AGENDA
GRAND MARAIS PLANNING COMMISSION
June 4, 2025, 5:15 P.M.
Grand Marais City Hall
15 Broadway (Council Chambers)

A. CALL TO ORDER

B. CONSENT AGENDA

1. ROLL CALL
2. ADOPT AGENDA
3. APPROVE MINUTES

C. PUBLIC HEARINGS

Hearing Process

1. *Acknowledgment of received written comments*
2. *Public Hearing*
   The public is invited to speak at this time. No person may speak more than five (5) minutes or more than once. Commission members may ask questions of the speaker.
3. *Commission Discussion*

1. Garry Variance Request

D. Vesta Final Plat

E. OTHER BUSINESS

ADJOURN

Planning Commission Minutes
May 7th, 2025

The meeting was called to order by Commissioner Michael Garry at 5:15 p.m.

Members Present:	Anton Moody, Stacey Johnson, Ben Peters, and Michael Garry
Absent:	Brandon Batchler
Staff Present:	Patrick Knight and Mike Roth
Others Present:	Jan Sivertson, Richard Olson, Bruce Sloop, Betsy Bowen, Chuck Heller, Dave Walter, Ryan Martinson, Momachi Martinson, Amanda Hand, Gene Ireland, Julie Carlson, Janet Simonen

Motion by Johnson, seconded by Peters to approve the agenda and previous meeting minutes. Approved unanimously.

The commission held a public hearing May 7, 2025. Five letters were read and twelve people provided comments. Topics included questions about affordability and pricing, support for the project, concern over traffic impacts and infrastructure strain.

The commission discussed handling 3rd street improvements, focusing on its substandard condition, funding responsibilities, and neighborhood impacts. They acknowledged the developers revised approach to utility easements and emphasized the importance of defined access for adjacent parcels.

The proposed one-way avenues and utility infrastructure were to be formalized in a development agreement, with initial construction and maintenance handled by the developer. Commissioners requested additional detail on easements, including standards, costs, and future access rights for non-HOA properties.

Although city utility extensions are possible, the developer chose a private system for affordability to avoid placing financial pressure on neighbors. The commission considered future inspection standards and how these systems might serve adjacent properties.

While unsure whether the revised proposal addressed all previous concerns, commissioners saw utility easements as a promising improvement. They also noted the developers offer to fund $50k of the cost for 3rd st reconstruction.

To move forward, the commission requested updated stormwater and easement documentation in preparation for a follow-up meeting.

The meeting was adjourned at 6:59 p.m.

Recording available here:
May 7, 2025 (Public Hearing) Regular Meeting of the Grand Marais Planning Commission

Planning Commission Minutes
May 21st, 2025

The meeting was called to order by Commissioner Michael Garry at 5:15 p.m.

Members Present: Anton Moody, Stacey Johnson, Ben Peters, and Michael Garry
Absent: Brandon Batchler
Staff Present: Patrick Knight and Mike Roth
Others Present: Dave Walter, Garry Gamble

The commission reconvened in a special meeting to continue evaluating the Bjorkberg 2.0 project, focusing on the proposed HOA-managed utility system, phased construction, and stormwater management.

They reviewed a utility plan drafted by the developers attorney, which still awaited review by the city's legal counsel. The proposal outlined developer-funded utilities, with future users reimbursing costs to both the developer and HOA. Commissioners emphasized the need for greater clarity on operational responsibilities, maintenance funding, and city approval for future connections.

Concerns were raised about the long-term complexity of the utility structure, how it might transition to city ownership, and whether it could serve as a model for other developments. The discussion also addressed the infrastructure's capacity and potential complications from phased implementation.

Stormwater issues persisted, particularly around temporary plans and inconsistencies between phase diagrams and pond locations. The developer noted these plans were still conceptual pending permit approval.

Third Street improvements were again reviewed, including proposed curb and gutter installation. The developer offered to be responsible for constructing 3rd Street between 6th and 7th Avenues to a 20’ width with curb on the South side. The commission agreed to require a final review of the development agreement and engineering plans before the project moves to city council.

The Planning Commission approved recommending Jon Petters request for a conditional use permit for a planned unit development contingent on an additional final review of the finished development agreement by the planning commission passed by a 4-0 vote.

The meeting was adjourned at 5:57 p.m.

Recording available here:
May 21, 2025 Special Meeting of the Grand Marais Planning Commission

City of Grand Marais

MEMO

TO: Grand Marais Planning Commissioners
FROM: Patrick Knight, Communications Director
DATE: January 31, 2025
SUBJECT: Garry Variance Request

Request: Michael Garry is requesting a variance from Section 152.31 of the zoning ordinance, which prohibits detached accessory buildings from being located in a required front yard. The applicant proposes to construct a 6' x 6' greenhouse on his property, situated in the front yard area. He is also requesting a variance from the required 25-foot front yard setback. The Planning Commission is asked to consider this request for a location variance to allow the proposed greenhouse to be built as shown in the attached site plan.

Location of Property: 521 W 2nd st PID:80-206-0040

Condition of Property: This approximately 11,000 sq ft corner lot is zoned R-1 Residential District. Neighboring properties are residential & commercial.

Items To Be Considered: In the City of Grand Marais a variance can be granted only if all of the following apply:

1. The variance is in harmony with the purpose and intent of the ordinance.
2. The variance is consistent with the comprehensive plan.
3. The proposal seeks to use the property in a reasonable manner not permitted by the zoning ordinance.
4. The plight of the landowner is due to circumstances unique to the property not created by the landowner.
5. The variance, if granted, will not alter the essential character of the locality.

Relevant Zoning Purpose Statement:

152.04 R-1 Residential District

> *Purpose*. The R-1 Residential District is intended to provide a healthy, safe and attractive residential environment, protect property values and the environment and offer a variety of housing types that meet people’s lifecycle and affordability needs, both year-round and seasonal.

Relevant Comprehensive Plan Section:

GOALS AND POLICIES

Goal
To create a framework for public and private decision making affecting the City of Grand Marais that:

1. Protects and enhances the natural resources of Grand Marais.
2. Provide economic opportunity for residents.
3. Respect the needs and desires of residents.
4. Provide for a full mix of land uses without adverse impact.
5. Recognizes the recreational and aesthetic value of the area to residents and visitors.
6. Ensures consistency of actions.

RESIDENTIAL AREAS

Goals

- To provide a healthy, safe and attractive residential environment.
- To protect property values and the natural environment through the harmonious relationship of land use, highways and natural features.
- To provide a mix of residential options both seasonal and year round, and for all income levels.

Policies

- Require off street parking for all new homes and Bed and Breakfast homes.
- Sensitive orientation, spacing, placement and appearance of all new structures will be encouraged to seek compatibility with natural topography and vegetation.
- Low intensity residential and recreational uses are preferred.
- Infill of existing residential areas should be encouraged before expansion of new residential areas.

Community Vision

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1. Support and enhance local business
2. Encourage expansion of sustainable energy uses
3. Develop access to housing that all people can afford throughout their lives
4. Expand education for the mind, body, and soul
5. Invest in safe, people-friendly infrastructure that supports active living
6. Enhance the community's deep connection to the outdoors, and active engagement of the environment

City of Grand Marais

Land Use Variance Application

General Information

Applicant is: Owner ☐ Buyer ☐ Agent ☐ Other (Explain): ☐ NA

Name: First Michael Middle J Last Garry

Organization: Name na

Mailing Address: Address 521 W 2nd st City Grand Marais State 05/03/2025 Zip 55604

Physical Address: Address 521 W 2nd st City Grand Marais State MN Zip 55604

Contact: Phone NA Cell 218-387-4995 Email mikeworks@icloud.com

Property Address: 521 W 2nd st

Legal Description:
na

Current Use of Property: Single family home

Intended Use of Property: Single family home

Section of Ordinance from which variance is requested: 152.31

Brief Summary of Why a variance is requested:
I would like to have a greenhouse in my front yard adjacent to my garden.

A variance may be granted where the strict enforcement of the City Zoning controls will result in practical difficulties, determied by each of the following five criteria. Summarize the facts as to your property in to each of the five factors

If additional space is needed send email to: ***cityhall@grandmarais.city***
subject: (your last name) variance factors.

1. Facts showing the variance is in harmony with the purpose and intent of the ordinance:

A small greenhouse adjacent to a garden is plainly in harmony with the intent of the ordinance.

2. Facts showing the variance is consistent with the comprehensive plan:

A small green house 6.7ft X 7.8ft will contribute to a "healthy, safe, and attractive residential environment".

3. Facts showing the proposal seeks to use the property in a reasonable manner not permitted by the zoning ordinance:

It is not unreasonable to have a small greenhouse where your gardens are.

4. Facts showing the plight of the landowner is due to circumstances unique to the property and not created by the land owner:

The front yard is the only part of our yard not shaded by trees or buildings and that is where our gardens are.

5. Facts showing the variance if granted will not alter the essential charachter of the locality:

A small greenhouse will not alter the character of our neighborhood.

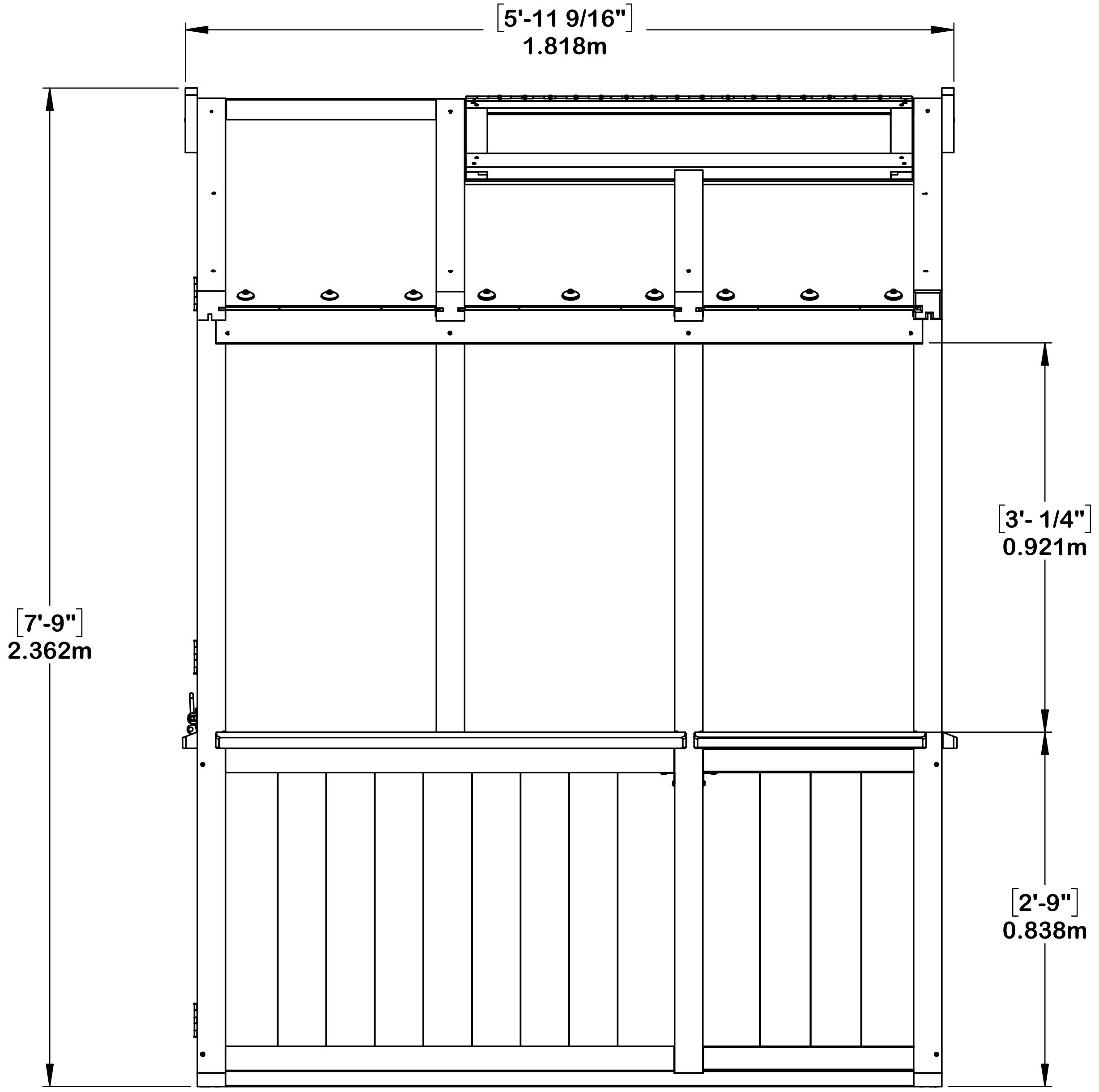
Applicant Signature: Michael Garry Michael Garry (May 3, 2025 15:36 CDT) Date: mm/dd/yyyy May 3, 2025

Co-Applicant Signature: Date: mm/dd/yyyy May 3, 2025

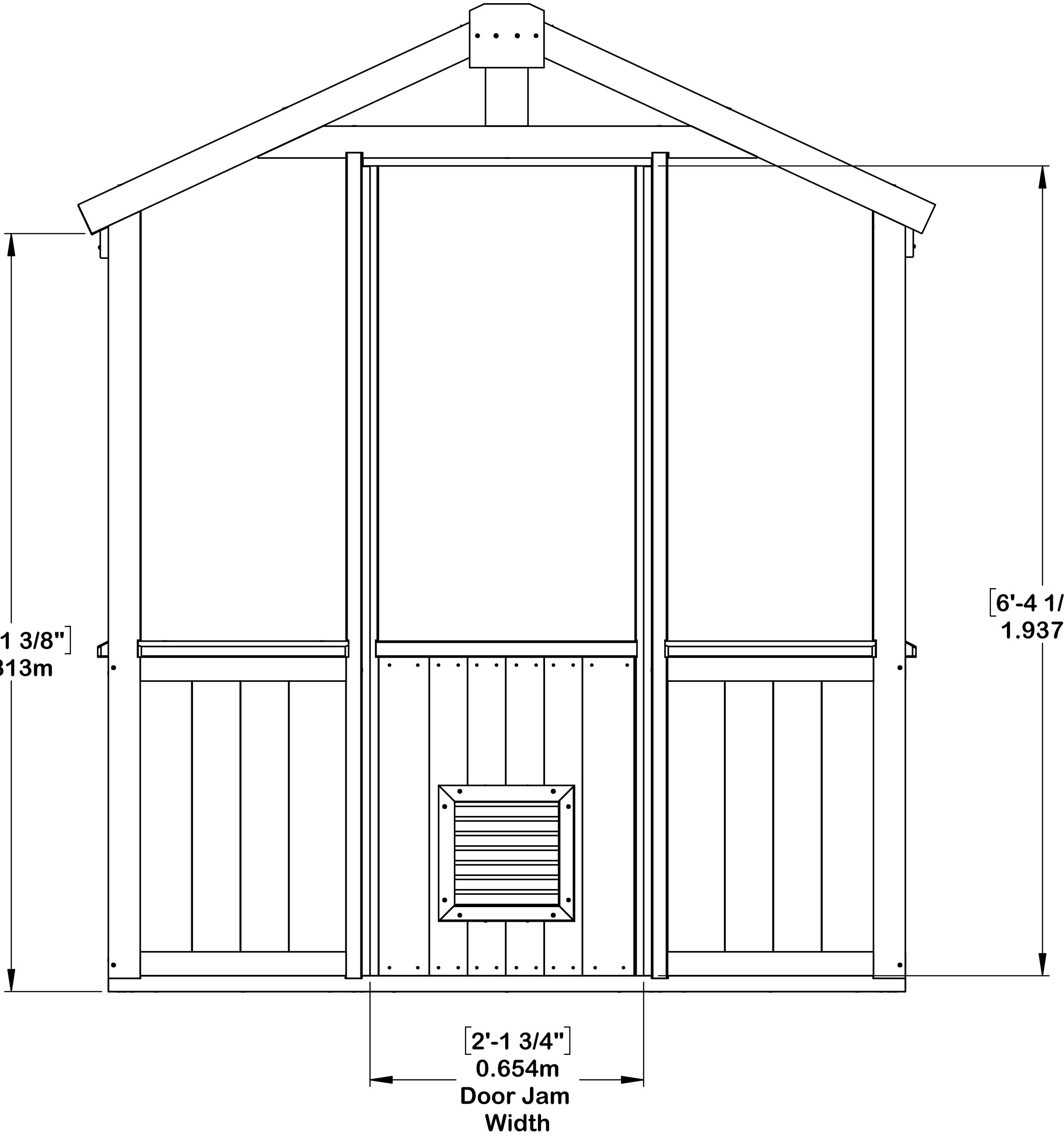
Owner (if other than applicant) Signature: Michael Garry Michael Garry (May 3, 2025 15:36 CDT) Date: mm/dd/yyyy May 3, 2025

Co-Owner (if other than applicant) Signature: Date: May 3, 2025 mm/dd/yyyy

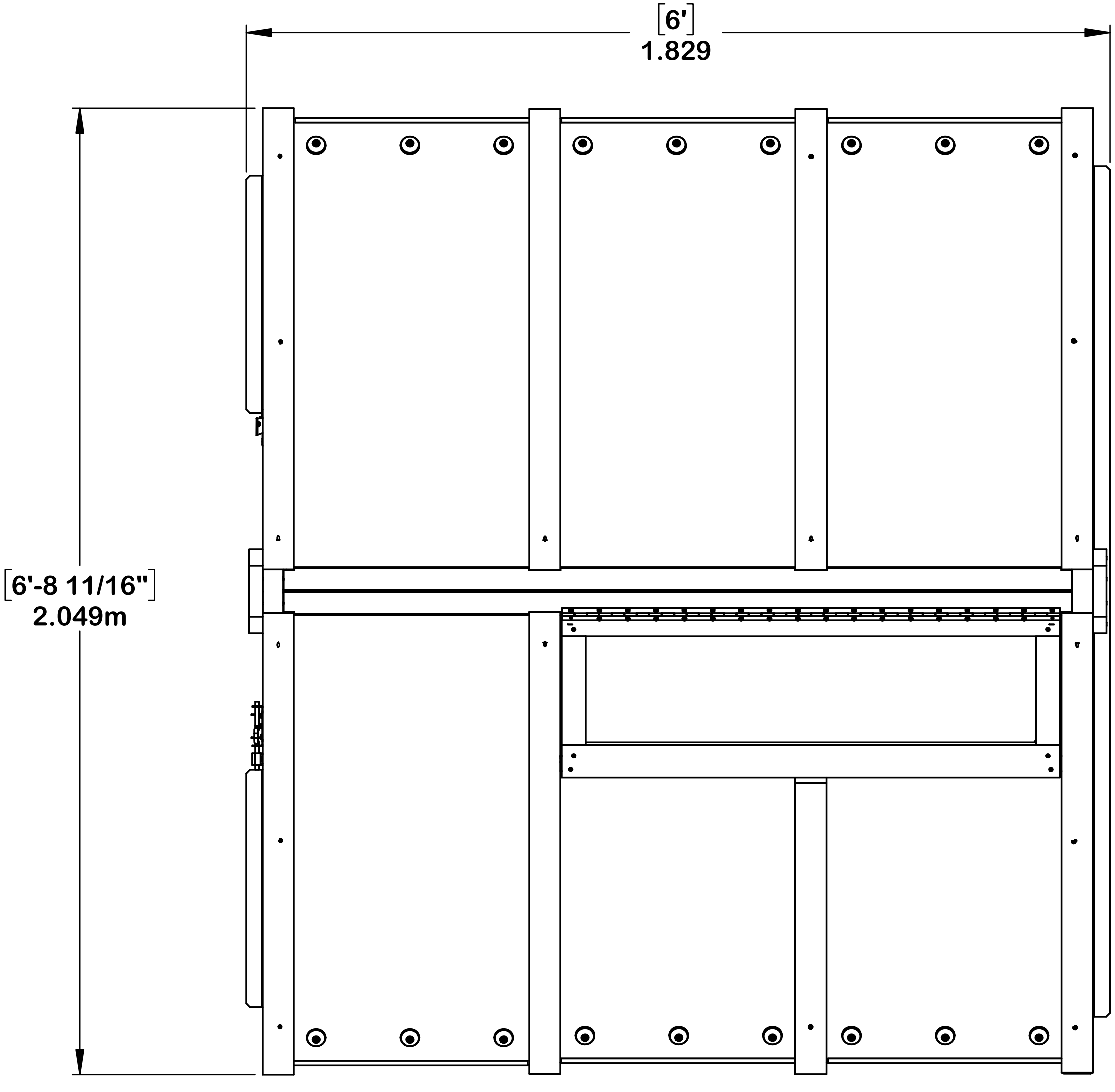
YM11947 - 6.7' x 6'
Meridian Greenhouse



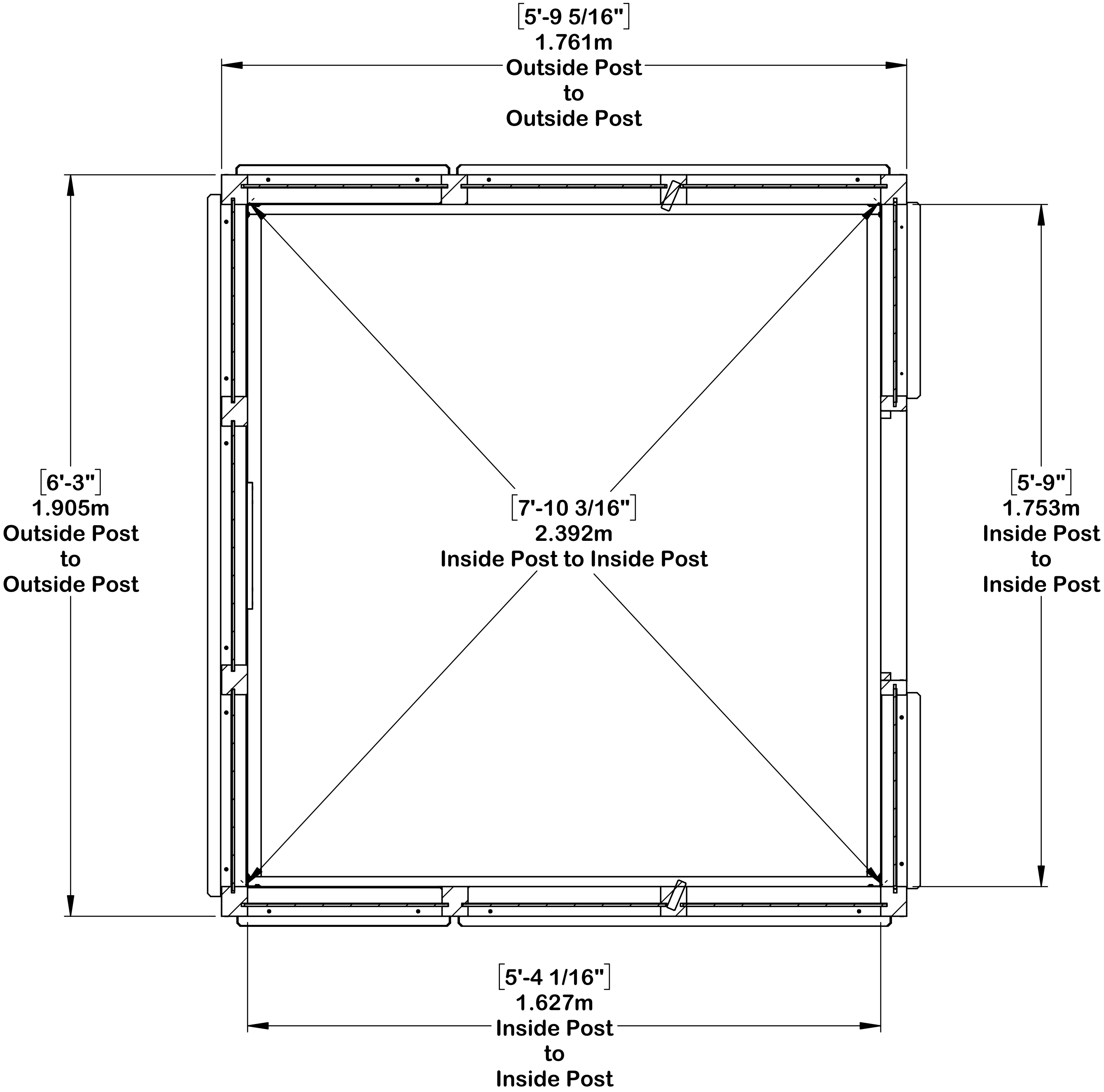
YM11947 - 6.7' x 6'
Meridian Greenhouse



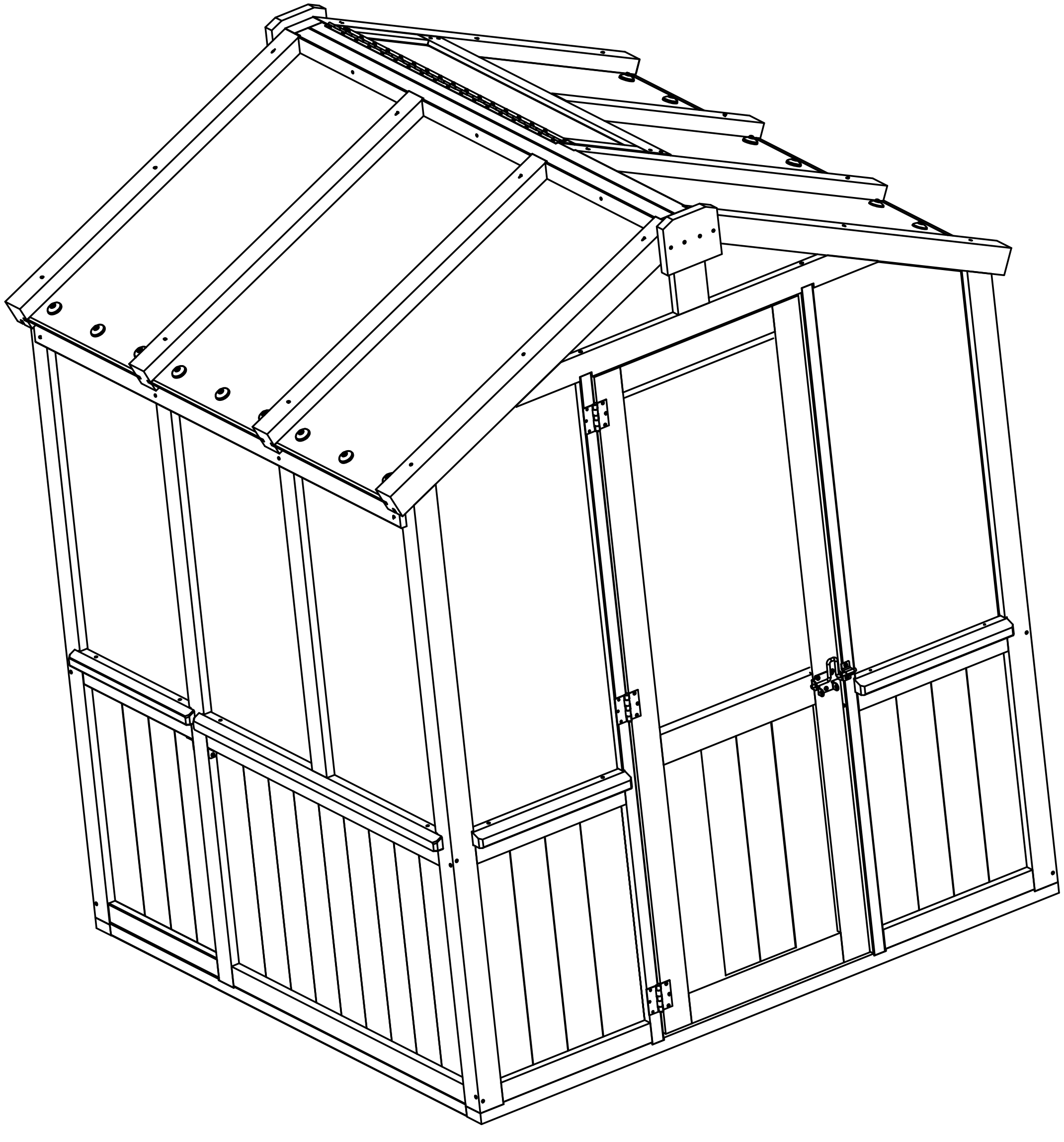
YM11947 - 6.7' x 6'
Meridian Greenhouse



YM11947 - 6.7' x 6'
Meridian Greenhouse



YM11947 - 6.7' x 6'
Meridian Greenhouse



Peak Height:
7' 9" (2.36m)

Roof Dimensions:
6' 8.6 (2.04m) x 6' (1.82m)

Outside Post Dimensions:
6' 3" (1.91m) x 5' 9.3" (1.76m)

Ground to Bottom of Rafter:
5' 11-3/8" (1.81m)

Ground to Roof (Inside):
7' 4.5" (2.24m)

Door
H76.5" x W26.5" (1.94m x 0.67m)

Shelf
L64.0" x W16" x H32.5"
L1.62m x W0.40m x H0.82m

Michael Garry

5/29/2025, 4:46:40 PM

☐ Tax Parcels

1:564

0 0 0.01 0.01 mi

0 0.01 0.01 0.02 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Sources: Esri, Maxar, Airbus DS,

Cook County, MN
Cook County, MN

City of Grand Marais

MEMO

TO: Planning Commission
FROM: Patrick Knight
DATE: May 30, 2025
SUBJECT: Vesta Final Plat Application

Application

Attached is the Final Plat entitled Vesta submitted by Vesta Unchained, LLC. This plat consists of 15.55 acres of property zoned R-1 split into 24 lots intended for single and multi-family structures, three common outlots, and one additional real estate outlot. The plat includes one new public street and new municipal utilities.

Preliminary Plat Approved

The City approved the preliminary plat in June of 2022. Included in that approval was a variance allowing a dead end street of 1657' in length.

Commission Review

Included in the packet is a final plat drawing. Since the preliminary plat was approved, the City and Vesta Unchained have entered into a development agreement covering the installation of infrastructure improvements. Vesta Unchained has received City engineer and State regulatory approvals for the planned improvement.

Below are the requirements for a final plat included in City Code. My notes, where appropriate, are included after each plat requirement in ***bold italics***.

CITY CODE CHAPTER 151 SUBDIVISIONS
FINAL PLAT

151.90 Blocks

A. Block length. In general, intersecting streets, determining block lengths, shall be provided at such intervals as to serve cross traffic adequately and to meet existing streets. Where no existing plats control, the blocks in residential subdivisions shall normally not exceed 1,000 feet in length, except where topography or other conditions justify a departure from this maximum. In blocks longer than 800 feet, pedestrian ways and/or easements within a block may be required. The width and location of such pedestrian ways shall be subject to the approval of the Council. Blocks for business or industrial use should normally not exceed 600 feet in length. ***Complies.***

B. Block width. The width of the block shall normally be sufficient to allow two tiers of lots of appropriate depth. Blocks intended for business or industrial use shall be of such width as to be considered most suitable for their respective use, including adequate space for off-street parking and deliveries. ***Not feasible on narrow property with single street.***

151.91 Streets And Alleys

A. Arrangement of arterials and collector streets shall conform as nearly as possible to the city comprehensive plan.

1. Except for dead-end streets, streets normally shall connect with streets already dedicated in adjoining or adjacent subdivisions, or provide for future connections to adjoining unsubdivided tracts, or shall be a reasonable projection of streets in the nearest subdivided tracts.
2. The arrangement of arterial and collector streets shall be considered in their relation to the reasonable circulation of traffic, to topographic conditions, to runoff of surface water, to public convenience and safety, and their appropriate relation to the proposed use of the area to be served. ***N/A***

B. Minor streets should be so planned as to discourage their use by nonlocal traffic. Dead-end streets shall be permitted where topography or other conditions justify their use. Dead-end streets shall not be longer than 500 feet, including a terminal turnaround, which shall be provided at the closed end, with a right-of-way radius of not less than 60 feet. ***Variance granted.***

C. Where the plat to be submitted includes only part of the tracts owned or intended for development by the subdivider, a tentative plan of a proposed future street system for the unsubdivided portion shall be prepared and submitted by the subdivider. ***N/A***

D. When a tract is subdivided into larger than normal building lots or parcels, such lots or parcels shall be so arranged as to permit the logical location and opening of future streets and appropriate resubdivision, with provision for adequate utility connections for such resubdivision. ***N/A***

E. Under normal conditions, streets shall be laid out so as to intersect as nearly as possible at right angles except where topography or other conditions justify variations. The minimum angle of intersection of streets shall be 80 degrees. Street intersection jogs with an offset of less than 125 feet shall be avoided. ***Complies***

F. Wherever the proposed subdivision contains or is adjacent to the right-of-way of a U.S. or state highway, provision may be made for a marginal access street approximately parallel with and adjacent to the boundary of such right-of-way, or for a street at a distance suitable for the appropriate use of land between such street and right-of-way. Such distance shall be determined with due consideration of the minimum distance required for approach connections to future grade separations, grade crossings or lot depths .***N/A***

G. Alleys shall be provided in commercial and industrial districts, except that this requirement may be waived where other definite and assured provision is made for service access, such as off-street loading, unloading and parking consistent with and adequate for uses proposed. Except where justified by special conditions, such as the continuation of an existing alley in the same block, alleys will not be approved in residential districts. Alleys, where provided, shall not be less than 14 feet wide for residential alleys and not less than 20 feet for commercial and industrial alleys. Dead-end alleys shall not be permitted. ***N/A***

H. Dedication of half streets will not be approved, except where it is essential to the reasonable development of the subdivision and in conformity with the other requirements of these regulations, where it is found that it will be practical to require the dedication of the other half when adjoining property is subdivided, or where it becomes necessary to acquire the remaining half by condemnation so it may be improved in the public interest. ***N/A***

I. 1. For all public ways hereafter dedicated and accepted, the minimum right-of-way widths for streets shall be as shown in the comprehensive plan and where not shown therein, the minimum right-of-way width for streets, alleys or pedestrian ways included in any subdivision shall not be less than the minimum dimensions for each classification as follows:

Arterial street: 100 feet;
Collector street: 66 feet;
Minor street: 66 feet;
Marginal access street: 50 feet;
Residential alley: 14 feet;
Industrial commercial alley: 20 feet; and
Pedestrian way: ten feet.

Where existing or anticipated traffic on arterial streets warrants greater width of rights-of-way, these shall be required. ***Complies.***

J. Street grades.

1. The grades in all streets and alleys in any subdivision shall not be greater than the maximum grades for each classification as follows:

a. Arterial streets: 5%;
b. Collector streets: 6%;

c. Minor streets: 10%; and
d. Alleys: 10%.

2. In addition, there shall be a minimum grade on all streets of not less than 0.4%. ***Maximum grade 7.82%***

K. All streets shall be so laid out as to avoid dangerously sharp corners or curves or abrupt or unnecessary changes in grade. ***Complies.***

L. All proposed streets shall be offered for dedication as public streets. No private streets shall be permitted, except as set forth in other ordinances. ***Complies.***

151.92 Lots

A.The minimum lot area, width and depth shall not be less than that established in the zoning ordinance. ***All comply.***

B.Corner lots for residential use shall have an additional width to permit appropriate building setback from both streets as defined in the zoning ordinance. ***N/A.***

C.Side lines of lots shall be approximately at right angles to street lines or radial to curved street lines. ***All comply except Lots 3-4, Block 1. This reasonable exception is due to drainage feature.***

D. Double-frontage lots shall be avoided, except where lots back on an arterial street, or where topographic or other conditions render subdividing otherwise unreasonable. Such double-frontage lots shall have an additional depth of at least 20 feet in order to allow space for screen planting along the back lot line. ***N/A***

E. Every lot must have at least the minimum required frontage on a public dedicated street other than an alley. ***All comply.***

151.93 Easements

A. Easements across lots or centered on rear or side lines shall be provided for utilities and drainage where necessary and shall be at least 20 feet wide. If necessary for the extension of main water or sewer lines or similar utilities, easements of greater width may be required along lot lines or across lots. ***Provided.***

B. Utility easements shall connect with easements established in adjoining properties. These easements, when approved, shall not thereafter be changed without the approval of the Council by ordinance, upon the recommendation of the Planning Commission.

C. Where a subdivision is traversed by a watercourse, drainageway, channel or stream, a storm water easement, drainage right-of-way or park dedication, whichever the Council may deem the most adequate, conforming substantially with the lines of such watercourses, shall be provided, together with such further width or construction, or both, as will be adequate for the surface water drainage of the area. The width of such easements shall be determined by the Council. ***N/A.***

OFFICIAL PLAT

VESTA

LOCATED WITHIN: THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER, SEC. 20, T. 61 N., R.1E., COOK COUNTY, MN.

KNOW ALL PERSONS BY THESE PRESENTS: That Vesta Unchained, LLC, a Minnesota Limited Liability Company, is the owner of the following described property situated in the County of Cook, State of Minnesota:

Parcel A
That part of the Southwest Quarter of the Northwest Quarter, Section 20, Township 61 North, Range 1 East, Cook County, Minnesota and being more particularly described as follows:
Commencing at the West Quarter corner of said Section 20, marked by a 2 inch galvanized iron pipe; thence North 00 degrees 02 minutes 00 seconds East, assumed bearing, along the West line of said Northwest Quarter 1026.70 feet to a 1/2" rebar; thence North 89 degrees 46 minutes 20 seconds East along the South line of the North 295.00 feet of the Southwest Quarter of the Northwest Quarter 590.00 feet to a 1/2" rebar and Point of Beginning of the parcel to be herein described; thence North 00 degrees 02 minutes 00 seconds East 295.00 feet to the North line of the Southwest Quarter of the Northwest Quarter; thence North 89 degrees 46 minutes 20 seconds East, along said North line, 228.03 feet; thence South 00 degrees 05 minutes 19 seconds West, along the West line of the East 510.00 feet of the Southwest Quarter of the Northwest Quarter, 585.00 feet to a 1/2" rebar; thence South 89 degrees 46 minutes 20 seconds West 121.26 feet to a 1/2" rebar; thence North 00 degrees 13 minutes 40 seconds West 93.20 feet to a 1/2" rebar; thence South 89 degrees 46 minutes 20 seconds West 105.79 feet to a 1/2" rebar; thence North 00 degrees 02 minutes 00 seconds East 196.79 feet to the point of beginning.

AND

Parcel C
That part of the Southwest Quarter of the Northwest Quarter, Section 20, Township 61 North, Range 1 East, Cook County, Minnesota and being more particularly described as follows:
Beginning at the West Quarter corner of said Section 20, marked by a 2 inch galvanized iron pipe; thence North 00 degrees 02 minutes 00 seconds East, assumed bearing, along the West line of said Northwest Quarter 400.50 feet; thence North 82 degrees 41 minutes 51 seconds East 360.49 feet to a 1/2" rebar; thence North 89 degrees 46 minutes 20 seconds East 340.00 feet to a 1/2" rebar; thence North 00 degrees 13 minutes 40 seconds West 291.80 feet to a 1/2" rebar; thence North 89 degrees 46 minutes 20 seconds East 121.26 feet to a 1/2" rebar; thence North 00 degrees 05 minutes 19 seconds East 85.00 feet to the South line of the North 500 feet of the Southwest Quarter of the Northwest Quarter; thence North 89 degrees 46 minutes 20 seconds East, along said South line 200.00 feet to the West line of the East 310.00 feet of the Southwest Quarter of the Northwest Quarter; thence South 00 degrees 05 minutes 20 seconds West along said West line 822.01 feet to the South line of the Southwest Quarter of the Northwest Quarter; thence South 89 degrees 47 minutes 20 seconds West, along said South line, 1016.75 feet to the point of beginning.

Have caused the same to be surveyed and platted as VESTA and does hereby dedicate to the public for public use forever the public way VESTA DRIVE and the public utility easement shown on this plat, and does hereby dedicate and donate to the Vesta Owners' Association, for the use and benefit of the owners of any portion of the land platted as VESTA, the drainage and utility easement(s) as shown on this plat.

____
Vesta Unchained, LLC a Minnesota limited liability company
By Christopher Neil Shannon-Skildum, its sole member

STATE OF MINNESOTA
COUNTY OF ________

The foregoing instrument was acknowledged before me this _____, day of ________________, 2025 by Chris Skildum.

____________________________, __________________________,
Notary Public for the State of Minnesota My Commission expires

I hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this ________ day of ____________, 2025.

____,
Richard J. Tofte, Licensed Land Surveyor
Minnesota License No. 16461

STATE OF MINNESOTA
COUNTY OF ________

The foregoing Surveyors Certificate was acknowledged before me this _____, day of ________________, 2025 by Richard J. Tofte, Minnesota License Number 16461.

____________________________________, __________________________________,
Notary Public for the State of Minnesota My Commission expires

I hereby certify that proper evidence has been presented to and examined by me and I hereby approve this plat as to form and execution. Dated this ________ day of ______________, 2025.

Attorney for City of Grand Marais: ________________________________.

Approved by the City of Grand Marais, Minnesota, this ______ day of _____________, 2025

_________________________________, ___________________________________,
Mayor City Clerk

I hereby certify that there are no current or delinquent taxes due for land described on this plat as of this _______ day of _____________, 2025.

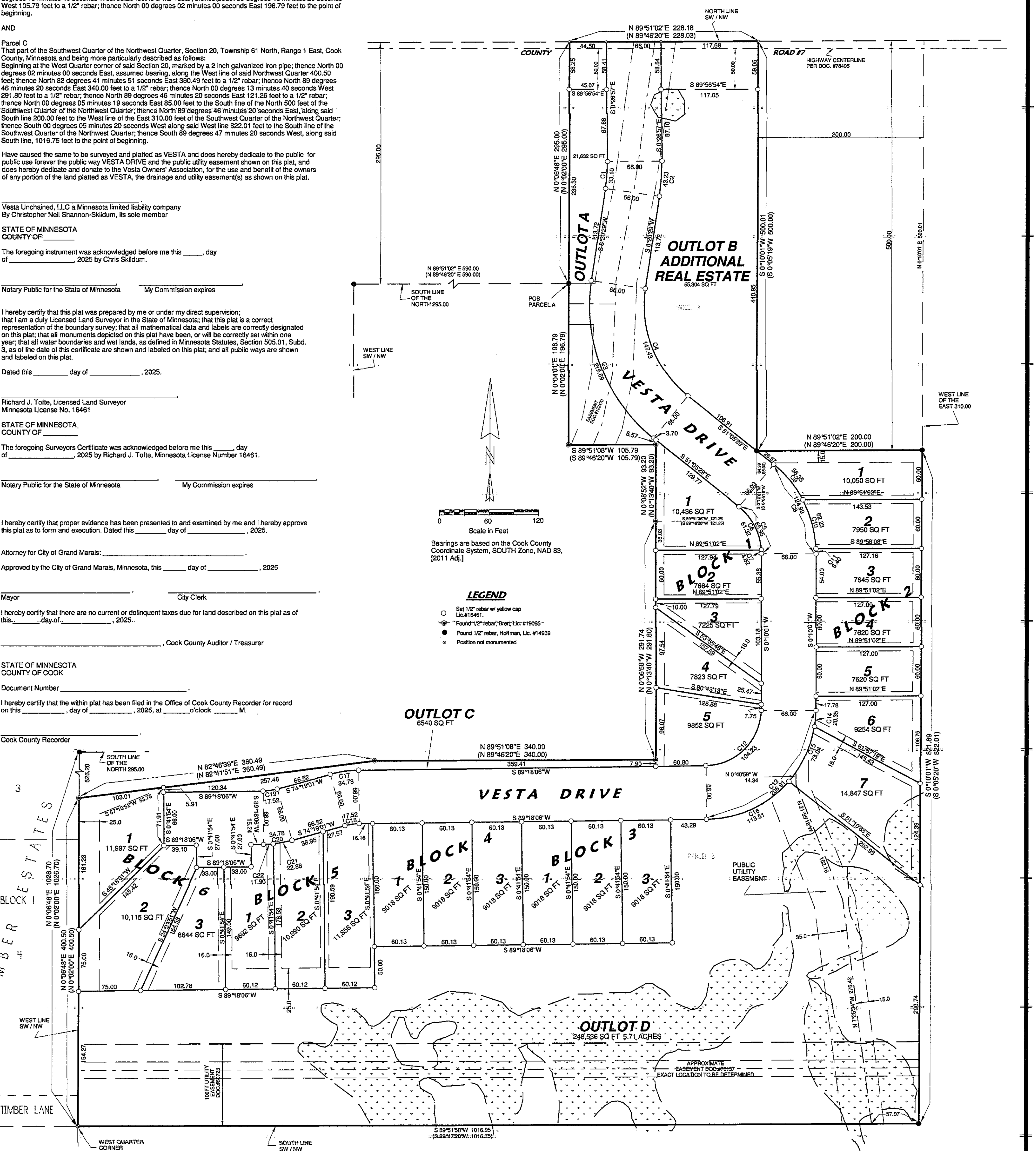
____, Cook County Auditor / Treasurer

STATE OF MINNESOTA
COUNTY OF COOK

Document Number ______________________________.

I hereby certify that the within plat has been filed in the Office of Cook County Recorder for record on this ___________, day of ___________, 2025, at _______o'clock ______ M.

____________________________________.
Cook County Recorder



Bearings are based on the Cook County Coordinate System, SOUTH Zone, NAD 83, [2011 Adj.]

LEGEND

○ Set 1/2" rebar w/ yellow cap Lic.#16461.
◉ Found 1/2" rebar, Brett, Lic. #19095
● Found 1/2" rebar, Hoffman, Lic. #14939
⊗ Position not monumented

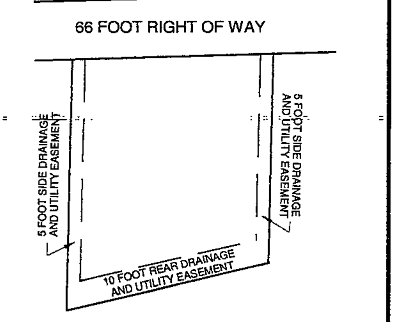
BAYVIEW
ADDITION

CURVE TABLE

Curve	Delta Angle	Radius	Arc	Tangent	Chord	Chord Bearing
1	8°47'26"	215.75	33.10	16.58	33.07	S 3°56'46"W
2	8°47'26"	281.75	43.23	21.66	43.18	S 3°56'46"W
3	59°25'57"	208.13	215.89	118.79	206.34	S 21°22'30"E
4	59°25'57"	142.13	147.43	81.12	140.91	S 21°22'30"E
5	51°15'29"	73.71	65.95	35.36	63.77	S 25°27'44"E
6	47°39'52"	73.71	61.32	32.56	59.57	S 27°15'33"E
7	3°35'37"	73.71	4.62	2.31	4.62	S 1°37'48"E
8	51°15'29"	139.71	124.99	67.03	120.87	S 25°27'44"E
9	23°06'38"	139.71	56.35	28.57	55.97	S 39°32'10"E
10	25°31'20"	139.71	62.23	31.64	61.72	S 15°12'40"E
11	2°37'32"	139.71	6.40	3.20	6.40	S 1°13'48"E
12	89°08'05"	67.00	104.23	66.00	94.03	S 44°44'03"W
13	89°08'05"	133.00	206.91	131.01	186.67	S 44°44'03"W
14	8°45'59"	133.00	20.35	10.19	20.33	S 4°33'00"W
15	31°28'01"	133.00	73.04	37.47	72.13	S 24°39'59"W
16	48°54'06"	133.00	113.51	60.47	110.10	S 64°51'03"W
17	14°59'05"	133.00	34.78	17.49	34.68	S 81°48'34"W
18	14°59'05"	67.00	17.52	8.81	17.47	S 81°48'34"W
19	14°59'05"	67.00	17.52	8.81	17.47	S 81°48'34"W
20	14°59'05"	133.00	34.78	17.49	34.68	S 81°48'33"W
21	9°51'25"	133.00	22.88	11.47	22.85	S 79°14'43"W
22	5°07'40"	133.00	11.90	5.96	11.90	S 86°44'16"W

TYPICAL LOT DRAINAGE AND UTILITY EASMENT DETAIL

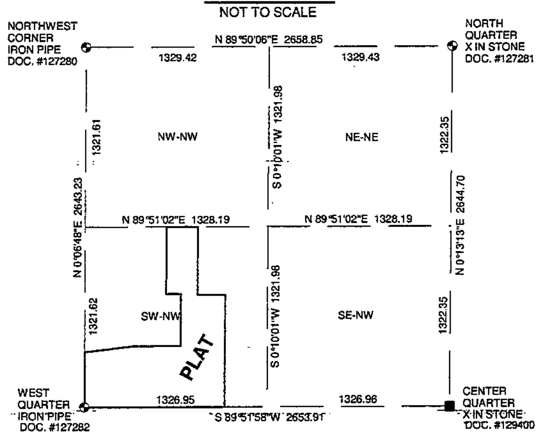
-NOT TO SCALE-



-BLOCKS 1, 2, 5 AND 6 HAVE TYPICAL EASEMENTS.
-EASEMENTS THAT DIFFER IN THESE BLOCKS ARE SHOWN ON PLAT.
-BLOCKS 3 AND 4 HAVE NO EASEMENTS.

NORTHWEST QUARTER SECTION 20 BREAKDOWN

NOT TO SCALE



NORTH SHORE
LAND SURVEYING

5-21-25 FINAL PLAT SUBMITAL DRAFT

VESTA HOUSING DEVELOPMENT

VESTA UNCHAINED, LLC
COOK COUNTY, MINNESOTA

REGIONAL LOCATION MAP
MINNESOTA

DRIVE WAY ENTRANCE
LATITUDE 47.755624
LONGITUDE -90.358418

LOCATION MAP
NOT TO SCALE

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
1	TITLE SHEET
2	OVERVIEW
3	DETAILS
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9	REMOVALS
10	TYPICAL SECTIONS
11	GRADING PLAN
12	GRADING PLAN
13	POND SECTIONS
14	ULTILITY P&P
15	ULTILITY P&P
16	UTILITY P&P
17	UTILITY P&P
18	UTILITY P&P
19	ROAD P&P
20	ROAD P&P
21	ROAD P&P
22	ROAD P&P
23	EROSION CONTROL
24	SWPPP
25	SWPPP
26	SWPPP

LEGEND

EXISTING WATER MAIN
EXISTING GATE VALVE & HYDRANT
WATER SERVICE & CURB STOP
PROPOSED WATERMAIN, VALVE, & HYDRANT
PROPOSED WATER SERVICE & CURB STOP
EXISTING SANITARY SEWER & MANHOLE
EXISTING FORCEMAIN
EXISTING STORM SEWER & INLET
PROPOSED STORM SEWER & INLET
PROPOSED STORM SEWER & MANHOLE
PROPOSED SANITARY SEWER & MANHOLE
BURIED ELECTRIC
BURIED GAS & VALVE
BURIED CABLE TELEVISION
BURIED TELEPHONE
BURIED FIBER OPTICS
OVERHEAD UTILITY
RAILROAD TRACKS
EXISTING CURB & GUTTER
PROPOSED CURB & GUTTER
EXISTING SIDEWALK
PROPOSED SIDEWALK
EXISTING CULVERT PIPE
PROPOSED CULVERT PIPE
FENCE LINE
DRAINAGE ARROW
SILT FENCE
RIGHT-OF-WAY
BASELINE
PROPERTY LINE
TREE LINE
BENCHMARK
IRON PIPE
IRON ROD
CONTROL POINT
UTILITY POLE & GUY
SOIL BORING
LIGHT POLE
PEDESTAL
STREET SIGN
MAILBOX
FLAGPOLE
TREE - DECIDUOUS
TREE - CONIFEROUS
TREE TO BE REMOVED

UTILITIES

GAS:
N/A

ELECTRIC:
GRAND MARAIS UTILITIES ELECTRIC
(218)387-1848

TELEPHONE:
ARROWHEAD COOPERATIVE
(800)778-9140

CENTURYLINK - CTLQL
(800)778-9140

SEWER & WATER:
GRAND MARAIS UTL SEWER/WATER
(218)387-1160

CATV:
MEDIACOM CABLEVISION
(800)778-9140

NOTE:
UTILITY LOCATIONS SHOWN ON PLANS ARE APPROXIMATE AND CONTRACTOR SHALL HAVE APPROPRIATE UTILITY MARK EXACT LOCATIONS PRIOR TO CONSTRUCTION.

			NO.	DATE	REVISION	BY
PROJECT DATE:	DRAWN BY:	[illegible]	-	-	---	-
	DESIGNED BY:	[illegible]	-	-	-	-
	CHECKED BY:	[illegible]	-	-	-	-

PLOT DATE: [illegible]

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05/15/2023
Date

53222
License No.

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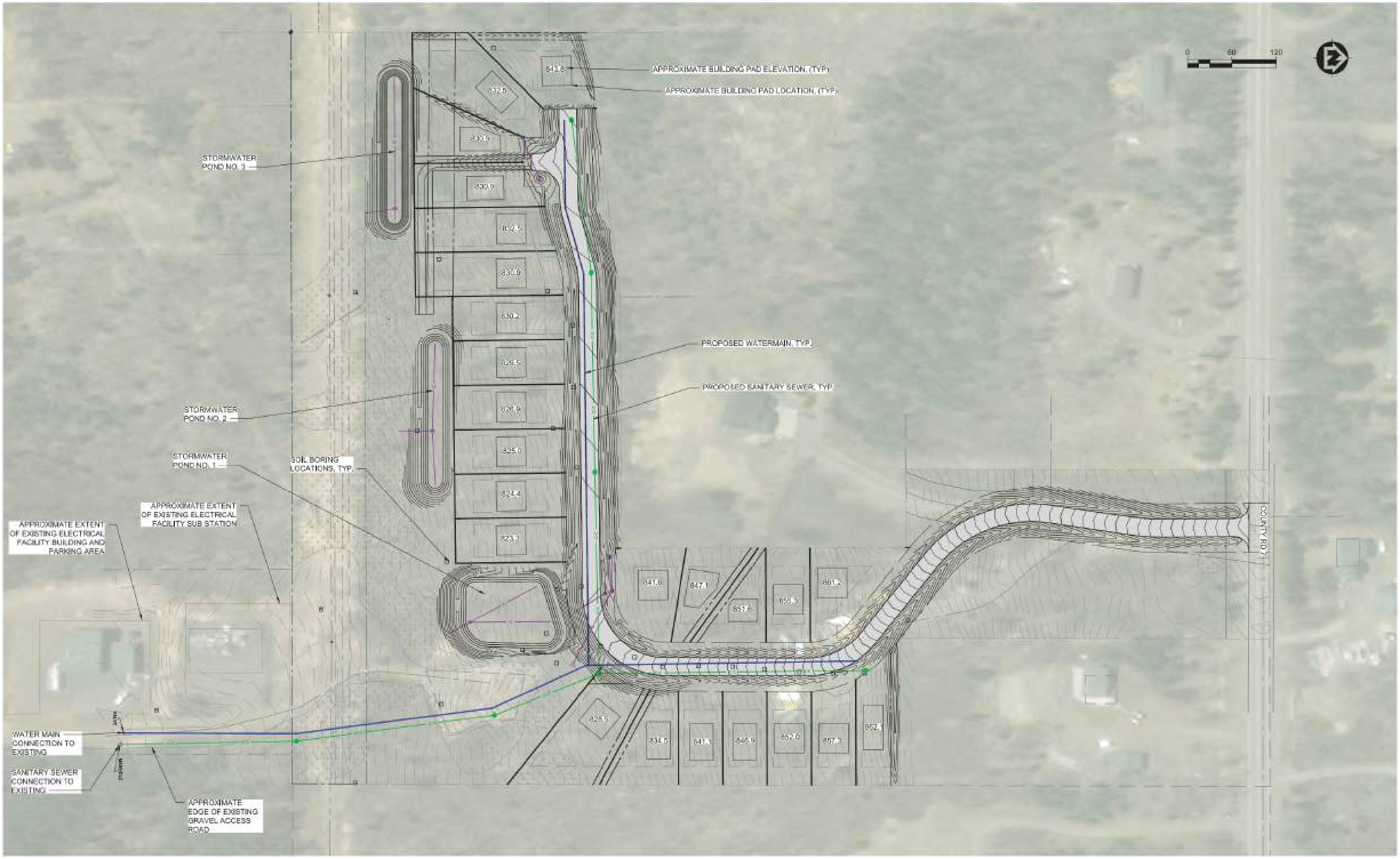
VESTA UNCHAINED DEVELOPMENT
VESTA UNCHAINED
COOK COUNTY, MN

TITLE SHEET

PROJECT NO.
21556000

SHEET
1



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	DESIGNED BY:	[illegible]	-	-	-	-
	CHECKED BY:	[illegible]	-	-	-	-

PLOT DATE: [illegible]

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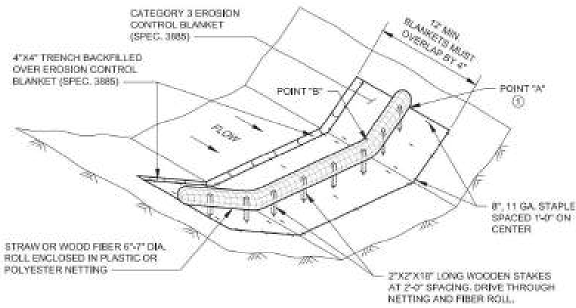
VESTA UNCHAINED DEVELOPMENT
VESTA UNCHAINED
COOK COUNTY, MN

OVERVIEW

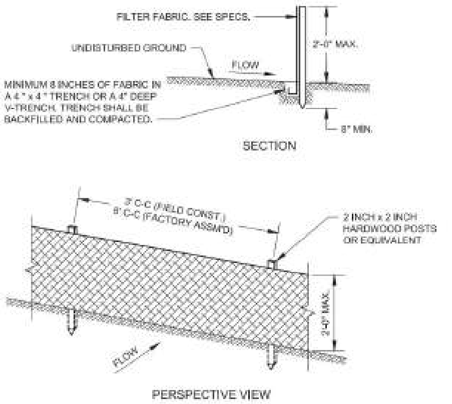
PROJECT NO.
21556000

SHEET
2



BIOROLL BLANKET SYSTEM

NO SCALE



SECTION

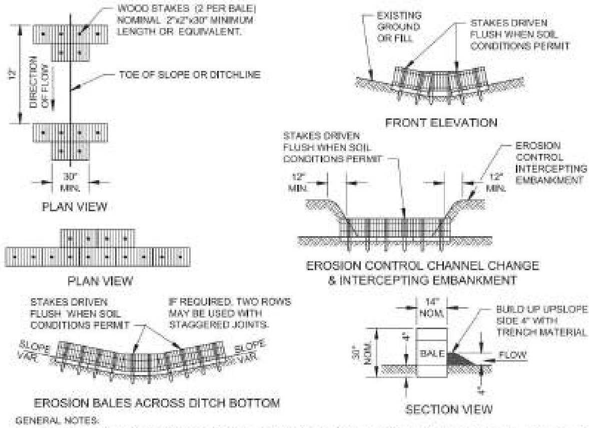
PERSPECTIVE VIEW

GENERAL NOTES:

1. ENDS OF FENCE SHALL BE TURNED UPSLOPE 1 TO 2 FEET IN ELEVATION TO PREVENT FLANKING.
2. STAPLE FABRIC WITH 1/2 INCH (MINIMUM) STAPLES TO THE UPSLOPE SIDE OF THE POSTS.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.

TYPICAL SILT FENCE INSTALLATION AT SITE PERIMETER DETAIL

NO SCALE



PLAN VIEW

PLAN VIEW

FRONT ELEVATION

EROSION CONTROL CHANNEL CHANGE & INTERCEPTING EMBANKMENT

EROSION BALES ACROSS DITCH BOTTOM

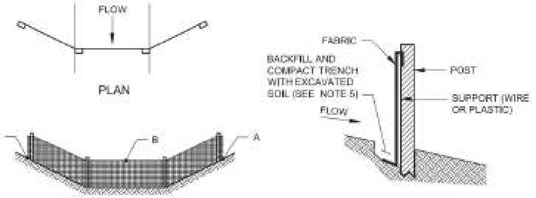
SECTION VIEW

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
2. BALES SHALL BE PLACED END TO END OR OVERLAPPING AT RIGHT ANGLES TO THE DIRECTION OF FLOW. BALES SHALL EXTEND FAR ENOUGH UP THE SLOPES TO PREVENT ERODING AROUND ENDS.
3. BALES SHALL BE PLACED WITH TWINE OR TIE WIRES PARALLEL TO THE GROUND.
4. STAKES TO BE BATTERED IN OPPOSITE DIRECTIONS.
5. BALES SHALL BE EMBEDDED 4 INCHES MINIMUM.

EROSION BALES IN DRAINAGE WAY DETAIL

NO SCALE



PLAN

POINTS A SHALL BE HIGHER THAN POINT B.

TRENCH DETAIL

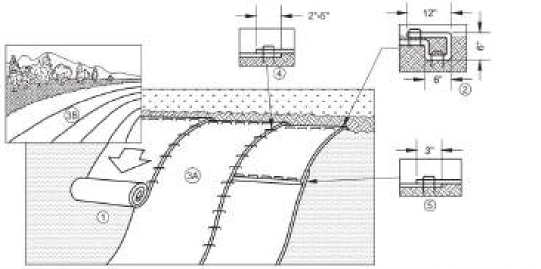
SECTION

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.
2. WHEN POSSIBLE THE SILT FENCE SHOULD BE CONSTRUCTED IN AN ARC OR HORSESHOE SHAPE, WITH THE ENDS POINTING UPSLOPE TO MAXIMIZE BOTH STRENGTH AND EFFECTIVENESS.
3. CROSS BRACE WITH 2 INCH BY 4 INCH WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS AS DIRECTED BY THE ENGINEER.
4. MINIMUM 14 GAGE WIRE REQUIRED, FOLD FABRIC 3 INCHES OVER THE WIRE AND STAPLE OR PLACE WIRE RINGS 12 INCHES O.C.
5. EXCAVATE A TRENCH A MINIMUM OF 4 INCHES WIDE AND 6 INCHES DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD THE MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
6. WIRE SUPPORT FENCE SHALL BE 14 GAGE MINIMUM WOVEN WIRE WITH A MAXIMUM MESH SPACING OF 6 INCHES, SECURE TOP OF GEOTEXTILE FABRIC TO TOP OF FENCE WITH STAPLES OR WIRE RINGS AT 12 INCHES O.C.
7. GEOTEXTILE FABRIC SHALL BE REINFORCED WITH AN INDUSTRIAL POLYPROPYLENE NETTING WITH A MAXIMUM MESH SPACING OF 3/4 INCH OR EQUAL. A HEAVY DUTY NYLON TOP SUPPORT CORD OR EQUIVALENT IS REQUIRED.
8. STEEL POSTS SHALL BE STUDDED "TEE" OR "U" TYPE WITH A MINIMUM WEIGHT OF 1.28 LBS./LIN. FT. (WITHOUT ANCHOR). FIN ANCHORS SUFFICIENT TO RESIST POST MOVEMENT ARE REQUIRED. WOOD POSTS SHALL BE 4 INCH IN DIAMETER OR 1- 1/2 INCH BY 3- 1/2 INCH EXCEPT WOOD POSTS FOR GEOTEXTILE FABRIC REINFORCED WITH NETTING SHALL BE A MINIMUM OF 1- 1/8 INCH BY 1- 1/8 INCH OAK OR HICKORY.

TYPICAL SILT FENCE INSTALLATION AT DRAINAGE WAYS DETAIL

NO SCALE



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5 CM-12.5 CM) OVERLAP DEPENDING ON BLANKET TYPE.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE BLANKET WIDTH.

NOTE:

*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL BLANKET SLOPE INSTALLATION

NO SCALE

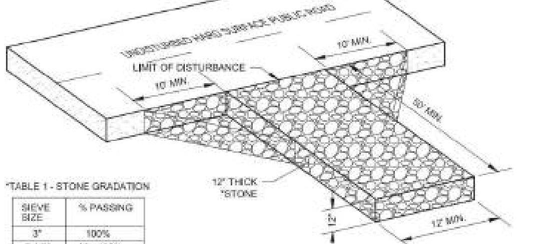


*TABLE 1 - STONE GRADATION

SIEVE SIZE	% PASSING
3"	100%
2 1/2"	90 - 100%
1 1/2"	25 - 60%
3/4"	0 - 20%
3/8"	0 - 5%

NOTES:

1. TRACKING PAD WIDTH SHALL BE AT LEAST THE FULL WIDTH OF HTE EGRESS POINT OR 12' WIDE MINIMUM.
2. TRACKING PAD LENGTH SHALL BE 50' FOR CONSTRUCTION SITES, 30' FOR SINGLE FAMILY RESIDENTIAL, OR AS SPECIFIED IN THE CONTRACT DOCUMENTS. LENGTH OF TRACKING PAD MAY NEED TO BE INCREASE OR ADDITIONAL SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED BY THE CONTRACTOR IS SEDIMENT TRACK-OUT OCCURS.
3. GEOTEXTILE FABRIC TYPE R SHALL BE INSTALLED BETWEEN THE STONE AND SUBGRADE ON SITES WHERE HIGH GROUND WATER IS OBSERVED.
4. CONTRACTOR SHALL CLEAN STREET/ROADWAY ADJACENT TO ALL CONSTRUCTION ACCESS POINTS AT THE END OF EACH WORKDAY OR MORE FREQUENTLY IF REQUESTED.

STONE TRACKING PAD

NO SCALE

		NO.	DATE	REVISION	BY
PROJECT DATE:	DRAWN BY: SPS	-	-	---	-
	DESIGNED BY: [illegible]	-	-	-	-
	CHECKED BY: [illegible]	-	-	-	-

PLOT DATE: [illegible]

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09/15/2023
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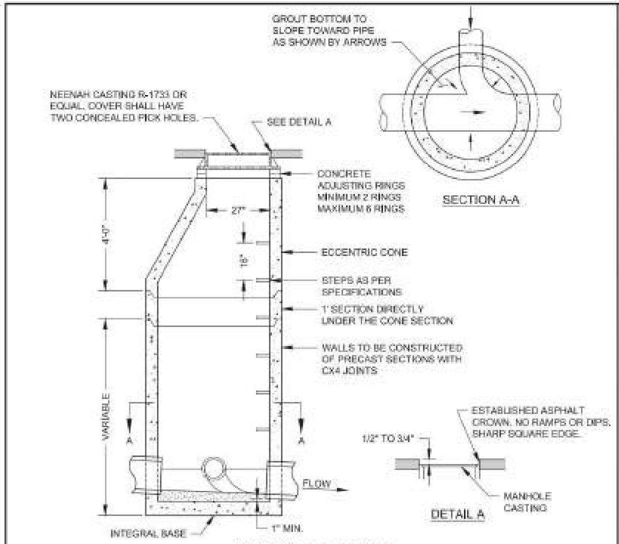
VESTA UNCHAINED DEVELOPMENT
VESTA UNCHAINED
COOK COUNTY, MN

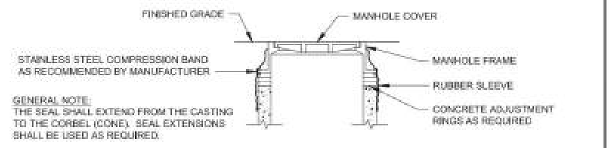
DETAILS

PROJECT NO.
21556000

SHEET
3

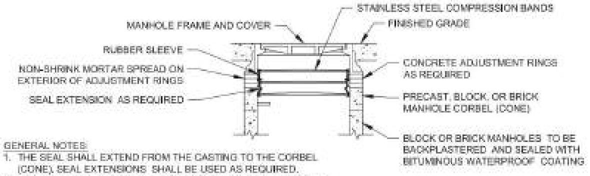


STANDARD MANHOLE
NO SCALE



GENERAL NOTE:
THE SEAL SHALL EXTEND FROM THE CASTING TO THE CORBEL (CONE). SEAL EXTENSIONS SHALL BE USED AS REQUIRED.

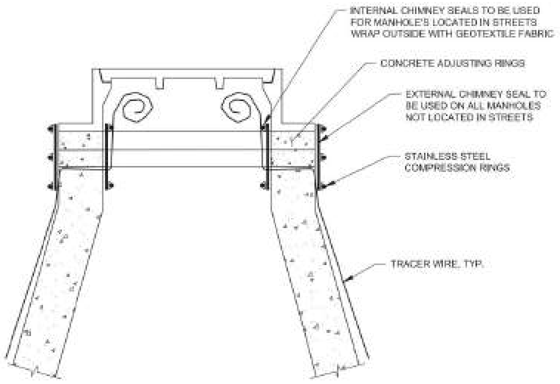
EXTERNAL RUBBER SLEEVE FRAME/CHIMNEY SEAL
FOR MANHOLES OUTSIDE OF ROADWAY



GENERAL NOTES:
1. THE SEAL SHALL EXTEND FROM THE CASTING TO THE CORBEL (CONE). SEAL EXTENSIONS SHALL BE USED AS REQUIRED.
2. AN INTERNAL ADAPTOR SEAL RING MAY BE USED IN LIEU OF THE RUBBER SLEEVE. THE INTERNAL ADAPTOR SEAL RING SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

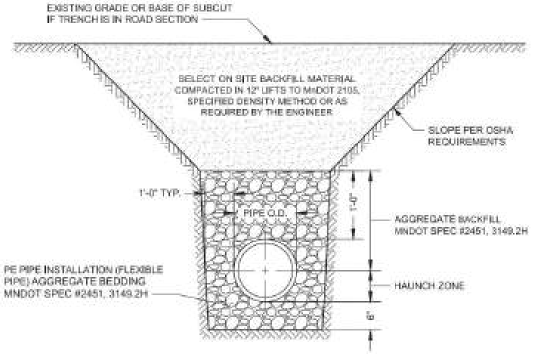
INTERNAL RUBBER SLEEVE FRAME/CHIMNEY SEAL

MANHOLE WATERPROOFING DETAIL
NO SCALE



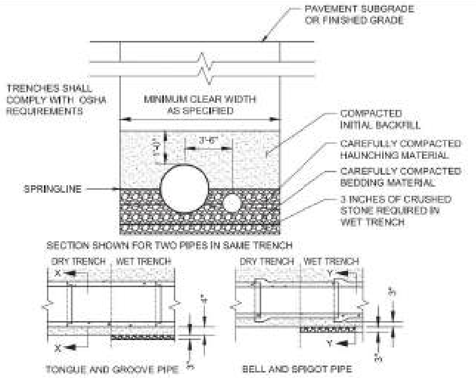
NOTE:
CONTRACTOR TO FURNISH CHIMNEY SEAL AND CHIMNEY SEAL EXTENSIONS AS NEEDED.

CHIMNEY SEAL
NO SCALE



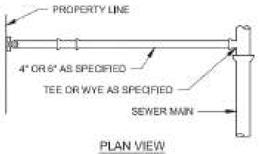
NOTE:
1. BACKFILL- IF NATIVE MATERIAL IS DETERMINED BY ENGINEER TO BE OF POOR QUALITY AND CANNOT BE RE-COMPACTED IN PLACE CONTRACTOR TO BACKFILL TRENCH WITH SELECT GRANULAR BORROW MATERIAL COMPACTED IN 12" LIFTS TO MnDOT 2105, SPECIFIED DENSITY METHOD.
2. WHEN TRENCH IS IN STREET SECTION TRENCH COMPACTION EQUIPMENT (IE.SHEEPSFOOT ROLLER) WILL BE REQUIRED AND TESTING WILL BE DONE AT THE DISCRETION OF THE ENGINEER.
3. INSTALL AND COMPACT HAUNCHING IN 6-INCH MAXIMUM LAYERS. WORK IN AROUND PIPE BY HAND TO PROVIDE UNIFORM SUPPORT.

PVC & HDPE PIPE EMBEDMENT DETAIL
NO SCALE

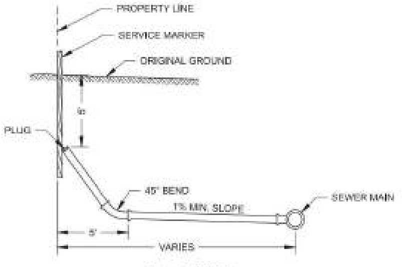


GENERAL NOTES:
1. BEDDING AND HAUNCHING MATERIAL SHALL BE WELL-GRADED 3/4 TO 1/4 INCH CRUSHED STONE OR OTHER NONE COHESIVE MATERIAL NOT SUBJECT TO MIGRATION AND FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
2. BEDDING MATERIAL TO BE PLACED BEFORE SETTING PIPE, 4 INCH MINIMUM UNDER BARREL WITH 3 INCH MINIMUM UNDER BELL.
3. INITIAL BACKFILL SHALL BE DENSELY COMPACTED, NON-COHESIVE FINELY DIVIDED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
4. IN ROCK OR OTHER INCOMPRESSIBLE MATERIALS THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6-INCHES AND REFILLED WITH GRANULAR MATERIAL.

CLASS "B" EMBEDMENT FOR RIGID PIPE DETAIL
NO SCALE



PLAN VIEW



SECTION VIEW

SANITARY SERVICE
NO SCALE

		NO.	DATE	REVISION	BY
PROJECT DATE:	DRAWN BY: SPS	-	-	---	-
	DESIGNED BY: [illegible]	-	-	-	-
	CHECKED BY: [illegible]	-	-	-	-

PLOT DATE: [illegible] Construction Documents\21556000 DetailLdwg

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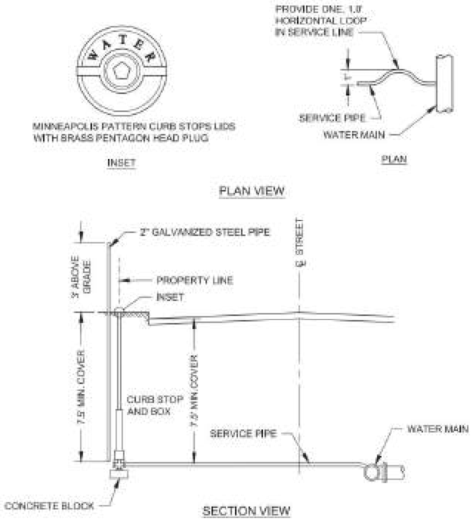
VESTA UNCHAINED
COOK COUNTY, MN

DETAILS

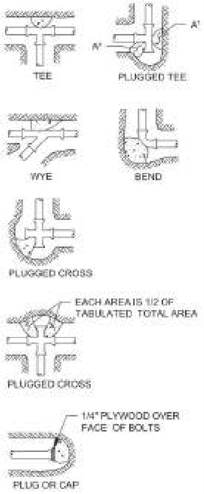
PROJECT NO.
21556000
SHEET
4



WATER SERVICE

NO SCALE

NOMINAL FITTING SIZE (INCHES)	TEE, WYE, PLUG OR CAP	90° BEND, PLUGGED CROSS	TEE PLUGGED ON RUN		45° BEND	22 1/2° BEND	11 1/4° BEND
			A^1	A^2			
4	1.0	1.4	1.9	1.4	1.0	—	—
6	2.1	3.0	4.3	3.0	1.6	1.0	—
8	3.8	5.3	7.6	5.4	2.9	1.5	1.0
10	5.9	8.4	11.8	8.4	4.6	2.6	1.2
12	8.5	12.0	17.0	12.0	6.6	3.4	1.7
14	11.5	16.3	23.0	16.3	8.9	4.6	2.3
16	15.0	21.3	30.0	21.3	11.6	6.0	3.0
18	19.0	27.0	38.0	27.0	14.6	7.6	3.8
20	23.5	33.3	47.0	33.3	18.1	9.4	4.7
24	34.0	48.0	68.0	48.0	26.2	13.6	6.8



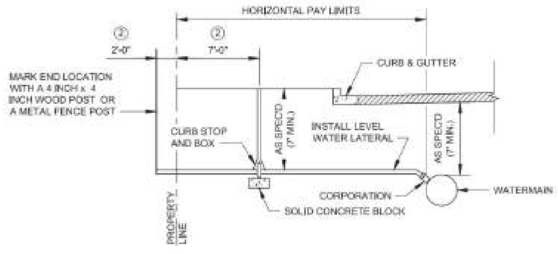
NOTE

1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES.
3. IF NOT SHOWN ON PLANS, REQUIRED BEARING AREAS AT FITTING SHALL BE AS INDICATED ABOVE, ADJUSTED IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING STRESS(ES).
4. BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN IN THIS STANDARD DETAIL.
5. ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 P.S.I. AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION:

   BEARING AREA = (TEST PRESSURE/150) x (2000/SOIL BEARING STRESS) x (TABLE VALUE).

THRUST BLOCKING DETAIL

NO SCALE

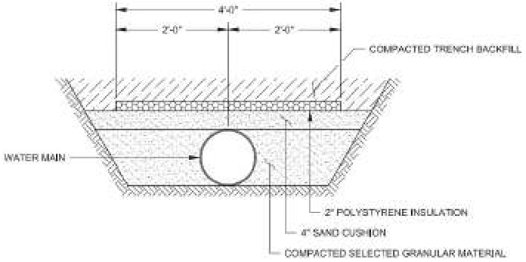


GENERAL NOTES:

1. SEE PLANS AND SPECIFICATIONS FOR SIZE AND TYPE OF CURB STOP AND BOX CORPORATION AND SERVICE LINE.
2. COMMUNITY STANDARDS SHALL SUPERSEDE THE DIMENSIONS FROM THE PROPERTY LINE.

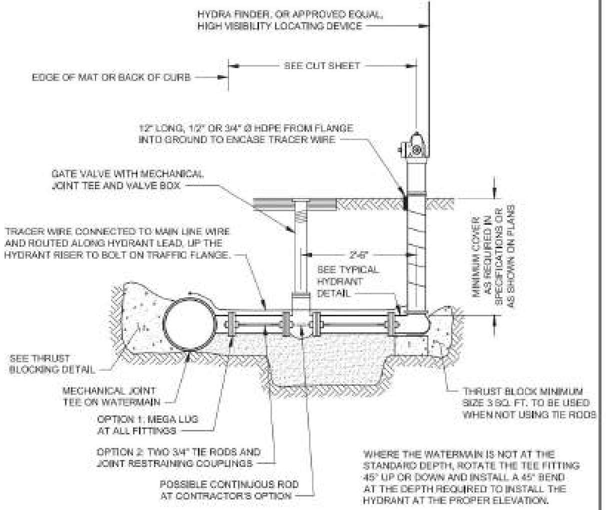
WATER SERVICE DETAIL

NO SCALE



PIPE INSULATION DETAIL

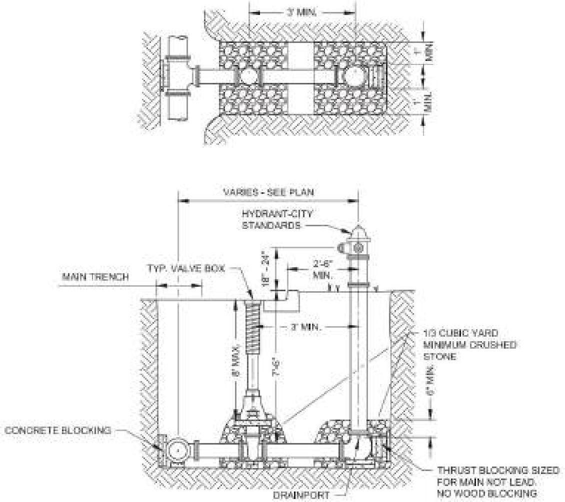
NO SCALE



WHERE THE WATERMAIN IS NOT AT THE STANDARD DEPTH, ROTATE THE TEE FITTING 45° UP OR DOWN AND INSTALL A 45° BEND AT THE DEPTH REQUIRED TO INSTALL THE HYDRANT AT THE PROPER ELEVATION.

HYDRANT INSTALLATION W/ TRACER

NO SCALE



TYPICAL HYDRANT & VALVE SETTING DETAIL

NO SCALE

		NO.	DATE	REVISION	BY
PROJECT DATE:	DRAWN BY: SPS	-	-	---	-
	DESIGNED BY: Bm	-	-	-	-
	CHECKED BY: Bst	-	-	-	-

PLOT DATE: 3/18/2025 10:08 AM, G:\21\21556\21556000\CADD\Construction Documents\21556000 Details.dwg

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PROJECT NO. 21556000
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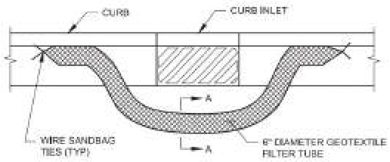
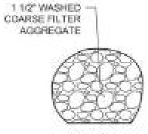
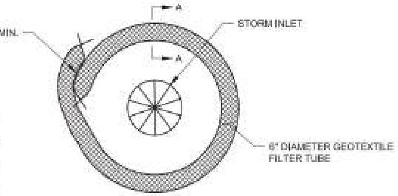


INSTALLATION AT CURB INLET



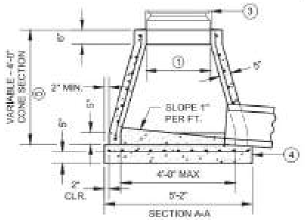
SECTION A-A



INSTALLATION AT AREA DRAIN

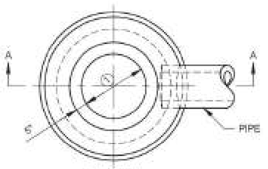
NOTES:
1. ANCHOR AS NECESSARY.
2. MAY ALSO BE USED AS SLOPE BREAK.
3. PROVIDE SHALLOW DEPRESSION UPSTREAM FOR SEDIMENT STORAGE WHERE POSSIBLE.
4. OVERLAP ENDS OF BAGS MINIMUM OF 1'.

FILTER ROCK LOG DETAIL
NO SCALE



SECTION A-A

DESIGN G

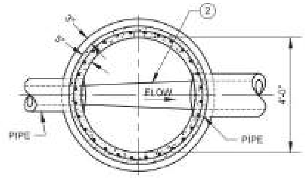


TOP VIEW REINFORCEMENT NOT SHOWN

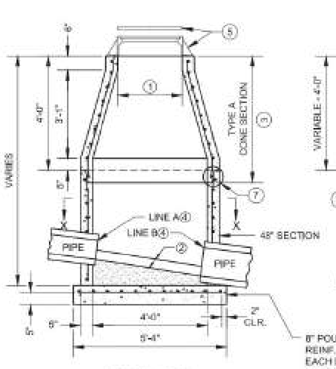
NOTES:
REINFORCING: SINGLE LINE STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.12 SQ. IN. PER FOOT OF HEIGHT.

1. 2' 3" NOMINAL OPENING. WHEN GRATE FRAME CASTING NO. 802A OR NO. 805 IS USED, SEE STANDARD PLATES CASTING LIST.
2. A STRAIGHT TAPERED WALL IS ACCEPTABLE.
3. REFER TO PLAN FOR CASTINGS REQUIRED. USE ADJUSTING RINGS WHERE NECESSARY. SEE STANDARD PLATES INDEX. CASTING AND PRECAST CONC. ADJUSTING RINGS, SHALL BE SET ON FULL MORTAR BEDS.
4. HEIGHT OF STRUCTURE MAY BE INCREASED UP TO 1 FT. BY THE USE OF A PRECAST SECTION OR CONCRETE BLOCK CONSTRUCTION ABOVE THE CONE SECTION. SEE STANDARD PLATE 4002 FOR BLOCK CONSTRUCTION.
6. 8 IN. POURED CONCRETE BASE. BASE REINFORCEMENT: 0.12 SQ. IN. PER FT. IN EACH DIRECTION. AN APPROVED ALTERNATE PRECAST CONCRETE BASE MAY BE USED.

MINDOT MANHOLE OR CATCH BASIN - DESIGN G
NO SCALE

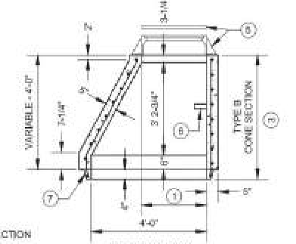


SECTION X-X



8" POURED CONCRETE BASE. BASE REINF. IS 0.12 SQ. IN. PER FT. IN EACH DIRECTION. FOR ALTERNATE PRECAST CONC. BASE, SEE STANDARD PLATE 4011.

SECTIONAL VIEW
TYPE A CONE



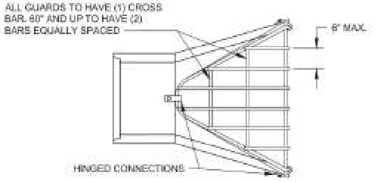
SECTIONAL VIEW
TYPE B CONE
SEE TYPE A CONE FOR ADDITIONAL INFORMATION

NOTES:
1. REINFORCING: SINGLE LINE STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.12 SQ. IN. PER FOOT OF HEIGHT.
2. 2' 3" NOMINAL OPENING.
3. PROVIDE MORTAR FILLETS TO FIT THE BOTTOM PORTIONS OF PIPE TO DIRECT FLOW TO OUTLET.

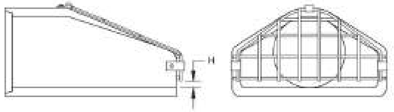
TYPE A CONE SECTION SHALL BE USED UNLESS OTHERWISE INDICATED IN THE PLANS. FOR SHORT CONE SECTION USE TYPE C. SEE STANDARD PLATE 4010.

4. THE ELEV. OF LINE A SHALL BE EQUAL TO OR ABOVE LINE B.
5. REFER TO PLAN FOR CASTINGS REQUIRED. USE ADJUSTING RINGS WHERE NECESSARY. SEE STANDARD PLATES INDEX. CASTING AND PRECAST CONC. ADJUSTING RINGS, SHALL BE SET ON FULL MORTAR BEDS.
6. REFER TO PLANS FOR ANY STEP REQUIREMENTS.
7. SEE STANDARD PLATES INDEX FOR OTHER APPROVED JOINTS.

MINDOT MANHOLE or CATCH BASIN-DESIGN F
NO SCALE



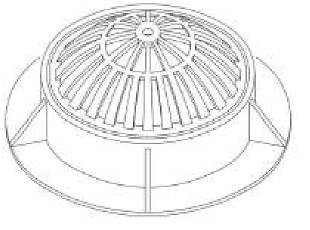
ROUND	
PIPE SIZE	H
12"	2 1/2"
15"	3"
18" - 24"	4"
27" - 36"	5"
42" - 54"	6"
60" - 72"	7"
78" - 90"	8"

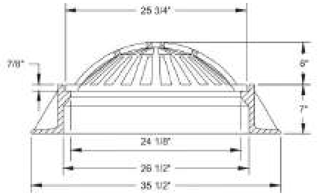


BAR SIZES							
STANDARD DESIGN				HEAVY DESIGN			
PIPE SIZE	HOLE DIA.	BOLT DIA.	BAR SIZE	PIPE SIZE	HOLE DIA.	BOLT DIA.	BAR SIZE
12" - 24"	3/4"	5/8"	5/8"	12" - 18"	3/4"	5/8"	3/4"
27" - 48"	7/8"	3/4"	3/4"	21" - 42"	7/8"	3/4"	1"
54" - 90"	1 1/8"	1"	1"	48" - 90"	1 1/8"	1"	1 1/4"
BOLT LENGTH = PIPE WALL THICKNESS + 2 1/2"							

NOTE:
HOT DIP GALVANIZED PER ASTM A153.

TRASH GUARD
NO SCALE





CASTINGS SHALL BE NEENAH R-2561A OR EQUAL

BEEHIVE CASTING
NO SCALE

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	DESIGNED BY: Bnt	-	-	-	-
	CHECKED BY: Bnt	-	-	-	-

PLOT DATE: [illegible] Documents\21556000 Details.dwg

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PROJECT NO.
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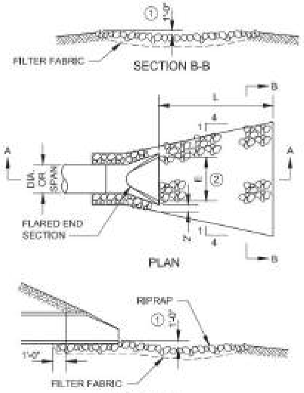
TABLE OF QUANTITIES
RIPRAP AT RCP OUTLETS

		CLASS II d50=6"	CLASS III d50=9"	CLASS IV d50=12"
DIA. OF ROUND PIPE (IN.)	L (FT.)	12" DEPTH RIPRAP (CU.YDS.)	18" DEPTH RIPRAP (CU.YDS.)	24" DEPTH RIPRAP (CU.YDS.)
12	8	2.8	4.1	5.5
15	8	2.9	4.4	5.8
18	10	3.9	5.9	7.8
21	10	4.2	6.3	8.4
24	12	5.5	8.3	11.0
27	12	5.8	8.7	11.6
30	14	7.3	10.9	14.5
36	16	9.2	13.8	18.3
42	18	10.9	16.3	21.7
48	20	12.9	19.4	25.8

TABLE OF QUANTITIES
RIPRAP AT RCP-A OUTLETS
OR BOXES OF EQUIVALENT SPAN WIDTH

		CLASS II d50=6"	CLASS III d50=9"	CLASS IV d50=12"
SPAN OF PIPE ARCH (IN.)	L (FT.)	12" DEPTH RIPRAP (CU.YDS.)	18" DEPTH RIPRAP (CU.YDS.)	24" DEPTH RIPRAP (CU.YDS.)
22	10	3.9	5.9	7.8
28	12	5.5	8.2	10.9
36	14	7.2	10.8	14.3
43	16	9.2	13.7	18.3
51	18	10.9	16.3	21.7
58	20	12.7	19.0	25.4



NOTES:

PIPE SIZES LARGER THAN THOSE SHOWN REQUIRE A SPECIAL DESIGN.

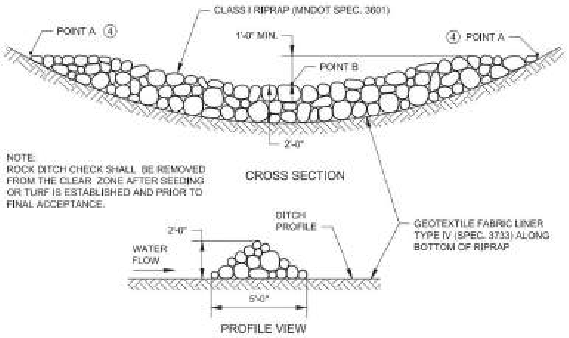
REQUIREMENTS FOR RIPRAP SIZE AND THICKNESS AND FILTER BLANKET WILL BE DESIGNATED IN THE PLANS.

① FOR PIPES GREATER THAN OR EQUAL TO 30" USE 1.5'.

② DIMENSION E IS GIVEN ON STANDARD PLATES 3100 AND 3110.

RIP-RAP DETAIL

NO SCALE



NOTE:
ROCK DITCH CHECK SHALL BE REMOVED FROM THE CLEAR ZONE AFTER SEEDING OR TURF IS ESTABLISHED AND PRIOR TO FINAL ACCEPTANCE.

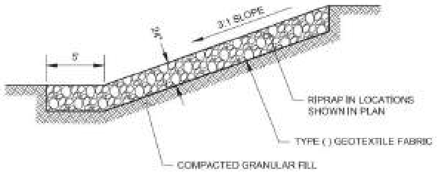
NOTES:
1. SEE MNDOT SPECS. 2573, 3882, 3885, 3886 & 3889.
2. SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM SPACING FORMULA:

$$\text{SPACING OF DITCH CHECKS (FT)} = \left(\frac{\text{HEIGHT OF DITCH CHECK (FT) X100}}{\text{DITCH GRADE IN PERCENT}}\right)$$

3. DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.
4. POINT A MUST BE 1' 0" MIN. HIGHER THAN POINT B TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

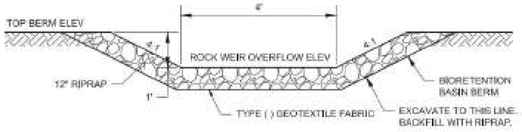
TYPICAL ROCK CHECK INSTALLATION

MNDOT TYPE 7 SPEC. 3889
NO SCALE



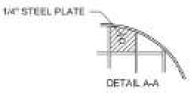
RIPRAP SLOPE DETAIL

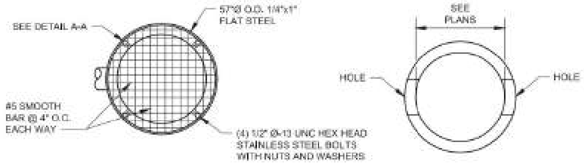
NO SCALE



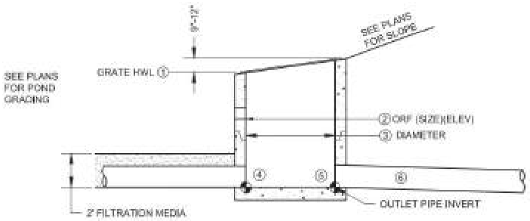
BIORETENTION BASIN OVERFLOW

NO SCALE





NOTES:
1. STANDARD PIPE BEDDING REQUIRED ON OUTLET PIPES.
2. REINFORCING: SINGLE LINE STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.12 SQ. IN. PER FOOT OF HEIGHT.
3. ALL METAL SHALL BE HOT-DIPPED GALVANIZED.



INFILTRATION BASIN - OUTLET CONTROL STRUCTURE SCHEDULE

	GRADING SITE	SEE PLANS AND POND SECTIONS FOR ELEVATIONS AND DIMENSIONS
①	GRATE ELEV	
②	ORF (SIZE)(ELEV)	
③	STRUCTURE DIA.	
④	OPENING SIZE (ELEV)	
⑤	SIZE - INVERT	
⑥	OUTLET PIPING	

INFILTRATION BASIN - OUTLET CONTROL STRUCTURE

NO SCALE

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	DESIGNED BY: [illegible]	-	-	-	-
	CHECKED BY: [illegible]	-	-	-	-

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NOTES FOR BIORENTENTION MIX IN THE POND BOTTOM:
SOIL MIX TYPE D AS DEFINED IN THE MN STORMWATER MANUAL SHALL BE USED AND HAS THE FOLLOWING CHARACTERISTICS*:
MIX RATIO BY VOLUME SHALL BE COARSE SAND 50-65%, TOPSOIL 25-35%, COMPOST 10-15%.

COARSE SAND

- COARSE SAND, [ASTM] C-33 FINE AGGREGATE, WITH A FINES MODULUS INDEX OF 2.8 AND 3.2.
- SANDS SHALL BE CLEAN, SHARP, NATURAL SANDS FREE OF LIMESTONE, SHALE AND SLATE PARTICLES.
- SAND PH SHALL BE LOWER THAN 7.5
- PROVIDE THE FOLLOWING PARTICLE SIZE DISTRIBUTION:

SIEVE SIZE	% PASSING
3/8 INCH	100
#4	95 TO 100
#8	80 TO 100
#16	50 TO 85
#30	25 TO 60
#50	5 TO 30
#100	4 TO 10
#200	2 TO 4

- COMPLETE SUBMITTALS

COMPOST

COMPOST SHALL MEET THE REQUIREMENTS OF THE US COMPOSTING COUNCIL "ARCHITECTURE/DESIGN SPECIFICATIONS FOR COMPOST USE", SECTION COMPOST AS A LANDSCAPE BACKFILL MIX COMPONENT, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

- COMPOST FEEDSTOCK SHALL BE YARD WASTE TRIMMINGS AND/OR SOURCE-SEPARATED MUNICIPAL SOLID WASTE TO PRODUCE FUNGI-DOMINATED COMPOST. COMPOST SHALL NOT BE DERIVED FROM BIOSOLIDS OR INDUSTRIAL RESIDUALS.
- COMPOST PHYSICAL APPEARANCE: COMPOST SHALL BE DARK BROWN APPROXIMATELY THE COLOR OF A 70 PERCENT DARK CHOCOLATE BAR OR DARKER. PARTICLES OF COMPOST WHEN BROKEN SHALL BE THE SAME COLOR INSIDE AS OUTSIDE.
- COMPOST ODOR: COMPOST SHALL HAVE A STRONG, SWEET, AEROBIC ODOR INDICATING ACTIVE BIOLOGICAL ACTIVITY. COMPOST WITH A SOUR ANAEROBIC ODOR (INDICATING COMPOSTING IN EXCESSIVE WATER) OR AN ODOR SIMILAR TO DENATURED ALCOHOL (INDICATING INCOMPLETE COMPOSTING) SHALL BE REJECTED.
- COMPOST TESTING AND ANALYSIS: COMPOST ANALYSIS SHALL BE PROVIDED BY THE COMPOST SUPPLIER. BEFORE DELIVERY OF THE COMPOST, THE SUPPLIER MUST PROVIDE THE FOLLOWING DOCUMENTATION:

a. A STATEMENT THAT THE COMPOST MEETS FEDERAL AND STATE HEALTH AND SAFETY REGULATIONS.

b. COMPOST TESTING METHODOLOGIES AND SAMPLING PROCEDURES SHALL BE AS PROVIDED IN TEST METHODS FOR THE EXAMINATION OF COMPOSTING AND COMPOST (TMECC), AS PUBLISHED BY THE US COMPOSTING COUNCIL.

c. COMPLETE SUBMITTALS.

TOPSOIL

TOPSOIL TEXTURE SHALL BE A NATURALLY PRODUCED SOIL OF LOAM, SANDY LOAM TO SANDY CLAY LOAM, WITHIN THE FOLLOWING PARAMETERS, AND SUITABLE FOR THE GERMINATION OF SEEDS AND THE SUPPORT OF VEGETATIVE GROWTH.

- PHYSICAL PARAMETERS

a. GRAVEL: LESS THAN 10 PERCENT BY VOLUME

b. SAND: 30 TO 70 PERCENT BY VOLUME

c. SILT: 10 TO 50 PERCENT BY VOLUME

d. CLAY: 10 TO 25 PERCENT PERCENT BY VOLUME

- CHEMICAL PARAMETERS

a. ORGANIC MATTER: 2 TO 8 PERCENT BY DRY WEIGHT

b. PH: 5.0 TO 7.3

c. PHOSPHORUS: SUFFICIENT TO MEET THE MAXIMUM REQUIREMENTS IN THE PLANT/BIO-RETENTION MIX ONCE THE OTHER PRODUCTS ARE ADDED TO THE MIX

d. COMPLETE SUBMITTALS

BIORETENTION SOIL MIX D

BIORETENTION SOIL MIX D SOIL SHALL BE A MIXTURE OF COARSE SAND, COMPOST AND TOPSOIL IN PROPORTIONS WHICH MEET THE FOLLOWING:

- SILT PLUS CLAY (COMBINED): 25 TO 40 PERCENT, BY DRY WEIGHT
- TOTAL SAND: 60 TO 75 PERCENT, BY DRY WEIGHT
- TOTAL COARSE AND MEDIUM SAND: MINIMUM OF 55 PERCENT OF TOTAL SAND, BY DRY WEIGHT
- FINE GRAVEL LESS THAN 5 MILLIMETERS: UP TO 12 PERCENT BY DRY WEIGHT (CALCULATED SEPARATELY FROM SAND/SILT/ CLAY TOTAL)
- ORGANIC MATTER CONTENT: 2 TO 5 PERCENT, PERCENT LOSS ON IGNITION BY DRY WEIGHT; MNDOT GRADE 2 COMPOST (SEE SPECIFICATION 3890, PAGE 685) SHALL BE INSTALLED.
- SATURATED HYDRAULIC CONDUCTIVITY: 1 TO 4 INCHES PER HOUR ASTM F1815.

*ADDITIONAL INFORMATION AVAILABLE AT
HTTPS://STORMWATER.PCA.STATE.MN.US/INDEX.PHP/DESIGN_GUIDELINES_FOR_SOIL_CHARACTERISTICS_-_TREE_TRENCHES_AND_TREE_BOXES#COMPOST

EROSION CONTROL NOTES

1. This information is only one part of the overall erosion control requirements. Additional requirements may also be shown in the plan sheets and in the accompanying specifications, MnDot Standard Specifications 2573 AND 2575.

2. The methods and structures used to control erosion shall be the responsibility of the Contractor. The methods and structures indicated on the plan are the minimum requirements in the opinion of the Engineer. Contractor shall implement an appropriate means of controlling erosion during his operation and until the vegetation is re-established. adjustments to the control system shall be made as required.

3. Along with **OWNER**, The Contractor will be co-permittee for the MPCA NPDES stormwater construction permit for this project - Contractor's signature on permit is required upon receiving the Notice of Award. Submit Initial Erosion Control (EC) schedule at Preconstruction Conference. Submit EC schedule alterations/adjustments weekly thereafter for Engineers approval. Site Work shall be scheduled to minimize exposure to erosion.

4. The Contractor is responsible for erosion and sediment control on this project. Contractor shall place or otherwise construct erosion control and sediment containment devices to prevent the runoff, tracking or loss of sediment from disturbed areas of the project site. Exposed areas shall drain to protected basins or silt fence.

5. Sediment and erosion control devices shall be functional before site is disturbed.

6. Total project site area is approximately 35.5 acres. Total disturbed area is 7.18 acres. Beginning impervious is 0.00 acres. Estimated New impervious area is 1.96 acres. Total change in impervious is 1.96 acres.

7. **DESCRIBE WHERE THE SITE RUNOFF IS GOING (WATERBODY/TRIBUTARIES).**

8. Exposed soil slopes 1:3 or steeper, with a continuous positive slope to the waters of the state must have temporary erosion control or permanent cover placed within 7 days once the area is not actively being worked. Install RAPID STABILIZATION METHOD 4 in these areas. Exposed soil slopes flatter than 1:3, with a continuous positive slope to the special water must have temporary or permanent erosion control placed within 3 days once the area is not actively being worked.

9. At a minimum the following erosion and sediment controls will be implemented at the construction site:
i. Erosion control blankets shall be used on all slopes 1:3 or steeper and to a 10-foot width in all ditch bottoms.
ii. Permanent vegetation will be established after topsoil is spread.
iii. Rock ditch checks, or approved equal, will reduce velocities and reduce erosion in ditches.
iv. Storm inlets and outlet aprons shall be protected with sediment containment devices.
v. Stabilized construction entrance to reduce sediment tracking.

10. All slopes and ditches shall be stabilized prior to opening new culverts into existing drainage ways.

11. If any stockpile is to remain in place for more than 3 days, sediment and erosion control devices/methods shall be used.

12. Water pumped or otherwise discharged from the site during construction dewatering shall be directed toward sediment containment or filtering device.

13. The Contractor shall take all possible precautions to prevent appreciable soil tracking onto roadways. Soil, mud or debris washed, tracked or deposited onto paved surfaces shall be removed prior to the end of each workday.

14. Stabilized construction entrance(s) (aka Vehicle Tracking Pad) shall be removed and area restored after grading is complete.

15. The Contractor shall maintain the sediment and erosion control measures until the site is stabilized. In accordance with MnDot 2573 AND 2575, Contractor QC program shall ensure all erosion and sediment control devices are routinely inspected and logged at least once every seven (7) days and within 24 hours of any ½" rain event. All nonfunctional devices shall be repaired or replaced or cleaned with no additional compensation made therefor.

16. Where not otherwise specified; MnDOT Method 4 shall be used when Rapid Stabilization is needed. Use erosion control blanket (ECB) Cat 3 (N. American Green S150 or approved equal). It shall include fertilizer (10-10-20) @ 8lb per 100 SY and seed (Mix 260) @ 2lb per 100 SY, done in accordance with MnDOT 2575.3. The ECB shall be pinned with 6-6 inch long staples every 18 inches along the perimeter and throughout interior.

			NO.	DATE	REVISION	BY
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	CHECKED BY:	[illegible]	-	-	-	-

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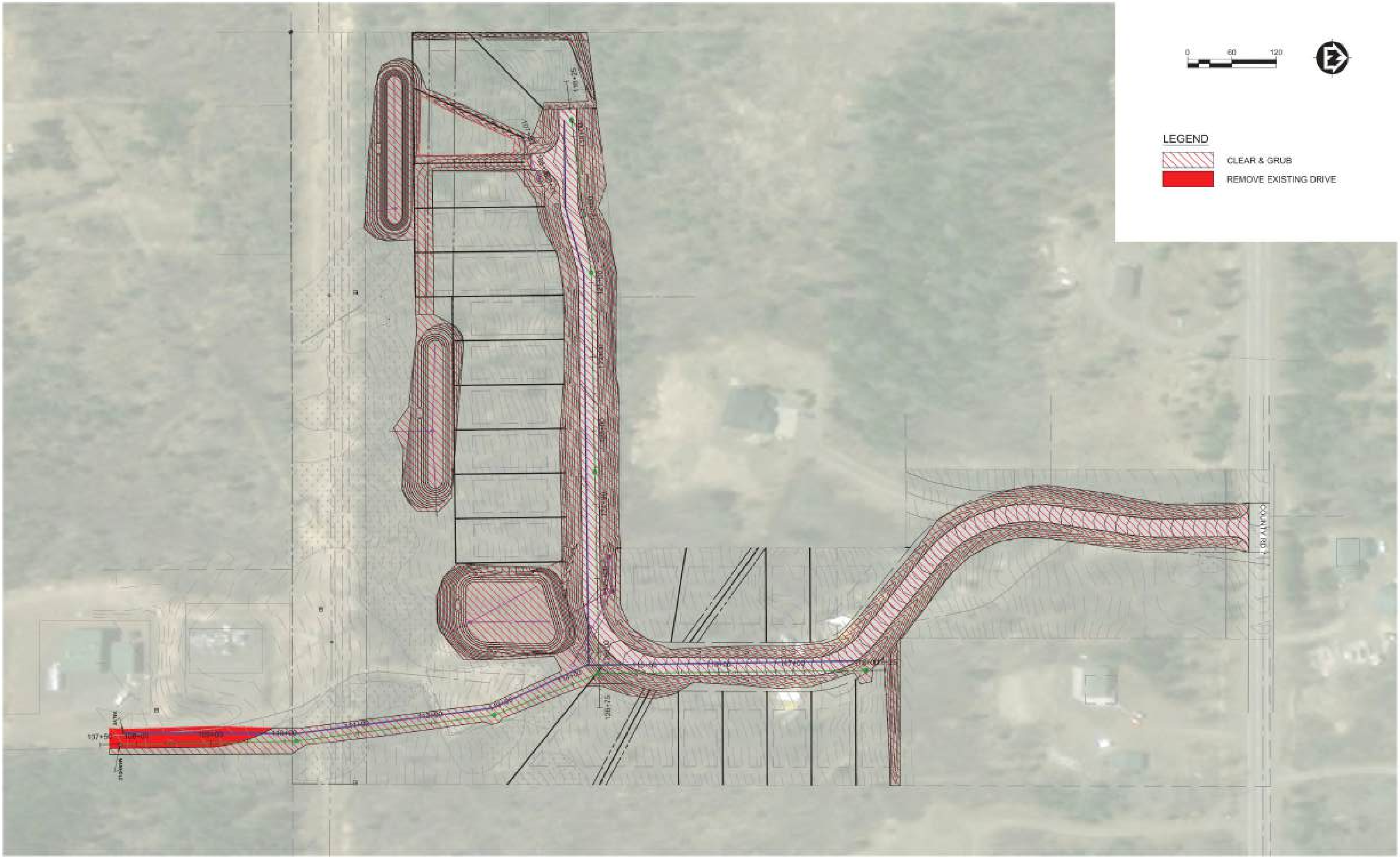
SHEET
8



LEGEND

▨ CLEAR & GRUB

🟥 REMOVE EXISTING DRIVE

		NO.	DATE	REVISION	BY
PROJECT DATE:	DRAWN BY: BPS	-	-	---	-
	DESIGNED BY: Bro	-	-	-	-
	CHECKED BY: Bal	-	-	-	-

PLOT DATE: [illegible] Construction Documents\21556000-Overview Removals.dwg

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05/15/2023
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VESTA UNCHAINED
COOK COUNTY, MN

REMOVALS

PROJECT NO.
21556000

SHEET
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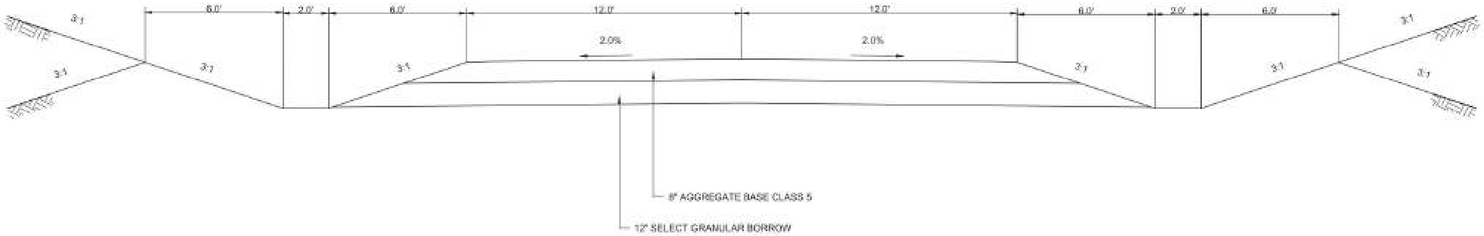
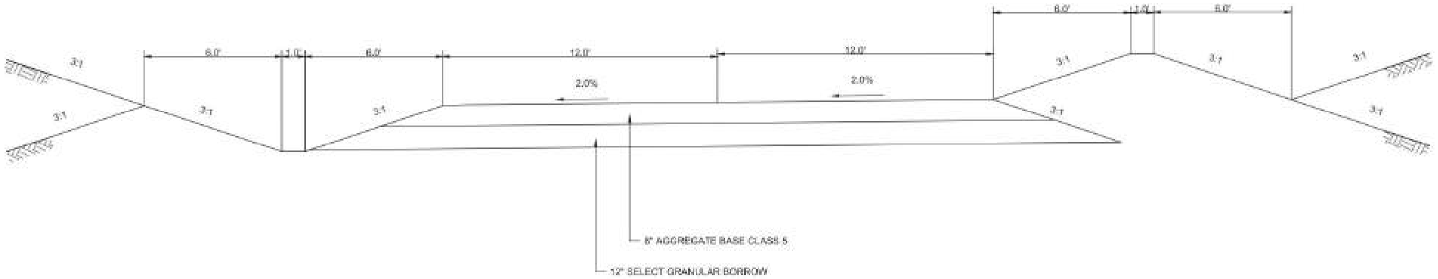


TYPICAL ROADWAY SECTION
STA. 0+45.90 - 10+13.16



TYPICAL ROADWAY SECTION
STA. 11+37.90 - 17+29.35

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PLOT DATE: [illegible]

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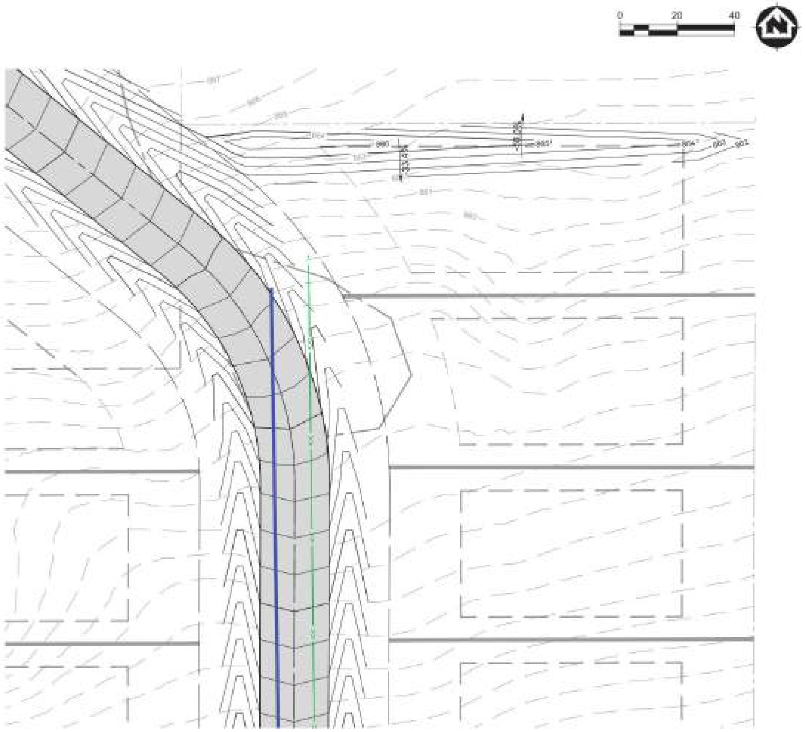
TYPICAL SECTIONS

PROJECT NO.
21556000

SHEET
10



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	CHECKED BY: Bnl	-	-	-	-

PLOT DATE: 3/30/2023 10:08 AM, G:\21\21556\21556000\CADD\Construction Documents\21556000 GRADING & POND SECTIONS.dwg

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Date

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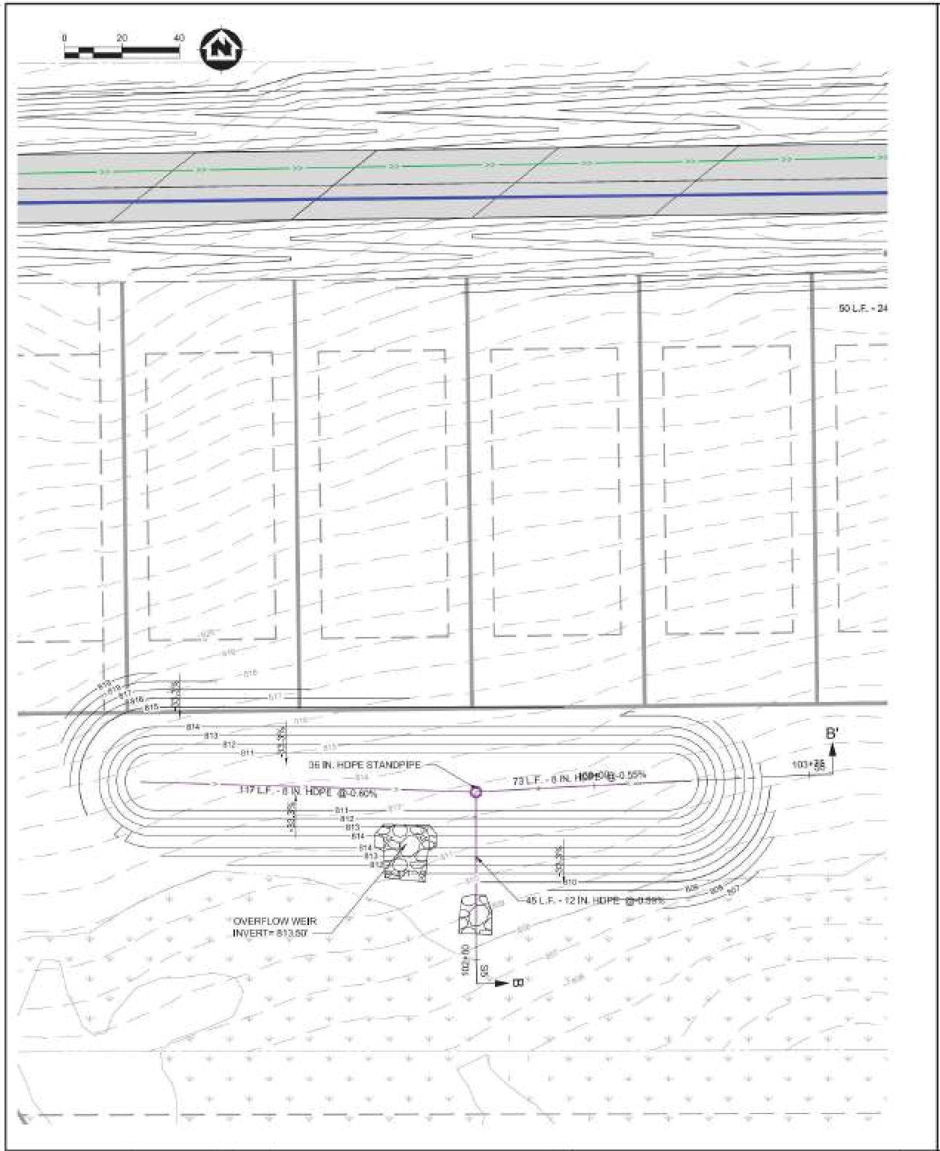
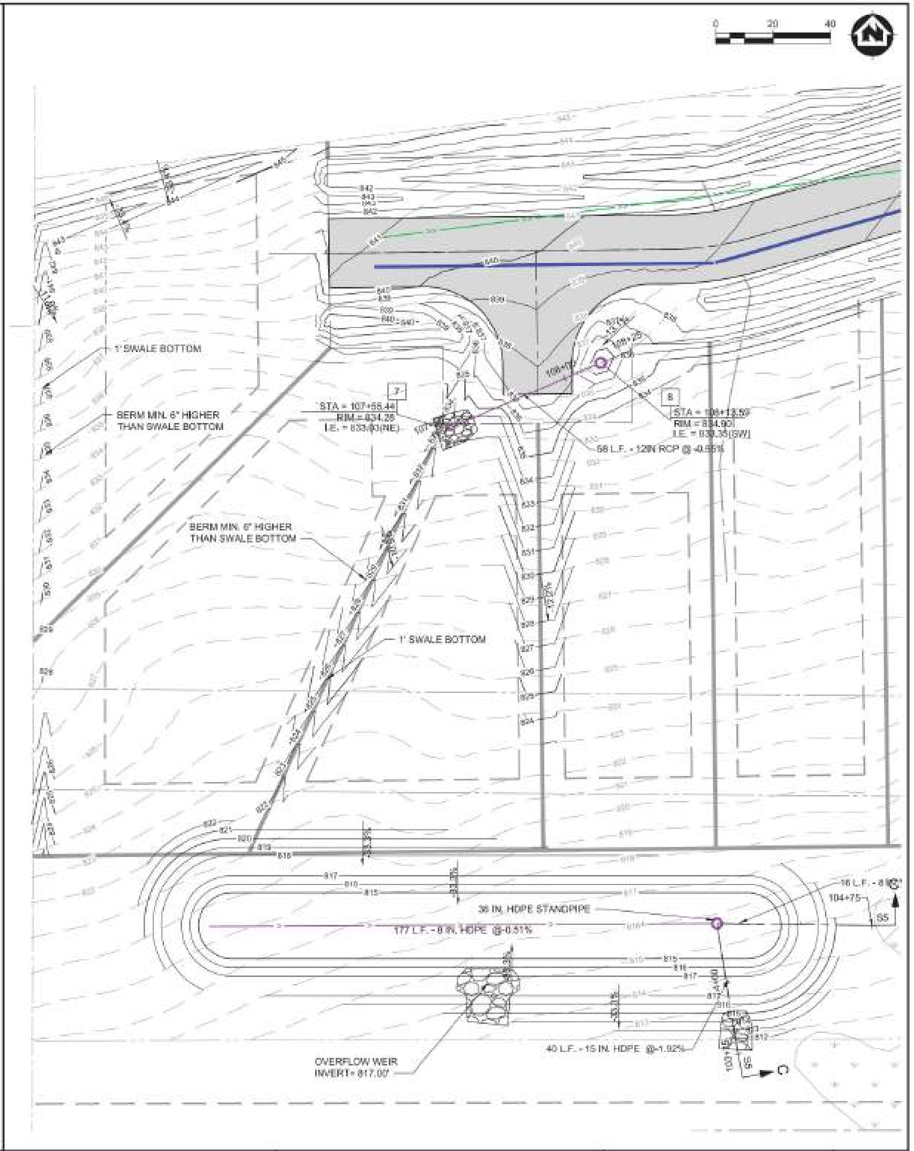
COOK COUNTY, MN

GRADING PLAN

PROJECT NO.
21556000
SHEET
11





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PROJECT DATE: -	DRAWN BY:	-	-	---	-
	DESIGNED BY:	-	-	-	-
	CHECKED BY:	-	-	-	-

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GRADING PLAN

PROJECT NO.
21556000

SHEET
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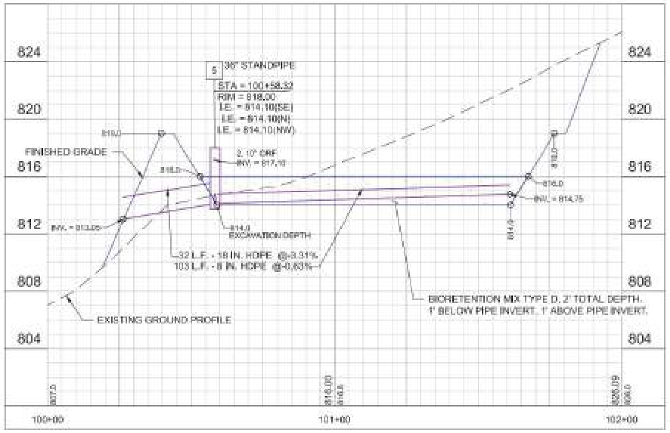

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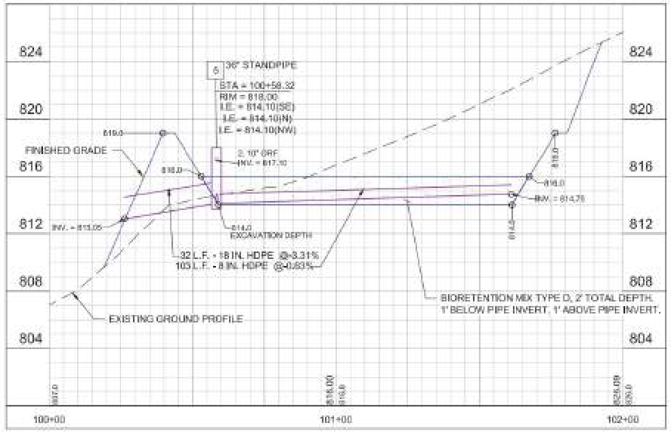
BIORETENTION POND SECTION A-A' [S2]

SCALE AS NOTED



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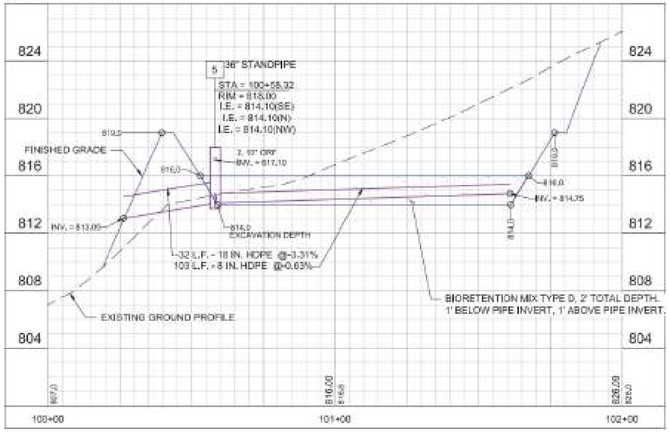
BIORETENTION POND SECTION B-B' [S2]

SCALE AS NOTED



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BIORETENTION POND SECTION C-C' [S2]

SCALE AS NOTED

			NO.	DATE	REVISION	BY
PROJECT DATE:	DRAWN BY:	[illegible]	-	-	---	-
	DESIGNED BY:	[illegible]	-	-	-	-
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PLOT DATE: [illegible] GRADING & POND SECTIONS.dwg

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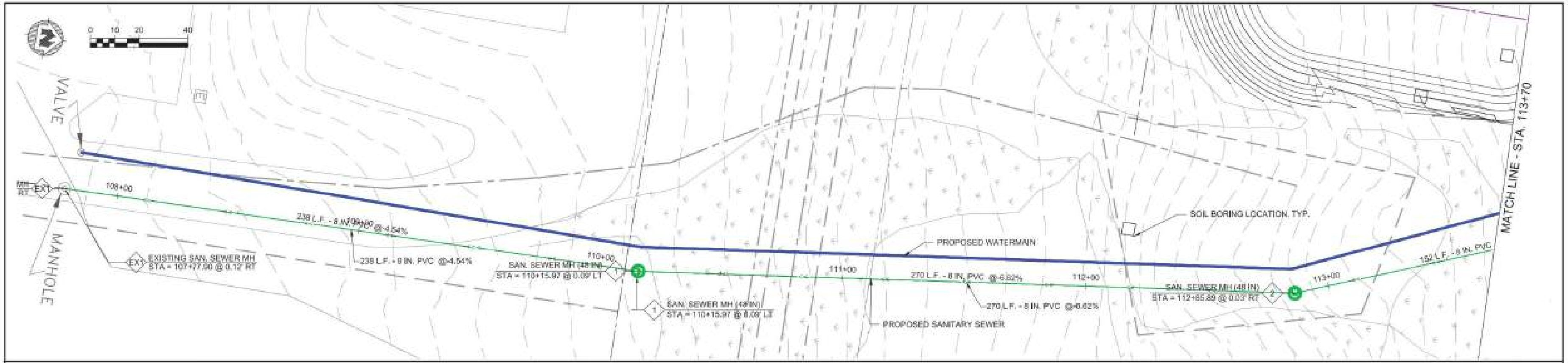
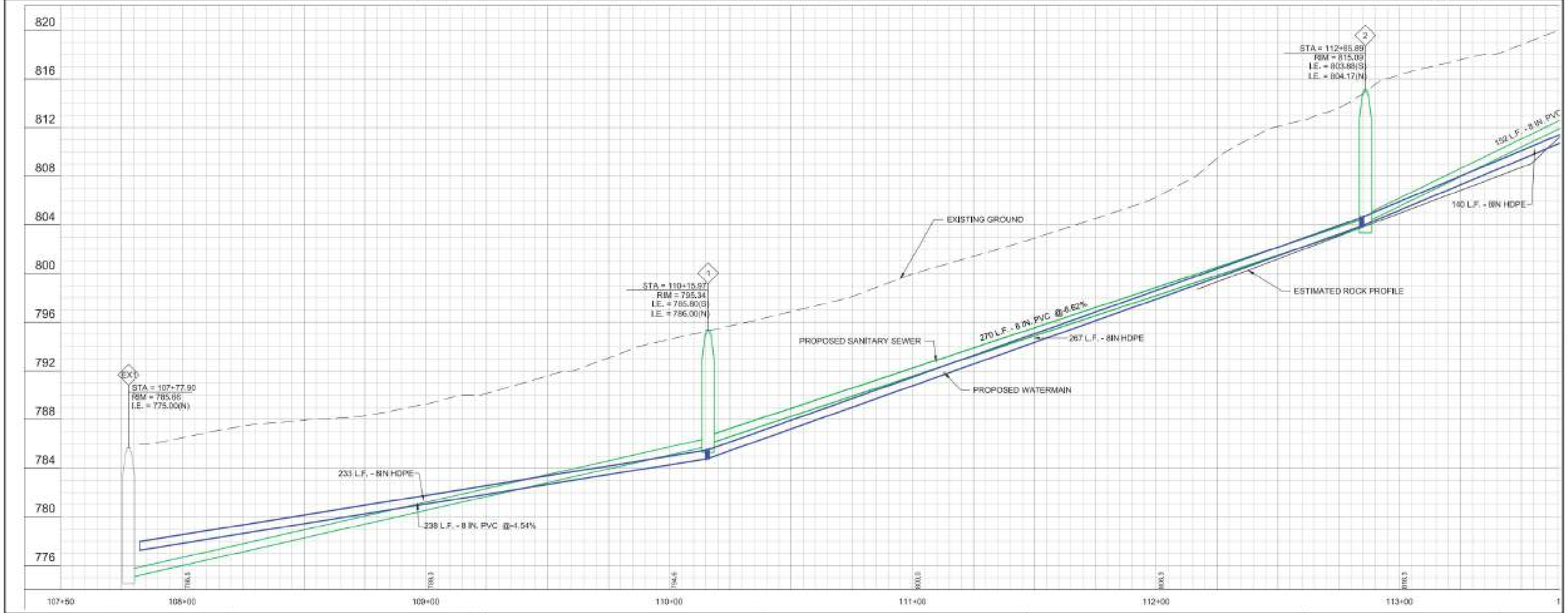
COOK COUNTY, MN

POND SECTIONS

PROJECT NO.
21556000

SHEET
13





PROJECT DATE:			NO.	DATE	REVISION	BY
	DRAWN BY:	BPS	-	-	---	-
	DESIGNED BY:	Bnc	-	-	-	-
	CHECKED BY:	Bnt	-	-	-	-

PLOT DATE: [illegible]

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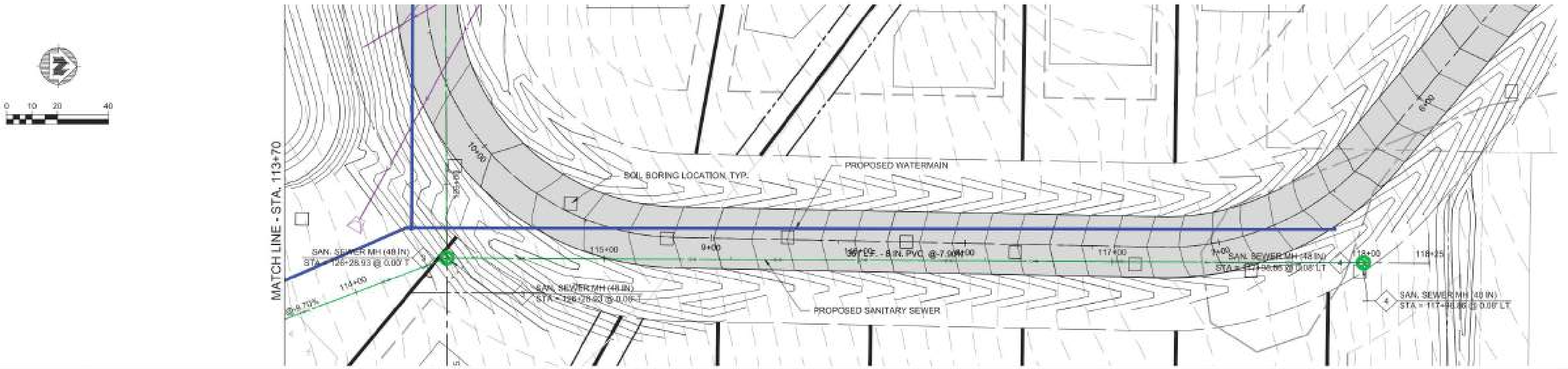
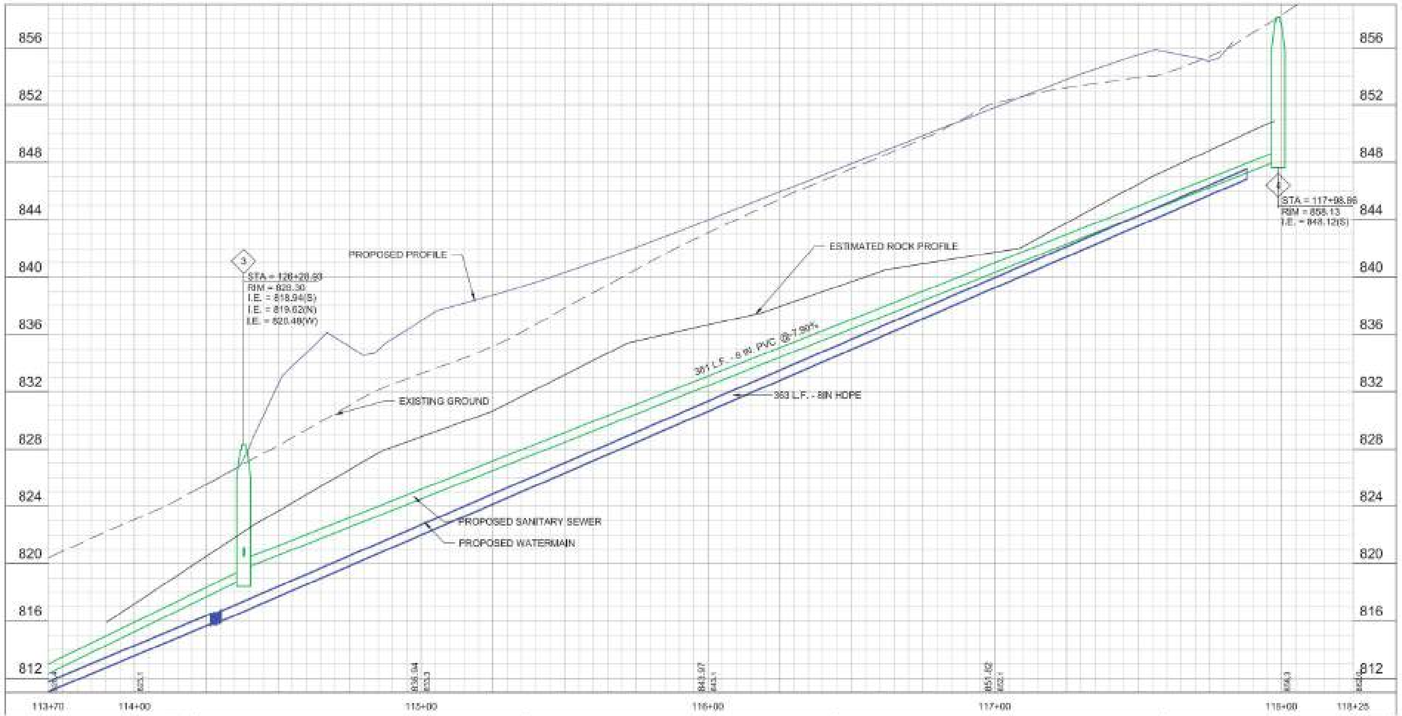
COOK COUNTY, MN

ULTILITY P&P

PROJECT NO.
21556000

SHEET
14





PROJECT DATE:	DRAWN BY:	SPS	NO.	DATE	REVISION	BY
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PLOT DATE: [illegible] Construction Documents\21556000 Utility P&P.dwg

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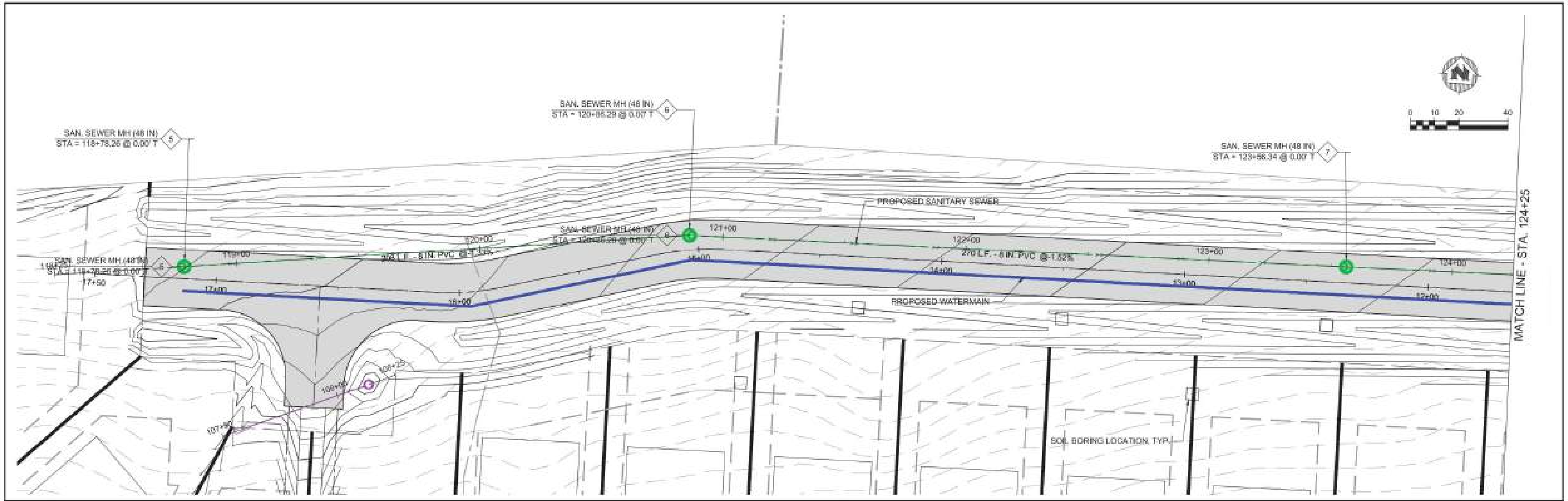
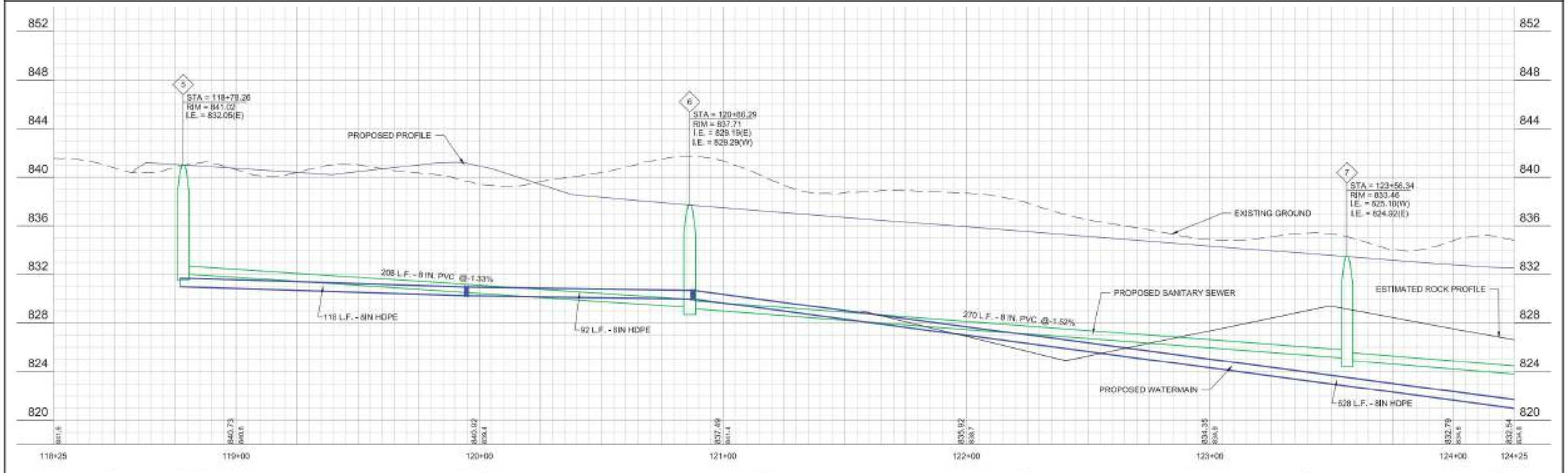
COOK COUNTY, MN

ULTILITY P&P

PROJECT NO.
21556000

SHEET
15





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PROJECT DATE:	DRAWN BY: SPS	-	-	---	-
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PLOT DATE: 3/20/2025 10:06 AM, G:\21\21556000\21556000\CAD\03\Construction Documents\21556000 Utility P&P.dwg

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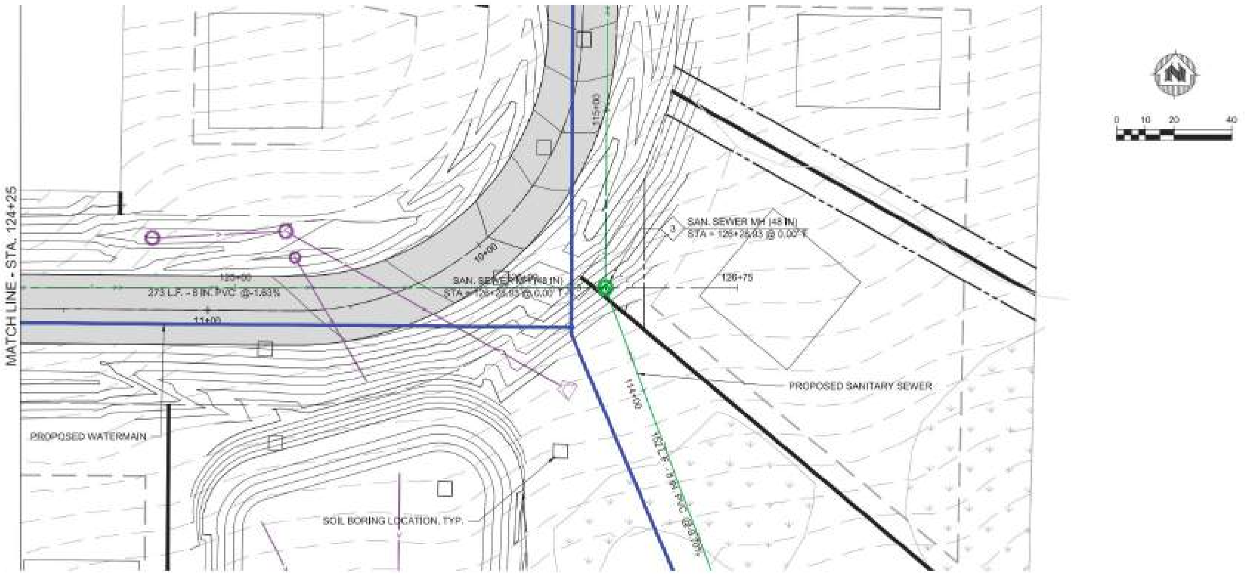
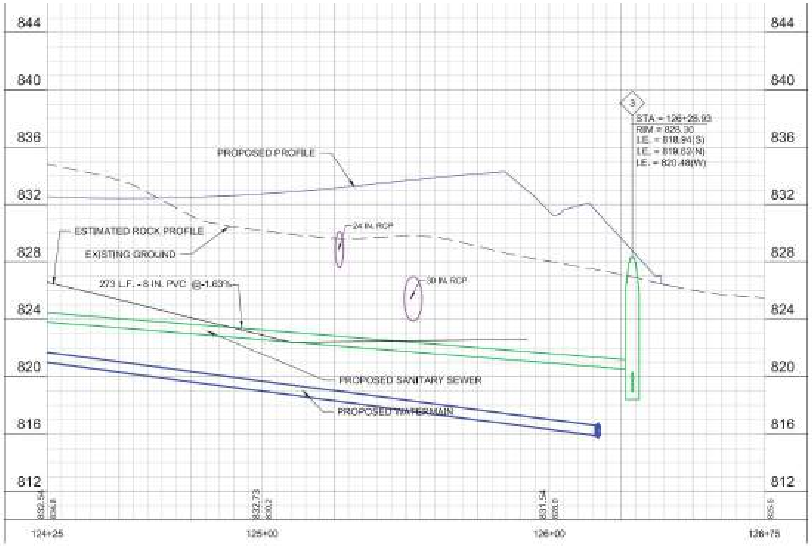
COOK COUNTY, MN

UTILITY P&P

PROJECT NO.
21556000
SHEET
16





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PLOT DATE: 3/28/2025 10:08 AM, G:\21\21556\21556000\CADD\Construction Documents\21556000 Utility P&P.dwg

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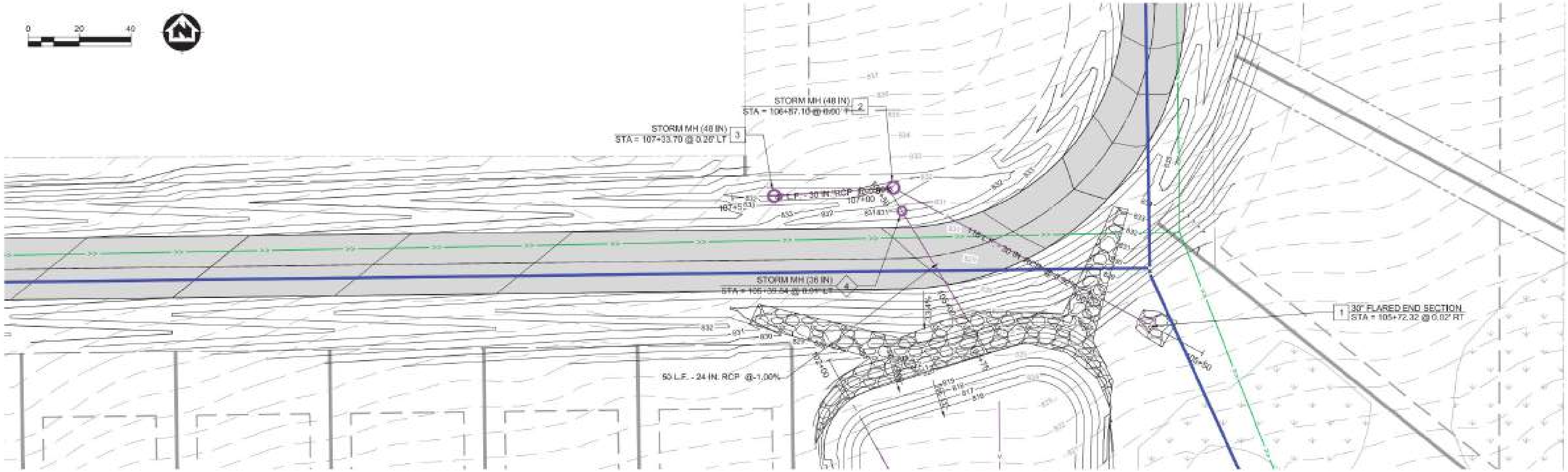
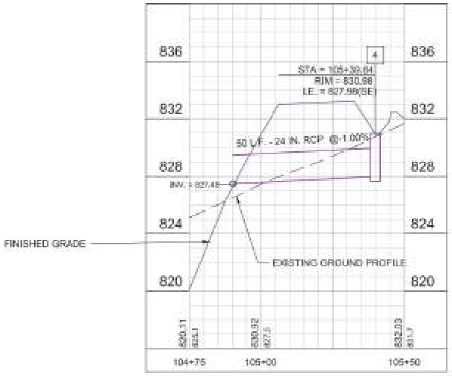
COOK COUNTY, MN

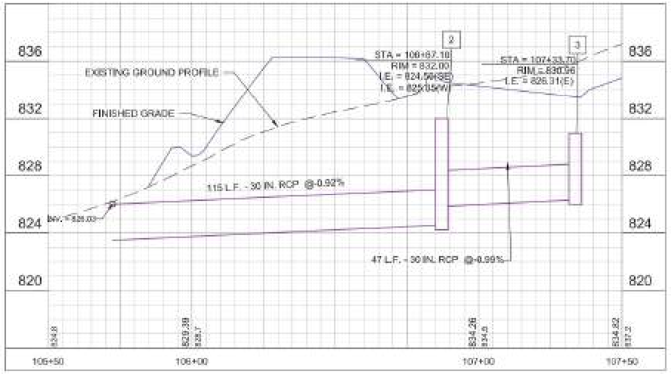
UTILITY P&P

PROJECT NO.
21556000

SHEET
17







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PROJECT DATE:	DRAWN BY: SPS	-	-	---	-
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PLOT DATE: [illegible]

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PROJECT NO.
21556000

SHEET
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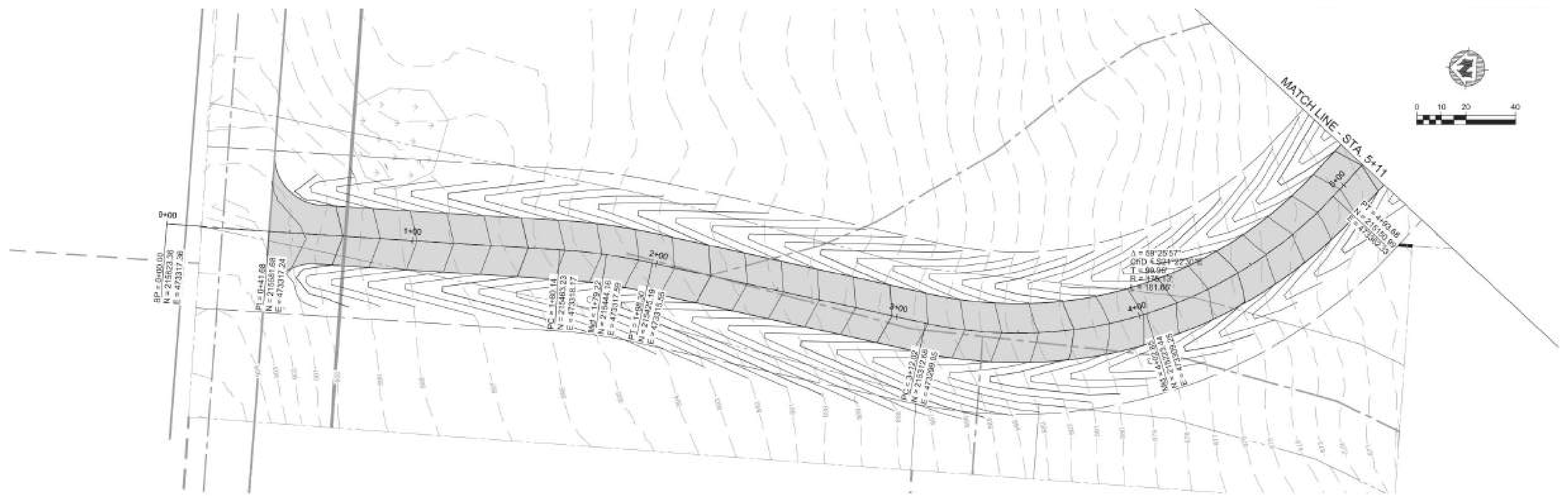

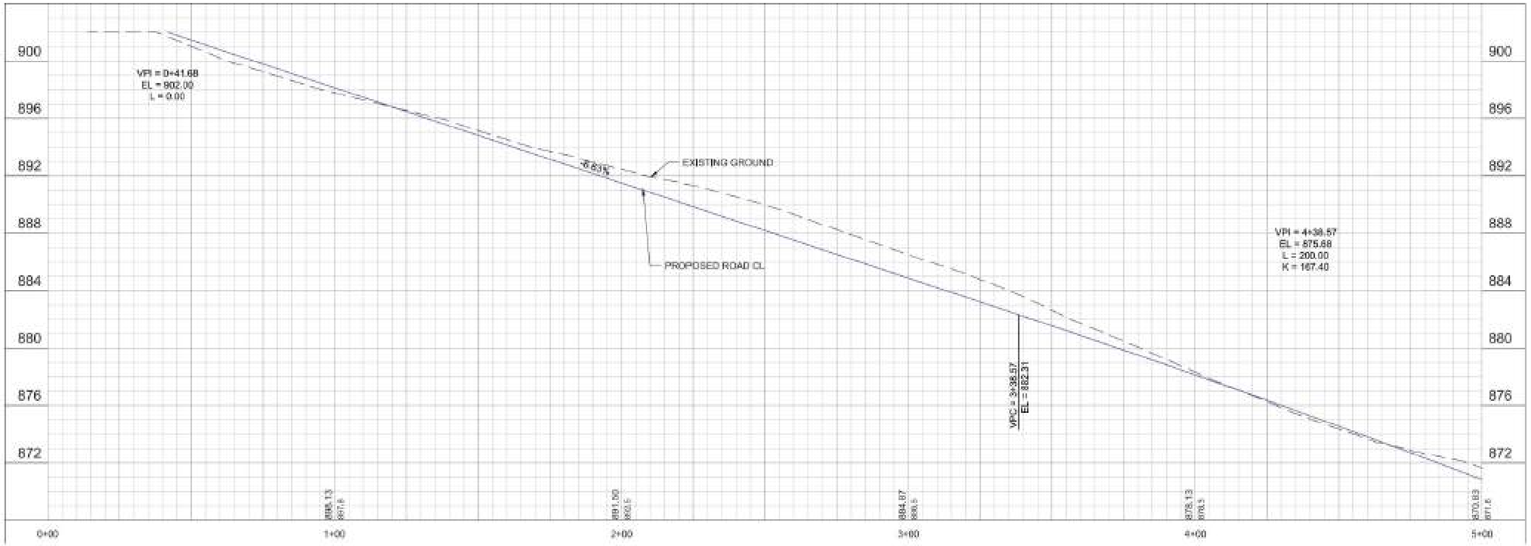

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PROJECT DATE:	DRAWN BY: BPS	-	-	---	-
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PLOT DATE: 3/28/2025 10:07 AM, G:\21\21556\21556000\CADD\Construction Documents\21556000 Road P&P.dwg

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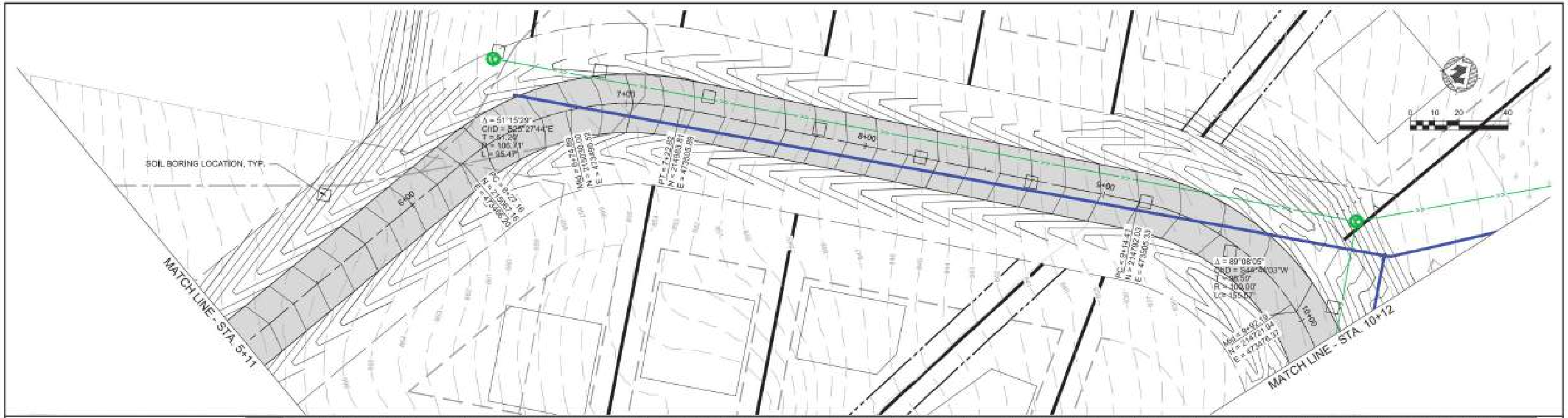
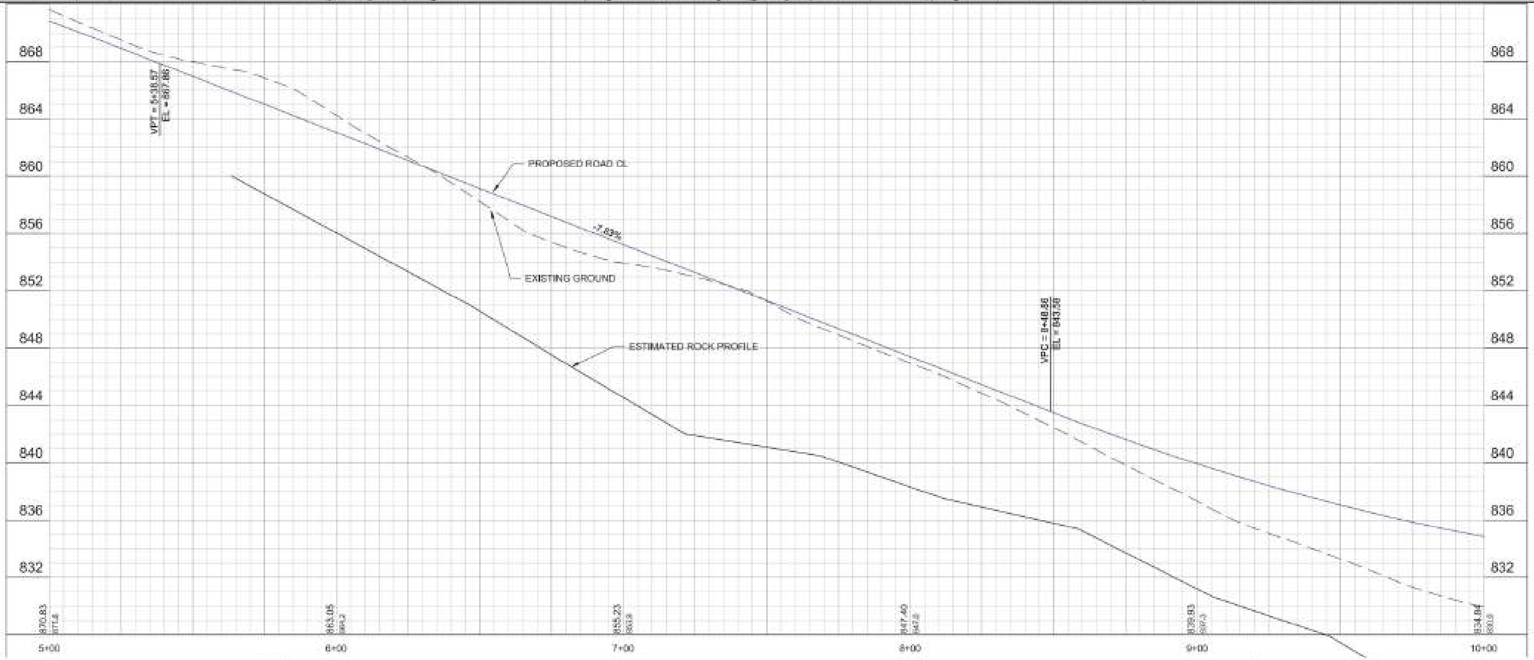
VESTA UNCHAINED
COOK COUNTY, MN

ROAD P&P

PROJECT NO.
21556000
SHEET
19





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PLOT DATE: 2/23/2023 10:37 AM, G:\21\21556\21556000\CAD\Construction Documents\21556000 Road P&P.dwg

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PROJECT NO.
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SHEET
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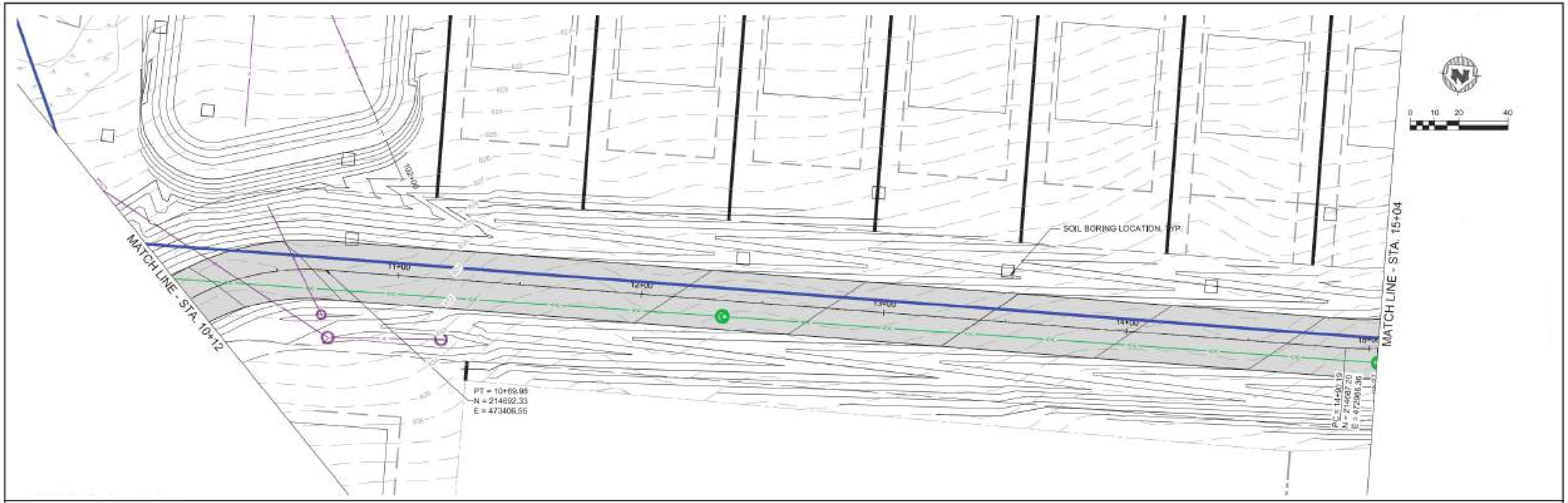

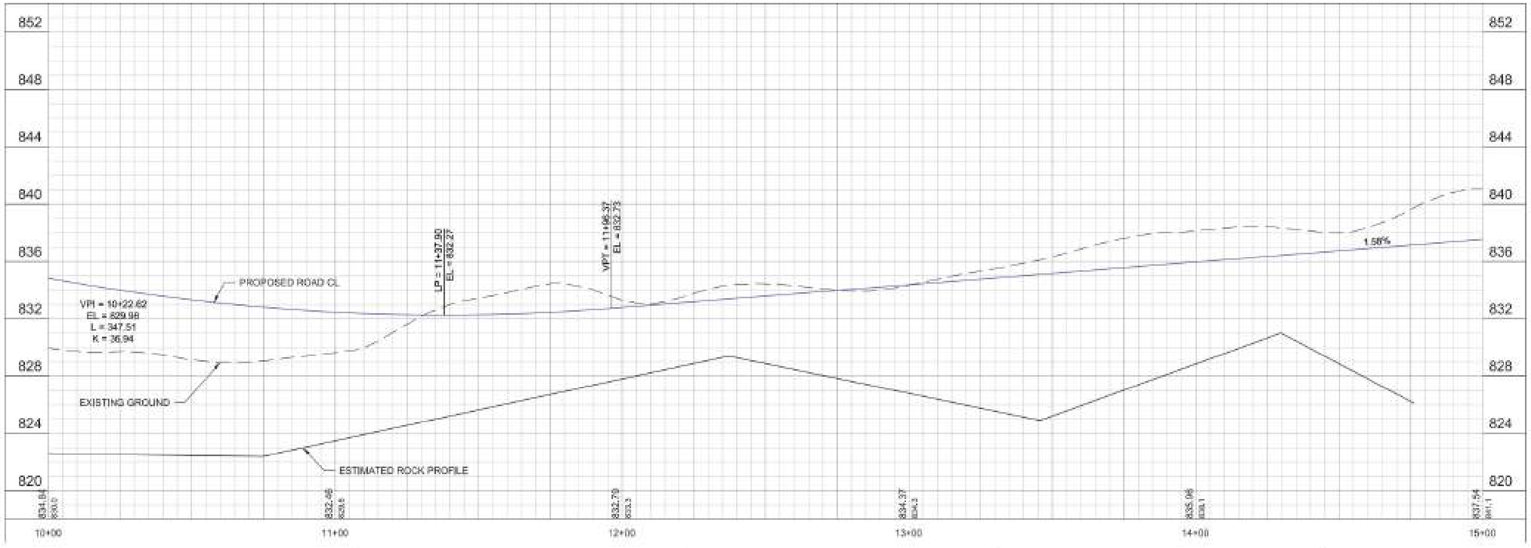

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PLOT DATE: 3/28/2025 10:37 AM, G:\21\21556000\CADD\Construction Documents\21556000 Road P&P.dwg

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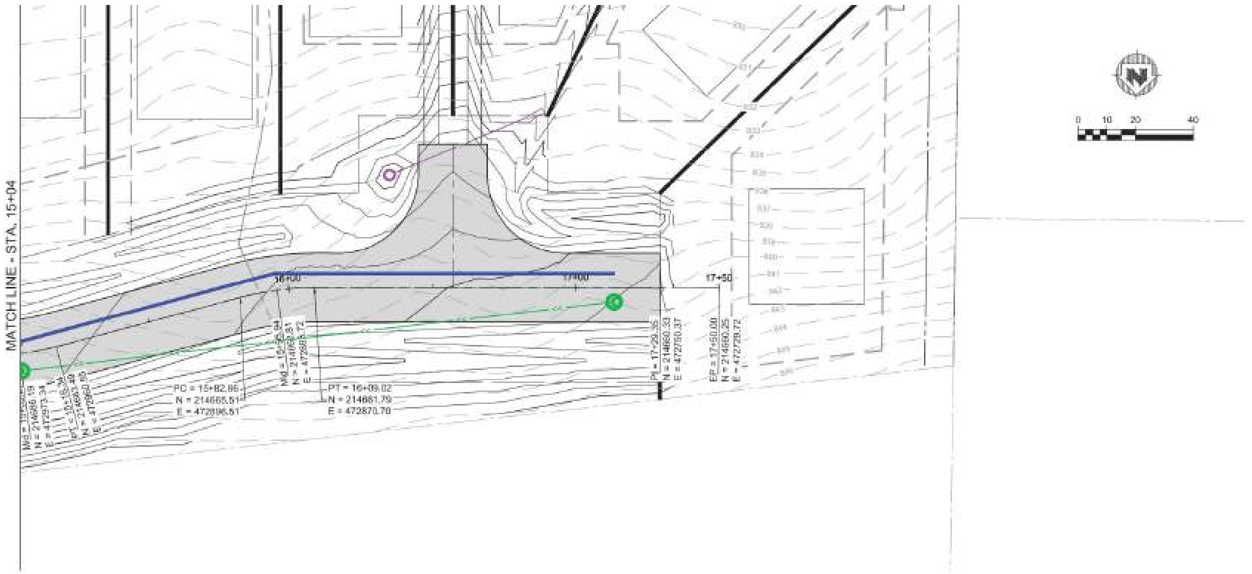
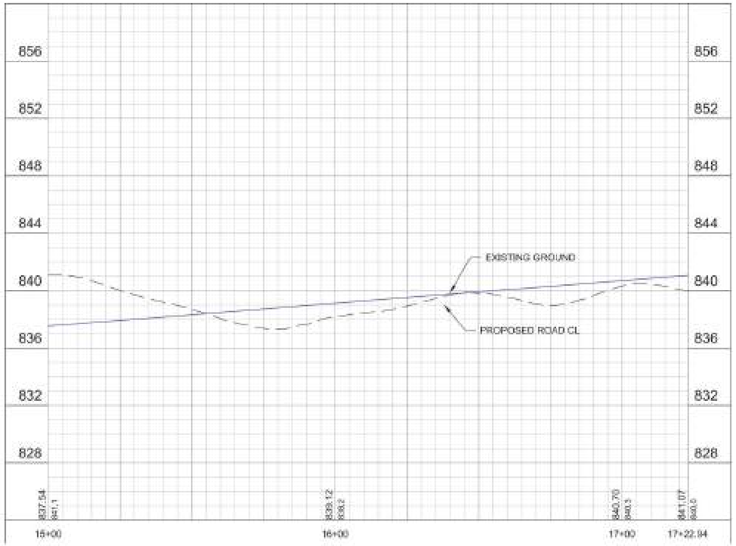
COOK COUNTY, MN

ROAD P&P

PROJECT NO.
21556000
SHEET
21





		NO.	DATE	REVISION	BY
PROJECT DATE:	DRAWN BY:	-	-	---	-
	DESIGNED BY:	-	-	-	-
	CHECKED BY:	-	-	-	-

PLOT DATE: [illegible] Construction Documents\21556000 Road P&P.dwg

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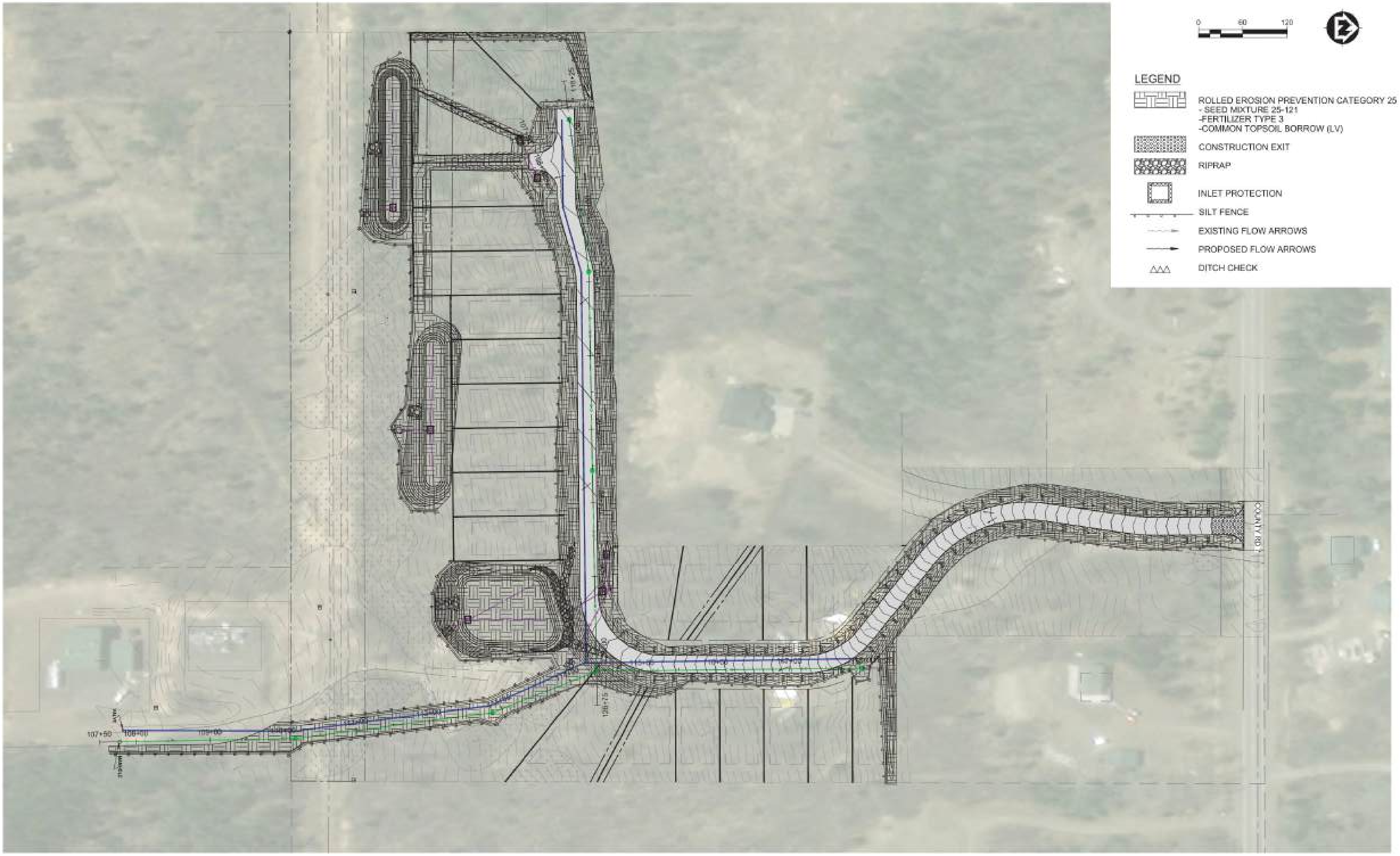
VESTA UNCHAINED
COOK COUNTY, MN

ROAD P&P

PROJECT NO.
21556000

SHEET
22



LEGEND

▤ ROLLED EROSION PREVENTION CATEGORY 25
- SEED MIXTURE 25-121
-FERTILIZER TYPE 3
-COMMON TOPSOIL BORROW (LV)

▨ CONSTRUCTION EXIT

▨ RIPRAP

☐ INLET PROTECTION

SILT FENCE

EXISTING FLOW ARROWS

PROPOSED FLOW ARROWS

△△△ DITCH CHECK

		NO.	DATE	REVISION	BY
PROJECT DATE:	DRAWN BY:	-	-	---	-
	DESIGNED BY:	-	-	-	-
	CHECKED BY:	-	-	-	-

PLOT DATE: [illegible] Construction Documents\21556000 Overview Removal.dwg

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VESTA UNCHAINED DEVELOPMENT
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COOK COUNTY, MN

EROSION CONTROL

PROJECT NO.
21556000

SHEET
23

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

PROJECT DESCRIPTION

THE PROJECT IS LOCATED ON PARCEL NO. 80-020-2325 AND IS LOCATED SOUTH OFF OF W 5TH ST/COUNTY RD 7 IN GRAND MARAIS, MN. THIS 24-LOT DEVELOPMENT PROJECT INCLUDES APPROXIMATELY 1770 LF OF GRAVITY SANITARY SEWER, 1750 LF OF WATERMAIN, STORMWATER, AND A GRAVEL ROAD CONNECTING TO W 5TH ST/COUNTY RD 7.

AREAS OF ENVIRONMENTAL SENSITIVITY (AES), SPECIAL AND IMPAIRED WATERS

THE RECEIVING WATER FOR STORM WATER RUNOFF ON THIS PROJECT IS: LAKE SUPERIOR .

SPECIAL BMP'S AND A SITE MANAGEMENT PLAN AREA REQUIRED FOR CONSTRUCTION ACTIVITIES ON THIS SITE. **THE BMP'S OUTLINED IN SECTIONS 23.9 OF THE NPDES PERMIT MUST BE IMPLEMENTED ON SITE.**

RECEIVING WATER	SPECIAL WATER	IMPAIRED WATER	CONSTRUCTION IMPAIREMENT	TROUT	TMDL	INVASIVE
LAKE SUPERIOR	NO	YES*	NO	NO	NO	NO

*IMPAIRMENTS INCLUDES MERCURY AND PCBS IN FISH TISSUE

LAND FEATURE CHANGES

TOTAL DISTURBED AREA =	**4.88 ACRES**
TOTAL EXISTING IMPERVIOUS AREA =	**0.64 ACRES**
TOTAL PROPOSED IMPERVIOUS AREA =	**1.08 ACRES**
TOTAL NET CHANGE IN IMPERVIOUS AREAS =	**0.44 ACRES**

SOIL TYPES

SEE SOIL BORING LOGS LOCATED IN GEOTECHNICAL REPORT (SEE SPEC)

ENVIRONMENTAL REVIEW

****THERE ARE NO STORM WATER MITIGATION MEASURES REQUIRED AS A RESULT OF AN ENVIRONMENTAL, ARCHEOLOGICAL, OR AGENCY REVIEW. ALL MITIGATION MEASURES HAVE BEEN ADDRESSED IN THIS PLAN SET OR THE SPECIAL PROVISIONS.****

LONG TERM MAINTENANCE AND OPERATION

IS RESPONSIBLE FOR THE LONG TERM MAINTENANCE AND OPERATION, EXCLUSIVE OF THE CONTRACTOR WARRANTY PERIOD, OF THE PERMANENT STORM WATER SYSTEM INSTALLED ON THIS PROJECT.

OWNER & RECORDS RETENTION:

OWNER: CITY OF GRAND MARAIS
ADDRESS: 15 N BROADWAY
CITY: GRAND MARAIS, MN

PROJECT PERSONNEL, TRAINING, AND AMENDING THE SWPPP

1. THIS SWPPP WAS PREPARED BY PERSONNEL THAT ARE CERTIFIED IN THE DESIGN OF CONSTRUCTION SWPPP BY THE UNIVERSITY OF MINNESOTA EROSION AND SEDIMENT CONTROL PROGRAM. CURRENT CERTIFICATION CARDS AND CERTIFICATES OF TRAINING ATTENDANCE ARE ON FILE WITH MSA PROFESSIONAL SERVICES INC. AND ARE AVAILABLE UPON REQUEST.
2. PURSUANT TO MNDOT SPECIFICATION 1717.2A: **THE CONTRACTOR SHALL IMPLEMENT THE PROJECT'S STORM WATER POLLUTION PREVENTION PLAN.**
3. PURSUANT TO MNDOT SPECIFICATION 2573.3A1: **THE CONTRACTOR SHALL PROVIDE A CERTIFIED EROSION CONTROL SUPERVISOR IN GOOD STANDING WHO IS KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES.** THE EROSION CONTROL SUPERVISOR WILL WORK WITH THE CITY OF OAK GROVE AND ITS DESIGNATED FIELD STAFF TO OVERSEE THE IMPLEMENTATION OF THE SWPPP AND INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION/SEDIMENT CONTROL BMPS. THIS SHALL BE DONE BEFORE, DURING, AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA. **PROVIDE PROOF OF CERTIFICATION AT THE PRE-CONSTRUCTION MEETING. WORK WILL NOT BE ALLOWED TO COMMENCE UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED TO CITY OF RICE LAKE AND ITS DESIGNATED FIELD STAFF.**
4. PROVIDE AT LEAST ONE CERTIFIED INSTALLER FOR EACH CONTRACTOR OR SUBCONTRACTOR THAT INSTALLS THE PRODUCTS LISTED IN SECTION 2573.3.A.2 OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2018 EDITION. **PROVIDE PROOF OF CERTIFICATION AT THE PRE-CONSTRUCTION MEETING. WORK WILL NOT BE ALLOWED TO COMMENCE UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED TO THE CITY OF GRAND MARAIS AND ITS DESIGNATED FIELD STAFF.**
5. ANY AMENDMENTS TO THE SWPPP SHALL BE COMPLETED BY THE CONTRACTOR'S QUALIFIED INDIVIDUAL AS DESCRIBED IN SECTIONS 21.2.A AND 21.2.B OF THE "TRAINING REQUIREMENTS" PORTION OF THE NPDES PERMIT. THESE SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL BY THE ENGINEER (OR DESIGNATED REPRESENTATIVE).
6. THE SWPPP MUST BE AMENDED TO DOCUMENT ANY ADDITIONAL OR MODIFIED BMPS USED TO CORRECT PROBLEMS OR ADDRESS NEW SITE CONDITIONS AS A RESULT OF CHANGES TO DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS.
7. THE SWPPP MUST BE AMENDED TO DOCUMENT ADDITIONAL OR MODIFIED BMPS USED TO CORRECT PROBLEMS IDENTIFIED AS A RESULT OF INSPECTIONS/INVESTIGATIONS BY THE OWNER, USEPA, OR MPCA OFFICIALS INDICATING THE CURRENT SWPPP IS INEFFECTIVE IN CONTROLLING EROSION AND PREVENTING POLLUTION.
8. THE SWPPP DOCUMENT, ALL APPROVED CHANGES, PROJECT MANUAL, AND INSPECTION REPORTS MUST BE KEPT AT THE SITE DURING CONSTRUCTION BY THE CONTRACTOR. THE SWPPP DOCUMENTS CAN BE KEPT IN A FIELD OFFICE OR ON-SITE VEHICLE DURING NORMAL WORKING HOURS.

CHAIN OF RESPONSIBILITY

CITY OF GRAND MARAIS, THE CONTRACTOR, AND ALL ASSOCIATED SUB-CONTRACTORS INVOLVED IN SITE SOIL DISTURBANCE ACTIVITIES ARE CO-PERMITEES FOR THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION PERMIT. THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION PERMIT AT ALL TIMES UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA. THE CONTRACTOR SHALL DEVELOP A CHAIN OF COMMAND WITH ALL OPERATIONS ON THE SITE TO ENSURE THAT THE SWPPP WILL BE IMPLEMENTED AND STAY IN EFFECT UNTIL CONSTRUCTION IS COMPLETE, THE ENTIRE SITE HAS UNDERGONE FINAL STABILIZATION, AND A NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED TO THE MPCA.

PROJECT CONTACTS

ORGANIZATION	PERMIT/FORM	CONTACT NAME	PHONE/EMAIL
CONTRACTOR'S EROSION CONTROL SUPERVISOR	TBA		
MINNESOTA POLLUTION CONTROL AGENCY (MPCA)	NPDES	JAMES DEXTER	218-302-6632 james.dexter@state.mn.us
SOIL AND WATER CONSERVATION DISTRICT (SWCD)	WCA	PHIL LARSON	218-387-3649 philip.larson@co.cook.mn.us
MNDOT EROSION CONTROL SPECIALIST	N/A	DWAYNE STENLUND	651-366-3625 dwayne.stenlund@state.mn.us
MNDNR AREA HYDROLOGIST	N/A	CLIFF BENTLEY	218-834-1441 cliff.bentley@state.mn.us
CORP OF ENGINEERS	SECTION 404	KRISTOPHER LAMAN	651-290-6409 mvp-reg-inquiry@usace.army.mil
LOCAL GOVERNING UNIT	N/A	MIKE ROTH	218-387-1848 cityhall@grandmarais.city

MPCA DUTY OFFICE 24 HOUR EMERGENCY NOTIFICATION: 651-649-5451 OR 800-422-0798

LOCATION OF SWPPP REQUIREMENTS

THE REQUIRED SWPPP ELEMENTS MAY BE LOCATED IN MULTIPLE PLACES WITHIN THIS PLAN SET AS WELL AS IN THE PROJECT SPECIAL PROVISIONS, MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2020 EDITION, AND CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM) CONSTRUCTION STANDARD SPECIFICATIONS 2023. THE NOTES AND TABLE BELOW ARE INTENDED TO BE A REFERENCE GUIDE FOR THE CONTRACTOR AND FIELD STAFF. THERE MAY BE ADDITIONAL REQUIRED SWPPP ELEMENTS INCLUDED ON THE PROJECT THAT ARE NOT LISTED ON THESE SHEETS.

DESCRIPTION	TITLE	LOCATION
SUMMARY OF PERVIOUS & IMPERVIOUS	SWPPP NARRATIVE	SHEET 24
DIRECTION OF FLOW AND DRAINAGE AREA	SEDIMENT & EROSION CONTROL PLAN	SHEET 23
RECEIVING SURFACE WATERS	SWPPP NARRATIVE	SHEET 24
NO DISTURBANCE AREAS AND AREAS OF CONSTRUCTION	REMOVALS	SHEET 9
DRAINAGE STRUCTURES	POND SECTIONS & UTILITY P&P	SHEET 13 &18
EROSION CONTROL TABULATIONS	SWPPP NARRATIVE	SHEET 26
EROSION CONTROL SHEETS	SEDIMENT & EROSION CONTROL PLAN	SHEET 23
EROSION CONTROL DETAILS	DETAILS	SHEET 3-8
EROSION AND SEDIMENT CONTROL BEST PRACTICES	SWPPP NARRATIVE	SHEET 25
FINAL STABILIZATION	SEDIMENT & EROSION CONTROL PLAN	SHEET 23

SITE INSPECTION AND MAINTENANCE

INSPECT THE ENTIRE CONSTRUCTION SITE A MINIMUM OF ONCE EVERY SEVEN DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. INSPECT ALL TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT, EROSION PREVENTION, AND SEDIMENT CONTROL BMPS UNTIL THE SITE HAS UNDERGONE FINAL STABILIZATION AND THE NOTICE OF TERMINATION HAS BEEN SUBMITTED. INSPECT SURFACE WATER INCLUDING DRAINAGE DITCHES FOR SIGNS OF EROSION AND SEDIMENT DEPOSITION. INSPECT THE CONSTRUCTION SITE VEHICLE EXIT LOCATIONS FOR EVIDENCE OF TRACKING ONTO PAVED SURFACES. INSPECT SURROUNDING PROPERTIES FOR EVIDENCE OF OFF SITE SEDIMENT ACCUMULATION. INSPECT INFILTRATION AREAS FOR SIGNS OF SEDIMENT DEPOSITION AND COMPACTION (TO ENSURE THAT EQUIPMENT IS NOT BEING DRIVEN ACROSS THE AREA.)

TRAINED INDIVIDUAL PERFORMING SITE INSPECTIONS (TO BE COMPLETED BY CONTRACTOR AFTER AWARD)

NAME:
COMPANY:
TRAINING CERTIFICATION:
EXPIRATION:
TRAINING ENTITY:

RECORD ALL INSPECTIONS AND MAINTENANCE ACTIVITIES IN WRITING WITHIN 24 HOURS. SUBMIT INSPECTION REPORTS IN A FORMAT THAT IS ACCEPTABLE TO THE ON SITE ENGINEER. RAINFALL AMOUNTS MUST BE OBTAINED BY A PROPERLY MAINTAINED RAIN GAUGE INSTALLED ON SITE, A WEATHER STATION WITHIN 1 MILE OR BY A WEATHER REPORTING SYSTEM. INCLUDE THE FOLLOWING IN THE RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY:

A. DATE AND TIME OF INSPECTIONS
B. NAME OF PERSONS CONDUCTING INSPECTIONS
C. FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS.
D. CORRECTIVE ACTIONS TAKEN, INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES.
E. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCHES IN 24 HOURS.
F. DOCUMENTS AND CHANGES MADE TO THE SWPPP.
G. PHOTOGRAPHS OF FINDINGS

REPLACE, REPAIR, OR SUPPLEMENT ALL NONFUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY FOLLOWING DISCOVERY UNLESS LISTED DIFFERENTLY BELOW:

A. REPAIR, REPLACE, OR SUPPLEMENT PERIMETER CONTROL DEVICES WHEN IT BECOMES NONFUNCTIONAL OR SEDIMENT REACHES HALF THE HEIGHT OF THE DEVICE. COMPLETE REPAIRS BY THE END OF THE NEXT BUSINESS DAY FOLLOWING DISCOVERY.
B. REPAIR, REPLACE, OR SUPPLEMENT INLET CONTROL DEVICES WHEN IT BECOMES NONFUNCTIONAL OR SEDIMENT REACHES HALF THE HEIGHT AND/OR DEPTH OF THE DEVICE.
C. DRAIN AND REMOVE SEDIMENT FROM TEMPORARY AND PERMANENT SEDIMENT BASINS ONCE THE SEDIMENT HAS REACHED HALF THE STORAGE VOLUME. COMPLETE THIS WORK WITHIN 72 HOURS OF DISCOVERY.

		NO.	DATE	REVISION	BY
PROJECT DATE:	DRAWN BY: [illegible]	-	-	—	-
	DESIGNED BY: [illegible]	-	-	-	-
	CHECKED BY: [illegible]	-	-	-	-

PLOT DATE: [illegible]

I HEREBY CERTIFY THAT THIS PLAN, REPORT, OR SPECIFICATION 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.

05/15/2023
Date

53222
License No.

JON LOYE, P.E.

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VESTA UNCHAINED DEVELOPMENT
VESTA UNCHAINED
COOK COUNTY, MN

SWPPP

PROJECT NO.
21556000

SHEET
24

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (CONTINUED)

D. REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS. RE-STABILIZE ANY AREAS THAT ARE DISTURBED BY SEDIMENT REMOVAL OPERATIONS. SEDIMENT REMOVAL AND STABILIZATION MUST BE COMPLETED WITHIN 7 DAYS OF DISCOVERY. PREPARE AND SUBMIT A SITE MANAGEMENT PLAN FOR WORKING IN SURFACE WATERS. CONTACT ALL APPROPRIATE AUTHORITIES PRIOR TO WORKING IN SURFACE WATERS.

E. REMOVE TRACKED SEDIMENT FROM PAVED SURFACES BOTH ON AND OFF SITE WITHIN 24 HOURS OF DISCOVERY. STREET SWEEPING MAY HAVE TO OCCUR MORE OFTEN TO MINIMIZE OFF SITE IMPACTS. LIGHTLY WET THE PAVEMENT PRIOR TO SWEEPING.

F. MAINTAIN ALL BMPS UNTIL WORK HAS BEEN COMPLETED, SITE HAS GONE UNDER FINAL STABILIZATION, AND THE NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED TO THE MPCA.

ANTICIPATED CONSTRUCTION SEQUENCE AND INSTALLATION OF EROSION AND SEDIMENT CONTROL BMPS

OUTLINED BELOW IS THE ANTICIPATED SEQUENCE OF CONSTRUCTION ACTIVITIES ALONG WITH THE REQUIRED BMPS. THIS ORDER DOES NOT NECESSARILY IMPLY THAT ONE ACTIVITY WILL BE COMPLETE BEFORE THE NEXT ONE BEGINS OR LIMIT THE CONTRACTOR TO THIS ONE SEQUENCE. THIS ORDER MAY BE MODIFIED IN THE FIELD DUE TO SITE CONDITIONS.

1. INSTALL PERIMETER CONTROLS DOWN GRADIENT FROM SOIL DISTURBANCE AREAS.
2. REMOVE EXISTING BITUMINOUS SURFACE AND AGGREGATE BASE (IF APPLICABLE)
3. INSTALL PROPOSED UNDERGROUND UTILITIES AS INDICATED IN PLANS.
4. BEGIN GRADING AND SUBGRADE CONSTRUCTION TO TYPICAL SECTION DIMENSIONS AS OUTLINED IN THIS PLAN SET.
5. INSTALL CURB AND GUTTER AND PERMANENT STORM WATER MANAGMENT SYSTEMS.
6. CONSTRUCT PROPOSED IMPERVIOUS SURFACES.
7. GRADE ROADWAY CORRIDOR TO TYPICAL SECTION DIMENSIONS AS OUTLINED IN THIS PLAN SET (IF APPLICABLE).
8. FINAL STABILIZATION OF DISTURBED AREAS SHALL BEGIN IMMEDIATELY AFTER FINAL GRADING HAS OCCURRED. ADDITIONAL FINAL STABILIZATION WILL BE NEEDED AFTER CONSTRUCTION OF SURFACING ITEMS (CURB & GUTTER, BITUMINOUS PAVEMENT, ETC) IS COMPLETE.

STABILIZATION TIME FRAMES

AREA	TIME FRAME	REMARKS
LAST 200 LINEAL FEET OF DRAINAGE DITCH OR SWALE	WITHIN 24 HOURS OF CONNECTION TO SURFACE WATER OR PROPERTY EDGE	1, 2, 3
REMAINING PORTIONS OF DRAINAGE DITCH OR SWALE	7 DAYS	1, 3
DITCH OR SWALE FOR SEDIMENT CONTAINMENT	24 HOURS	4
PIPE AND CULVERT OUTLETS	24 HOURS	5
EXPOSED SOILS AND STOCKPILES	7 DAYS	1
WITHIN 200 FEET OF PUBLIC WATER	24 HOURS	1

1. INITIATE STABILIZATION IMMEDIATELY WHEN CONSTRUCTION HAS TEMPORARILY OR PERMANENTLY CEASED ON ANY PORTION OF THE SITE. COMPLETE STABILIZATION WITHIN THE TIME FRAME LISTED. OFTEN TIMES THIS WILL REQUIRE STABILIZATION TO OCCUR MORE THAN ONCE DURING THE COURSE OF THE PROJECT. TEMPORARY SOIL STOCKPILES WITHOUT SIGNIFICANT CLAY/SILT CONTENT, STOCKPILED ROAD BASE, AND CONSTRUCTED ROAD BASE ARE EXEMPT FROM THE STABILIZATION REQUIREMENT.

2. STABILIZE THE WETTED PERIMETER OF DITCHES.

3. APPLICATION OF MULCH, HYDRO-MULCH, TACKIFIER, AND POLYACRYLAMIDE ARE NOT ACCEPTABLE STABILIZATION METHODS IN THESE AREAS.

4. STABILIZATION TIME FRAME INITIATES ONCE USE FOR SEDIMENT CONTROL CEASES.

5. ENERGY DISSIPATION TO BE INSTALLED WITHIN TIME FRAME LISTED ONCE CONNECTED TO SURFACE WATER OR PERMANENT STORM WATER TREATMENT SYSTEM.

6. STABILIZE ALL AREAS OF THE SITE PRIOR TO THE ONSET OF WINTER, ANY WORK STILL BEING PERFORMED WILL BE SNOW MULCHED, SEEDED, AND BLANKETED WITHIN THE TIME FRAMES IN THE NPDES PERMIT.

7. TOPSOIL BERMS MUST BE STABILIZED IN ORDER TO BE CONSIDERED PERIMETER CONTROL BMPS. USE MULCH, TYPE 4, AS DIRECTED BY THE FIELD STAFF. THE SEED MIX USED IN THE RAPID STABILIZATION MAY BE SUBSTITUTED AS FOLLOWS:

   A. SINGLE YEAR CONSTRUCTION BETWEEN MAY 1 - AUGUST 1, SEED WITH SEED MIXTURE 21-111
   B. SINGLE YEAR CONSTRUCTION BETWEEN AUGUST 1 AND OCTOBER 31, SEED WITH SEED MIXTURE 21-112
   C. MULTI-YEAR CONSTRUCTION, SEED WITH SEED MIXTURE 22-111

8. KEEP DITCHES AND EXPOSED SOILS IN AN EVEN ROUGH GRADED CONDITION IN ORDER TO APPLY EROSION CONTROL MULCHES, HYDRO-MULCHES AND BLANKETS.

9. SEE WATER RESOURCES NOTES FOR A LIST OF PUBLIC WATER EXCLUSION DATES. 24 HOUR STABILIZATION REQUIREMENT ONLY APPLIES DURING THE EXCLUSION DATES.

GENERAL SWPPP NOTES FOR CONSTRUCTION ACTIVITY

1. AMEND THE SWPPP AND DOCUMENT ALL CHANGES TO IT AND ALL ASSOCIATED PLAN SHEETS IN A TIMELY MANNER. STORE THE SWPPP AND ALL AMENDMENTS ON SITE AT ALL TIMES.

2. **SPECIAL ATTENTION IS BROUGHT TO MNDOT SPECIFICATION 2573.3A1: EROSION CONTROL SUPERVISOR DUTY #8: PROVIDES FOR EROSION AND SEDIMENT CONTROL METHODS FOR TEMPORARY WORK NOT SHOWN ON THE PLANS.**

3. ALL TOPSOIL TO BE STRIPPED AND SALVAGED DURING GRADING ACTIVITIES SHALL BE STOCKPILED IN LOCATIONS APPROVED BY THE ENGINEER. APPROPRIATE BMPS SHALL BE INSTALLED TO PREVENT EROSION AND SEDIMENT RUNOFF AT THESE STOCKPILE LOCATIONS. ANY STOCKPILES REMAINING IN PLACE FOR LONGER THAN 7 DAYS SHALL BE TEMPORARILY STABILIZED.

4. PREPARE AND SUBMIT A SITE MANAGEMENT PLAN FOR THE FIELD STAFF'S ACCEPTANCE FOR AREAS IDENTIFIED IN THE PLANS AS "SITE MANAGEMENT AREAS," WORK THAT WILL REQUIRE DE-WATERING, AND AS REQUESTED BY THE ENGINEER. SUBMIT ALL SITE MANAGEMENT PLANS TO THE ENGINEER IN WRITING. ALLOW A MINIMUM OF 7 DAYS FOR ENGINEER TO REVIEW AND ACCEPT SITE MANAGEMENT PLAN SUBMITTALS. WORK WILL NOT BE ALLOWED TO COMMENCE IF A SITE MANAGEMENT PLAN IS REQUIRED. THERE WILL BE NO EXTRA TIME ADDED TO THE CONTRACT DUE TO AN UNTIMELY SUBMITTAL.

5. BURNING OF ANY MATERIAL IS NOT ALLOWED WITHIN PROJECT LIMITS.

6. DO NOT DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS. DELINEATE AREAS NOT TO BE DISTURBED PRIOR TO STARTING GROUND DISTURBING ACTIVITIES. IF IT BECOMES NECESSARY TO DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS, OBTAIN WRITTEN PERMISSION FROM THE ENGINEER PRIOR TO PROCEEDING. PRESERVE ALL NATURAL BUFFERS SHOWN IN THE PLANS.

7. THE CONTRACTOR SHALL COORDINATE SITE DISTURBANCE IN SUCH A WAY AS TO MINIMIZE GROUND DISTURBANCE AND PRESERVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE. COORDINATION OF THESE ACTIVITIES SHALL BE DONE IN CONJUNCTION WITH THE ENGINEER, OWNER, AND ANY OTHER PARTY LISTED ON THE NPDES PERMIT AS A CO-PERMITEE.

8. ROUTE STORM WATER AROUND UNSTABILIZED AREAS OF THE SITE WHENEVER POSSIBLE. PROVIDE EROSION CONTROL AND VELOCITY DISSIPATION DEVICES AS NEEDED TO KEEP CHANNELS FROM ERODING AS WELL AS TO PREVENT NUISANCE CONDITIONS AT THE OUTLET.

9. DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS WHENEVER POSSIBLE. PROVIDE VELOCITY DISSIPATION DEVICES AS NEEDED TO PREVENT EROSION.

10. THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS SHALL BE PLACED AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND TO CAPTURE SEDIMENT ON SITE. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO STARTING AND REMOVAL WORK AND/OR GROUND DISTURBANCE.

11. ESTABLISH SEDIMENT CONTROL DEVICES ON ALL DOWN GRADIENT PERIMETERS AND UP GRADIENT OF ANY BUFFER ZONES BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN. MAINTAIN SEDIMENT CONTROL DEVICES UNTIL CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

12. LOCATE PERIMETER CONTROL ON THE CONTOUR TO CAPTURE OVERLAND, LOW-VELOCITY SHEET FLOWS DOWN GRADIENT OF ALL EXPOSED SOILS, AND PRIOR TO DISCHARGING TO SURFACE WATERS. PLACE J-HOOKS AT MAXIMUM OF 100 FOOT INTERVALS.

13. PROVIDE PERIMETER CONTROL AROUND ALL STOCKPILES. PLACE BMP A MINIMUM 5 FEET FROM THE TOES OF SLOPE WHERE POSSIBLE. DO NOT PLACE STOCKPILES IN NATURAL BUFFER AREAS, SURFACE WATERS, OR STORM WATER CONVEYANCES (CURB & GUTTER SYSTEM).

14. FLOATING SILT CURTAIN IS ALLOWED AS PERIMTER CONTROL FOR IN WATER WORK ONLY. PLACE THE FLOATING SILT CURTAIN AS CLOSE TO SHORE AS POSSIBLE. PLACE PERIMETER CONTROL BMP ON LAND IMMEDIATELY AFTER THE IN WATER WORK IS COMPLETED.

15. STORM SEWER AND PIPE CULVERT INLET PROTECTIONS SHALL BE USED AS SPECIFIED ON EROSION CONTROL PLANS AND AS DIRECTED BY ENGINEER IN FIELD.

16. PLACE CONSTRUCTION EXITS, AS NECESSARY, TO PREVENT TRACKING OF SEDIMENT ONTO PAVED SURFACES BOTH ON AND OFF THE PROJECT SITE. PROVIDE CONSTRUCTION EXITS OF SUFFICIENT SIZE TO PREVENT TRACK OUT. MAINTAIN CONSTRUCTION EXITS WHEN EVIDENCE OF TRACKING IS DISCOVERED. REGULAR STREET SWEEPING IS NOT AN ACCEPTABLE ALTERNATIVE TO PROPER CONSTRUCTION EXIT INSTALLATION AND MAINTENANCE.

17. DISCHARGE TURBID OR SEDIMENT LADEN WATER TO TEMPORARY SEDIMENT BASINS WHENEVER POSSIBLE. IN THE EVENT THAT THIS IS NOT POSSIBLE, THE WATER MUST BE TREATED SO THAT IT DOES NOT CAUSE A NUISANCE CONDITION IN THE RECEIVING WATERS OR TO DOWNSTREAM LANDOWNERS. CLEAN OUT ALL PERMANENT STORM WATER BASINS REGARDLESS OF WHETHER USED AS A TEMPORARY SEDIMENT BASINS OR TRAPS TO THE DESIGN CAPACITY AFTER ALL UP GRADIENT LAND DISTURBING ACTIVITY IS COMPLETED.

18. ALL BACKWASH WATER USED IN FILTRATION SYSTEMS FOR TURBID WATER MUST BE HAULED AND DISPOSED OF OFF SITE.

19. PROVIDE SCOUR PROTECTION AT ANY OUTFALL OF DE-WATERING ACTIVITIES.

20. PROVIDE STABILIZATION IN ANY TRENCHES CUT FOR DE-WATERING OR SITE DRAINING PURPOSES.

21. REMOVE SEDIMENT FROM STORM WATER SYSTEM AT THE END OF PROJECT.

22. PRESERVE A MINIMUM OF 50 FOOT NATURAL BUFFER OR (IF BUFFER IS NOT POSSIBLE) PROVIDE REDUNDANT SEDIMENT CONTROLS WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET OF LAND DISTURBANCE AND STORM WATER FLOWS TO THE SURFACE WATER.

POLLUTION PREVENTION

1. PROVIDE A SPILL KIT AT EACH WORK LOCATION ON THE SITE.

2. STORE ALL BUILDING MATERIALS THAT HAVE THE POTENTIAL TO LEACH POLLUTANTS, PESTICIDES, HERBICIDES, INSECTICIDES, FERTILIZERS, TREATMENT CHEMICALS, AND LANDSCAPE MATERIALS UNDER COVER AND WITH SECONDARY CONTAINMENT.

3. PROVIDE A SECURE STORAGE AREA WITH RESTRICTED ACCESS FOR ALL HAZARDOUS MATERIALS AND TOXIC WASTE. RETURN ALL HAZARDOUS MATERIALS AND TOXIC WASTE TO THE DESIGNATED STORAGE AREA AT THE END OF THE BUSINESS DAY. STORE ALL HAZARDOUS MATERIALS AND TOXIC WASTE (INCLUDING, BUT NOT LIMITED TO, OIL, DIESEL FUEL, GASOLINE, HYDRAULIC FLUIDS, PAINT, PETROLEUM BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) IN SEALED CONTAINERS WITH SECONDARY CONTAINMENT. CLEAN UP SPILLS IMMEDIATELY.

4. STORE, COLLECT AND DISPOSE OF ALL SOLID WASTE.

5. POSITION ALL PORTABLE TOILETS SO THAT THEY ARE SECURE AND CANNOT BE TIPPED OR KNOCKED OVER. PROPERLY DISPOSE OF ALL SANITARY WASTE.

6. FUEL AND MAINTAIN VEHICLES IN A DESIGNATED CONTAINED AREA WHENEVER POSSIBLE. USE DRIP PANS OR ABSORBENT MATERIALS TO PREVENT SPILLS OR LEAKED CHEMICALS FROM DISCHARGING TO SURFACE WATER OR STORM WATER CONVEYANCES. PROVIDE A SPILL KIT AT EACH LOCATION THAT VEHICLES AND EQUIPMENT ARE FUELED OR MAINTAINED AT.

7. LIMIT VEHICLE AND EQUIPMENT WASHING TO A DEFINED AREA OF THE SITE. CONTAIN RUNOFF FROM THE WASHING AREA TO A TEMPORARY SEDIMENT BASIN OR OTHER EFFECTIVE CONTROL. PROPERLY DISPOSE OF ALL WASTE GENERATED BY VEHICLE AND EQUIPMENT WASHING. ENGINE DEGREASING IS NOT ALLOWED ON THE SITE.

8. PROVIDE EFFECTIVE CONTAINMENT FOR ALL LIQUID AND SOLID WASTES GENERATED BY WASHOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS. LIQUID AND SOLID WASHOUT WASTES MUST NOT CONTACT THE GROUND. DESIGN THE CONTAINMENT SO THAT IT DOES NOT RESULT IN RUNOFF FROM THE WASHOUT OPERATIONS OR CONTAINMENT AREA.

9. CREATE AND FOLLOW A WRITTEN DISPOSAL PLAN FOR ALL WASTE MATERIALS. INCLUDE IN THE PLAN HOW THE MATERIAL WILL BE DISPOSED OF AND THE LOCATION OF THE DISPOSAL SITE. SUBMIT PLAN TO THE ENGINEER FOR REVIEW.

10. USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT DISCHARGE OR PLACEMENT OF BITUMINOUS MILLINGS, CUTTINGS, AND OTHER BITUMINOUS WASTES FROM AREAS OF EXISTING OR FUTURE VEGETATED SOILS AND FROM ALL WATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.

11. USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT CONCRETE DUST, PARTICLES, CONCRETE WASH OUT, AND OTHER CONCRETE WASTES FROM LEAVING PROJECT LIMITS, DEPOSITING IN EXISTING OR FUTURE VEGETATED AREAS, AND FROM ENTERING STORM WATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES, AND CURB FLOW LINES. USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT SAW CUT SLURRY AND PLANING WASTE FROM LEAVING THE PROJECT LIMITS AND FROM ENTERING STORM WATER CONVEYANCE SYSTEMS INCLUDING DITCHES AND CULVERTS.

			NO.	DATE	REVISION	BY
PROJECT DATE:	DRAWN BY:	[illegible]	-	-	---	-
	DESIGNED BY:	[illegible]	-	-	-	-
	CHECKED BY:	[illegible]	-	-	-	-

PLOT DATE: [illegible]

I HEREBY CERTIFY THAT THIS PLAN, REPORT OR SPECIFICATION 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.

05/15/2023
Date

52222
License No.

JON LOYE, P.E.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (CONTINUED)

PERMIT TERMINATION CONDITIONS

THE FOLLOWING CONDITIONS MUST BE MET BEFORE THE TERMINATION OF THE PERMIT CAN BE COMPLETED.

1. PERMANENT UNIFORM PERENNIAL VEGETATIVE COVER MUST BE ESTABLISHED AT 70% DENSITY OF ITS EXPECTED FINAL GROWTH.
2. THE PERMANENT STORM WATER TREATMENT SYSTEM IS CONSTRUCTED, MEETS ALL REQUIREMENTS, AND IS OPERATING AS DESIGNED.
3. ALL TEMPORARY SYNTHETIC EROSION PREVENTION AND SEDIMENT CONTROL BMPS MUST BE REMOVED.
4. CLEAN OUT SEDIMENT FROM CONVEYANCE SYSTEMS AND PERMANENT STORM WATER TREATMENT SYSTEMS (RETURN TO DESIGN CAPACITY)
5. FOR RESIDENTIAL SITES, INSTALL TEMPORARY EROSION PROTECTION AND DOWN-GRADIENT PERIMETER CONTROL AND DISTRIBUTE THE MPCA'S HOMEOWNER FACT SHEET.
6. SUBMIT A NOTICE OF TERMINATION (NOT) TO THE MPCA.

WATER RESOURCES NOTES

THESE NOTES ALONG WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE ARE INTENDED TO GIVE INFORMATION ON CRITICAL DRAINAGE FEATURES, NATURAL RESOURCES AND CONTRACTOR OPERATIONS THAT MAY IMPACT DRAINAGE AND NATURAL RESOURCES.

1. THE FOLLOWING WATER RELATED PERMITS APPLY TO THIS PROJECT:

AGENCY	TYPE OF PERMIT
MINNESOTA POLLUTION CONTROL AGENCY	NPDES CONSTRUCTION GENERAL PERMIT

REVIEW ALL PERMITS FOR ANY SPECIAL CONDITIONS THAT WILL AFFECT CONSTRUCTION OF THE PROJECT.

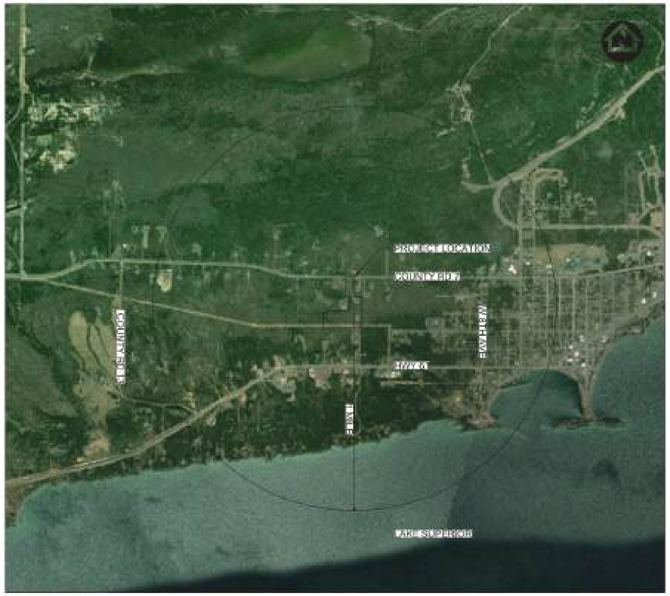
TEMPORARY DEWATERING ACTIVITIES MAY BE REQUIRED FOR ROADWAY CONSTRUCTION AND UTILITY WORK. THEREFORE IT IS POSSIBLE THAT A PERMIT FOR THE TEMPORARY APPROPRIATION OF WATERS OF THE STATE, NON-IRRIGATION FROM MNDNR WILL BE REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THIS PERMIT PRIOR TO COMMENCING DE-WATERING ACTIVITIES. ALL TEMPORARY DE-WATERING SHALL BE DISCHARGED TO AN APPROVED LOCATION FOR TREATMENT PRIOR TO DISCHARGE TO THE RECEIVING WATER. SUBMIT A SITE MANAGEMENT PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO STARTING WORK.

2. THE FOLLOWING TYPES OF WATERS HAVE WORK IN WATER EXCLUSIONS. NO WORK IN THE WATER IS ALLOWED DURING THE EXCLUSION DATES. SEE DNR PERMIT FOR WHICH BODIES OF WATER THIS APPLIES TO.

BODY OF WATER	EXCLUSION DATES
LAKES	APRIL 1 - JUNE 30
NON-TROUT STREAMS	APRIL 1 - JUNE 30
TROUT STREAMS	SEPTEMBER 15 - MAY 15

TABLE OF ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
SILT FENCE	L.F.	6270
EROSION CONTROL BLANKETS	S.F.	211010
RIP RAP	S.F.	4530
STABILIZED CONSTRUCTION EXIT	S.Y.	135
ROCK DITCH CHECK	EACH	70
INLET PROTECTION	EACH	6



PUBLIC DRAINAGE BASINS & WATERWAYS WITHIN
1-MILE BOUNDARY OF PROJECT

		NO.	DATE	REVISION	BY
PROJECT DATE:	DRAWN BY: [illegible]	-	-	—	-
	DESIGNED BY: [illegible]	-	-	-	-
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License No.

JON LOYE, P.E.

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
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VESTA UNCHAINED DEVELOPMENT
VESTA UNCHAINED
COOK COUNTY, MN

SWPPP

PROJECT NO.
21556000

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