259	
	16-17	3	2575.605	TURF ESTABLISHMENT (25-131 SEEDING MIX)	ACRE	0.89	0.89	
BE	4,18		2582.503	4" DOUBLE YELLOW SOLID LINE PAINT	LIN FT	650	650	

NOTES:
1. SELECT GRANULAR BORROW, STRUCTURAL EXCAVATION, AND GRANULAR BACKFILL FOR STORM PIPES ARE INCIDENTAL.
2. FILTER FABRIC AND FABRIC WRAP FOR CATCH BASINS AND MANHOLES ARE INCIDENTAL.
3. ALL DISTURBED AREAS DETERMINED NOT TO BE PAVED, AGGREGATE SURFACE, CONCRETE SURFACE, OR RIP RAPPED SHALL HAVE 4 INCHES OF TOPSOIL, FERTILIZER TYPE 2, MULCH MATERIAL, AND SEED MIXTURE NO. 25-131 PER MNDOT STANDARD SPECIFICATION 3876. APPLY TYPE 1 HYDROMULCH AT THE RATE OF 2 (TWO) TONS PER ACRE OR A HYDRAULIC SOIL STABILIZER OR BONDED FIBER MATRIX (TO ACHIEVE A 80% UNIFORM GROUND COVERAGE). SEED MIXTURE, WATER, TYPE 2 FERTILIZER, AND MULCH ARE INCIDENTAL. SOIL TESTING TO DETERMINE FERTILIZER MIXTURE RATIO AND RATE OF APPLICATION IS INCIDENTAL.
4. MATERIAL FOUND IN THE SUBCUTS THAT IS UNSUITABLE FOR FILL IN THE ROADBED SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE.
5. THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE THE CONSTRUCTION LIMITS.
6. SIGNS INCLUDE POSTS.
7. INSTALLATION AND MAINTENANCE ARE INCIDENTAL.
8. QUANTITY SHOWN USED FOR DRIVEWAY CONSTRUCTION. SEE DETAIL RFC-370A1.
9. BITUMINOUS MATERIAL FOR TACK COAT SHALL BE INCIDENTAL.
10. REMOVE SUPPORTS AND SALVAGE MAIL BOXES. SALVAGE MAIL BOXES ARE INCIDENTAL.

PLATE NO.	STANDARD PLATES - RFC ENGINEERING (IN THE PLANS)
RFC-366B1	TYPICAL STREET SECTION
RFC-363A3	PRIVATE DRIVEWAY/FIELD ENTRACE
RFC-370A1	COMMERCIAL DRIVEWAY
RFC-380A	CURB END
RFC-396A	CONCRETE SPILLWAY 90°
RFC-396B	CONCRETE SPILLWAY 45°
RFC-459C	RECTANGULAR CATCH BASIN
RFC-463	FABRIC AROUND CATCH BASIN
RFC-465A1	RECTANGULAR INLET FOR ROUND MANHOLE
RFC-654	STORM DRAIN BEDDING FOR RIGID AND FLEXIBLE PIPE *MNDOT DETAIL
RFC-857	SILT FENCE AT FES

SEED MIX 25-131: COMMERCIAL TURF
MULCH TYPE 1
PLANT APRIL 1ST - JUNE 1ST FOR SPRING PLANTING OR
JULY 20TH - SEPTEMBER 20TH FOR FALL PLANTING

BASIS FOR ESTIMATED QUANTITIES

AGGREGATE BASE	105 LBS/S.Y./INCH
BITUMINOUS MIXTURE	110 LBS/S.Y./INCH
TACK COAT	0.05 GAL./S.Y.
TYPE I MULCH	2 TONS/ACRE

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY

PLATE NO.	MnDOT STANDARD PLATES
3000M	REINFORCED CONCRETE PIPE (6 SHEETS)
3006H	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
7100H	CONCRETE CURB & GUTTER
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
9350C	MAILBOX SUPPORT SWING-AWAY TYPE (3 SHEETS)

GOPHER ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 8/02/2025 19:11

UTILITIES:
CENTURYLINK/LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
NORTHERN NATURAL GAS (877) 654-0546

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Nan Krueger
DATE 06/02/25 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION
STATEMENT OF ESTIMATED QUANTITIES AND STANDARD PLATES

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2505 QTY
DATE: 06/02/25
JOB NUMBER: 2505
SHEET: 2 OF 23
FILE: 38-1-102

TREE REMOVAL			AA
STATION	LOCATION	CLEARING (ACRE)	GRUBBING (ACRE)
16+00 TO 18+45	143RD AVE. – RT	0.16	0.16
TOTAL		0.16	0.16

REMOVE CONCRETE CURB AND GUTTER		AF
STATION	LOCATION	LIN. FT.
30+12 TO 30+53	LINCOLN ST. – RT.	57
30+12 TO 30+53	LINCOLN ST. – LT.	69
TOTAL		126

NOTES:
1. TOP OF GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
2. BITUMINOUS AND CONCRETE DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH MnDOT SPEC. 2104.3C3.
3. COMPACTION OF ALL GRADING AND BASE ITEMS SHALL BE BY THE "QUALITY COMPACTION METHOD".
4. USE TACK COAT BETWEEN ALL BITUMINOUS LAYERS AND BETWEEN BITUMINOUS AND CONCRETE CURB AND GUTTER. TACK COAT IS INCIDENTAL.
5. STRIP ALL TOPSOIL AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE TOPSOIL OR USE AS FILL OUTSIDE OF ROAD CORE.
6. WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK SHALL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
7. STATIONING FOR LOCATION OF EXISTING AND NEW SIGNS IS APPROXIMATE.
8. EXISTING 143RD AVENUE IS APPROXIMATELY 2" TO 3" OF BITUMINOUS AND 4" OF CLASS 5.
9. ANY SIGNS MARKED FOR SALVAGING THAT ARE DAMAGED DURING THE SALVAGING PROCESS AND ARE DEEMED BEYOND ACCEPTABLE BY THE ENGINEER SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

SALVAGE SIGN					AB
STATION	LOCATION	SIGN NO.	POST	CODE NO.	PANEL LEGEND
11+38	143RD AVE. – RT	C–21	SINGLE	R1–1	STOP & STREET
13+04	143RD AVE. – RT	C–22	SINGLE	R2–1	SPEED LIMIT 30 M.P.H.
18+14	143RD AVE. – RT	C–23	SINGLE	M6–1	DIRECTIONAL ARROW
18+14	143RD AVE. – RT	C–24	SINGLE	M1–5M	MINNESOTA ROUTE MARKER
18+14	143RD AVE. – RT	C–25	SINGLE	M6–1	DIRECTIONAL ARROW
18+14	143RD AVE. – RT	C–26	SINGLE	D3–2	STREET
18+78	143RD AVE. – LT	C–27	DOUBLE	R2–1	SPEED LIMIT 30 M.P.H.
TOTAL					7

RECLAIM BITUMINOUS PAVEMENT		AG
STATION	LOCATION	SQ. YD.
10+00 TO 19+16	143RD AVE. – ROADWAY	2,498
30+12 TO 30+53	LINCOLN ST. – ROADWAY	214
TOTAL		2,712

SALVAGE MAIL BOX		AC
STATION	LOCATION	POST TYPE
12+61	143RD AVE. – LT	SINGLE
13+95	143RD AVE. – LT	SINGLE
15+65	143RD AVE. – LT	DOUBLE
TOTAL		3

SAWCUT BITUMINOUS PAVEMENT		AD
STATION	LOCATION	LIN. FT.
10+00	143RD AVE. – ROADWAY	24
19+16	143RD AVE. – ROADWAY	38
30+53	LINCOLN ST. – ROADWAY	31
TOTAL		93

REMOVE CULVERT			AE
STATION	LOCATION	TYPE	LIN. FT.
14+99 TO 15+27	143RD AVE. – LT	CMP	28
TOTAL			28

EARTHWORK SUMMARY — AH

EXCAVATION (CU YD)

TOPSOIL	554 CU YD (EV)			TOPSOIL	527 CU YD (EV)/1.1 =	479 CU YD (CV)	
COMMON	939 CU YD (EV)	1,809 CU YD (EV) ①		COMMON EX	298 CU YD (EV)/1.3 =	228 CU YD (CV)	707 CU YD (CV) ②
BIT RECLAIM	316 CU YD (EV)			WASTE	670 CY YD (EV)		

EMBANKMENT (CU YD)

479 CU YD (CV)	TOPSOIL
228 CU YD (CV)	COMMON

NOTES:
① TOTAL EXCAVATION (EV) REQUIRED FOR PROJECT.
② TOTAL EMBANKMENT (CV) REQUIRED FOR PROJECT.

GOPHER ONE CALL STATE
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK/LUMEN (763) 712–5017
CENTERPOINT ENERGY (763) 323–2760
COMCAST (952) 607–4078
CONNEXUS ENERGY (763) 323–4288
NORTHERN NATURAL GAS (877) 654–0646

DATE	REVISION HISTORY

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Dan Rieger
DATE 06/02/25 REG. NO. 48768

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Fax 763–862–8042

M.S.A.P. 197–127–001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION
EARTHWORK SUMMARY AND TABULATIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2505 TAB 1
DATE: 06/02/25
JOB NUMBER: 2505
SHEET: 3 OF 23
FILE: 38–1–103

AGGREGATE BASE CLASS 5 — BA

STATION TO STATION	LOCATION	TONS
10+00 TO 19+16	143RD AVE. – ROADWAY	1,200
30+15 TO 30+53	LINCOLN ST. – ROADWAY	67
TOTAL		1,267

TYPE SP 9.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEA340C) 1" COMMERCIAL DRIVEWAY — BF

STATION	LOCATION	SQ. YD.
18+50	143RD AVE. – RT	77
TOTAL		77

CONCRETE CURB & GUTTER DESIGN B612 — BK

STATION TO STATION	LOCATION	LIN. FT.
18+08 TO 18+24	143RD AVE. – RT	23
18+78 TO 18+92	143RD AVE. – RT	24
TOTAL		47

SIGN PANELS TYPE C — BP

SIGN NO.	NOTE	TOTAL QTY.	POST	PANEL SIZE (IN)	PANEL AREA (SQ. FT.)	TOTAL AREA (SQ. FT.)	CODE NO.	PANEL LEGEND
C–7		1	DOUBLE	48 X 24	8	8	W1–7	TWO–DIRECTION LARGE ARROW
C–8		4	SINGLE	24 X 24	4	16	R8–3	NO PARKING
C–9	8	1	SINGLE	VARIES X 8			D3–1	STREET
TOTAL						24		

TYPE SP 9.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEA340C) — BB

STATION TO STATION	LOCATION	SQ. YD. (2 IN)	TONS
10+00 TO 19+16	143RD AVE. – ROADWAY	2941	356
30+15 TO 30+53	LINCOLN ST. – ROADWAY	178	22
TOTAL			377

TYPE SP 12.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEB340C) 2" COMMERCIAL DRIVEWAY — BG

STATION	LOCATION	SQ. YD.
18+50	143RD AVE. – RT	77
TOTAL		77

CONCRETE CURB & GUTTER DESIGN B618 — BL

STATION TO STATION	LOCATION	LIN. FT.
10+00 TO 19+16	143RD AVE. – LT	917
10+00 TO 10+61	143RD AVE. – RT	61
11+56 TO 19+16	143RD AVE. – RT	760
30+15 TO 30+53	LINCOLN ST. – LT	54
30+15 TO 30+53	LINCOLN ST. – RT	54
TOTAL		1,846

SILT FENCE — BQ

STATION TO STATION	LOCATION	LIN. FT.
10+00 TO 11+53	143RD AVE. – LT	172
18+50 TO 19+16	143RD AVE. – LT	88
TOTAL		260

INSTALL SALVAGED SIGNS — BT

SIGN NO.	NOTE	TOTAL QTY.	POST	PANEL SIZE (IN)	CODE NO.	PANEL LEGEND
C–1		1	SINGLE	30 X 30	R1–1	STOP (SALVAGED)
C–2		1	SINGLE	24 X 30	R2–1	SPEED LIMIT 30 M.P.H. (SALVAGED)
C–3		2	SINGLE	21 X 15	M6–1	DIRECTIONAL ARROW (SALVAGED)
C–4		1	SINGLE	24 X 24	M1–5M	MINNESOTA ROUTE MARKER (SALVAGED)
C–5		1	SINGLE	24 X 30	D3–2	STREET (SALVAGED)
C–6		1	DOUBLE	24 X 30	R2–1	SPEED LIMIT 30 M.P.H. (SALVAGED)
TOTAL		7				

TYPE SP 12.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEB340C) — BC

STATION TO STATION	LOCATION	SQ. YD. (2 IN)	TONS
10+00 TO 19+16	143RD AVE. – ROADWAY	2,941	356
30+15 TO 30+53	LINCOLN ST. – ROADWAY	178	22
TOTAL			377

6" CONCRETE PAVEMENT COMMERCIAL DRIVEWAY — BH

STATION	LOCATION	SQ. YD.
18+50	143RD AVE. – RT	34.4
TOTAL		34.4

RIPRAP CLASS 3 — BM

STATION	LOCATION	CU. YD.
19+16	143RD AVE. – LT	3
19+16	143RD AVE. – RT	3
TOTAL		6

MAILBOX SUPPORT (SWING–AWAY TYPE) — BR

STATION	LOCATION	TYPE
12+13	143RD AVE. – LT	SINGLE
13+70	143RD AVE. – LT	SINGLE
14+94	143RD AVE. – LT	SINGLE
TOTAL		3

RESIDENTIAL DRIVEWAYS — BD

STATION	LOCATION	REMOVE (S.Y.)	SAWCUT (L.F.)	PLACE (S.Y.)	
		BIT	BIT	BIT	CL5
12+13	RT.	44	16	36	36
13+70	RT.	78	26	74	74
14+94	RT.	34	18	30.5	30.5
15+85	RT.			42.5	42.5
18+50	RT.	173	63		
TOTAL		329	123	183	183

6" AGGREGATE BASE CLASS 5 COMMERCIAL DRIVEWAY — BJ

STATION	LOCATION	SQ. YD.
18+50	143RD AVE. – RT	120
TOTAL		120

GEOTEXTILE FABRIC TYPE 4 — BN

STATION	LOCATION	SQ. YD.
19+16	143RD AVE. – LT	19.6
19+16	143RD AVE. – RT	19.6
TOTAL		39.2

CULVERT END CONTROL — BS

STATION	LOCATION	QUANTITY
19+75	143RD AVE. – RT	1
TOTAL		1

4" DOUBLE SOLID LINE YELLOW–PAINT — BE

STATION	LOCATION	LIN. FT.
11+55 TO 15+28	143RD AVE. – ROADWAY	372
16+37 TO 19+16	143RD AVE. – ROADWAY	278
TOTAL		650

STORM DRAIN INLET PROTECTION — BO

STATION	LOCATION	QUANTITY
16+68	143RD AVE. – LT	1
16+68	143RD AVE. – RT	1
TOTAL		2

NOTES:
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3. COMPACTION OF ALL GRADING AND BASE ITEMS SHALL BE BY THE "QUALITY COMPACTION METHOD".
4. USE TACK COAT BETWEEN ALL BITUMINOUS LAYERS AND BETWEEN BITUMINOUS AND CONCRETE CURB AND GUTTER. TACK COAT IS INCIDENTAL.
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7. STATIONING FOR LOCATION OF EXISTING AND NEW SIGNS IS APPROXIMATE.
8. SIGN AND POST INSTALLED BY OTHERS

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK/LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
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Dan Kruger
DATE 06/02/25 REG. NO. 48768

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M.S.A.P. 197–127–001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION
EARTHWORK SUMMARY AND TABULATIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2505 TAB 2
DATE: 06/02/25
JOB NUMBER: 2505
SHEET: 4 OF 23
FILE: 38–1–104

UTILITY COMPANIES – CA
GOPHER STATE ONE CALL FIELD UTILITY LOCATE REQUEST
CENTERPOINT ENERGY
CENTURYLINK
CONNEXUS ENERGY
COMCAST CABLE COMMUNICATIONS, INC.
MINNESOTA DEPARTMENT OF TRANSPORTATION
NORTHERN NATURAL GAS

CENTERPOINT ENERGY				CB
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
143RD AVENUE	18+56 TO 19+16	24' RT	UNDERGROND GAS	LEAVE AS IS
TRUNK HIGHWAY 65	19+36	0	UNDERGROND GAS	LEAVE AS IS

CENTURY LINK				CC
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
143RD AVENUE	10+00 TO 19+16	33' LT	UNDERGROND CABLE	LEAVE AS IS
TRUNK HIGHWAY 65	19+36	0	OVERHEAD CABLE	LEAVE AS IS

CONNEXUS ENERGY				CD
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
143RD AVENUE	10+00 TO 19+16	18' LT	OVERHEAD ELECTRIC	RELOCATE
143RD AVENUE	18+56	19' RT	OVERHEAD ELECTRIC	RELOCATE
TRUNK HIGHWAY 65	19+36	0	OVERHEAD ELECTRIC	LEAVE AS IS

GENERAL NOTES:

1. STATIONING FOR 143RD AVENUE REFERENCES THE PROPOSED CENTERLINE FOR THE PROJECT.
2. ALL REMOVALS AND RELOCATIONS, EXCEPT FOR MnDOT FACILITIES, ARE TO BE COMPLETED BY THE UTILITY OWNER.

COMCAST				CE
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
143RD AVENUE	10+00 TO 19+16	33' LT	UNDERGROND CABLE	LEAVE AS IS
TRUNK HIGHWAY 65	19+36	0	OVERHEAD CABLE	LEAVE AS IS

MINNESOTA DOT				CF
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
TRUNK HIGHWAY 65	19+36	0'	UNDERGROND FIBER	LEAVE AS IS

NORTHERN NATURAL GAS				CG
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
143RD AVENUE	10+00 TO 16+39	53' LT	HIGH PRESSURE UNDERGROUND GAS	LEAVE AS IS
143RD AVENUE	16+39	53' LT TO 53' RT	HIGH PRESSURE UNDERGROUND GAS	LEAVE AS IS

GOPHER ONE CALL STATE
800-252-1166 651-454-0002

UTILITIES:
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Dave Kruglen
DATE 06/02/25 REG. NO. 48768

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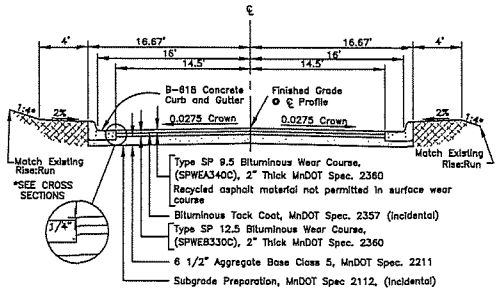
M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION
UTILITY TABULATIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

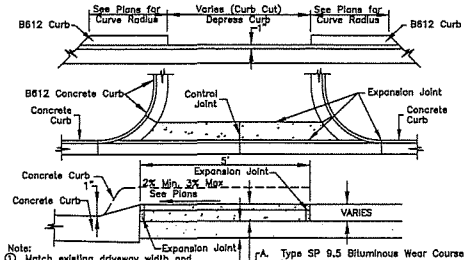
DWG: 2505 TAB 3
DATE: 06/02/25
JOB NUMBER: 2505
SHEET: 5 OF 23
FILE: 38-1-105



TYPICAL URBAN SECTION

TYPICAL STREET SECTION
COMMERCIAL 9-TON RFC-366B1

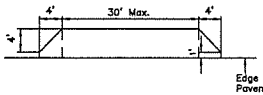
NOT TO SCALE



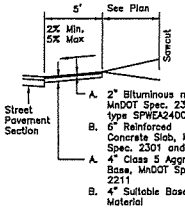
Note:
① Match existing driveway width and elevation at matchline unless otherwise directed by engineer (See Plans).
② If existing driveway is concrete, apron and driveway shall be constructed of 6" concrete with 6"x6"-6/6 welded wire fabric per MnDOT Spec. 3303 in flat sheets, not rolls. Epoxy coated dowel bars conforming to MnDOT Spec. 3302 shall be placed in the existing driveway pavement along the sawcut line. Dowel bars shall be properly coated with a MnDOT approved lubricant. Dowel bars shall be #13, and placed at 24" OC spacing. All work shall conform to MnDOT Spec. 2301 and 2531. Concrete shall be per MnDOT Spec. 2461 for ready-mix with 3,900 PSI at 28 days, with air content of 5% to 7%. Coarse aggregate for concrete shall be per MnDOT Spec. 3137 with 1" max, Class A aggregate. Joint sealer shall be hot-poured, low modulus, mastic type per MnDOT Spec. 3725. Membrane curing compound shall be per MnDOT Spec. 3754 and 2301.3J.
③ If existing driveway is gravel, apron and driveway within R/W shall be constructed per bituminous driveways. Gravel driveways matching beyond R/W shall be 6" Aggregate Base Class 5.
④ If existing driveway is bituminous, apron shall be constructed per concrete driveway and driveway behind apron shall be bituminous per note A. All bituminous work shall conform to MnDOT Specifications 2112, 2211, 2357 and 2360. Tack coat is to be applied between bituminous courses and between concrete and bituminous surfaces.
⑤ Driveways in cut sections to slope up from 1" curb lip to R/W at 2% min. 3% max then slope to matchline. Driveways in fill sections to slope up from 1" curb lip to R/W at min of 2% then slope to matchline. See Plan for slope.

COMMERCIAL DRIVEWAY DETAIL RFC-370A1

NOT TO SCALE



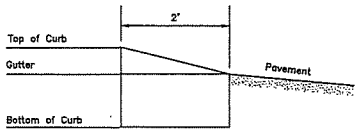
Note:
① Match existing driveway width and elevation at matchline unless otherwise directed by engineer (See Plans).
② If existing driveway is concrete, apron and driveway shall be constructed of 6" concrete with 6" x 6" - 6/6 welded wire fabric per MnDOT Spec. 3303 in flat sheets, not rolls. Epoxy coated dowel bars conforming to MnDOT Spec. 3302 shall be placed in the existing driveway pavement along the sawcut line. Dowel bars shall be properly coated with a MnDOT approved lubricant. Dowel bars shall be size #4 and placed at 24" OC. All work shall conform to MnDOT Spec. 2301 and 2531. Concrete shall be ready-mix 3,900 PSI at 28 days, with air content of 5% to 7%, coarse aggregate shall be 1" max, class A and per MnDOT Spec. 3137. Joint sealer shall be hot-poured, low modulus, mastic type per MnDOT Spec. 3725. Membrane curing compound shall be per MnDOT Specs. 3754 and 2301.3M.
③ If existing driveway is gravel, apron and driveway within R/W shall be constructed per existing bituminous driveways. Gravel driveways matching beyond R/W shall be 6" Class 5.



④ If existing driveway is bituminous, apron and driveway behind apron shall be bituminous per A. above. All bituminous work shall conform to MnDOT Specifications 2112, 2211, 2357 and 2360. Tack coat is to be applied between concrete and bituminous surfaces.
⑤ Driveways in fill sections to slope up from 1" curb lip to end of apron (5' from back of curb) at min of 2% then slope to matchline. See Plan for slope.

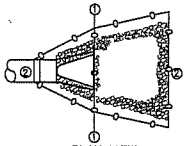
PRIVATE DRIVEWAY/FIELD ENTRANCE RFC-363A3

NOT TO SCALE



CURB END DETAIL RFC-380A

NOT TO SCALE

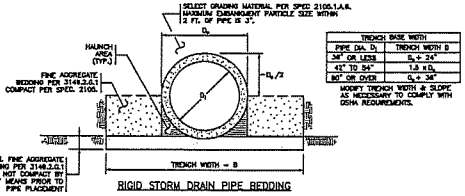


PLAN VIEW

SEQUENCING:
1. Place silt fence along construction limits, the portion of silt fence in front of the pipe shall be removed during flared end section placement.
2. Once the flared end section is placed, silt fence shall be furnished and installed around the top of the flared end section and surrounding the riprap.
3. Any additional outlet protection shall be added as required.
4. Contractor may substitute silt fence for bio-roll or rock log to act as weir for flow into culvert.

SILT FENCE AT FES RFC-857

NOT TO SCALE



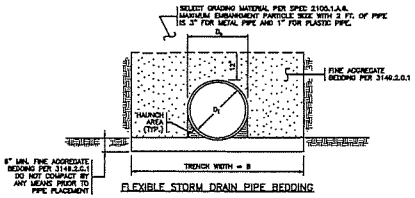
RIGID STORM DRAIN PIPE BEDDING

CONSTRUCTION SEQUENCE

1. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL TO GRADE, DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
2. FOR PIPES WITH BELL, ENSURE HOLES ARE PROVIDED IN BELL AREA PRIOR TO PLACEMENT.
3. FURNISH AND INSTALL PIPE TO GRADE.
4. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVE THE BLADE END OF SHOVEL AT AN ANGLE DOWN THE ENTIRE LENGTH OF THE HAUNCH UNDER THE PIPE) THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK, OR SIMILAR).COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF THE APPLICABLE MATERIAL TYPE ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
5. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 8" LIFTS ON EACH SIDE OF THE PIPE UP TO THE MID-HEIGHT WHEN COMPACTED.
6. COMPLETE REMAINING BACKFILL.

NOTES

EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.
PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER.
PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2501 OR 2503.



FLEXIBLE STORM DRAIN PIPE BEDDING

CONSTRUCTION SEQUENCE

1. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL TO GRADE, DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
2. FOR PIPES WITH BELL, ENSURE HOLES ARE PROVIDED IN BELL AREA PRIOR TO PLACEMENT.
3. FURNISH AND INSTALL PIPE TO GRADE.
4. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVE THE BLADE END OF SHOVEL AT AN ANGLE DOWN THE ENTIRE LENGTH OF THE HAUNCH UNDER THE PIPE) THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK, OR SIMILAR).COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF THE APPLICABLE MATERIAL TYPE ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
5. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 8" LIFTS ON EACH SIDE OF THE PIPE UP TO THE MID-HEIGHT WHEN COMPACTED.
6. COMPLETE REMAINING BACKFILL.

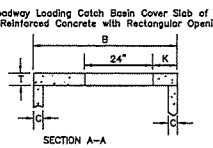
NOTES

EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.
PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER.
PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2501 OR 2503.

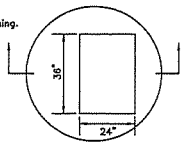
STORM DRAIN BEDDING FOR RIGID AND FLEXIBLE PIPE RFC-654

NOT TO SCALE

NOTE:
HS20 Roadway Loading Catch Basin Cover Slab of Precast Reinforced Concrete with Rectangular Opening.



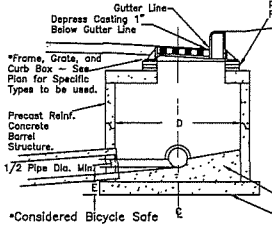
SECTION A-A



PLAN OF COVER SLAB

Note:
1. Steps needed for structure height greater than 4'.
2. Cover Slab to Rest on Bed of Mortar on Full Thickness of Structure Walls, not to Rest on Pipe Tongue or Groove.
3. Location of Structure as Shown in Plans.
4. See Plan for Box and Grate Type.

Adjusting Rings, 2 Min., 3 Max., Full 3/8" Bed of Mortar Between Rings. Plaster Exterior Only with 2" Min. Thick Coat. Strike Off Interior. No shims permitted. Stagger on the Adjustment Rings Not to Exceed 3/4" Total.



SECTIONAL VIEW

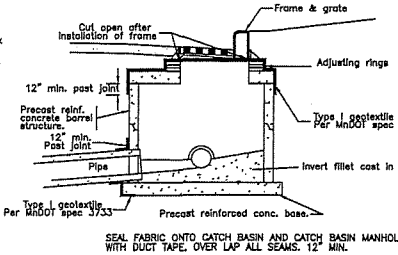
STRUCTURE REQUIREMENTS					
D	B	C	E	T	K
48"	56"	5"	6"	6"	14"
54"	65"	5.5"	8"	8"	14"
60"	72"	6"	8"	8"	14"
66"	79"	6.5"	8"	8"	14"
72"	86"	7"	8"	8"	14"
78"	93"	7.5"	8"	8"	14"
84"	100"	8"	8"	8"	14"

MnDOT Spec. ref. 2506, Detail ref. 4011, 4020, 4022

RECTANGULAR INLET FOR ROUND MANHOLE RFC-465A1

NOT TO SCALE

SPECIAL 1 = 48" ø



SEAL FABRIC ONTO CATCH BASIN AND CATCH BASIN MANHOLE WITH DUCT TAPE, OVER LAP ALL SEAMS. 12" MIN.

SECTIONAL VIEW

FABRIC AROUND CATCH BASIN RFC-463

NOT TO SCALE

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK/LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
NORTHERN NATURAL GAS (877) 654-0648

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Noel Kriegler
DATE 06/02/25 REG. NO. 48768

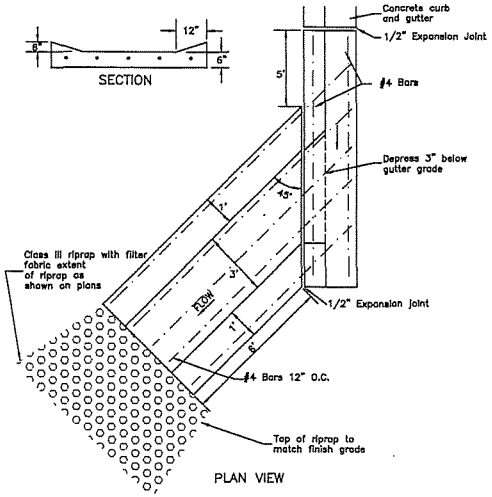
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION
TYPICAL SECTION AND DETAILS

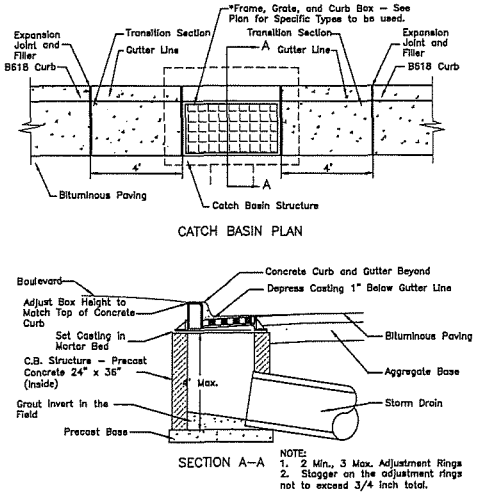
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2505 DETAIL 1
DATE: 06/02/25
JOB NUMBER: 2505
SHEET: 6 OF 23
FILE: 38-1-106



CONCRETE SPILLWAY RFC–396B

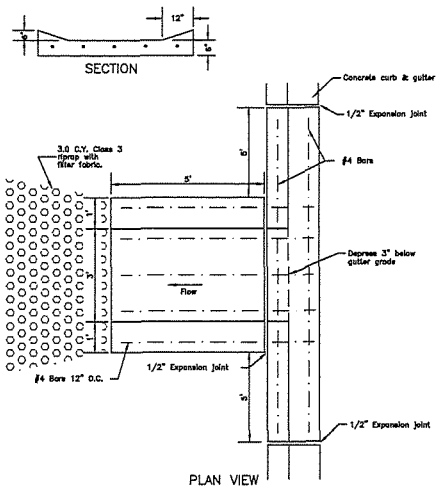
NOT TO SCALE



RECTANGULAR CATCH BASIN RFC–459C

NOT TO SCALE

SPECIAL



CONCRETE SPILLWAY RFC–396A

NOT TO SCALE

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK/LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
NORTHERN NATURAL GAS (877) 654-0546

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Riegler
DATE 06/02/25 REG. NO. 45758

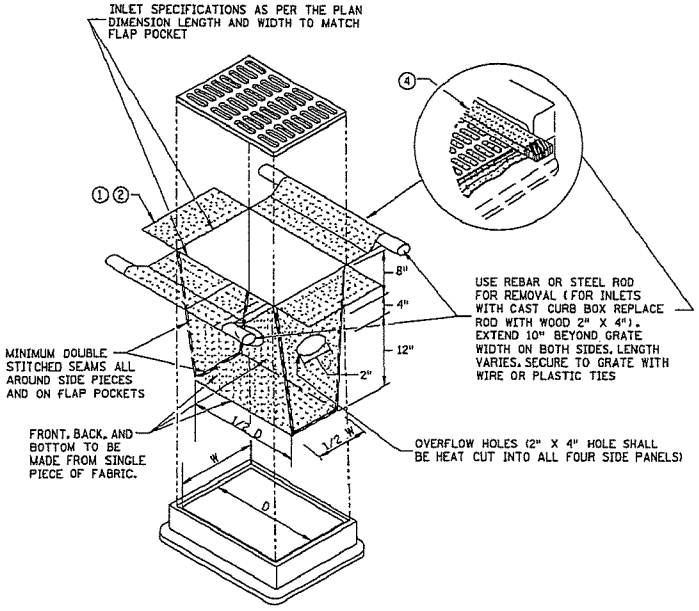
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION
DETAILS

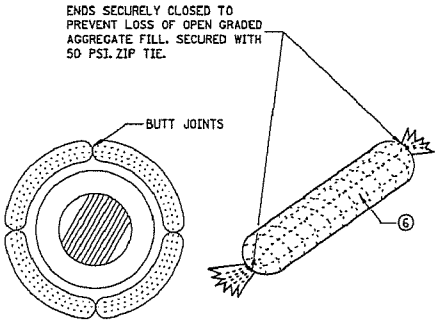
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2505 DETAIL 2
DATE: 06/02/25
JOB NUMBER: 2505
SHEET: 7 OF 23
FILE: 38-1-107

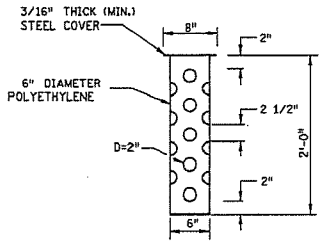


FILTER BAG INSERT ③

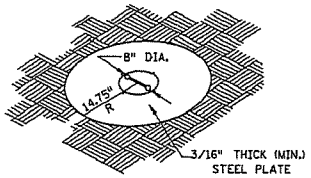
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)



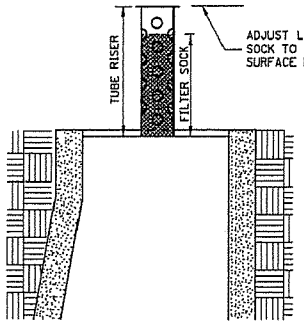
ROCK LOG/COMPOST LOG



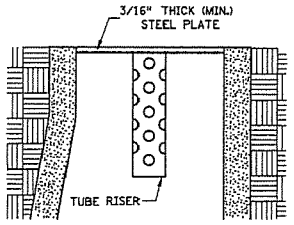
TUBE RISER



PERSPECTIVE VIEW

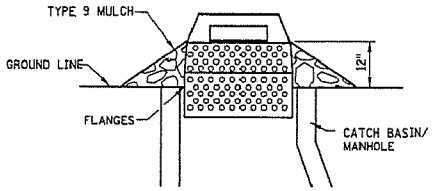


SECTION (UP POSITION)



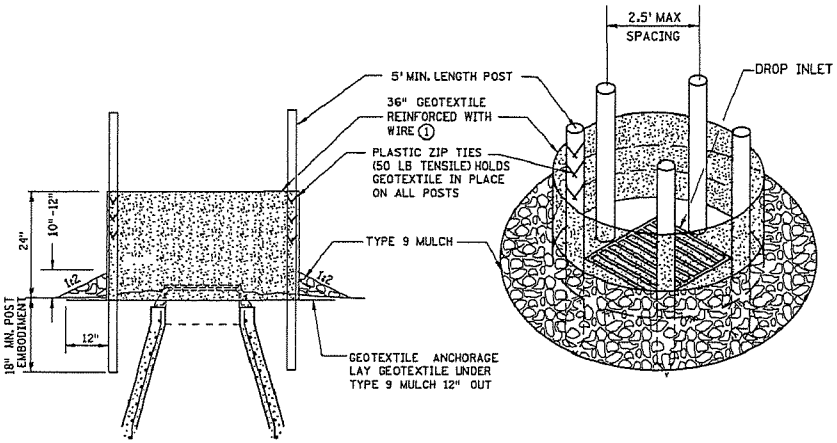
SECTION (DOWN POSITION)

POP-UP HEAD



SEDIMENT CONTROL INLET HAT

NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 or LESS

NOTES:
SEE SPECS. 2573, 3137, & 3886.

DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEED TRAFFIC FLOW.

① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.

② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

③ INSTALLATION NOTES:
DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.

④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.

⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.

⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

REVISION:

APPROVED: 2-28-2017

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

STANDARD PLAN 5-297.405 | 4 OF 8

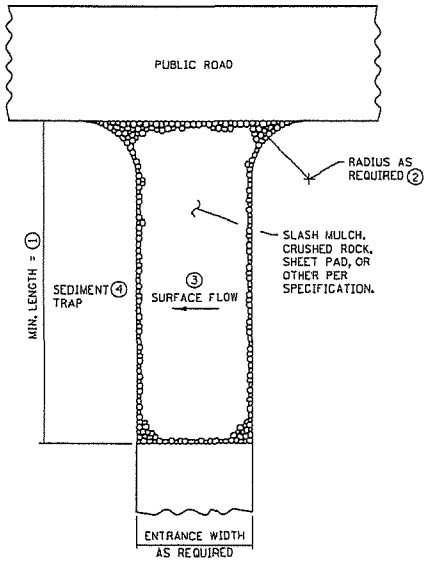
APPROVED: 2-28-2017

REVISED:

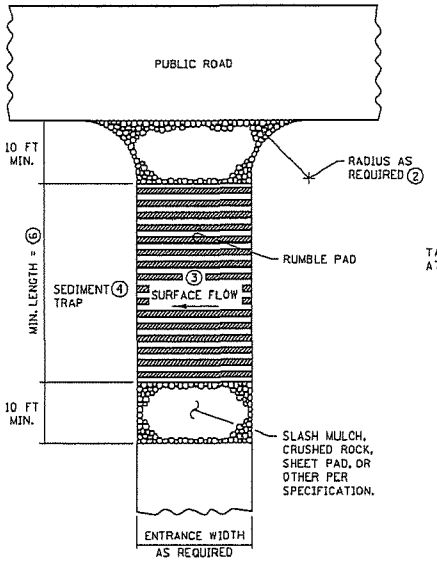
TEMPORARY SEDIMENT CONTROL

STORM DRAIN INLET PROTECTION

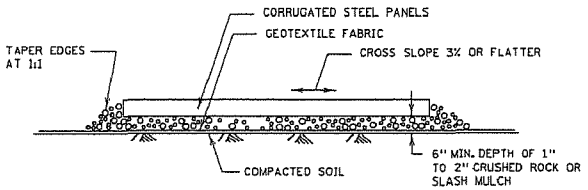
STATE PROJ. NO. (T.H.) SHEET NO. 8 OF 23 SHEETS



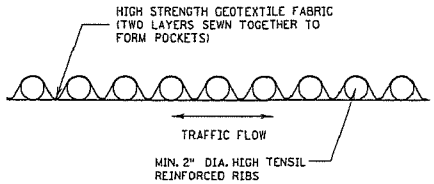
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



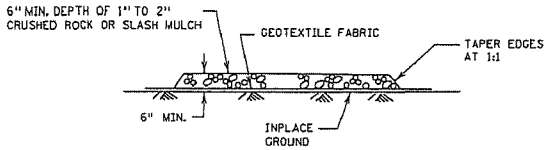
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

① MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.

② PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.

③ IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.

④ IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.

⑤ IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.

⑥ MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.

⑦ MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

REVISION:

APPROVED: 2-28-2017

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

STANDARD PLAN 5-297.405 | 5 OF 8

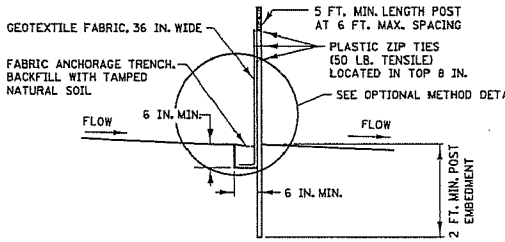
APPROVED: 2-28-2017

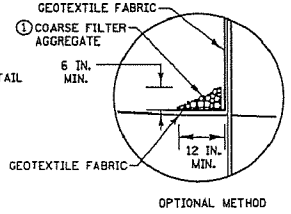
REVISED:

TEMPORARY SEDIMENT CONTROL

STABILIZED CONSTRUCTION EXIT

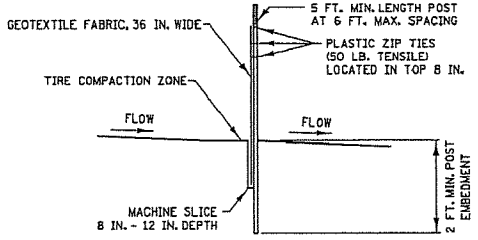
STATE PROJ. NO. (T.H.) SHEET NO. 9 OF 23 SHEETS



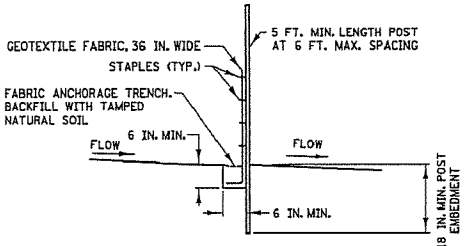


OPTIONAL METHOD

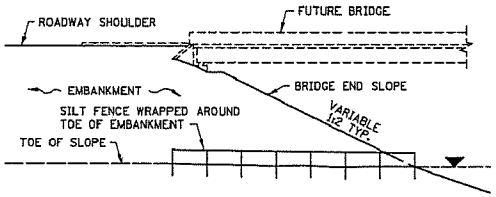
SILT FENCE TYPE HI ②
(HAND INSTALLED)



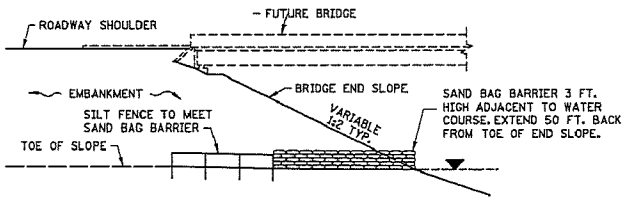
SILT FENCE TYPE MS ②
(MACHINE SLICED)



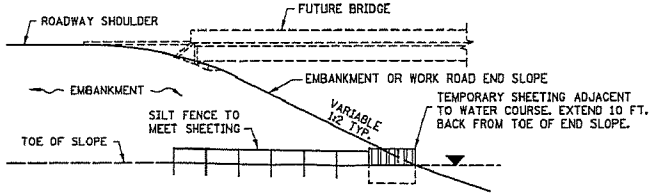
SILT FENCE TYPE PA ③
(PREASSEMBLED)



SILT FENCE ONLY ④

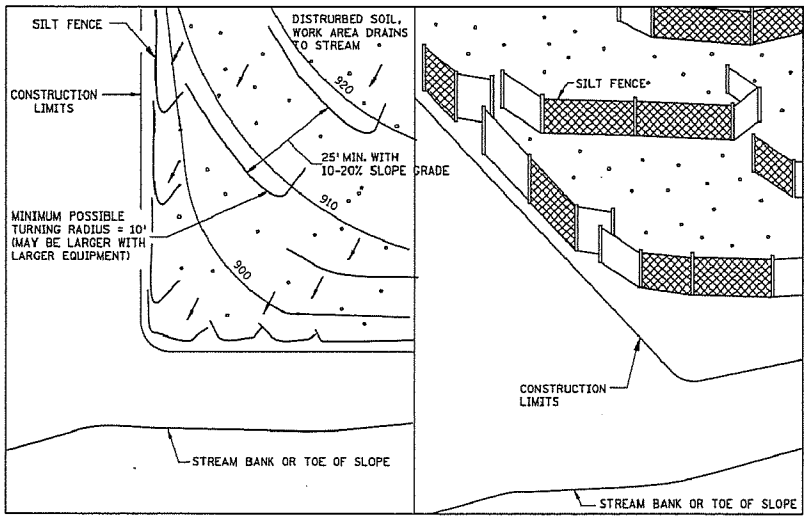


SILT FENCE WITH SAND BAGS ⑤



SILT FENCE WITH SHEETING ⑥

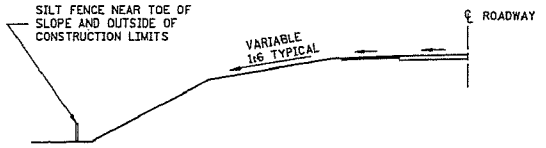
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



PLAN VIEW

PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:

SEE SPECS. 2573, 3149 & 3886.

① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.

② TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 1 ACRE.

③ TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.

④ WATER COURSE FLOW VELOCITY: STANDING.
CONTRIBUTING SLOPE AREA: 1./2 ACRE.

⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1. ACRE.

⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES.

REVISION:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

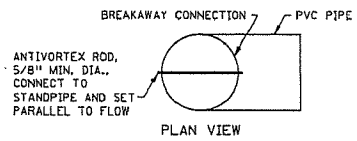
STANDARD PLAN 5-297.405 | 6 OF 8

APPROVED: 2-28-2017
REVISED:

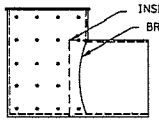
STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL
SILT FENCE

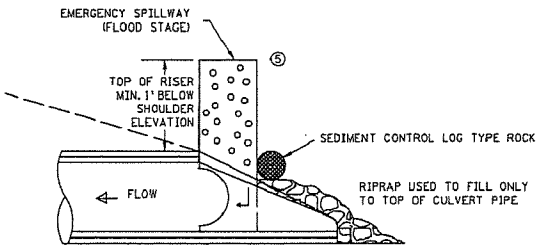
STATE PROJ. NO. (T.H.) SHEET NO. 10 OF 23 SHEETS



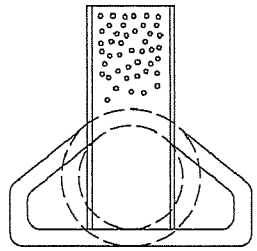
PLAN VIEW



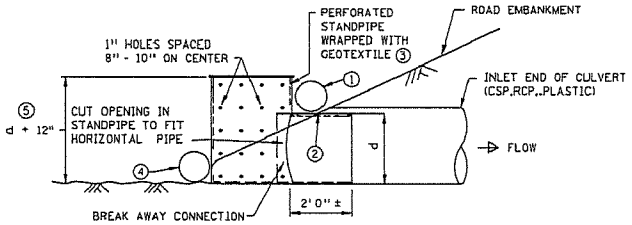
CULVERT STANDPIPE



LONGITUDINAL SECTION



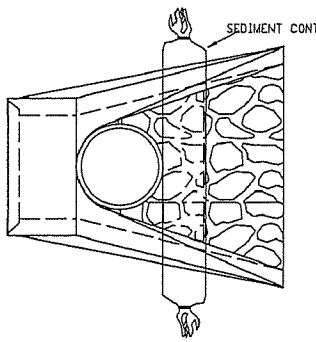
END VIEW



ELEVATION VIEW OF CULVERT INSTALLATION

CULVERT STANDPIPE INSERT (D-RISER)

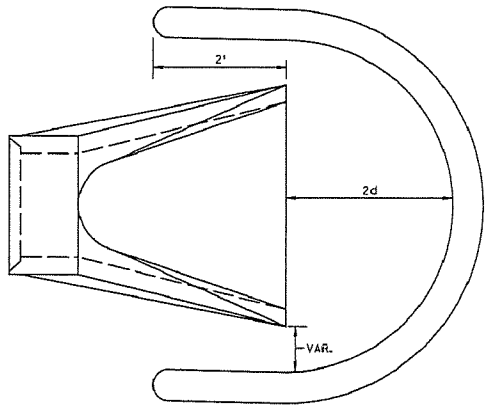
d= CULVERT SIZE: 12" - 36"



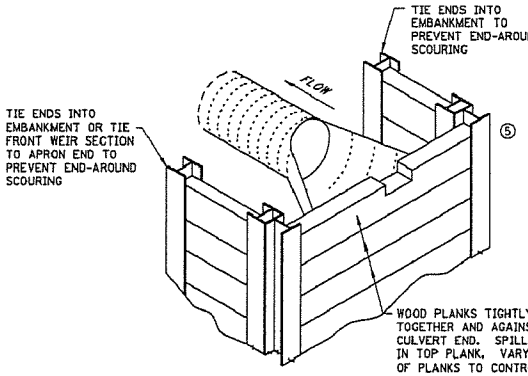
TOP VIEW

NOTE: SEDIMENT CONTROL LOG TYPE ROCK MAY BE WRAPPED AROUND RISER

CULVERT STANDPIPE INSERT (D-RISER)



SEDIMENT CONTROL LOG WEIR
(COMPOST, WOOD CHIP, OR ROCK)
d = CULVERT SIZE: 12"-36"



WOOD PLANK WEIR

NOTES:

SEE SPECS. 2573, 3891 & 3893.

FOR USE WHEN TEMPORARY PONDING IS NEEDED IN DITCH SECTIONS FOR SEDIMENT CONTROL.

MANUFACTURED ALTERNATIVES LISTED ON MnDOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED AT NO ADDITIONAL COST.

① ROCK LOG OR SANDBAG TO HOLD STANDPIPE AND ACT AS A SEAL BETWEEN RISER PIPE AND CULVERT.

② PLACE CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO CSP OR RCP CULVERT.

③ ALL GEOTEXTILE USED FOR CULVERT PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 FOR MACHINE SLICED.

④ ROCK LOG OR RIP RAP TO HOLD STANDPIPE AND ACT AS A FILTER BETWEEN RISER PIPE AND CULVERT.

⑤ HEIGHT OVERFLOW NOT TO CAUSE FLOODING OF ROAD OR ADJACENT PROPERTIES.

REVISION:

APPROVED: 2-28-2017

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.405 | 8 OF 8

APPROVED: 2-28-2017
REVISED:

STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL

CULVERT END CONTROLS

STATE PROJ. NO. (T.H.) SHEET NO. 11 OF 23 SHEETS

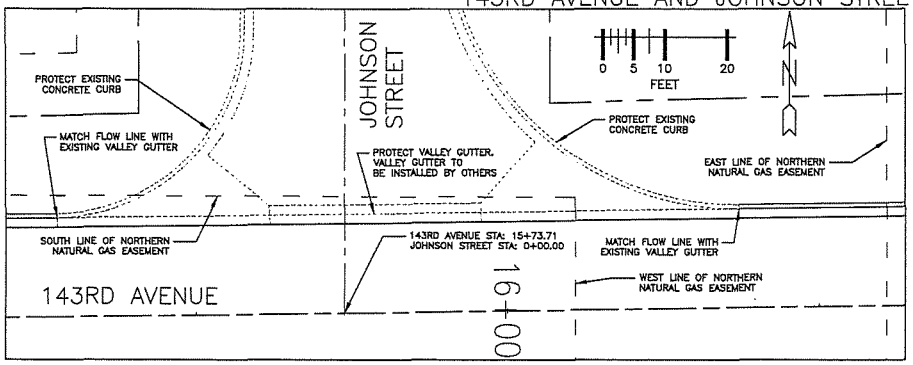
PROPOSED BITUMINOUS DRIVEWAY

PROPOSED CONCRETE

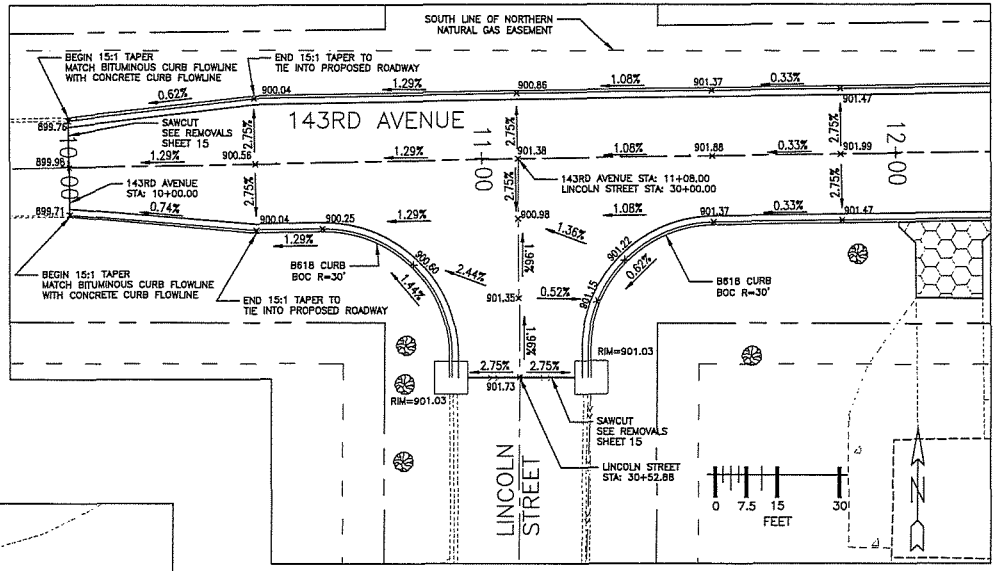
NOTES:

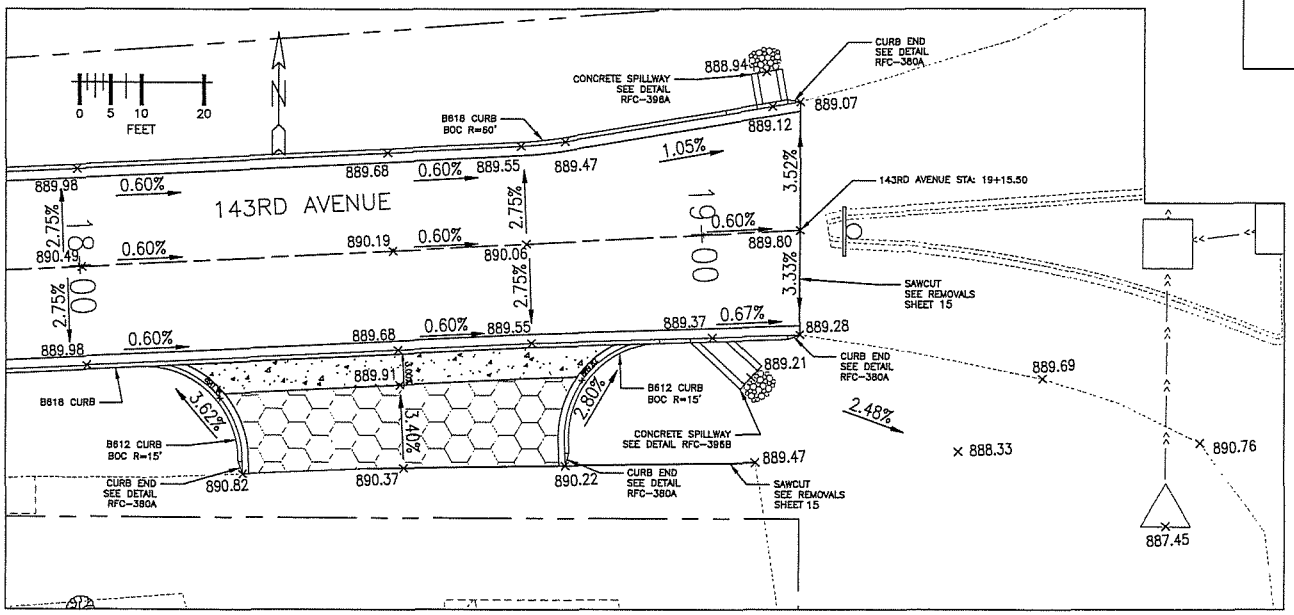
1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
3. SEE DETAIL COMMERCIAL DRIVEWAY RFC-370A1 FOR DRIVEWAY DETAILS.

143RD AVENUE AND JOHNSON STREET

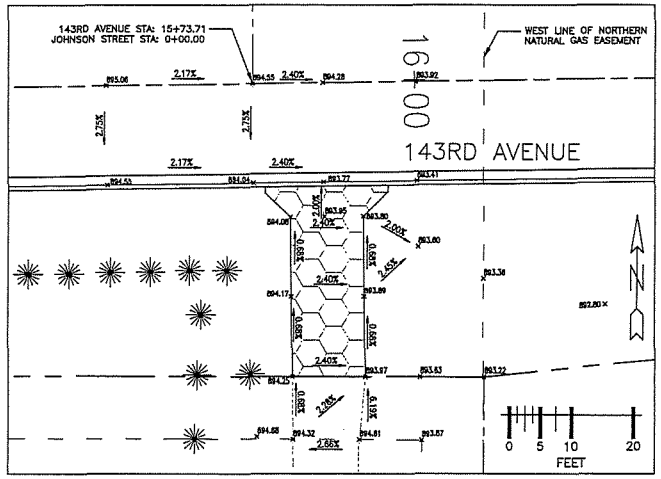


143RD AVENUE AND LINCOLN STREET





143RD AVENUE AND SOUTH BOUND TRUNK HIGHWAY 65



1324 143RD AVENUE EASTERN DRIVEWAY

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK/LUMEN (763) 712-8017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4288
NORTHERN NATURAL GAS (877) 654-0646

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.

DATE 05/02/25 REG. NO. 46758

RFC ENGINEERING, INC.
Consulting Engineers

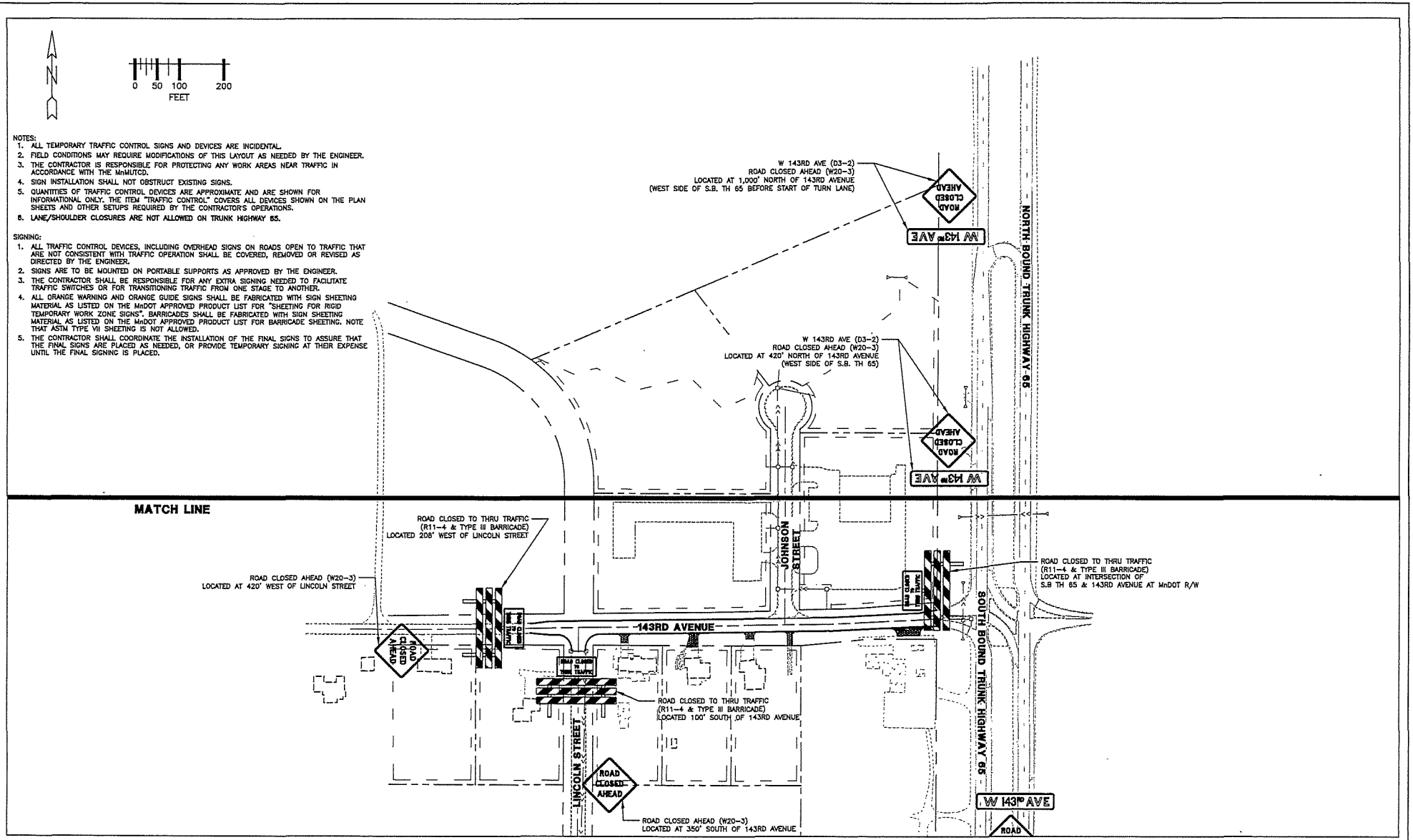
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION

INTERSECTION DETAILS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	2505 INT
DATE:	05/02/25
JOB NUMBER:	2505
SHEET:	12 OF 23
FILE:	38-1-112



GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK/LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 807-4078
CONNEXUS ENERGY (763) 323-4268
NORTHERN NATURAL GAS (877) 654-0648

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Krueger
DATE 08/02/25 REG. NO. 48768

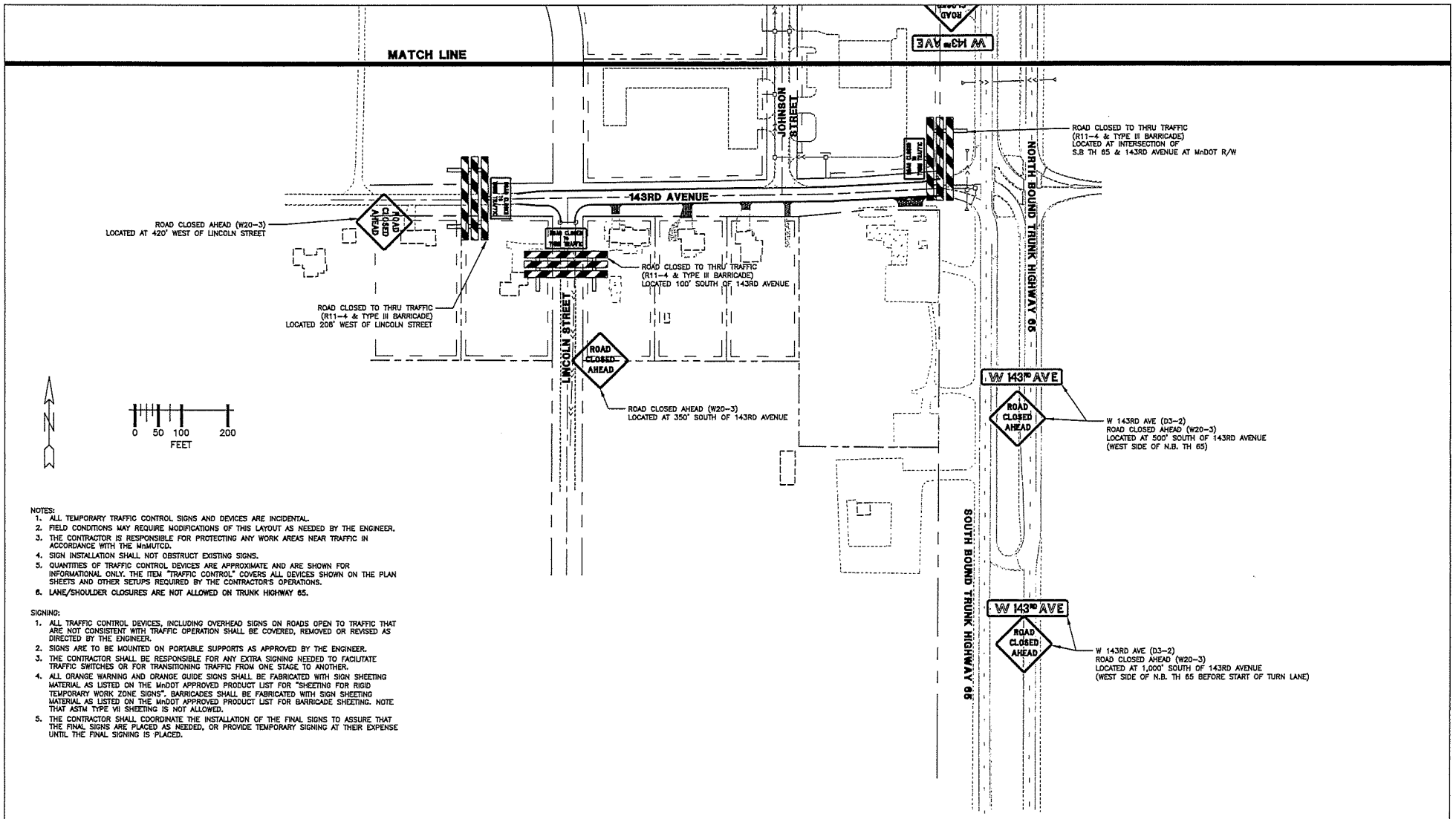
RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION

TRAFFIC CONTROL PLAN

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2505 TRAF1
DATE: 08/02/25
JOB NUMBER: 2505
SHEET: 13 OF 23
FILE: 38-1-113



NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES ARE INCIDENTAL.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS NEEDED BY THE ENGINEER.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MnMUTCD.
4. SIGN INSTALLATION SHALL NOT OBSTRUCT EXISTING SIGNS.
5. QUANTITIES OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND ARE SHOWN FOR INFORMATIONAL ONLY. THE ITEM "TRAFFIC CONTROL" COVERS ALL DEVICES SHOWN ON THE PLAN SHEETS AND OTHER SETUPS REQUIRED BY THE CONTRACTOR'S OPERATIONS.
6. LANE/SHOULDER CLOSURES ARE NOT ALLOWED ON TRUNK HIGHWAY 65.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. SIGNS ARE TO BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE WARNING AND ORANGE GUIDE SIGNS SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MnDOT APPROVED PRODUCT LIST FOR "SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS". BARRICADES SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MnDOT APPROVED PRODUCT LIST FOR BARRICADE SHEETING. NOTE THAT ASTM TYPE VII SHEETING IS NOT ALLOWED.
5. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS PLACED.

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:

CENTURYLINK/LUMEN	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
NORTHERN NATURAL GAS	(877) 654-0646

DATE	REVISION HISTORY

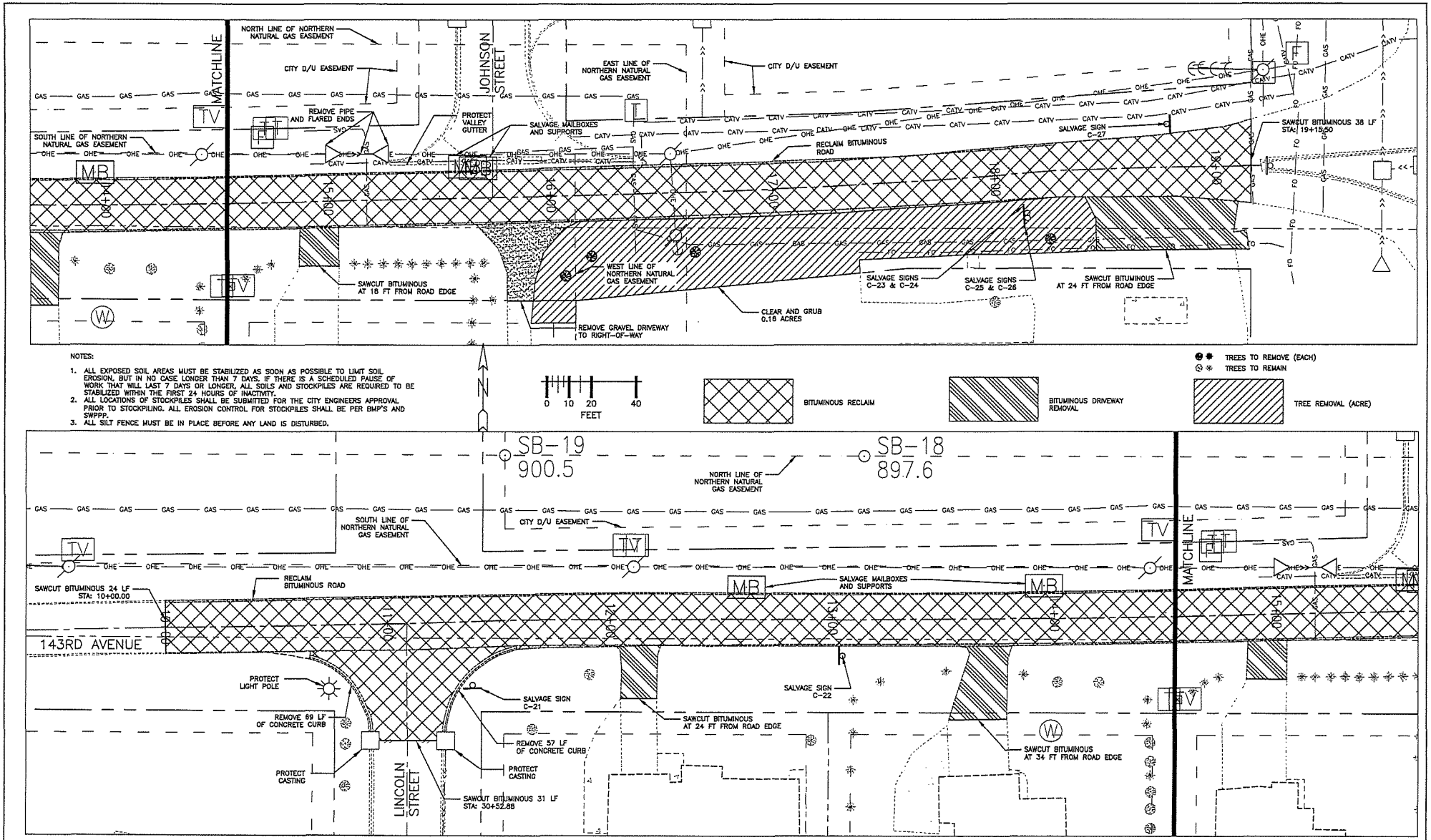
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Nan Krueger
DATE 06/02/25 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION
TRAFFIC CONTROL PLAN

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	2505 TRAF2
DATE:	06/02/25
JOB NUMBER:	2505
SHEET:	14 OF 23
FILE:	38-1-114



GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK/LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
NORTHERN NATURAL GAS (877) 654-0646

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Kruger
DATE 06/02/25 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

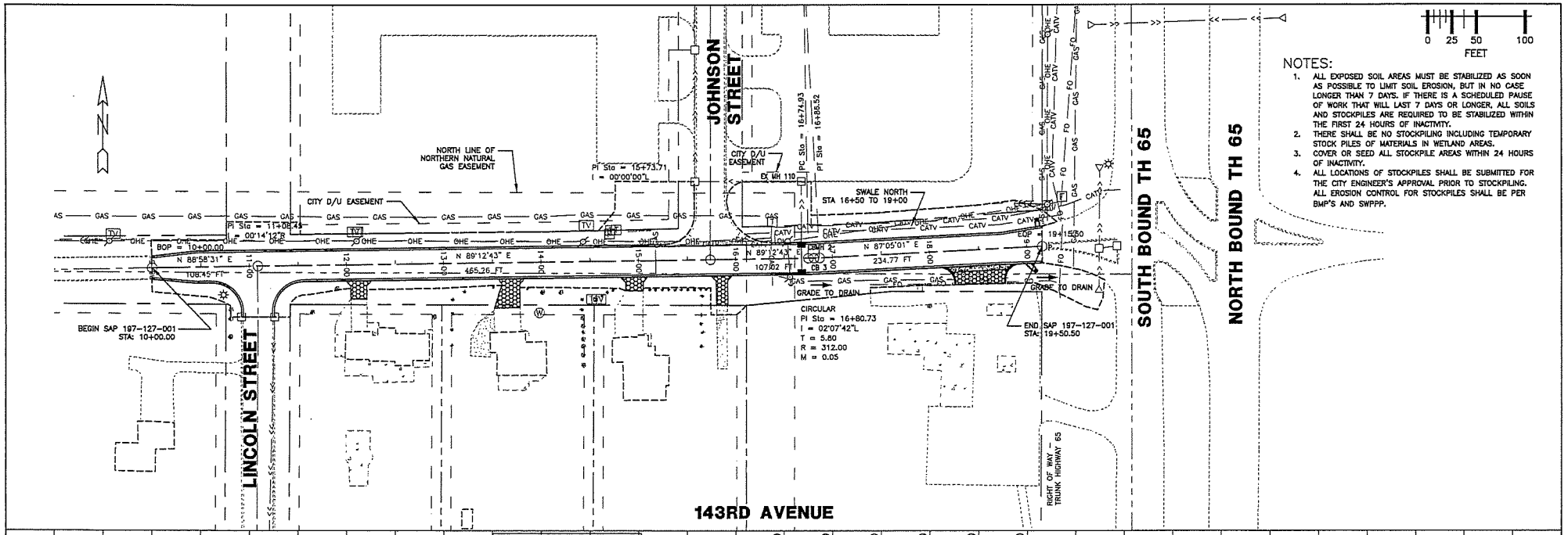
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION

REMOVAL PLAN

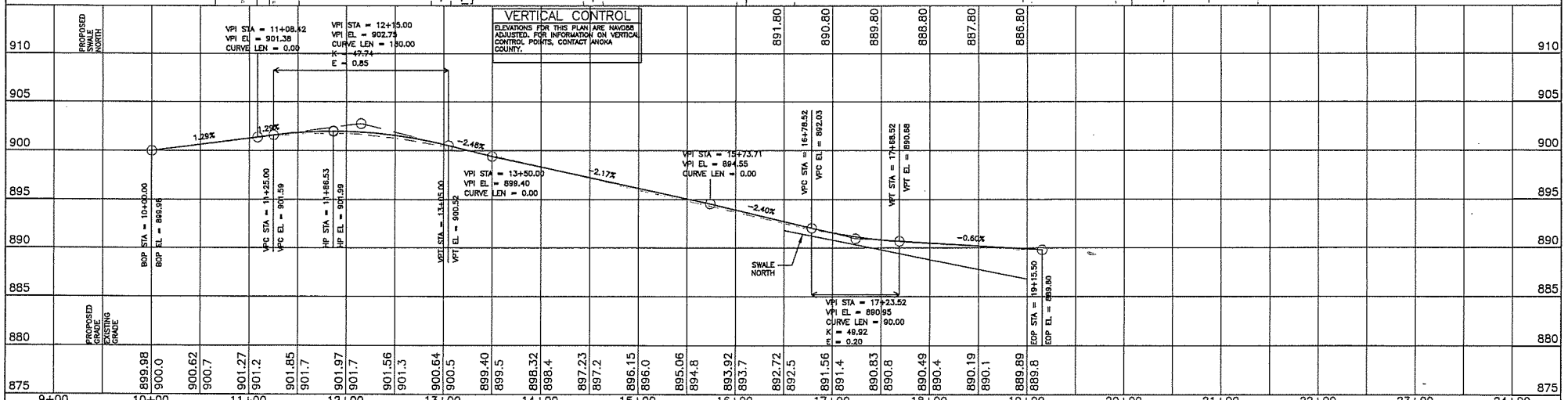
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	2505 REMOVAL
DATE:	06/02/25
JOB NUMBER:	2505
SHEET:	15 OF 23
FILE:	38-1-115



NOTES:

1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
3. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
4. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEER'S APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.



GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 6/02/2025 15:12

UTILITIES:
CENTURYLINK/LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2750
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4288
NORTHERN NATURAL GAS (877) 654-0645

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Don Krueger
DATE 06/02/25 REG. NO. 46768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION

143RD AVENUE PLAN AND PROFILE
PLAN AND PROFILE

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

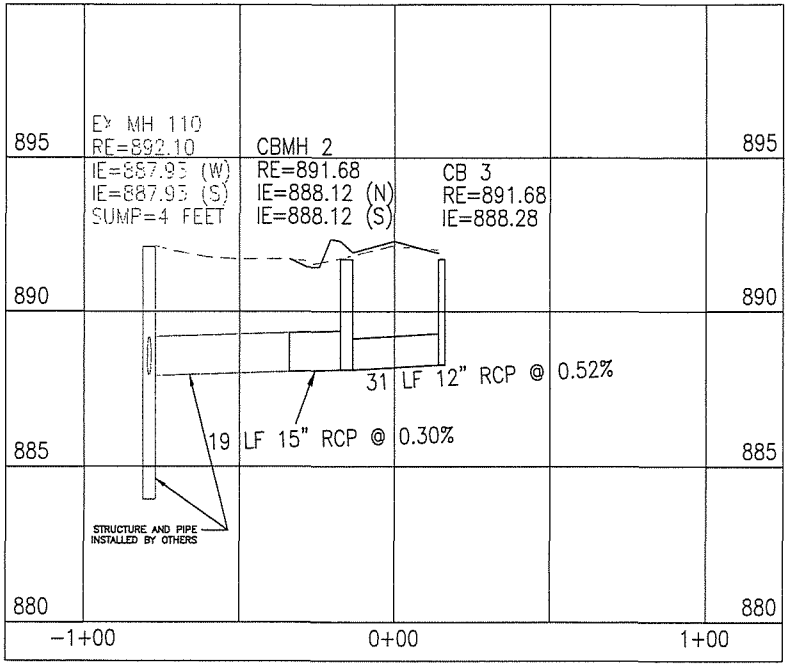
DWG: RCP01001
DATE: 06/02/25
JOB NUMBER: 2505
SHEET: 16 OF 23
FILE: 38-1-116

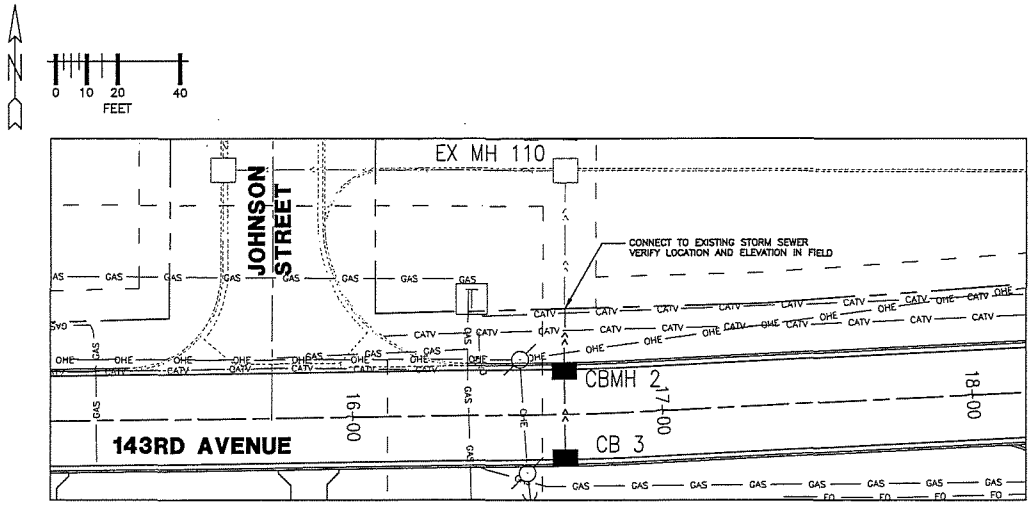
NOTES:

1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
3. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
4. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
5. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
6. ** NEENAH FOUNDRY R-3067; EAST JORDAN IRON WORKS V-7030; D&L FOUNDRY I-1804.

STORM DRAIN

STRUCTURE	STATION	LOCATION	SIZE OF STRUCTURE	DESIGN	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	12" R.C.P.	15" R.C.P.	PIPE APRON	TRASH GUARD	APRON	FLOWS TO	INLET	% GRADE
									LIN FT	LIN FT	LIN FT	EACH	EACH			
CB 3	16+68.2	RT.	2' x 3'	RFC-458B	891.68	888.28	R-3067	L								
									31					CBMH 2	888.12	0.52
CBMH 2	16+68.2	LT.	48" ø	RFC-465A1	891.68	888.12	R-3067	L								
										19				EX MH 110	887.93	0.30
TOTAL									31	19	0	0	0			





SOPHER ONE STATE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK/LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2750
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
NORTHERN NATURAL GAS (877) 654-0646

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Knight
DATE 06/02/25 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION
STORM DETAILS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2505 STORM 1
DATE: 06/02/25
JOB NUMBER: 2505
SHEET: 17 OF 23
FILE: 38-1-117

NOTES:

1. ALL GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION.
2. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
3. SALVAGED TOPSOIL SHALL BE STOCKPILED IN PLACE TO MAINTAIN CONTINUITY OF PROPERTY OWNERS EXISTING TURF CONDITIONS. UPON APPROVAL OF ENGINEER, SOIL MAY BE STOCKPILED UPON REVIEW OF ALTERNATE PLAN PROVIDED BY CONTRACTOR.
4. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.

CONSTRUCTION EXIT

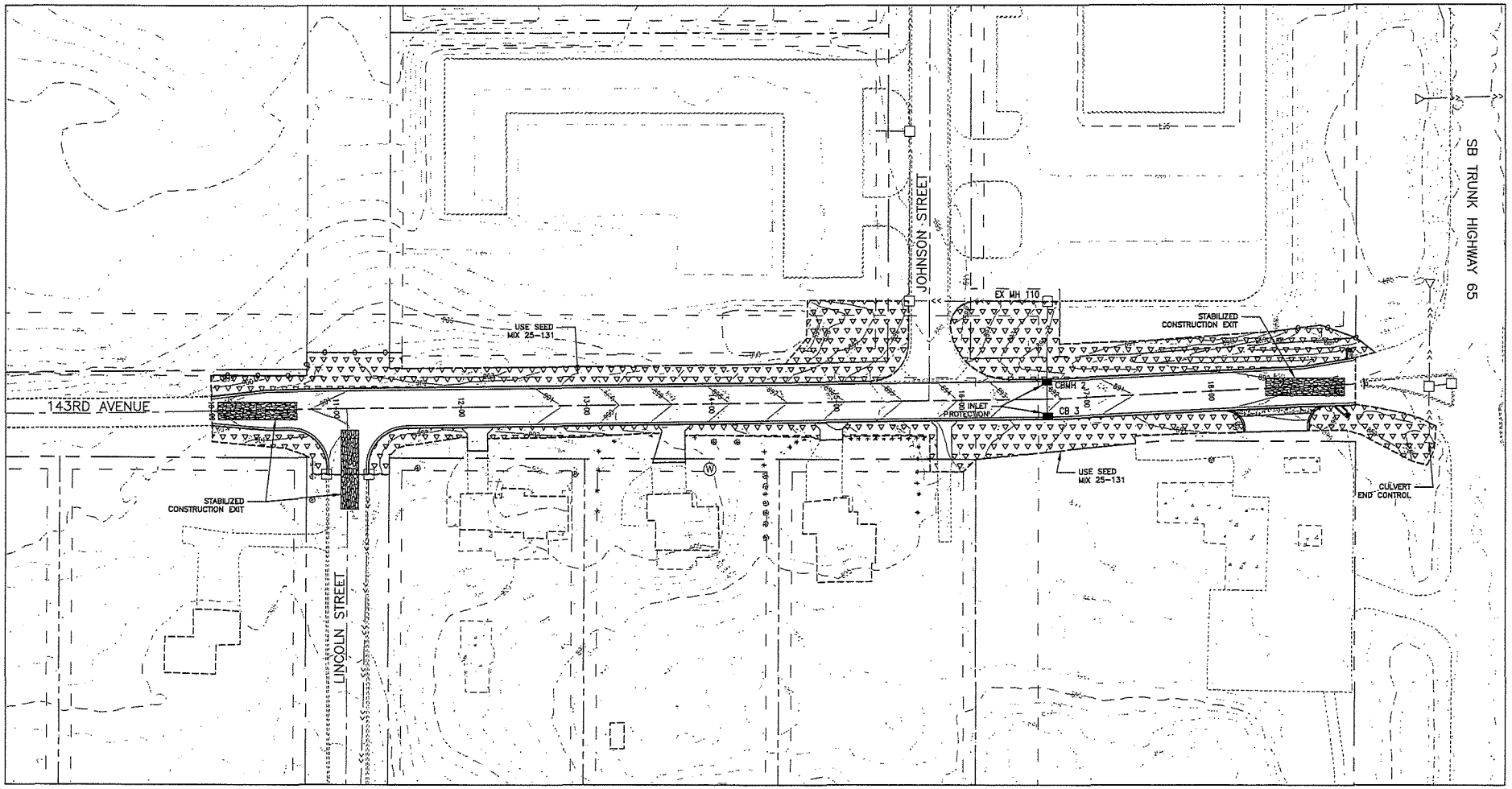
SILT FENCE

RIPRAP, CLASS III WITH FABRIC

SEED MIX 25-131: COMMERCIAL TURF
MULCH TYPE 1
PLANT APRIL 1ST – JUNE 1ST FOR SPRING PLANTING OR
JULY 20TH – SEPTEMBER 20TH FOR FALL PLANTING

0 20 40 80
FEET

N



GOPHER ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK/LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
NORTHERN NATURAL GAS (877) 654-0645

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Ringler
DATE 08/02/25 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION

STORMWATER POLLUTION PREVENTION PLAN

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2505 SWPPP 1
DATE: 08/02/25
JOB NUMBER: 2505
SHEET: 18 OF 23
FILE: 38-1-118

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

CONSTRUCTION ACTIVITY INFORMATION:
STATE AID PROJECT 197-127-001, HAM LAKE, ANOKA COUNTY, MINNESOTA, 55304, 45.2297° LATITUDE NORTH, 93.2361° LONGITUDE WEST (BY ONLINE TOOL).

TOTAL PROJECT DISTURBED AREA IS 1.68 ACRES.

THIS IS A ROAD RECONSTRUCTION PROJECT.

0.16 ACRES OF NEW IMPERVIOUS SURFACE.
0.02 ACRES OF NEW PERVIOUS SURFACE.

DRAINAGE IS TO A FUTURE CITY POND LOCATED NORTH OF THE PROJECT AND WEST TOWAROS T.H. 65. THE NORTHERN POND DRAINS TO COON CREEK AND THE REMAINDER DRAINS INTO THE MnDOT DITCH ALONG T.H. 65. THERE ARE SPECIAL WATER OR IMPAIRED WATER WITHIN ONE MILE DOWNSTREAM OF THE PROJECT. COON CREEK IS IMPAIRED FOR E.COLI , BIOTIC IMPAIRMENT, AND TOTAL SUSPENDED SOLIDS (TSS). COUNTY DITCH #58 IS IMPAIRED FOR E.COLI.

CONTACT INFORMATION:
OWNER: CITY OF HAM LAKE. OWNER CONTACT: DENISE WEBSTER CITY ADMINISTRATOR, DWEBSTER@HAMLAKEMN.GOV, 763-434-9555, 15544 CENTRAL AVENUE, HAM LAKE, MN, 55304

ALTERNATE OWNER CONTACT: DAVID A KRUGLER, CITY ENGINEER. DKRUGLER@RFCENGINEERING.COM 763-862-8000. RFC ENGINEERING INC, 13635 JOHNSON STREET NE, HAM LAKE, MN 55304

CONTRACTOR: _____

ALTERNATE CONTRACTOR CONTACT: _____
PARTY RESPONSIBLE FOR OPERATION AND MAINTENANCE OF PERMANENT STORMWATER MANAGEMENT SYSTEM: CITY OF HAM LAKE PUBLIC WORKS, JOHN WITKOWSKI, 763-235-1662, 15544 CENTRAL AVENUE, HAM LAKE, MN, 55304

GENERAL CONSTRUCTION PROJECT INFORMATION:
THE PROJECT CONSISTS OF RECONSTRUCTING 143RD AVENUE FROM LINCOLN STREET TO T.H. 65: WORK INCLUDES GRADING, AGGREGATE BASE, PLANT MIXED BITUMINOUS SURFACE, STORM DRAINS, AND CONCRETE CURB AND GUTTER.

THE SOILS ON THE SITE ARE PRIMARILY HYDROLOGIC SOIL GROUP TYPE A WITH INFILTRATION CAPACITY. THERE IS NO MUCK IN THE WETLANDS. THE GROUNDWATER IN THIS AREA IS MEDIUM.

GENERAL SITE INFORMATION:
ALL EROSION CONTROL MEASURES MUST BE PLACED PRIOR TO COMMENCEMENT OF LAND DISTURBING ACTIVITIES AND BE MAINTAINED UNTIL ALL DISTURBED AREAS ON THE SITE HAVE BEEN RESTORED.

CONSTRUCTION EXITS SHALL BE SURFACED WITH CRUSHED ROCK AND DESIGNATED PRIOR TO CONSTRUCTION OR APPROVED EQUAL (REFER TO DETAIL).

TRENCHES FOR STORM DRAIN PIPE AND STRUCTURES ARE TO BE BACKFILLED BY THE END OF THE WORK DAY.

NO STORMWATER MITIGATION MEASURES ARE REQUIRED AS THE RESULT OF AN ENVIRONMENTAL, ARCHAEOLOGICAL, OR OTHER REQUIRED LOCAL, STATE, OR FEDERAL REVIEW OF THE PROJECT.

THE PROJECT IS NOT LOCATED IN A KARST AREA.

THE PROJECT DOES NOT DISCHARGE TO A CALCAREOUS FEN LISTED IN MINN. R. 7050.0180, SUBP. 6B.

THE SITE DOES NOT DISCHARGE TO A WATER THAT IS LISTED AS IMPAIRED FOR PHOSPHORUS, TURBIDITY, DISSOLVED OXYGEN OR BIOTIC IMPAIRMENT.

THE SITE IS WITHIN 1-MILE OF A WATER THAT IS LISTED AS IMPAIRED. COON CREEK IS IMPAIRED WITH E.COLI, BIOTIC IMPAIRMENT, AND TOTAL SUSPENDED SOLIDS. COUNTY DITCH #58 IS IMPAIRED WITH E.COLI.

SELECTION OF A PERMANENT STORMWATER MANAGEMENT SYSTEM:
NEW IMPERVIOUS SURFACE CREATED BY THIS PROJECT IS 0.16 ACRES.

INFILTRATION ON THE SITE IS NOT PROPOSED DUE TO LIMITED RIGHT-OF-WAY

HYDROLOGIC REPORT (DRAINAGE CALCULATIONS) AND DRAINAGE MAPS (WITH DRAINAGE DIVIDES) PREPARED FOR THIS PROJECT ARE AVAILABLE IN THE CITY'S ENGINEERS OFFICE. STORM WATER RUNOFF FROM THE SITE DRAINS INTO A FUTURE CITY POND AND THEN OVERFLOWS TO A WETLAND EAST OF THE PROJECT. THE WETLAND DRAINS INTO THE MnDOT DITCH ALONG T.H 65 AND THEN INTO COON CREEK. THE RUNOFF FROM THE SITE WILL BE CONVEYED VIA NEW ON SITE STORM DRAINS INTO EXISTING STORM SEWER TO THE NORTH. THE LAST STORM DRAIN STRUCTURE JUST PRIOR TO CONNECTING INTO THE EXISTING STORM SEWER WILL BE EQUIPPED WITH A SUMP (GRIT CHAMBERS). GRIT CHAMBERS ARE BEING USED DUE TO THE HIGH GROUND WATER TABLE. THE SUMP (GRIT CHAMBERS) ARE SIZED PER COON CREEK WATERSHED DISTRICT REQUIREMENTS. ANY RUNOFF NOT CAPTURED BY STORM STRUCTURES WILL FLOW TO THE MnDOT DITCH TO THE EAST.

EROSION PREVENTION PRACTICES:
THERE ARE NO CONSTRUCTION PHASING, VEGETATIVE BUFFER STRIPS, LONG HORIZONTAL SLOPE GRADING FOR THE PROJECT. THERE ARE UNDISTURBED AREAS WITHIN THE PROJECT LIMITS.

ALL DISTURBED AREAS SHALL BE RESTORED WITH SOD, SEED, WOOD FIBER BLANKET, OR PAVED SURFACE WITHIN SEVEN (7) DAYS OF ROUGH GRADING.

ALL EXPOSED SOIL AREAS MUST HAVE TEMPORARY EROSION PROTECTION OR PERMANENT COVER WITHIN SEVEN (7) DAYS AFTER THE AREA IS NOT ACTIVELY BEING WORKED.

FERTILIZER: MnDOT SPECIFICATION 3881, TYPE 2 SEEDING: MnDOT SEED MIXTURE 25-131 OR 33-261 (FOR PONDS), HYDROMULCH: MnDOT SPECIFICATION 3884 TYPE 1 OR 3 WITH APPLICATION RATE PER MnDOT SPECIFICATION 2575.3H.

PROVIDE EROSION CONTROL FABRIC FOR ALL SLOPES STEEPER THAN 1:3.

THERE ARE NO DRAINAGE DITCHES CONSTRUCTED WITH THIS PROJECT.

SEDIMENT CONTROL PRACTICES:
THERE ARE NO DRAINAGE DITCHES OR SEDIMENT BASINS FOR THIS PROJECT.

THERE ARE NO SLOPES WITH A GRADE OF 1:3 OR STEEPER WITH A SLOPE LENGTH GREATER THAN 75 FEET.

THERE ARE NO DRAINAGE INFILTRATION BASINS FOR THIS PROJECT.

ALL SEDIMENT CONTROL DEVICES ARE TO BE IN PLACE PRIOR TO UPSTREAM LAND DISTURBING ACTIVITIES.

WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, PIPE OUTLETS MUST CONTAIN RIPRAP, SEED AND PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITHIN 200 LINEAL FEET OF PIPE OUTLETS INCLUDING THE DOWN SLOPE TO THE PIPE OUTLET, SILT FENCING TO BE PLACED AROUND THE DISTURBED AREA AND SILT FENCE ROUTED ACROSS THE TOP OF THE OUTLET.

WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, SEED AND PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITHIN 200 FEET OF PIPE INLET INCLUDING THE DOWN SLOPE TO THE PIPE INLET. SILT FENCING TO BE PLACED AROUND THE DISTURBED AREA, PLACE A SECOND SILT FENCE ROUTED ACROSS THE TOP OF THE INLET AND PLACE INLET PROTECTION. PIPE INLET PROTECTION SHALL BE PER BMPS SUCH AS SILT FENCE OR STRAW BALES STAKED AROUND THE APRON OPENING OR OTHER APPROVED EQUIVALENT.

WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, SEED AND PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITHIN 200 FEET OF CATCH BASIN INLET. PLACE INLET PROTECTION IMMEDIATELY AFTER STRUCTURE IS BACKFILLED. CATCH BASIN INLET PROTECTION SHALL BE PER BMPS SUCH AS CLEAR ROCK AROUND STEEL PLATE OVER FABRIC OR OTHER APPROVED EQUIVALENT UNTIL THE CATCH BASIN CASTING IS PLACED. IMMEDIATELY AFTER THE CASTING IS PLACED, PROVIDE CATCH BASIN INLET PROTECTION PER BMPS SUCH AS FILTER BAG INSERT OR OTHER APPROVED EQUIVALENT. NO CAPTURED SEDIMENT SHOULD BE ALLOWED TO DROP INTO THE CATCH BASIN.

PROVIDE SILT FENCE DOWNSTREAM OF STOCKPILE AREAS. STOCKPILES ARE NOT TO BLOCK DRAINAGE CONVEYANCE SYSTEMS.

SEDIMENT TRACKED OFFSITE SHALL BE MINIMIZED AND SWEPT ON A DAILY BASIS.

TEMPORARY SEDIMENTATION BASINS ARE NOT BEING USED TO REDUCE WETLAND IMPACTS, DUE TO THE LACK OF RIGHT OF WAY.

DEWATERING AND BASIN DRAINING:
ALL DEWATERING IS TO DISCHARGE TO SEDIMENT SACKS, ROCK WEEPER, BIO ROLL AREA, ETC. TO PREVENT EROSION AND MINIMIZE SEDIMENT DISCHARGING FROM THE SITE. EXCESSIVE SEDIMENT-LADEN WATER WILL NOT BE PERMITTED TO DISCHARGE FROM THE SITE. DEWATERING PRACTICES ARE NOT TO CAUSE DOWNSTREAM NUISANCE CONDITIONS, EROSION, OR NON-PERMITTED WETLAND INUNDATION CAUSING ADVERSE IMPACTS. DISCHARGE FROM DEWATERING WILL BE TO ROAD DITCHES. LARGE VOLUMES OF DEWATERING WILL REQUIRE DISCHARGE INTO SEDIMENT SACKS PRIOR TO DISCHARGING INTO THE ROAD DITCHES.

ADDITIONAL BMPS FOR SPECIAL WATERS AND DISCHARGES TO WETLANDS:
THE PROJECT DOES DISCHARGE INTO OR WITHIN 1 MILE OF SPECIAL WATERS.

THERE ARE NO BUFFER ZONES OR UNDISTURBED AREA ZONES.

THE STORM DRAIN SYSTEM WAS SET UP TO DISTRIBUTE THE STORMWATER RUNOFF INTO THE FUTURE CITY POND AS CLOSE TO EXISTING CONDITIONS AS POSSIBLE. THIS INCLUDED PROVIDING STORM DRAIN ON BOTH SIDES OF THE STREET IN ORDER TO ACHIEVE THIS. THE DRAINAGE IS PENDING APPROVAL BY COON CREEK WATERSHED DISTRICT.

THERE IS CONVERSION OF WETLANDS INTO STORMWATER PONDS.

INSPECTION AND MAINTENANCE:
THE CONTRACTOR SHALL PLACE A RAIN GAUGE ON THE PROJECT SITE AT A LOCATION APPROVED BY THE ENGINEER. RAINFALL DATA SHALL BE KEPT WITH THE SWPPP RECORDS.

THE CONTRACTOR MUST INSPECT THE CONSTRUCTION SITE ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. INSPECTIONS AND MAINTENANCE TO BE RECORDED IN WRITING. THE SWPPP INSPECTION FOR THE CONSTRUCTION IS TO BE CONDUCTED BY _____ OF _____.

INSPECTIONS FORMS ARE AVAILABLE AT: HTTPS://TINYURL.COM/2ARMT4KJ
SELECT THE APPROPRIATE INSPECTION FORM FROM THE LIST.

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT DEVICES, AS WELL AS ALL EROSION AND SEDIMENT CONTROL, FOR THE DURATION OF THE PROJECT.

THE CONTRACTOR WILL INVESTIGATE AND MUST COMPLY WITH THE FOLLOWING:

CONTRACTOR MUST INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS AND POLLUTION PREVENTION MANAGEMENT MEASURES TO ENSURE INTEGRITY AND EFFECTIVENESS. CONTRACTOR MUST REPAIR, REPLACE OR SUPPLEMENT ALL NONFUNCTIONAL BMPS WITH FUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY UNLESS ANOTHER TIME FRAME IS SPECIFIED BELOW. CONTRACTOR MAY TAKE ADDITIONAL TIME IF FIELD CONDITIONS PREVENT ACCESS TO THE AREA.

DURING EACH INSPECTION, CONTRACTOR MUST INSPECT SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS BUT NOT CURB AND GUTTER SYSTEMS, FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. CONTRACTOR MUST REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS AND RESTABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL. CONTRACTOR MUST COMPLETE REMOVAL AND STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. CONTRACTOR MUST USE ALL REASONABLE EFFORTS TO OBTAIN ACCESS. IF PRECLUDED, REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF OBTAINING ACCESS. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AUTHORITIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK IN SURFACE WATERS.

CONTRACTOR MUST INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS, STREETS AND CURB AND GUTTER SYSTEMS WITHIN AND ADJACENT TO THE PROJECT FOR SEDIMENTATION FROM EROSION OR TRACKED SEDIMENT FROM VEHICLES. CONTRACTOR MUST REMOVE SEDIMENT FROM ALL PAVED SURFACES WITHIN ONE (1) CALENDAR DAY OF DISCOVERY OR, IF APPLICABLE, WITHIN A SHORTER TIME TO AVOID A SAFETY HAZARD TO USERS OF PUBLIC STREETS.

REPAIR, REPLACE OR SUPPLEMENT ALL PERIMETER CONTROL DEVICES WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE DEVICE.

CONTRACTOR MUST DRAIN TEMPORARY AND PERMANENT SEDIMENTATION BASINS AND REMOVE THE SEDIMENT WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES TWO FEET OR 1/2 THE STORAGE VOLUME, WHICHEVER IS LESS, WITHIN 72-HOURS OF DISCOVERY.

POLLUTION PREVENTION MANAGEMENT MEASURES:

THE CONTRACTOR SHALL IMPLEMENT THE FOLLOWING POLLUTION PREVENTION MANAGEMENT MEASURES ON THE SITE:

SOLID WASTE: COLLECT SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS, AND OTHER WASTES MUST BE DISPOSED OF PROPERLY OFFSITE AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.

HAZARDOUS MATERIALS: OIL, GASOLINE, PAINT AND ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.

EXTERNAL WASHING OF TRUCKS, INCLUDING CONCRETE DELIVERY TRUCKS, AND OTHER CONSTRUCTION VEHICLES MUST BE LIMITED TO A DEFINED AREA OF THE SITE. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE. CONCRETE WASHOUT ON SITE MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER.

THE CITY IS RESPONSIBLE FOR LONG TERM MAINTENANCE OF THE STORM DRAIN INCLUDING THE SUMPS (GRIT CHAMBERS). THE GRIT CHAMBERS ARE TO BE INSPECTED YEARLY AND CLEANED OUT AS NECESSARY TO MAINTAIN FUNCTION.

THE CONTRACTOR IS RESPONSIBLE FOR MONITORING AIR POLLUTION AND ENSURING IT DOES NOT EXCEED LEVELS SET BY LOCAL, STATE, OR FEDERAL REGULATIONS. THIS INCLUDES DUST CREATED BY WORK BEING PERFORMED ON THE SITE. AIR POLLUTION AND DUST CONTROL CORRECTION ARE CONSIDERED INCIDENTAL TO THE UNIT BID PRICES FOR WHICH WORK IS BEING PERFORMED. ADDITIONAL DUST CONTROL MEASURES MAY BE REQUIRED BY THE ENGINEER.

NO SANITARY AND SEPTIC WASTE IS ON THE SITE.

FINAL STABILIZATION:
THE CONTRACTOR MUST ENSURE FINAL STABILIZATION OF THE SITE. FINAL STABILIZATION IS ACHIEVED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND ALL SOILS ARE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70 PERCENT OF THE PERVIOUS SURFACE AREA, OR OTHER EQUIVALENT MEANS NECESSARY TO PREVENT SOIL FAILURE UNDER EROSIVE CONDITIONS.

ALL TEMPORARY EROSION PROTECTION, INCLUDING SILT FENCE, ARE TO BE REMOVED AFTER FINAL STABILIZATION OF THE SITE.

RECORDS RETENTION:
ALL REQUIREMENTS OF THE NPDES PERMIT AND THIS SWPPP SHALL REMAIN IN EFFECT UNTIL ALL LAND DISTURBING ACTIVITY HAS BEEN COMPLETED, ALL FINAL RESTORATION HAS BEEN COMPLETED AND THE NOTICE OF TERMINATION FORM HAS BEEN SUBMITTED TO THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA).

REFER TO OTHER SHEETS OF THIS PLAN SET FOR DETAILED CONSTRUCTION INFORMATION. EXISTING AND PROPOSED GRADES FOR THE ROADWAY ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND ON THE CROSS SECTION SHEETS.

THE CONTRACTOR SHALL MAINTAIN A COPY OF THE PLANS ONSITE AT ALL TIMES UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE CITY. THE CONTRACTOR SHALL UPDATE THE SWPPP AS NECESSARY TO REFLECT CURRENT CONDITIONS ON THE SITE. CONTRACTOR IS TO PROVIDE THE ENGINEER A COPY OF THE REVISED SWPPP. THE REVISED SWPPP IS TO BE MAINTAINED WITH THE CONSTRUCTION SET OF PLANS.

THE CONSTRUCTION PLANS, INCLUDING THE SWPPP, AND THE SWPPP INSPECTION REPORTS ARE TO BE AVAILABLE TO THE ENGINEER AND TO THE MPCA AND COON CREEK WATERSHED DISTRICT INSPECTORS AT ALL TIMES.

THE CONTRACTOR IS TO PROVIDE THE ENGINEER A COPY OF THE SWPPP INSPECTION REPORTS WITHIN SEVEN (7) DAYS AFTER THE INSPECTION.

THE CONTRACTOR IS TO PROVIDE THE ENGINEER A COPY OF THE REVISED SWPPP WITHIN SEVEN (7) DAYS AFTER THE CONTRACTOR REVISES THE SWPPP.

ALL SWPPP INSPECTIONS AND ALL BMPS SHALL BE PLACED UNDER THE SUPERVISION OF A CONSTRUCTION INSTALLER CERTIFIED BY THE MPCA. THE CONSTRUCTION SITE SHALL BE MANAGED AND MAINTAINED BY A MPCA CERTIFIED CONSTRUCTION SITE MANAGEMENT.

THE CONTRACTOR SHALL PROVIDE THE CITY WITH A COPY OF CONSTRUCTION INSTALLER CERTIFICATION AND CONSTRUCTION SITE MANAGEMENT CERTIFICATION. A COPY OF THE CERTIFICATIONS, INCLUDING SWPPP DESIGNER, SHALL BE KEPT WITH THE SWPPP.

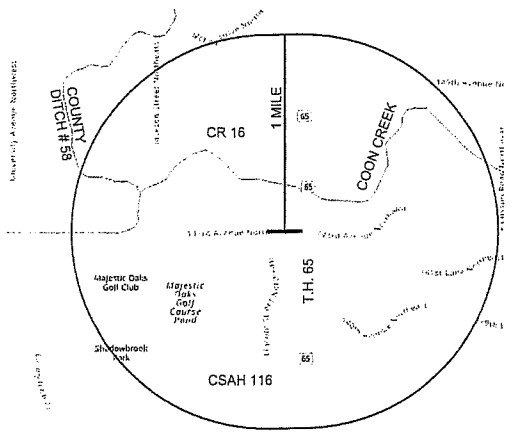
THE SWPPP, THE SWPPP INSPECTIONS REPORTS AND MAINTENANCE RECORDS SHALL BE KEPT FOR 3 YEARS.

DRAINAGE CALCULATIONS AND DRAINAGE MAPS WILL BE KEPT BY THE CITY FOR AT LEAST 3 YEARS.

SEQUENCE OF EROSION CONTROL
1. OBTAIN ALL NECESSARY PERMITS, INCLUDING NPDES GENERAL STORMWATER PERMIT.
2. CLEAR AND GRUB SITE.
3. PLACE ALL PERIMETER SEDIMENT CONTROL DEVICES AND ROCK CONSTRUCTION EXITS.
4. CONTACT CITY ENGINEER FOR APPROVAL OF SEDIMENT CONTROL DEVICES.
5. ROUGH IN GRADE.
6. PLACE TEMPORARY EROSION CONTROL DEVICES AS NECESSARY.
7. PLACE STORM DRAIN SYSTEM.
8. RE-ADJUST TEMPOPARY EROSION CONTROL DEVICES AS NECESSARY. PLACE STORM DRAIN INLET PROTECTION AND OUTLET PROTECTION DEVICES AS NECESSARY.
9. PLACE SITE PAVEMENT.
10. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, OBTAIN APPROVAL OF CITY ENGINEER.
11. CONTRACTOR TO REMOVE ALL TEMPORARY EROSION CONTROL DEVICES AFTER ACCEPTANCE BY THE CITY.

TABULATION SUMMARY

ITEM	UNIT	TOTAL
SILT FENCE	LF.	259
CATCH BASIN INLET PROTECTION	EACH	2
CLASS III RIPRAP W/ FABRIC	C.Y.	5.0
GEOTEXTILE FILTER FABRIC	S.Y.	39.2
CULVERT END CONTROL	EACH	1
HYDROMULCH TYPE 3	ACRE	0.89
TURF ESTABLISHMENT: SEED MX 25-131	ACRE	0.89



UTILITIES:
CENTURYLINK/LUMEN (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
NORTHERN NATURAL GAS (877) 654-0646

GOPHER STATE ONE CALL.
800-252-1166 651-454-0002
PLOT DATE: 8/02/2025 15:12

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
David Krugler
DATE 06/02/25 REG. NO. 48768

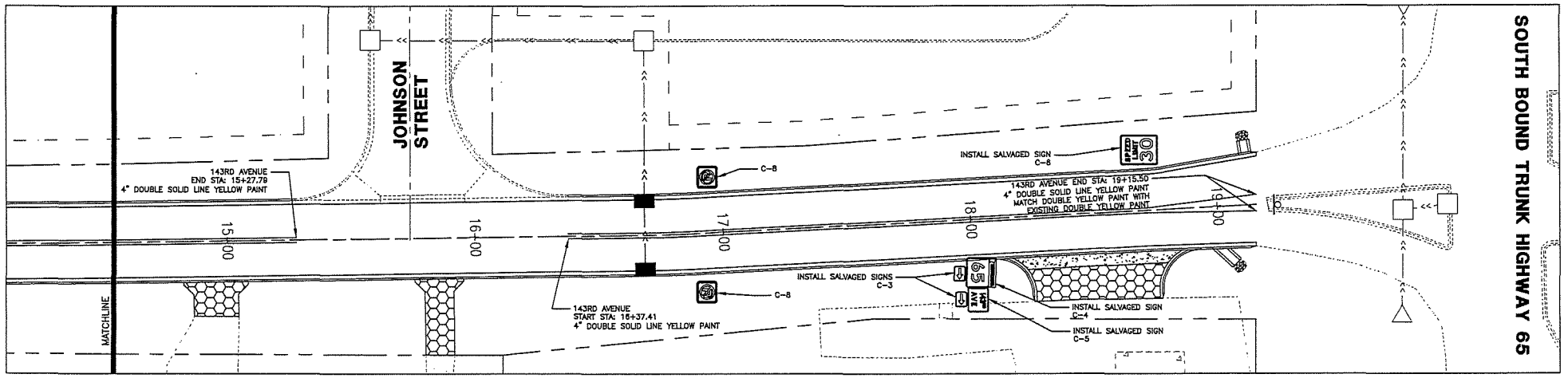
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

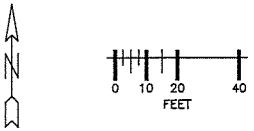
M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION
STORMWATER POLLUTION PREVENTION PLAN

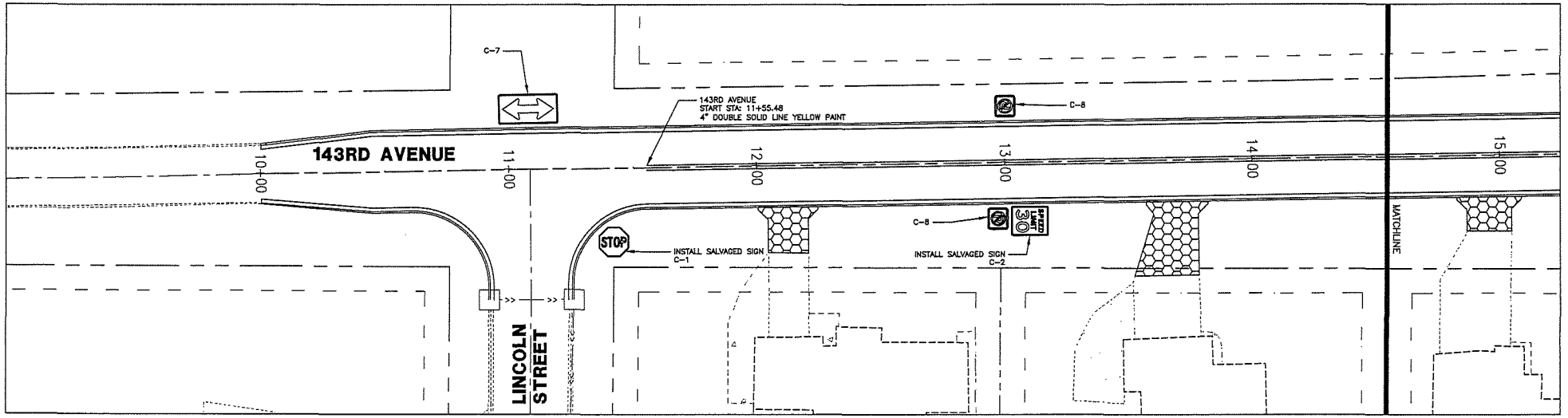
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2505 SWPPP 2
DATE: 08/02/25
JOB NUMBER: 2505
SHEET: 19 OF 23
FILE: 38-1-119



NOTE:
1. LOCATION OF SIGNS PER MnMUTCD SPECIFICATIONS.





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800-252-1166 651-454-0002

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Dan Krueger
DATE 06/02/25 REG. NO. 48768

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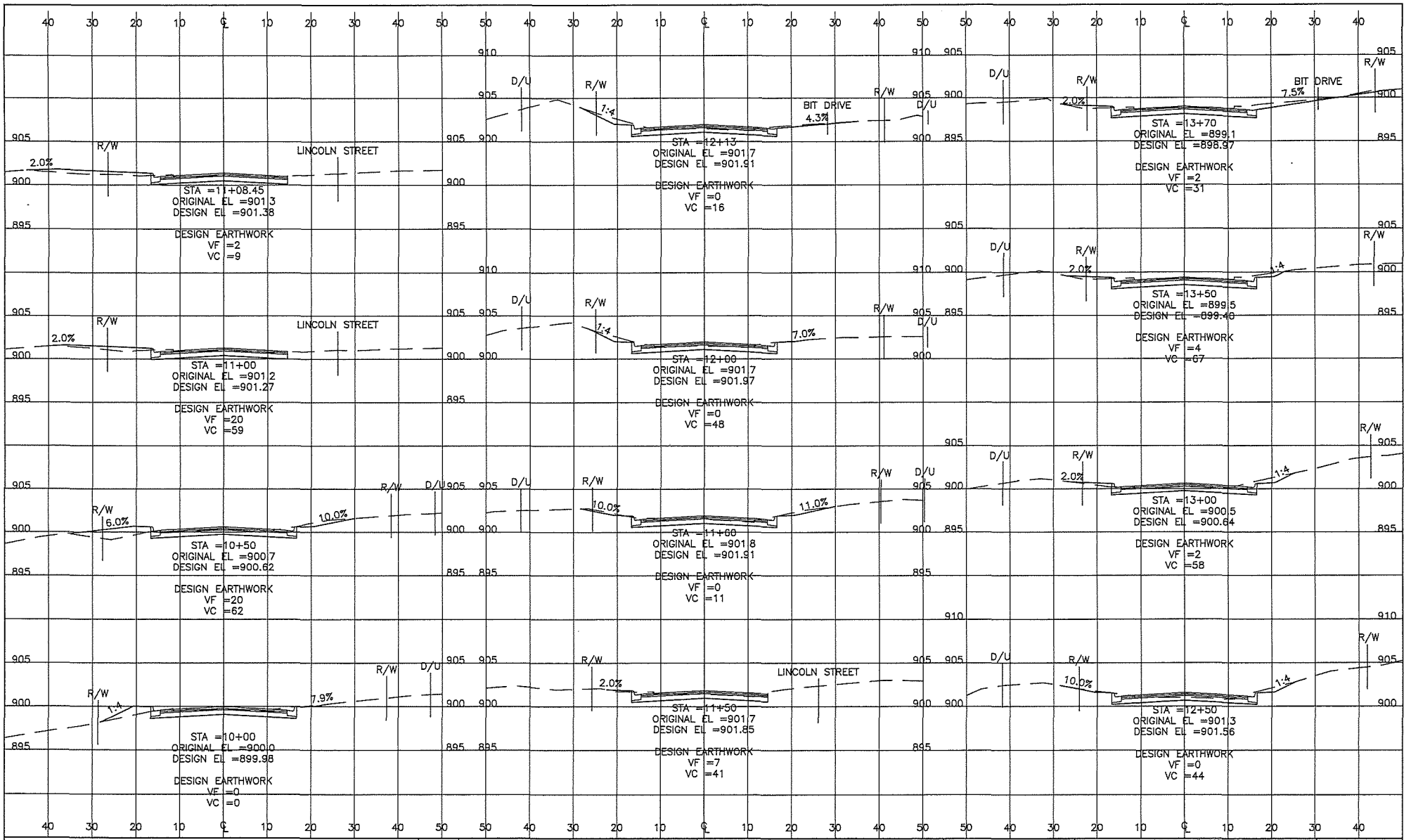
Fax 763-862-8042

M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION

SIGNING AND STRIPING PLAN

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	2505 SIGN
DATE:	06/02/25
JOB NUMBER:	2505
SHEET:	20 OF 23
FILE:	38-1-120



GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 6/02/2025 15:12

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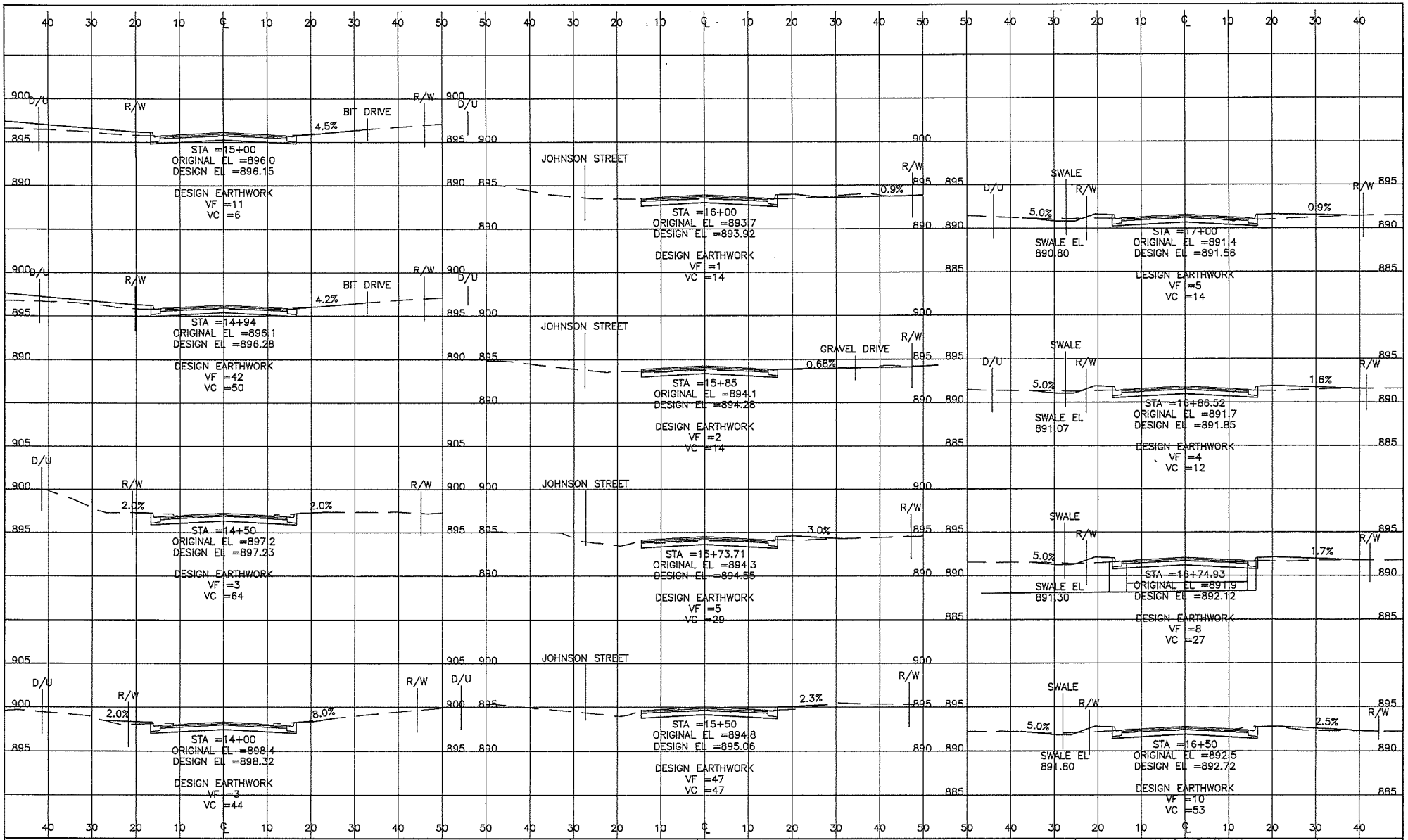
M.S.A.P. 197-127-001
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION

143RD AVENUE CROSS SECTIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	RC001001
DATE:	06/02/25
JOB NUMBER:	2505
SHEET:	21 OF 23
FILE:	38-1-121



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PLOT DATE: 6/02/2025 15:12

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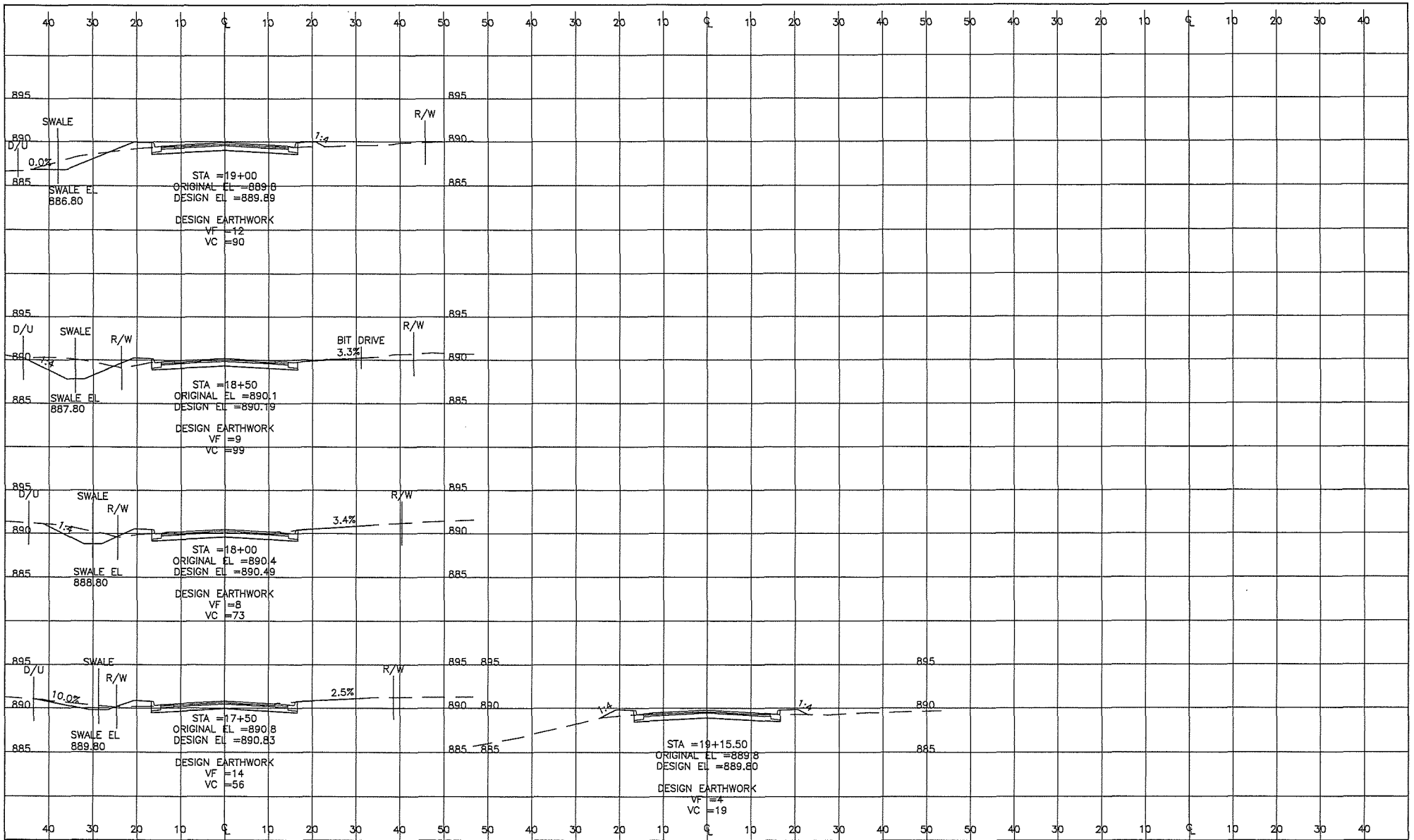
HAM LAKE IMPROVEMENT PROJECT 2505
143RD AVENUE NE STREET RECONSTRUCTION

143RD AVENUE CROSS SECTIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	RC002001
DATE:	06/02/25
JOB NUMBER:	2505
SHEET:	22 OF 23
FILE:	38-1-122



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143RD AVENUE NE STREET RECONSTRUCTION

143RD AVENUE CROSS SECTIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: RC003001
DATE: 08/02/25
JOB NUMBER: 2505
SHEET: 23 OF 23
FILE: 38-1-123

RFC Engineering, Inc.
13635 Johnson Street NE
Ham Lake, MN 55304
Office (763) 862-8000
Fax (763) 862-8042

Memorandum

Date: June 11, 2025

To: Mayor and Councilmembers

From: David A. Krugler, City Engineer

Subject: Trunk Highway 65 East Frontage Road from 171st Avenue to 334 feet South of Crosstown Boulevard (CSAH 18)

Introduction:
The Plans for construction of Trunk Highway 65 East Frontage Road from 171st Avenue to 334 feet South of Crosstown Boulevard (CSAH 18) have received approval from the Coon Creek Watershed District and MnDOT.

Discussion:
The street section will be 29 feet of bituminous with concrete curb and gutter. The project does not include bike lanes or paths. The access for Jake's Auto Mall will be removed.

The estimated construction cost of this project is $2,471,927.58. The project development costs, which include surveying, engineering and rare plant mitigation, are $465,227.69. Construction engineering/inspection costs are estimated at 8% of the construction costs, which is $197,754.21. Right of way acquisition cost for the project totaled $221,980.86 The total estimated project cost is $3,356,890.34.

Local Partnership Program grant funding is in the amount of $710,000. 92% of the grant ($653,200) is for contractor costs and 8% ($56,800) is for construction engineering/inspection. Coon Creek Watershed District's Water Quality Cost Share Program awarded a grant of $25,000 for the project as well. The estimated balance of $2,621,890.34 (78.1%) will be reimbursed thru a combination of HRA funds and municipal state aid funding.

Roadway easements, drainage and utility easements and construction easements were provided from the Holiday Station Store Ham Lake plat, parcel 08-32-23-12-0003 and parcel 08-32-23-12-0019. Roadway easements and construction easements have been obtained from parcel 08-32-23-12-0021.

Recommendation:
It is recommended that the Plans and Specifications be approved and advertisement for bids be ordered for construction of the Trunk Highway 65 East Frontage Road from 171st Avenue to 334 feet South of Crosstown Boulevard (CSAH 18)

CONSTRUCTION COST ESTIMATE
MSAP 197-119-003 SP 0208-170
East Frontage Road from 171st Avenue to 334 ft south of Crosstown Boulevard
6/10/2025

ITEM NUMBER	ITEM DESCRIPTION	UNIT	EST QTY	UNIT PRICE	TOTAL
2021.501	MOBILIZATION	LUMP SUM	1	$221,000.00	$221,000.00
2101.502	CLEARING	EACH	19	$227.00	$4,313.00
2101.502	GRUBBING	EACH	19	$118.00	$2,242.00
2101.505	CLEARING (P)	ACRE	4.51	$9,703.90	$43,764.59
2101.505	GRUBBING (P)	ACRE	4.51	$5,201.90	$23,460.57
2104.502	REMOVE SIGN	EACH	6	$49.80	$298.80
2104.502	SALVAGE CASTING	EACH	2	$100.00	$200.00
2104.502	SALVAGE LIGHT POLE	EACH	4	$8,475.00	$33,900.00
2104.502	SALVAGE SIGN	EACH	6	$225.22	$1,351.32
2104.502	SALVAGE MAIL BOX SUPPORT AND MAILBOX	EACH	1	$110.00	$110.00
2104.502	ABANDON AND SEAL WELL SHAFT	EACH	1	$2,000.00	$2,000.00
2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	8	$5.00	$40.00
2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	691	$5.80	$4,007.80
2104.503	REMOVE CONCRETE CULVERT	LIN FT	4	$35.18	$140.72
2104.503	REMOVE METAL CULVERT	LIN FT	29	$21.08	$611.32
2104.503	REMOVE CURB AND GUTTER	LIN FT	142	$50.00	$7,100.00
2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	1,036	$10.77	$11,157.72
2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	1,000	$3.00	$3,000.00
2106.507	EXCAVATION - COMMON (P)	CU YD	4,787	$19.90	$95,261.30
2106.507	EXCAVATION - MUCK (P)	CU YD	2,111	$16.70	$35,253.70
2106.507	EXCAVATION - CHANNEL AND POND (P)	CU YD	17,843	$21.90	$390,761.70
2106.507	COMMON EMBANKMENT - STOCKPILE (CV) (P)	CU YD	5,460	$10.00	$54,600.00
2106.507	COMMON EMBANKMENT (CV) (P)	CU YD	12,982	$10.00	$129,820.00
2108.504	GEOTEXTILE FABRIC TYPE 5	SQ YD	2,040	$3.80	$7,752.00
2211.509	AGGREGATE BASE CLASS 5	TON	3,302	$20.00	$66,040.00
2211.604	AGGREGATE BASE (CV) CLASS 5 6.0" THICK-DRIVEWAY	SQ YD	245	$6.50	$1,592.50
2360.504	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 1.0" THICK-DRIVEWAY	SQ YD	154	$22.14	$3,409.56
2360.504	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C) 2.0" THICK-DRIVEWAY	SQ YD	154	$37.73	$5,810.42
2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	985	$120.00	$118,200.00
2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TON	985	$100.00	$98,500.00
2411.604	MODULAR BLOCK RETAINING WALL	SQ YD	80	$200.00	$16,000.00
2501.502	15" GS PIPE APRON	EACH	1	$1,000.00	$1,000.00
2501.502	18" GS PIPE APRON	EACH	2	$1,400.00	$2,800.00
2501.502	24" GS PIPE APRON	EACH	3	$1,602.80	$4,808.40
2501.502	30" GS PIPE APRON	EACH	2	$1,800.00	$3,600.00
2501.502	36" GS PIPE APRON	EACH	1	$2,000.00	$2,000.00
2501.502	18" RC PIPE APRON	EACH	8	$1,800.00	$14,400.00
2501.602	POND OUTLET BAFFLE	EACH	5	$6,000.00	$30,000.00
2501.602	TRASH GUARD FOR 15" PIPE APRON	EACH	1	$1,000.00	$1,000.00
2501.602	TRASH GUARD FOR 18" PIPE APRON	EACH	10	$1,300.00	$13,000.00
2501.602	TRASH GUARD FOR 24" PIPE APRON	EACH	3	$1,406.78	$4,220.34
2501.602	TRASH GUARD FOR 30" PIPE APRON	EACH	2	$1,580.00	$3,160.00
2501.602	TRASH GUARD FOR 36" PIPE APRON	EACH	1	$1,680.00	$1,680.00
2503.503	15" CP PIPE SEWER (SMOOTH)	LIN FT	16	$100.00	$1,600.00
2503.503	18" CP PIPE SEWER (SMOOTH)	LIN FT	51	$118.00	$6,018.00
2503.503	24" CP PIPE SEWER (SMOOTH)	LIN FT	117	$125.72	$14,709.24
2503.503	30" CP PIPE SEWER (SMOOTH)	LIN FT	38	$130.00	$4,940.00
2503.503	36" CP PIPE SEWER (SMOOTH)	LIN FT	36	$140.00	$5,040.00
2503.503	12" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	126	$153.27	$19,312.02
2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	497	$152.35	$75,717.95
2503.503	18" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	613	$172.71	$105,871.23
2503.503	24" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	567	$221.80	$125,760.60
2503.503	36" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	209	$250.00	$52,250.00
2503.602	CONNECT TO EXISTING STORM SEWER	EACH	1	$1,000.00	$1,000.00
2503.602	18" PIPE PLUG	EACH	4	$300.00	$1,200.00
2504.602	DEVELOP WELL	EACH	1	$17,000.00	$17,000.00
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL-2X3	EACH	5	$6,959.98	$34,799.90
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1-48"	EACH	6	$8,213.13	$49,278.78
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 2-60"	EACH	1	$12,496.13	$12,496.13

2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 3-84"	EACH	1	$16,000.00	$16,000.00
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 4-60" SUMP	EACH	3	$12,000.00	$36,000.00
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 5-72" SUMP	EACH	1	$16,187.95	$16,187.95
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 6-96" SUMP	EACH	2	$20,000.00	$40,000.00
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 7-48"	EACH	6	$8,213.13	$49,278.78
2506.502	INSTALL SALVAGED CASTING	EACH	2	$500.00	$1,000.00
2511.504	GEOTEXTILE FILTER TYPE 4	SQ YD	315	$15.67	$4,936.05
2511.507	RANDOM RIPRAP CLASS III	CU YD	86	$171.43	$14,742.98
2531.503	CONCRETE CURB AND GUTTER DESIGN B612	LIN FT	187	$31.00	$5,797.00
2531.503	CONCRETE CURB AND GUTTER DESIGN B618	LIN FT	4,900	$21.00	$102,900.00
2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	72	$92.71	$6,675.12
2531.603	CONCRETE GUTTER DESIGN - TRENCH DRAIN	LIN FT	440	$56.00	$24,640.00
2540.602	INSTALL MAIL BOX SUPPORT WITH MAILBOX	EACH	1	$340.93	$340.93
2563.601	TRAFFIC CONTROL	LUMP SUM	1	$15,000.00	$15,000.00
2564.502	RIGHT OF WAY MARKER	EACH	1	$150.00	$150.00
2564.518	SIGN PANELS TYPE C	SQ FT	69	$115.94	$7,999.86
2564.602	INSTALL SALVAGED SIGNS	EACH	2	$520.00	$1,040.00
2573.501	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1	$2,024.80	$2,024.80
2573.502	STORM DRAIN INLET PROTECTION	EACH	25	$288.21	$7,205.25
2573.502	CULVERT END CONTROLS	EACH	20	$581.60	$11,632.00
2573.503	SILT FENCE, TYPE MS	LIN FT	6,621	$3.78	$25,027.38
2575.605	TURF ESTABLISHMENT (25-131 SEEDING MIX)	ACRE	5.16	$8,784.38	$45,327.40
2575.605	TURF ESTABLISHMENT (33-261 SEEDING MIX)	ACRE	2.86	$14,183.59	$40,565.07
2582.503	4" WHITE SOLID LINE EPOXY PAINT	LIN FT	89	$2.60	$231.40
2582.503	4" DOUBLE YELLOW SOLID LINE PAINT	LIN FT	2,400	$2.86	$6,864.00
	TOTAL ESTIMATED CONSTRUCTION COST				$2,471,927.58
	PROJECT DEVELOPMENT, CONST ENGINEERING, AND INSPECTION (25%)				$617,981.90
	TOTAL CONSTRUCTION COSTS				$3,089,909.48
	RARE PLANT MITIGATION				$45,000.00
	RIGHT-OF-WAY				$221,980.86
	TOTAL PROJECT COSTS				$3,356,890.34

PLAN SYMBOLS

- EXISTING / PROPOSED — CENTERLINE
- EXISTING / PROPOSED — RIGHT-OF-WAY LINE
- CONSTRUCTION / PERMANENT — EASEMENT LINE
- LOT / SECTION — PROPERTY LINE
- CONSTRUCTION LIMITS / CLEAR ZONE
- 900 INTERMEDIATE INDEX / 901.25 GRADE BREAK — EXISTING CONTOURS
- 900 INTERMEDIATE INDEX / 901.25 GRADE BREAK — PROPOSED CONTOURS
- EXISTING / PROPOSED / EXISTING COUNTY — DITCH LINE
- X X X — FENCE LINE - ANY TYPE
- SILT FENCE
- W W W — WETLAND BOUNDARY
- TREE LINE / TREE SYMBOLS — EXISTING TREES (TO REMAIN)
- X BM — BENCH MARK / IRON MONUMENT
- LIGHT POLE / BOLLARD
- SOIL BORING
- BUILDING
- PROPOSED — RIPRAP
- MB — MAILBOX
- EXISTING / PROPOSED — SIGN

UTILITY SYMBOLS

- GAS GAS — GAS LINE
- PETRO PETRO — PETROLEUM LINE
- OHE OHE OVERHEAD / UGE UGE UNDERGROUND — ELECTRIC
- T T T — UNDERGROUND TELEPHONE LINE
- CATV CATV — UNDERGROUND CABLE TV LINE
- FO FO PRIVATE / MnDOT FO MnDOT — UNDERGROUND FIBER OPTIC LINE
- (T) MANHOLE / [T] JUNC. BOX — TELEPHONE STRUCTURES
- [X] — ELECTRIC JUNC. BOX
- [TV] — CABLE TV JUNC. BOX
- (F) MANHOLE / [F] JUNC. BOX — FIBER OPTIC STRUCTURES
- EXISTING — POWER POLE AND GUY WIRE
- EXISTING / PROPOSED — STORM DRAIN LINE
- EXISTING / PROPOSED — FLARED END SECTION
- EXISTING / PROPOSED — CATCH BASIN
- EXISTING / PROPOSED — MANHOLE
- (W) — WELL

HATCH LEGEND

- ROCK / HYDROMULCH — EROSION CONTROL
- TREES / BITUMINOUS — REMOVAL

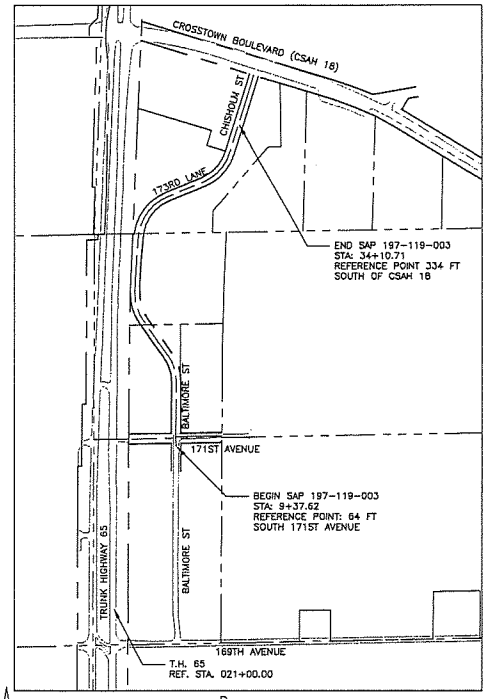
MINNESOTA DEPARTMENT OF TRANSPORTATION

City of Ham Lake, Minnesota

CONSTRUCTION PLANS FOR GRADING, AGGREGATE BASE, PLANT MIXED BITUMINOUS SURFACING, STORM DRAINS, STORM POND CONSTRUCTION, AND CONCRETE CURB AND GUTTER

CHISHOLM STREET FROM 334 FEET SOUTH OF CROSSTOWN BOULEVARD (CSAH 18) TO 173RD LANE, 173RD LANE FROM CHISHOLM STREET TO BALTIMORE STREET, BALTIMORE STREET FROM 173RD LANE TO 64 FEET SOUTH OF 171ST AVENUE.

HAM LAKE PROJECT NO. 2111
STATE PROJECT NO. 0208-170
STATE AID PROJECT NO. 197-119-003



SAP 197-119-003		SP 0208-170	
GROSS LENGTH	2,473. FEET	GROSS LENGTH	2,473. FEET
GROSS LENGTH	0.468. MILES	GROSS LENGTH	0.468. MILES
BRIDGE LENGTH	FEET	BRIDGE LENGTH	FEET
EXCEPTIONS LENGTH	FEET	EXCEPTIONS LENGTH	FEET
NET LENGTH	2,473. FEET	NET LENGTH	2,473. FEET
NET LENGTH	0.468. MILES	NET LENGTH	0.468. MILES
FROM REF. POINT 334'. SOUTH. OF .CROSSTOWN BLVD		FROM REF. POINT	021+00.205
TO REF. POINT 64. FT .SOUTH. OF. 171ST AVE		TO REF. POINT	021+00.707

BALTIMORE STREET
STATE PROJECT NO. 197-119-003

ADT (2023) 300 ADT (2043) 450
Design Speed 30 MPH
NO. OF TRAFFIC LANES 2 NO. OF PARKING LANES 0
FUNCTIONAL CLASSIFICATION COLLECTOR, LOW DENSITY
SOIL FACTOR 50% HCADT <150
TON DESIGN 9 TON
STOPPING SIGHT DISTANCE BASED ON:
HEIGHT OF EYE 3.5'
HEIGHT OF OBJECT 2.0'
Design Speed not achieved at:
STA. N/A TO STA. N/A
TOWNSHIP 32, RANGE 23, SECTION 5 & 8

AGREEMENT NO. 1053661
CITY OF HAM LAKE
SP 0208-170 (TH65=005)
STATE FUNDS
METRO DISTRICT

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR THE INVESTIGATING AND DOCUMENTING EXISTING UTILITIES."

THE UTILITIES SHOWN ARE BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

0 200 400 800 FEET

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

STATE PROJ. NO.	CHARGE	IDENTIFIER
0208-170		
197-119-003		

STATE FUNDS

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE 2024 MnMUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

INDEX

THIS PLAN CONTAINS 43 SHEETS

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

I HEREBY CERTIFY THAT THIS PLAN 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.

SIGNED Dan Krugler
David A. Krugler
DATE: 5/29/25 REG. NO. 48768

APPROVED Dan Krugler 5/29/25
CITY ENGINEER - HAM LAKE

APPROVED Khani Sahebjam Digitally signed by Khani Sahebjam Date: 2025.06.02 07:52:43 -05'00'
METRO DISTRICT ENGINEER

Dan Erickson Digitally signed by Dan Erickson Date: 2025.05.29 14:22:40 -05'00'
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

FOR Dan Erickson Digitally signed by Dan Erickson Date: 2025.05.29 14:23:19 -05'00'
APPROVED FOR STATE AID FUNDING: STATE AID ENGINEER

STATE AID PROJECT NO. 197-119-003
STATE PROJECT NO. 0208-170 (TH65=005)

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street NE
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

JOB NO. 2111

STATEMENT OF ESTIMATED QUANTITIES

TAB	SHEET	NOTES	ITEM NO.	ITEM	UNIT	ENTIRE PROJECT	S.A.P. 197-119-003 & S.P. 0208-170		S.P. 0208-170	NON-PARTICIPATING
							ROADWAY	STORM SEWER	ROADWAY	ROADWAY
						ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES
			2021.501	MOBILIZATION	LUMP SUM	1	1			
AD	3		2101.502	CLEARING	EACH	19	19			
AD	3		2101.502	GRUBBING	EACH	19	19			
AD	3		2101.505	CLEARING (P)	ACRE	4.51	4.51			
AD	3		2101.505	GRUBBING (P)	ACRE	4.51	4.51			
AA	3	6	2104.502	REMOVE SIGN	EACH	6	2		4	
AJ	3		2104.502	SALVAGE CASTING	EACH	2	2			
AC	3		2104.502	SALVAGE LIGHT POLE	EACH	4				4
AB	3	6	2104.502	SALVAGE SIGN	EACH	6	1		1	4
		10	2104.502	SALVAGE MAIL BOX SUPPORT AND MAILBOX	EACH	1	1			
	3		2104.502	ABANDON AND SEAL WELL SHAFT	EACH	1	1			
AG	3		2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	8	8			
AF	3		2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	691	654		37	
AM	3		2104.503	REMOVE CONCRETE CULVERT	LIN FT	4	4			
AM	3		2104.503	REMOVE METAL CULVERT	LIN FT	29			29	
AH	3		2104.503	REMOVE CURB AND GUTTER	LIN FT	142	142			
AL	3		2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	1 036	975		61	
AK	3		2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	1 000	1 000			
AM	3	4	2106.507	EXCAVATION - COMMON (P)	CU YD	4 787	4 065		294	428
AM	3,43	4, 11	2106.507	EXCAVATION - MUCK (P)	CU YD	2 111	2 111			
AM	3	4	2106.507	EXCAVATION - CHANNEL AND POND (P)	CU YD	17 843	17 843			
AM	3	4	2106.507	COMMON EMBANKMENT - STOCKPILE (CV) (P)	CU YD	5 460				5 460
AM	3	4	2106.507	COMMON EMBANKMENT (CV) (P)	CU YD	12 982	12 982			
		11	2108.504	GEOTEXTILE FABRIC TYPE 5	SQ YD	2 040	2 040			
BA	4		2211.509	AGGREGATE BASE CLASS 5	TON	3 302	3 302			
BJ	4	8	2211.604	AGGREGATE BASE (CV) CLASS 5 6.0" THICK-DRIVEWAY	SQ YD	245	245			
BF	4	8	2360.504	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 1.0" THICK-DRIVEWAY	SQ YD	154	154			
BK	4	8	2360.504	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C) 2.0" THICK-DRIVEWAY	SQ YD	154	154			
BB	4	9	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	985	985			
BC	4	9	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TON	985	985			
BM	4,13-17		2411.604	MODULAR BLOCK RETAINING WALL	SQ YD	80	80			
	27-30	1, 5	2501.502	15" CS PIPE APRON	EACH	1		1		
	27-30	1, 5	2501.502	18" CS PIPE APRON	EACH	2		2		
	27-30	1, 5	2501.502	24" CS PIPE APRON	EACH	3		3		
	27-30	1, 5	2501.502	30" CS PIPE APRON	EACH	2		2		
	27-30	1, 5	2501.502	36" CS PIPE APRON	EACH	1		1		
	27-30	1, 5	2501.502	18" RC PIPE APRON	EACH	8		8		
	8		2501.602	POND OUTLET BAFFLE	EACH	5		5		
	27-30	1, 5	2501.602	TRASH GUARD FOR 15" PIPE APRON	EACH	1		1		
	27-30	1, 5	2501.602	TRASH GUARD FOR 18" PIPE APRON	EACH	10		10		
	27-30	1, 5	2501.602	TRASH GUARD FOR 24" PIPE APRON	EACH	3		3		
	27-30	1, 5	2501.602	TRASH GUARD FOR 30" PIPE APRON	EACH	2		2		
	27-30	1, 5	2501.602	TRASH GUARD FOR 36" PIPE APRON	EACH	1		1		
	27-30	1, 5	2503.503	15" CP PIPE SEWER (SMOOTH)	LIN FT	16		16		
	27-30	1, 5	2503.503	18" CP PIPE SEWER (SMOOTH)	LIN FT	51		51		
	27-30	1, 5	2503.503	24" CP PIPE SEWER (SMOOTH)	LIN FT	117		117		
	27-30	1, 5	2503.503	30" CP PIPE SEWER (SMOOTH)	LIN FT	38		38		
	27-30	1, 5	2503.503	36" CP PIPE SEWER (SMOOTH)	LIN FT	38		38		
	27-30	1, 5	2503.503	12" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	128		128		
	27-30	1, 5	2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	497		497		
	27-30	1, 5	2503.503	18" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	613		613		
	27-30	1, 5	2503.503	24" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	567		567		
	27-30	1, 5	2503.503	36" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	209		209		
	27	1, 5	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	1		1		
	27-30		2503.602	18" PIPE PLUG	EACH	4		4		
	23		2504.602	DEVELOP WELL	EACH	1				1
	27-30	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL-2X3	EACH	5		5		
	27-30	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1-48"	EACH	6		6		
	27-30	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 2-60"	EACH	1		1		
	27-30	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 3-84"	EACH	1		1		
	27-30	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 4-60" SUMP	EACH	3		3		
	27-30	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 5-72" SUMP	EACH	1		1		
	27-30	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 6-96" SUMP	EACH	2		2		
	27-30	2, 5	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 7-48"	EACH	6		6		
BD	27	2, 5	2506.502	INSTALL SALVAGED CASTING	EACH	2		2		
BT	4	2	2511.504	GEOTEXTILE FILTER TYPE 4	SQ YD	315	315			
BH	4		2511.507	RANDOM RIPRAP CLASS III	CU YD	86	86			

STATEMENT OF ESTIMATED QUANTITIES

TAB	SHEET	NOTES	ITEM NO.	ITEM	UNIT	ENTIRE PROJECT	S.A.P. 197-119-003 & S.P. 0208-170		S.P. 0208-170	NON-PARTICIPATING
							ROADWAY	STORM SEWER	ROADWAY	ROADWAY
						ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES
BL	4		2531.503	CONCRETE CURB AND GUTTER DESIGN B612	LIN FT	187	187			
BQ	4		2531.503	CONCRETE CURB AND GUTTER DESIGN B618	LIN FT	4 900	4 900			
BP	4	8	2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	72	72			
BG	4,30		2531.603	CONCRETE GUTTER DESIGN - TRENCH DRAIN	LIN FT	440	440			
		10	2540.602	INSTALL MAIL BOX SUPPORT WITH MAILBOX	EACH	1	1			
			2563.601	TRAFFIC CONTROL	LUMP SUM	1	1			
			2564.502	RIGHT OF WAY MARKER	EACH	1	1			
BN	4	8	2564.518	SIGN PANELS TYPE C	SQ FT	89	89			
BV	4	6	2564.602	INSTALL SALVAGED SIGNS	EACH	2	1		1	
	31-33	7	2573.501	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1	1			
BR	4,31-33	7	2573.502	STORM DRAIN INLET PROTECTION	EACH	25	25			
BS	4,31-33	7	2573.502	CULVERT END CONTROLS	EACH	20	20			
BQ	4,31-33	7	2573.503	SILT FENCE, TYPE MS	LIN FT	8 621	6 174			447
	31-33	3	2575.505	TURF ESTABLISHMENT (25-131 SEEDING MIX)	ACRE	5.16	4.39			0.77
	31-33	3	2575.505	TURF ESTABLISHMENT (33-261 SEEDING MIX)	ACRE	2.86	2.86			
BU	4,34-35		2582.503	4" WHITE SOLID LINE EPOXY PAINT	LIN FT	89	89			
BE	4,34-35		2582.503	4" DOUBLE YELLOW SOLID LINE PAINT	LIN FT	2 400	2 400			

NOTES:

1. SELECT GRANULAR BORROW, STRUCTURAL EXCAVATION, AND GRANULAR BACKFILL FOR STORM PIPES ARE INCIDENTAL.
2. FILTER FABRIC AND FABRIC WRAP FOR CATCH BASINS AND MANHOLES ARE INCIDENTAL.
3. ALL DISTURBED AREAS DETERMINED NOT TO BE PAVED, AGGREGATE SURFACE, CONCRETE SURFACE OR RIPRAPPED SHALL HAVE 4 INCHES OF TOPSOIL. FERTILIZER TYPE 2, MULCH MATERIAL, AND SEED MIXTURE NO. 33-261, MULCH TYPE 3 (WEED FREE MULCH) WITH NO FERTILIZER AND SEED MIXTURE, NO. 25-131 PER MNDOT STANDARD SPECIFICATION 3876, APPLY TYPE 1 HYDROMULCH AT THE RATE OF 2 (TWO) TONS PER ACRE OR A HYDRAULIC SOIL STABILIZER OR BONDED FIBER MATRIX (TO ACHIEVE A 90% UNIFORM GROUND COVERAGE). SEED MIXTURE, WATER, TYPE 2 FERTILIZER, AND MULCH ARE INCIDENTAL. SOIL TESTING TO DETERMINE FERTILIZER MIXTURE RATIO AND RATE OF APPLICATION IS INCIDENTAL.
4. MATERIAL FOUND IN THE SUBCUTS THAT IS UNSUITABLE FOR FILL IN THE ROADBED SHALL BE REMOVED OFF-SITE.
5. THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE THE CONSTRUCTION LIMITS.
6. SIGNS INCLUDE POSTS.
7. INSTALLATION AND MAINTENANCE ARE INCIDENTAL.
8. QUANTITY SHOWN USED FOR DRIVEWAY CONSTRUCTION. SEE DETAIL RFC-370A1.
9. BITUMINOUS MATERIAL FOR TACK COAT SHALL BE INCIDENTAL.
10. REMOVE SUPPORTS AND SALVAGE MAIL BOXES. SALVAGE MAIL BOXES ARE INCIDENTAL.
11. NO MUCK IS ANTICIPATED. STA 24+00 TO 26+00 MAY ENCOUNTER MUCK. STA 24+00 TO 26+00 USED FOR QUANTITY ESTIMATION. ADDED FOR BUDGETING PURPOSE ONLY. IF MUCK IS ENCOUNTERED, ALL MUCK SHALL BE DELIVERED TO THE HAM LAKE PUBLIC WORKS SHOP.

SEED MIX 25-131: COMMERCIAL TURF
MULCH TYPE 1
PLANT APRIL 1ST - JUNE 1ST FOR SPRING PLANTING OR
JULY 20TH - SEPTEMBER 20TH FOR FALL PLANTING

SEED MIX 33-261: PONDS & WET AREAS IN CENTRAL, SOUTHERN AND WESTERN MN
MULCH TYPE 3
PLANT APRIL 15TH - JULY 20TH FOR SPRING PLANTING OR
SEPTEMBER 20TH - OCTOBER 20TH FOR FALL PLANTING

BASIS FOR ESTIMATED QUANTITIES

AGGREGATE BASE	105 LBS/S.Y./INCH
BITUMINOUS MIXTURE	110 LBS/S.Y./INCH
TACK COAT	0.05 GAL./S.Y.
TYPE I MULCH	2 TONS/ACRE

PLATE NO.	STANDARD PLATES - RFC ENGINEERING (IN THE PLANS)
RFC-356A2	TRANSITION CURB: D312M TO B618
RFC-356A4	TRANSITION CURB: D412M TO B612
RFC-356A10	TRANSITION CURB: D412M TO B618
RFC-356B	TRANSITION CURB: B612 TO B618
RFC-365A1	TYPICAL SUBGRADE EXCAVATION
RFC-365C4	TYPICAL FLOATING ROAD SECTION NEW ROAD CONSTRUCTION
RFC-366B1	TYPICAL STREET SECTION
RFC-370A1	COMMERCIAL DRIVEWAY
RFC-380A	CURB END
RFC-459C	RECTANGULAR CATCH BASIN
RFC-463	FABRIC AROUND CATCH BASIN
RFC-465A1	RECTANGULAR INLET FOR ROUND MANHOLE
RFC-465A3	RECTANGULAR INLET FOR ROUND MANHOLE - VARIABLE SUMP
RFC-465C	ROUND MANHOLE
RFC-466B	RCP TRASH GUARD
RFC-466C	CPP TRASH GUARD
RFC-472B	TRENCH DRAIN DETAIL
RFC-654	STORM DRAIN BEDDING FOR RIGID AND FLEXIBLE PIPE *MNDOT DETAIL
RFC-850B2	POND OUTLET BAFFEL
RFC-852A1	EMERGENCY OVERFLOW WEIR
RFC-856A	FORESLOPE
RFC-856B	TYPICAL DITCH DETAIL
RFC-857	SILT FENCE AT FES
RFC-858A	TYPICAL DETENTION POND

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY

PLATE NO.	MnDOT STANDARD PLATES
3000M	REINFORCED CONCRETE PIPE (6 SHEETS)
3006H	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3128A	METAL APRON FOR CORRUGATED POLYETHYLENE PIPE
3133D	RIPRAP AT RCP OUTLETS
3134D	RIPRAP AT CSP OUTLETS
3145C	CONCRETE PIPE OR PRECAST BOX CULVERT TIES
7100H	CONCRETE CURB & GUTTER
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
9350C	MAILBOX SUPPORT SWING-AWAY TYPE (3 SHEETS)

GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/29/2025 10:48

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Krueger
DATE 05/29/25 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 33' SOUTH CROSSTOWN BLVD
STATEMENT OF ESTIMATED QUANTITIES AND STANDARD PLATES

DWG: 2111 QTY 1
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 2 OF 43
FILE: 33-2-102

REMOVE SIGN — AA

STATION	LOCATION	SIGN NO.	POST	CODE NO.	PANEL LEGEND
9+68	BALTIMORE ST. – RT	C–21	SINGLE	R1–1	STOP
10+36	BALTIMORE ST. – LT	C–24	SINGLE		NOTICE
23+37	T.H. 65 – RT	C–26	SINGLE		DELINEATOR
23+83	T.H. 65 – RT	C–21	TRIPLE	R1–1	STOP
25+65	T.H. 65 – RT	C–20	SINGLE		CULVERT
25+79	T.H. 65 – RT	C–20	SINGLE		CULVERT
TOTAL			6		

SAWCUT BITUMINOUS PAVEMENT — AF

STATION	LOCATION	LIN FT
9+38	BALTIMORE ST. – ROADWAY	30
50+67	171ST AVE. – ROADWAY	30
19+97 TO 23+67	JAKE'S AUTO MALL – RT – PARKING LOT	368
23+34 TO 24+10	T.H. 65 – RT – DRIVEWAY	88
25+60 TO 25+76	T.H. 65 – RT – DRIVEWAY	37
34+11	CHISHOLM ST. – ROADWAY	29
34+11 TO 35+19	CHISHOLM ST. – RT – TEMP CDS	109
TOTAL		691

NOTES:
1. TOP OF GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
2. BITUMINOUS AND CONCRETE DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH MnDOT SPEC. 2104.3C3.
3. COMPACTION OF ALL GRADING AND BASE ITEMS SHALL BE BY THE "QUALITY COMPACTION METHOD".
4. USE TACK COAT BETWEEN ALL BITUMINOUS LAYERS AND BETWEEN BITUMINOUS AND CONCRETE CURB AND GUTTER. TACK COAT IS INCIDENTAL.
5. STRIP ALL TOPSOIL AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE TOPSOIL OR USE AS FILL OUTSIDE OF ROAD CORE.
6. WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK SHALL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
7. STATIONING FOR LOCATION OF EXISTING AND NEW SIGNS IS APPROXIMATE.
8. EXISTING BALTIMORE STREET IS APPROXIMATELY 3" TO 4" OF BITUMINOUS AND 6" OF CLASS 5.

SALVAGE SIGN — AB

STATION	LOCATION	SIGN NO.	POST	CODE NO.	PANEL LEGEND
10+03	BALTIMORE ST. – LT	C–22	SINGLE		NO TRESPASSING
10+19	BALTIMORE ST. – RT	C–23	SINGLE	R1–1	STOP & STREET
20+83	BALTIMORE ST. – LT	C–25	SINGLE		PRIVATE
22+82	BALTIMORE ST. – LT	C–25	DOUBLE		PRIVATE
23+77	BALTIMORE ST. – LT	C–27	SINGLE		RIGHT OF WAY
24+45	T.H. 65 – RT	C–28	TRIPLE	W3–3	SIGNAL AHEAD
TOTAL			6		

SAWCUT CONCRETE CURB — AG

STATION	LOCATION	LIN FT
9+38	BALTIMORE ST. – RT – ROADWAY	2
9+38	BALTIMORE ST. – LT – ROADWAY	2
34+11	CHISHOLM ST. – RT – ROADWAY	2
34+11	CHISHOLM ST. – LT – ROADWAY	2
TOTAL		8

REMOVE BITUMINOUS PAVEMENT — AK

STATION	LOCATION	SQ YD
9+38 TO 10+19	INTERSECTION OF BALTIMORE ST. & 171ST AVE.	455
34+11	CHISHOLM ST. – ROADWAY	7
34+11 TO 35+19	CHISHOLM ST. – RT – TEMP CDS	538
TOTAL		1,000

SALVAGE LIGHT POLES — AC

STATION	LOCATION	LIGHT POST NO.	TYPE
19+96	BALTIMORE ST. – RT	LP–20	SINGLE
20+57	BALTIMORE ST. – RT	LP–21	SINGLE
21+87	BALTIMORE ST. – RT	LP–22	SINGLE
22+87	BALTIMORE ST. – LT	LP–23	SINGLE
TOTAL			4

REMOVE CONCRETE CURB AND GUTTER — AH

STATION	LOCATION	LENGTH (LIN FT)
9+38 TO 10+08	BALTIMORE ST. – RT	68
9+38 TO 9+86	BALTIMORE ST. – LT	70
34+09 TO 34+11	CHISHOLM ST. – RT	2
34+09 TO 34+11	CHISHOLM ST. – LT	2
TOTAL		142

REMOVE BITUMINOUS DRIVEWAY — AL

STATION	LOCATION	SQ YD
10+03	DRIVEWAY – BALTIMORE ST. – LT	37
19+19 TO 23+67	JAKE'S AUTO MALL DRIVEWAY	938
25+60 TO 25+76	T.H. 65 – RT – DRIVEWAY	61
TOTAL		1038

TREE REMOVAL — AD

STATION	LOCATION	CLEARING (ACRE)	GRUBBING (ACRE)	CLEARING (EACH)	GRUBBING (EACH)
10+18 TO 10+36	ROADWAY			7	7
16+80 TO 17+88	POND 1	0.45	0.45		
18+00	ROADWAY			4	4
24+26 TO 24+56	MNDOT DITCH			6	6
23+67 TO 32+19	ROADWAY	4.06	4.06		
32+34 TO 32+90	ROADWAY			2	2
TOTAL		4.51	4.51	19	19

REMOVE CULVERTS — AM

STATION	LOCATION	TYPE	LENGTH (LIN FT)
25+66 TO 25+79	T.H. 65 – RT	CMP	29
10+22 TO 10+26	BALTIMORE ST. – RT	RCP	4
TOTAL			33

PLANT SALVAGE (BY OTHERS) — AE

STATION	LOCATION	CATEGORY	TYPE
15+25	ROADWAY	WATCH LISTED	1
17+00	POND 1	WATCH LISTED	5
22+75	MNDOT DITCH	THREATENED	3
24+10 TO 25+00	ROADWAY	ENDANGERED	26
TOTAL WATCH LISTED			6
TOTAL THREATENED			3
TOTAL ENDANGERED			26
TOTAL PLANTS			35

SALVAGE CASTING — AJ

STATION	LOCATION	STRUCTURE NAME
9+73	BALTIMORE ST. – LT	EX CBMH 1
9+78	BALTIMORE ST. – RT	EX CBMH 2
TOTAL		2

EARTHWORK SUMMARY — AM

EXCAVATION (CU YD)

TOPSOIL:
COMMON 3,320 CU YD (EV)
CHANNEL & PONDS 2,636 CU YD (EV)
→ 22,630 CU YD (EV) ①

COMMON 1,467 CU YD (EV)
CHANNEL & PONDS 15,207 CU YD (EV)

EMBANKMENT (CU YD)

22,630 CU YD (EV) ①
- TOPSOIL 5,368 CU YD (EV)/1.1 = 4,880 CU YD (CV)
- COMMON EX 8,691.8 CU YD (EV)/1.3 = 6,686 CU YD (CV)
- CHANNEL & PONDS 2028.4 CU YD (EV)/1.1 = 1,844 CU YD (CV)
- ⑤ STOCKPILE 8,542 CU YD (EV)/1.3 = 5,032 CU YD (CV)

→ 18,442 CU YD (CV) ②
- 4,880 CU YD (CV) TOPSOIL
- 6,686 CU YD (CV) COMMON
- 1,844 CU YD (CV) PONDS
- 5,032 CU YD (CV) STOCKPILE

NOTES:
① TOTAL EXCAVATION (EV) REQUIRED FOR PROJECT.
② TOTAL EMBANKMENT (CV) REQUIRED FOR PROJECT.
③ USED FOR MUCK PRICING ESTIMATION ONLY.
④ TOPSOIL REQUIRED FOR SITE MY BE OBTAINED BY MIXING MUCK MATERIAL AND COMMON EX TO ACHIEVE 25% MAX ORGANIC.
⑤ STOCKPILE MATERIAL TO BE USED AS COMMON IF MUCK IS ENCOUNTERED.

EXCAVATION (CU YD)

MUCK 2,111 CU YD (EV) → 2,111 CU YD (EV) ③ → COMMON EX 2,111 CU YD (EV) = 2,111 CU YD (CV) ④
WASTE 2,111 CU YD (EV)

EMBANKMENT (CU YD)

2,111 CU YD (CV) ④ → 2,111 CU YD (CV) ⑤ → 2,111 CU YD (CV) COMMON ⑤

GOPHER ONE CALL
800-252-1166 651-454-0002

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DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dave Krueger
DATE 05/29/25 REG. NO. 48758

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Telephone 763–862–8000
Fax 763–862–8042

S.A.P. 197–119–003 S.P. 0208–170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
EARTHWORK SUMMARY AND TABULATIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2111 TAB 1
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 3 OF 43
FILE: 33–2–103

AGGREGATE BASE CLASS 5 — BA

STATION TO STATION	LOCATION	TONS
9+38 TO 34+11	BALTIMORE ST. TO CHISHOLM ST.	3,232
50+15 TO 50+67	171ST AVE.	70
TOTAL		3,302

TYPE SP 9.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEA340C) — BB

STATION TO STATION	LOCATION	SQ. YD. (2 IN)	TONS
9+38 TO 34+11	BALTIMORE ST. TO CHISHOLM ST.	7,968.9	964
50+15 TO 50+67	171ST AVE.	175.3	21
TOTAL			985

TYPE SP 12.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEB340C) — BC

STATION TO STATION	LOCATION	SQ. YD. (2 IN)	TONS
9+38 TO 34+11	BALTIMORE ST. TO CHISHOLM ST.	7,968.9	964
50+15 TO 50+67	171ST AVE.	175.3	21
TOTAL			985

INSTALL SALVAGED CASTING — BD

STATION	LOCATION	STRUCTURE NAME
9+73	BALTIMORE ST. – LT	EX CBMH 1
9+78	BALTIMORE ST. – RT	EX CBMH 2
TOTAL		2

4" DOUBLE SOLID LINE YELLOW–PAINT — BE

STATION	LOCATION	LIN. FT.
9+38 TO 9+54	BALTIMORE STREET	16
50+48 TO 50+67	171ST AVENUE	19
10+46 TO 34+11	BALTIMORE ST. TO CHISHOLM ST. – CENTER	2,365
TOTAL		2,400

TYPE SP 9.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEA340C) 1" – DRIVEWAY — BF

STATION TO STATION	LOCATION	SQ. YD.
9+83 TO 10+13	BALTIMORE ST. – LT NORTH CENTRAL MOTORS DRIVEWAY	26
20+24 TO 20+68	BALTIMORE ST. – RT JAKE'S AUTO MALL SOUTH DRIVEWAY	61
23+32 TO 23+72	BALTIMORE ST. – RT JAKE'S AUTO MALL NORTH DRIVEWAY	67
TOTAL		154

TRENCH DRAIN — BG

STATION	LOCATION	LIN FT
19+00 TO 20+14	BALTIMORE ST. – RT	114
19+97 TO 20+63	JAKE'S AUTO MALL DRIVEWAY – SOUTH	66
20+11	BALTIMORE ST. –RT	15
20+77 TO 23+22	BALTIMORE ST. –RT	245
TOTAL		440

6" CONCRETE PAVEMENT – DRIVEWAY — BP

STATION TO STATION	LOCATION	SQ. YD.
9+83 TO 10+13	BALTIMORE ST. – LT NORTH CENTRAL MOTORS DRIVEWAY	21
20+24 TO 20+68	BALTIMORE ST. – RT JAKE'S AUTO MALL SOUTH DRIVEWAY	26
23+32 TO 23+72	BALTIMORE ST. – RT JAKE'S AUTO MALL NORTH DRIVEWAY	25
TOTAL		72

4" SOLID SINGLE LINE WHITE–PAINT — BU

STATION	LOCATION	LIN. FT.
23+34 TO 24+10	T.H. 65 – RT	89
TOTAL		89

DRIVEWAY AGGREGATE BASE CLASS 5 — BJ

STATION TO STATION	LOCATION	SQ. YD.
9+83 TO 10+13	BALTIMORE ST. – LT NORTH CENTRAL MOTORS DRIVEWAY	53
20+24 TO 20+68	BALTIMORE ST. – RT JAKE'S AUTO MALL SOUTH DRIVEWAY	94
23+32 TO 23+72	BALTIMORE ST. – RT JAKE'S AUTO MALL NORTH DRIVEWAY	98
TOTAL		245

TYPE SP 12.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEB340C) 2" – DRIVEWAY — BK

STATION TO STATION	LOCATION	SQ. YD.
9+83 TO 10+13	BALTIMORE ST. – LT NORTH CENTRAL MOTORS DRIVEWAY	26
20+24 TO 20+68	BALTIMORE ST. – RT JAKE'S AUTO MALL SOUTH DRIVEWAY	61
23+32 TO 23+72	BALTIMORE ST. – RT JAKE'S AUTO MALL NORTH DRIVEWAY	67
TOTAL		154

CONCRETE CURB & GUTTER DESIGN B612 — BL

STATION TO STATION	LOCATION	LIN FT
9+38 TO 9+85	BALTIMORE ST. – RT	79
9+83	BALTIMORE ST. – LT NORTH CENTRAL MOTORS DRIVEWAY	17
10+13	BALTIMORE ST. – LT NORTH CENTRAL MOTORS DRIVEWAY	17
20+24	BALTIMORE ST. – RT JAKE'S AUTO MALL DRIVEWAY	18
20+68	BALTIMORE ST. – RT JAKE'S AUTO MALL DRIVEWAY	18
23+32	BALTIMORE ST. – RT JAKE'S AUTO MALL DRIVEWAY	19
23+72	BALTIMORE ST. – RT JAKE'S AUTO MALL DRIVEWAY	19
TOTAL		170

MODULAR BLOCK RETAINING WALL — BM

STATION	LOCATION	APPROX. HEIGHT (FT)	SQ. YD.
18+60 TO 18+75	BALTIMORE ST. – RT	0.9	2
18+75 TO 19+00	BALTIMORE ST. – RT	2.42	7
19+00 TO 19+25	BALTIMORE ST. – RT	2.33	6
19+25 TO 19+50	BALTIMORE ST. – RT	2.19	6
19+50 TO 19+75	BALTIMORE ST. – RT	1.93	5
19+75 TO 20+00	BALTIMORE ST. – RT	1.55	4
20+00 TO 20+25	BALTIMORE ST. – RT	1.44	4
SOUTH DRIVEWAY WING 1	BALTIMORE ST. – RT	1.44	3
SOUTH DRIVEWAY WING 2	BALTIMORE ST. – RT	1.55	3
20+75 TO 21+00	BALTIMORE ST. – RT	1.55	4
21+00 TO 21+25	BALTIMORE ST. – RT	1.53	4
21+25 TO 21+50	BALTIMORE ST. – RT	1.36	4
21+50 TO 21+75	BALTIMORE ST. – RT	1.25	3
21+75 TO 22+00	BALTIMORE ST. – RT	1.27	4
22+00 TO 22+25	BALTIMORE ST. – RT	1.39	4
22+25 TO 22+50	BALTIMORE ST. – RT	1.23	3
22+50 TO 22+75	BALTIMORE ST. – RT	1.18	3
22+75 TO 23+00	BALTIMORE ST. – RT	1.23	3
23+00 TO 23+25	BALTIMORE ST. – RT	1.3	4
NORTH DRIVEWAY WING 1	BALTIMORE ST. – RT	1.28	3
TOTAL			80

SIGN PANELS TYPE C — BN

SIGN NO.	NOTE	TOTAL QTY.	POST	PANEL SIZE (IN)	PANEL AREA (SQ. FT.)	TOTAL AREA (SQ. FT.)	CODE NO.	PANEL LEGEND
C–2	8	2	SINGLE	VARIES X 8			D3–1	STREET
C–3		10	SINGLE	24 X 24	4	40	R8–3	NO PARKING
C–4		4	SINGLE	30 X 30	6	24	W1–4	REVERSE CURVE
C–6		1	SINGLE	24 X 30	5	5	R2–1	SPEED LIMIT 30 M.P.H
TOTAL						69		

INSTALL SALVAGED SIGNS — BV

SIGN NO.	NOTE	TOTAL QTY.	POST	PANEL SIZE (IN)	CODE NO.	PANEL LEGEND
C–1		1	SINGLE	30 X 30	R1–1	STOP (SALVAGED)
C–5		1	TRIPLE	48 X 48	W3–3	SIGNAL AHEAD (SALVAGED)
TOTAL		2				

CONCRETE CURB & GUTTER DESIGN B618 — BO

STATION TO STATION	LOCATION	LIN FT
9+37 TO 34+11	BALTIMORE ST. TO CHISHOLM ST. – LT	2,478
10+15 TO 34+11	BALTIMORE ST. TO CHISHOLM ST. – RT	2,422
TOTAL		4,900

RIPRAP CLASS 3 — BH

STATION	LOCATION	CU. YD.
18+59	BALTIMORE ST. – RT	16
	POND 1 OUTLET	13
19+41	BALTIMORE ST. – LT	7
21+71	BALTIMORE ST. – LT	5
24+16	BALTIMORE ST. – RT	7
25+29	BALTIMORE ST. – LT	6
30+30	173RD LANE – RT	10
30+93	CHISHOLM ST. – LT	6
31+54	CHISHOLM ST. – LT	10
	POND 4 OUTLET	6
TOTAL		86

SILT FENCE — BQ

STATION TO STATION	LOCATION	LIN. FT.
50+67 TO 52+96	171ST AVE.	229
9+16 TO 9+82	BALTIMORE ST. – RT	103
10+24 TO 15+10	BALTIMORE ST. – RT	572
11+28 TO 21+29	BALTIMORE ST. – LT	1,081
16+50	POND 1	1,297
25+00	POND 2	359
25+80	MNDOT DITCH	36
26+77 TO 30+47	173RD LANE – LT	442
28+28 TO 29+54	173RD LANE – RT	146
29+67	ENDANGERED PLANT PROTECTION	80
31+00	POND 3	392
31+50	POND 4	1,306
32+00 TO 35+09	CHISHOLM ST. – RT	373
32+19 TO 34+22	CHISHOLM ST. – LT	205
TOTAL		6,621

STORM DRAIN INLET PROTECTION — BR

STATION	LOCATION	QUANTITY
9+73	BALTIMORE ST. – LT	1
9+78	BALTIMORE ST. – RT	1
10+22	BALTIMORE ST. – RT	1
13+08	BALTIMORE ST. – RT	1
13+08	BALTIMORE ST. – LT	1
14+58	BALTIMORE ST. – RT	1
14+58	BALTIMORE ST. – LT	1
16+63	BALTIMORE ST. – RT	1
16+63	BALTIMORE ST. – LT	1
18+04	BALTIMORE ST. – RT	1
18+04	BALTIMORE ST. – LT	1
19+41	BALTIMORE ST. – RT	1
19+41	BALTIMORE ST. – LT	1
21+71	BALTIMORE ST. – RT	1
21+71	BALTIMORE ST. – LT	1
22+82	BALTIMORE ST. – LT	1
22+94	BALTIMORE ST. – RT	1
23+90	BALTIMORE ST. – RT	1
23+90	BALTIMORE ST. – LT	1
26+74	173RD LANE – RT	1
26+74	173RD LANE – LT	1
29+73	173RD LANE – RT	1
29+73	173RD LANE – LT	1
31+54	CHISHOLM ST. – RT	1
31+54	CHISHOLM ST. – LT	1
TOTAL		25

CULVERT END CONTROL — BS

STATION	LOCATION	QUANTITY
9+73	BALTIMORE ST. – LT	1
9+68	BALTIMORE ST. – RT	1
12+04	BALTIMORE ST. – RT	1
12+40	BALTIMORE ST. – LT	1
16+59	BALTIMORE ST. – RT	1
	POND 1 OUTLET	2
19+41	BALTIMORE ST. – LT	1
21+24	BALTIMORE ST. – LT	1
21+71	BALTIMORE ST. – LT	1
24+16	BALTIMORE ST. – RT	1
25+26	BALTIMORE ST. – RT	1
25+29	BALTIMORE ST. – LT	1
30+30	173RD LANE – RT	1
30+91	CHISHOLM ST. – RT	1
30+93	CHISHOLM ST. – LT	1
31+35	CHISHOLM ST. – RT	1
31+54	CHISHOLM ST. – LT	1
	POND 4 OUTLET	2
TOTAL		20

GEOTEXTILE FABRIC TYPE 4 — BT

STATION	LOCATION	SQ. YD.
16+59	BALTIMORE ST. – RT	53
	POND 1 OUTLET	43
19+41	BALTIMORE ST. – RT	26
21+71	BALTIMORE ST. – LT	21
24+16	BALTIMORE ST. – RT	26
25+29	BALTIMORE ST. – LT	26
30+30	173RD LANE – RT	34
30+93	CHISHOLM ST. – LT	26
31+54	CHISHOLM ST. – LT	34
	POND 4 OUTLET	26
TOTAL		315

NOTES:
1. TOP OF GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
2. BITUMINOUS AND CONCRETE DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH MnDOT SPEC. 2104.3C3.
3. COMPACTION OF ALL GRADING AND BASE ITEMS SHALL BE BY THE "QUALITY COMPACTION METHOD".
4. USE TACK COAT BETWEEN ALL BITUMINOUS LAYERS AND BETWEEN BITUMINOUS AND CONCRETE CURB AND GUTTER. TACK COAT IS INCIDENTAL.
5. STRIP ALL TOPSOIL AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE TOPSOIL OR USE AS FILL OUTSIDE OF ROAD CORE.
6. WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK SHALL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
7. STATIONING FOR LOCATION OF EXISTING AND NEW SIGNS IS APPROXIMATE.
8. SIGN AND POST INSTALLED BY OTHERS

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2780
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Ruegler
DATE 05/29/25 REG. NO. 48758

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763–862–8000
Fax 763–862–8042

S.A.P. 197–119–003 S.P. 0208–170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
EARTHWORK SUMMARY AND TABULATIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2111 TAB 2
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 4 OF 43
FILE: 33–2–104

UTILITY COMPANIES – CA
GOPHER STATE ONE CALL FIELD UTILITY LOCATE REQUEST
CENTERPOINT ENERGY
CENTURYLINK
CONNEXUS ENERGY
COMCAST CABLE COMMUNICATIONS, INC.
MINNESOTA DEPARTMENT OF TRANSPORTATION
ZAYO BANDWITDTH

CENTERPOINT ENERGY				CB
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
BALTIMORE STREET	10+00.00 TO 18+29.03	VAREIS	BURIED GAS	LEAVE AS IS
BALTIMORE STREET	18+29.03 TO 26+22.32	VARIES	BURIED GAS	LEAVE AS IS
173RD LANE & CHISHOLM STREET	26+22.30 TO 34+08.46	VAREIS	BURIED GAS	LEAVE AS IS

CONNEXUS ENERGY				CD
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
BALTIMORE STREET	10+00.00 TO 18+29.03	VAREIS	OVERHEAD ELECTRIC	LEAVE AS IS
BALTIMORE STREET	18+29.03 TO 26+22.32	33' LT	OVERHEAD ELECTRIC	LEAVE AS IS
173RD LANE & CHISHOLM STREET	26+22.30 TO 34+08.46	VAREIS	OVERHEAD ELECTRIC	LEAVE AS IS

MINNESOTA DOT				CF
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
BALTIMORE STREET	10+00.00 TO 18+29.03	VARIES	BURIED CABLE	LEAVE AS IS
BALTIMORE STREET	18+29.03 TO 26+22.32	50' LT TO 74' LT	BURIED CABLE	LEAVE AS IS
173RD LANE & CHISHOLM STREET	26+22.30 TO 34+08.46	VARIES	BURIED CABLE	LEAVE AS IS

GENERAL NOTES

1. STATIONING FOR BALTIMORE STREET REFERENCES THE PROPOSED CENTERLINE FOR THE PROJECT.
2. PRIOR TO REMOVING THE MNDOT STREET LIGHT, ELECTRIC CABINET, AND UNDERGROUND ELECTRIC, NOTIFY PAUL BABIN WITH MNDOT METRO LIGHTING DESIGN (651)234-7873.
3. ALL REMOVALS AND RELOCATIONS, EXCEPT FOR MnDOT FACILITIES, ARE TO BE COMPLETED BY THE UTILITY OWNER.

CENTURY LINK				CC
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
BALTIMORE STREET	10+00.00 TO 18+29.03	VAREIS	BURIED CABLE	LEAVE AS IS
BALTIMORE STREET	18+29.03 TO 26+22.32	VARIES	BURIED CABLE	LEAVE AS IS
173RD LANE & CHISHOLM STREET	26+22.30 TO 34+08.46	VAREIS	BURIED CABLE	LEAVE AS IS

COMCAST				CE
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
BALTIMORE STREET	10+00.00 TO 18+29.03	VAREIS	BURIED CABLE	LEAVE AS IS
BALTIMORE STREET	18+29.03 TO 26+22.32	VARIES	BURIED CABLE	LEAVE AS IS
173RD LANE & CHISHOLM STREET	26+22.30 TO 34+08.46	VAREIS	BURIED CABLE	LEAVE AS IS

ZAYO BANDWIDTH				CG
ALIGNMENT	STATION	OFFSET	INPLACE ITEM	NOTES
BALTIMORE STREET	10+00.00 TO 18+29.03	VARIES	BURIED CABLE	LEAVE AS IS
BALTIMORE STREET	18+29.03 TO 26+22.32	50' LT TO 74' LT	BURIED CABLE	LEAVE AS IS
173RD LANE & CHISHOLM STREET	26+22.30 TO 34+08.46	VARIES	BURIED CABLE	LEAVE AS IS

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

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Dan Krueger
DATE 05/29/25 REG. NO. 48768

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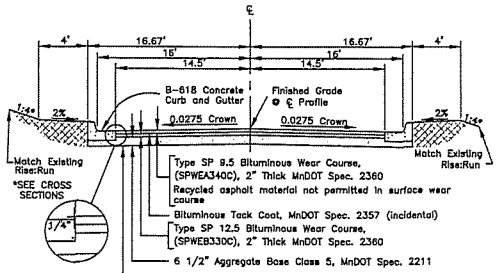
S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
UTILITY TABULATIONS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

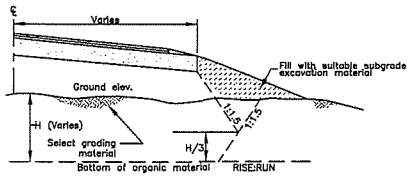
DWG: 2111 TAB 3
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 5 OF 43
FILE: 33-2-105



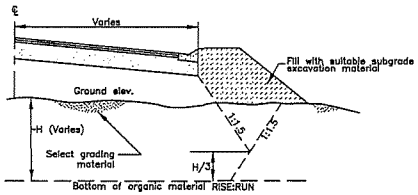
TYPICAL URBAN SECTION

TYPICAL STREET SECTION
COMMERCIAL 9-TON RFC-366B1

NOT TO SCALE



TYPICAL RURAL SECTION

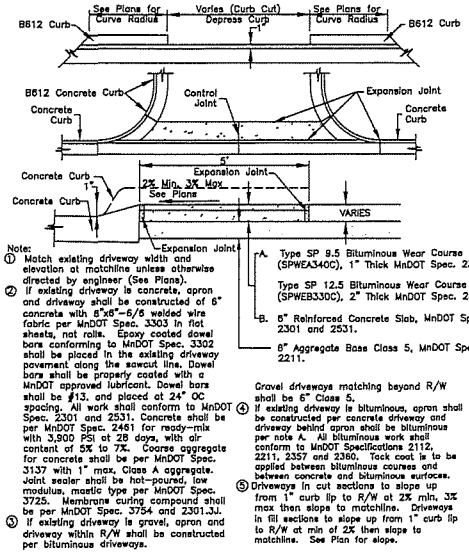


TYPICAL URBAN SECTION

WHERE ORGANIC MATERIAL COMPLETELY REMOVED

TYP. SUBGRADE EXCAVATION RFC-365A1

NOT TO SCALE

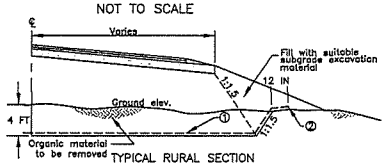


Note:
① Match existing driveway width and elevation at matchline unless otherwise directed by engineer (See Plans).
② If existing driveway is concrete, apron and driveway shall be constructed of 6" concrete with 6"x6"-6/6 welded wire fabric per MnDOT Spec. 3303 in flat sheets, not rolls. Epoxy coated dowel bars conforming to MnDOT Spec. 3302 shall be placed in the existing driveway pavement along the sawcut line. Dowel bars shall be properly coated with a MnDOT approved lubricant. Dowel bars shall be #13, and placed at 24" OC spacing. All work shall conform to MnDOT Spec. 2301 and 2531. Concrete shall be per MnDOT Spec. 2461 for ready-mix with 3,900 PSI at 28 days, with air content of 5% to 7%. Coarse aggregate for concrete shall be per MnDOT Spec. 3137 with 1" max, Class A aggregate. Joint sealer shall be hot-poured, low modulus, mastic type per MnDOT Spec. 3725. Membrane curing compound shall be per MnDOT Spec. 3754 and 2301.3J.
③ If existing driveway is gravel, apron and driveway within R/W shall be constructed per bituminous driveways.

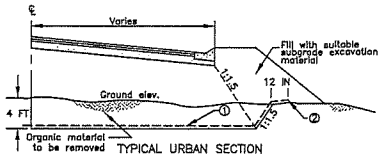
Gravel driveways matching beyond R/W shall be 6" Class 5.
④ If existing driveway is bituminous, apron shall be constructed per concrete driveway and driveway behind apron shall be bituminous per note A. All bituminous work shall conform to MnDOT Specifications 2112, 2211, 2357 and 2360. Tack coat is to be applied between bituminous courses and between concrete and bituminous surfaces.
⑤ Driveways in cut sections to slope up from 1" curb lip to R/W at 2% min. 3% max then slope to matchline. Driveways in fill sections to slope up from 1" curb lip to R/W at min of 2% then slope to matchline. See Plan for slope.

COMMERCIAL DRIVEWAY DETAIL RFC-370A1

NOT TO SCALE



TYPICAL RURAL SECTION

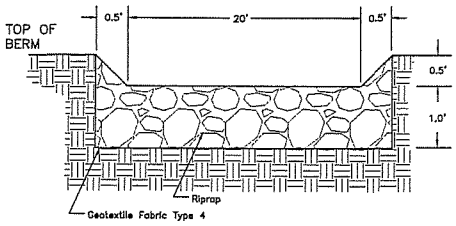


TYPICAL URBAN SECTION

1. Remove organic material to a minimum of 4 feet and place the Geotextile Fabric and install select grading material or other approved material. No vehicle traffic is allowed directly on Geotextile Fabric.
2. Furnish and install Geotextile Fabric Type 5 to 12" past removal limits. Disturbance of existing terrain where Fabric is to be placed shall be minimized.

TYPICAL FLOATING ROAD SECTION
NEW ROAD CONSTRUCTION RFC-365C4

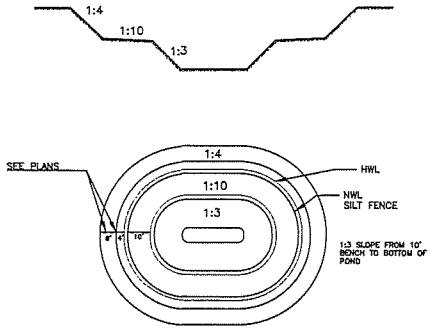
NOT TO SCALE



Note:
Permanent erosion control fabric to extend from NWL to 5' past toe of downstream slope.

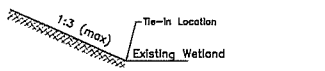
EMERGENCY OVERFLOW WEIR RFC-852A1

NOT TO SCALE



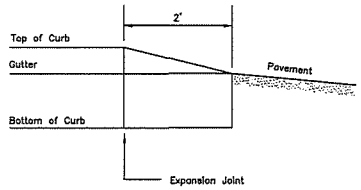
TYPICAL DETENTION POND
RFC-858A

NOT TO SCALE



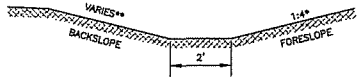
FORESLOPE DETAIL RFC-856A

NOT TO SCALE



CURB END DETAIL RFC-380A

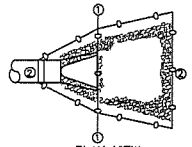
NOT TO SCALE



*DITCH SLOPES SHALL BE 1:3 IN WETLAND AREAS
**SEE CROSS SECTIONS

TYPICAL DITCH DETAIL RFC-856B

NOT TO SCALE



PLAN VIEW

SEQUENCING:
1. Place silt fence along construction limits, the portion of silt fence in front of the pipe shall be removed during flared end section placement.
2. Once the flared end section is placed, silt fence shall be furnished and installed around the top of the flared end section and surrounding the riprap.
3. Any additional outlet protection shall be added as required.
4. Contractor may substitute silt fence for bio-roll or rock log to act as weir for flow into culvert.

SILT FENCE AT FES RFC-857

NOT TO SCALE

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY

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Dan Ringler
DATE 05/29/25 REG. NO. 48768

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Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
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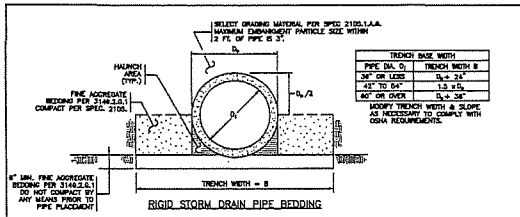
S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
TYPICAL SECTION AND DETAILS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2111 DETAIL 1
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 6 OF 43
FILE: 33-2-106



TRENCH BASE WIDTH	
PIPE DIA. D_o	TRENCH WIDTH B
36" OR LESS	D_o + 24"
42" TO 84"	1.5 x D_o
90" OR OVER	D_o + 36"

MODIFY TRENCH WIDTH & SLOPE AS NECESSARY TO COMPLY WITH OSHA REQUIREMENTS.

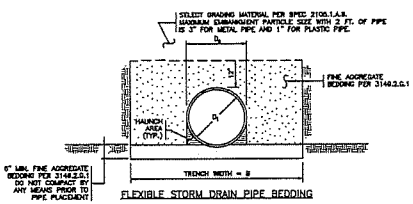
RIGID STORM DRAIN PIPE BEDDING

CONSTRUCTION SEQUENCE

1. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL TO GRADE, DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
2. FOR PIPES WITH BELL, REMOVE MATERIAL IN BELL AREA PRIOR TO PLACEMENT.
3. FURNISH AND INSTALL PIPE TO GRADE.
4. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVE THE BLADE END OF SHOVEL AT AN ANGLE DOWN THE ENTIRE LENGTH OF THE HAUNCH UNDER THE PIPE) THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK, OR SIMILAR).COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF THE APPLICABLE MATERIAL TYPE ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
5. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 8" LIFTS ON EACH SIDE OF THE PIPE UP TO THE MID-HEIGHT WHEN COMPACTED.
6. COMPLETE REMAINING BACKFILL.

NOTES

EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.
PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER.
PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2501 OR 2503.



TRENCH BASE WIDTH	
PIPE DIA. D_o	TRENCH WIDTH B
36" OR LESS	D_o + 24"
42" TO 48"	1.5 x D_o

MODIFY TRENCH WIDTH & SLOPE AS NECESSARY TO COMPLY WITH OSHA REQUIREMENTS.

FLEXIBLE STORM DRAIN PIPE BEDDING

CONSTRUCTION SEQUENCE

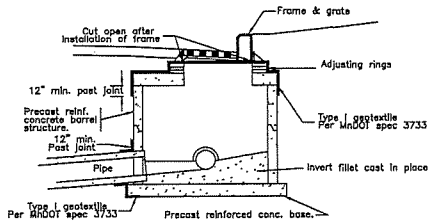
1. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL TO GRADE, DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
2. FOR PIPES WITH BELL, REMOVE MATERIAL IN BELL AREA PRIOR TO PLACEMENT.
3. FURNISH AND INSTALL PIPE TO GRADE.
4. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVE THE BLADE END OF SHOVEL AT AN ANGLE DOWN THE ENTIRE LENGTH OF THE HAUNCH UNDER THE PIPE) THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK, OR SIMILAR).COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF THE APPLICABLE MATERIAL TYPE ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
5. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 8" LIFTS ON EACH SIDE OF THE PIPE UP TO THE MID-HEIGHT WHEN COMPACTED.
6. COMPLETE REMAINING BACKFILL.

NOTES

EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.
PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER.
PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2501 OR 2503.

STORM DRAIN BEDDING FOR RIGID AND FLEXIBLE PIPE RFC–654

NOT TO SCALE

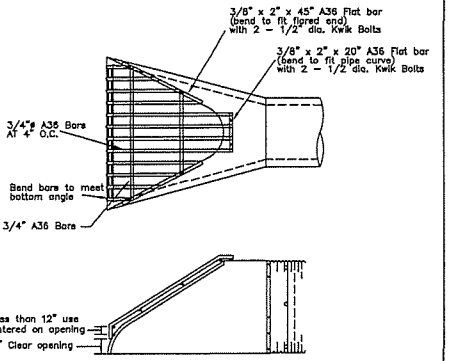


SEAL FABRIC ONTO CATCH BASIN AND CATCH BASIN MANHOLE WITH DUCT TAPE. OVER LAP ALL SEAMS. 12" MIN.

SECTIONAL VIEW

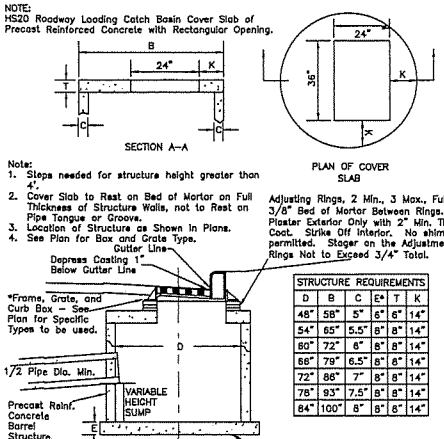
FABRIC AROUND CATCH BASIN RFC–463

NOT TO SCALE



CPP TRASH GUARD RFC–466C

NOT TO SCALE



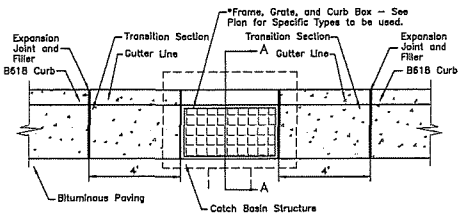
STRUCTURE REQUIREMENTS					
D	B	C	E*	T	K
48"	58"	5"	6"	6"	14"
54"	65"	5.5"	8"	8"	14"
60"	72"	6"	8"	8"	14"
66"	79"	6.5"	8"	8"	14"
72"	86"	7"	8"	8"	14"
78"	93"	7.5"	8"	8"	14"
84"	100"	8"	8"	8"	14"

MnDOT Spec. ref. 2506, Detail ref. 4011, 4020, 4022

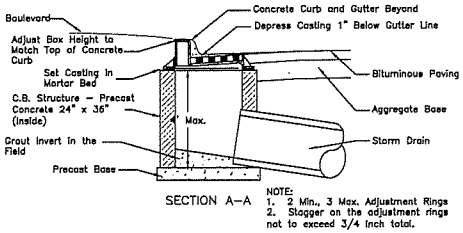
RECTANGULAR INLET
FOR ROUND MANHOLE RFC–465A3

NOT TO SCALE

SPECIAL 4 = 60" ø
SPECIAL 5 = 72" ø
SPECIAL 6 = 96" ø



CATCH BASIN PLAN

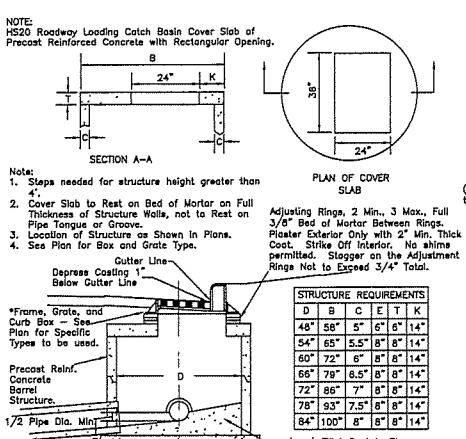


NOTE:
1. 2 Min., 3 Max. Adjustment Rings
2. Stagger on the adjustment rings not to exceed 3/4 inch total.

RECTANGULAR CATCH BASIN RFC–459C

NOT TO SCALE

SPECIAL



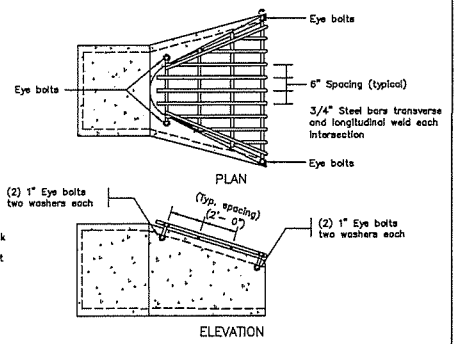
STRUCTURE REQUIREMENTS					
D	B	C	E	T	K
48"	58"	5"	6"	6"	14"
54"	65"	5.5"	8"	8"	14"
60"	72"	6"	8"	8"	14"
66"	79"	6.5"	8"	8"	14"
72"	86"	7"	8"	8"	14"
78"	93"	7.5"	8"	8"	14"
84"	100"	8"	8"	8"	14"

MnDOT Spec. ref. 2506, Detail ref. 4011, 4020, 4022

RECTANGULAR INLET
FOR ROUND MANHOLE RFC–465A1

NOT TO SCALE

SPECIAL 1 = 48" ø
SPECIAL 2 = 60" ø
SPECIAL 3 = 84" ø



Note:
1.) Trash guard to be galvanized after fabrication
2.) The size of each trash guard will vary to fit the apron size.
3.) All bolts to be non–rusting stainless steel.
4.) Weld all bolts to prevent entry after final storm sewer cleaning.
5.) Round all steel bars such that ends are smooth and free of burs.

FOR PIPE DIAMETERS 30" AND SMALLER

RCP TRASH GUARD RFC–466B

NOT TO SCALE

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Kaupla
DATE 05/29/25 REG. NO. 48768

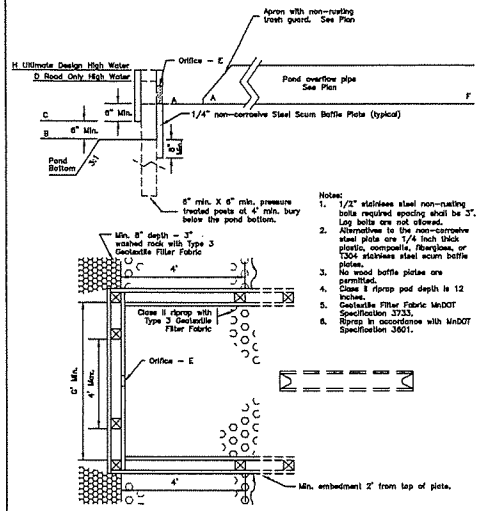
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763–862–8000
Fax 763–862–8042

S.A.P. 197–119–003 S.P. 0208–170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
DETAILS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2111 DETAIL 2
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 7 OF 43
FILE: 33–2–107

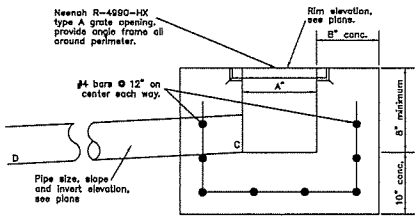


POND OUTLET BAFFLE RFC–850B2

NOT TO SCALE

BAFFLE WEIR ELEVATIONS					
	POND 1	POND 2	FES 51 POND 3	FES 63 POND 3	POND 4
A	905.30	905.00	906.80	905.50	905.00
B	904.30	904.00	904.50	904.50	904.00
C	904.80	904.50	905.00	905.00	904.50
D	907.20	906.60	907.30	907.30	906.40
E	22"X22"	12"X12"	6"X6"	18"X18"	18"X18"
F	905.20	905.00	906.00	SEE PROFILE ON SHEET29	904.50
G	8'	8'	8'	8'	8'
*H	908.20	906.90	907.50	907.50	906.50

* BAFFLE WEIRS TO BE CONSTRUCTED AT HIGH WATER LEVELS LISTED IN ROW H INSTEAD OF ROW D TO ACCOUNT FOR FUTURE SITE DEVELOPMENT



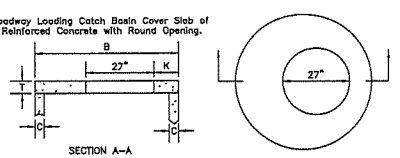
0.6% minimum longitudinal slope along trench drain.

TRENCH DRAIN DETAIL RFC–472B

NOT TO SCALE

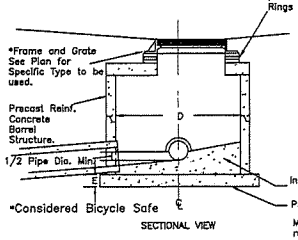
TRENCH DRAIN OUTLET ELEVATIONS		
	STUB 75	STUB 6
A	24	24
B	10	10
C	906.65	905.87
D	906.59	905.68

NOTE:
HS20 Roadway Loading Catch Basin Cover Slab of Precast Reinforced Concrete with Round Opening.



Note:
1. Steps needed for structure height greater than 4'.
2. Cover Slab to Rest on Bed of Mortar on Full Thickness of Structure Walls, not to Rest on Pipe Tongue or Groove.
3. Location of Structure as Shown in Plans.

Adjusting Rings, 2 Min., 3 Max., Full 3/8" Bed of Mortar Between Rings. Plaster Exterior Only with 2" Min. Thick Coat. Strike Off Interior. No shims permitted. Stager on the Adjustment Rings Not to Exceed 3/4" Total.



STRUCTURE REQUIREMENTS					
D	B	C	E	T	K
48"	58"	5"	6"	6"	14"
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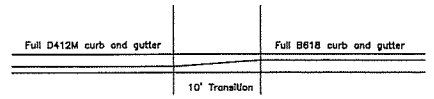
66"	79"	6.5"	8"	8"	14"
72"	86"	7"	8"	8"	14"
78"	93"	7.5"	8"	8"	14"
84"	100"	8"	8"	8"	14"

ROUND MANHOLE RFC–465C

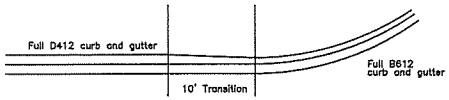
NOT TO SCALE

SPECIAL 7 = 48" ø



TRANSITION CURB: D412M TO B618 RFC–356A10

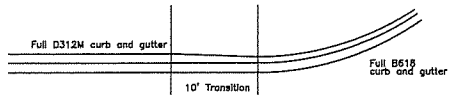
NOT TO SCALE



TRANSITION FOR D412 TO B612 CURB & GUTTER AT CURB RETURNS

TRANSITION CURB: D412 TO B612 RFC–356A4

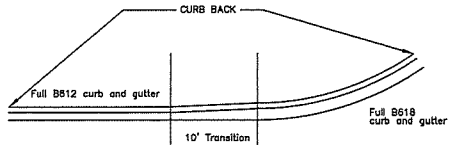
NOT TO SCALE



TRANSITION FOR D312 TO B618 CURB & GUTTER AT CURB RETURNS

TRANSITION CURB: D312M TO B618 RFC–356A2

NOT TO SCALE



TRANSITION CURB: B612 TO B618 RFC–356B

NOT TO SCALE

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK (763) 712–5017
CENTERPOINT ENERGY (763) 323–2760
COMCAST (952) 607–4078
CONNEXUS ENERGY (763) 323–4268
XCEL ENERGY (612) 526–4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
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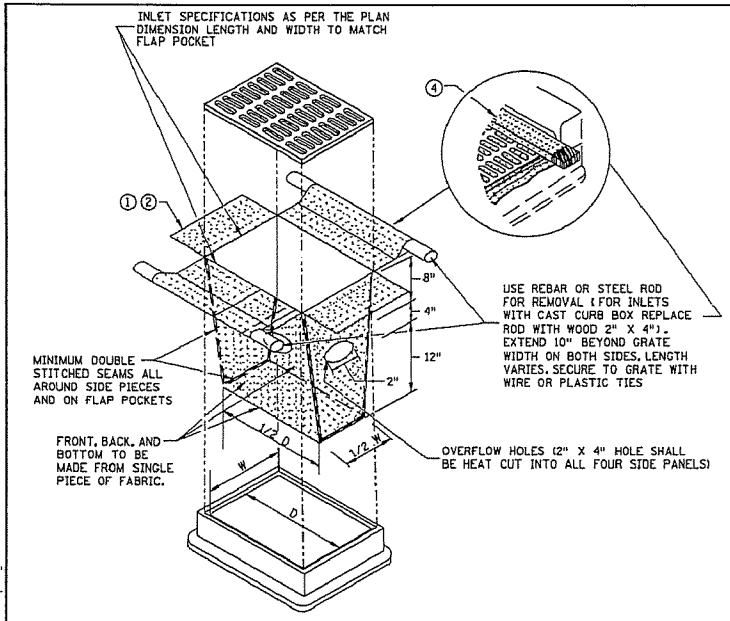
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763–862–8000
Fax 763–862–8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

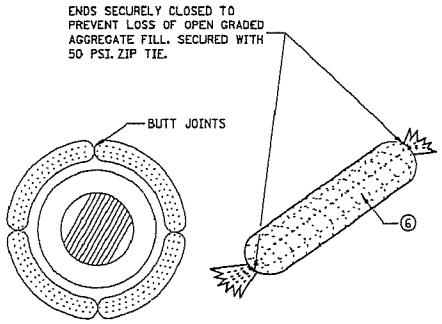
S.A.P. 197–119–003 S.P. 0208–170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
DETAILS

DWG: 2111 DETAIL 3
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 8 OF 43
FILE: 33–2–108

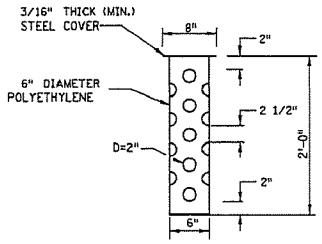


FILTER BAG INSERT ③

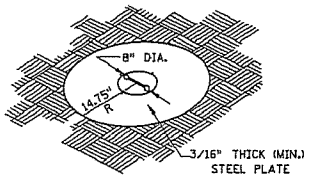
(CAN BE INSTALLED IN ANY INLET TYPE
WITH OR WITHOUT A CURB BOX)



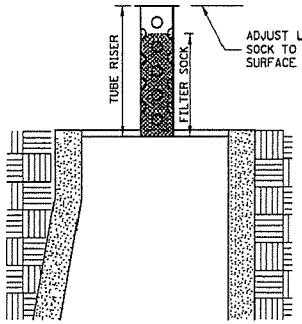
ROCK LOG/COMPOST LOG



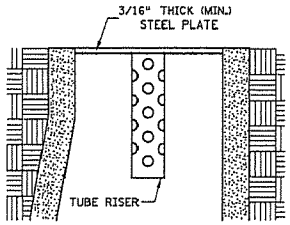
TUBE RISER



PERSPECTIVE VIEW

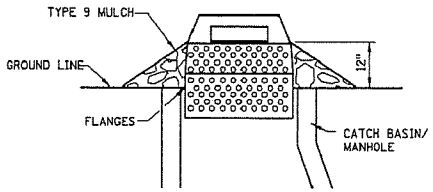


SECTION
(UP POSITION)



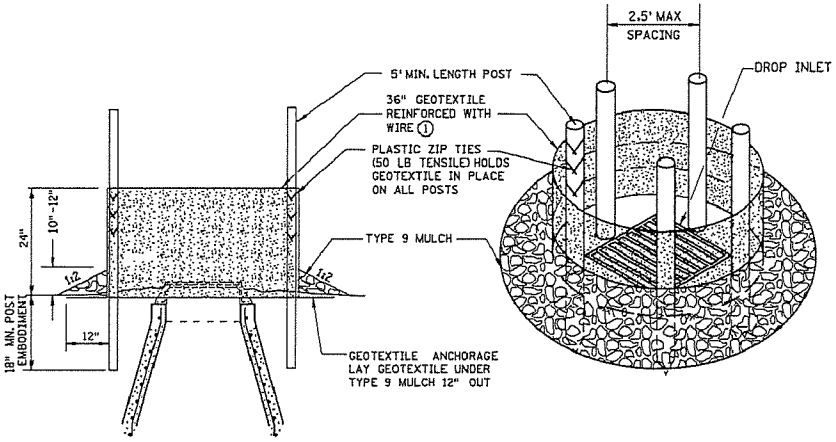
SECTION
(DOWN POSITION)

POP-UP HEAD



SEDIMENT CONTROL INLET HAT

NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 or LESS

NOTES:
SEE SPECS. 2573, 3137, & 3886.

DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEED TRAFFIC FLOW.

1. ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
2. FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
3. INSTALLATION NOTES:
   DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
4. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
5. SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
6. GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

REVISION:

APPROVED: 2-28-2017

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.405 | 4 OF 8

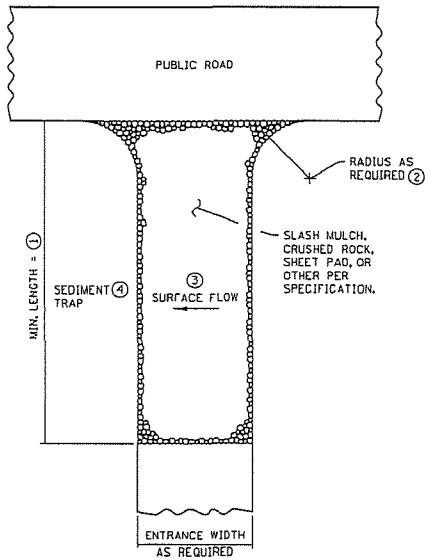
APPROVED: 2-28-2017
REVISED:

STATE DESIGN ENGINEER

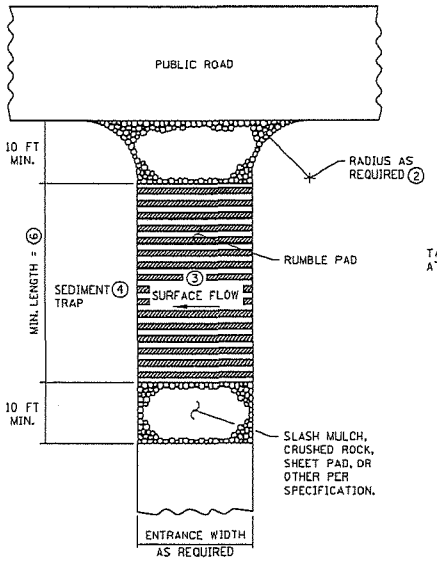
TEMPORARY SEDIMENT CONTROL

STORM DRAIN INLET PROTECTION

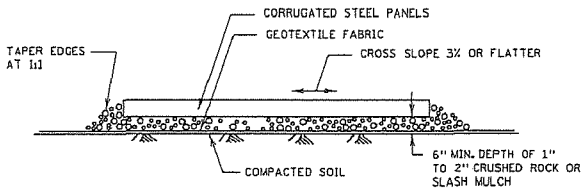
STATE PROJ. NO. (T.H.) SHEET NO. 9 OF 43 SHEETS



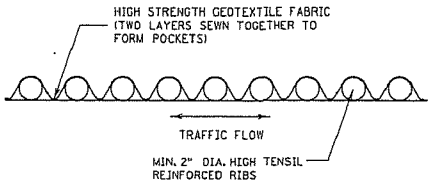
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



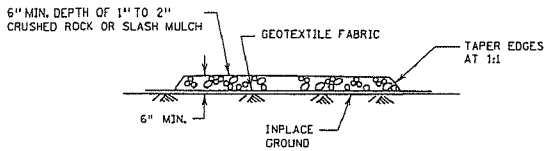
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

(1) MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.

(2) PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.

(3) IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.

(4) IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.

(5) IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.

(6) MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.

(7) MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

REVISION:

APPROVED: 2-28-2017

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.405 | 5 OF 8

APPROVED: 2-28-2017

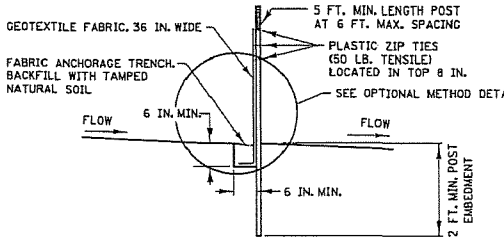
REVISED:

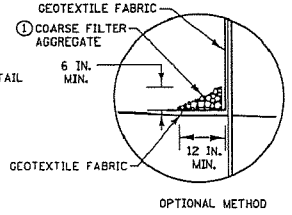
STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL

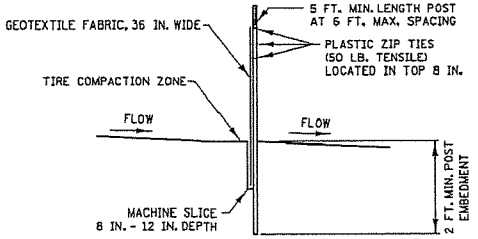
STABILIZED CONSTRUCTION EXIT

STATE PROJ. NO. (T.H.) SHEET NO. 10 OF 43 SHEETS

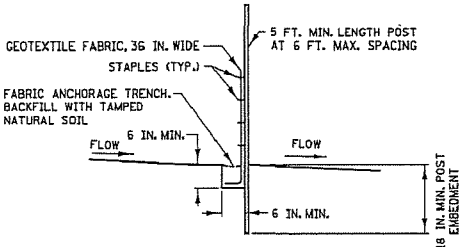




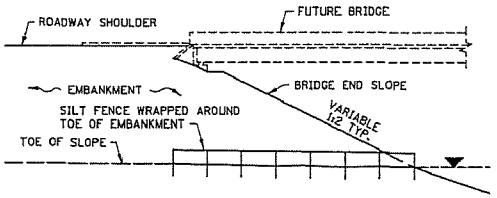
SILT FENCE TYPE HI ②
(HAND INSTALLED)



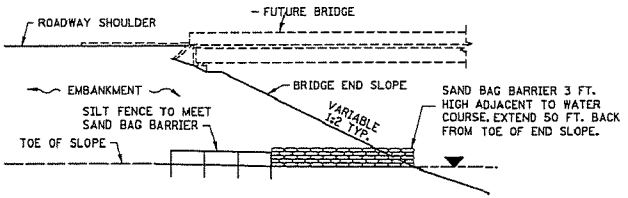
SILT FENCE TYPE MS ②
(MACHINE SLICED)



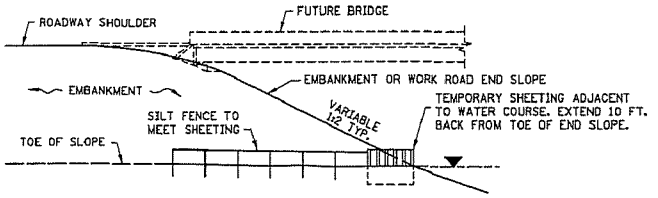
SILT FENCE TYPE PA ③
(PREASSEMBLED)



SILT FENCE ONLY ④

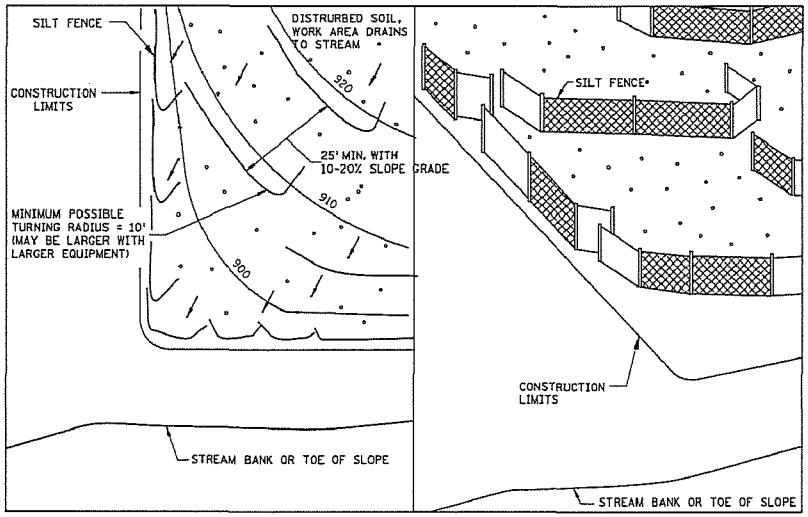


SILT FENCE WITH SAND BAGS ⑤



SILT FENCE WITH SHEETING ⑥

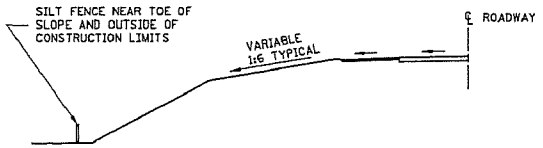
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



PLAN VIEW

PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:

SEE SPECS. 2573, 3149 & 3886.

① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.

② TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 1 ACRE.

③ TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.

④ WATER COURSE FLOW VELOCITY: STANDING.
CONTRIBUTING SLOPE AREA: 1./2 ACRE.

⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1. ACRE.

⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES.

REVISION:

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CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

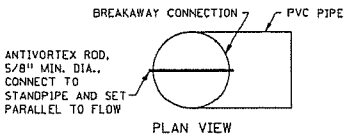
STANDARD PLAN 5-297.405 | 6 OF 8

APPROVED: 2-28-2017
REVISED:

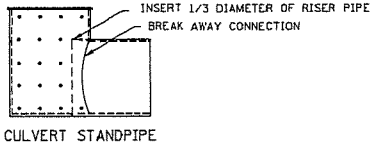
STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL
SILT FENCE

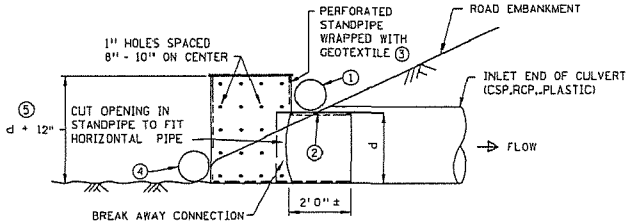
STATE PROJ. NO. (T.H.) SHEET NO. 11 OF 43 SHEETS



PLAN VIEW



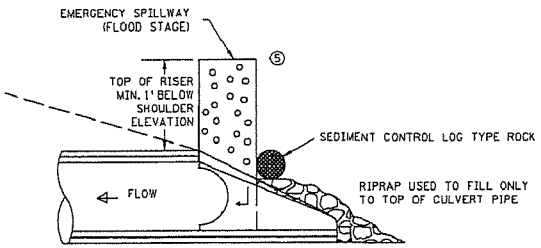
CULVERT STANDPIPE



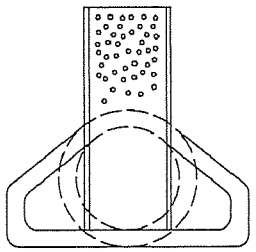
ELEVATION VIEW OF CULVERT INSTALLATION

CULVERT STANDPIPE INSERT (D-RISER)

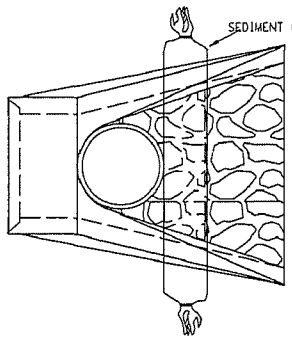
d= CULVERT SIZE: 12" - 36"



LONGITUDINAL SECTION

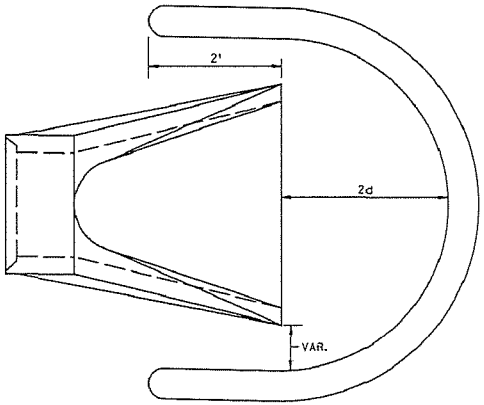


END VIEW



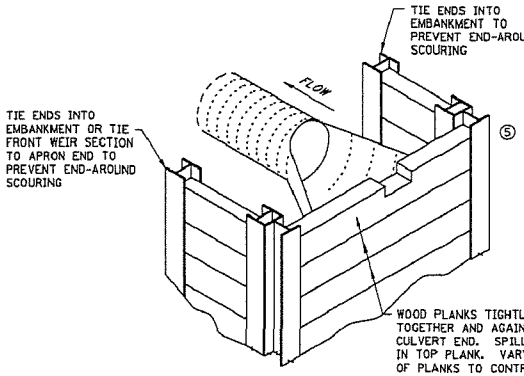
TOP VIEW

CULVERT STANDPIPE INSERT (D-RISER)



SEDIMENT CONTROL LOG WEIR
(COMPOST, WOOD CHIP, OR ROCK)

d = CULVERT SIZE: 12"-36"



WOOD PLANK WEIR

NOTES:

SEE SPECS. 2573, 3891 & 3893.

FOR USE WHEN TEMPORARY PONDING IS NEEDED IN DITCH SECTIONS FOR SEDIMENT CONTROL.

MANUFACTURED ALTERNATIVES LISTED ON MnDOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED AT NO ADDITIONAL COST.

(1) ROCK LOG OR SANDBAG TO HOLD STANDPIPE AND ACT AS A SEAL BETWEEN RISER PIPE AND CULVERT.

(2) PLACE CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO CSP OR RCP CULVERT.

(3) ALL GEOTEXTILE USED FOR CULVERT PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 FOR MACHINE SLICED.

(4) ROCK LOG OR RIP RAP TO HOLD STANDPIPE AND ACT AS A FILTER BETWEEN RISER PIPE AND CULVERT.

(5) HEIGHT OVERFLOW NOT TO CAUSE FLOODING OF ROAD OR ADJACENT PROPERTIES.

REVISION:

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CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.405 | 8 OF 8

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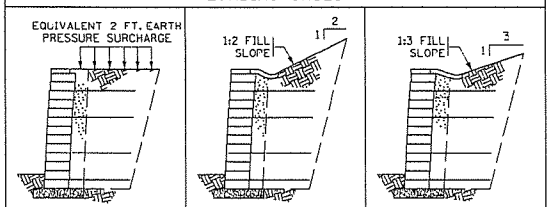
STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL

CULVERT END CONTROLS

STATE PROJ. NO. (T.H.) SHEET NO. 12 OF 43 SHEETS

LOADING CASES



LEVEL FILL	1:2 SLOPED FILL	1:3 SLOPED FILL
CASE 1	CASE 2	CASE 3

SAMPLE OF ESTIMATED QUANTITIES TABULATION FOR MODULAR BLOCK WALLS (3)

	UNIT	QUANTITY
STRUCTURE EXCAVATION CLASS ___	CU. YD.	
STRUCTURAL BACKFILL (CV)	CU. YD.	
(4) STRUCTURAL CONCRETE (1P42)	CU. YD.	
(4) COARSE FILTER AGGREGATE	CU. YD.	
(1)(2) MODULAR BLOCK RETAINING WALL	SQ. FT.	
TYPE 1 GEOTEXTILE	SQ. YD.	

(1) VERTICAL FACE AREA OF MODULAR BLOCK AS MEASURED FROM PLAN TOP OF WALL TO 2 FT. BELOW FINISHED GRADE AT BOTTOM OF WALL.

(2) PAY ITEM FOR MBW WALLS SHALL BE 2411.

(3) REFER TO TABULATIONS / ESTIMATE SHEETS FOR QUANTITIES.

(4) FOR USE AS LEVELING PAD.

DEFINITION OF TERMS

MBW	=	MODULAR BLOCK WALL
C.I.P.	=	CAST-IN-PLACE
H	=	WALL HEIGHT FROM TOP OF CAP TO BOTTOM OF LOWERMOST BLOCK UNIT
S	=	VERTICAL REINFORCEMENT SPACING
REINFORCEMENT COVERAGE RATIO	=	WIDTH OF SOIL REINFORCEMENTS TO HORIZONTAL SPACING (100% COVERAGE RATIO REQUIRED)

DESIGN CRITERIA

DESIGN CRITERIA FOLLOWS THE "AASHTO LRFD BRIDGE DESIGN SPECIFICATION" (7TH EDITION, 2014) EXCEPT FOR THE DEVIATIONS NOTED BELOW. DESIGN CRITERIA ARE IN ACCORDANCE WITH MnDOT POLICY, AS RECORDED IN THE MnDOT ROAD DESIGN MANUAL, OR FACILITY DESIGN GUIDE.

A. THE MINIMUM REINFORCEMENT LENGTH IS 7 FT. FROM THE FRONT OF THE BLOCK OR 0.8H FOR CASE 1 AND CASE 3 AND 1.2H FOR CASE 2, WHICHEVER IS GREATER.
B. THE REINFORCEMENT FILL FRICTION ANGLE IS 34°.
C. THE LATERAL EARTH PRESSURE COMPUTATION FOR EXTERNAL STABILITY CALCULATIONS USES AN INTERFACE FRICTION ANGLE SET EQUAL TO THE RETAINED BACKFILL ANGLE.
D. THE LATERAL EARTH PRESSURE COMPUTATION FOR INTERNAL STABILITY CALCULATIONS USES THE EFFECTS OF WALL FACE BATTER.

LOAD FACTORS - STRENGTH LIMIT STATE

HORIZONTAL EARTH PRESSURE (γ_{EH}) = 1.5 FOR EXTERNAL STABILITY
HORIZONTAL EARTH PRESSURE (γ_{EH}) = 1.35 FOR INTERNAL STABILITY
VERTICAL PRESSURE FROM DEAD LOAD OF EARTH FILL (γ_{EV}) = 1.35 FOR BEARING CAPACITY
VERTICAL PRESSURE FROM DEAD LOAD OF EARTH FILL (γ_{EV}) = 1.0 FOR SLIDING AND PULL OUT
EQUIVALENT EARTH PRESSURE SURCHARGE (γ) = 1.35

RESISTANCE FACTORS - STRENGTH LIMIT STATE

BEARING ϕ_{BR} = 0.65
DIRECT SLIDING ϕ_{DS} = 1.0
GEOGRID STRENGTH ϕ = 0.9
GEOGRID BLOCK CONNECTION STRENGTH ϕ = 0.9
GEOGRID PULLOUT ϕ = 0.9

SEE FOUNDATION REPORT FOR NOMINAL SOIL BEARING RESISTANCE OF FOUNDATION SOIL.

CASE 1 AND 3 - NOMINAL SOIL BEARING RESISTANCE OF 2000 PSF IS REQUIRED FOR WALLS UP TO 12 FT IN HEIGHT. FOR WALLS GREATER THAN 12 FT IN HEIGHT, THE REQUIRED NOMINAL BEARING RESISTANCE IS EQUAL TO 2000 PSF + (H-10)(1500 PSF) WHERE H IS IN FEET.

CASE 2 - NOMINAL SOIL BEARING RESISTANCE OF 2500 PSF IS REQUIRED FOR WALLS UP TO 12 FT IN HEIGHT. FOR WALLS GREATER THAN 12 FT IN HEIGHT, THE REQUIRED NOMINAL BEARING RESISTANCE IS EQUAL TO 2500 PSF + (H-10)(2200 PSF) WHERE H IS IN FEET.

REINFORCED WALL FILL CHARACTERISTICS:
A. USE STRUCTURAL BACKFILL (SPEC. 3149.2D2)
B. INTERNAL ANGLE OF FRICTION (ϕ_r) = 34° MINIMUM
C. COHESION (C) = 0
D. MOIST UNIT WEIGHT (γ_r) = 125 PCF

COARSE FILTER AGGREGATE CHARACTERISTICS:
A. COARSE FILTER AGGREGATE TO MEET SPEC. 3149.2H.

RETAINED BACKFILL CHARACTERISTICS:
A. INTERNAL ANGLE OF FRICTION (ϕ_b) = 30°
B. COHESION (C) = 0
C. MOIST UNIT WEIGHT (γ_b) = 120 PCF

FOUNDATION SOILS CHARACTERISTICS:
A. INTERNAL ANGLE OF FRICTION (ϕ_f) = 30°
B. COHESION (C) = 0
C. UNIT WEIGHT (γ_f) = 120 PCF

BASIS OF DESIGN:

IN ADDITION TO THE STANDARD SHEETS, INCLUDE PLAN AND FRONT ELEVATION VIEWS OF THE MODULAR BLOCK RETAINING WALLS IN THE PLANS. THE PLAN VIEW MUST SHOW ALIGNMENT BASELINE, LIMITS OF BOTTOM OF WALL ALIGNMENT, AND LIMITS OF TOP OF WALL ALIGNMENT AS ALIGNMENTS VARY WITH BATTER OF WALL SYSTEM ACTUALLY SUPPLIED. THE FRONT ELEVATION MUST IDENTIFY BOTTOM AND TOP OF WALL ELEVATIONS, EXISTING GRADES, AND FINISHED GRADES.

IF THE WALL IS CURVED, THE RADIUS AT THE BOTTOM AND THE TOP OF EACH WALL SEGMENT AND THE P.C. AND P.T. STATION POINTS OFF OF BASELINE AND LIMITS OF BOTTOM AND TOP OF WALL ALIGNMENT MUST BE SHOWN.

REFERENCE STANDARD PLATES AND PROVIDE DETAILS FOR TRAFFIC BARRIERS, CURB AND GUTTER, HANDRAILS AND FENCING AS REQUIRED BY PROJECT CONDITIONS. SEE AASHTO MANUALS, MnDOT ROAD DESIGN MANUAL OR FACILITY DESIGN GUIDE, STANDARD PLATES AND DETAILS FOR REQUIREMENTS.

SHOW SURFACE DRAINAGE PATTERNS IN THE PLAN VIEW. PROVIDE DIMENSIONS FOR WIDTH AND DEPTH OF THE DRAINAGE SWALE AS WELL AS THE TYPE OF IMPERVIOUS LINER MATERIAL. COLLECT SURFACE WATER RUNOFF ABOVE AND DIVERT AROUND WALL FACE.

DETAIL LINES AND GRADES OF THE INTERNAL DRAINAGE COLLECTION PIPE. DETAIL OR NOTE THE DESTINATION OF INTERNAL WALL DRAINS AS WELL AS THE METHOD OF TERMINATION (DAYLIGHT END OF PIPE OR CONNECTION INTO HYDRAULIC STRUCTURE). SPACE DRAIN PIPE OUTLET NOT MORE THAN 150 FT.

SOFT SOILS AND/OR HIGH WATER CONDITIONS (DEFINED AS GROUNDWATER WITHIN A DEPTH EQUAL TO THE WALL HEIGHT (H) MAY NOT BE SUITABLE FOR APPLICATION OF STANDARD DESIGNS AND REQUIRE SPECIAL CONSIDERATION BY THE FOUNDATIONS UNIT.

STANDARD DESIGN CHARTS ARE NOT APPLICABLE TO:
- PROJECT SITES WHERE FOUNDATION SOILS SHEAR STRENGTH AND/OR BEARING RESISTANCE DO NOT MEET OR EXCEED VALUES USED IN THE DEVELOPMENT OF STANDARD DESIGN CHARTS.
- PROJECTS WITH A LARGE QUANTITY OF FACE AREA WHERE PROJECT SPECIFIC DESIGNS ARE RECOMMENDED, AS DEFINED IN MnDOT ROAD DESIGN MANUAL OR FACILITY DESIGN GUIDE.
- WHERE SLOPES IN FRONT OF WALL ARE STEEPER THAN 1:3.
- WHERE MAXIMUM WALL HEIGHT EXCEEDS 12 FT.
- WHERE WALLS ARE TIERED.
- WALLS WITH NOISE WALLS.

IF USING CONCRETE RAILING, INCLUDE STANDARD BRIDGE DETAIL "CONCRETE RAILING (TYPE F)" IN PLAN SET.

PROVIDE PROJECT SPECIFIC AESTHETIC REQUIREMENTS INCLUDING COLOR AND FASCIA SURFACING IN THE SPECIAL PROVISIONS.

MnDOT ROAD DESIGN MANUAL OR FACILITY DESIGN GUIDE CONTAINS GUIDELINES, TRAFFIC SAFETY AND OTHER ASPECTS.

NOTES TO CONTRACTOR:

APPROVED COMBINATIONS OF MODULAR BLOCK UNIT AND SOIL REINFORCEMENT AND APPROVED MODULAR BLOCK UNIT PRODUCTS ARE MAINTAINED BY THE FOUNDATION UNIT (GEOTECHNICAL ENGINEERING SECTION), AND ARE POSTED AT https://www.dot.state.mn.us. ONLY APPROVED PRODUCT COMBINATIONS AND APPROVED BLOCK UNITS PRODUCED FROM APPROVED SOURCES SHALL BE USED.

PROVIDE DETAILED SHOP DRAWINGS FOR CONSTRUCTION CONTAINING:

- A COPY OF MnDOT STANDARD SHEETS FOR LOADING CASE(S) USED WITH BLOCK TYPE AND SPACING NOTED ON THE "MODULAR BLOCK WALL REINFORCEMENT LAYOUT" TABLE.
- ELEVATION VIEW WITH REINFORCEMENT PLACEMENT REQUIREMENTS, WALL FACING LAYOUT, AND GEOMETRIC INFORMATION. TOP OF WALL MAY EXTEND UP TO 4" ABOVE PLAN TOP OF WALL ELEVATION.
- PLAN VIEW WITH BOTTOM AND TOP OF WALL ALIGNMENT, AND PLAN LIMITS OF WALL ALIGNMENT.
- CROSS SECTIONS DETAILING BATTER, REINFORCEMENT, VERTICAL SPACING, REINFORCEMENT LENGTHS, SUBSURFACE DRAINAGE, SURFACE DRAINAGE, AND WATER RUNOFF COLLECTION ABOVE WALL.
- REINFORCEMENT LAYOUT: REINFORCEMENT SHALL BE PLACED AT 100% COVERAGE RATIO. REINFORCEMENT ELEVATIONS SHALL BE CONSISTENT ACROSS LENGTH OF WALL STRUCTURE.
- BLOCK, REINFORCEMENT AND FILL PLACEMENT METHODS AND REQUIREMENTS.
- DETAIL ALL WALL FILL PENETRATIONS AND WALL FACE PENETRATIONS. DETAIL REINFORCEMENT AND/OR WALL FACING UNIT PLACEMENT AROUND PENETRATIONS. VERTICAL PENETRATIONS GREATER THAN 1 FT. DIAMETER REQUIRE A STRUCTURAL GEOGRID DIVERSION SYSTEM AND/OR PREINSTALLED SLEEVES.
- DETAILS THAT ARE SPECIFIC TO VENDOR PRODUCTS AND THEIR INTERACTION WITH OTHER PROJECT COMPONENTS.
- LIST INFORMATION ON APPROVED COMBINATION OF MBW UNIT AND GEOSYNTHETIC REINFORCEMENT, INCLUDING MnDOT CLASSIFICATION CODE, NOMINAL BLOCK WIDTH, PROPERTIES FOR FIELD IDENTIFICATION, AND INSTALLATION INSTRUCTIONS.
- DETAILS OF CAP UNITS AND INSTALLATION/FASTENING INSTRUCTIONS FOR THE CAPS. CAP UNITS SHALL BE SET IN A BED OF ADHESIVE DESIGNED TO WITHSTAND MOISTURE AND TEMPERATURE EXTREMES, REMAIN FLEXIBLE, AND SHALL BE SPECIFICALLY FORMULATED FOR BONDING MASONRY TO MASONRY.
- CERTIFICATION BY PROFESSIONAL ENGINEER EXPERIENCED IN MBW DESIGN THAT THE CONSTRUCTION LAYOUT MEETS THE REQUIREMENTS OF PLANS AND MnDOT MBW STANDARDS. DEVIATION FROM STANDARD DESIGN TABLES ARE PERMITTED BY VALUE ENGINEERING SUBMITTAL ONLY ON PROJECTS WITH OVER 5000 SQ. FT. OF WALL.
- CONTRACTOR MUST PROVIDE AN MBW SUBMITTAL THAT DETAILS EROSION PREVENTION AND PERMANENT PLANT STABILIZATION. THE SUBMITTAL MUST ALSO MEET THE REQUIREMENTS OF SPEC. 1712.2.

GENERAL NOTES:

UTILITIES:

EXISTING AND PROPOSED UTILITIES ARE SHOWN IN THE GRADING PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING FACILITIES AND SHALL EXERCISE CARE IN ADJACENT CONSTRUCTION.

EXCAVATION AND EARTHWORK:

ALL EXCAVATION AND EMBANKMENT WORK SHALL CONFORM TO SPEC. 2451.

CAST-IN-PLACE CONCRETE:

ALL CONCRETE SHALL CONFORM TO SPEC. 2461, EXCEPT AS NOTED.

CONSTRUCTION:

CONSTRUCTION SHALL BE IN ACCORDANCE WITH SPEC. 2411, EXCEPT AS NOTED.

GEOMETRICS AND GRADES:

DATA FOR BASELINE GEOMETRY IS TABULATED FOR WALL ALIGNMENT, SEE LAYOUT SHEETS. WALL ALIGNMENT REFERENCE IS ALONG FRONT FACE OF WALL.

THE FILL SLOPE CONVENTION OF 1 VERTICAL TO HORIZONTAL IS USED IN THIS PLAN.

COMPACTION REQUIREMENTS:

COMPACT REINFORCED WALL FILL IN ACCORDANCE WITH SPEC. 2106.3G UNLESS RECOMMENDED OTHERWISE BY THE ENGINEER.

ENGINEER DEFINITIONS:
MBW DESIGNER- MN PROF. ENGINEER RETAINED BY CONTRACTOR.
PROJECT DESIGNER- MnDOT OR CONSULTANT ENGINEER
FOUNDATIONS UNIT- MnDOT
ENGINEER- MnDOT

LEAD EXPERT OFFICE
AMBER BLANCHARD ACTING DIRECTOR OFFICE OF MATERIALS AND ROAD RESEARCH

MINNESOTA DEPARTMENT OF TRANSPORTATION

THOMAS STYRICKI
STATE DESIGN ENGINEER

STANDARD PLAN 5-297.640 | 1 OF 2

APPROVED: 03-29-2023
REVISED:

STATE PROJ. NO. (T.H.)

MODULAR BLOCK RETAINING WALL GENERAL NOTES

SHEET NO. 13 OF 43 SHEETS

MODULAR WALL STORMWATER MANAGEMENT AND VEGETATION ESTABLISHMENT NOTES

THE FOLLOWING MUST BE ADDRESSED IN DESIGN AND INCORPORATED INTO THE PLAN SUBMITTALS:

1. STORMWATER MANAGEMENT OF OVERLAND AND SLOPE TOE FLOWS-
   INCLUDE IN WALL PACKAGE SUBMITTAL THAT DETAILS HOW OVERLAND AND TOE OF SLOPE FLOWS WILL BE MANAGED AROUND AND THROUGH DURING ALL PHASES OF WALL CONSTRUCTION.
   INCLUDE THE FOLLOWING:
   A. DESCRIBE EROSION PREVENTION BMPS, AND METHODS FOR APPROPRIATE INSTALLATION.
   B. DETAIL HOW TEMPORARY OR PERMANENT STABILIZATION WILL BE INCORPORATED INTO THE WORK.
   C. DETAIL HOW SLOPE TOE WILL BE DEFENDED FROM SEDIMENT LOSS DURING ALL PHASES OF WALL CONSTRUCTION, INCLUDING CONTINGENCY PROGRAM FOR SEDIMENT RECOVERY OUTSIDE OF CONSTRUCTION LIMITS.

2. TOP AND END WALL STABILIZATION-
   INCLUDE IN WALL PACKAGE SUBMITTAL ESTIMATED QUANTITIES, PRECISE BEST PRACTICES FOR EXPOSED SOIL STABILIZATION FOR ALL PHASES OF CONSTRUCTION, DETAIL TIME FRAMES FOR INTERIM AND CONCURRENT STABILIZATION MEASURES, ALONG WITH STANDARD INSTALLATION DETAILS THAT FOLLOW MnDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (LATEST EDITION) OR NATIONWIDE GENERAL INDUSTRY PRACTICE.
   USE 1:4 SLOPE STEEPNESS TO DIFFERENTIATE BETWEEN RELATIVELY FLAT AND CRITICAL SLOPE STEEPNESS FOR DETERMINING APPROPRIATE SLOPE COVERS THAT PREVENT EROSION DURING THE VEGETATIVE ESTABLISHMENT PHASE. INCLUDE THE FOLLOWING:
   A. DEFINE THE COHESIVE SOIL TYPES FOR MAXIMIZING EROSION STABILITY FOR SWALE AND UPGRADIENT AREAS.
   B. OBTAIN SOIL FERTILITY TEST RESULTS OF PROPOSED TOPSOILS. BASE FERTILIZER APPLICATION RECOMMENDATION FROM TEST RESULTS.
   C. DEFINE ADDITIONAL SOIL AMENDMENTS TO MAXIMIZE VEGETATIVE GROWTH.
   D. DEFINE THE SEED MIXTURES APPROPRIATE TO SOLAR ASPECT, REGION, ADJACENT PERENNIAL COVER TYPES, AND EXPECTED MAINTENANCE PROTOCOLS.
   E. USE CRITICAL PATH PLANNING FOR OPTIMUM SEEDING DATE INCORPORATION INTO THE WORK..

3. TOE OF WALL STABILIZATION-
   INCLUDE ITEMS ABOVE IN PACKAGE SUBMITTAL FOR EXPOSED SOIL STABILIZATION, WITH ADDITIONAL STABILIZATION PROGRAM DELIVERY IF CONVEYANCE FLOW OR SATURATED SOIL CONDITION IS ALSO PRESENT.

4. DRAIN TILE OUTLETS-
   INCLUDE IN WALL PACKAGE SUBMITTAL IMMEDIATE STABILIZATION PROGRAM INCLUDING BMPS FOR DRAIN TILE OUTLET OR WALL OPENINGS OR PENETRATIONS.

5. CONCRETE WASTE/EXCESS MATERIAL MANAGEMENT-
   INCLUDE IN WALL PACKAGE SUBMITTAL A MATERIAL MANAGEMENT PROGRAM THAT ADDRESSES CONCRETE WASTE GROUND CONTACT PREVENTION, SPILL MANAGEMENT, AND EXCESS MATERIAL DISPOSAL.

6. VEGETATION MANAGEMENT PROGRAM-
   A. PREVENT EROSION. SUBMIT A CONTINGENCY PLAN FOR EXTREME WEATHER GREATER THAN A 2 YEAR TYPE STORM AND EROSIVE CONDITIONS. IMMEDIATELY IMPLEMENT THE CONTINGENCY PLAN WHEN DAMAGE IS DETECTED.
   B. ESTABLISH VEGETATION. SUBMIT A VEGETATION ESTABLISHMENT MONITORING PROGRAM THAT WEEKLY OR MORE OFTEN DETERMINES PLANT HEALTH AND DEVELOPMENT. DEVELOP A CORRECTIVE ACTION PLAN WHEN VEGETATION IS NOT DEVELOPING ADEQUATE COVER DENSITY OR SPECIES DIVERSITY BASED ON SEED MIX DEFINED IN THE WALL SUBMITTAL.
   C. PROVIDE AUTOMATED TEMPORARY IRRIGATION SYSTEM UNTIL PERENNIAL SEEDED OR SOD COMPONENTS ARE A MINIMUM OF 6 INCHES OF COVER HEIGHT. APPLY WATER AT A RATE OF 1 INCH PER WEEK, EVENLY AND UNIFORMLY APPLIED EACH DAY. IRRIGATION IS NOT NECESSARY ON RAIN DAYS. ENSURE APPROPRIATE SPECIES DENSITY HAS OCCURRED THAT MEETS CONTRACT REQUIREMENTS AND ENVIRONMENTAL COMMITMENTS.
   D. CONTROL ANNUAL WEEDS THAT LIMIT PERENNIAL VEGETATIVE COVER BY MECHANICAL METHODS.
   E. CONTROL ALL NOXIOUS STATE LISTED WEEDS BY MECHANICAL OR PRECISION HERBICIDE METHODS.

7. LIST AND PROVIDE TEMPORARY AND PERMANENT STABILIZATION ESTIMATED QUANTITY ITEMS AND TABULATIONS IN WALL SUBMITTAL PACKAGE. THE TABULATION OF ESTIMATED QUANTITIES SHOULD INCLUDE ITEMS LIKE TOPSOIL BORROW, FERTILIZER TYPES, TEMPORARY EROSION PREVENTION ITEMS, PERMANENT EROSION PREVENTION ITEMS, SEED MIXTURE TYPES, SEDIMENT CONTROL BMP TYPES, AND IRRIGATION.

LEAD EXPERT OFFICE
AMBER BLANCHARD ACTING DIRECTOR OFFICE OF MATERIALS AND ROAD RESEARCH

MINNESOTA DEPARTMENT OF TRANSPORTATION	STANDARD PLAN 5-297.640	2 OF 2
THOMAS STYRBICKI STATE DESIGN ENGINEER	APPROVED: 03-29-2023 REVISED:	MODULAR BLOCK RETAINING WALL STORMWATER MANAGEMENT AND VEGETATION NOTES
	STATE PROJ. NO.	(T.H.) SHEET NO. 14 OF 43 SHEETS

MODULAR BLOCK WALL REINFORCEMENT LAYOUT TABLE

CASE 1 - LEVEL FILL

MBW REINFORCEMENT CLASS	① MINIMUM REINFORCEMENT LENGTH, L (FT.)	② MAXIMUM WALL HEIGHT, H (FT.)	③ NOMINAL BLOCK WIDTH (IN.)	WALL BATTER (DEGREES)	⑪ MAXIMUM UNREINFORCED WALL HEIGHT, A (IN.)	ZONE 1		ZONE 2		ZONE 3	
						H1 (FT.)	$S1_{MAX}$ (IN.)	H2 (FT.)	$S2_{MAX}$ (IN.)	H3 (FT.)	$S3_{MAX}$ (IN.)
1050	0.8H	12.0	12	0 to 4	12	8	24	4	16	C	0
				4 to 8	12	4	24	4	16	4	8
			18 OR 21	0 to 4	20	5	32	3	24	4	16
				4 to 8	20	5	32	5	24	2	16
1400	0.8H	12.0	12	0 to 4	12	4	32	2	24	6	16
				4 to 8	12	4	24	5	16	3	8
			18 OR 21	0 to 4	20	6	32	5	32	1	24
				4 to 8	20	6	32	5	32	1	24
2100	0.8H	12.0	12	0 to 4	12	8	24	4	16	C	0
				4 to 8	12	6	24	6	16	C	0
			18 OR 21	0 to 4	20	10	32	2	24	C	0
				4 to 8	20	8	32	4	24	C	0

INSTRUCTIONS TO CONTRACTOR:

USE AS MANY ZONES AS WALL HEIGHT REQUIRES, STARTING WITH ZONE 1 AND ADDING ADDITIONAL ZONES TO THE BOTTOM OF THE WALL AS NEEDED TO MAKE UP THE TOTAL WALL HEIGHT (H) NEEDED.

REINFORCEMENT CLASS, NOMINAL BLOCK WIDTH AND WALL BATTER ARE GENERALLY THE CONTRACTOR'S OPTION TO SELECT FROM MnDOT APPROVED PRODUCTS LISTS POSTED AT https://www.dot.state.mn.us

NOTES TO CONTRACTOR:

SEE STANDARD PLAN 5-297.640 FOR STORMWATER MANAGEMENT AND VEGETATION ESTABLISHMENT NOTES.

① MINIMUM REINFORCEMENT LENGTH FROM TABLE OR 7 FT. MINIMUM, WHICHEVER IS GREATER AS MEASURED FROM THE FRONT OF THE MODULAR BLOCK UNIT. THE GEOGRID REINFORCEMENT SHALL EXTEND TO THE FRONT BLOCK FACE.

② AS MEASURED FROM TOP OF CAP UNIT TO BOTTOM OF LOWERMOST BLOCK UNIT.

③ BLOCK WIDTH - MEASURED FROM FRONT TO BACK FACE OF BLOCK UNIT.

④ PAY LIMITS OF STRUCTURAL EXCAVATION. ACTUAL EXCAVATION SLOPE IS DETERMINED BY OSHA REGULATIONS AND IN-SITU SOILS; EXCAVATION BEYOND "LIMITS OF STRUCTURAL EXCAVATION" AT CONTRACTOR'S EXPENSE.

⑤ THE WRAP BACK LENGTH FOR GEOTEXTILE TYPE 1 SHALL NOT BE MORE THAN 6".

⑥ INSPECT EXCAVATION SLOPES FOR ACTIVE SEEPAGE AND PLACE ADDITIONAL DRAINS WHERE SEEPAGE OCCURS. DRAINS SHALL OUTLETSLOPE EVERY 150 FT. MAX.

⑦ PLACE DRAIN PIPE WITHIN REINFORCED FILL AT THE INTERFACE OF THE RETAINED BACKFILL AND THE FOUNDATION SOIL AND RUN ENTIRE LENGTH OF WALL. OUTLET THROUGH WALL FACE OR TO STORM SEWER OUTLET AT LEAST EVERY 150 FT. OF WALL. DO NOT OUTLET ONTO A SIDEWALK, ROADWAY OR CURB.

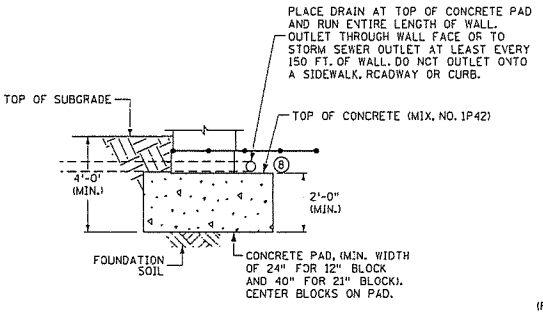
⑧ 4" THERMOPLASTIC PERFORATED PIPE, SPEC. 3245, WRAP WITH TYPE 1 GEOTEXTILE, SPEC. 3733 (TYP.). INSTALLATION IN ACCORDANCE WITH SPEC. 2502. USE PERFORATED DRAIN PIPE EXCEPT FOR PIPE EXTENDING THROUGH BLOCK UNIT AND EXTENDING THROUGH FILL OUTSIDE WALL WHICH SHALL BE SOLID PIPE. PLACE RODENT SCREEN ON END OF PIPE. SCREEN SHALL BE FABRICATED FROM CARBON STEEL FLATTENED EXPANDED METAL, STYLE 1/2" NO. 4F. IT SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

⑨ S_{MAX} = 0.5 $S1_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 1.
S_{MAX} = 0.5 $S2_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 2.
S_{MAX} = 0.5 $S3_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 3.
S_{BASE} SHALL BE ONE (1) BLOCK HEIGHT MINIMUM.

⑩ IF PIPE AT THIS ELEVATION CANNOT BE SLOPED TO DRAIN, OMIT THE LOWER DRAIN AND USE "OPTIONAL CONCRETE PAD" DETAIL THAT SHOWS DRAIN PIPE ON TOP OF THE LEVELING PAD.

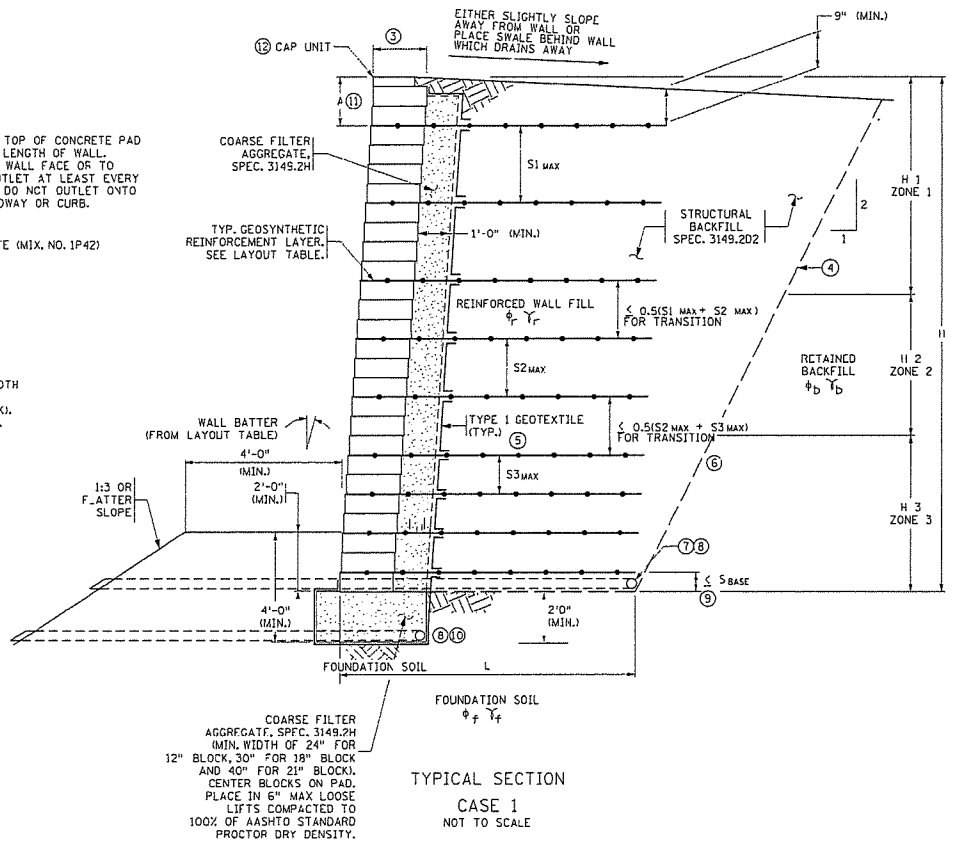
⑪ MAXIMUM UNREINFORCED VERTICAL DISTANCE BELOW TOP OF WALL.

⑫ ATTACH CAP BLOCK WITH ADHESIVE.



OPTIONAL CONCRETE PAD

NOT TO SCALE



TYPICAL SECTION

CASE 1

NOT TO SCALE

LEAD EXPERT OFFICE
AMBER BLANCHARD ACTING DIRECTOR OFFICE OF MATERIALS AND ROAD RESEARCH

MINNESOTA DEPARTMENT OF TRANSPORTATION

THOMAS STYRICKI
STATE DESIGN ENGINEER

STANDARD PLAN 5-297.641 | 1 OF 1

APPROVED: 03-29-2023
REVISED:

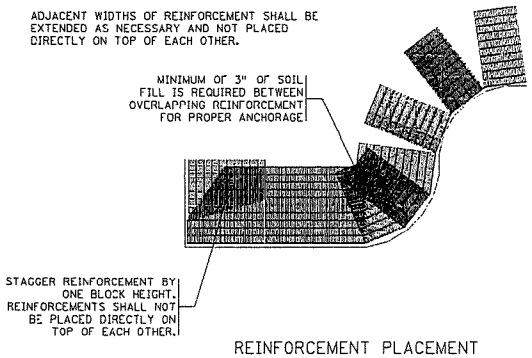
MODULAR BLOCK RETAINING WALL SOIL REINFORCEMENT FOR LEVEL FILL, CASE 1

STATE PROJ. NO. (T.H.)

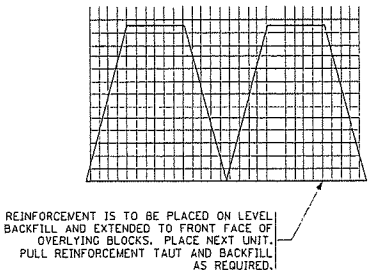
NOTES:

CORRECT ORIENTATION OF GEOSYNTHETIC TO OBTAIN PROPER STRENGTH SHALL BE DETAILED ON CONTRACTOR SHOP DRAWINGS.

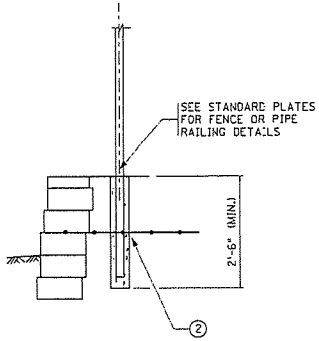
ADJACENT WIDTHS OF REINFORCEMENT SHALL BE EXTENDED AS NECESSARY AND NOT PLACED DIRECTLY ON TOP OF EACH OTHER.



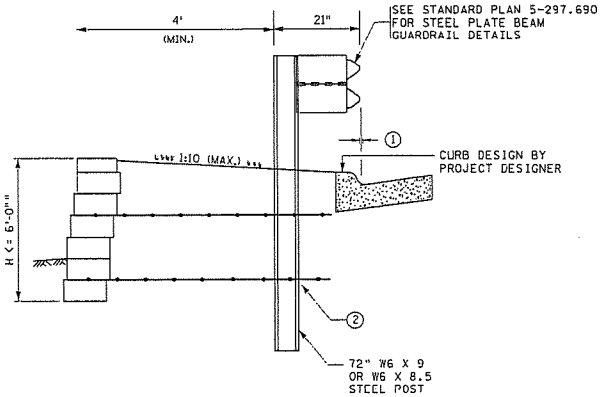
REINFORCEMENT PLACEMENT
AROUND CURVES AND CORNERS



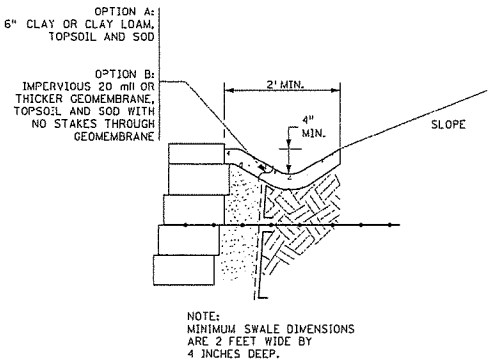
REINFORCEMENT PLACEMENT
BETWEEN BLOCK UNITS



POST DETAIL
TYPICAL HANDRAIL AND/OR FENCE POST

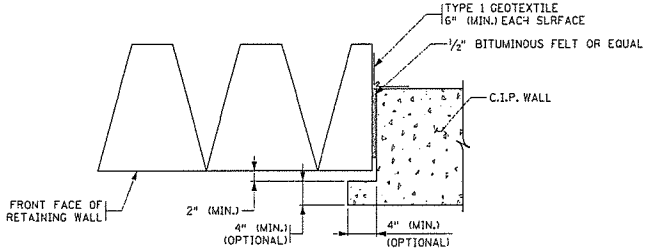


STEEL PLATE BEAM GUARDRAIL DETAIL 1

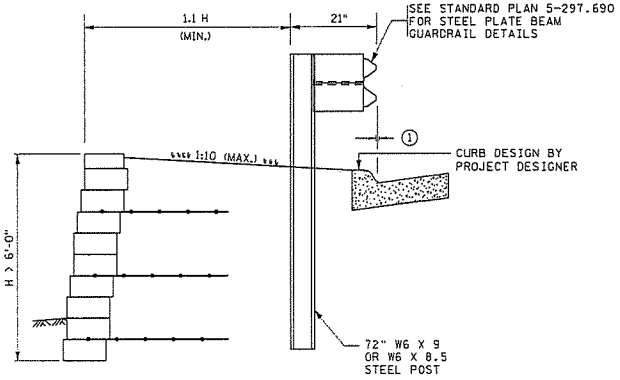


NOTE:
MINIMUM SWALE DIMENSIONS ARE 2 FEET WIDE BY 4 INCHES DEEP.

TYPICAL SWALE DETAIL



CONNECTION DETAIL AT JUNCTURE
OF MBW AND C.I.P. STRUCTURE



STEEL PLATE BEAM GUARDRAIL DETAIL 2

NOTES:

(1) USE CAUTION WHEN PLACING CURB WITH GUARDRAIL. CURBS ADVERSELY AFFECT THE PERFORMANCE OF THE GUARDRAIL.
(2) ALL POSTS MUST BE SLEEVED THROUGH THE GEOGRID.

LEAD EXPERT OFFICE
AMBER BLANCHARD ACTING DIRECTOR OFFICE OF MATERIALS AND ROAD RESEARCH

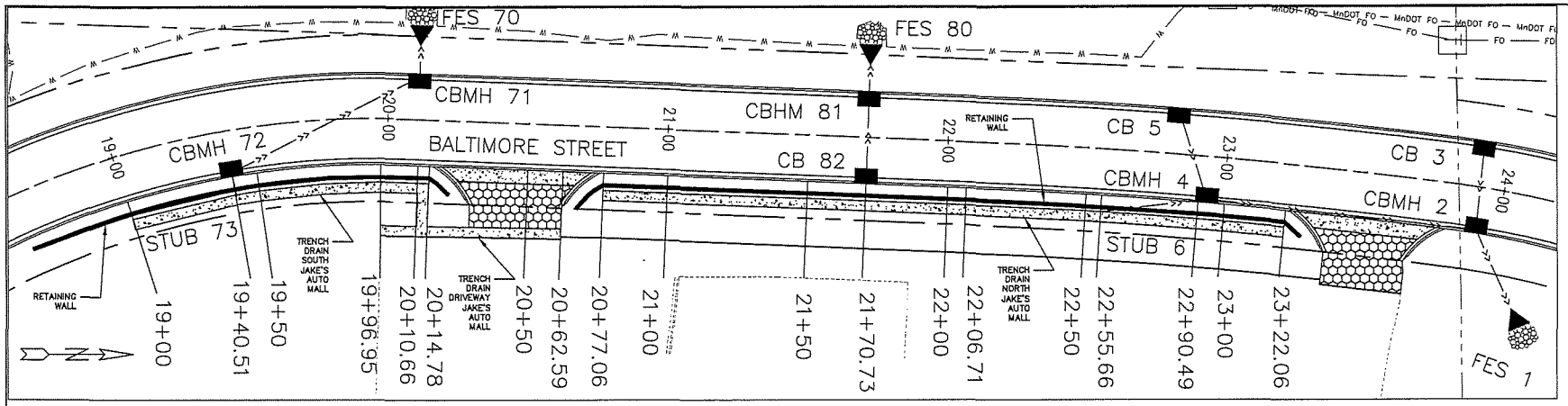
MINNESOTA DEPARTMENT OF TRANSPORTATION

THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN 5-297.645	1 OF 2
APPROVED: 03-29-2023	
REVISED:	
STATE PROJ. NO.	(T.H.)

MODULAR BLOCK RETAINING WALL DETAILS

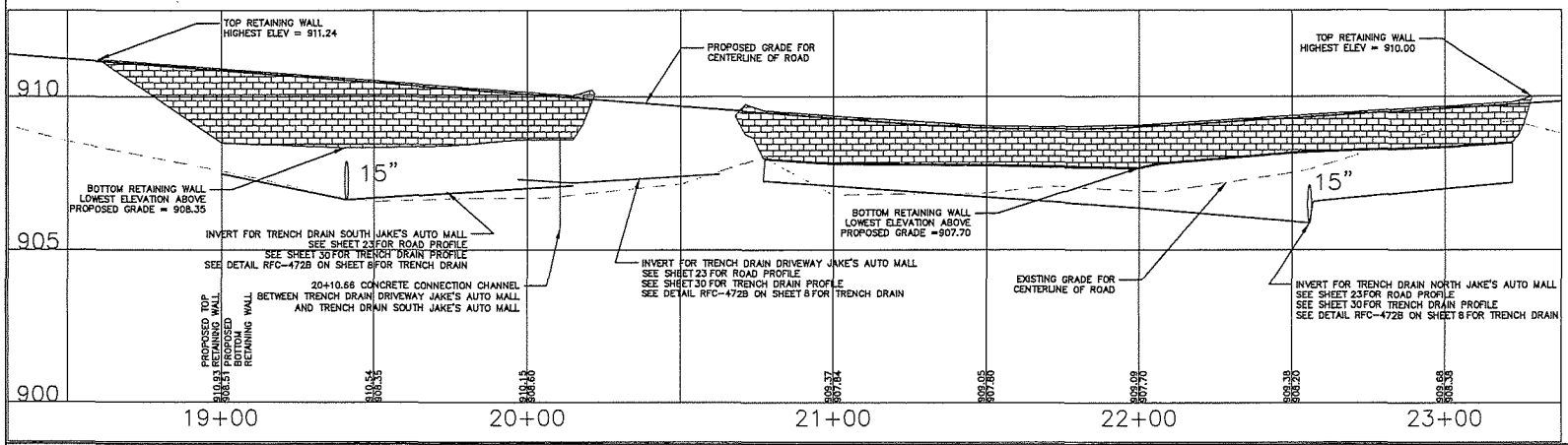
SHEET NO. 16 OF 43 SHEETS



0 10 20 40
FEET

NOTES:

1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
3. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
4. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
5. SEE MNDOT STANDARD PLANS FOR MORE RETAINING WALL DETAILS. SHEETS 13 THRU 16 .
6. BLOCK AREAS INSTALLED BELOW THE GROUND LEVEL SHALL BE CONSIDERED INCIDENTAL.
7. ACCESS TO JAKE'S AUTO MALL MUST BE OPEN DURING BUSINESS HOURS.



PROPOSED RETAINING WALL

GOPHER ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2780
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Ruyter
DATE 05/29/25 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

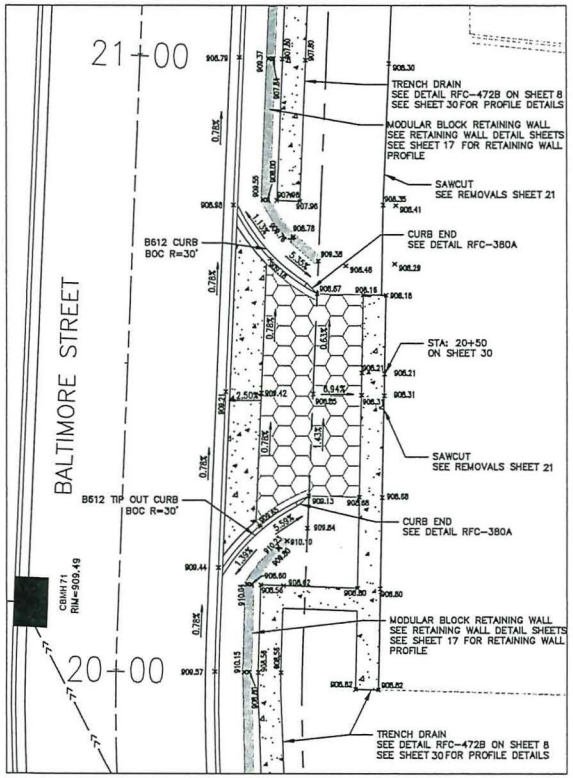
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
RETAINING WALL DETAIL

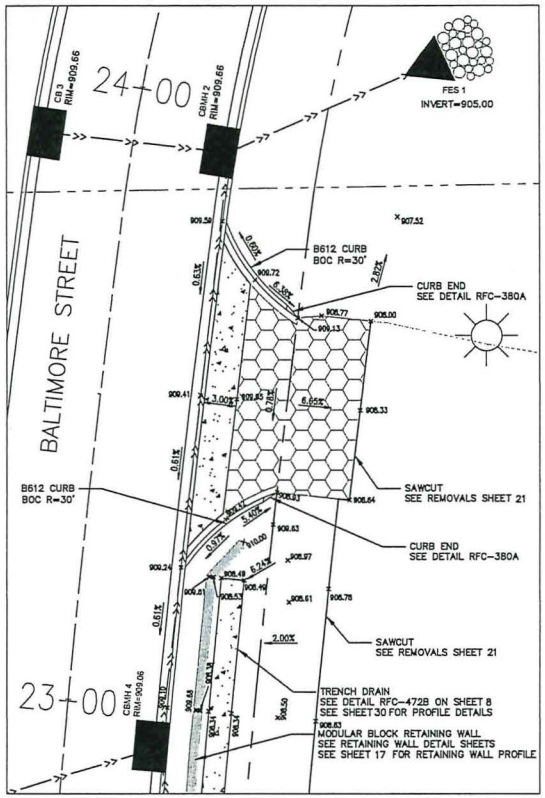
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

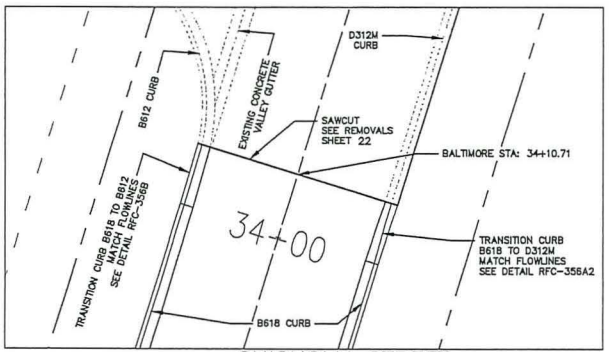
DWG: 2111 RET WALL 1
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 17 OF 43
FILE: 33-2-117

JAKE'S AUTO SOUTH DRIVEWAY STA 20+50



JAKE'S AUTO NORTH DRIVEWAY STA 23+50

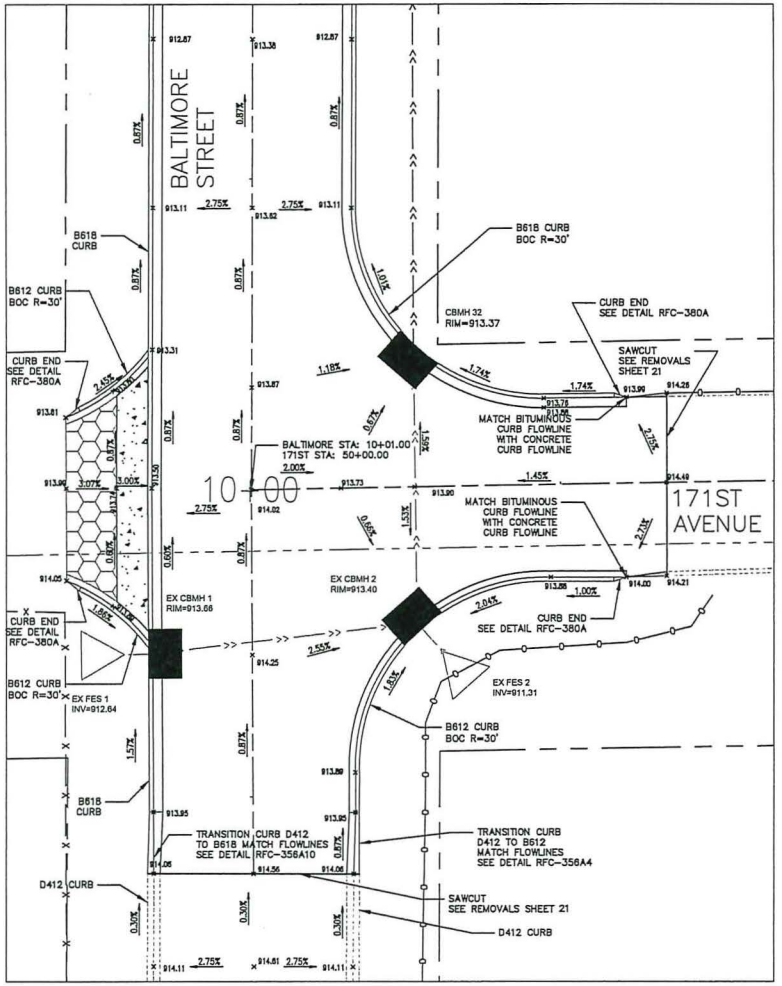




PROPOSED BITUMINOUS DRIVEWAY

PROPOSED CONCRETE

BALTIMORE STREET AND 171ST AVENUE



NOTES:

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2. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
3. SEE DETAIL COMMERCIAL DRIVEWAY RFC-370A1 FOR DRIVEWAY DETAILS.

N

ALL DETAILS

0 5 10 20

FEET

GOPHER ONE CALL STATE

800-252-1166 651-454-0002

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

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Dan Krueger

DATE 05/29/25 REG. NO. 48768

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Consulting Engineers

13635 Johnson Street
Harn Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

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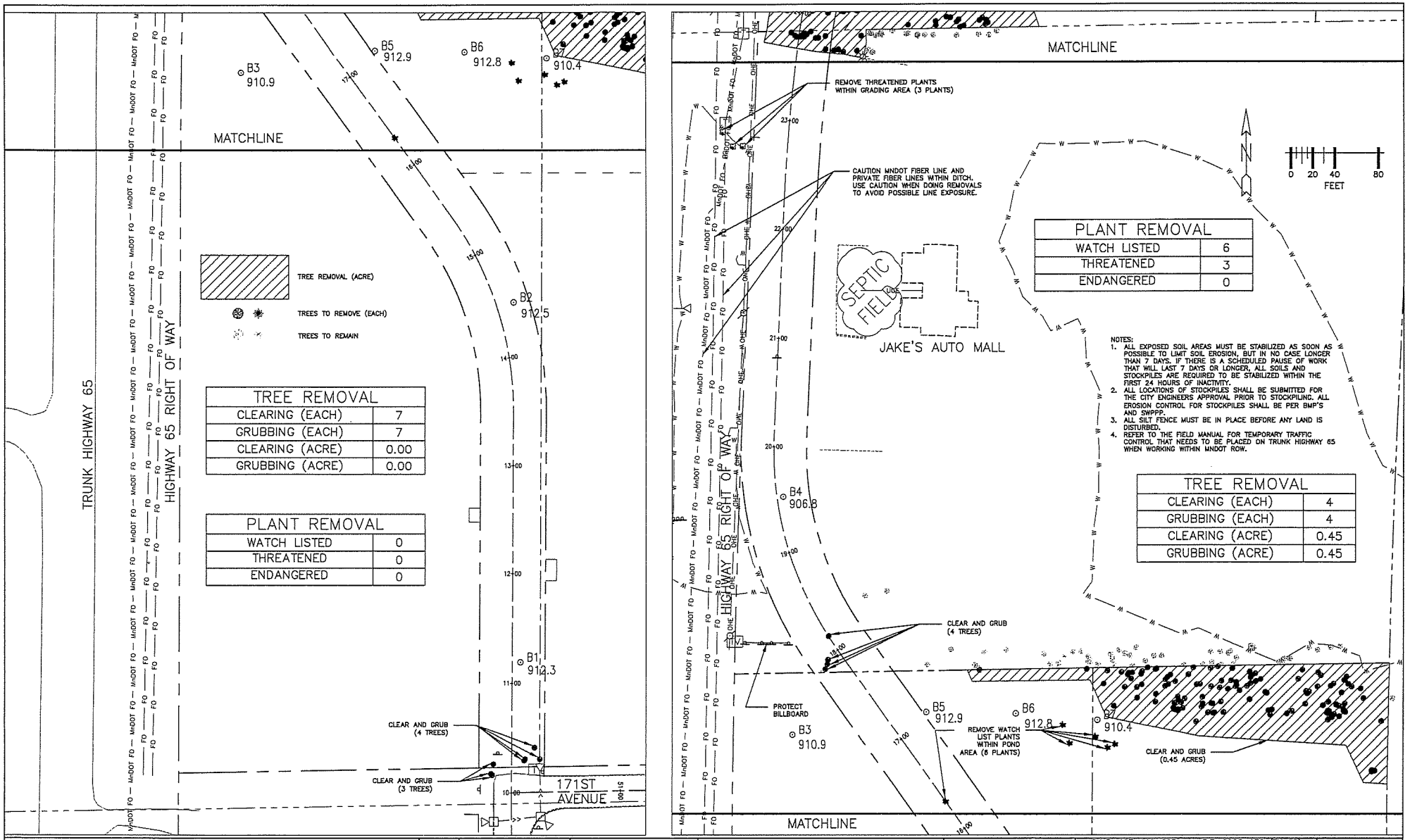
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
INTERSECTION DETAILS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2111 INT
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 18 OF 43
FILE: 33-2-118



TREE REMOVAL	
CLEARING (EACH)	7
GRUBBING (EACH)	7
CLEARING (ACRE)	0.00
GRUBBING (ACRE)	0.00

PLANT REMOVAL	
WATCH LISTED	0
THREATENED	0
ENDANGERED	0

PLANT REMOVAL	
WATCH LISTED	6
THREATENED	3
ENDANGERED	0

NOTES:
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2. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEERS APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.
3. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
4. REFER TO THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL THAT NEEDS TO BE PLACED ON TRUNK HIGHWAY 65 WHEN WORKING WITHIN MNDOT ROW.

TREE REMOVAL	
CLEARING (EACH)	4
GRUBBING (EACH)	4
CLEARING (ACRE)	0.45
GRUBBING (ACRE)	0.45

GOPHER ONE STATE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Ringler
DATE 05/29/25 REG. NO. 48768

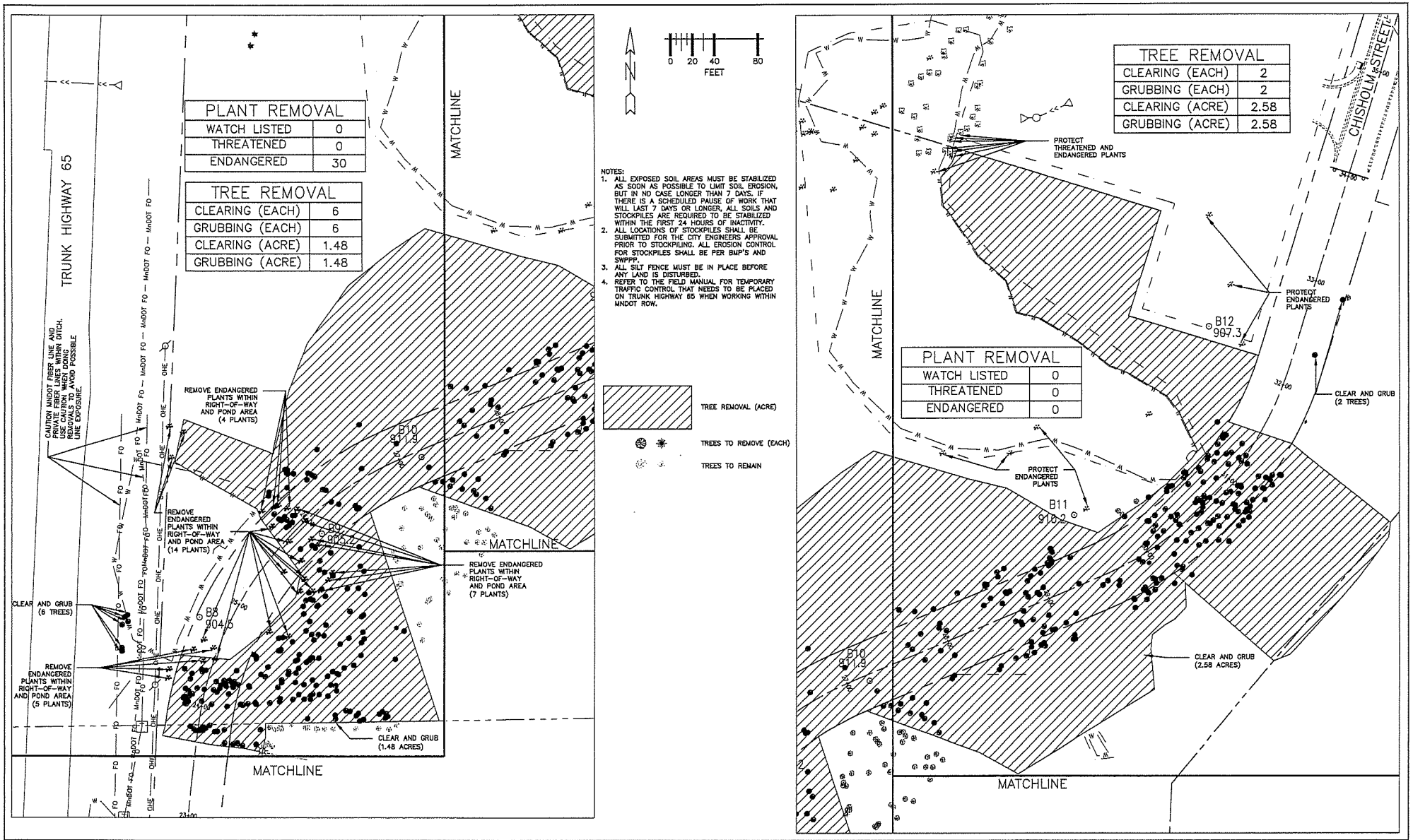
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
TREE REMOVAL PLAN

DWG: 2111 REMOVAL 1
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 19 OF 43
FILE: 33-2-119



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Dan Krueger
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Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

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HAM LAKE IMPROVEMENT PROJECT 2111
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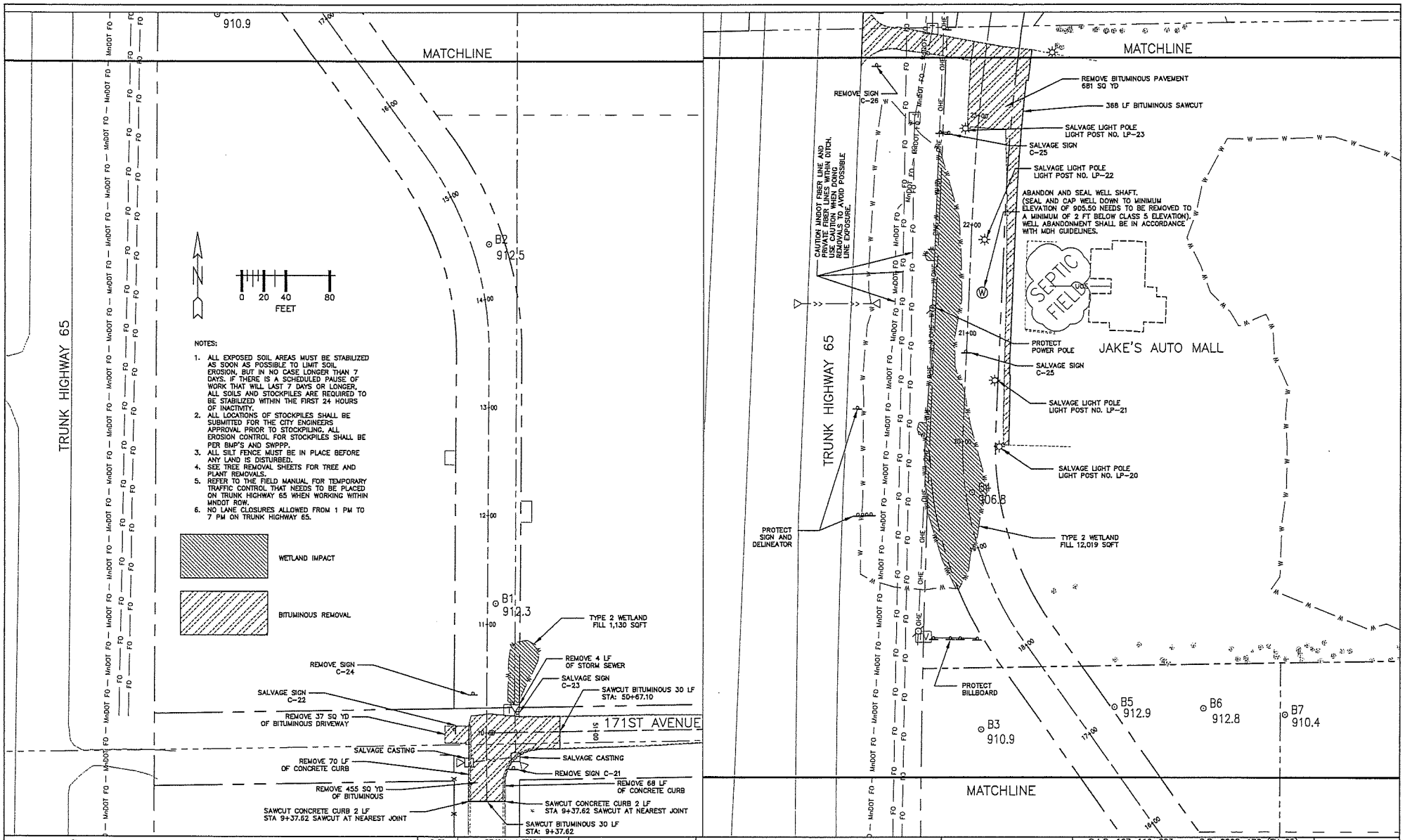
TREE REMOVAL PLAN

DWG: 2111 REMOVAL 2
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 20 OF 43
FILE: 33-2-120



SOPHER ONE STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:

CENTURYLINK	(763) 712-5017	
CENTERPOINT ENERGY	(763) 323-2760	
COMCAST	(952) 607-4078	
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DATE	REVISION HISTORY

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Dan Ruegler
DATE 05/29/25 REG. NO. 48768

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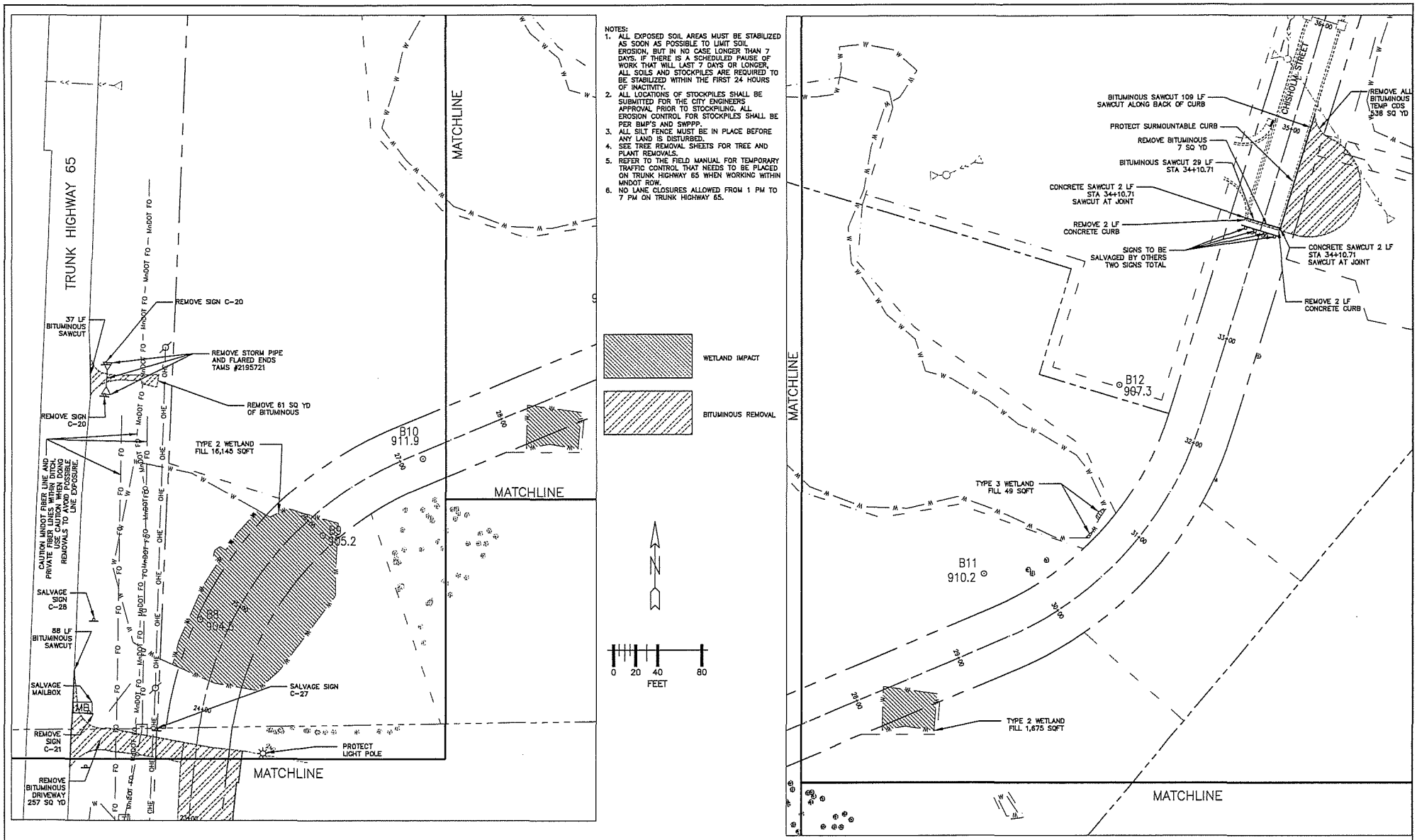
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
REMOVAL PLAN

DWG: 2111 REMOVAL 3
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 21 OF 43
FILE: 33-2-121



SOPHER ONE STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:

CENTURYLINK	(763) 712-5017
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DATE	REVISION HISTORY

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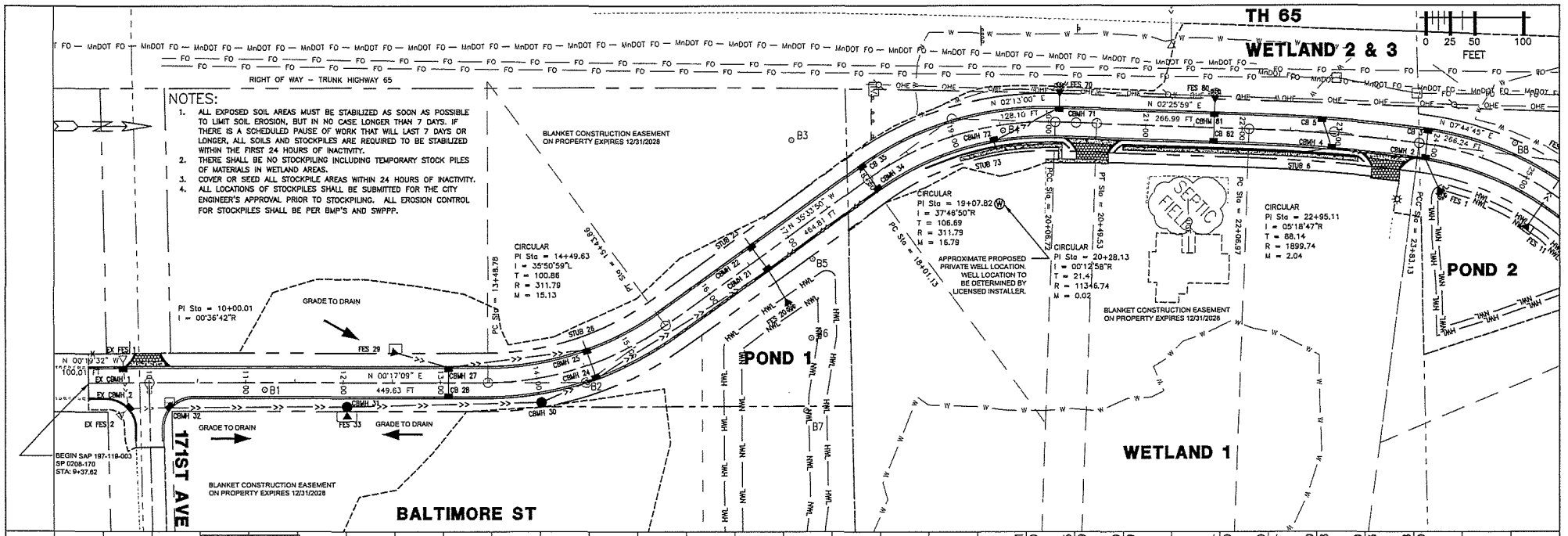
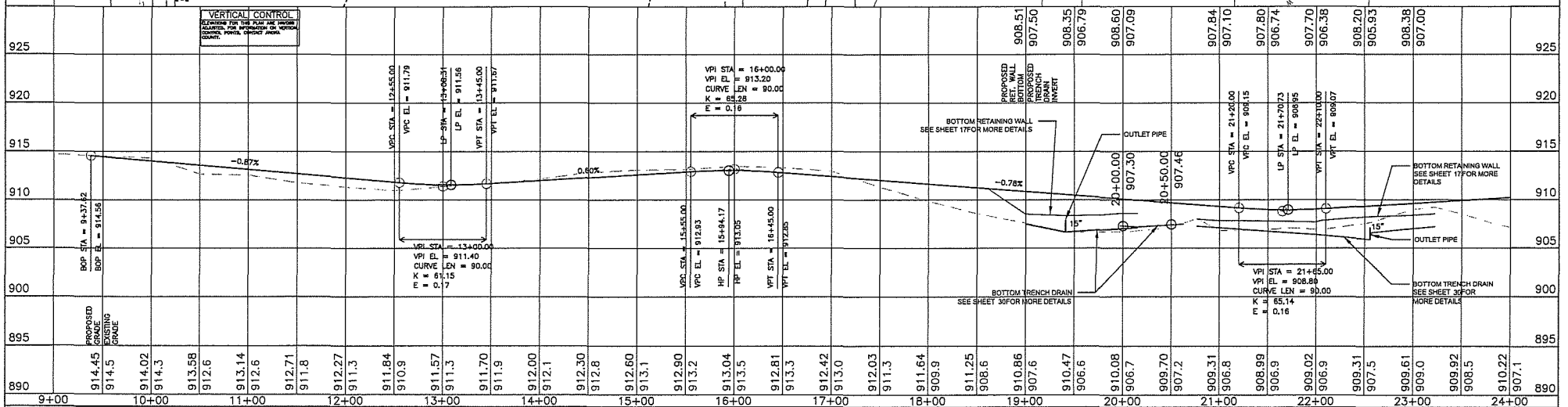
REMOVAL PLAN

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2111 REMOVAL 4
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 22 OF 43
FILE: 33-2-122





UTILITIES:
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COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/29/2025 10:47

DATE	REVISION HISTORY

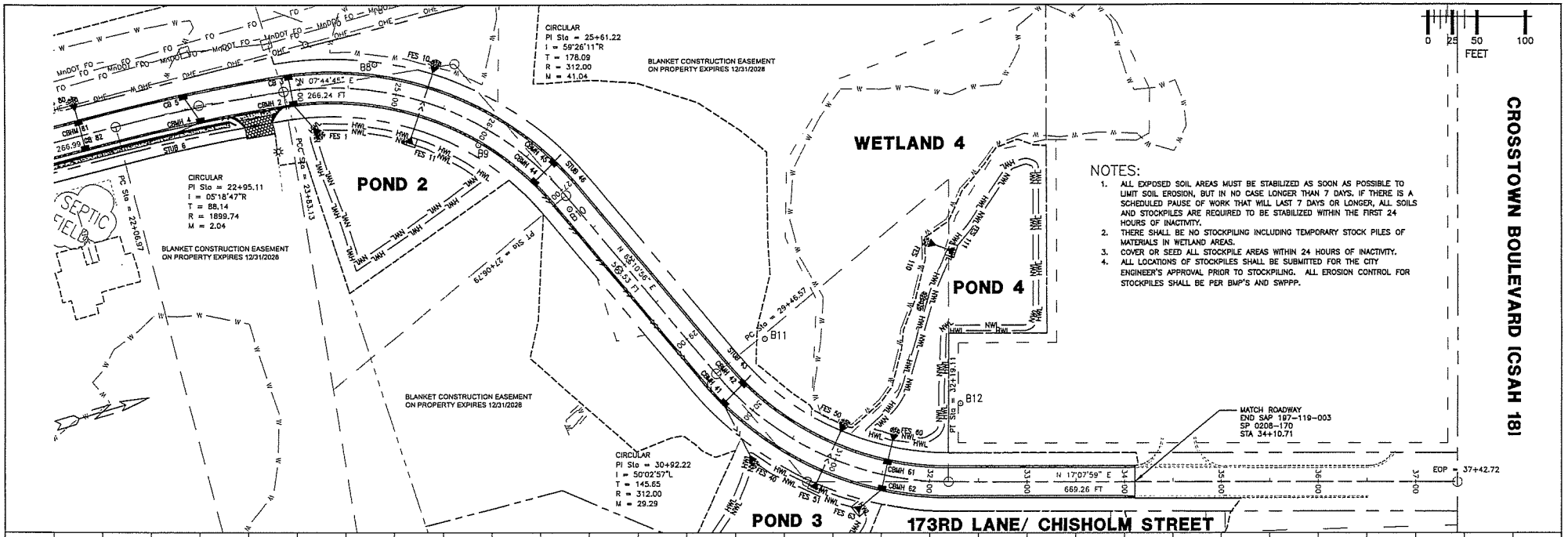
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE 05/29/25 REG. NO. 48768

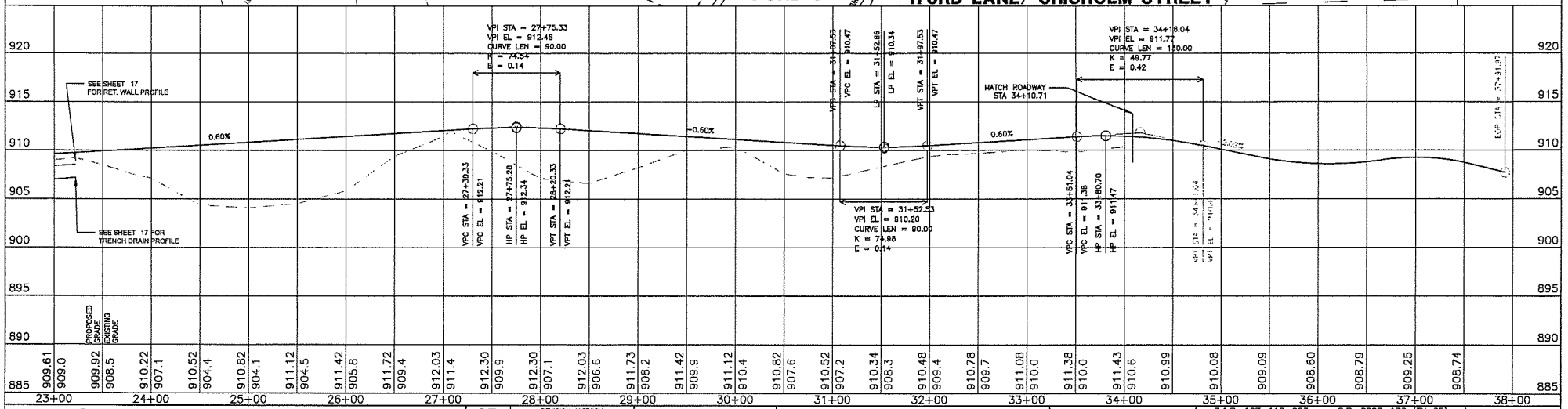
RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
BALTIMORE STREET
PLAN AND PROFILE

DWG:	RCP01041
DATE:	05/29/25
JOB NUMBER:	2111
SHEET:	23 OF 43
FILE:	33-2-123





OPKE ONE CALL STATE
800-252-1166 651-454-0002
PLOT DATE: 5/29/2025 10:47

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Don Krueger
DATE 05/29/25 REG. NO. 48758

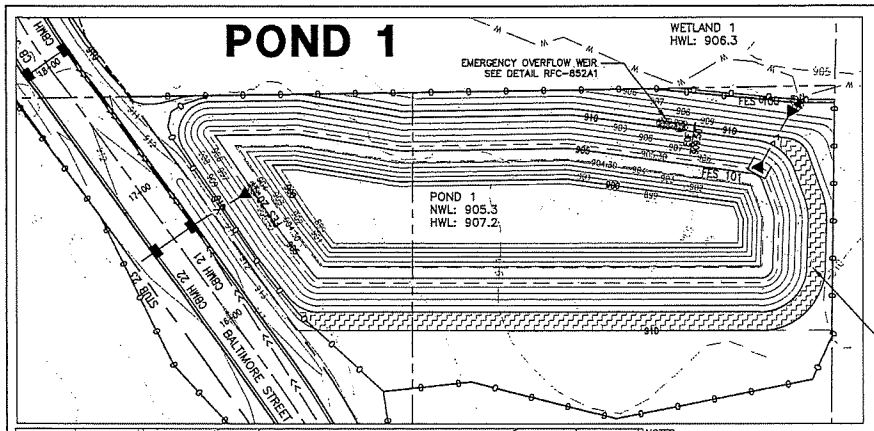
RFC ENGINEERING, INC.
Consulting Engineers

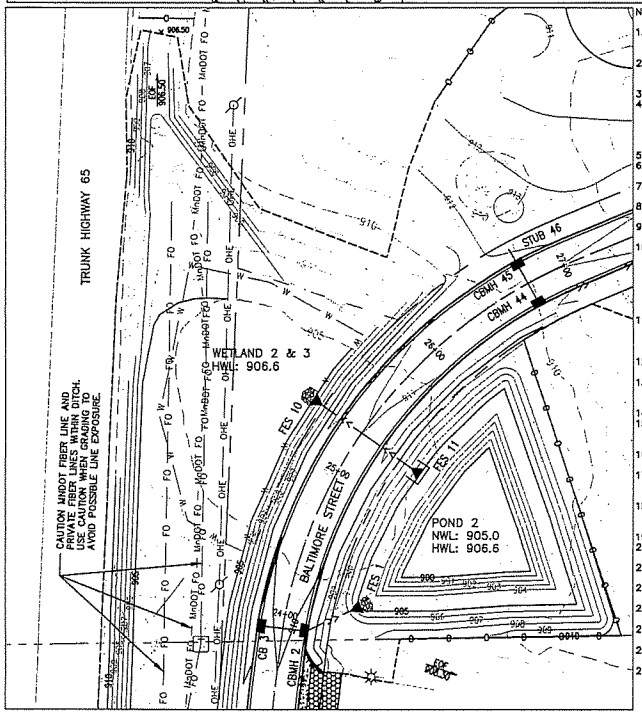
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
173RD LANE/CHISHOLM STREET
PLAN AND PROFILE

DWG: RCP02041
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 24 OF 43
FILE: 33-2-124





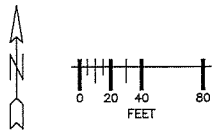
POND 2

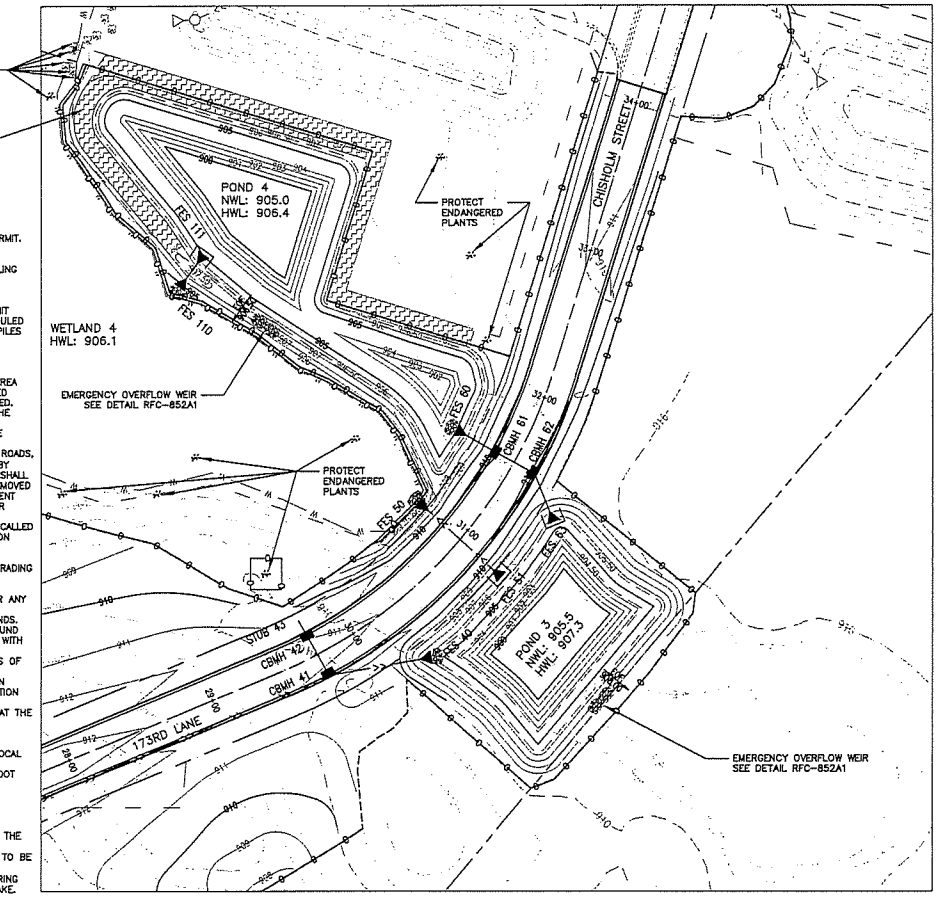
NOTES:

1. OBTAIN CITY OF HAM LAKE EROSION CONTROL, GRADING, AND STORMWATER PERMIT. CONTACT CITY OF HAM LAKE 24 HOURS PRIOR TO INSTALLATION OF ANY STORMWATER BMP.
2. THE GRADING CONTRACTOR IS RESPONSIBLE FOR THE STRIPPING AND STOCKPILING OF TOPSOIL. TOPSOIL SHALL BE STOCKPILED IN AREAS DESIGNATED BY THE ENGINEER.
3. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
4. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY. *SEE SWPPP AND CONSTRUCTION GRADING PLAN FOR DETAILS.
5. NO CONSTRUCTION ACTIVITY TO BEGIN PRIOR TO SILT FENCE PLACEMENT.
6. AREAS USING SEDIMENT LOGS WILL BE PLACED AS THE SECOND LAYER OF PERIMETER CONTROL BEHIND THE SILT FENCE, CLOSEST TO THE PROTECTION AREA
7. SILT FENCE CANNOT BE REMOVED UNTIL CCWD HAS DETERMINED ALL DISTURBED AREAS ARE FULLY STABILIZED. EROSION CONTROL BLANKET CANNOT BE REMOVED.
8. ALL GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION.
9. SEDIMENT TRACKED ONTO THE STREET FROM CONSTRUCTION ACTIVITIES WILL BE REMOVED ON A DAILY BASIS.
10. WHEREVER CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS MUST BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT(MUD) BY RUNOFF OR VEHICLE TRACKING ONTO THE PAVED ROAD SURFACE. THE ROADS SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR SWEEPING AND BE TRANSPORTED TO A SEDIMENT CONTROLLED DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
11. THE GRADING CONTRACTOR SHALL PROVIDE ALL EROSION CONTROL MEASURES CALLED FOR ON THE PLANS, WHICH MAY INCLUDE SILT FENCE AND ROCK CONSTRUCTION EXITS, WHICH SHALL BE CONSTRUCTED AND MADE SERVICEABLE PRIOR TO COMMENCING ANY GRADING OPERATIONS.
12. ALL EROSION FACILITIES SHALL BE MAINTAINED BY THE CONTRACTOR DURING GRADING OPERATIONS AND UNTIL AFTER TURF IS ESTABLISHED.
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OF LEGALLY AND OFF-SITE, ALL TREES, STUMPS, BRUSH OR OTHER DEBRIS FROM REMOVALS OR ANY DEBRIS THAT EXISTS WITHIN THE CONSTRUCTION AREAS.
14. ALL GRADED SLOPES SHALL NOT EXCEED 1:4 EXCEPT FOR SEDIMENTATION PONDS.
15. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATIONS OF ALL UNDERGROUND UTILITIES AND CONNECTION POINTS AND ELEVATIONS PRIOR TO CONSTRUCTION, WITH RESPECTIVE UTILITY COMPANIES, CITY, STATE AND COUNTIES.
16. PIPE OUTLETS MUST BE PROVIDED WITH ENERGY DISSIPATION WITHIN 24 HOURS OF CONNECTION TO SURFACE WATER.
17. ALL RIPRAP SHALL BE INSTALLED WITH A FILTER MATERIAL OR SOIL SEPARATION FABRIC AND COMPLY WITH THE 2020 MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
18. TREE PROTECTION CONSISTING OF SNOW FENCE OR SAFETY FENCE INSTALLED AT THE DRIP LINE SHALL BE IN PLACE PRIOR TO THE BEGINNING OF ANY GRADING OR DEMOLITION WORK AT THE SITE.
19. GRADES SHOWN IN PAVED AREAS REPRESENT FINISH ELEVATION.
20. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH STATE AND LOCAL STANDARD SPECIFICATIONS FOR CONSTRUCTION.
21. SPECIFICATIONS THAT APPLY ARE THE CITY OF HAM LAKE, ANOKA COUNTY, MNDOT AND COON CREEK WATERSHED DISTRICT UNLESS OTHERWISE NOTED.
22. THE CONTRACTOR SHALL PROVIDE ALL DUST CONTROL. THE COST SHALL BE INCIDENTAL TO THE PROJECT.
23. PROPOSED CURB AND GUTTER AND BITUMINOUS ROADWAY SHALL MATCH THE EXISTING CURB, GUTTER AND BITUMINOUS.
24. NOTIFY CITY OF HAM LAKE ENGINEERING DEPT. AT LEAST 24 HOURS PRIOR TO THE CONSTRUCTION OF STORMWATER BMPs.
25. REFER TO THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL THAT NEEDS TO BE PLACED ON TRUNK HIGHWAY 65 WHEN WORKING WITHIN MNDOT ROW.
26. DEWATERING IS NOT ANTICIPATED DUE TO GROUNDWATER ELEVATION, IF DEWATERING DOES OCCUR IT MUST BE APPROVED BY THE WATERSHED AND CITY OF HAM LAKE.

DEWATERING AND DRAINING NOTES:

- CONTRACTOR SHALL USE SKIMMERS AND FILTERS PER MANUFACTURERS RECOMMENDED PROCEDURES.
- DEWATERING SHALL TAKE PLACE AFTER SEDIMENT HAS SETTLED.
- CONTRACTOR SHALL PREVENT EROSION AND SCOUR AT DISCHARGE POINTS THROUGH THE USE OF AN ENERGY DISSIPATION DEVICE.
- DEWATERING MUST AVOID NUISANCE CONDITIONS.





POND 3 AND 4

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 528-4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Don Ringler
DATE 05/29/25 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 84' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
GRADING AND DRAINAGE PLAN
PONDS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2111 GRADING 1
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 25 OF 43
FILE: 33-2-125

NOTES:

1. OBTAIN CITY OF HAM LAKE EROSION CONTROL, GRADING, AND STORMWATER PERMIT. CONTACT CITY OF HAM LAKE 24 HOURS PRIOR TO INSTALLATION OF ANY STORMWATER BMP.
2. THE GRADING CONTRACTOR IS RESPONSIBLE FOR THE STRIPPING AND STOCKPILING OF TOPSOIL. TOPSOIL SHALL BE STOCKPILED IN AREAS DESIGNATED BY THE ENGINEER.
3. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
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5. NO CONSTRUCTION ACTIVITY TO BEGIN PRIOR TO SILT FENCE PLACEMENT.
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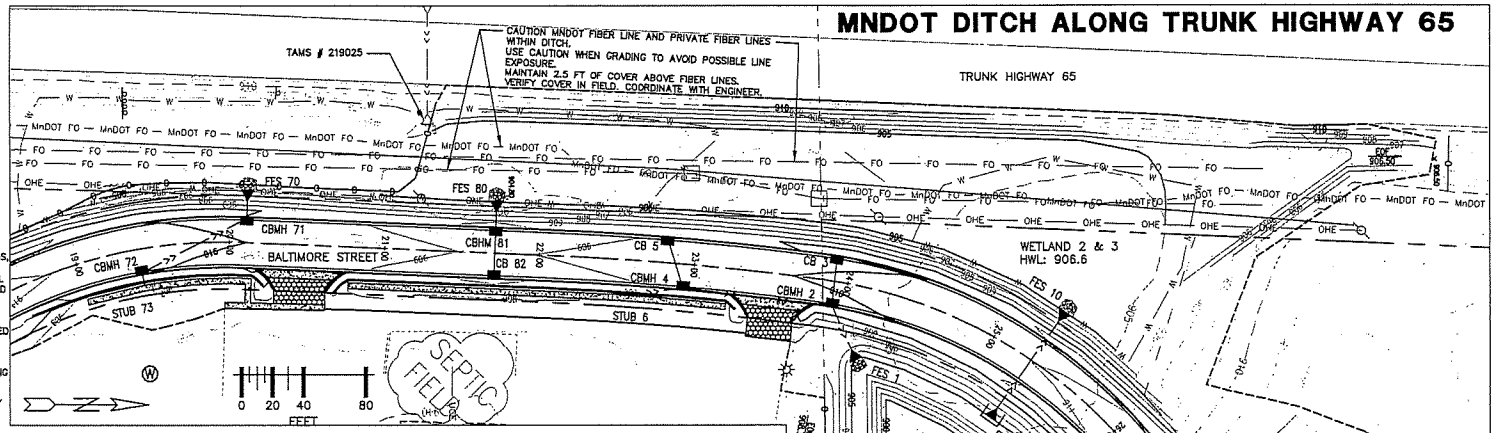
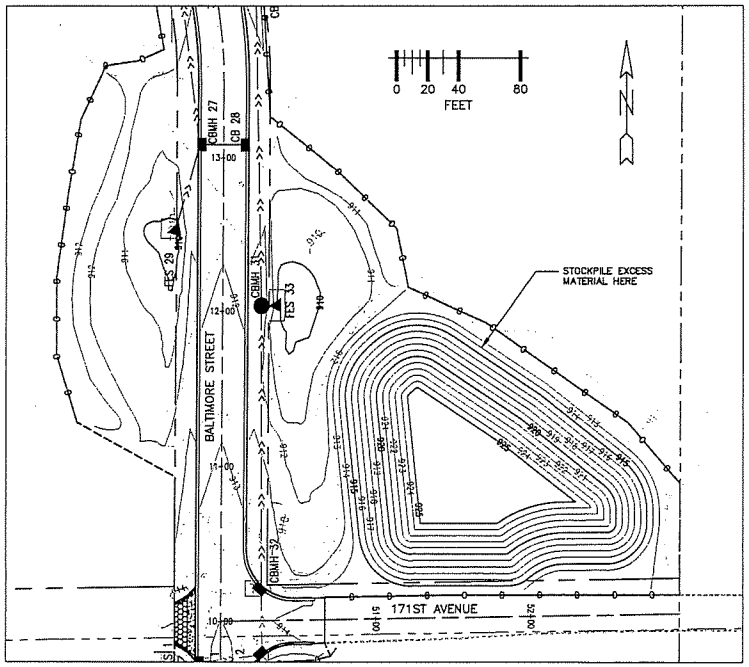
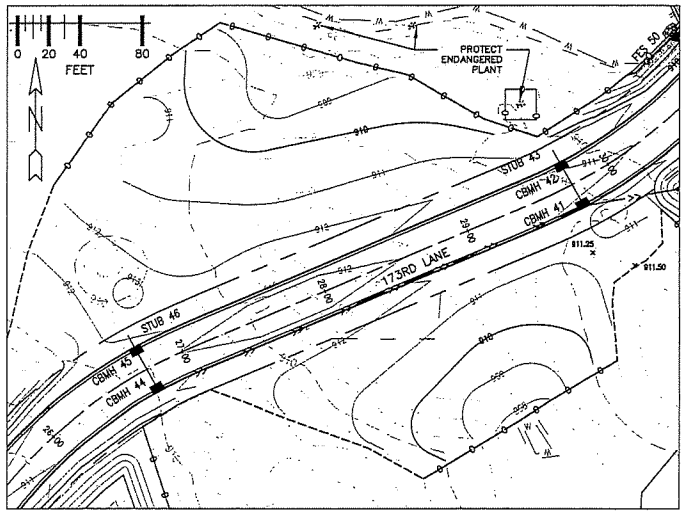
    - DEWATERING MUST AVOID NUISANCE CONDITIONS.





STOCKPILE & LOW PONT GRADING STA 10+00 TO 14+00



LOW PONT GRADING STA 27+00 TO 30+00

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2780
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY

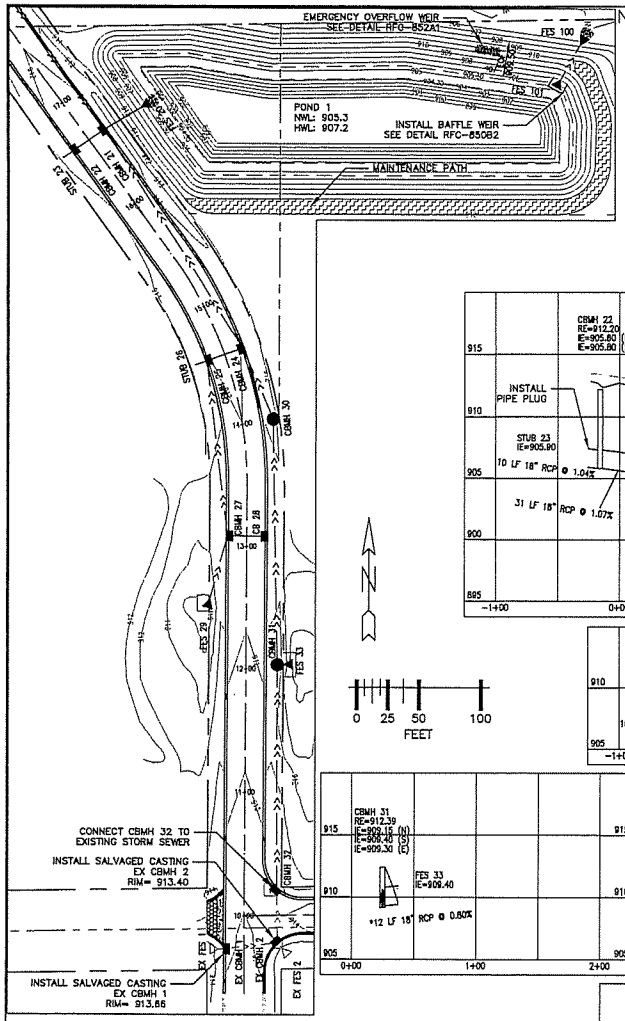
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Nan Ruegg
DATE 05/29/25 REG. NO. 48788

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
GRADING AND DRAINAGE PLAN
MNDOT DITCH AND LOW POINTS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2111 GRADING 2
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 26 OF 43
FILE: 33-2-126

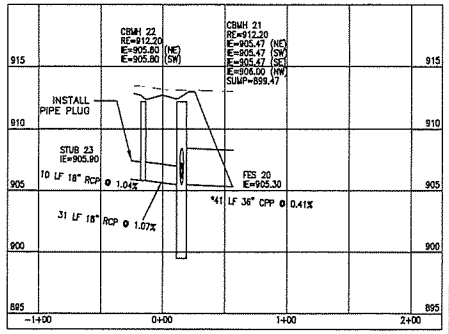


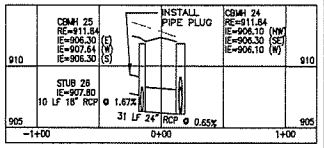
NOTES:

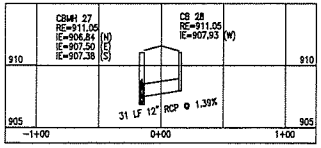
1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
3. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
4. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
5. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
6. * PIPE LENGTH INCLUDES APRON.
7. ** NEENAH FOUNDRY R-3067; EAST JORDAN IRON WORKS V-7030; D&L FOUNDRY I-1804.
8. ** NEENAH FOUNDRY R-1733; EAST JORDAN IRON WORKS V-1280; D&L FOUNDRY A-1028.

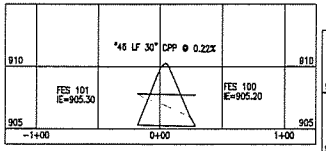
STORM DRAIN

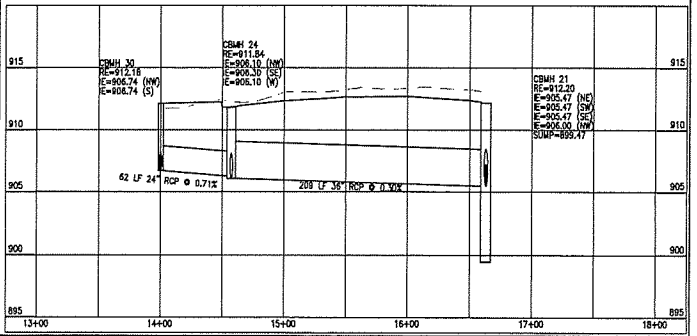
STRUCTURE	STATION	LOCATION	SIZE OF STRUCTURE	DESIGN	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	12" R.C.P. LIN FT	15" R.C.P. LIN FT	18" R.C.P. LIN FT	24" R.C.P. LIN FT	36" R.C.P. LIN FT	30" C.P.P. LIN FT	36" C.P.P. LIN FT	PIPE APRON LIN FT	TRASH GUARD EACH	APRON EACH	FLOWS TO	INLET	% GRADE
FES 33	12+03.6	RT.		FES		909.40															
											6					6.1	1	1	CBMH 31	909.30	0.80
CBMH 32	10+22	RT.	48" ø	RFC-465A1	913.37	910.37	R-3067	L													
										181									CBMH 31	909.40	0.53
CBMH 31	12+03.5	RT.	48" ø	RFC-465C	912.39	909.15	R-1733	-													
											201								CBMH 30	908.74	1.20
CBMH 30	14+00.1	RT.	48" ø	RFC-465C	912.16	906.74	R-1733	-													
												62							CBMH 24	906.30	0.71
FES 29	12+49.9	LT.		FES		909.25															
											54					6.1	1	1	CBMH 27	907.38	3.09
CB 28	13+08.2	RT.	2' x 3'	RFC-459B	911.05	907.93	R-3067	C													
									31										CBMH 27	907.50	1.39
CBMH 27	13+08.2	LT.	48" ø	RFC-465A1	911.05	908.84	R-3067	C													
												143							CBMH 25	906.30	0.38
STUB 26	14+57.5	LT.		FES	907.8	907.80		-													
											10								CBMH 25	907.64	1.67
CBMH 25	14+57.5	LT.	60" ø	RFC-465A1	911.84	906.30	R-3067	L													
												31							CBMH 24	906.10	0.65
CBMH 24	14+57.5	RT.	84" ø	RFC-465A1	911.84	906.10	R-3067	L													
													209						CBMH 21	905.47	0.30
STUB 23	16+62.9	LT.		FES	905.9	905.90															
											10								CBMH 22	905.80	1.04
CBMH 22	16+62.9	LT.	48" ø	RFC-465A1	912.20	905.80	R-3067	L													
											31								CBMH 21	905.47	1.07
CBMH 21	16+62.9	RT.	96" ø	RFC-465A3	912.20	905.47	R-3067	L													
															36	5	1	1	FES 20	905.30	0.41
FES 101	POND 1			FES		905.30															
														38		8.5	2	2	FES 100	905.20	0.22
TOTALS									31	181	312	236	209	38	36	25.7	5	5			

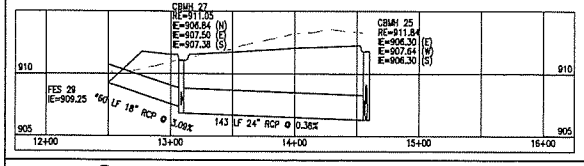


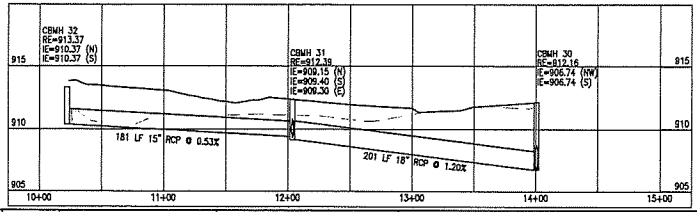












GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY

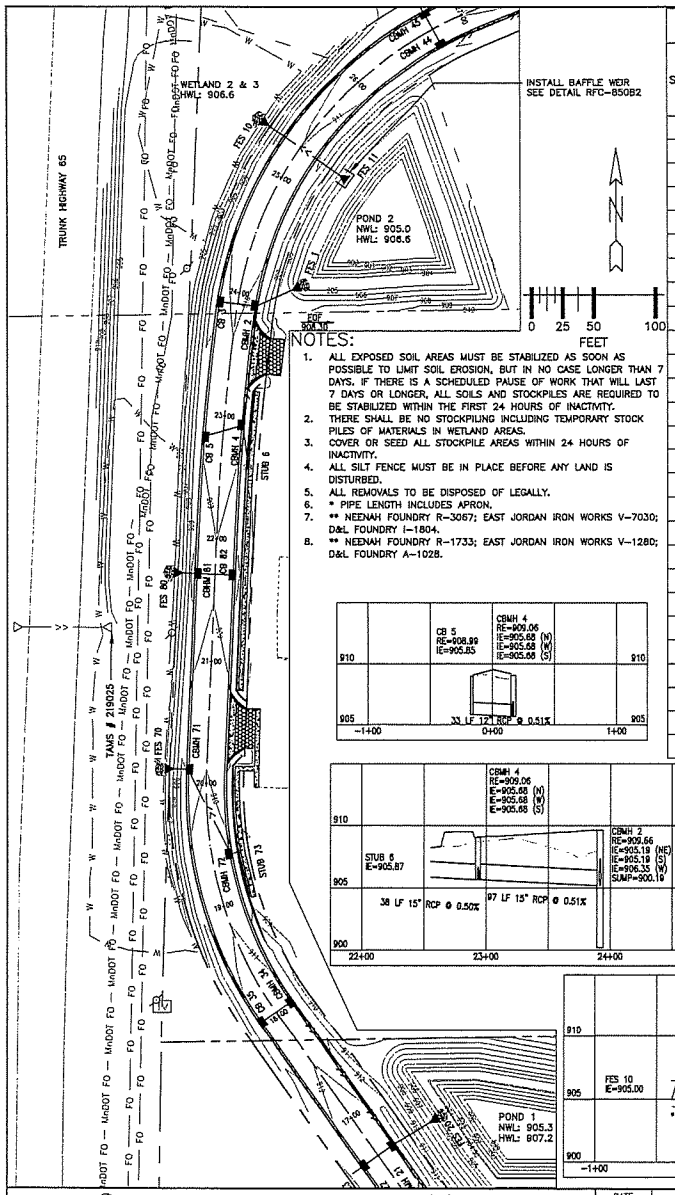
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dan Ringler
DATE 05/29/25 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
STORM DETAILS
BALTIMORE STREET

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2111 STORM 1
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 27 OF 43
FILE: 33-2-127

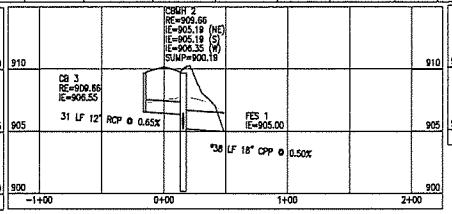


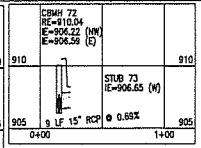
NOTES:

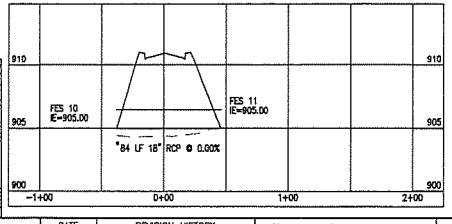
1. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
3. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
4. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
5. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
6. * PIPE LENGTH INCLUDES APRON.
7. ** NEENAH FOUNDRY R-3067; EAST JORDAN IRON WORKS V-7030; D&L FOUNDRY I-1804.
8. ** NEENAH FOUNDRY R-1733; EAST JORDAN IRON WORKS V-1280; D&L FOUNDRY A-1028.

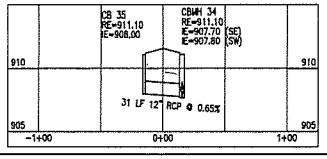
STORM DRAIN

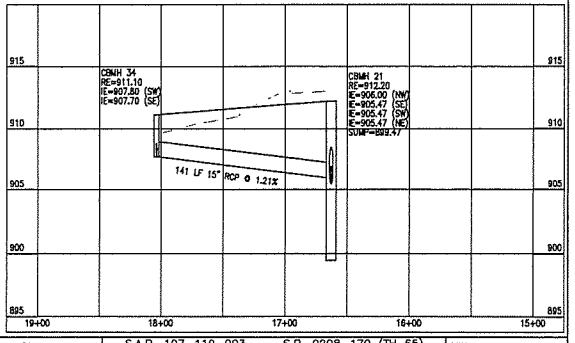
STRUCTURE	STATION	LOCATION	SIZE OF STRUCTURE	DESIGN	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	12" R.C.P. LIN FT	15" R.C.P. LIN FT	18" R.C.P. LIN FT	15" C.P.P. LIN FT	18" C.P.P. LIN FT	PIPE APRON LIN FT	TRASH GUARD EACH	APRON EACH	FLOWS TO	INLET	% GRADE
STUB 6	22+55.8	RT.		FES		905.87													
										38							CBMH 4	905.68	0.50
CB 5	22+81.4	LT.	2' x 3'	RFC-459B	908.99	905.85	R-3067	L											
									33								CBMH 4	905.68	0.51
CBMH 4	22+93.6	RT.	48" ø	RFC-465A1	909.06	905.68	R-3067	L											
										97							CBMH 2	905.19	0.51
CB 3	23+90.2	LT.	2' x 3'	RFC-459B	909.66	906.55	R-3067	L											
									31								CBMH 2	906.35	0.65
CBMH 2	23+91.7	RT.	60" ø	RFC-465A3	909.66	905.19	R-3067	L											
													35	2.6	1	1	FES 1	905.00	0.50
FES 11	25+27.5	RT.		FES		905.00													
											71			12.2	2	2	FES 10	905.00	0.00
CB 35	18+03.8	LT.	2' x 3'	RFC-459B	911.10	908.00	R-3067	L											
									31								CBMH 34	907.80	0.65
CBMH 34	18+03.8	RT.	48" ø	RFC-465A1	911.10	907.70	R-3067	L											
										141							CBMH 21	905.00	1.21
STUB 73	19+41.1	RT.		FES		906.65													
										9							CBMH 72	906.59	0.69
CBMH 72	19+40.7	RT.	48" ø	RFC-465A1	910.04	906.22	R-3067	L											
											76						CBMH 71	905.84	0.50
CBMH 71	20+10.5	LT.	96" ø	RFC-465A3	909.49	905.84	R-3067	L											
													16	2.6	1	1	FES 70	905.73	0.60
CB 82	21+70.9	RT.	2' x 3'	RFC-459B	908.44	905.06	R-3067	G											
										31							CBMH 81	904.90	0.52
CBMH 81	21+70.9	LT.	72" ø	RFC-465A3	908.44	904.90	R-3067	G											
												16		2.2	1	1	FES 80	904.80	0.56
TOTALS									95	316	147	16	51	19.8	5	5			

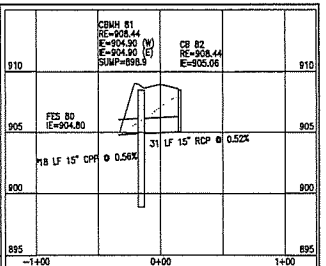


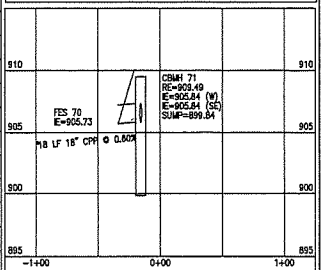


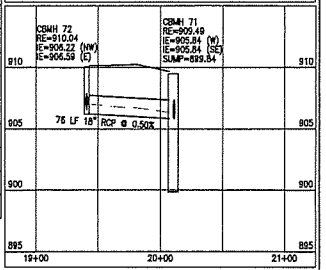












UTILITIES:

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Dan Krueger
DATE 05/29/25 REG. NO. 48768

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13635 Johnson Street
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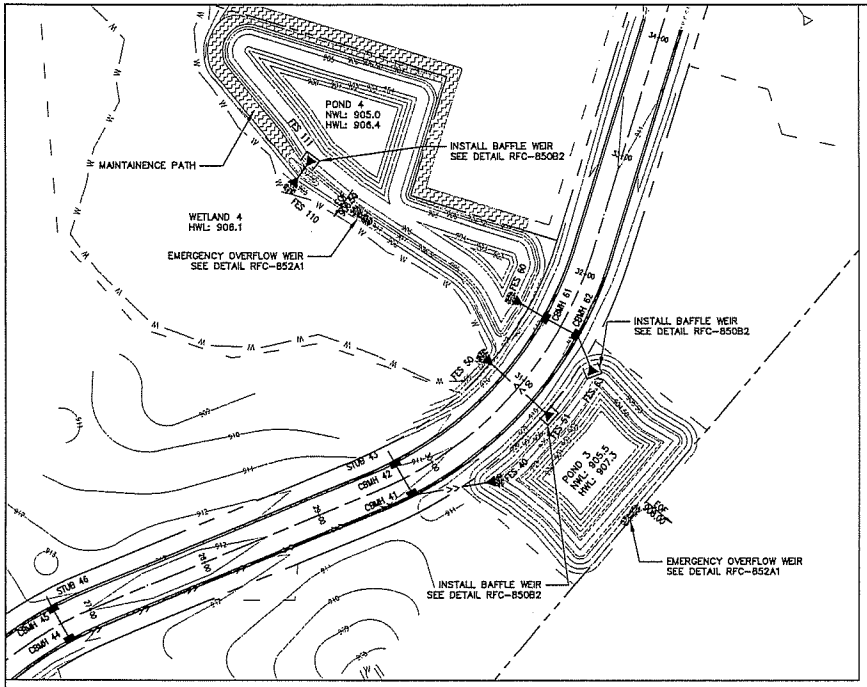
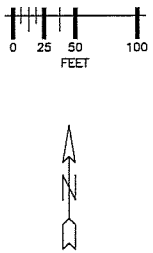
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
STORM DETAILS
173RD LANE & BALTIMORE STREET

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

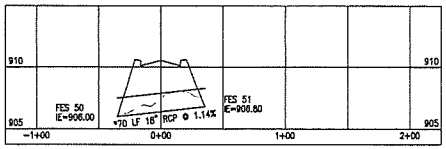
DWG: 2111 STORM 2
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 28 OF 43
FILE: 33-2-128





STORM DRAIN

STRUCTURE	STATION	LOCATION	SIZE OF STRUCTURE	DESIGN	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	18" R.C.P. LIN FT	24" R.C.P. LIN FT	24" C.P.P. LIN FT	PIPE APRON LIN FT	TRASH GUARD EACH	APRON EACH	FLOWS TO	INLET	% GRADE
STUB 48	26+73.8	LT.		FES	907.85	907.85											
									10						CBMH 45	907.75	1.04
CBMH 45	26+73.8	LT.	48" ø	RFC-465A1	911.36	907.75	R-3067	L									
									31						CBMH 44	907.40	1.14
CBMH 44	26+73.8	RT.	48" ø	RFC-465A1	911.36	907.40	R-3067	L									
										300					CBMH 41	905.90	0.50
STUB 43	29+72.5	LT.		FES	908.35	908.35											
									10						CBMH 42	906.25	1.04
CBMH 42	29+72.9	LT.	48" ø	RFC-465A1	910.78	906.25	R-3067	L									
									31						CBMH 41	905.90	1.13
CBMH 41	29+73.8	RT.	60" ø	RFC-465A3	910.78	905.90	R-3067	L									
											63	3.4	1	1	FES 40	905.50	0.60
FES 51	30+91.1	RT.		FES		906.80											
									58			12.2	2	2	FES 50	906.00	1.14
FES 63	31+34.6	RT.		FES		905.50											
											30	3.4	1	1	CBMH 62	905.34	0.48
CBMH 62	31+53	RT.	48" ø	RFC-465A1	909.83	905.34	R-3067	C									
										31					CBMH 61	905.17	0.55
CBMH 61	31+53	LT.	60" ø	RFC-465A3	909.83	905.17	R-3067	C									
											24	3.4	1	1	FES 60	905.00	0.63
FES 111	POND 4			FES		905.00											
									14			12.2	2	2	FES 110	904.50	1.93
TOTALS									154	331	117	34.6	7	7			



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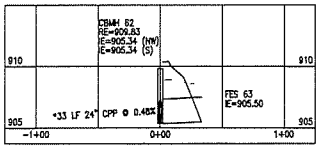

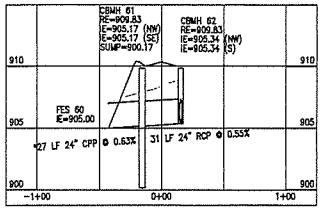

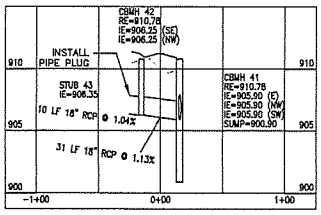

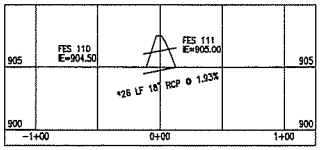

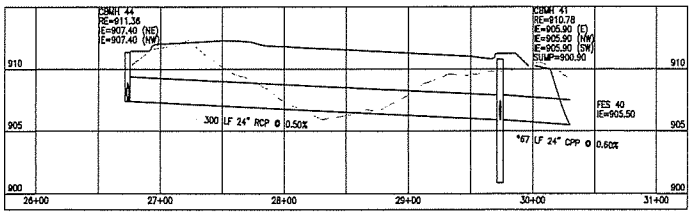

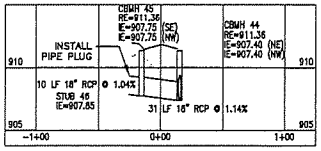

SOPHER ONE STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:

CENTURYLINK	(763) 712-5017	
CENTERPOINT ENERGY	(763) 323-2760	
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CONNEXUS ENERGY	(763) 323-4266	
XCEL ENERGY	(612) 526-4508	

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Ruyle
DATE 05/29/25 REG. NO. 48768

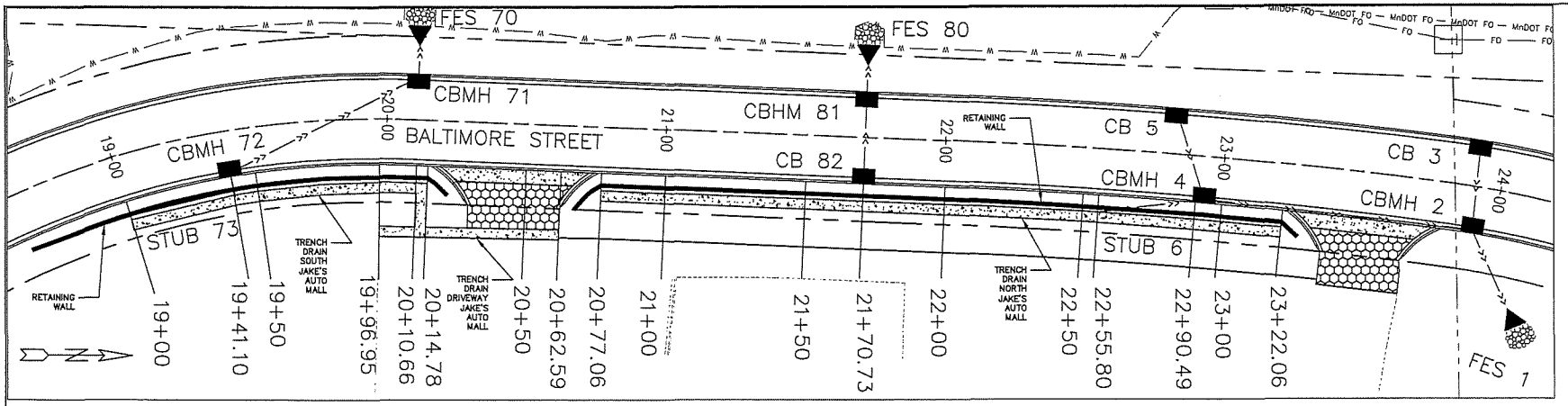
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
STORM DETAILS
173RD LANE & CHISHOLM STREET

DWG: 2111 STORM 3
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 29 OF 43
FILE: 33-2-129



0 10 20 40
FEET

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3. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
4. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
5. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
6. ** NEENAH FOUNDRY R-4990-MX; EAST JORDAN IRON WORKS V-7030; D&L FOUNDRY I-1804.
7. ACCESS TO JAKE'S AUTO MALL MUST REMAIN OPEN DURING BUSINESS HOURS.

TRENCH DRAIN SOUTH JAKE'S AUTO MALL

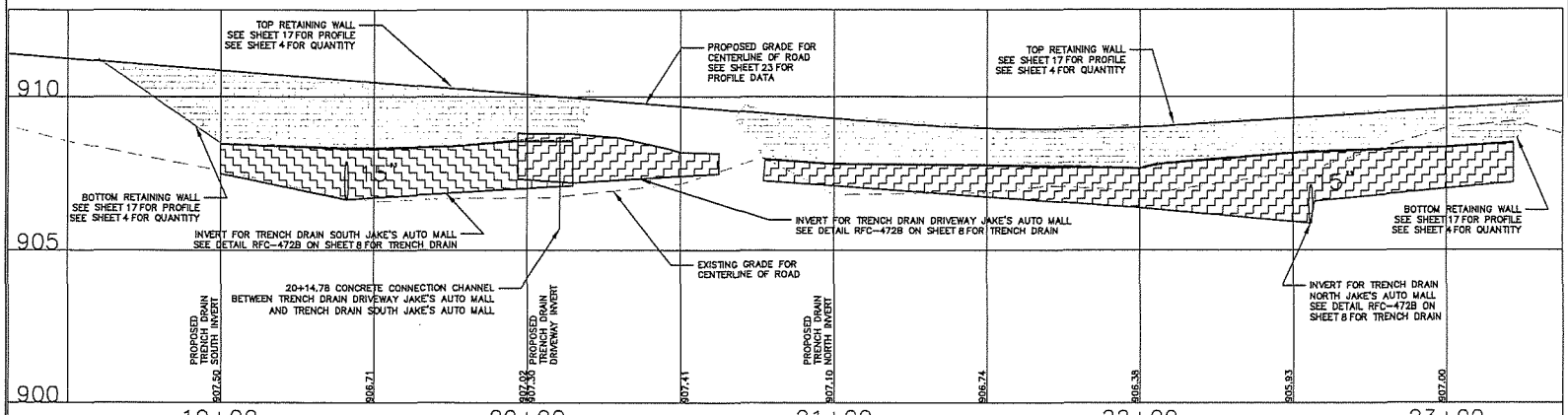
STATION	LOCATION	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	% GRADE
19+00.00	RT.	908.47	907.50	R-4990-HX	A	2.07
19+41.10	RT.	908.31	906.65	R-4990-HX	A	OUTLET
19+50.00	RT.	908.31	906.71	R-4990-HX	A	0.67
19+96.95	RT.	908.56	907.00	R-4990-HX	A	0.62
20+14.78	RT.	908.56	907.11	R-4990-HX	A	0.62

TRENCH DRAIN DRIVEWAY OF JAKE'S AUTO MALL

STATION	LOCATION	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	% GRADE
19+96.95	RT.	908.82	907.32	R-4990-HX	A	0.67
20+14.78	RT.	908.80	907.20	R-4990-HX	A	OUTLET
20+50.00	RT.	908.21	907.41	R-4990-HX	A	0.61
20+62.59	RT.	908.16	907.49	R-4990-HX	A	0.61

TRENCH DRAIN NORTH JAKE'S AUTO MALL

STATION	LOCATION	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	% GRADE
20+77.06	RT.	907.96	907.26	R-4990-HX	A	0.70
21+00.00	RT.	907.80	907.10	R-4990-HX	A	0.72
21+50.00	RT.	907.76	906.74	R-4990-HX	A	0.72
21+70.73	RT.	907.71	906.59	R-4990-HX	A	0.72
22+00.00	RT.	907.66	906.38	R-4990-HX	A	0.90
22+50.00	RT.	908.16	905.93	R-4990-HX	A	1.06
22+55.80	RT.	908.20	905.87	R-4990-HX	A	OUTLET
22+57.00	RT.	908.27	906.59	R-4990-HX	A	VERTICAL
22+90.49	RT.	908.31	906.91	R-4990-HX	A	0.98
23+00.00	RT.	908.34	907.00	R-4990-HX	A	0.95
23+22.06	RT.	908.49	907.20	R-4990-HX	A	0.91



PROPOSED RETAINING WALL

PROPOSED TRENCH DRAIN

GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
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Dan Kruger
DATE 05/29/25 REG. NO. 48768

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STORM DETAILS
TRENCH DRAIN

DWG: 2111 STORM 4
DATE: 05/29/25
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SHEET: 30 OF 43
FILE: 33-2-130

NOTES:

1. ALL GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION.
2. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
3. SALVAGED TOPSOIL SHALL BE STOCKPILED IN PLACE TO MAINTAIN CONTINUITY OF PROPERTY OWNERS EXISTING TURF CONDITIONS. UPON APPROVAL OF ENGINEER, SOIL MAY BE STOCKPILED UPON REVIEW OF ALTERNATE PLAN PROVIDED BY CONTRACTOR.
4. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
5. USE SEED MIX 33-261 FOR PONDS AND ALL NON COMMERCIAL TURF ESTABLISHMENT.

CONSTRUCTION EXIT

SILT FENCE

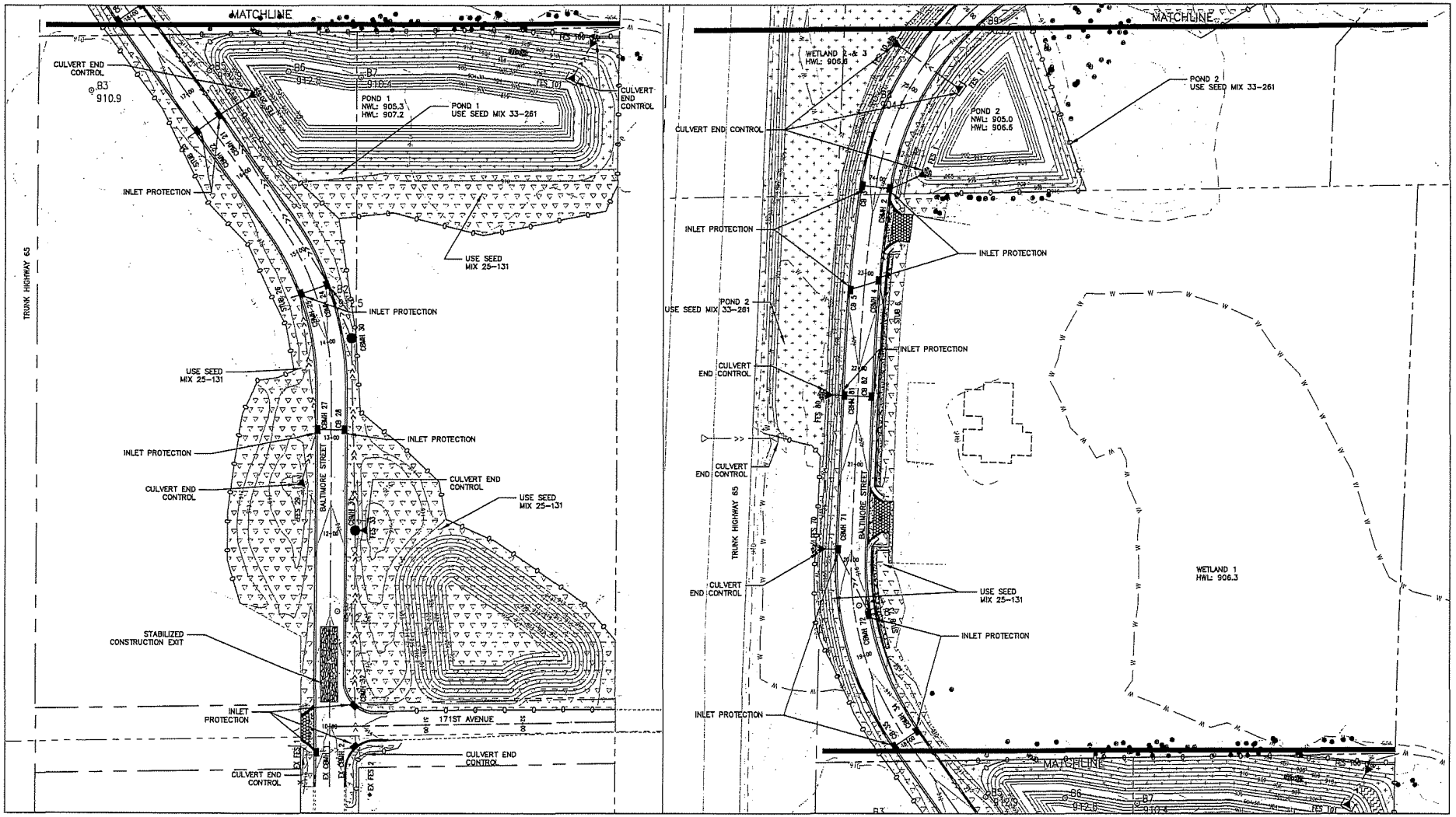
RIPRAP, CLASS III WITH FABRIC

SEED MIX 25-131: COMMERCIAL TURF
MULCH TYPE 1
PLANT APRIL 1ST – JUNE 1ST FOR SPRING PLANTING OR
JULY 20TH – SEPTEMBER 20TH FOR FALL PLANTING

SEED MIX 33-261: PONDS & WET AREAS IN CENTRAL, SOUTHERN AND WESTERN MN
MULCH TYPE 3
PLANT APRIL 15TH – JULY 20TH FOR SPRING PLANTING OR
SEPTEMBER 20TH – OCTOBER 20TH FOR FALL PLANTING

0 35 70 140
FEET

N



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CENTERPOINT ENERGY	(763) 323-2780
COMCAST	(952) 607-4076
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Ruegler
DATE 05/29/25 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
STORMWATER POLLUTION PREVENTION PLAN

DWG:	2111 SWPPP 1
DATE:	05/29/25
JOB NUMBER:	2111
SHEET:	31 OF 43
FILE:	33-2-131

NOTES:

1. ALL GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION.
2. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LONGER THAN 7 DAYS. IF THERE IS A SCHEDULED PAUSE OF WORK THAT WILL LAST 7 DAYS OR LONGER, ALL SOILS AND STOCKPILES ARE REQUIRED TO BE STABILIZED WITHIN THE FIRST 24 HOURS OF INACTIVITY.
3. SALVAGED TOPSOIL SHALL BE STOCKPILED IN PLACE TO MAINTAIN CONTINUITY OF PROPERTY OWNERS EXISTING TURF CONDITIONS. UPON APPROVAL OF ENGINEER, SOIL MAY BE STOCKPILED UPON REVIEW OF ALTERNATE PLAN PROVIDED BY CONTRACTOR.
4. COVER OR SEED ALL STOCKPILE AREAS WITHIN 24 HOURS OF INACTIVITY.
5. USE SEED MIX 33-261 FOR PONDS AND ALL NON COMMERCIAL TURF ESTABLISHMENT.

CONSTRUCTION EXIT

SILT FENCE

RIPRAP, CLASS III WITH FABRIC

SEED MIX 25-131: COMMERCIAL TURF
MULCH TYPE 1
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MULCH TYPE 3
PLANT APRIL 15TH - JULY 20TH FOR SPRING PLANTING OR
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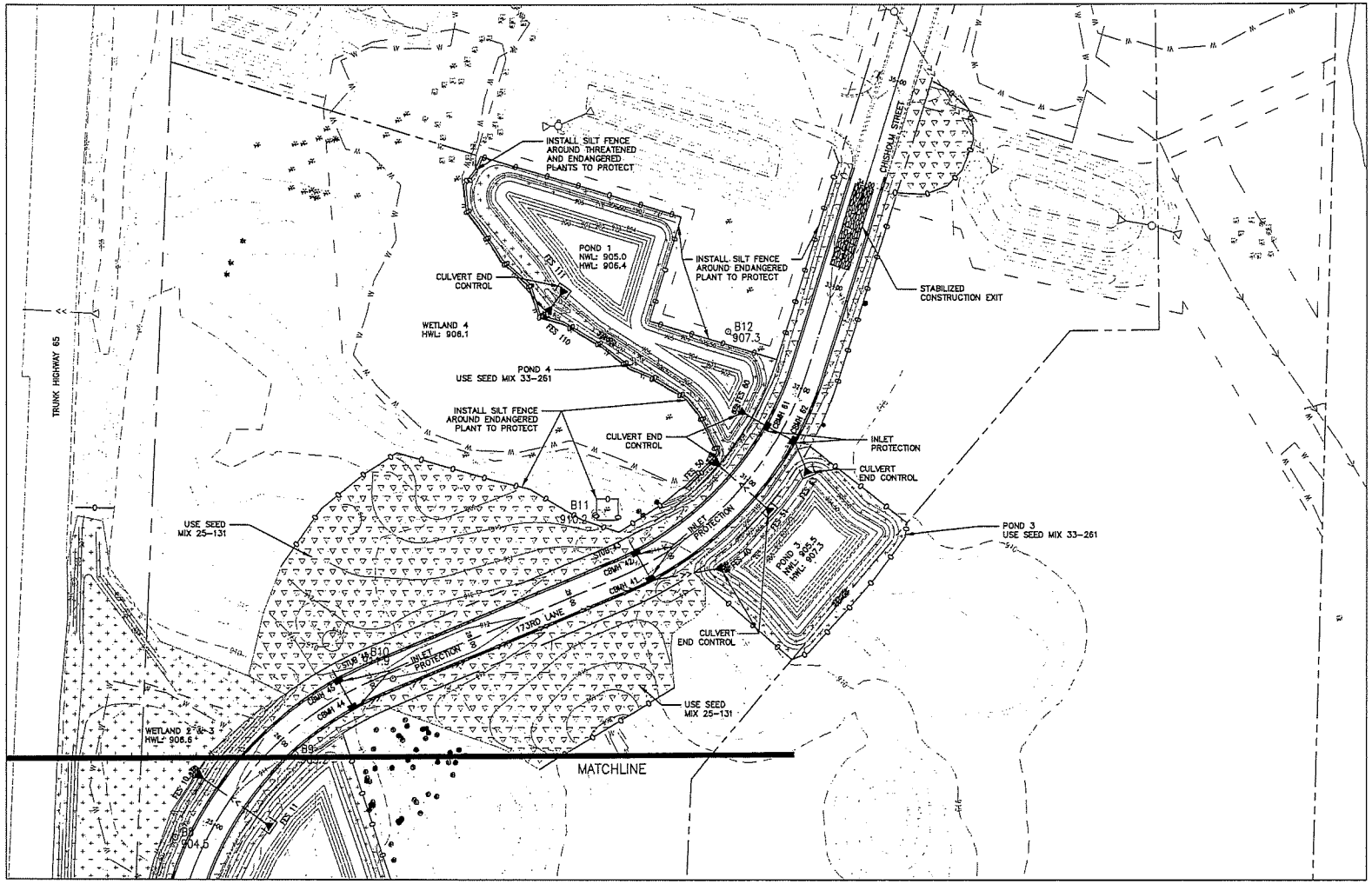
N



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S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
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STORMWATER POLLUTION PREVENTION PLAN

DWG: 2111 SWPPP 2
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 32 OF 43
FILE: 33-2-132

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

CONSTRUCTION ACTIVITY INFORMATION:
STATE AID PROJECT 197-119-003, HAM LAKE, ANOKA COUNTY, MINNESOTA, 55304, 45.2861° LATITUDE NORTH, 93.2336° LONGITUDE WEST (BY ONLINE TOOL).

TOTAL PROJECT DISTURBED AREA IS 10.81 ACRES.

THIS IS A ROAD CONSTRUCTION PROJECT.

0.27 ACRES OF EXISTING IMPERVIOUS SURFACE.
9.72 ACRES OF EXISTING PERVIOUS SURFACE.
1.84 ACRES OF NEW IMPERVIOUS SURFACE.
0.24 ACRES OF NEW PERVIOUS SURFACE.

DRAINAGE IS TO PONDS AND WETLANDS LOCATED EAST AND WEST OF THE IMPROVEMENTS ON MnDOT, CITY, AND PRIVATE PROPERTY. THE WESTERN WETLANDS DRAIN INTO THE MnDOT DITCH ALONG T.H. 65 AND THE EASTERN WETLANDS DRAIN TO COUNTY DITCH 58-3-1. THERE ARE NO SPECIAL WATER OR IMPAIRED WATER WITHIN ONE MILE DOWNSTREAM OF THE PROJECT.

CONTACT INFORMATION:
OWNER: CITY OF HAM LAKE, OWNER CONTACT: DENISE WEBSTER CITY ADMINISTRATOR, DWEBSTER@HAMLAKEMN.GOV, 763-434-9555, 15544 CENTRAL AVENUE, HAM LAKE, MN, 55304

ALTERNATE OWNER CONTACT: DAVID A KRUGLER, CITY ENGINEER. DKRUGLER@RFCENGINEERING.COM 763-862-8000. RFC ENGINEERING INC, 13635 JOHNSON STREET NE, HAM LAKE, MN 55304

CONTRACTOR: _____

ALTERNATE CONTRACTOR CONTACT: _____
PARTY RESPONSIBLE FOR OPERATION AND MAINTENANCE OF PERMANENT STORMWATER MANAGEMENT SYSTEM: CITY OF HAM LAKE PUBLIC WORKS, JOHN WITKOWSKI, 763-235-1862, 15544 CENTRAL AVENUE, HAM LAKE, MN, 55304

GENERAL CONSTRUCTION PROJECT INFORMATION:
THE PROJECT CONSISTS OF NEW CONSTRUCTION TO EXTEND BALTIMORE STREET FROM 171ST AVENUE TO CHISHOLM STREET; WORK INCLUDES GRADING, AGGREGATE BASE, PLANT MIXED BITUMINOUS SURFACE, STORM DRAINS, AND CONCRETE CURB AND GUTTER.

THE SOILS ON THE SITE ARE PRIMARILY HYDROLOGIC SOIL GROUP TYPE C WITH NO INFILTRATION CAPACITY. THERE IS NO MUCK IN THE WETLANDS. THE GROUNDWATER IN THIS AREA IS HIGH.

GENERAL SITE INFORMATION:
ALL EROSION CONTROL MEASURES MUST BE PLACED PRIOR TO COMMENCEMENT OF LAND DISTURBING ACTIVITIES AND BE MAINTAINED UNTIL ALL DISTURBED AREAS ON THE SITE HAVE BEEN RESTORED.

CONSTRUCTION EXITS SHALL BE SURFACED WITH CRUSHED ROCK AND DESIGNATED PRIOR TO CONSTRUCTION (REFER TO DETAIL).

TRENCHES FOR STORM DRAIN PIPE AND STRUCTURES ARE TO BE BACKFILLED BY THE END OF THE WORK DAY.

NO STORMWATER MITIGATION MEASURES ARE REQUIRED AS THE RESULT OF AN ENVIRONMENTAL, ARCHAEOLOGICAL, OR OTHER REQUIRED LOCAL, STATE, OR FEDERAL REVIEW OF THE PROJECT.

THE PROJECT IS NOT LOCATED IN A KARST AREA.

THE PROJECT DOES NOT DISCHARGE TO A CALCAREOUS FEN LISTED IN MINN. R. 7050.0180, SUBP. 6B.

THE SITE DOES NOT DISCHARGE TO A WATER THAT IS LISTED AS IMPAIRED FOR PHOSPHORUS, TURBIDITY, DISSOLVED OXYGEN OR BIOTIC IMPAIRMENT.

SELECTION OF A PERMANENT STORMWATER MANAGEMENT SYSTEM:
NEW IMPERVIOUS SURFACE CREATED BY THIS PROJECT IS 1.84 ACRES.

PER COON CREEK WATERSHED DISTRICT, ANOKA CONSERVATION DISTRICT, AND MINNESOTA BOARD OF WATER AND SOIL RESOURCES, THERE IS NO INFILTRATION ON SITE DUE TO THE HIGH GROUND WATER TABLE.

HYDROLOGIC REPORT (DRAINAGE CALCULATIONS) AND DRAINAGE MAPS (WITH DRAINAGE DIVIDES) PREPARED FOR THIS PROJECT ARE AVAILABLE IN THE CITY'S ENGINEERS OFFICE. STORM WATER RUNOFF FROM THE SITE DRAINS INTO PONDS AND WETLANDS AND THEN OVERFLOW TO WETLANDS EAST AND WEST OF THE PROJECT. THE WESTERN WETLANDS DRAIN INTO MnDOT DITCH ALONG T.H 65. THE EASTERN WETLANDS DRAIN TO COUNTY DITCH 58-3-1. THE RUNOFF FROM THE SITE WILL BE CONVEYED VIA NEW ON SITE STORM DRAINS. THE LAST STORM DRAIN STRUCTURE JUST PRIOR TO DISCHARGE WILL BE EQUIPPED WITH A SUMP (GRIT CHAMBERS). GRIT CHAMBERS ARE BEING USED DUE TO THE HIGH GROUND WATER TABLE. THE SUMP (GRIT CHAMBERS) ARE SIZED PER COON CREEK WATERSHED DISTRICT REQUIREMENTS.

EROSION PREVENTION PRACTICES:
THERE ARE NO CONSTRUCTION PHASING, VEGETATIVE BUFFER STRIPS, LONG HORIZONTAL SLOPE GRADING FOR THE PROJECT. THERE ARE UNDISTURBED AREAS WITHIN THE PROJECT LIMITS.

ALL DISTURBED AREAS SHALL BE RESTORED WITH SOD, SEED, WOOD FIBER BLANKET, OR PAVED SURFACE WITHIN SEVEN (7) DAYS OF ROUGH GRADING.

ALL EXPOSED SOIL AREAS MUST HAVE TEMPORARY EROSION PROTECTION OR PERMANENT COVER WITHIN SEVEN (7) DAYS AFTER THE AREA IS NOT ACTIVELY BEING WORKED.

FERTILIZER: MnDOT SPECIFICATION 3881, TYPE 2 SEEDING: MnDOT SEED MIXTURE 25-131 OR 33-261 (FOR PONDS). HYDROMULCH: MnDOT SPECIFICATION 3884 TYPE 1 OR 3 WITH APPLICATION RATE PER MnDOT SPECIFICATION 2575.3H.

PROVIDE EROSION CONTROL FABRIC FOR ALL SLOPES STEEPER THAN 1:3.

THERE ARE NO DRAINAGE DITCHES CONSTRUCTED WITH THIS PROJECT.

SEDIMENT CONTROL PRACTICES:
THERE ARE NO DRAINAGE DITCHES OR SEDIMENT BASINS FOR THIS PROJECT.

THERE ARE NO SLOPES WITH A GRADE OF 1:3 OR STEEPER WITH A SLOPE LENGTH GREATER THAN 75 FEET.

THERE ARE NO DRAINAGE INFILTRATION BASINS FOR THIS PROJECT.

ALL SEDIMENT CONTROL DEVICES ARE TO BE IN PLACE PRIOR TO UPSTREAM LAND DISTURBING ACTIVITIES.

WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, PIPE OUTLETS MUST CONTAIN RIPRAP, SEED AND PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITHIN 200 LINEAL FEET OF PIPE OUTLETS INCLUDING THE DOWN SLOPE TO THE PIPE OUTLET, SILT FENCING TO BE PLACED AROUND THE DISTURBED AREA AND SILT FENCE ROUTED ACROSS THE TOP OF THE OUTLET.

WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, SEED AND PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITHIN 200 FEET OF PIPE INLET INCLUDING THE DOWN SLOPE TO THE PIPE INLET, SILT FENCING TO BE PLACED AROUND THE DISTURBED AREA, PLACE A SECOND SILT FENCE ROUTED ACROSS THE TOP OF THE INLET AND PLACE INLET PROTECTION. PIPE INLET PROTECTION SHALL BE PER BMPS SUCH AS SILT FENCE OR STRAW BALES STAKED AROUND THE APRON OPENING OR OTHER APPROVED EQUIVALENT.

WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, SEED AND PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITHIN 200 FEET OF CATCH BASIN INLET. PLACE INLET PROTECTION IMMEDIATELY AFTER STRUCTURE IS BACKFILLED. CATCH BASIN INLET PROTECTION SHALL BE PER BMPS SUCH AS CLEAR ROCK AROUND STEEL PLATE OVER FABRIC OR OTHER APPROVED EQUIVALENT UNTIL THE CATCH BASIN CASTING IS PLACED. IMMEDIATELY AFTER THE CASTING IS PLACED, PROVIDE CATCH BASIN INLET PROTECTION PER BMPS SUCH AS FILTER BAG INSERT OR OTHER APPROVED EQUIVALENT. NO CAPTURED SEDIMENT SHOULD BE ALLOWED TO DROP INTO THE CATCH BASIN.

PROVIDE SILT FENCE DOWNSTREAM OF STOCKPILE AREAS. STOCKPILES ARE NOT TO BLOCK DRAINAGE CONVEYANCE SYSTEMS.

SEDIMENT TRACKED OFFSITE SHALL BE MINIMIZED AND SWEPT ON A DAILY BASIS.

TEMPORARY SEDIMENTATION BASINS ARE NOT BEING USED TO REDUCE WETLAND IMPACTS, DUE TO THE HIGH GROUND WATER TABLE AND THE LACK OF RIGHT OF WAY.

DEWATERING AND BASIN DRAINING:
ALL DEWATERING IS TO DISCHARGE TO SEDIMENT SACKS, ROCK WEEPER, BIO ROLL AREA, ETC. TO PREVENT EROSION AND MINIMIZE SEDIMENT DISCHARGING FROM THE SITE. EXCESSIVE SEDIMENT-LADEN WATER WILL NOT BE PERMITTED TO DISCHARGE FROM THE SITE. DEWATERING PRACTICES ARE NOT TO CAUSE DOWNSTREAM NUISANCE CONDITIONS, EROSION, OR NON-PERMITTED WETLAND INUNDATION CAUSING ADVERSE IMPACTS. DISCHARGE FROM DEWATERING WILL BE TO WETLANDS. LARGE VOLUMES OF DEWATERING WILL REQUIRE DISCHARGE INTO SEDIMENT SACKS PRIOR TO DISCHARGING INTO THE WETLANDS.

ADDITIONAL BMPS FOR SPECIAL WATERS AND DISCHARGES TO WETLANDS:
THE PROJECT DOES NOT DISCHARGE INTO OR WITHIN 1 MILE OF SPECIAL WATERS.

THERE ARE NO BUFFER ZONES OR UNDISTURBED AREA ZONES.

THE STORM DRAIN SYSTEM WAS SET UP TO DISTRIBUTE THE STORMWATER RUNOFF INTO THE PROJECT PONDS AND WETLANDS AS CLOSE TO EXISTING CONDITIONS AS POSSIBLE. THIS INCLUDED PROVIDING STORM DRAIN ON BOTH SIDES OF THE STREET IN ORDER TO ACHIEVE THIS. THE DRAINAGE IS PENDING APPROVAL BY COON CREEK WATERSHED DISTRICT.

THERE IS CONVERSION OF WETLANDS INTO STORMWATER PONDS.

INSPECTION AND MAINTENANCE:
THE CONTRACTOR SHALL PLACE A RAIN GAUGE ON THE PROJECT SITE AT A LOCATION APPROVED BY THE ENGINEER. RAINFALL DATA SHALL BE KEPT WITH THE SWPPP RECORDS.

THE CONTRACTOR MUST INSPECT THE CONSTRUCTION SITE ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. INSPECTIONS AND MAINTENANCE TO BE RECORDED IN WRITING. THE SWPPP INSPECTION FOR THE CONSTRUCTION IS TO BE CONDUCTED BY _____ OF _____.

INSPECTIONS FORMS ARE AVAILABLE AT: HTTPS://TINYURL.COM/2ARMT4KJ
SELECT THE APPROPRIATE INSPECTION FORM FROM THE LIST.

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT DEVICES, AS WELL AS ALL EROSION AND SEDIMENT CONTROL, FOR THE DURATION OF THE PROJECT.

THE CONTRACTOR WILL INVESTIGATE AND MUST COMPLY WITH THE FOLLOWING:

CONTRACTOR MUST INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS AND POLLUTION PREVENTION MANAGEMENT MEASURES TO ENSURE INTEGRITY AND EFFECTIVENESS. CONTRACTOR MUST REPAIR, REPLACE OR SUPPLEMENT ALL NONFUNCTIONAL BMPS WITH FUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY UNLESS ANOTHER TIME FRAME IS SPECIFIED BELOW. CONTRACTOR MAY TAKE ADDITIONAL TIME IF FIELD CONDITIONS PREVENT ACCESS TO THE AREA.

DURING EACH INSPECTION, CONTRACTOR MUST INSPECT SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS BUT NOT CURB AND GUTTER SYSTEMS, FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. CONTRACTOR MUST REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS AND RESTABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL. CONTRACTOR MUST COMPLETE REMOVAL AND STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. CONTRACTOR MUST USE ALL REASONABLE EFFORTS TO OBTAIN ACCESS. IF PRECLUDED, REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF OBTAINING ACCESS. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AUTHORITIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK IN SURFACE WATERS.

CONTRACTOR MUST INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS, STREETS AND CURB AND GUTTER SYSTEMS WITHIN AND ADJACENT TO THE PROJECT FOR SEDIMENTATION FROM EROSION OR TRACKED SEDIMENT FROM VEHICLES. CONTRACTOR MUST REMOVE SEDIMENT FROM ALL PAVED SURFACES WITHIN ONE (1) CALENDAR DAY OF DISCOVERY OR, IF APPLICABLE, WITHIN A SHORTER TIME TO AVOID A SAFETY HAZARD TO USERS OF PUBLIC STREETS.

REPAIR, REPLACE OR SUPPLEMENT ALL PERIMETER CONTROL DEVICES WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE DEVICE.

CONTRACTOR MUST DRAIN TEMPORARY AND PERMANENT SEDIMENTATION BASINS AND REMOVE THE SEDIMENT WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES TWO FEET OR 1/2 THE STORAGE VOLUME, WHICHEVER IS LESS, WITHIN 72-HOURS OF DISCOVERY.

POLLUTION PREVENTION MANAGEMENT MEASURES:

THE CONTRACTOR SHALL IMPLEMENT THE FOLLOWING POLLUTION PREVENTION MANAGEMENT MEASURES ON THE SITE:

SOLID WASTE: COLLECT SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS, AND OTHER WASTES MUST BE DISPOSED OF PROPERLY OFFSITE AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.

HAZARDOUS MATERIALS: OIL, GASOLINE, PAINT AND ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.

EXTERNAL WASHING OF TRUCKS, INCLUDING CONCRETE DELIVERY TRUCKS, AND OTHER CONSTRUCTION VEHICLES MUST BE LIMITED TO A DEFINED AREA OF THE SITE. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE. CONCRETE WASHOUT ON SITE MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER.

THE CITY IS RESPONSIBLE FOR LONG TERM MAINTENANCE OF THE STORM DRAIN INCLUDING THE SUMPS (GRIT CHAMBERS). THE GRIT CHAMBERS ARE TO BE INSPECTED YEARLY AND CLEANED OUT AS NECESSARY TO MAINTAIN FUNCTION.

THE CONTRACTOR IS RESPONSIBLE FOR MONITORING AIR POLLUTION AND ENSURING IT DOES NOT EXCEED LEVELS SET BY LOCAL, STATE, OR FEDERAL REGULATIONS. THIS INCLUDES DUST CREATED BY WORK BEING PERFORMED ON THE SITE. AIR POLLUTION AND DUST CONTROL CORRECTION ARE CONSIDERED INCIDENTAL TO THE UNIT BID PRICES FOR WHICH WORK IS BEING PERFORMED. ADDITIONAL DUST CONTROL MEASURES MAY BE REQUIRED BY THE ENGINEER.

NO SANITARY AND SEPTIC WASTE IS ON THE SITE.

FINAL STABILIZATION:
THE CONTRACTOR MUST ENSURE FINAL STABILIZATION OF THE SITE. FINAL STABILIZATION IS ACHIEVED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND ALL SOILS ARE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70 PERCENT OF THE PERVIOUS SURFACE AREA, OR OTHER EQUIVALENT MEANS NECESSARY TO PREVENT SOIL FAILURE UNDER EROSIVE CONDITIONS.

ALL TEMPORARY EROSION PROTECTION, INCLUDING SILT FENCE, ARE TO BE REMOVED AFTER FINAL STABILIZATION OF THE SITE.

RECORDS RETENTION:
ALL REQUIREMENTS OF THE NPDES PERMIT AND THIS SWPPP SHALL REMAIN IN EFFECT UNTIL ALL LAND DISTURBING ACTIVITY HAS BEEN COMPLETED, ALL FINAL RESTORATION HAS BEEN COMPLETED AND THE NOTICE OF TERMINATION FORM HAS BEEN SUBMITTED TO THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA).

REFER TO OTHER SHEETS OF THIS PLAN SET FOR DETAILED CONSTRUCTION INFORMATION. EXISTING AND PROPOSED GRADES FOR THE ROADWAY ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND ON THE CROSS SECTION SHEETS.

THE CONTRACTOR SHALL MAINTAIN A COPY OF THE PLANS ONSITE AT ALL TIMES UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE CITY. THE CONTRACTOR SHALL UPDATE THE SWPPP AS NECESSARY TO REFLECT CURRENT CONDITIONS ON THE SITE. CONTRACTOR IS TO PROVIDE THE ENGINEER A COPY OF THE REVISED SWPPP. THE REVISED SWPPP IS TO BE MAINTAINED WITH THE CONSTRUCTION SET OF PLANS.

THE CONSTRUCTION PLANS, INCLUDING THE SWPPP, AND THE SWPPP INSPECTION REPORTS ARE TO BE AVAILABLE TO THE ENGINEER AND TO THE MPCA AND COON CREEK WATERSHED DISTRICT INSPECTORS AT ALL TIMES.

THE CONTRACTOR IS TO PROVIDE THE ENGINEER A COPY OF THE SWPPP INSPECTION REPORTS WITHIN SEVEN (7) DAYS AFTER THE INSPECTION.

THE CONTRACTOR IS TO PROVIDE THE ENGINEER A COPY OF THE REVISED SWPPP WITHIN SEVEN (7) DAYS AFTER THE CONTRACTOR REVISES THE SWPPP.

ALL SWPPP INSPECTIONS AND ALL BMPS SHALL BE PLACED UNDER THE SUPERVISION OF A CONSTRUCTION INSTALLER CERTIFIED BY THE MPCA. THE CONSTRUCTION SITE SHALL BE MANAGED AND MAINTAINED BY A MPCA CERTIFIED CONSTRUCTION SITE MANAGEMENT.

THE CONTRACTOR SHALL PROVIDE THE CITY WITH A COPY OF CONSTRUCTION INSTALLER CERTIFICATION AND CONSTRUCTION SITE MANAGEMENT CERTIFICATION. A COPY OF THE CERTIFICATIONS, INCLUDING SWPPP DESIGNER, SHALL BE KEPT WITH THE SWPPP.

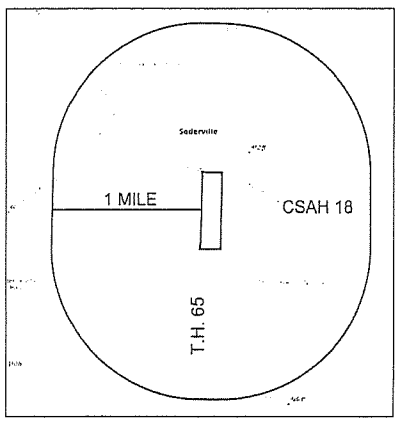
THE SWPPP, THE SWPPP INSPECTIONS REPORTS AND MAINTENANCE RECORDS SHALL BE KEPT FOR 3 YEARS.

DRAINAGE CALCULATIONS AND DRAINAGE MAPS WILL BE KEPT BY THE CITY FOR AT LEAST 3 YEARS.

SEQUENCE OF EROSION CONTROL
1. OBTAIN ALL NECESSARY PERMITS, INCLUDING NPDES GENERAL STORMWATER PERMIT.
2. CLEAR AND GRUB SITE.
3. PLACE ALL PERIMETER SEDIMENT CONTROL DEVICES, TEMPORARY SEDIMENTATION BASINS, SILT FLOTATION CURTAINS, AND ROCK CONSTRUCTION EXITS.
4. CONTACT CITY ENGINEER FOR APPROVAL OF SEDIMENT CONTROL DEVICES.
5. ROUGH IN GRADE.
6. PLACE TEMPORARY EROSION CONTROL DEVICES AS NECESSARY.
7. PLACE STORM DRAIN SYSTEM.
8. RE-ADJUST TEMPORARY EROSION CONTROL DEVICES AS NECESSARY. PLACE STORM DRAIN INLET PROTECTION AND OUTLET PROTECTION DEVICES AS NECESSARY.
9. PLACE SITE PAVEMENT.
10. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, OBTAIN APPROVAL OF CITY ENGINEER.
11. CONTRACTOR TO REMOVE ALL TEMPORARY EROSION CONTROL DEVICES AFTER ACCEPTANCE BY THE CITY.

TABULATION SUMMARY

ITEM	UNIT	TOTAL
SILT FENCE	L.F.	6,621
FES/PIPE OUTLET PROTECTION	EACH	20
CATCH BASIN INLET PROTECTION	EACH	25
CLASS III RIPRAP W/ FABRIC	C.Y.	85.8
GEOTEXTILE FILTER FABRIC	S.Y.	314.8
HYDROMULCH TYPE 3	ACRE	6.02
TURF ESTABLISHMENT: SEED MIX 25-131	ACRE	5.18
TURF ESTABLISHMENT: SEED MIX 33-261	ACRE	2.86



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PLOT DATE: 5/29/2025 16:48

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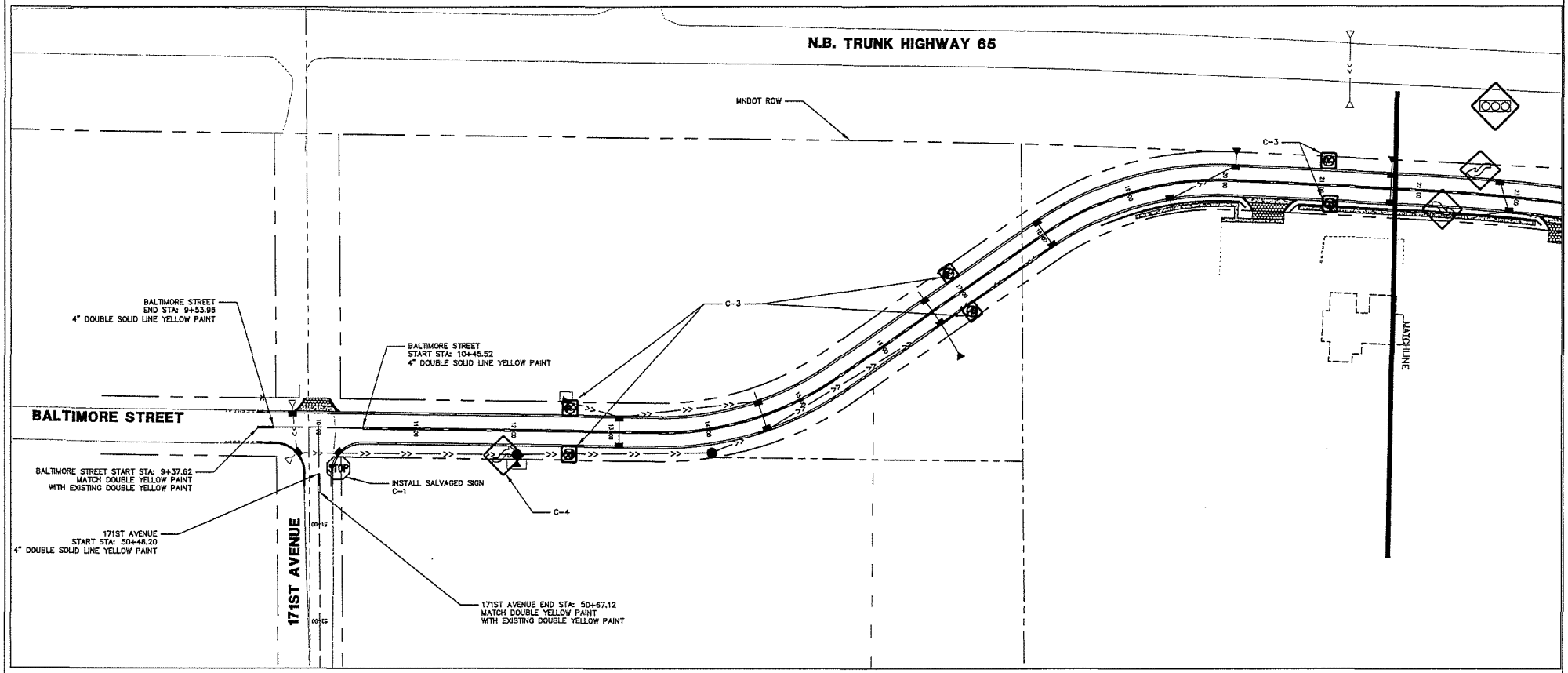
STORMWATER POLLUTION PREVENTION PLAN

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2111 SWPPP 3
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 33 OF 43
FILE: 33-2-133

NOTE:
1. LOCATION OF SIGNS PER MnMUTCD SPECIFICATIONS.
2. REFER TO THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL THAT NEEDS TO BE PLACED ON TRUNK HIGHWAY 65 WHEN WORKING WITHIN MNDOT ROW.

0 25 50 100
FEET



GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 807-4078
CONNEXUS ENERGY	(763) 323-4288
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Krueger
DATE 05/29/25 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

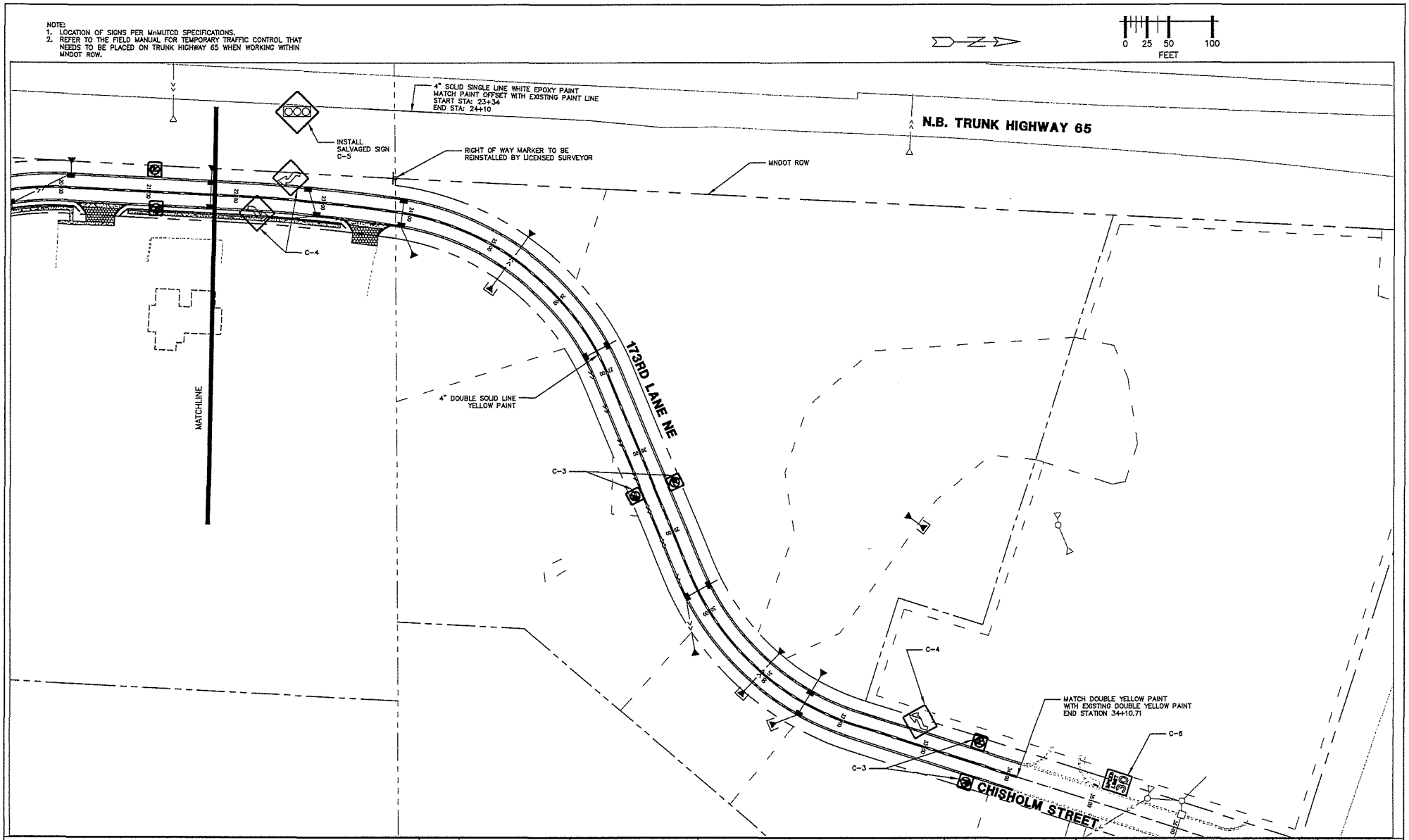
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM
64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
SIGNING AND STRIPING PLAN

DWG:	2111 SIGN 1
DATE:	05/29/25
JOB NUMBER:	2111
SHEET:	34 OF 43
FILE:	33-2-134

NOTE:
1. LOCATION OF SIGNS PER MnMUTCD SPECIFICATIONS.
2. REFER TO THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL THAT NEEDS TO BE PLACED ON TRUNK HIGHWAY 65 WHEN WORKING WITHIN MNDOT ROW.

0 25 50 100
FEET



GOPHER ONE CALL STATE
800-252-1166 651-454-0002

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 807-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY

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Dan Ruegsegger
DATE 05/29/25 REG. NO. 48768

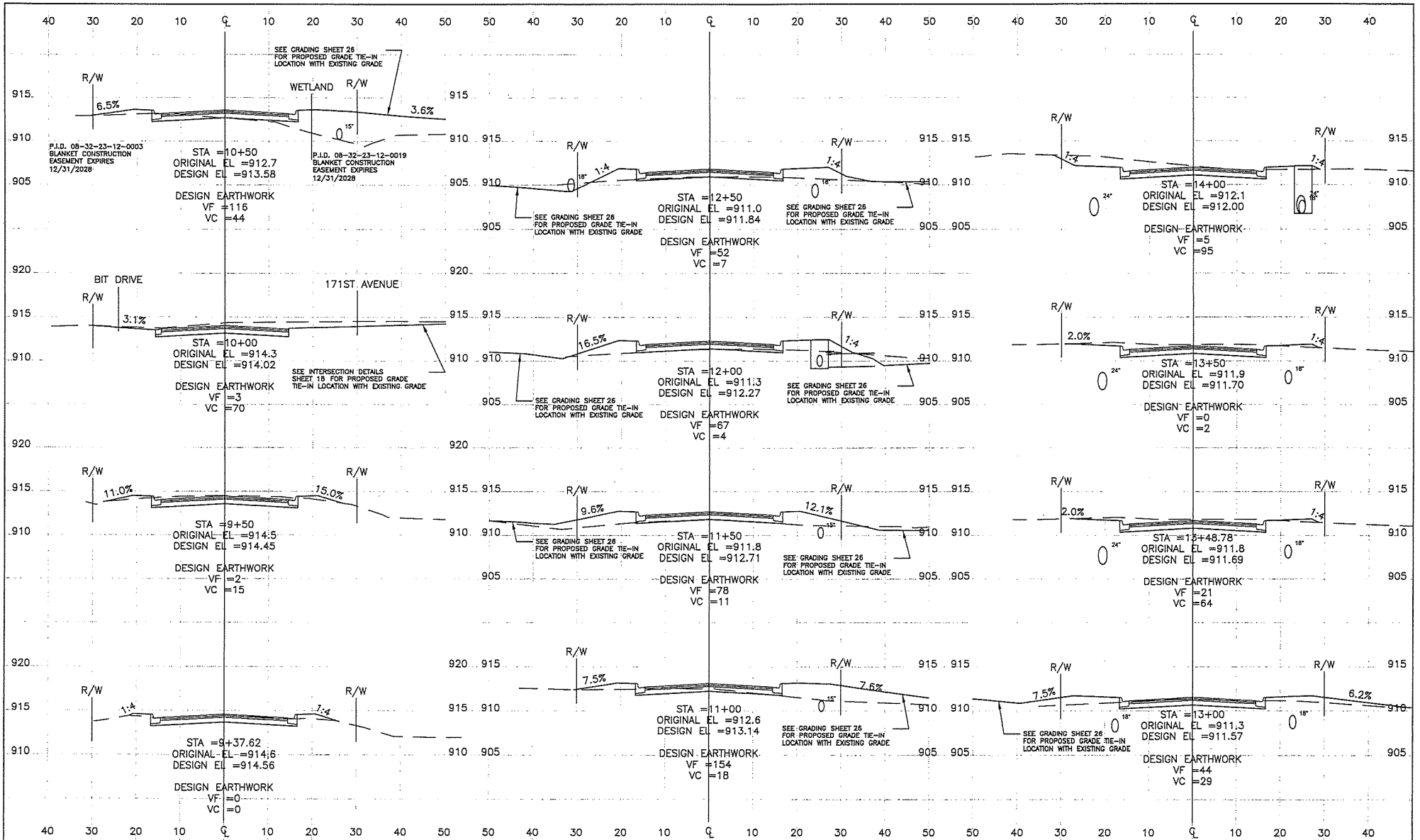
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
SIGNING AND STRIPING PLAN

DWG:	2111 SIGN 2
DATE:	05/29/25
JOB NUMBER:	2111
SHEET:	35 OF 43
FILE:	33-2-135



UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 807-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/29/2025 10:48

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Krueger
DATE 05/29/25 REG. NO. 48768

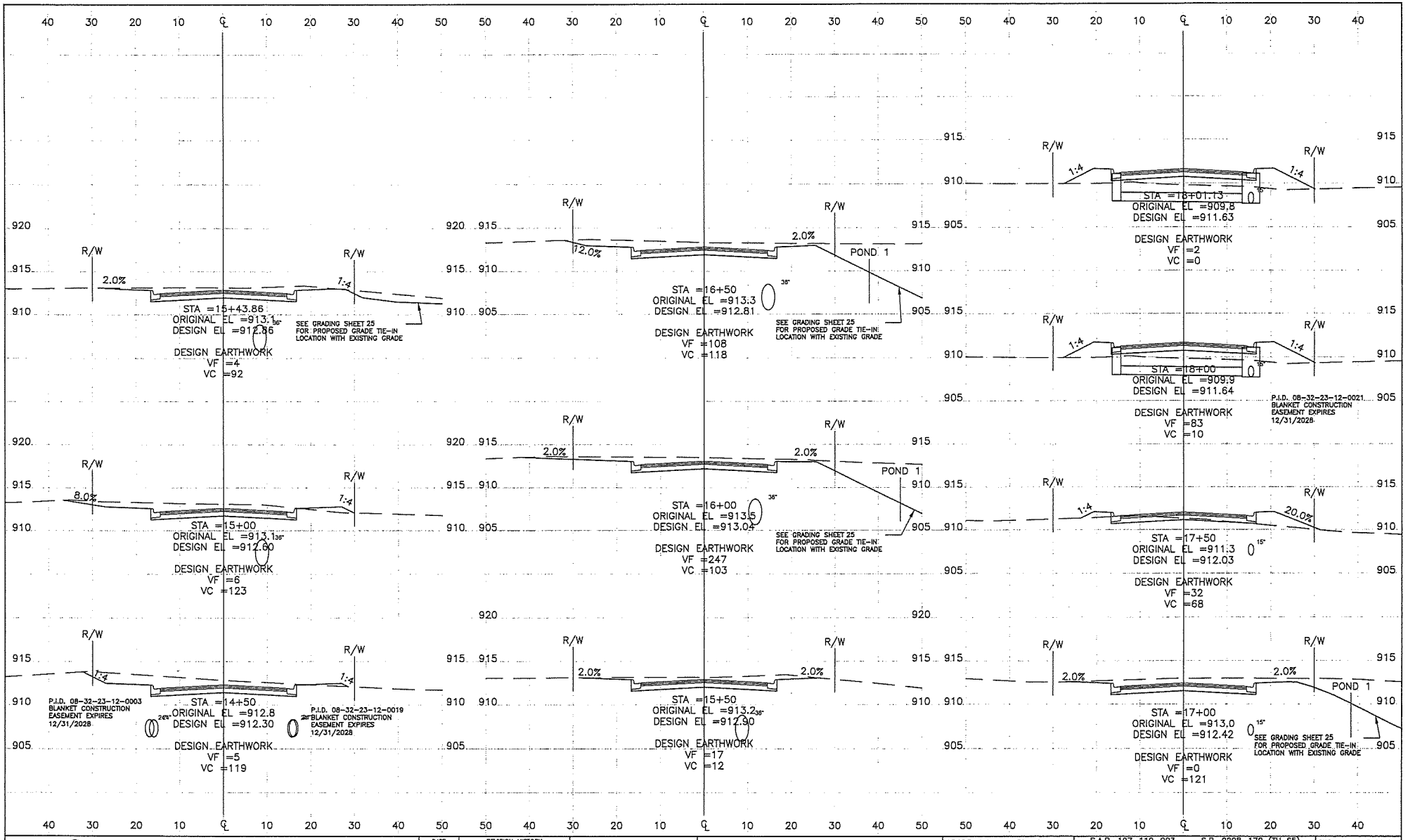
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
CROSS SECTIONS

DWG: RC001041
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 36 OF 43
FILE: 33-2-136



GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/29/2025 10:45

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Ringler
DATE 05/29/25 REG. NO. 48768

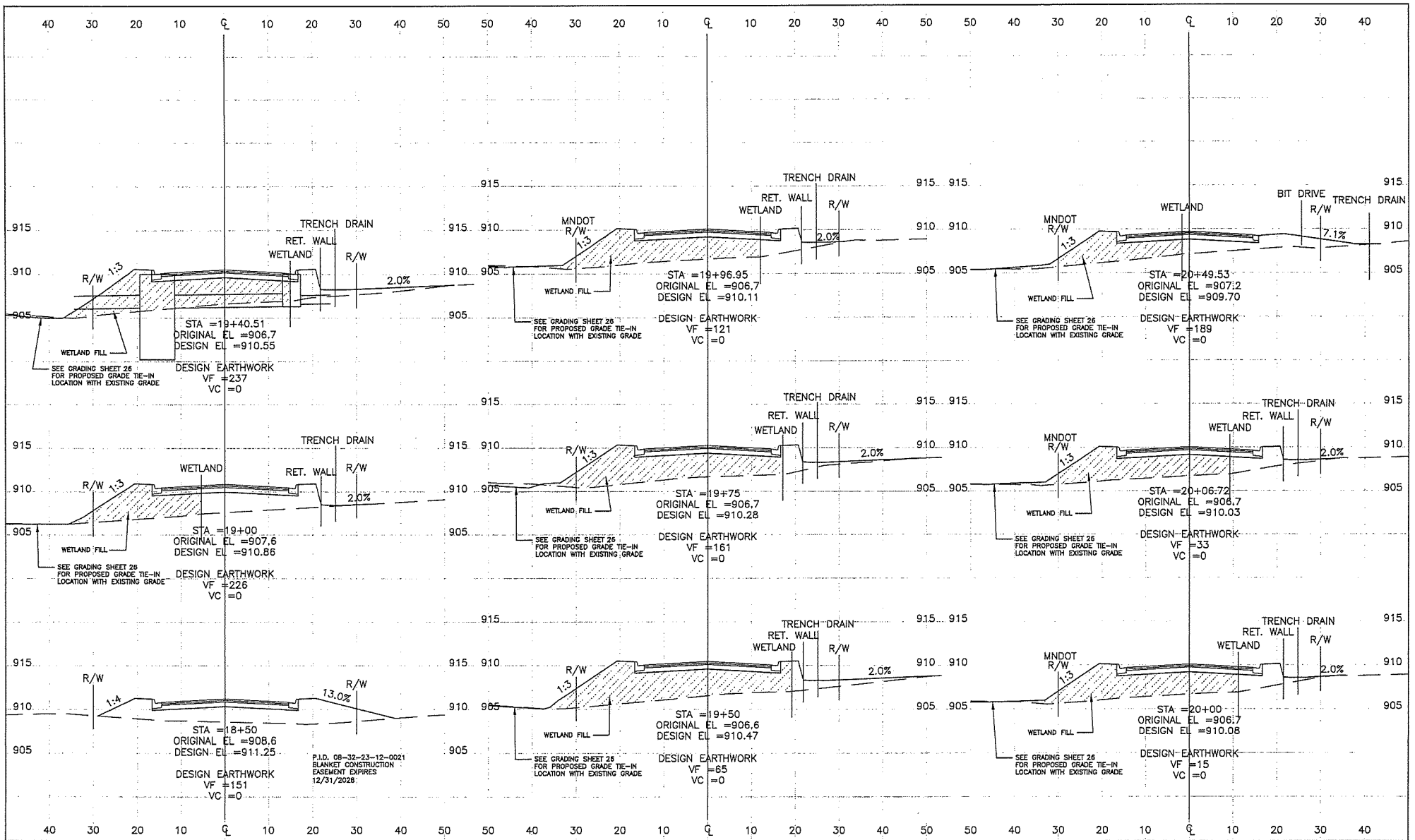
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
CROSS SECTIONS

DESIGN BY: LOZ DRAWN BY: LOZ CHECKED BY: DAK

DWG: RC002041
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 37 OF 43
FILE: 33-2-137



GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 3/28/2025 16:48

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4266
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Don Krueger
DATE 05/29/25 REG. NO. 48768

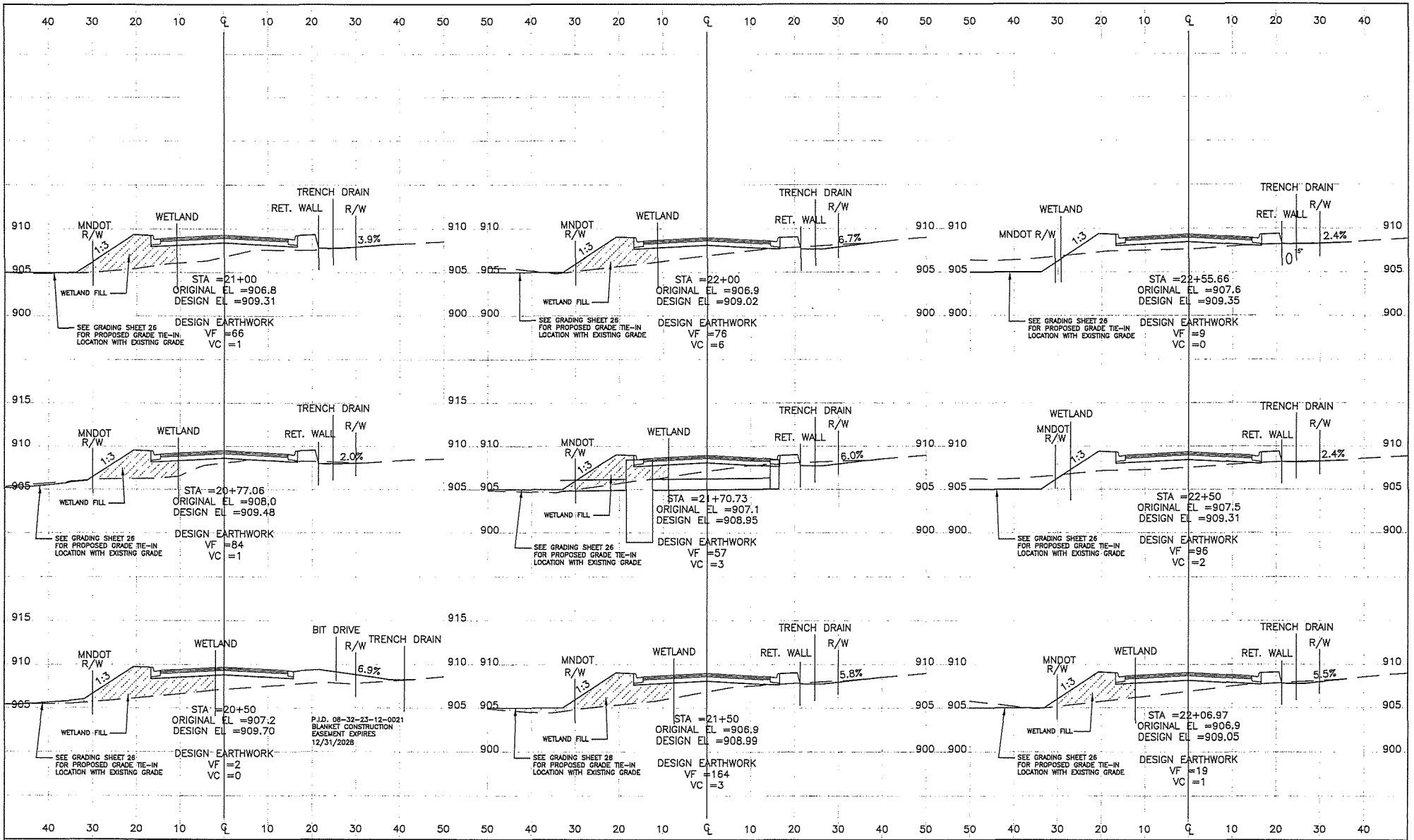
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
CROSS SECTIONS

DWG:	RC003041
DATE:	05/29/25
JOB NUMBER:	2111
SHEET:	38 OF 43
FILE:	33-2-138



GOPHER ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/29/2025 16:48

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY

I HEREBY CERTIFY THAT THIS PLAN 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 MINNESOTA.
Dan Ringler
DATE 05/29/25 REG. NO. 48768

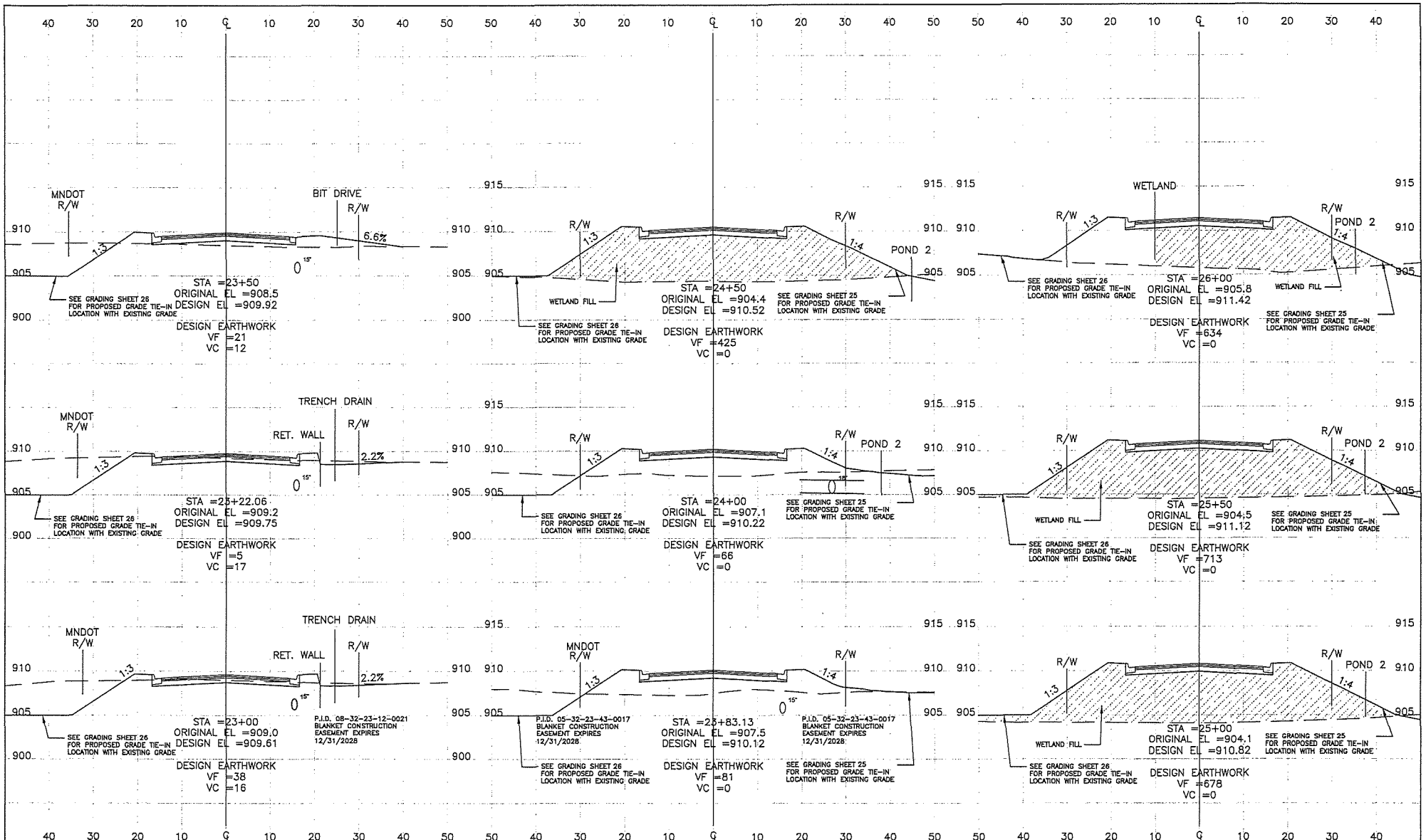
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
CROSS SECTIONS

DWG: RC004041
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 39 OF 43
FILE: 33-2-139



GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/29/2025 10:49

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY

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Dan Krueger
DATE 05/29/25 REG. NO. 48768

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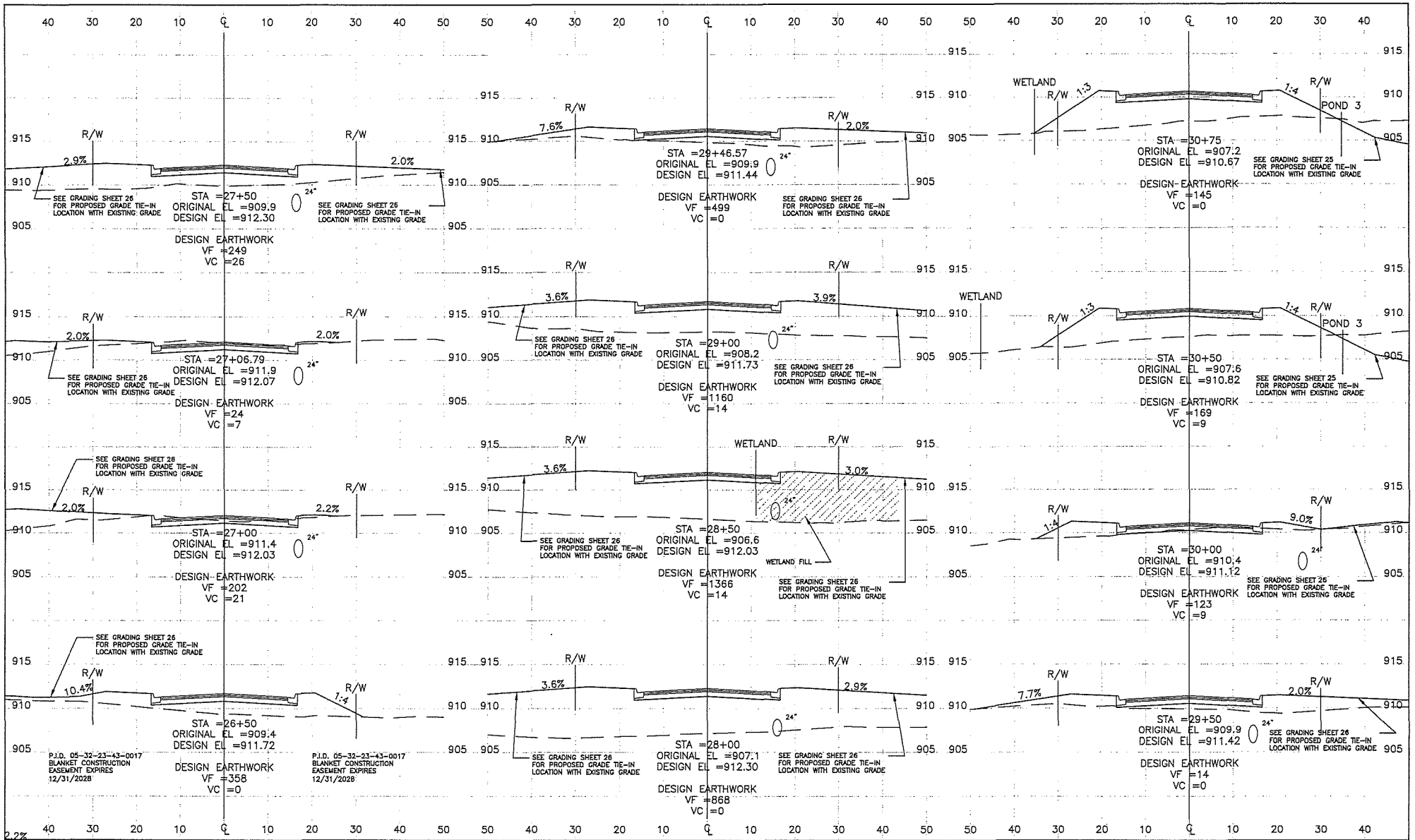
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
CROSS SECTIONS

DWG: RC005041
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 40 OF 43
FILE: 33-2-140



GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/29/2025 16:48

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY

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DATE 05/29/25 REG. NO. 48768

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Ham Lake, MN 55304
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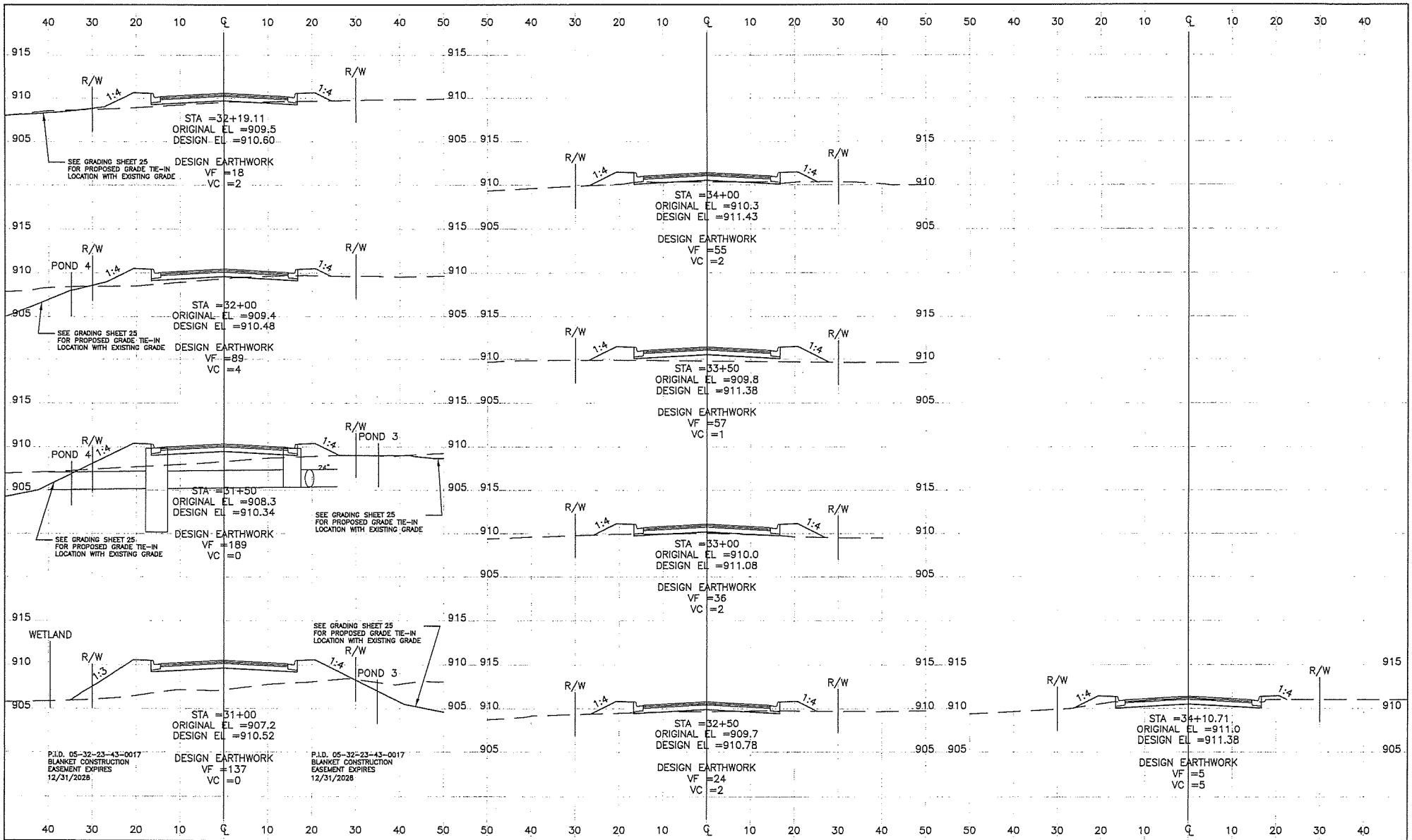
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
CROSS SECTIONS

DWG: RC006041
DATE: 05/29/25
JOB NUMBER: 2111
SHEET: 41 OF 43
FILE: 33-2-141



GOPHER ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/29/2025 10:48

UTILITIES:

CENTURYLINK	(763) 712-5017	
CENTERPOINT ENERGY	(763) 323-2760	
COMCAST	(952) 607-4078	
CONNEXUS ENERGY	(763) 323-4268	
XCEL ENERGY	(612) 526-4508	

DATE	REVISION HISTORY

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Dan Krueger
DATE 05/29/25 REG. NO. 48768

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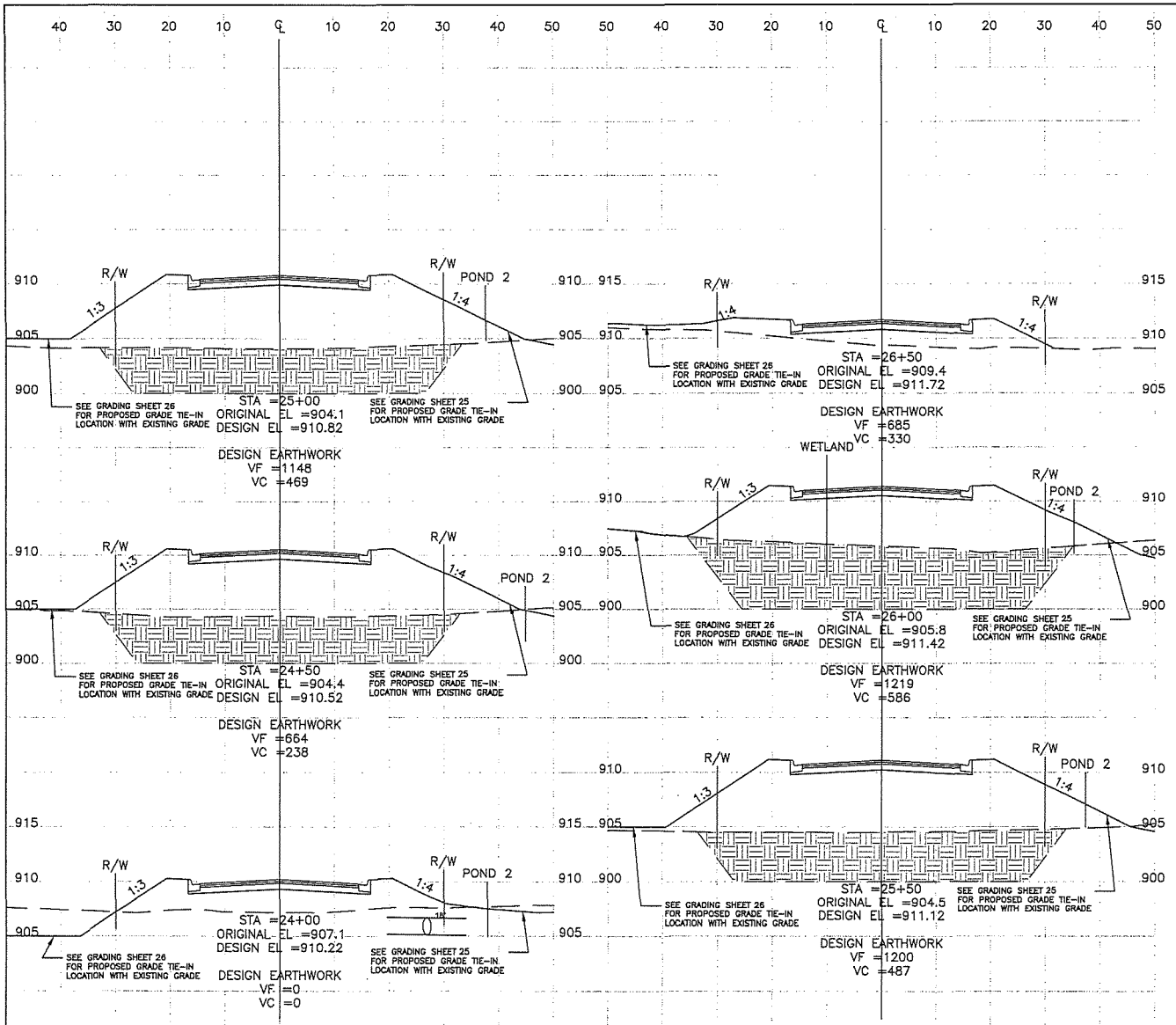
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
CROSS SECTIONS

DWG:	RC007041
DATE:	05/29/25
JOB NUMBER:	2111
SHEET:	42 OF 43
FILE:	33-2-142



NOTES:
- THIS SHEET IS FOR MUCK QUANTITY ESTIMATION ONLY. NOT TO BE USED FOR CONSTRUCTION PURPOSES.
- SEE NOTE 11 ON SHEET 2 FOR MORE INFORMATION.
- MUCK ESTIMATION RANGES FROM STA: 24+00 TO STA: 26+00 AND RUNS AT AN ELEVATION OF 900.
- IF MUCK IS ENCOUNTERED, ALL MUCK SHALL BE DELIVERED TO THE PUBLIC WORKS SHOP.

MUCK EXCAVATION

GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 5/29/2025 10:48

UTILITIES:

CENTURYLINK	(763) 712-5017	
CENTERPOINT ENERGY	(763) 323-2780	
COMCAST	(952) 607-4078	
CONNEXUS ENERGY	(763) 323-4268	
XCEL ENERGY	(612) 526-4508	

DATE	REVISION HISTORY

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Dan Ruegler
DATE 05/29/25 REG. NO. 48768

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13635 Johnson Street
Ham Lake, MN 55304
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Fax 763-862-8042

S.A.P. 197-119-003 S.P. 0208-170 (TH 65)
HAM LAKE IMPROVEMENT PROJECT 2111
TH 65 EAST FRONTAGE ROAD CONSTRUCTION FROM 64' SOUTH 171ST AVE TO 334' SOUTH CROSSTOWN BLVD
CROSS SECTIONS FOR MUCK QUANTITY ESTIMATION
NOT FOR CONSTRUCTION PURPOSES

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	RC001042
DATE:	05/29/25
JOB NUMBER:	2111
SHEET:	43 OF 43
FILE:	33-2-143