COTTAGE GROVE PLANNING COMMISSION

April 27, 2026

12800 RAVINE PARKWAY SOUTH
COTTAGE GROVE, MN 55016

COUNCIL CHAMBER - 7:00 PM

1 Call to Order

2 Roll Call

3 Approval of the Agenda

4 Open Forum

5 Chair's Explanation of the Hearing Process

6 Public Hearing and Applications

- A 10200 Kimbro Shed - V2026-011
  Discussion: David Lincoln has applied for two Variance requests to permit an addition to an existing detached garage within the front yard and for a reduced side yard setback to 10 feet from the north property line.
- B Hohenstein Cannabis Warehouse - CUP2026-014
  Discussion: Karl Hohenstein, on behalf of Hohenstein Real Estate LLC, has applied for a Conditional Use Permit (CUP) for a low potency hemp edible warehouse and wholesale operation at 8301 95th Street South.
- C Geneva Meadows 2nd Addition - Cases ZA2026-010 & PP2026-010
  Discussion: US Home, LLC, dba Lennar, has applied for a Zoning Amendment and Preliminary Plat for a subdivision to be called Geneva Meadows 2nd Addition that will be located south of 85th Street and west of the St. Paul Park and Cottage Grove boundary. The Zoning Amendment will rezone the property from R-1, Rural Residential, to R-3, Single-Family Residential. The proposed single-family community will consist of 23 lots with lot widths of 65 feet.
- D Kwik Trip - Highway 61 - Cases PP2026-013, SP2026-013, CUP2026-013
  Discussion: Kwik Trip Inc. has applied for a Preliminary Plat, Site Plan Review, and Conditional Use Permit (CUP) to construct a 9,176 square foot convenience store with a 4,800 square foot 10-dispenser island fueling canopy and a 1,200 square foot commercial diesel 3-lane canopy at the corner of Manning Avenue and Highway 61. The proposed project would be located on approximately 9.8 acres of the 30.25-acre parcel of land. The Applicant has also had a Preliminary Plat prepared to dedicate right-of-way for Manning Avenue to the east and 114th Street to the north.

7 Approval of Minutes

- A Approval of March 23, 2026, Planning Commission Minutes

8 Reports

- A Recap of April 2026 City Council Meetings
- B Response to Planning Commission Inquiries
- C Planning Commission Requests

9 Adjournment

STAFF REPORT CASE: V2026-011

ITEM: 6.A

PUBLIC MEETING DATE: 4/27/26 **TENTATIVE COUNCIL REVIEW DATE: 5/6/26**

APPLICATION

APPLICANT: David Lincoln

REQUEST: Two variance requests to permit an addition to an existing detached garage within the front yard and for a reduced side yard setback to 10 feet from the north property line.

SITE DATA

LOCATION: 10200 Kimbro Circle South

ZONING: R-1, Rural Residential

GUIDED LAND USE: Rural Residential

LAND USE OF ADJACENT PROPERTIES:	CURRENT	GUIDED
NORTH:	Rural Residential	Rural Residential
EAST:	Rural Residential	Rural Residential
SOUTH:	Rural Residential	Rural Residential
WEST:	Rural Residential	Parks/Open Space

SIZE: 2.68 Acres

DENSITY: N/A

RECOMMENDATION

Approval, based on the findings of fact and subject to the conditions stipulated in this staff report.

COTTAGE GROVE PLANNING DIVISION

Planning Staff Contact: Kelly Becker, Associate Planner; 651-458-2834; kbecker@cottagegrovemn.gov

Application Accepted: 3/26/2026 60-Day Review Deadline: 5/25/2026

Planning Staff Report
Accessory Structure Addition – 10200 Kimbro Circle South
Planning Case No. V 2026-011
April 27, 2026

Proposal

David Lincoln (Applicant), 10200 Kimbro Cricle South, has applied for two variance requests to permit an addition to an existing accessory structure within the front yard and to reduce the side yard setback to 10 feet from the north property line. The requests require a variance to Title 11-3-5, which requires accessory structures to be behind the principal structure and requires a 20-foot setback to side lot lines for accessory structures in the R-1, Rural Residential district.



Site Location

Review Schedule

Application Received: March 26, 2026
Application Accepted: March 26, 2026
Planning Commission Meeting: April 27, 2026
Tentative City Council Meeting: May 6, 2026
60-Day Review Deadline: May 25, 2026

Background

The single-family dwelling with attached garage on the property was originally constructed in 1998 and is served by private septic and well. The primary attached garage is approximately 821 square feet. In 2001, the property owner applied for a variance to construct an accessory structure in front of the principal structure. The code at that time stated “no accessory structure shall be located nearer the front lot line than is the principal building on the lot, except where the lot area of the site is five (5) acres or greater.” The dwelling on the property is located approximately 195 feet away from the front property line, and the accessory structure is approximately 145 feet from the front property line. The accessory structure is 660 square feet and is 20 feet from the side lot line at the closest point. The 2001 variance request for construction of the accessory structure in front of the house was approved due to unique circumstances present on the lot, such as the site’s topography, lot boundary configuration, and existing house location.



Existing House and Accessory Structure

Planning Considerations

Zoning and Comprehensive Plan

The property is currently zoned R-1, Rural Residential, and is guided as Rural Residential in the 2040 Comprehensive Plan Land Use Map. Up to two accessory structures, not including the primary garage or an accessory structure less than 200 square feet, are permitted in the R-1 district, with a cumulative total size not to exceed 2,500 square feet. The maximum permitted height of an accessory structure in the R-1 district is 20 feet.



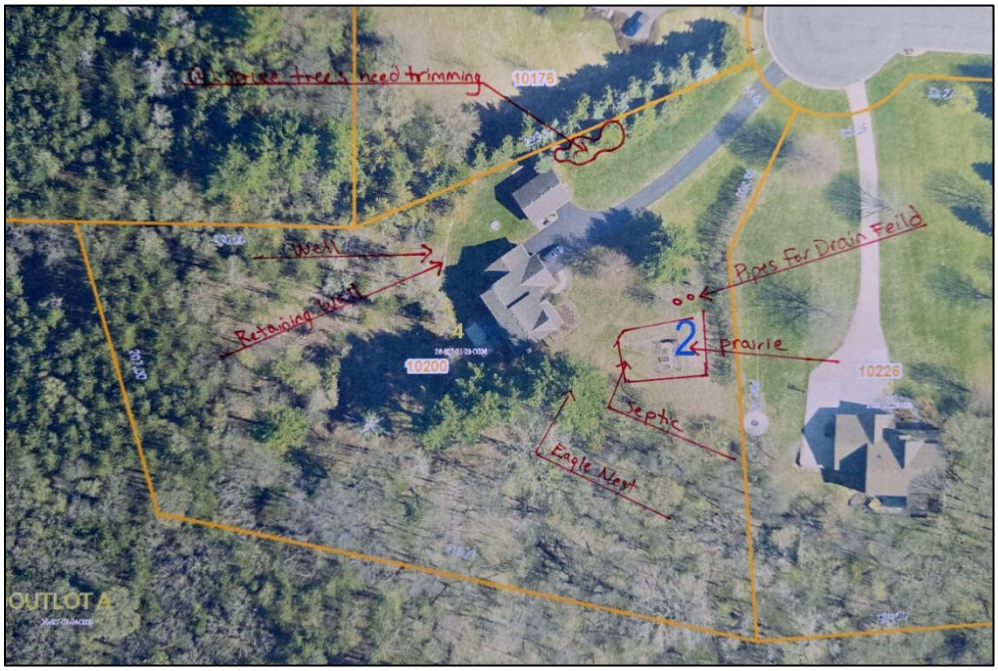
Current Zoning



2040 Future Land Use

Site Conditions

The Applicant's property is located on a 2.68-acre lot within a rural residential subdivision named Eagle Ridge. The property is located at the end of a cul-de-sac that serves eight properties. A 5-foot drainage and utility easement runs along the side lots lines, and a 10-foot drainage and utility easement runs along the rear lot line. The surrounding area is heavily wooded, and the property backs up to City and County owned parcels. The front property line is relatively narrow, about 45 feet wide at the right of way, and gradually widens out. A retaining wall wraps around the back of the house, and the rear yard of the property contains dense woods and steep slopes. The Applicant has noted there is an eagle nest on the southeast tree line adjacent to the house. The well is located at the northwest corner of the house behind the retaining wall, and the existing septic and its replacement area are located at the front of the house on the opposite side of the driveway from the existing accessory structure. There is a row of mature evergreen trees along the Applicant's north property line that provides screening from the dwelling to the north.



Property Site Conditions



Retaining wall and slopes near house (NW Corner)

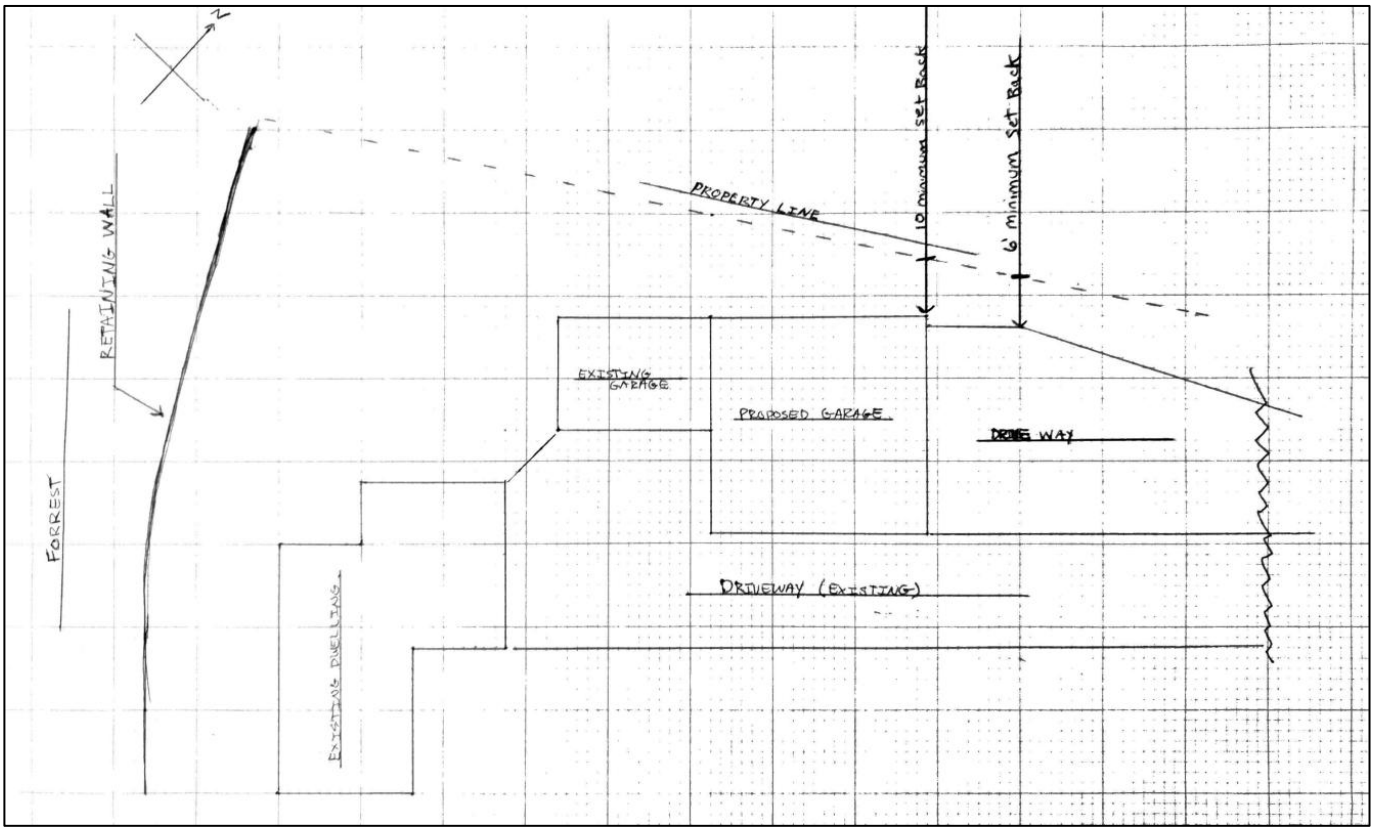


Septic area and mature trees on opposite side of driveway

Proposed Addition

The Applicant is proposing to construct a 42-foot by 42-foot addition onto the existing accessory structure located in the front yard of the property, which would bring the total square footage of the structure to 2,424 square feet. The addition will line up with the north wall of the existing accessory structure and will be 10 feet from the side property line at its closest point. The project will also involve extension of the driveway on the northeast side of the accessory structure. The applicant has indicated that the intent of the addition is to provide indoor storage space for vehicles and trailers which are currently stored outdoors on the property. The addition will be constructed with materials to match the existing accessory structure and house. Existing materials on both

structures include vinyl lap siding, cement board lap, and vertical board and batten siding/trim boards, metal wrapped fascia/soffits, stone wainscoting. These materials are acceptable materials for accessory structures per Title 11-3-5 and will be verified and approved prior to the issuance of a building permit.



Proposed Site Plan

Tree Preservation and Screening

Under City Code Title 11-3-13E, developed single-family residential lots that are not in an actively developing subdivision may remove trees without mitigation. The property contains many mature trees in the front yard, including three rows of mature evergreen trees on both sides of the northern property line. The Applicant has indicated that four of the evergreen trees on one of the rows may need to be trimmed or possibly removed for the accessory structure addition; however, every effort will be made to keep those four trees. Should the trees be removed, adequate screening will still exist from the remaining trees to provide a visual buffer from the property to the north.

Variance Requests – Yard Placement and Side Yard Setback

The purpose of a variance is to allow variation from the application of City Code Title 11 if there are characteristics of the property that cause practical difficulties for the landowner/applicant to meet minimum code standards. Variances require the Applicant to submit an official application form with all information outlined in City Code Title 11-2-5.

Title 11-3-5 outlines standards for accessory structure setbacks. As previously noted, the side yard setback in the R-1, Rural Residential district, is 20 feet. The property owner has submitted a variance request to allow the northwest corner of the proposed accessory structure addition to be 10 feet from the side lot line at its closest point. The code also requires accessory structures to

be located behind the principal structure. Being the existing accessory structure previously received variance approval to be constructed in the front yard, the proposed addition will be located in the front yard as well, which also requires a variance request. The addition to the accessory structure will remain over 100 feet from the front property line. The setback to the rear property line and all other property lines will be met.

Building Setbacks	Required Accessory Structure Setbacks	Proposed Setbacks for Accessory Structure Addition
Rear Yard	50 feet	>250 feet
Side Yard	20 feet	10 feet
Front Yard	Behind principal structure	~105 feet

Variance Requirements

With all variance requests, the Planning Commission must look to the zoning ordinance for guidance and direction. City Code Title 11-2-5: Variances, states the following:

A. Purpose. The purpose of the variance is to allow variation from the strict application of the terms of this Title where, by reason of the exceptional physical characteristics of the property, the literal enforcement of the requirements of this Title would cause practical difficulties for the landowner.

F. Findings. A variance may be granted only when all of the following conditions are found:

1. *The variance is in harmony with the general purposes and intent of this Title.*
2. *The variance is consistent with the Comprehensive Plan.*
3. *The applicant for the variance establishes that there are practical difficulties in complying with this Title. "Practical difficulties," as used in connection with the granting of a variance, means that all of the following must be found to apply:*
    a. *The property owner proposes to use the land in a reasonable manner for a use permitted in the zone where the land is located, but the proposal is not permitted by other official controls;*
    b. *The plight of the landowner is due to circumstances unique to the property and that are not created by the landowner; and*
    c. *The variance, if granted, will not alter the essential character of the neighborhood.*
4. *Economic considerations alone do not constitute practical difficulties.*

The applicant has provided the following in response to the proposal meeting variance requirements:

- *The proposal puts the property to a reasonable use:*
    - The proposal will not change the current use of the property. It will remain single family residential. It will allow us to maintain the existing forest with mature trees, prairie, and gardens. It also allows us to remove trailers and vehicles from view.

- *There are unique circumstances to the property not created by the landowner:*

  - The lot is funnel shaped in approaching the house, the house and septic and well cut off access to the back of the property. Large drainage swales, irregular hills and slopes as well as retaining walls and heavily forested land eliminate buildable sites. There is also an eagle nest on the property we do not want to disturb.

- *The conditions upon which an application for a variance is based are unique to the parcel of land for which the variance is sought and are not applicable, generally, to other property within the same zoning classifications. Please list the conditions that are unique:*
  - The same conditions as noted above apply.
  - The property shape and house location within it.
  - Heavily forested
  - Locations of septic drainfield and well
  - Topography of land is full of drainage swales, hills, and ravines.

- *The purpose of this variance is not based exclusively upon a financial hardship.*
  The granting of the variance will not be detrimental to the public welfare or injurious to other land or improvements in the neighborhood in which the parcel of land is located.

- *The proposed variance will not impair an adequate supply of light and air to adjacent property, or substantially increase the congestion of the public streets, or increase the danger of fire, or endanger the public safety. Please identify any potential impact the requested variance may have.*
  - There are no negative impacts to granting the variance.

Findings
The findings of fact for a favorable recommendation that were considered during the review are identified as follows:

A. The variance is in harmony with the general purposes and intent of the Zoning Code to protect the health, safety, morals, comfort, convenience and general welfare of the public.

B. The variance is consistent with the Comprehensive Plan.
   a. The 2040 Comprehensive Plan identifies this parcel for rural residential use. Accessory structures are a permitted accessory use in the rural residential district.

C. Unique site conditions exist that provide challenges for construction behind the principal structure and outside of required setbacks.
   a. The septic system and its alternate replacement area are located on the opposite side of the driveway from the existing accessory structure. City utility service to this area will likely be after such time the septic will be replaced; therefore, it is imperative that the alternate location is maintained. Additionally, there are mature trees, restored prairie, and an eagle nest on that side of the property that limits buildable area without causing great impact. Adding on to the existing accessory structure preserves natural features onsite and preserves the septic area. The applicant explored the possibility of utilizing the area between the house and the accessory structure; however the slopes in this area would require significant filling and grading for a building pad. Additionally, a structure in that location would cause disruption to the existing retaining wall and cut off

feasible access to the well. The orientation of the existing accessory and the angle of the lot line create challenges for any addition to meet the required side yard setback.

D. The variance would not alter the essential character of the neighborhood as the proposed building site has adequate natural screening from the neighboring property and will match the color and materials of the dwelling.
    a. The rows of evergreen trees on the Applicant's property will be preserved as much as possible to provide a visual buffer from the neighboring property. The proposed location of the addition requires the least amount of impact to existing mature trees and vegetation on the property, preserving its rural character.

E. The proposed building itself is a permitted use, and the proposed dimensions of the structure are compliant with code requirements

F. The variances requested are not solely based on economic considerations.

Public Hearing Notices
The public hearing notice for the April 27, 2026, Planning Commission meeting was published in the *Saint Paul Pioneer Press* and mailed to 16 property owners within 500 feet of the proposed project on April 15, 2026. Staff received comments from one neighbor in opposition to the variance requests.

Recommendation

That the Planning Commission recommend approval to the City Council for the variance requests to locate an accessory structure addition in the front yard and a reduced side yard setback of 10 feet at 10200 Kimbro Circle, subject to the following conditions:

1. The project shall be completed in accordance with the plans submitted as amended by the conditions of approval. Any significant changes to the plans, as determined by planning staff, shall require review and approval by the Planning Commission and City Council.

2. All applicable permits (i.e., building, electrical, grading) must be completed, submitted, and approved by the City prior to the commencement of any construction activities.

3. The maximum building height of the detached accessory structure shall not exceed 20 feet.

4. The color scheme of the structure and any future alterations shall complement the principal structure unless otherwise stated in the current or future City Code.

5. The structure will be constructed of materials consistent with requirements for residential districts in City Code Title 11-3-5B.

6. The accessory structure may not be utilized as habitable space.

7. Adequate screening from neighboring properties and the public street must be maintained.

8. The structure shall meet front yard setbacks.

9. The structure may only be used for home occupations as outlined in Title 11-4-3.

Prepared by
Kelly Becker
Associate Planner

Attachments
Variance Application (narrative)
Variance package
Septic Location
Photos
Neighbor Comment email

David Lincoln
10200 Kimbro Circle South
Cottage Grove, MN.

Subject: Accessory building (Addition to existing detached garage)

Legal description:

- Lot 4, Block 2, Eagle Ridge, Cottage Grove, Washington County State of Minnesota
- Commonly known as 10200 Kimbro Circle South, Cottage Grove, Washington County, State of Minnesota
- Property ID#: 2602721210006

Proposal:
I would like to add an addition to the existing detached garage on my property. This garage required a variance to be built in front of the house and was approved in 2001. I would like to add 1,764 sq feet to the end of the garage (approx. 42' x 42'). This would require two variance approvals; the first of which would be to grant permission to build in front of the house (this was approved in the past and conditions remain the same now as they were then). Secondly it would require relief of the side property set back from 20 feet down to 10'. This would allow space for any future utility easement and would maintain our hedge of pine trees. Four of the pine trees near the building will need to be trimmed and possibly removed depending on proximity and possible root damage. Every effort will be given to keep the trees if possible, however should this not be possible the loss of these trees will not effect the windbreak as there are 3 rows of mature Spruce trees.

Alternatively, the area sandwiched behind the existing detached garage and to the side of the existing house is not a suitable building area a predetermined in the original variance granting permission for the existing detached garage. This is because of the dramatic slope, location of the well and need for the area to remain open to drain water run off from the driveway around the house and to access the well in case of repair. Now that a detached garage is in this location it also blocks any possible access into the garage should one be placed in this location. Furthermore, the area to the left of the driveway is also not a suitable building area due to the location of the septic system and drain field being there as well as large mature White Pine trees, Maples, Apple trees and a mature Prairie that would all have to be removed. This location would also place the garage directly in front of the house blocking the view from the street and creating the need to install a separate driveway leading up to the garage.

Proposed use:
This would allow us to maintain all structures in existing locations, while minimizing any damage to the existing property. We will be able to move all trailers/equipment and vehicles out of view enhancing the neighborhood appeal. This space is not intended to be used a dwelling unit.

Materials:
Garage would be constructed with materials similar to the existing house and detached garage and will blend I style so as to appear cohesive with the existing structures. Material currently used include vinyl lap siding, cement board lap and vertical board and batten siding/trim boards, metal wrapped fascia/soffits, stone wainscoting.

Building codes: Title 11-3-5

Accessory Structures:

- **D. Setbacks. Setbacks for accessory structures, primary and accessory garages shall be determined by the following table. No structure of any kind shall be placed within twenty feet (20') of a public street right of way on a corner lot.**

• Property Classification	Side Yard	Rear Yard	Front Yard

Property Classification	Side Yard	Rear Yard	Front Yard
R-1	20 feet	50 feet	Behind principal structure

Variance Criteria:

Unique Conditions:

- Topography of the lot is very irregular, composed of dramatic drainage swales, hills and ravines that limit access to buildable area to the rear of the house
- Lot shape is irregular; starting from the street in a narrow funnel it widens out as you approach the house. The house, septic system, drainage field, well, established prairie, mature trees, retaining wall, steep hills and the existing detached garage all block access to the back of the property
- Nature: the lot is heavily forested with large mature trees and includes an eagles nest we do not want to disturb.

Hardship/Difficulties:

- In order to locate a garage behind the house I would need to remove a large amount of mature trees, grade an extensive amount of land, move wells/septic, destroy existing structures, mature trees/prairie, and/or disturb the nesting eagles. All of this is largely impractical if not impossible based on current site conditions. By allowing an addition to the existing garage this eliminates the need for any of this.

Potential impact:

- There is no negative impact

Cottage Grove
Where Pride and Prosperity Meet

Community Development Department
12800 Ravine Parkway South
Cottage Grove, MN 55016
www.cottagegrovemn.gov

Planning Division
Telephone: 651-458-2827
Fax: 651-458-2897
E-Mail: CGSubmittals@cottagegrovemn.gov

VARIANCE APPLICATION – RESPONSE TO ORDINANCE CRITERIA

The Planning Commission and City Council may recommend a variance from the strict application of the zoning ordinance, if they find that your application meets the findings below. **Please provide a DETAILED response to all of the following findings:**

1. The variance is in harmony with the purposes and intent of this title. Please circle: (Yes) No

2. The variance is consistent with the comprehensive plan. Please circle: (Yes) No

3. The proposal puts the property to a reasonable use. Please explain.
Yes, this proposal will not change the current use of the property. It will remain single family residential. It will allow us to maintane the existing forest with nature trees, prairy and gardens. Also allowing us to remove trailers and vehicles from view.

4. There are unique circumstances to the property not created by the landowner. Please identify these circumstances.
- The lot is funnel shaped in approaching the house, the house and septic and well cut off Access to the back of property.
- large drainage swales, irregular hills and slopes as well as retaining wall walls and Heavily forrested land eliminate buildable sites.
- Eagle nest in tree we do not want to disturb.

5. The conditions upon which an application for a variance is based are unique to the parcel of land for which the variance is sought and are not applicable, generally to other property within the same zoning classifications. Please list the conditions that are unique.
- Same as question 4 above.
- propety shape and house location within it.
- Heavily Forested.
- Locations of septic drainfield and well
- Eagle nest
- Topography of land is full of drainage swales, hills and Ravines.

6. The purpose of the variance is not based exclusively upon a financial hardship. Please circle: (Yes) No

7. The granting of the variance will not be detrimental to the public welfare or injurious to other land or improvements in the neighborhood in which the parcel of land is located. Please circle: (Yes) No

8. The proposed variance will not impair an adequate supply of light and air to adjacent property, or substantially increase the congestion of the public streets, or increase the danger of fire, or endanger the public safety. Please identify any potential impact the requested variance may have.
There are no negative impacts to granting the variance.

Economic hardship is not regarded by the Courts as a reason for approval. Neighborhood support or opposition, [illegible] regarded by the Courts as reason for either approval or denial.

Applicant Name: David Lincoln

Case #:

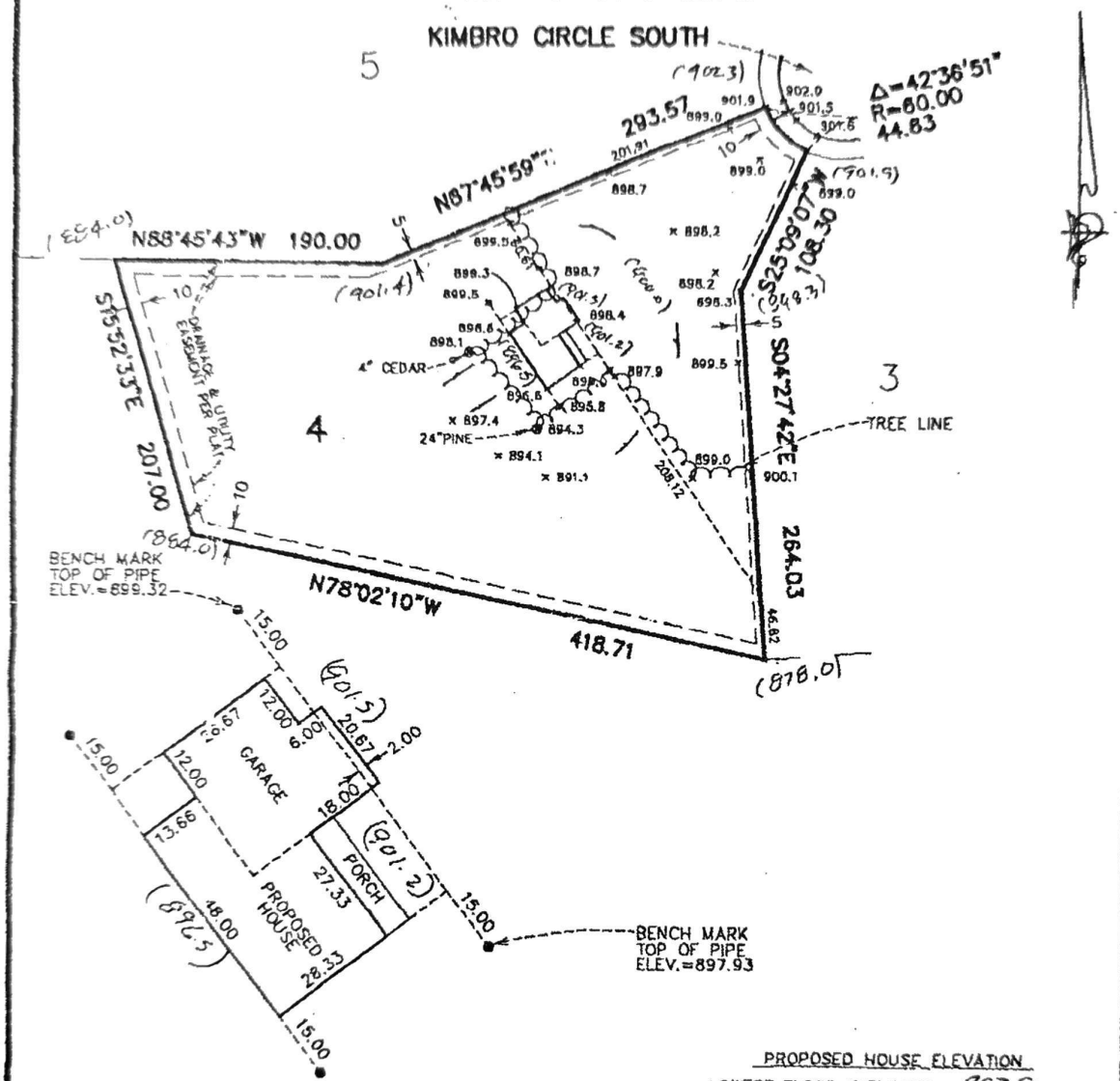
EXHIBIT A

PIONEER engineering
LAND SURVEYORS - CIVIL ENGINEERS
LAND PLANNERS - LANDSCAPE ARCHITECTS

[illegible] Enterprise Drive
Mendota Heights, MN 55120
(612) 681-1914 FAX: 681-9488

825 Highway 10 N.E.
Blaine, MN 55434
(612) 783-1880 FAX: 783-1883

Certificate of Survey for: KEYLAND HOMES
10200 KIMBRO CIRCLE 3667-A



PROPOSED HOUSE ELEVATION

LOWEST FLOOR ELEVATION: 893.8
TOP OF BLOCK ELEVATION: 901.9
GARAGE SLAB ELEVATION: 901.5

x 000.00 DENOTES EXISTING ELEVATION
(000.00) DENOTES PROPOSED ELEVATION
DENOTES DRAINAGE AND UTILITY EASEMENT
DENOTES DRAINAGE FLOW DIRECTION
DENOTES MONUMENT
DENOTES OFFSET HUB

NOTE: PROPOSED GRADES SHOWN PER GRADING PLAN BY: E.G. RUD

NOTE: BUILDING DIMENSIONS SHOWN ARE FOR HORIZONTAL AND VERTICAL LOCATION OF STRUCTURES ONLY. SEE ARCHITECTUAL PLANS FOR BUILDING AND FOUNDATION DIMENSIONS.

NOTE: NO SPECIFIC SOILS INVESTIGATION HAS BEEN COMPLETED ON THIS LOT BY THE SURVEYOR. THE SUITABILITY OF SOILS TO SUPPORT THE SPECIFIC HOUSE PROPOSED IS NOT THE RESPONSIBILITY OF THE SURVEYOR.

NOTE: THIS CERTIFICATE DOES NOT PURPORT TO SHOW EASEMENTS OTHER THAN THOSE SHOWN ON THE RECORDED PLAT.

NOTE: CONTRACTOR MUST VERIFY DRIVEWAY DESIGN.

NOTE: BEARINGS SHOWN ARE BASED ON AN ASSUMED DATUM

WE HEREBY CERTIFY TO KEYLAND HOMES THAT THIS IS A TRUE AND CORRECT REPRESENTATION OF A SURVEY OF THE BOUNDARIES OF:

LOT 4, BLOCK 2, EAGLE RIDGE

WASHINGTON COUNTY, MINNESOTA

IT DOES NOT PURPORT TO SHOW IMPROVEMENTS OR ENCHROACHMENTS, EXCEPT AS SHOWN, AS SURVEYED BY ME OR UNDER MY DIRECT SUPERVISION THIS 23RD DAY OF MARCH, 1998.

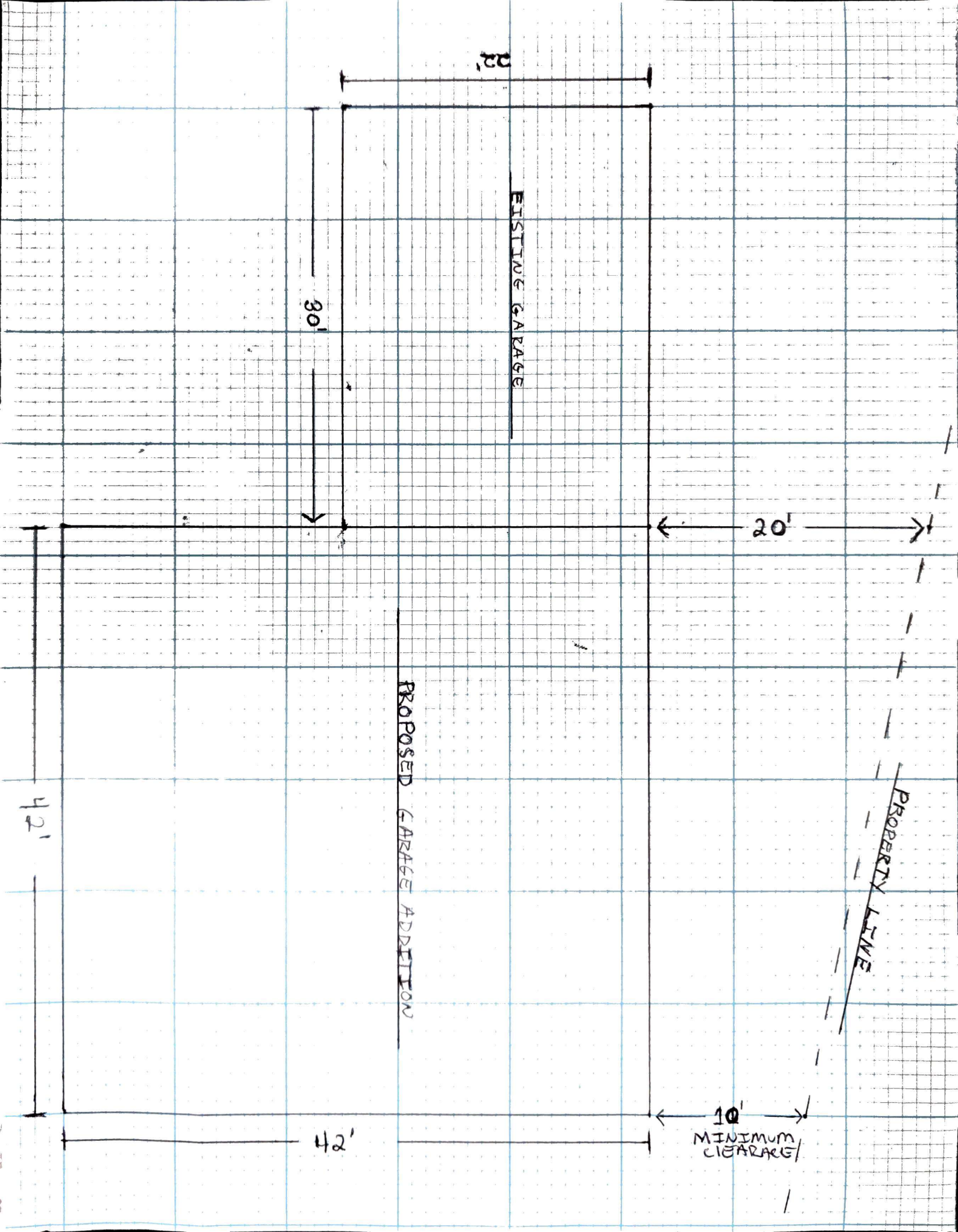
SCALE: 1 INCH = 100 FEET

SIGNED: PIONEER ENGINEERING, P.A.

BY: _____
John C. Larson, L.S. Reg. No. 19828

2102 98129.00 SWK REVISED 4-14-98 ADD 2' TO FRONT OF GAR.


(4) spruce trees need trimming
10176
Well
Retaining wall
Pipes for Drain Feild
prairie
septic
Eagle Nest
4
2
10200
10226
OUTLOT A


22'
EISTING GARAGE
30'
20'
PROPOSED GARAGE ADDITION
42'
PROPERTY LINE
10'
MINIMUM CLEARANCE
42'

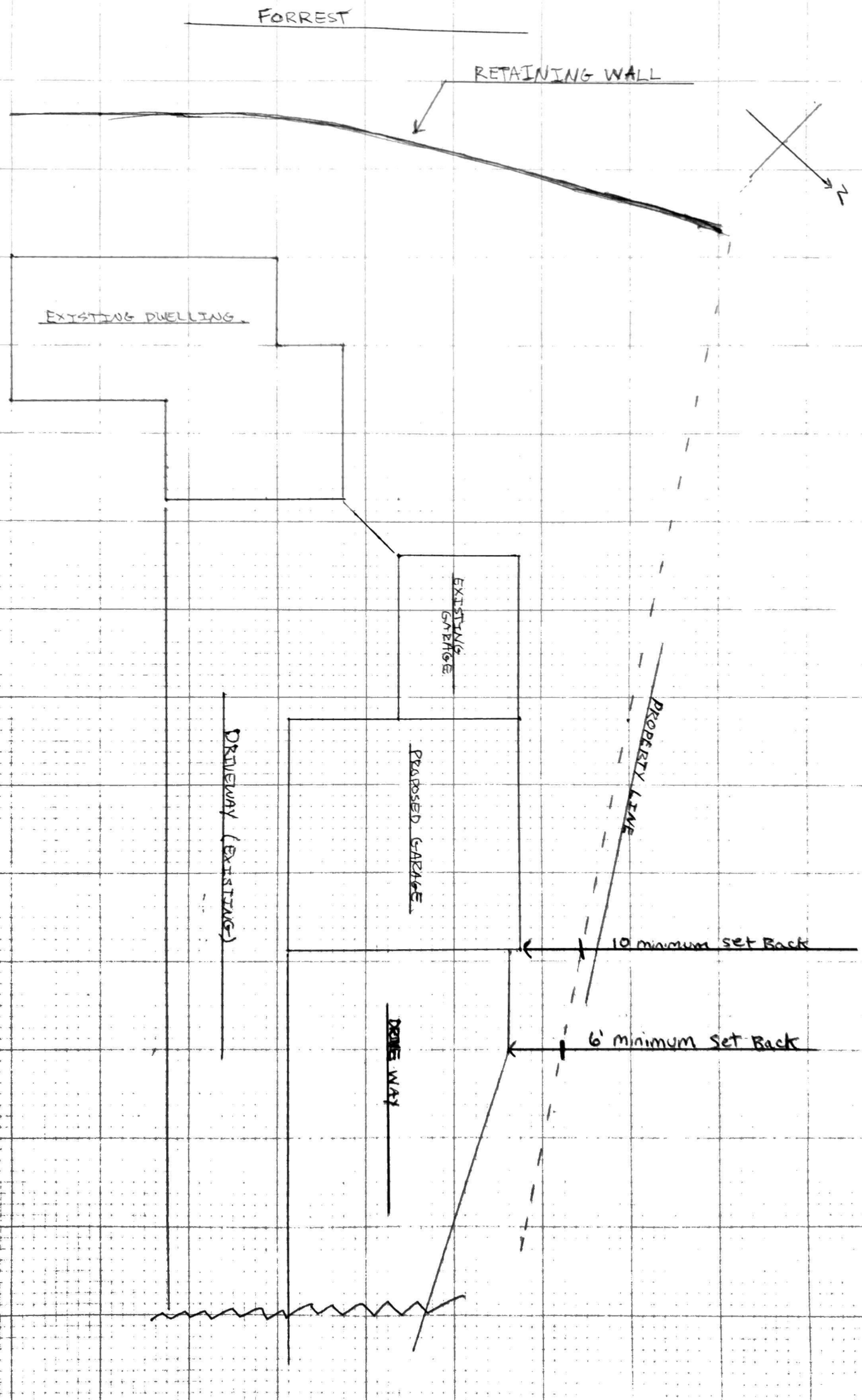
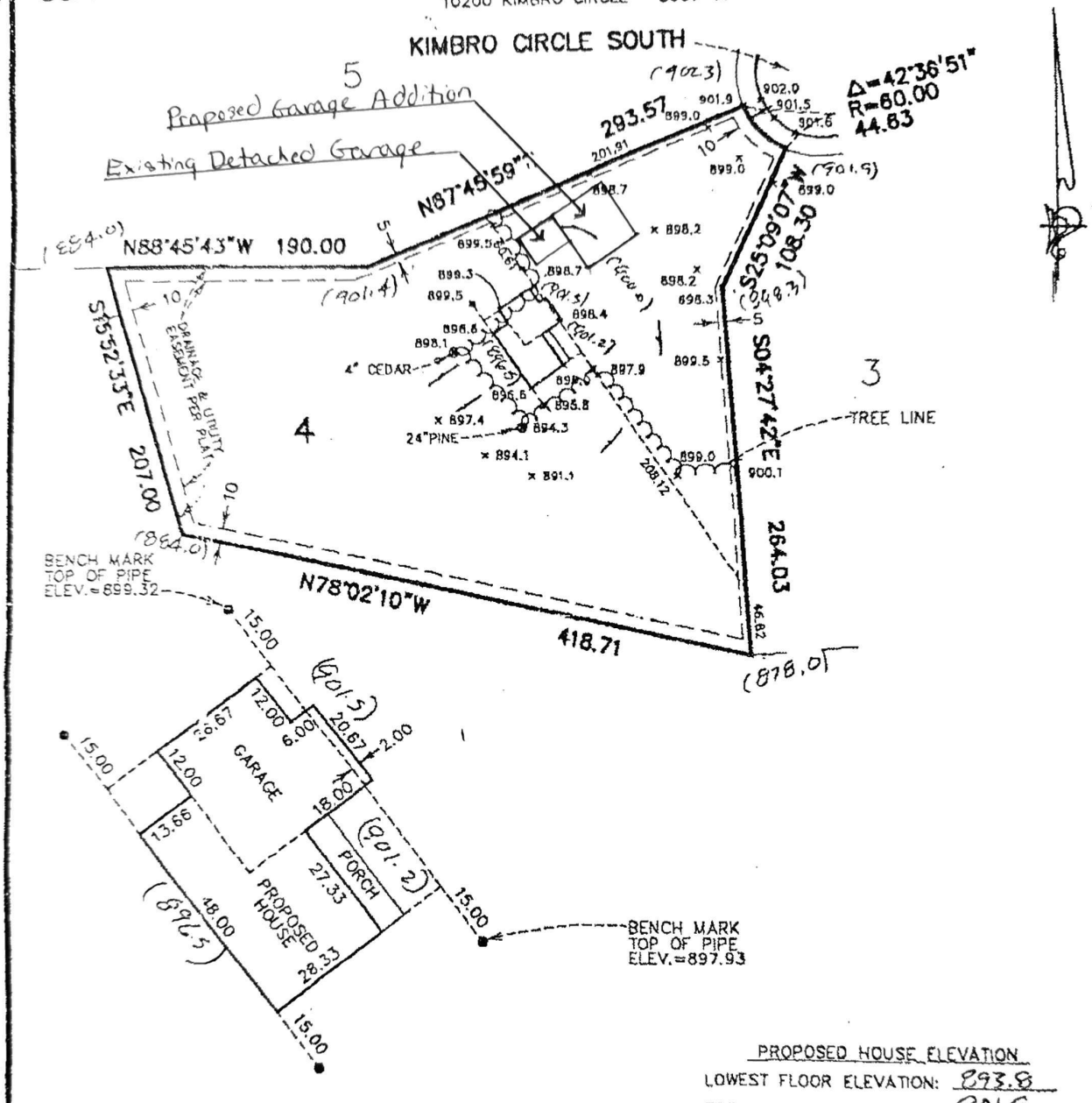

FORREST
RETAINING WALL
N
EXISTING DWELLING
EXISTING GARAGE
PROPOSED GARAGE
DRIVEWAY (EXISTING)
PROPERTY LINE
10 minimum set Back
6' minimum set Back
DRIVE WAY

EXHIBIT A

PIONEER engineering
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LAND PLANNERS • LANDSCAPE ARCHITECTS
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(612) 681-1914 FAX: 681-9488
825 Highway 10 N.E.
Blaine, MN 55434
(612) 783-1880 FAX: 783-1883

Certificate of Survey for: KEYLAND HOMES
10200 KIMBRO CIRCLE 3667-A



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SCALE: 1 INCH = 100 FEET

SIGNED: PIONEER ENGINEERING, P.A.

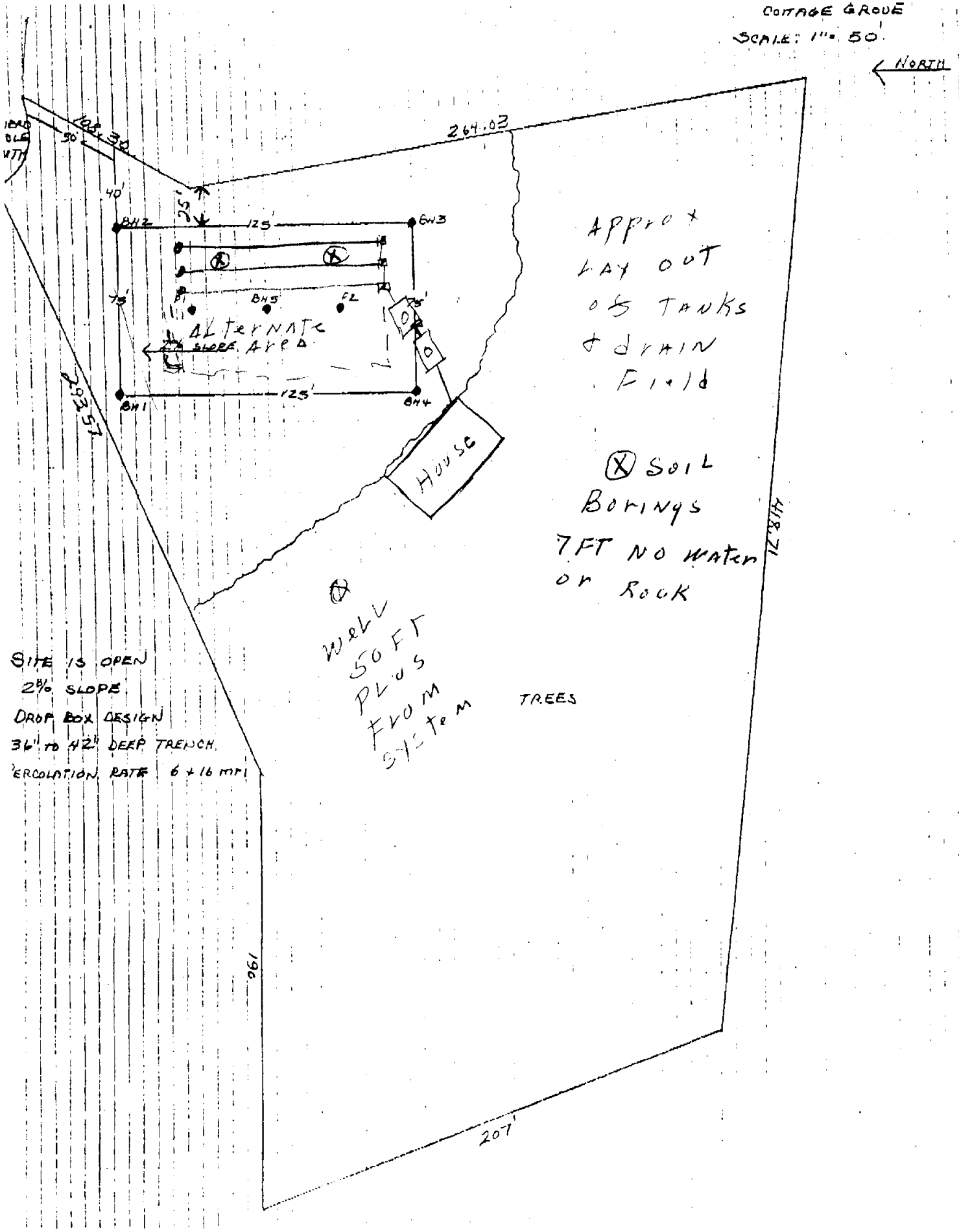
BY: _____
John C. Larson, L.S. Reg. No. 19828

2102 98129.00 SWK REVISED 4-14-98 ADD 2' TO FRONT OF GAR.

COTTAGE GROVE

SCALE: 1" = 50'

NORTH



FILE COPY FAX 458-2881

"BOB" FREIBERMUTH SANITATION

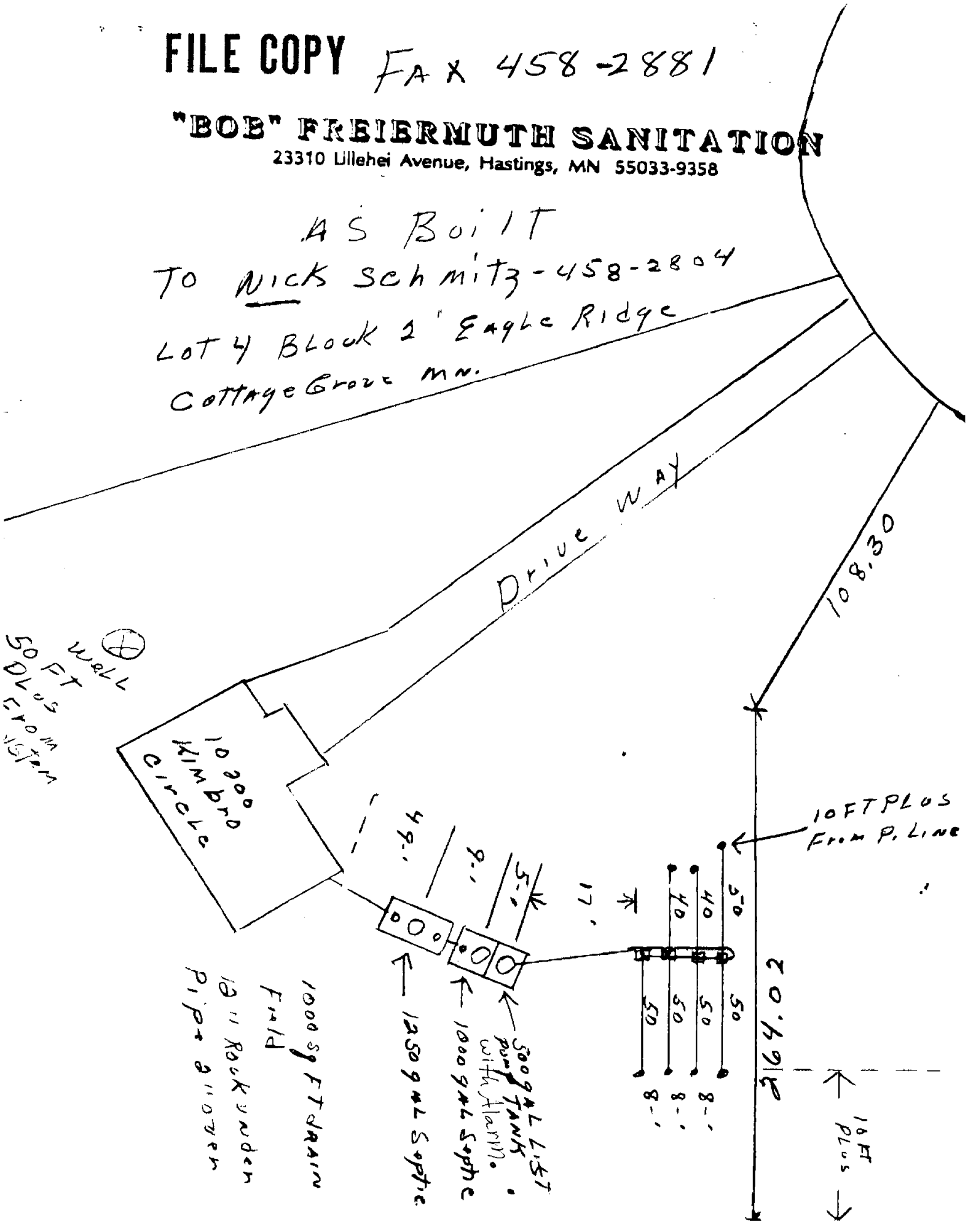
23310 Lillehei Avenue, Hastings, MN 55033-9358

AS BUILT

TO Nick Schmitz - 458-2804

LOT 4 Block 2 "Eagle Ridge

Cottage Grove MN.























Kelly Becker

From: paul preblich <ppreblich@gmail.com>
Sent: Monday, April 20, 2026 9:07 PM
To: Kelly Becker
Subject: Re: 10200 Kimbro Variance Request

EXTERNAL EMAIL WARNING: This email originated from an outside organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Kelly
Thank you for the opportunity to express my opposition to the proposed development at 10200 kimbro circle s. I understand there are extenuating circumstances in evaluating the proposal i.e. well location, septic system etc. That being said, I feel our property values will be severely diminished and the curb appeal to my property and adjacent properties owners will also be affected.

EVERYONE on this street and culdasec has positioned their homes intentionally to provide a beautiful unobstructed front yard space. Further, everyone on this street/culdasec, who has built an accessory building, has intentionally built it in such a fashion as to NOT obstruct the curb appeal of the neighborhood or adjacent properties.

I feel there is adequate space to build the proposed accessory building in the south east corner.....uitilizing an accessory road off his current driveway towards the southeast corner which should not interupt the septic system. There should be sufficient room along the eastern boundary line to put in a driveway making the southeast corner accessible to build the proposed structure and not affect the integrity of the neighborhood, including his own property.

If neighborhood people understood the size and space that a 42'x42' structure occupies, relative to this proposal, others would be in oppositon as well. My understanding is that the garage door/doors would be facing the south (toward the culdasec) further defacing the curb appeal to prospective buyers down the road. The width of the garage would be similar to the width of the house EXCEPT it would dwarf the FRONT of the house. We enjoy our neighbors and understand their desire to build an accessory building; we are just opposed to the location and the impact it would have on the neighborhood.

I want to go on record OPPOSING the variances....for multiple reasons.

Paul Preblich
10176 kimbro circle s

On Mon, Apr 20, 2026 at 1:44 PM Kelly Becker <KBecker@cottagegrovemn.gov> wrote:

> Hi Paul,

Following up with our phone call so you have my email address. Any comments you provide in writing can be included with the packet for the Planning Commission meeting next Monday night, April 27th, at 7pm.

Thank you,

Kelly Becker

Associate Planner

City of Cottage Grove

651-458-2834 | kbecker@cottagegrovemn.gov

12800 Ravine Parkway South, Cottage Grove, MN 54016

Cottage Grove

Where Pride and Prosperity Meet

STAFF REPORT CASE: CUP2026-014

ITEM: 6B

PUBLIC MEETING DATE: 4/27/26 **TENTATIVE COUNCIL REVIEW DATE: 5/6/26**

APPLICATION

APPLICANT: Karl Hohenstein, on behalf of Hohenstein Real Estate LLC

REQUEST: A Conditional Use Permit (CUP) for a lower potency hemp edible warehouse and wholesale operation.

SITE DATA

LOCATION: 8301 95th Street South

ZONING: I-1, General Industrial

GUIDED LAND USE: Industrial

LAND USE OF ADJACENT PROPERTIES:	CURRENT	GUIDED
NORTH:	Industrial	Industrial
EAST:	Industrial	Industrial
SOUTH:	Industrial	Industrial
WEST:	Industrial	Industrial

SIZE: N/A

DENSITY: N/A

RECOMMENDATION

Approval, subject to the conditions stipulated in this staff report.

COTTAGE GROVE PLANNING DIVISION

Planning Staff Contact: Samantha Pierret, Senior Planner; 651-458-2825; spierret@cottagegrovemn.gov

Application Accepted: 4/9/2026 60-Day Review Deadline: 6/8/2026

Planning Staff Report
Hohenstein's - Lower Potency Hemp Edible Warehouse/Wholesale
Planning Case CUP2026-014
April 27, 2026

Proposal

Karl Hohenstein, on behalf of Hohenstein Real Estate LLC (Applicant) has submitted an application for a Conditional Use Permit (CUP) for a low potency hemp edible warehouse and wholesale operation at 8301 95th Street South.



Location Map

Review Schedule
Application Received: April 9, 2026
Planning Commission Meeting: April 27, 2026
Tentative City Council Meeting: May 6, 2026
60-Day Review Deadline: June 8, 2026

Background

The State of Minnesota legalized recreational cannabis use and sales in 2023 under Statute 342. The Office of Cannabis Management (OCM) oversaw the preparation of cannabis rules from 2023

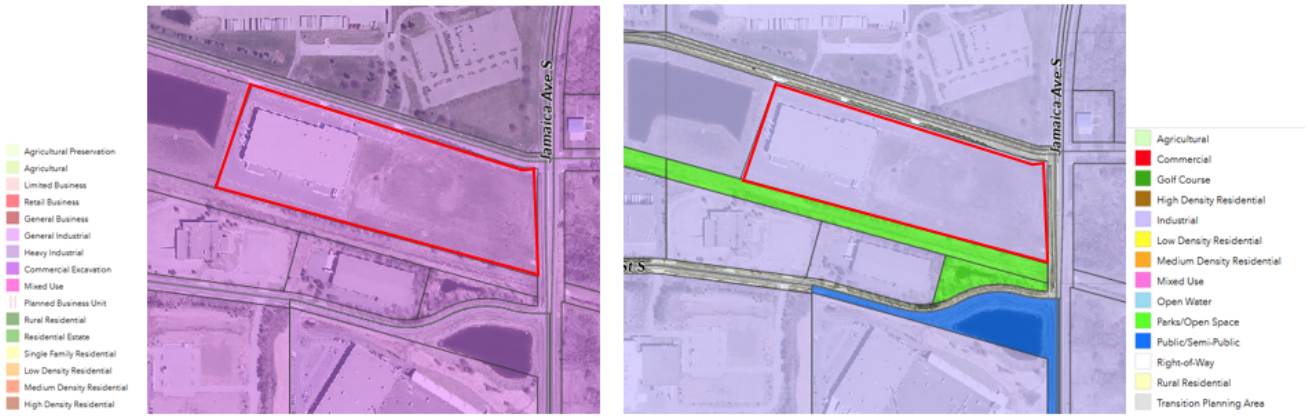
to 2025. The City of Cottage Grove Zoning Ordinance was updated in 2024 to add cannabis uses and regulations including regulations for cannabis and low potency hemp edible warehouse and wholesale operations. All businesses in the lower potency hemp edible marketplace must obtain proper licensure and registration with the State of Minnesota as well as local permits and registration with the City of Cottage Grove.

The Applicant currently owns the property and operates Hohenstein Distribution, which is a wholesale distributor specializing in domestic, imported, and distinctive craft beers. Part of their operations in recent years has included the wholesale and warehousing of low potency hemp edibles as allowed under State rules. The Applicant has been issued a Low Potency Hemp Edible Warehouse/Wholesale license by the State Office of Cannabis Management. All existing low potency hemp edible businesses that operated under previous state rules must obtain local approvals to comply with current City Codes and to meet state licensure requirements that the business complies with local zoning codes.

Planning Considerations

Comprehensive Plan and Zoning

The property is currently zoned I-1, General Industrial. The General Industrial District is intended to provide a district which is appropriate for manufacturing, compounding, processing, packaging or treatment of products. The property is currently guided for industrial use in the 2040 Comprehensive Plan. Lower Potency Hemp Edible Wholesale and Warehousing activities are allowed with a Conditional Use Permit in the I-1, General Industrial District. All cannabis uses and lower potency hemp edible uses must comply with Title 11-4-18 of the City Zoning Code.



Current Zoning **2040 Future Land Use**

Conditional Use Permit

When evaluating any conditional use permit application, the Planning Commission shall consider the following findings:

1. *Compliance with and effect upon the Comprehensive Plan, including public facilities and capital improvement plans.*
2. *The establishment, maintenance or operation of the conditional use will promote and enhance the general public welfare and will not be detrimental to or endanger the public health, safety, morals or comfort.*

3. *The conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood.*
4. *The establishment of the conditional use will not impede the normal and orderly development and improvement of surrounding property for uses permitted in the district.*
5. *Adequate public facilities and services are available or can be reasonably provided to accommodate the use which is proposed.*
6. *The conditional use shall, in all other respects, conform to the applicable regulations of the district in which it is located.*
7. *The conditional use complies with the general and specific performance standards as specified by the Zoning Code.*

The use as a low potency hemp edible warehouse and wholesale business is consistent with the findings above as described in the following report.

State Licensing and Local Permitting/Registration Processes
The Office of Cannabis Management (OCM) has a separate registration and licensing process for lower potency hemp edible warehouse and wholesale businesses. All cannabis and low-potency hemp edible businesses must obtain local approvals and registrations and pass an OCM inspection. The City received confirmation that the Applicant has been issued a Low Potency Hemp Edible Wholesaler license from the OCM on April 8, 2026. Since the Applicant has been wholesaling and warehousing low potency hemp edibles since before the adoption of cannabis statutes, the Applicant may continue operations on-site as they work through the Conditional Use Permit and local registration process.

State Statute 342.455 includes standards business owners must adhere to, including security and building standards. These standards are overseen by the OCM, and property inspections are conducted by OCM.

Title 11-4-18
F.1. No exterior storage is allowed, including storage of products in semis or trailers that are parked outside of an enclosed building.

The Applicant has not proposed exterior storage, and no exterior storage will be allowed on site.

F.2. All mechanical, odor suppression equipment and trash enclosures must comply with City Code Sections 11-3-8 and 11-3-9.

The business will operate within an existing building where mechanical equipment and trash enclosures meet City standards. No new mechanical equipment is proposed and any changes to mechanical equipment or trash enclosures must be reviewed by Planning staff in compliance with City Code. No odor suppression equipment is required as the Applicant is not processing or manufacturing cannabis products.

G.1. Hours of operation for retail sales of cannabis or lower-potency hemp edible products are permitted from 10:00 a.m. to 10:00 p.m., seven days a week.

Retail sales are prohibited in industrial districts. No retail sales are proposed on site.

G.2. On-sale intoxicating liquor establishments and off-sale exclusive liquor stores with a current lower-potency hemp edible city registration and a state license may sell lower-potency hemp edible beverages but no other lower-potency hemp edible products.

The business is not an on-sale or off-sale liquor establishment and will not conduct retail sales.

G.3. No cannabis or lower-potency hemp edible use is allowed as part of an Adult Use Establishment, as defined in City Code Section 3-14-2.

The business is not an Adult Use Establishment as defined.

G.4. No retail sales are allowed in the Agricultural or Industrial zoning districts.

No retail sales are proposed as the property is zoned I-1, General Industrial District.

G.5. No on-site consumption is allowed in the Agricultural or Industrial zoning district.

No on-site consumption is proposed.

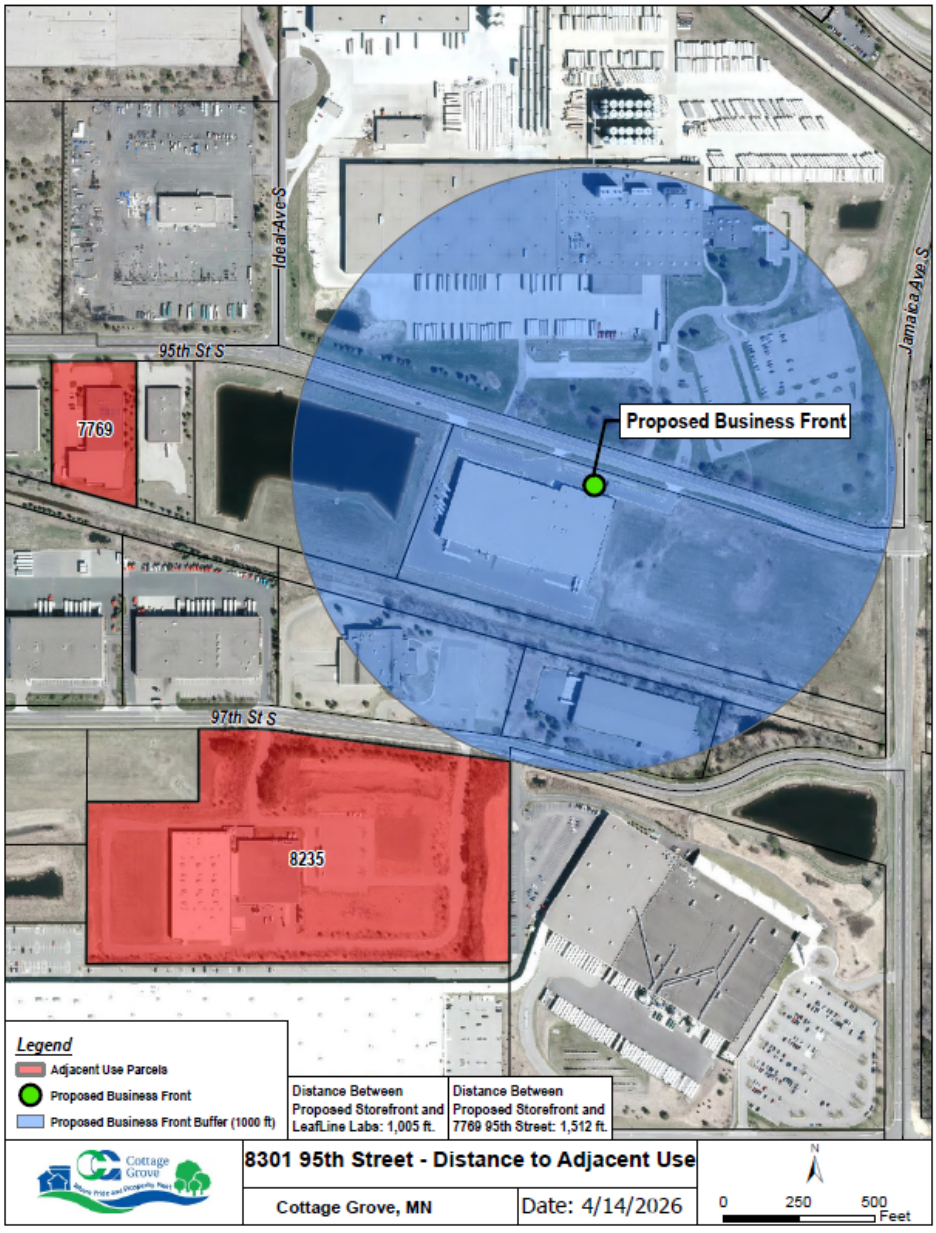
G.6. Cannabis and lower-potency hemp edible uses shall not violate federal laws, state laws, or any provisions of City Code. Cannabis and lower-potency hemp edible uses shall not be a public nuisance or violate Chapter 4, Section 8 regarding odors. The city may impose odor suppression or odor mitigation conditions as part of the conditional use permit.

The business will not be manufacturing or growing cannabis products that would cause an odor.

G.7. Distance Regulations: Distances from a cannabis use or lower-potency hemp edible use are measured from the storefront of a cannabis of lower-potency hemp edible retail use to the property line of all other cannabis or lower-potency hemp edible uses.

a. There must be at least 1,000 feet between each cannabis or lower-potency hemp edible use.

The business in question is at least 1,000 feet from any other cannabis or lower-potency hemp edible uses (Leafline and Banks Distro).



1000-Foot Buffer Map

b. The location of all cannabis uses must comply with the following:

1. More than 1,000 feet from a school as measured from property line of the school to the cannabis business.

The property is over 1,000 feet from both Armstrong Elementary School and Pine Hill Elementary School.



2. More than 500 feet from a day care that is in the B1, B2, B3, PB, or MU zoning district as measured from property line of the day care to the cannabis business.

The property is over 500 feet from KinderCare at 8453 East Point Douglas Road.



3. More than 500 feet from a residential treatment facility, as measured from the property line of the facility to the cannabis business.

There are no residential treatment facilities within 500 feet of the property.

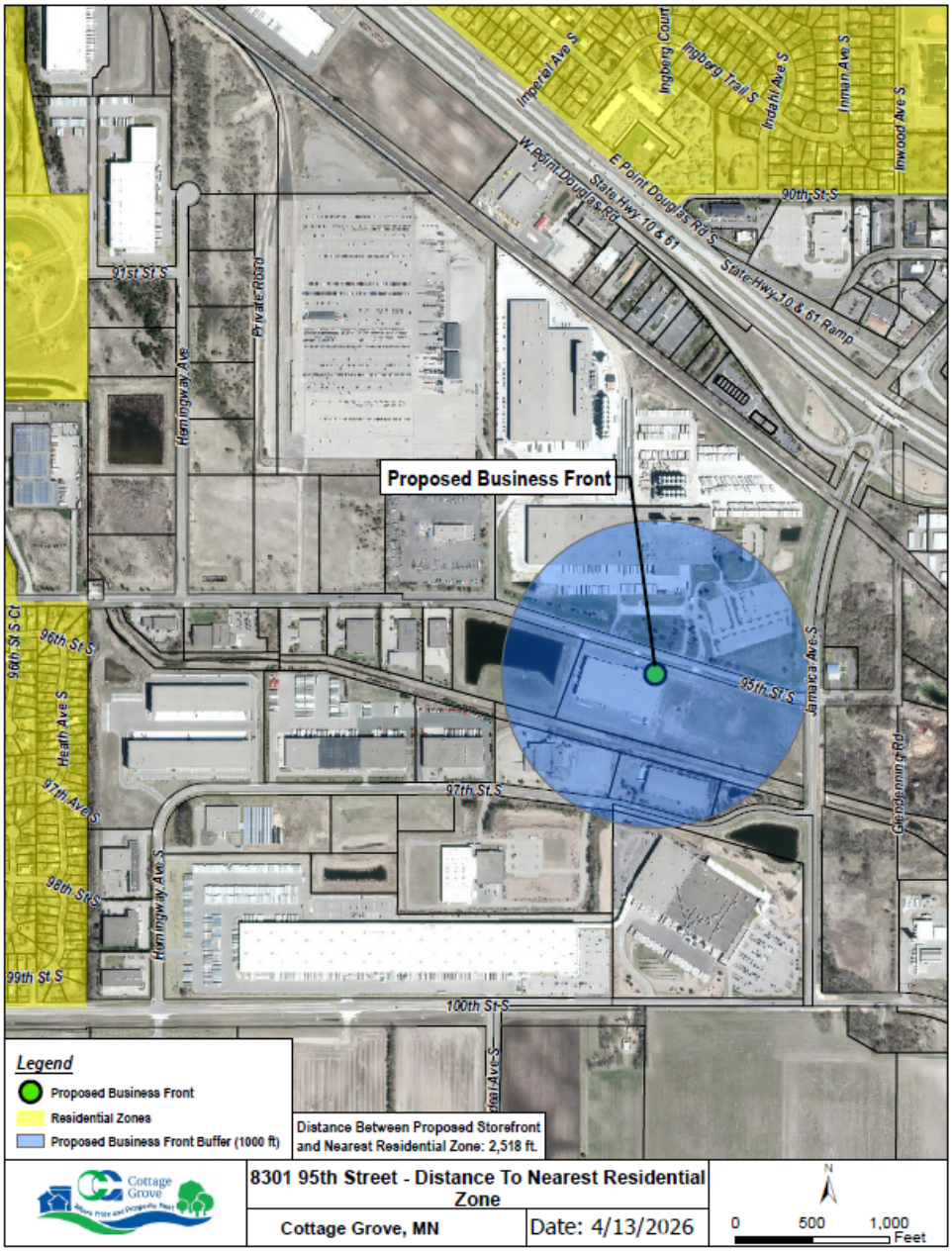
4. More than 500 feet from an attraction within a public park that is regularly used by minors, such as, but not limited to a playground, athletic field, athletic court, picnic area or permanent restrooms, pavilion or park building, disc golf features, as measured from the location of the public park attraction to the cannabis business.

The property is over 500 feet from the nearest park, WAG Dog Park.



d. Manufacturing, production, testing, or processing of cannabis, wholesale (if products stored on-site) or warehousing must be setback a minimum of 1,000 feet from a residential zoning district or residential use as measured from the cannabis use property line to the property line of the nearest residential zoning district or residential use.

The property is over 1,000 feet from the nearest residential zoned district (Degardners 1st Addition, Heath Avenue).



G.8. Signs must comply with the standards in City Code Title 12 for the relevant zoning district in which the use is located except for the following:

a. No cannabis business shall have more than two signs.
b. Blinking, moving, and flashing signs that are visible from the exterior of the building are prohibited.
c. No lower-potency hemp edible use shall advertise the lower-potency hemp edible products on more than one exterior sign.
d. No interior sign shall be visible from the exterior of the building.

G.9. Cannabis uses must meet the minimum parking requirements for each type of use as stated in City Code 11-3-4.

The existing building is required to have 132 total parking spaces for office space and warehouse space. There are 132 parking spaces on site. No additional parking is necessary.

G.10. A security plan must be submitted to and approved by the Director of Public Safety to address security issues in order to protect the public health, safety, and welfare. The security plan must include, but is not limited to, addressing issues surrounding parking, traffic, securing of monetary transactions, building security and alarm systems both internal and external, screening, lighting, window and door placement, landscaping, age verification devices, and hours of operation.

The Applicant has submitted a security plan to the Acting Director of Public Safety for review.

Public Hearing Notices
The public hearing notice for the April 27, 2026 Planning Commission meeting was published in the *Saint Paul Pioneer Press* and mailed on April 15, 2026, to 15 property owners that are within 500 feet of the proposed project. Staff has not received any comments at the time of writing the report.

Recommendation

That the Planning Commission recommend that the City Council approve a Conditional Use Permit for a Lower Potency Hemp Edible Warehouse and Wholesale operation at 8301 95th Street South, subject to the following conditions:

1. A City of Cottage Grove Low Potency Hemp Edible registration must be approved by December 31, 2026.

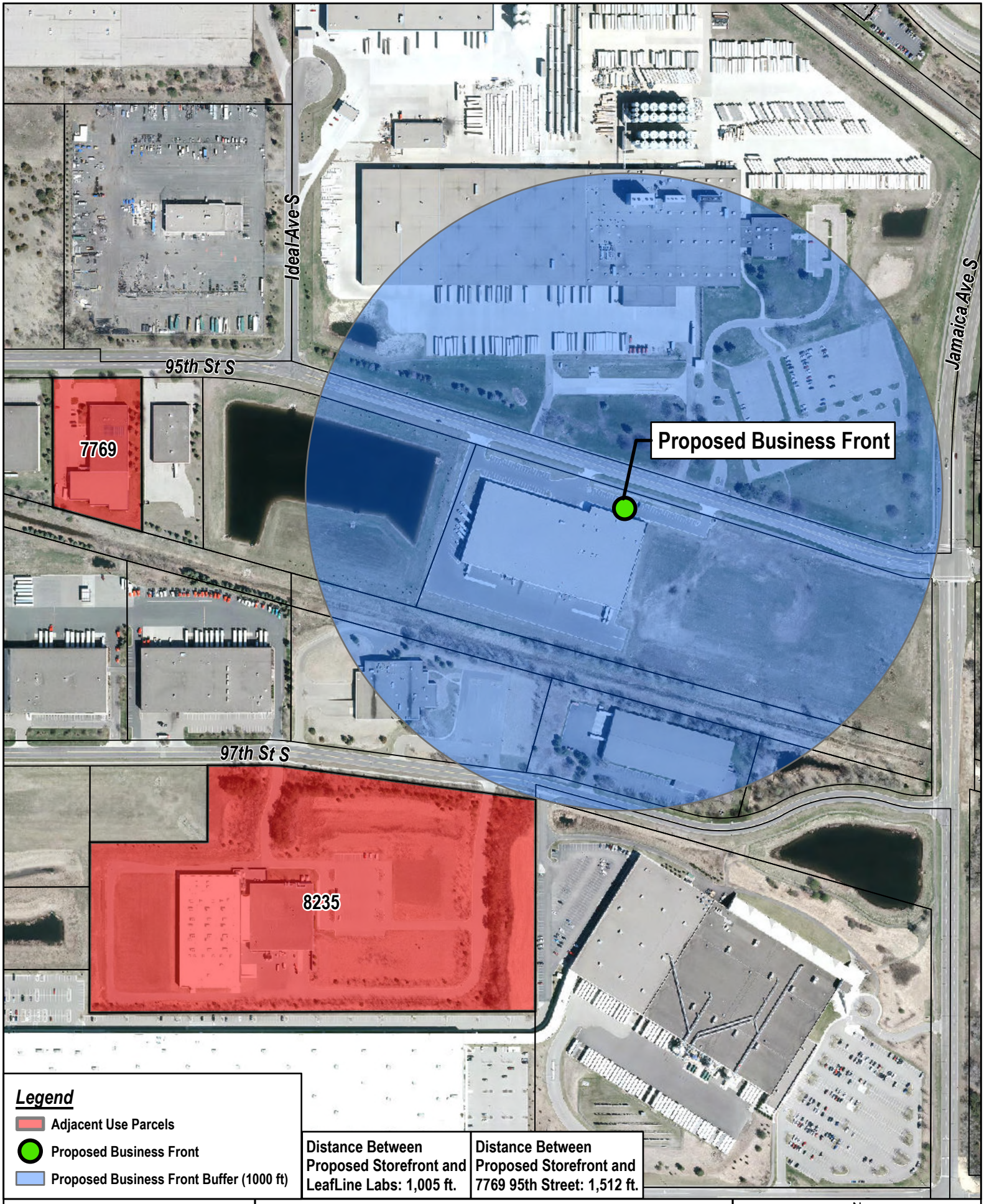
2. The business shall maintain registration and licensure with the State of Minnesota Office of Cannabis Management.

3. Signage is not approved with this Conditional Use Permit. Any proposed new signage shall meet the requirements of the City's Sign Ordinance and require a separate building permit.

Prepared by:

Samantha Pierret, AICP
Senior Planner

Attachments:
Buffer Maps



Legend

- Adjacent Use Parcels
- Proposed Business Front
- Proposed Business Front Buffer (1000 ft)

Distance Between Proposed Storefront and LeafLine Labs: 1,005 ft.	Distance Between Proposed Storefront and 7769 95th Street: 1,512 ft.

Cottage Grove — Where Pride and Prosperity Meet

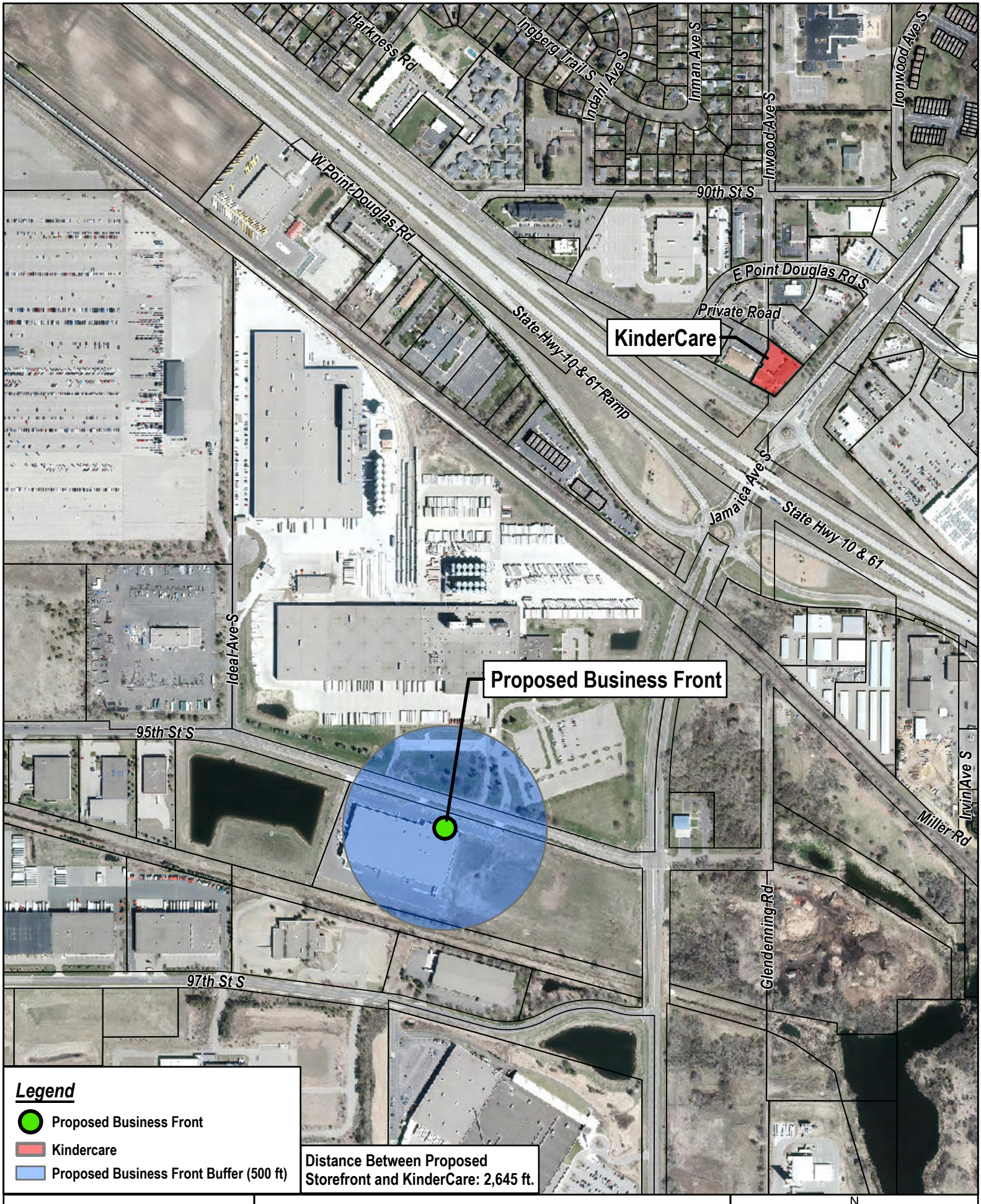
8301 95th Street - Distance to Adjacent Use

Cottage Grove, MN

Date: 4/14/2026

N

0 250 500 Feet



Legend

- Proposed Business Front
- Kindercare
- Proposed Business Front Buffer (500 ft)

Distance Between Proposed Storefront and KinderCare: 2,645 ft.

Cottage Grove — Where Pride and Prosperity Meet

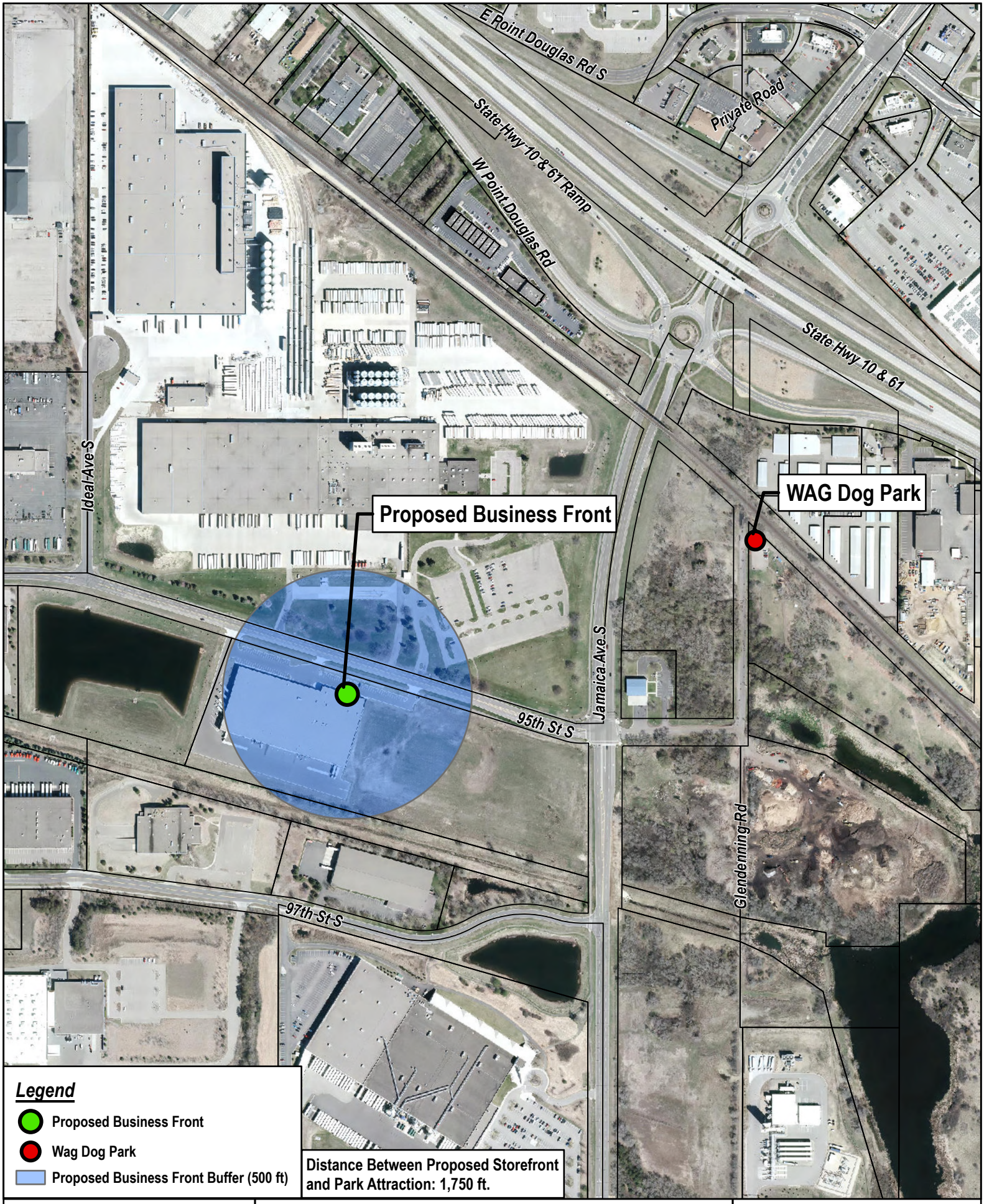
8301 95th Street - Distance To Nearest Childcare

Cottage Grove, MN

Date: 4/13/2026

N

0 400 800 Feet



Cottage Grove
Where Pride and Prosperity Meet

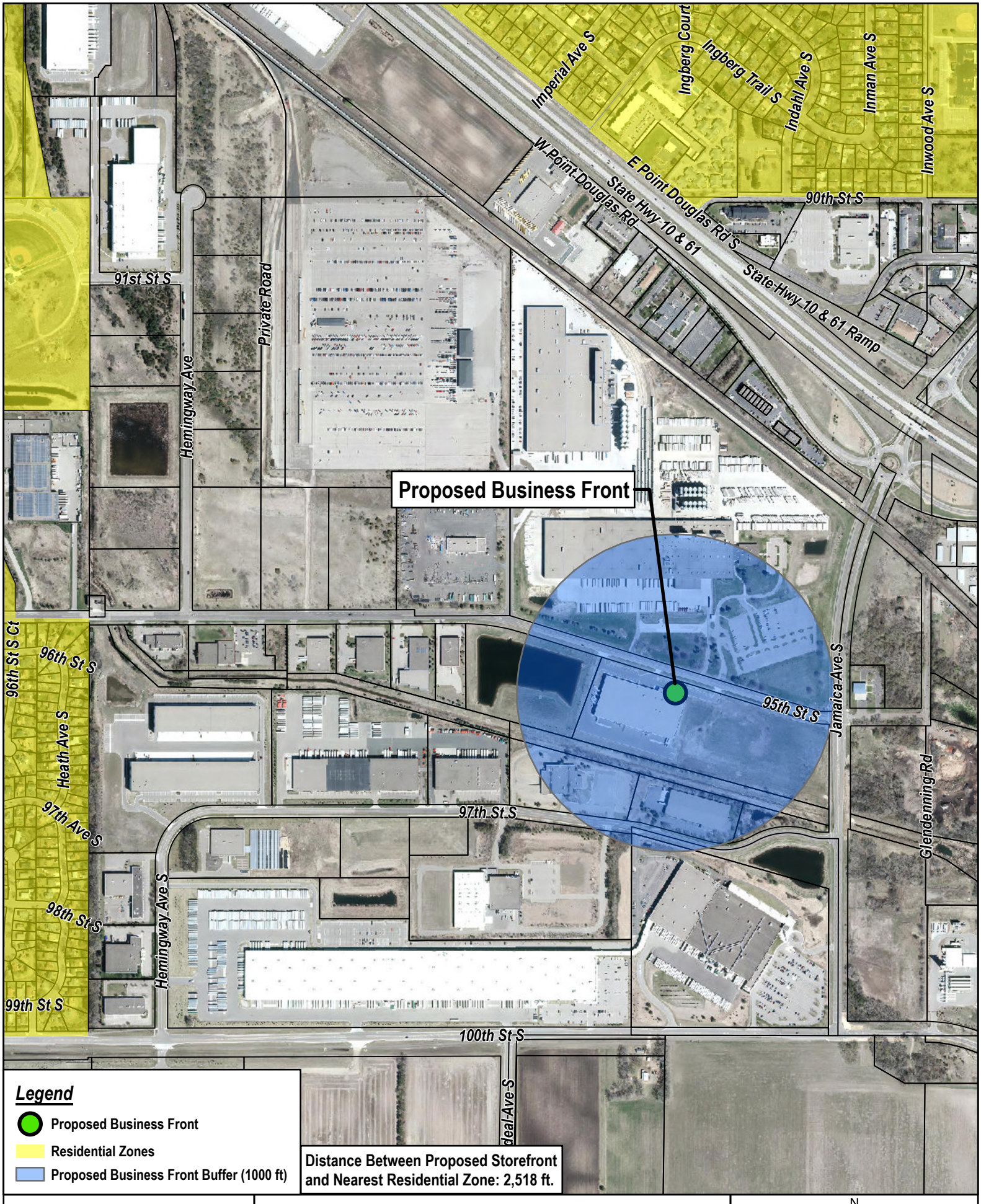
8301 95th Street - Distance to Nearest Park Attraction

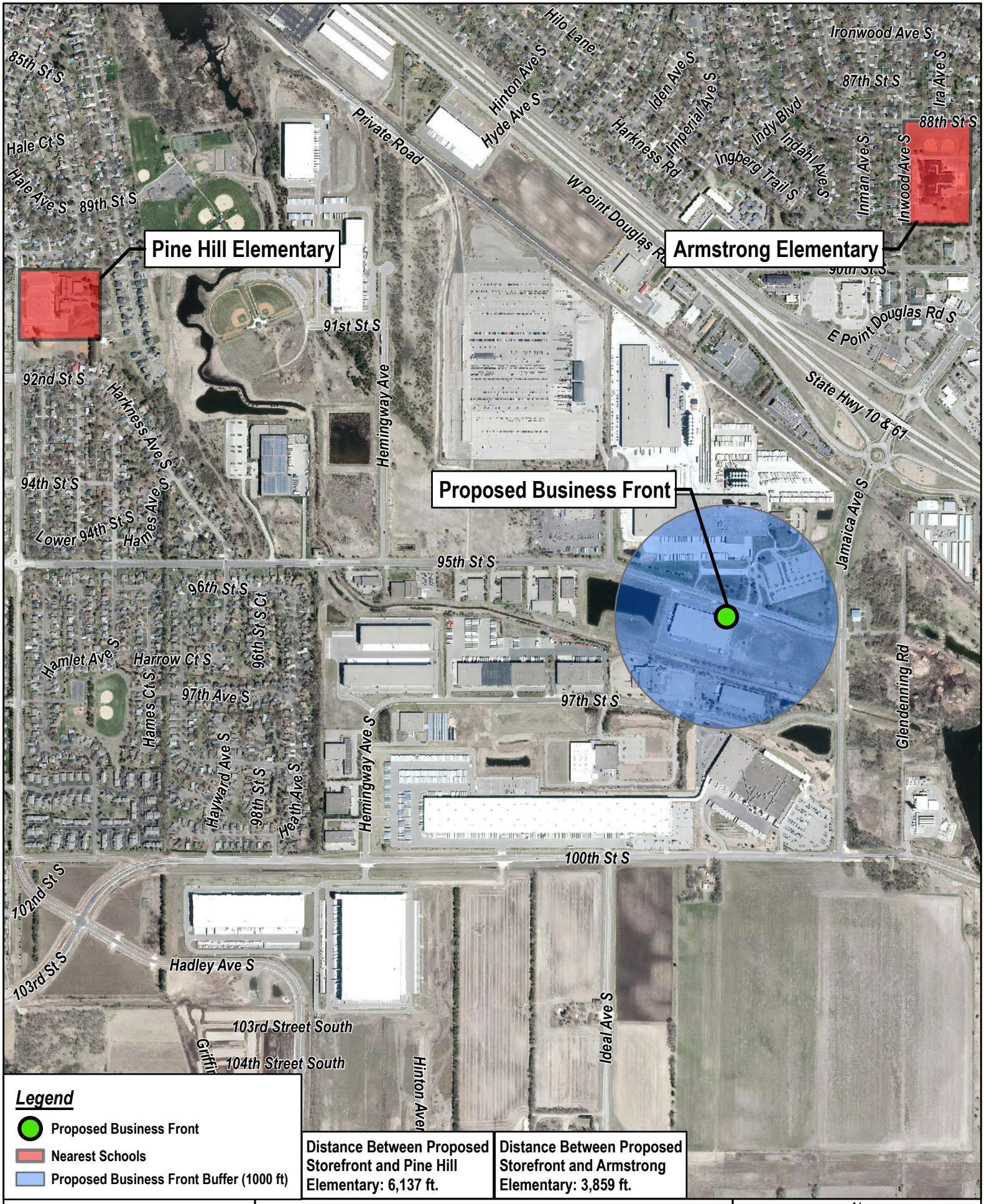
Cottage Grove, MN

Date: 4/13/2026

N

0 325 650 Feet


Imperial Ave S
Ingberg Court
Ingberg Trail S
Indahl Ave S
Inman Ave S
Inwood Ave S
W Point Douglas Rd
E Point Douglas Rd S
State Hwy 10 & 61
State Hwy 10 & 61 Ramp
90th St S
91st St S
Private Road
Hemingway Ave
Proposed Business Front
96th St S Ct
96th St S
Heath Ave S
97th Ave S
98th St S
99th St S
97th St S
95th St S
Jamaica Ave S
Glendenning Rd
Hemingway Ave S
100th St S
deal Ave S
Legend
Proposed Business Front
Residential Zones
Proposed Business Front Buffer (1000 ft)
Distance Between Proposed Storefront and Nearest Residential Zone: 2,518 ft.
Cottage Grove
Where Pride and Prosperity Meet
8301 95th Street - Distance To Nearest Residential Zone
Cottage Grove, MN
Date: 4/13/2026
N
0
500
1,000
Feet



Legend

- Proposed Business Front
- Nearest Schools
- Proposed Business Front Buffer (1000 ft)

Distance Between Proposed Storefront and Pine Hill Elementary: 6,137 ft.	Distance Between Proposed Storefront and Armstrong Elementary: 3,859 ft.

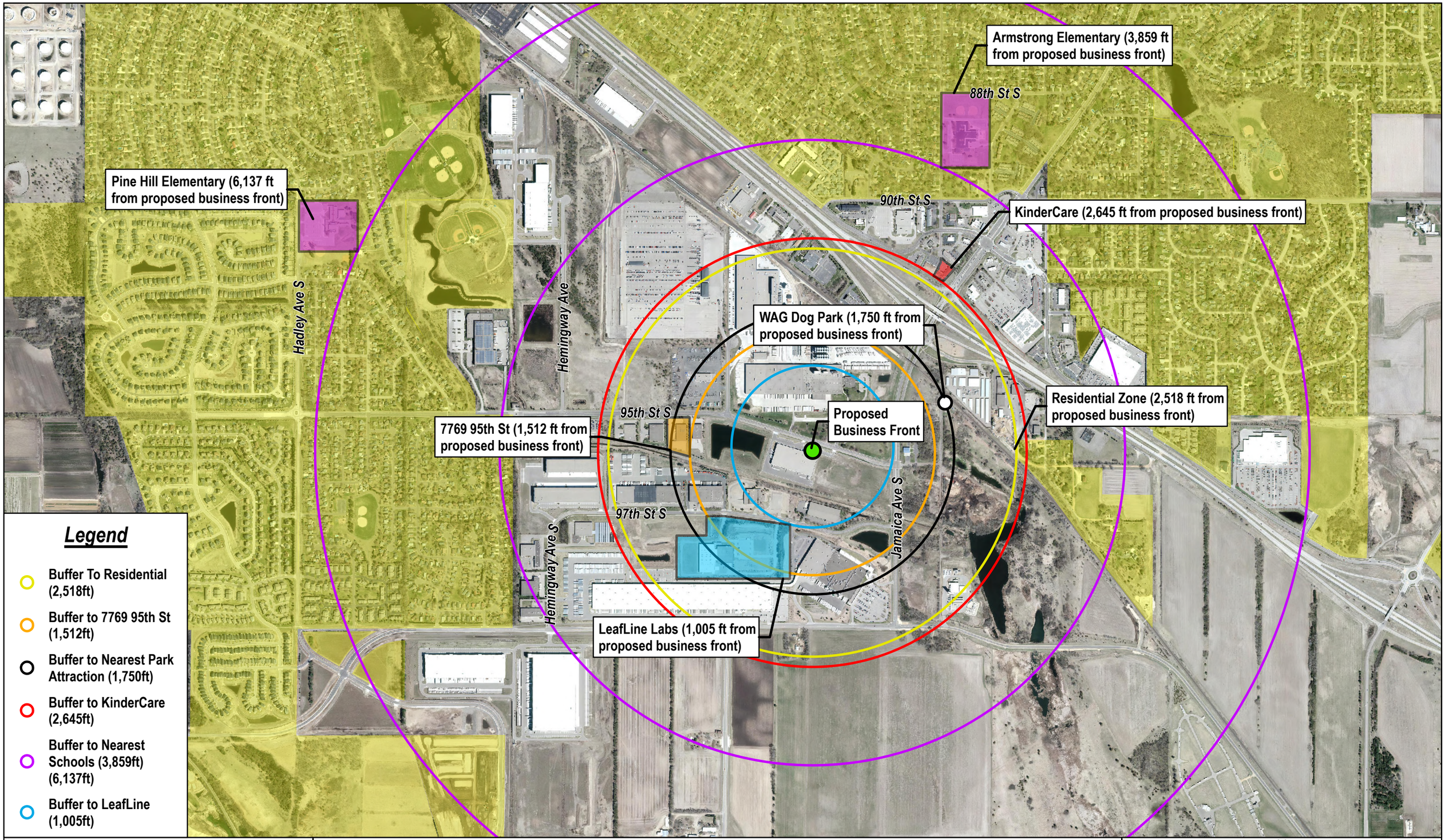
Cottage Grove — Where Pride and Prosperity Meet

8301 95th Street - Distance To Nearest School

Cottage Grove, MN | Date: 4/13/2026

N

0 700 1,400 Feet



Legend

- Buffer To Residential (2,518ft)
- Buffer to 7769 95th St (1,512ft)
- Buffer to Nearest Park Attraction (1,750ft)
- Buffer to KinderCare (2,645ft)
- Buffer to Nearest Schools (3,859ft) (6,137ft)
- Buffer to LeafLine (1,005ft)

Cottage Grove
Where Pride and Prosperity Meet

8301 95th Street - Overall Buffers

Cottage Grove, MN

Date: 4/14/2026

N

0 1,500 3,000 Feet

STAFF REPORT CASE: ZA/PP2026-010

ITEM: 6.B

PUBLIC MEETING DATE: 4/27/26 **TENTATIVE COUNCIL REVIEW DATE: 5/20/26**

APPLICATION

APPLICANT: US Home, LLC, dba Lennar

REQUEST: A Zoning Amendment and Preliminary Plat for a subdivision to be called Geneva Meadows 2nd Addition. The Zoning Amendment will rezone the property from R-1, Rural Residential, to R-3, Single-Family Residential. The proposed single-family community will consist of 23 lots with lot widths of 65 feet.

SITE DATA

LOCATION: South of 85th Street and west of the St. Paul Park/Cottage Grove boundary

ZONING: R-1, Rural Residential

GUIDED LAND USE: Low Density Residential

LAND USE OF ADJACENT PROPERTIES:	CURRENT	GUIDED
NORTH:	Residential	Low Density Residential
EAST:	Industrial	Industrial
SOUTH:	Rural Residential	Low Density Residential
WEST:	St. Paul Park	St. Paul Park

SIZE: 13.14 Acres

DENSITY: 2.08 units per acre

RECOMMENDATION

Approval, subject to the conditions stipulated in this staff report.

COTTAGE GROVE PLANNING DIVISION

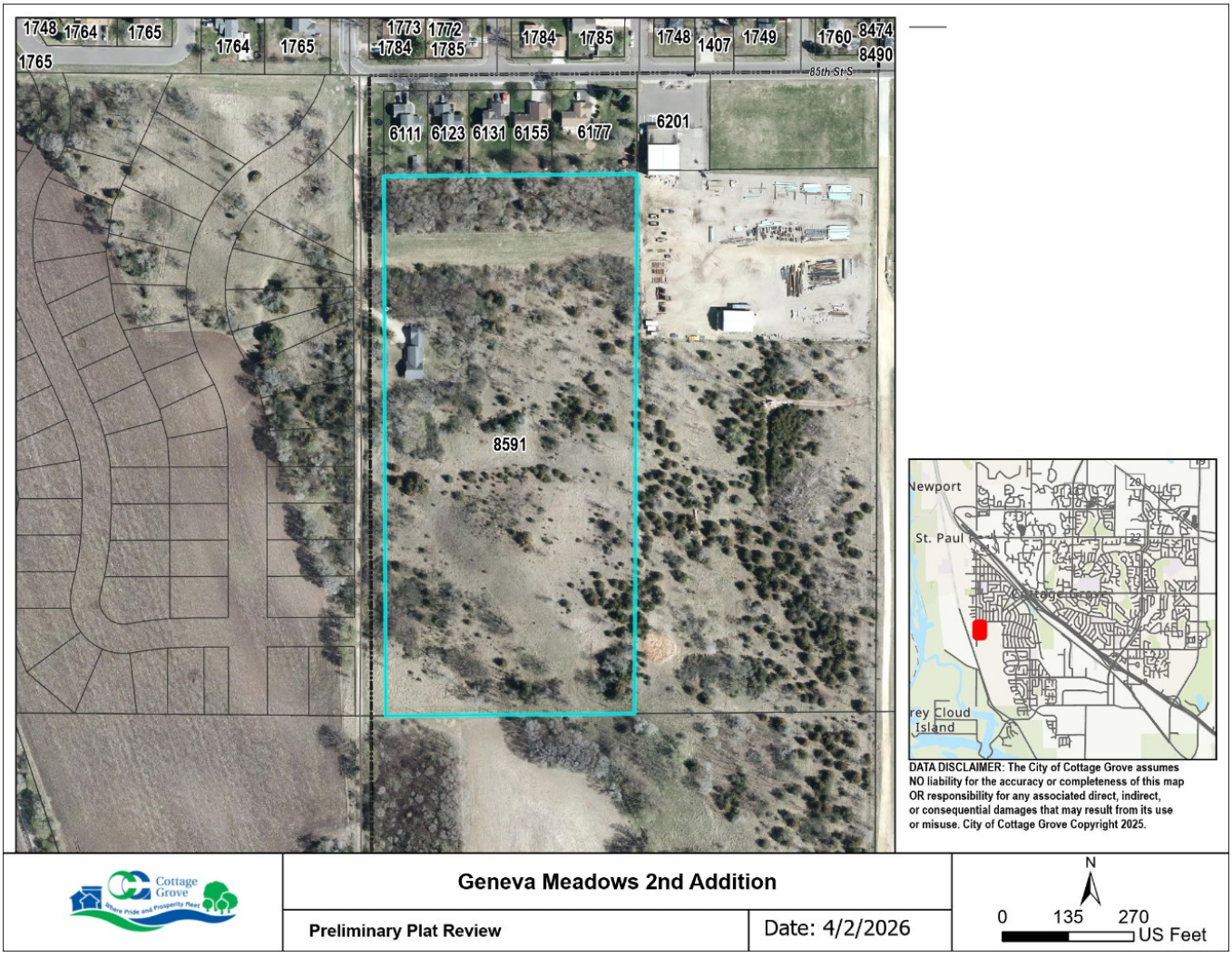
Planning Staff Contact: Max Erickson, Planner; 651-458-2868; merickson@cottagegrovemn.gov

Application Accepted: 3/3/2026 120-Day Review Deadline: 7/1/2026

Planning Staff Report
Geneva Meadows 2nd Addition
Planning Case No. ZA/PP2026-010
April 27, 2026

Proposal

Lennar (Applicant and Developer) has submitted an application for a Zoning Amendment and Preliminary Plat on a parcel of land totaling 13.14 acres zoned R-1, Rural Residential, located south of 85th Street and East of Geneva Avenue at the St. Paul Park municipal boundary. The Developer is proposing to rezone the subject site to R-3, Single-Family Residential and a Preliminary Plat to create 23 single family lots.

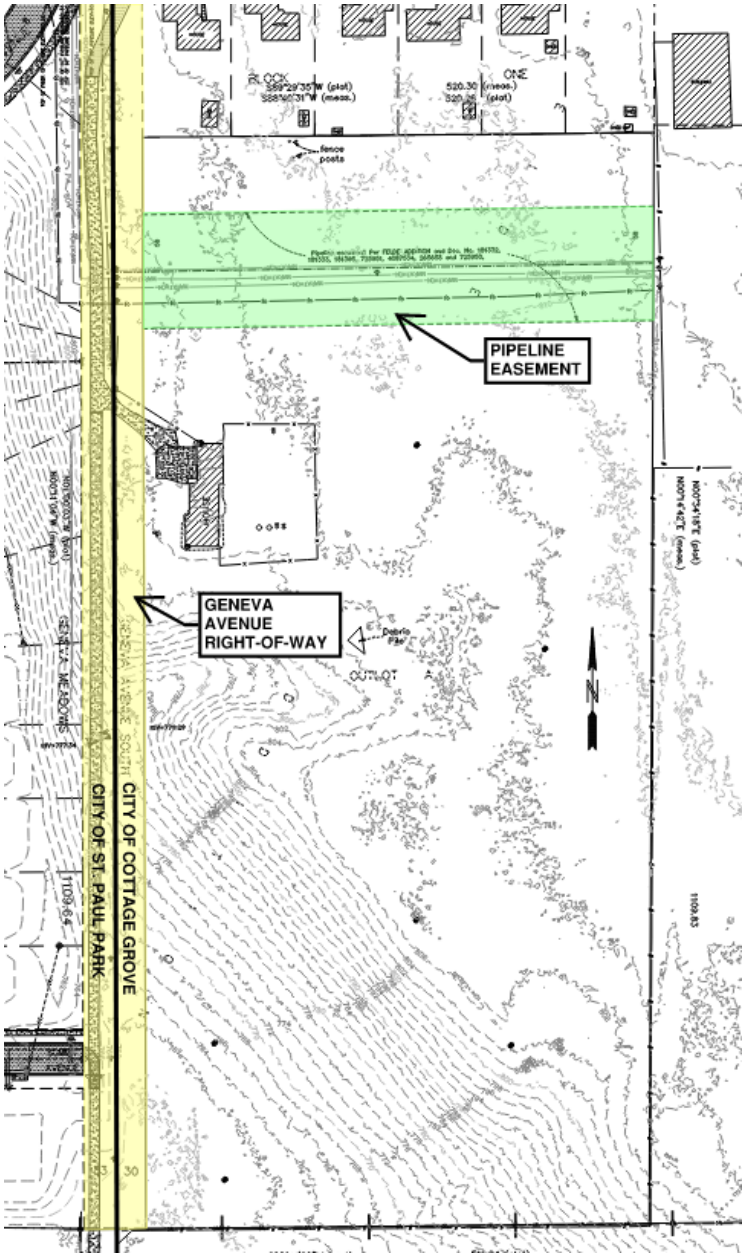


Review Schedule
Application Received: March 3, 2026
Application Accepted: March 3, 2026
Planning Commission Meeting: April 27, 2026
Tentative City Council Meeting: May 20, 2026
120-Day Review Deadline: July 1, 2026

Background

Site Conditions

The existing parcel is 13.14 acres and is primarily used as a Rural Residential parcel. A gas pipeline easement exists on the north end of the parcel. The property is primarily grassland with a mixture of tree species throughout the site. The western property line is the Cottage Grove and St. Paul Park municipal boundary along the Geneva Avenue right-of-way. West of the Geneva Avenue right-of-way is the Geneva Meadows 1st Addition, a St. Paul Park development. Properties to the east and south are owned by Marathon Gas and the properties to the north are five residential properties that are part of the Felde Addition development platted in 1988. An existing residence exists on the property, which will remain and is serviced by private well and septic.



Existing Site Conditions

Neighborhood Meeting

The Developer held a neighborhood meeting on April 2, 2026. Notice of the neighborhood meeting was sent to surrounding property owners within 500 feet of the project area. The intent of the meeting was to give neighboring property owners the opportunity to ask questions and present concerns they might have to the Developer in the early planning stages of the proposed project.

Four property owners attended and had the following questions and comments:

1. Residents who attended asked about truck hauling traffic in relation to this project and if it will be similar to the existing heavy truck traffic occurring from the Geneva Meadows 1st Addition construction in St. Paul Park.
    a. Staff verified the approved haul traffic route will utilize 85th Street and Grange Boulevard within the City of Cottage Grove and that the hauling will be significantly less compared to the Geneva Meadows 1st Addition project.

2. Residents on the north side of the project area inquired if the trees would be removed on the north end of the project area.
    a. The Developer clarified that tree removal within the gas easement and adjacent to the southern property lines of Felde Addition will not occur. The Developer also relayed that they will work with the five property owners to transfer property identified in outlots on the plat adjacent to the rear lots of each adjacent lot if they desired to take ownership.

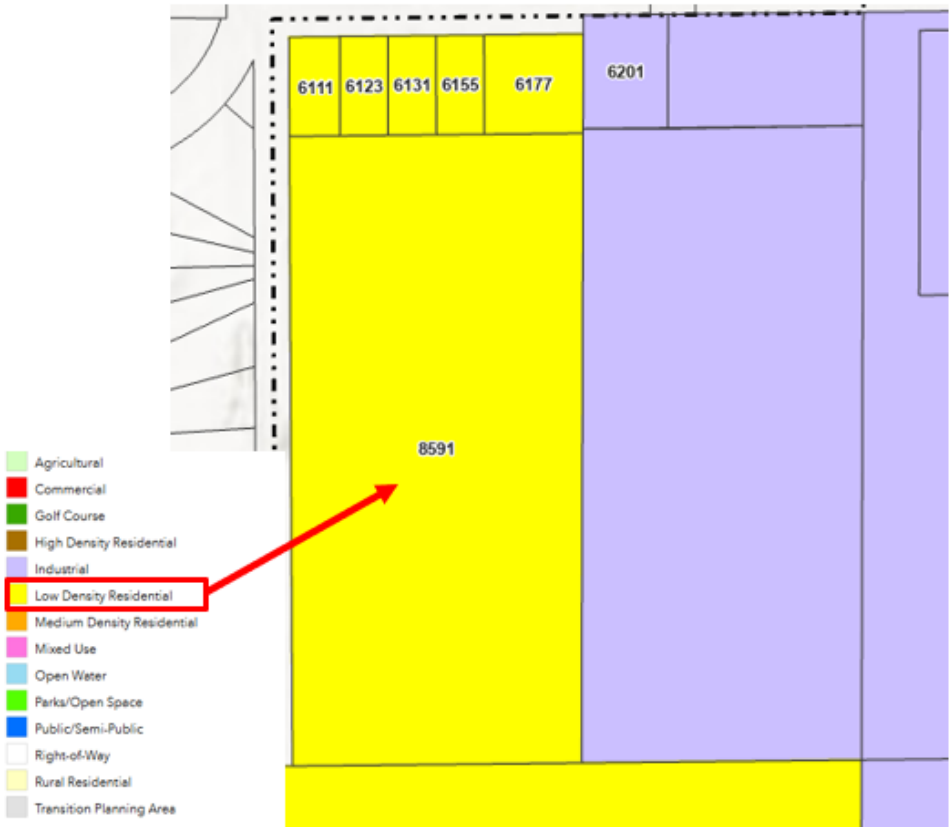
Planning Considerations

Plan Review

The dates of the plan set utilized for this review were submitted by Pioneer Engineering and are dated 4/7/26 (emailed to the City on 4/14/26). The city's engineering consultant, Bolton & Menk, reviewed the plans and provided comments in a memo dated April 22, 2026. Both the plan set and review memo are attached.

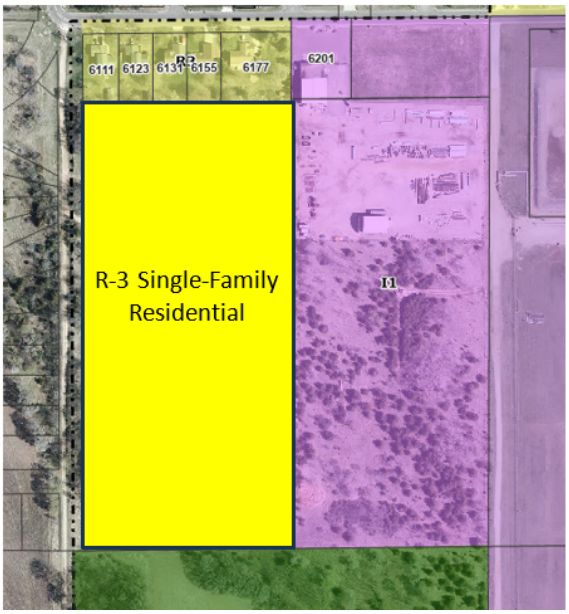
Zoning and Comprehensive Plan

The subject property is currently zoned as R-1, Rural Residential, and is guided as Low Density Residential in the 2040 Comprehensive Plan. The Comprehensive Plan guides the actions of the community by presenting a vision for the future by identifying policies, strategies, and investments the community will undertake while providing a repository of information. All land use decisions must be consistent with the adopted Comprehensive Plan. Zoning regulations specifically define how land can be used. Zoning divides jurisdictions into multiple districts and the Zoning Ordinance provides regulations which guide community development and growth within each district. The zoning regulations are the primary tool used to implement the City's vision found in the Comprehensive Plan.



2040 Comprehensive Plan Future Use

The Developer is requesting to rezone the subject property from R-1, Rural Residential, to R-3, Single-Family Residential, which would be in accordance with the future land use of the property in the 2040 Comprehensive Plan. Low Density Residential as defined in the Comprehensive Plan allows for 2 to 4 units per acre density. The purpose of the R-3 District is to preserve the character of existing neighborhoods, and to provide for development of those areas designated single-family residential in the Comprehensive Plan at densities and standards consistent with existing single-family developments.



Proposed Zoning to R-3

The Developer is proposing 65 to 75-foot wide lots. Minimum lot width within the R-3 zoning district is 65 feet; therefore, the proposed lot sizes would align with the R-3 standards in City Code.

The Developer is proposing 2.08 units per net acre. The Met Council currently has an established set of guidelines for how areas within the Metropolitan Urban Service Area (MUSA) can calculate net density. These guidelines include factors in which to exclude from net density area calculations, including but not limited to, waterbodies, areas with insufficient depth to bedrock, publicly owned and properly maintained stormwater BMP Facilities, public parks, major roads rights-of-way, power or gas easements and other land that is considered undevelopable. Two areas within the plat can be deducted from net density calculations including areas below the HWL of stormwater basins and an existing gas line easement. The Geneva Meadows 2nd Addition density calculation is shown below:

Gross Acreage of Development: 13.14 acres
Subtract proposed areas below pond high-water levels: 0.75 acres
Area of the pipeline easement: 1.38 acres

Equals Net Acreage: 11.01 acres

Divide 23 total housing units by net acreage to get units per acre of 2.08. At 2.08 units per acre, the Geneva Meadows 2nd Addition development complies with the definition of Low Density residential of 2 to 4 units per acre.

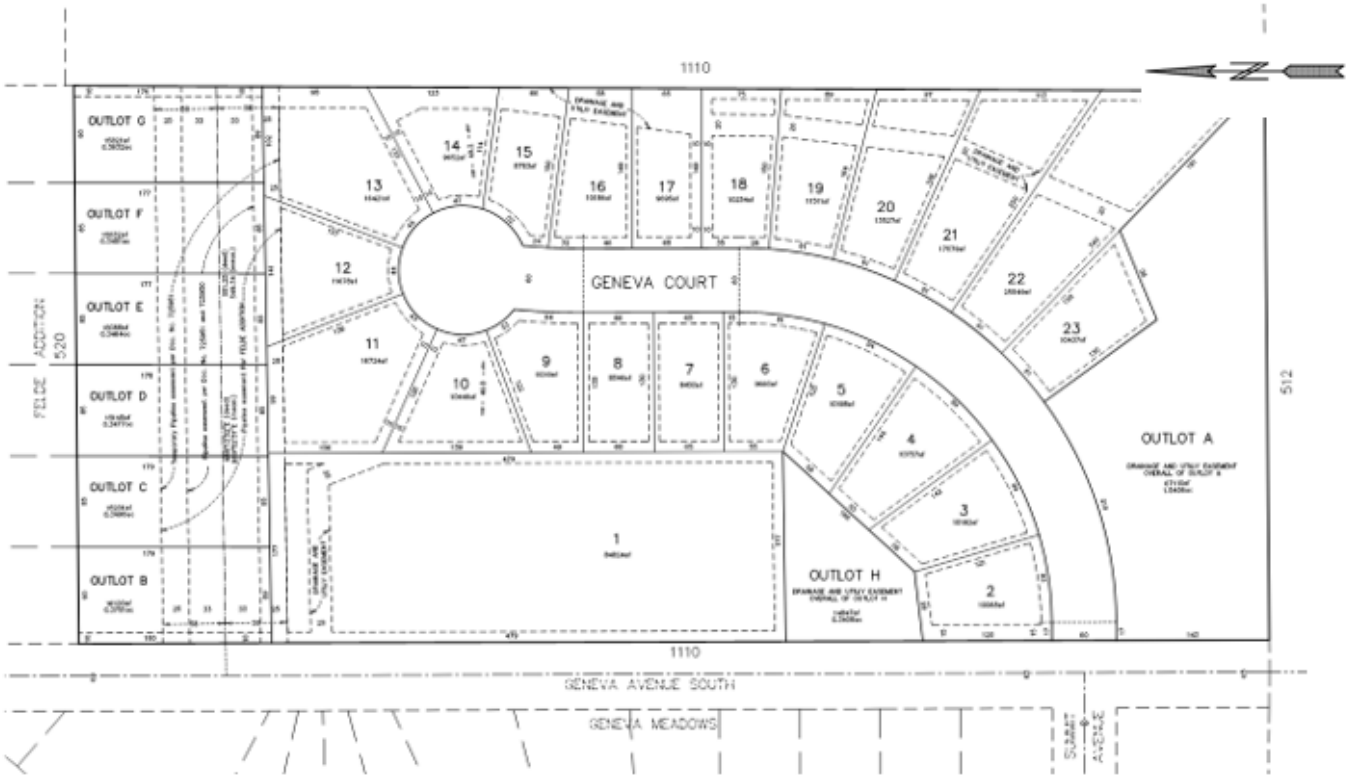
The proposed preliminary plat and the land use map from the 2040 Comprehensive Plan are consistent in the following ways:

- The Land Use Map in the 2040 Comprehensive Plan identifies the future land use development of the subject property as low density residential land uses. The Developer is proposing single-family lots for the subject property, which is consistent with the 2040 Comprehensive Plan.
- The proposed density of 2.08 units per acre is consistent with the 2040 Comprehensive Plan.
- The proposed rezoning to the R-3 District is consistent with the planned low-density outline in the 2040 Comp Plan for this property.
- Proposed Lot widths are consistent with the R-3 Zoning District standards
- The proposed development helps provide the city with varied housing types that are needed to serve varying income levels and stages in the life cycle.
- The proposed preliminary plat and grading plan are consistent with the low-density residential land use designation for this area.

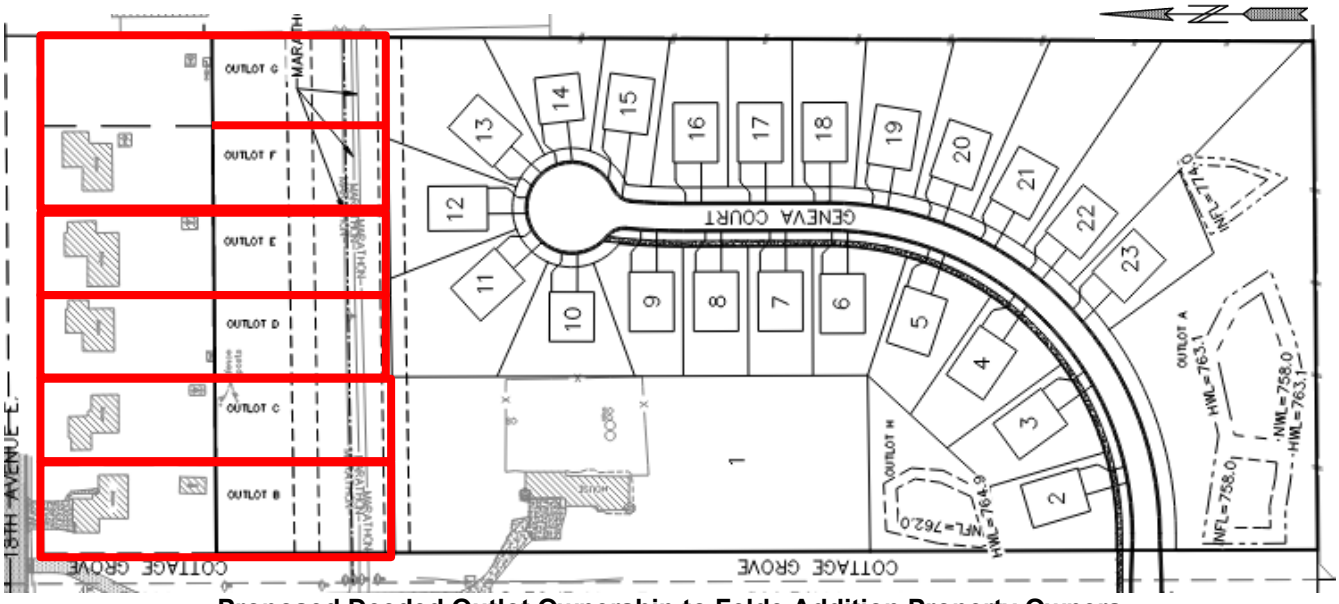
Preliminary Plat

The preliminary plat as proposed depicts a logical development of a viable property given the adopted performance standards of the zoning district. The proposed plat consists of 23 single family lots. Eight outlots are proposed with two (Outlots A and H) for stormwater purposes, which will be deeded to the City. The remaining Outlots B through G encompass the pipeline easement and a wooded tract between the proposed development and the lots within the Felde Addition

subdivision. The Developer has made contact with the Felde Addition Property owners and will deed Outlots B through H to adjacent properties of each outlot. Because the outlots and Felde Addition lots are within separate plats, they cannot be combined direcly. A deed restriction will be needed for each associated lot and outlot pairing to maintain common ownership should a lot be sold in the future.



Preliminary Plat



Proposed Deeded Outlot Ownership to Felde Addition Property Owners

Zoning Development Standards

The development performance standards of the requested zoning district classifications and those requested as part of the development are detailed below. The Developer meets or exceeds the performance standards of the R-3, Single-Family Residential zoning district.

Lot Development Performance Standards		
Single Family Standards	**Proposed**	**R-3 Single Family Residential**
Lot depth	130 feet	130 feet
Lot width	65 and 75ft	65 feet
Front yard setback	25 feet	25 feet
Rear yard setback	35 feet	35 feet
Side yard setback	7.5 feet	7.5 feet
Side yard, garage setback	5 feet	5 feet
Maximum impervious surface coverage		40%

Transportation

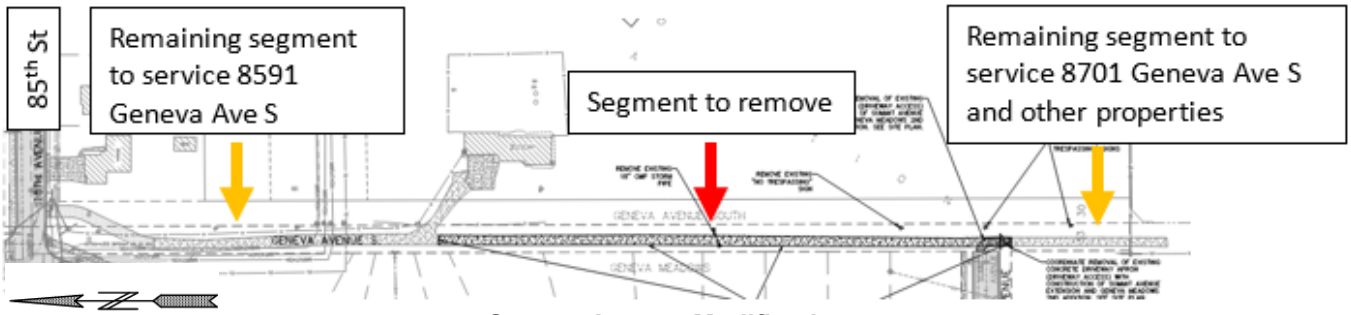
Development Access: Access to the proposed Geneva Meadows 2nd Addition development will be from Summit Avenue within the Geneva Meadows 1st Addition within St. Paul Park. Summit Avenue will end at the Cottage Grove-St. Paul Park municipal border and become Geneva Court within the Cottage Grove municipal boundary to abide by the Washington County road naming conventions within Cottage Grove.

Per Fire code, a second access is not required given the proposed development will remain under the required number of lots (30) that would require a secondary access for emergency purposes.

Geneva Avenue: Geneva Avenue right-of-way is platted from 85th Street to the south. 30 feet on the Cottage Grove side and 33 feet on the St. Paul Park side. A private driveway within the right-of-way services two residences within Cottage Grove. The private gravel driveways that exist within the right-of-way are privately maintained and will continue to be privately maintained.

Cottage Grove and St. Paul Park have a joint powers agreement for the Geneva Avenue right-of-way allowing the City of Cottage Grove full access and powers to modify the area within the Geneva Avenue right-of-way to accommodate their existing residents and potentially serve future development. St. Paul Park does not serve any of their residents with the Geneva Avenue right-of-way that is within their municipal boundaries.

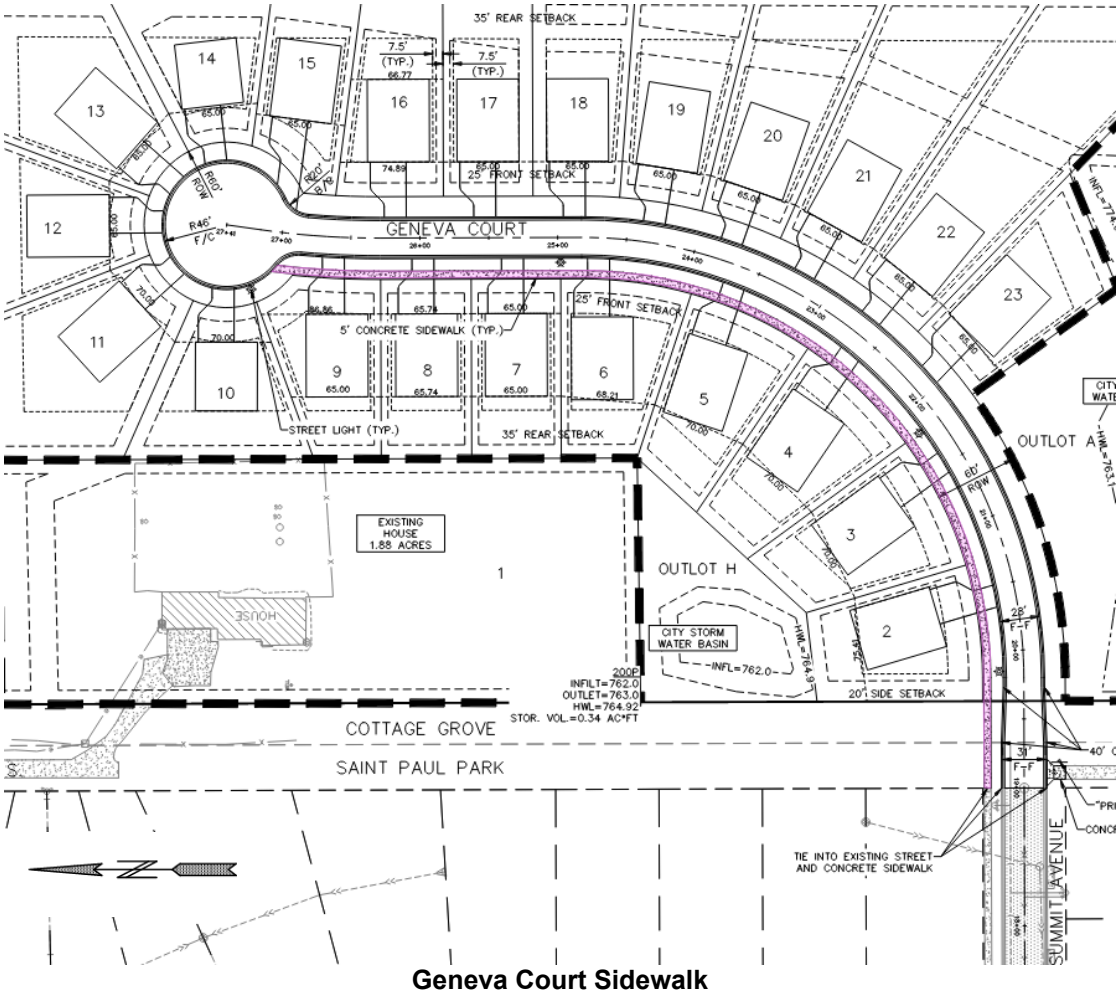
The development proposes removing a segment of the gravel private driveway within the Geneva Avenue right-of-way from the residence at 8591 Geneva Avenue to the proposed access point of this development. The residence at 8591 Geneva Avenue will remain connected to 85th Street as the ingress/egress for the house The private driveway that services 8701 Geneva Avenue and other adjacent properties will remain. The residence at 8701 Geneva Avenue and other adjacent properties to the south will utilize the new connection of the remaining private driveway on Summit Avenue as their ingress/egress.



Geneva Avenue Modifications

Sidewalks and Trails

A 5-foot sidewalk will be constructed along the north and west side of Geneva Court and will connect to the Geneva Meadows 1st Addition sidewalk in St. Paul Park at Summit Avenue.



Geneva Court Sidewalk

Park Land and Open Space

A minimum of 10 percent of developable area is required to provide residents with public recreation facilities including parks and open spaces as a part of development projects per City Code Title 10-4-3, so 1.3 acres of park dedication is required for the Geneva Meadows 2nd Addition development. There are no parks or trails proposed for this project given the planned

parks, open space, and trails plan within the Comprehensive Plan does not indicate any future park or connection for this property; therefore, there is no dedication of land for park dedication, and cash in lieu of will be required.

Area Charges and Development Fees

Area charges and related development fees for this project will be based on the acreages shown on the final plat. These fees and charges will be accurately adjusted based on the final plat layout and be provided in the development agreement.

This development will be served by St. Paul Park's sanitary sewer and water system. A Joint Powers Agreement between Cottage Grove and St. Paul Park will be required to outline the details of ongoing service, maintenance, and invoicing for service of these residences.

All other fees will be required to be paid to the City at the time the development agreement is fully executed between the City and Developer.

Tree Preservation

A submitted tree inventory identified 2,111 existing qualifying inches of trees within the development property. Qualifying Trees are defined as a healthy tree meeting one of the following definitions: a hardwood deciduous tree at least 6 inches in diameter at breast height (DBH), a softwood deciduous tree at least 8 inches DBH, or a coniferous tree at least 10 feet in height. Trees that are considered non-qualifying include Elm, Ash, any DNR defined invasive species, or trees that are dead, mostly dead, or hazardous to public safety. For residential uses less than 10 units per acre, City Code Title 11-3-13 allows 25 percent of the qualifying inches identified on the site to be removed without mitigation (527 inches).

The current tree inventory provided by the Developer proposes to remove 1,693 qualifying inches, an excess of 1,166 inches. The excess inches removed must be replaced at a rate of 50 percent; therefore, the Developer is required to mitigate 583 inches.

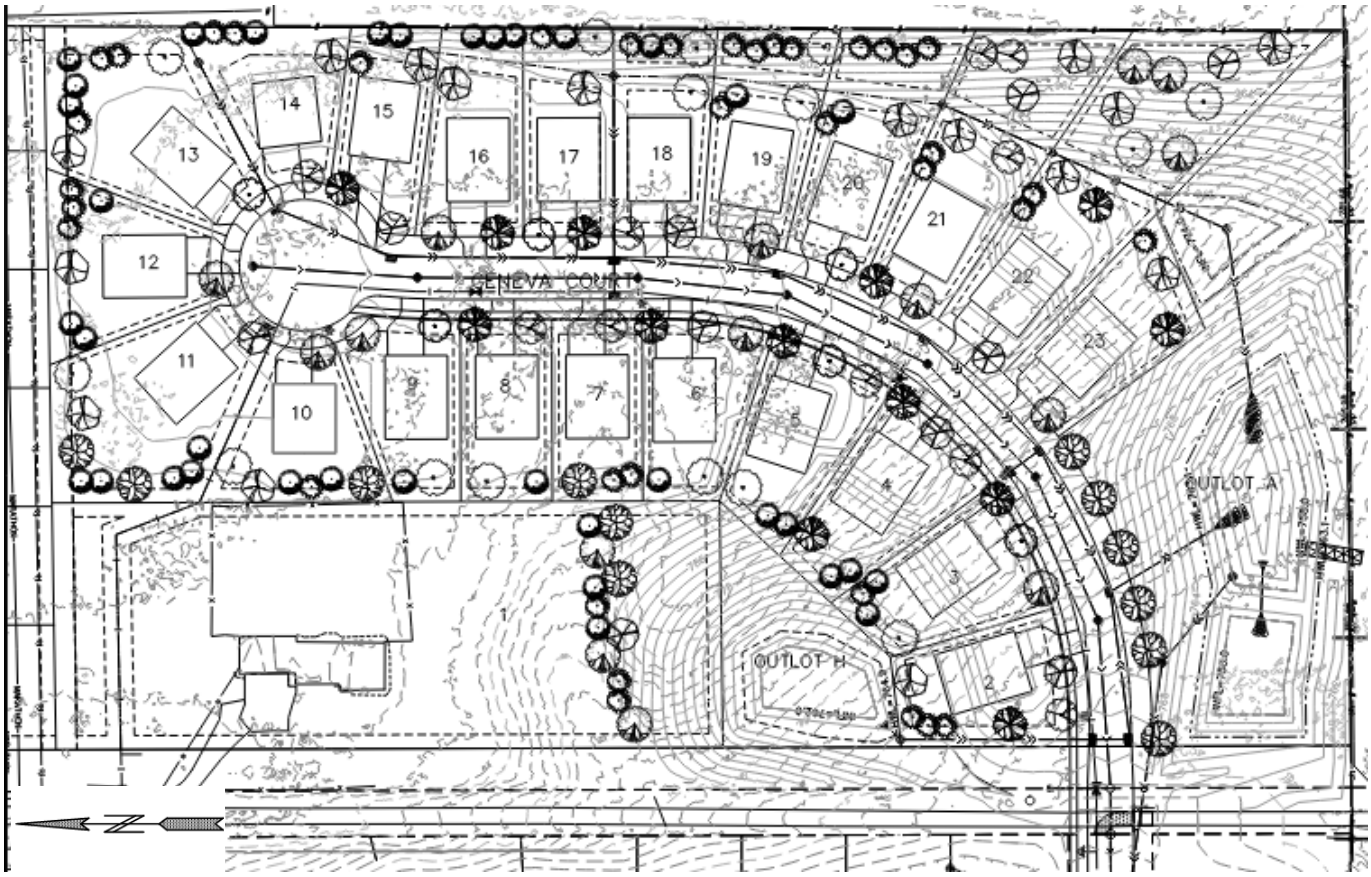
Tree Mitigation Requirements	
Total Qualifying Inches Identified On site	2,111 inches
Proposed number of qualifying inches to be removed	1,693 inches
Allowable qualifying inches without Mitigation (25%)	527 inches
Remaining Qualifying Inches (Proposed – Allowable 25%)	1,166 inches
50% of qualifying inches required to be mitigated	583 inches

The Developer's preliminary landscape plans show 583 inches being mitigated with the required lot landscape plantings. City Code 11-3-13G(2) indicates that trees planted in accordance with a tree preservation plan and related mitigation shall be credited against the city landscaping requirements. At the time of this report, the Developer is still working through stormwater requirements, which may affect final landscaping. Should any changes occur within the landscaping plan which would reduce the number of mitigation trees planned, the remainder of mitigation shall be covered by cash in lieu of. A final landscaping plan shall be submitted with the Final Plat submittal.

Landscaping

City Code Title 11-6-5 requires a minimum amount of landscape plantings to be installed as a part of development projects within the City. These required plantings include yard trees, building perimeter plantings, and landscape requirements. Lots less than 60 feet wide must have two yard trees, one of which must be a front yard tree. Lots over 60 feet wide must have three yard trees of which one must be a front yard tree. The front yard tree must be an overstory species (maximum canopy spread over 30 feet). The Developer's landscape plan demonstrates adequate required trees per lot. In addition, each single-family lot is required to have 10 understory shrubs. All trees within private property will be the responsibility of the property owner to maintain.

Although the City does not allow for boulevard trees, boulevard trees have been proposed as requested by the city along Outlot A to maintain curbside appeal within the development. Final spacing and species shall be confirmed by the City Forester.



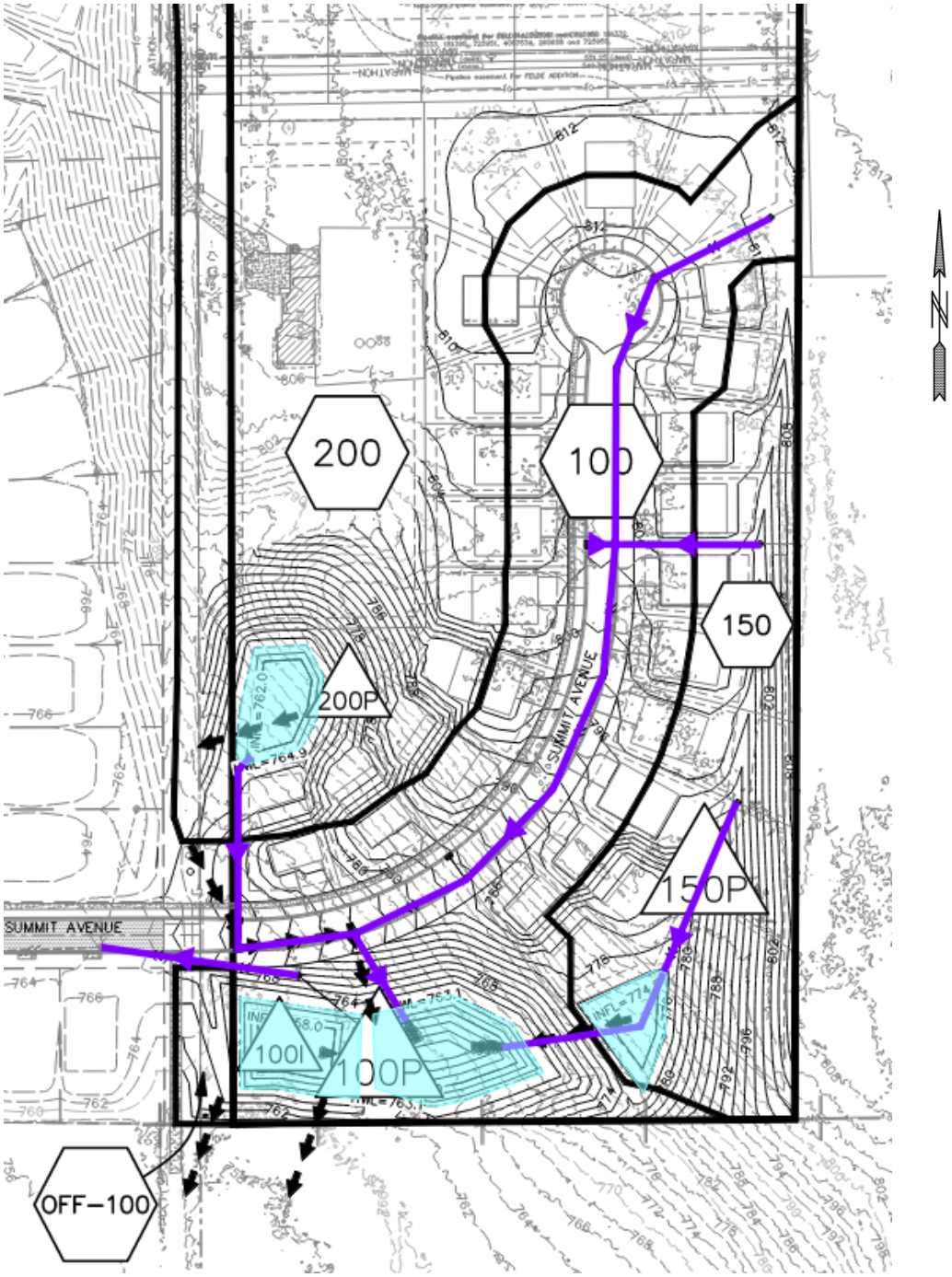
Landscaping Plan

Stormwater Management Plan

The Developer's engineer submitted a stormwater management plan dated April 14, 2026, that has been reviewed by the city. Comments on the plan are included in the review memo dated April 22, 2026. City engineering staff will continue to work with the Developer's engineer to ensure the site meets water quality standards as well as rate and volume control rules. The Developer will be required to deed Outlots A and H to the city for ownership and maintenance of stormwater infrastructure.

The development site is currently designed with stormwater ponding and treatment in three areas. Stormwater from the remnant parcel, the pipeline easement and the back yards of lots on the west

side of Geneva Court will drain to the pond labeled 200P. This pond then gets routed to Pond 100P which is between Geneva Court and the southern property line. Geneva Court drainage as well as lots on the east side of Geneva Court are also routed to Pond 100P. The system of wet and dry basins within the development will treat runoff prior to flowing to a storm sewer manhole in Summit Avenue within St. Paul Park.



Stormwater Site Flow

The provided stormwater plan shall be subject to the comments as part of the plan review memo which include required modifications of the stormwater plan to meet City Stormwater standards including slope and access requirements within City right-of-way and City-owned outlots. This will

also include improvements to control stormwater that enters the Geneva Avenue right-of-way and anticipated improvements to limit drainage into Geneva Meadows 1st Addition.

Grading

As with all new development projects, site grading is necessary to build the streets, provide proper drainage and ponding, and to create building pads, among other things. City staff will review grading plans to ensure the plans meet city, state, and watershed district requirements for flood control, erosion control, and drainage. The preliminary grading plan was reviewed by the City's engineering staff, and their review comments are included in the April 22, 2026, plan review memo. Additional grading review will be required upon submittal of final grading and utility plans for the site.

Utilities

The engineering plan review memo dated April 22, 2026, contains comments that will be required to be addressed by the Developer prior to approval of final plans.

An 8" sanitary sewer will gravity flow to the southwest corner of the parcel into St. Paul Park's sanitary sewer system. 8" water main pipes were stubbed out in two locations as part of the Geneva Meadows 1st Addition. One connection point is at the end of Summit Avenue, and the other is within Geneva Avenue right-of-way just south of the pipeline easement. These two connections will be used to loop water through the development. A Joint Power's Agreement will define utility infrastructure maintenance associated with the sewer and water connection to a Cottage Grove development from St. Paul Park.

The existing residence at 8591 Geneva Avenue is currently on private well and septic. Public utilites will be stubbed to this existing residence to provide a future oportunity for the property to connect. This property would also be served by the City of St. Paul Park sewer and water services at the time of connection and would require payment of water, sewer, and stormwater area charges and connection fees.

Public Hearing Notices

Public hearing notices were mailed to 40 property owners who are within 500 feet of the proposed subdivision and published in the *St. Paul Pioneer Press* on April 15, 2026. No comments have been received at the time of writing this report.

Recommendation

That the Planning Commission recommend that the City Council approve the following applications, subject to the conditions of approval.

A. A Zoning Amendment to change the zoning of the subject property from R-1, Rural Residential, to R-3, Single-Family Residential.

B. A Preliminary Plat for a residential subdivision to be called Geneva Meadows 2nd Addition, which will consist of 23 Single-Family Lots.

<u>General Development</u>

1. The Applicant and builders must comply with all city ordinances and policies except as may be modified by agreement of the Developer and City staff.

2. The Applicant must obtain appropriate building permits from the City, and permits or approvals from other regulatory agencies including, but not limited to: South Washington Watershed District, Minnesota Department of Health, Minnesota Department of Natural Resources, Met Council, Washington County, and Minnesota Pollution Control Agency.

3. The Applicant shall enter into a development agreement with the City. The development agreement shall be executed by the Applicant prior to City Council approval of the final plat.

4. The Applicant shall incorporate into the final plat the recommendations, requirements, and evaluations noted in the Bolton & Menk memorandum dated April 22, 2026, subject to modifications by the City Engineer.

Platting, Land Dedication, and Easements

5. The project shall be completed in accordance with the plans submitted and as amended by the conditions of approval and as approved by the City Engineer. Any significant changes to the plans, as determined by Planning staff, shall require review and approval by the Planning Commission and City Council.

6. Outlots A and H shall be deeded to the City at the time of recording the final plat for stormwater purposes.

7. Outlots B, C, D, E, F and G shall be deeded to adjacent lots within the Felde Addition. Warranty deeds shall be presented prior to approval of final plat, and a deed restriction shall be placed to ensure the outlot and the lot remain under common ownership.

8. Park dedication for 1.3 acres is required as cash in lieu of physical park dedication as part of the proposed development.

Construction and Grading

9. The Developer must apply for and obtain a grading permit from the City prior to beginning any work on the subject site. Associated financial guarantees shall also be submitted prior to beginning any site work. Grading, drainage, and erosion control plans must be approved by the City Engineer, other necessary permits (i.e. NPDES permit) must be obtained, and a preconstruction meeting must be held prior to issuance of a grading permit.

10. An as-built grading survey that meets city standards is required after mass site grading.

Lot Performance Standards

11. The architectural standards of the development shall be consistent with the following:

    a. Architectural design is required on all four sides of the principal structure.

    b. Architectural materials must be varying on the front façade of the principal structure (shakes, board and batten, brick or stone, accent siding, shutters, window boxes, etc.).

12. Once a house plan is approved for a given lot, no identical house plan may be constructed on the five lots surrounding it, i.e. the lots adjacent on either side, the lot most directly across the street, and the lots adjacent to the lot most directly across the street.

Utilities

13. The Developer is responsible for providing the necessary easements and costs associated with road and utility improvements serving the site. All drainage and utility easements, as recommended by the City Engineer, must be shown on the final plat and dedicated to the City for public purposes.

Streets

14. Private drives within the Geneva Avenue right-of-way shall be marked “No Trespassing” for the private accesses to 8591 Geneva Avenue South and 8701 Geneva Avenue South.

15. The Developer is responsible for removing the segment of Geneva Avenue South from the existing driveway serving 8591 Geneva Avenue South to the transitional area of Summit Avenue and the proposed Geneva Court and reestablishing it to city standards. This also includes modifications to control stormwater to mitigate any negative effects on Geneva Meadows 1st Addition.

16. The Developer is responsible for maintaining access to the remaining private drives on Geneva Avenue South during construction. The Developer is responsible for making improvements to the proposed connections to Geneva Avenue South and Summit Avenue. Coordination with existing homeowners at 8701 and 8591 Geneva Avenue South during construction shall be the responsibility of the Developer.

Landscaping and Irrigation

17. Irrigation systems installed within City right-of-way are solely the responsibility and risk of the Developer, or individual. The City is not responsible or liable for any damage or costs related to installation, damage, or replacement of lawn irrigation systems placed in the boulevard as a result of City use of or future changes in the right of way.

18. All proposed tree locations on the proposed landscape plan shall be reviewed and approved by the City Forester. Deciduous trees should be located a minimum of 5 feet off any utility pipe. Coniferous trees shall be located a minimum of 15 feet off any utility pipe. No trees shall be located within a storm pond high water level or within the pond access routes unless approved by the Public Works Director. Trees shall not be located so as to interfere with hydrants, street lighting, utilities, and traffic signage.

19. All tree and shrub plantings shall be located outside of the public right-of-way except for the boulevard trees proposed within Outlot A.

20. Three yard trees (no less than two different species), and ten shrubs shall be installed within each lot greater than 60 feet wide. One yard tree shall be located in the front yard and shall be an overstory tree and planted no less than 16 feet from the back of the curb.

21. The Developer is responsible for establishing the final grades, topsoil, and seeding/sodding of all the lots, outlots, and boulevards within the subdivision.

22. Prior to releasing the plat for recording, a final landscaping plan shall be approved by planning staff and the City Forester in writing.

23. Required tree mitigation shall be met by providing required landscaping and/or a combination of plantings and cash in lieu of planting to be calculated prior to the approval of the Final Plat.

24. A final landscaping plan shall be submitted to the City in conjunction with submittal of the Final Plat.

Onsite Infrastructure Improvements

25. A street lighting plan that complies with the City's street lighting plans must be submitted by the Developer and approved by the City Engineer prior to Final Plat approval.

26. Five-foot wide concrete sidewalks shall be installed as submitted by the Developer and approved by the City Engineer prior to Final Plat approval.

27. The Developer must place iron monuments at all lot and block corners and at all other angle points on property lines. Iron monuments must be placed after all site and right-of-way grading has been completed in order to preserve the lot markers for future property owners.

28. The Developer is responsible for the cost and installation of public land boundary markers at the corners of private properties abutting Outlots A and H. The open space markers must be installed before a building permit is issued for the lot that abuts the recommended marker location. The actual number and location of park boundary markers is subject to approval of the Parks Director.

29. The Developer shall contact the electric, telephone, gas, and cable companies that are authorized to provide service to the property to ascertain whether any of those utility providers intend to install underground lines within the development.

30. The Developer is responsible for all street maintenance; upkeep and repair of curbs, boulevards, and sod; and street sweeping until the project is complete. All streets must be maintained free of debris and soil until the subdivision is completed. The Developer hereby agrees to indemnify and hold the City harmless from any and all claims for damages of any nature whatsoever arising out of Developer's acts or omissions in performing the obligations imposed upon Developer by this paragraph.

31. The Developer will provide the City copies of test results, suppliers, subcontractors, etc., relating to the work to be performed by the Developer. The Developer agrees to furnish to the City a list of contractors being considered for retention by the developer for the performance of the work described in the development agreement.

32. The Developer is responsible for the control of grass and weeds in excess of eight inches on vacant lots or boulevards within their development. Failure to control grass and weeds

will be considered a Developer's default, and the City may, at its option, perform the work and the Developer shall promptly reimburse the City for any expense incurred by the City.

33. The Developer will be required to conduct all major activities to construct the public improvements during the following hours of operation:

Monday through Friday	7:00 A.M. to 7:00 P.M.
Saturday	9:00 A.M. to 7:00 P.M. (with prior approval from the City Engineer)
Sunday/City Holidays	Not Allowed

This does not apply to activities that are required on a 24-hour basis such as dewatering or bi-pass pumping, etc. Any deviations from the above hours are subject to approval of the City Engineer.

34. The Developer shall weekly, or more often if required by the City Engineer, clear from the public streets and property any soil, earth, or debris resulting from construction work by the Developer or its agents or assigns. All debris, including brush, vegetation, trees, and demolition materials, shall be properly disposed of off-site; burying construction debris, trees, and other vegetation is prohibited. Burning of trees and structures is prohibited, except for fire training only.

35. The Developer grants the City, its agents, employees, officers, and contractors' permission to enter the site to perform all necessary work and/or inspections during grading and the installation of public improvements by the Developer.

36. Upon completion of the work, the Developer shall provide the City with a full set of as-built plans for City records and transmitted to the City in a DWG AutoCAD format and pdf format. If the Developer does not provide as-builts, the City will produce them at the Developer's expense.

37. The Developer is responsible for completing the final grade on all lots and ensuring all boulevards and yards have a minimum of four inches of organic topsoil or black dirt on them. Placement of organic topsoil or black dirt and shrubs must not be transferred to homeowners.

38. Adequate dumpsters must be on site during construction of streets, utilities, and houses. When the dumpsters are full, they must be emptied immediately or replaced with an empty dumpster. The Developer is responsible to require each builder to provide an on-site dumpster to contain all construction debris, thereby preventing it from being blown off-site. It is the responsibility of the Developer to ensure no debris blows on or off site.

39. Adequate portable toilets must be on-site at all times during construction of utilities, roadways, and houses. At no time shall any house under construction be more than 250 feet away from any portable toilet. Toilets must be regularly emptied.

40. After the site is rough graded, but before any utility construction commences or building permits are issued, the erosion control plan shall be implemented by the Developer and

inspected and approved by the City. The City may impose additional erosion control requirements if it is determined that the methods implemented are insufficient to properly control erosion.

41. The Developer is responsible for erosion control inspection fees at the current rates. If the Developer does not reimburse the City for the costs the City incurred for such work within thirty (30) days, the City may draw down the letter of credit to pay such costs.

42. All areas disturbed by the excavation and back-filling operations shall be fertilized, mulched, and disc anchored as necessary for seed retention. Time is of the essence in controlling erosion. If the Developer does not comply with the erosion control plan and schedule, or supplementary instructions received from the City, or in an emergency determined at the sole discretion of the City, the City may take such action as it deems appropriate to control erosion immediately. The City will notify the Developer in advance of any proposed action, but failure of the City to do so will not affect the Developer's and the City's rights or obligations. If the Developer does not reimburse the City for any costs of the City incurred for such work within thirty (30) days, the City may draw down the letter of credit to pay such costs.

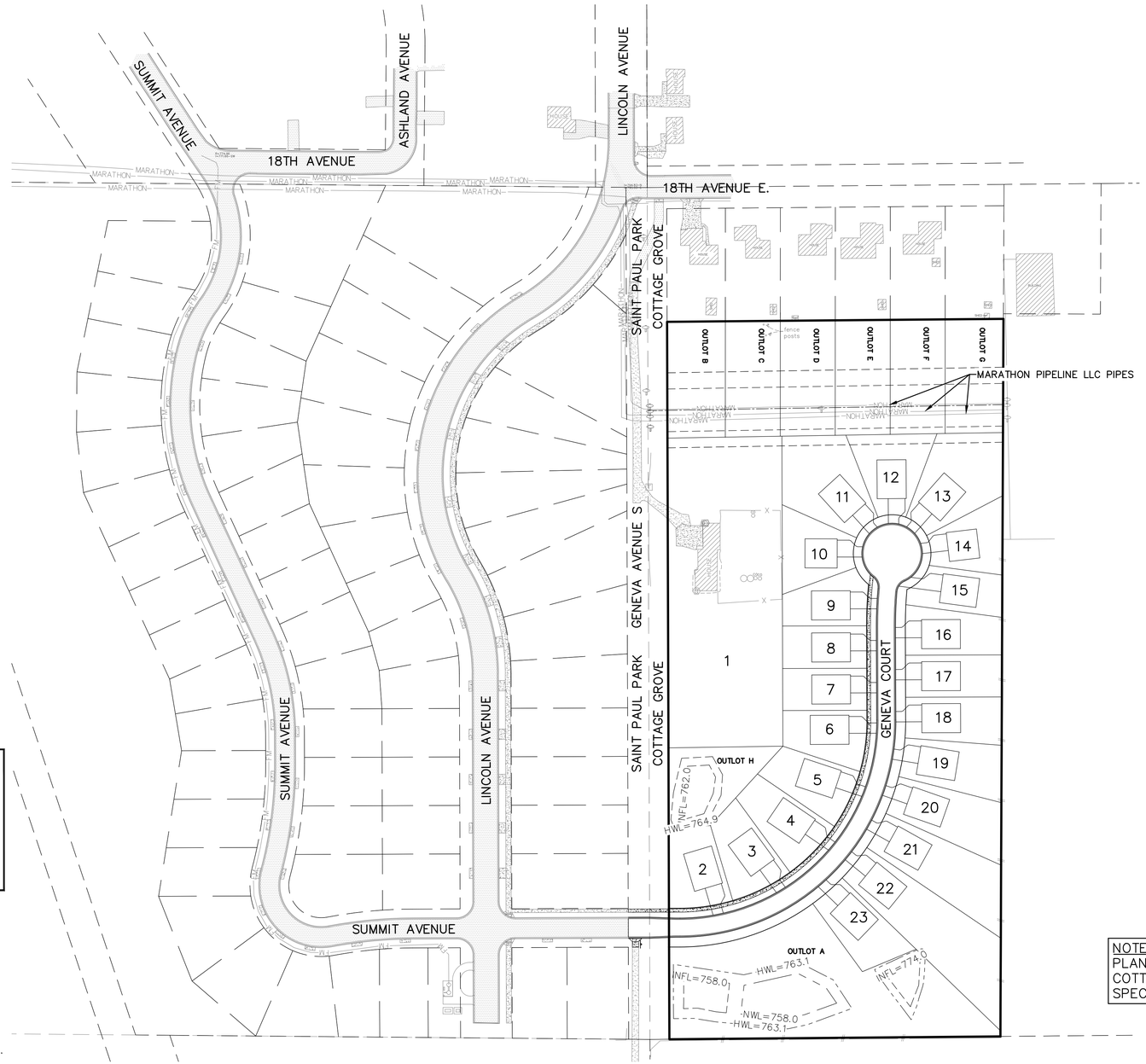
43. Dust control measures must be in place to prevent dust and erosion, including, but not limited to daily watering, silt fences, and seeding. The City Engineer may impose reasonable measures to reduce dust at the site.

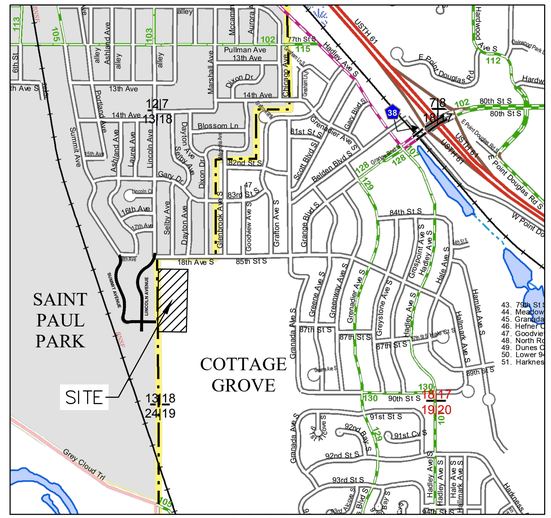
44. Temporary parking during construction shall be permitted on only one side of the street. No Parking Shall be permitted within Geneva Ave S.

Attachments

A. Preliminary Civil Plan Set Dated: 4/7/2026
B. Stormwater Plans Dated 4/14/2026
C. Engineering Review Memorandum Dated 4/22/26

GENEVA MEADOWS SECOND ADDITION
PRELIMINARY DEVELOPMENT PLANS
COTTAGE GROVE, MINNESOTA





LOCATION MAP

SHEET INDEX

1.00 COVER SHEET
1.01 LEGEND
2.01 EXISTING CONDITIONS
3.01 PRELIMINARY PLAT
4.01 PRELIMINARY REMOVALS PLAN
5.01 PRELIMINARY SITE PLAN
6.01 PRELIMINARY GRADING PLAN
7.01 PRELIMINARY STREET PROFILE
8.01 PRELIMINARY EROSION CONTROL PLAN
8.11 PRELIMINARY SEEDING PLAN
9.01-9.03 PRELIMINARY GRADING DETAILS
9.11 PRELIMINARY OUTLET CONTROL STRUCTURE DETAILS
10.01 PRELIMINARY SANITARY SEWER & WATERMAIN PLAN
11.01 PRELIMINARY STORM SEWER PLAN

S1-S2 STORMWATER POLLUTION PREVENTION PLAN
S3 MPCA MAP
S4 EXISTING HYDROLOGY MAP
S5 PROPOSED HYDROLOGY MAP

L1 PRELIMINARY LANDSCAPE PLAN
T1-T2 PRELIMINARY TREE PRESERVATION PLAN

WARNING
HIGH-PRESSURE PIPELINE(S)
Excavation and/or Construction Prohibited
Without compliance with STATE ONE-CALL , AND
Without Written Permission From
MARATHON PIPELINE INC. L.L.C.
CALL BRIAN PHILIPS 419-379-8506
PRIOR TO ANY WORK IN MARATHON EASEMENT

811
Know what's below.
Call before you dig.

NOTE:
PLANS SHALL BE GOVERNED BY CITY OF COTTAGE GROVE 2025 STANDARD SPECIFICATIONS FOR UTILITY & STREETS.

N

0 50 100 200
GRAPHIC SCALE IN FEET

BENCH MARK
TOP NUT HYDRANT LOCATED IN NORTHEAST QUADRANT OF LINCOLN AVENUE & 18TH AVENUE E. INTERSECTION
EL.=807.57

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota
Name Brian N. Molinaro
Reg. No. 47504 Date 02-20-2026

Revisions
1. 03-30-2026 CITY COMMENTS
2. 04-07-2026 MOVE BASINS

Date 02-20-2026
Designed NAP
Drawn MBG

COVER SHEET

LENNAR HOMES
16305 36TH AVE. NO., SUITE 600
PLYMOUTH, MINNESOTA 55446

GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

1.00 OF 16

00-ENG-125171-SHEET-COVR

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LEGEND

UTILITY LINES

EXISTING	PROPOSED	FUTURE	DESCRIPTION
			SANITARY MANHOLE
			SANITARY SEWER (SANITARY & WATERMAIN PLANS)
			SANITARY SEWER (STORM SEWER PLANS)
FM	FM	FM	FORCE MAIN
			HYDRANT
			GATE VALVE
			REDUCER
			CURB STOP
			WATERMAIN (SANITARY & WATERMAIN PLANS)
			WATERMAIN (STORM SEWER PLANS)
			CATCH BASIN
			BEEHIVE
			STORM MANHOLE
			FLARED END SECTION
			CONTROL STRUCTURE
			STORM SEWER (SANITARY & WATERMAIN PLANS)
			STORM SEWER (STORM SEWER PLANS)
			CULVERT
PERF	PERF	PERF	PERFORATED DRAINTILE
DT	DT	DT	SOLID DRAINTILE SERVICE
			CASING
e	e	e	UNDERGROUND ELECTRIC LINE
fo	fo	fo	UNDERGROUND FIBER OPTIC LINE
g	g	g	UNDERGROUND GAS PIPELINE
petro	petro	petro	UNDERGROUND PETROLEUM PIPELINE
t	t	t	UNDERGROUND TELEPHONE LINES
tv	tv	tv	UNDERGROUND TELEVISION LINE
oh	oh	oh	OVERHEAD UTILITY LINES

SITE LINES

EXISTING	PROPOSED	FUTURE	DESCRIPTION
			SURMOUNTABLE CURB & GUTTER
			B-STYLE CURB & GUTTER
			RIBBON CURB & GUTTER
			EDGE OF BITUMINOUS
			YELLOW PAVEMENT STRIPING (SINGLE/DOUBLE)
			WHITE PAVEMENT STRIPING (SINGLE/DOUBLE)
			PHASE LINE
			CENTERLINE
902	902	902	2' CONTOUR LINE
900	900	900	10' CONTOUR LINE
	OUTLET=987.0	OUTLET=987.0	BASIN OUTLET LINE
	HWL=900.2	HWL=900.2	BASIN HIGH WATER LINE
	84.3 x		PROPOSED SPOT ELEVATION
			EMERGENCY OVERFLOW
			DRAINAGE FLOW ARROW
BUFFER	BUFFER	BUFFER	DELINEATED / PROPOSED WETLAND LINE
			WETLAND BUFFER
			TREE LINE
FEMA	FEMA	FEMA	FEMA FLOODPLAIN BOUNDARY
			RETAINING WALL
x	x	x	FENCE (BARBED WIRE)
#	#	#	FENCE (CHAIN LINK)
[]	[]	[]	FENCE (WOOD)
	C		CONSERVATION AREA SIGN
	W		WETLAND BUFFER SIGN
			TYPE III BARRICADE
			LIGHT POLE
			STREET SIGNS
			PEDESTRIAN RAMP

SURVEY LINES

EXISTING	PROPOSED	FUTURE	DESCRIPTION
			BOUNDARY
			RIGHT OF WAY
			LOT LINE
			EASEMENT
			SET BACK LINE
			SECTION LINE
			RESTRICTED ACCESS

HATCH PATTERNS

- GRAVEL SURFACE
- BITUMINOUS SURFACE
- CONCRETE SURFACE

TOPOGRAPHIC SYMBOLS

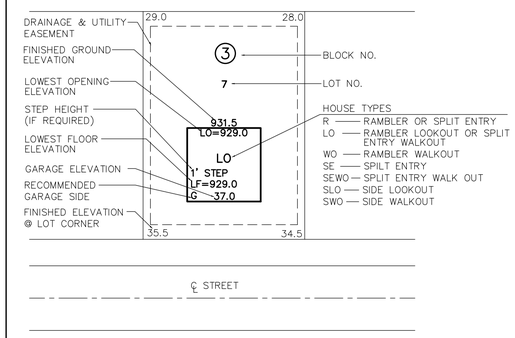
- CATCH BASIN
- CATCH BASIN BEEHIVE
- FLARED END SECTION
- GATE VALVE
- HYDRANT
- WATER SERVICE
- WATER WELL
- MONITORING WELL
- CLEANOUT
- HAND HOLE
- MANHOLE OTHER THAN SANITARY OR STORM
- SANITARY OR STORM MANHOLE
- LAWN SPRINKLER VALVE
- LAWN SPRINKLER HEAD
- UTILITY POLE
- TRANSFORMER BOX
- FIBER OPTIC BOX
- ELECTRIC BOX
- NATURAL GAS METER
- LIGHT POLE
- SEMAPHORE
- TELEPHONE BOX
- CABLE BOX
- CAST IRON MONUMENT
- FOUND IRON PIPE
- JUDICIAL LAND MARK
- PK NAIL
- CONTROL POINT
- SPIKE
- FLAG POLE
- TEST HOLE
- MAILBOX
- SIGN
- BOLLARD
- CONSERVATION POST
- DECIDUOUS TREE
- CONIFEROUS TREE
- SHRUB / BUSH

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE
B-B	BACK TO BACK
BV	BUTTERFLY VALVE
BOC	BACK OF CURB
BFE	BASE FLOOD ELEVATION
BMP	BEST MANAGEMENT PRACTICE
℄	CENTER LINE
CB	CATCHBASIN
CBMH	CATCHBASIN MANHOLE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CS	CURB STOP
DIP	DUCTILE IRON PIPE
DT	DRAINTILE
EL/ELEV	ELEVATION
EX	EXISTING
FES	FLARED END SECTION
F-F	FACE TO FACE
FM	FORCEMAIN
GB	GRADE BREAK
GND	GROUND
GV	GATE VALVE
HP	HIGH POINT
HYD	HYDRANT
HWL	HIGH WATER LEVEL
INV	INVERT
K	CURVE COEFFICIENT
L	LENGTH
LF	LOWEST FLOOR
LO	LOOKOUT
LO	LOWEST OPENING
LP	LIQUID PETROLEUM
LP	LOW POINT
MH	MANHOLE
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PI	POINT OF INTERSECTION
ℙ	PROPERTY LINE
PRC	POINT OF REVERSE CURVATURE
PVT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
R	RAMBLER
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SSWR	SANITARY SEWER
STA	STATION
STRM	STORM SEWER
SWPPP	STORM WATER POLLUTION PROTECTION PLAN
TNH	TOP NUT HYDRANT
TYP	TYPICAL
WM	WATER MAIN
WO	WALKOUT

LOT INFORMATION

(TYPICAL SECTION NOT TO SCALE)



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Reg. No. 47504 Date 02-20-2026

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2. 04-07-2026 MOVE BASINS

Date 02-20-2026
Designed NAP
Drawn MBG

LEGEND

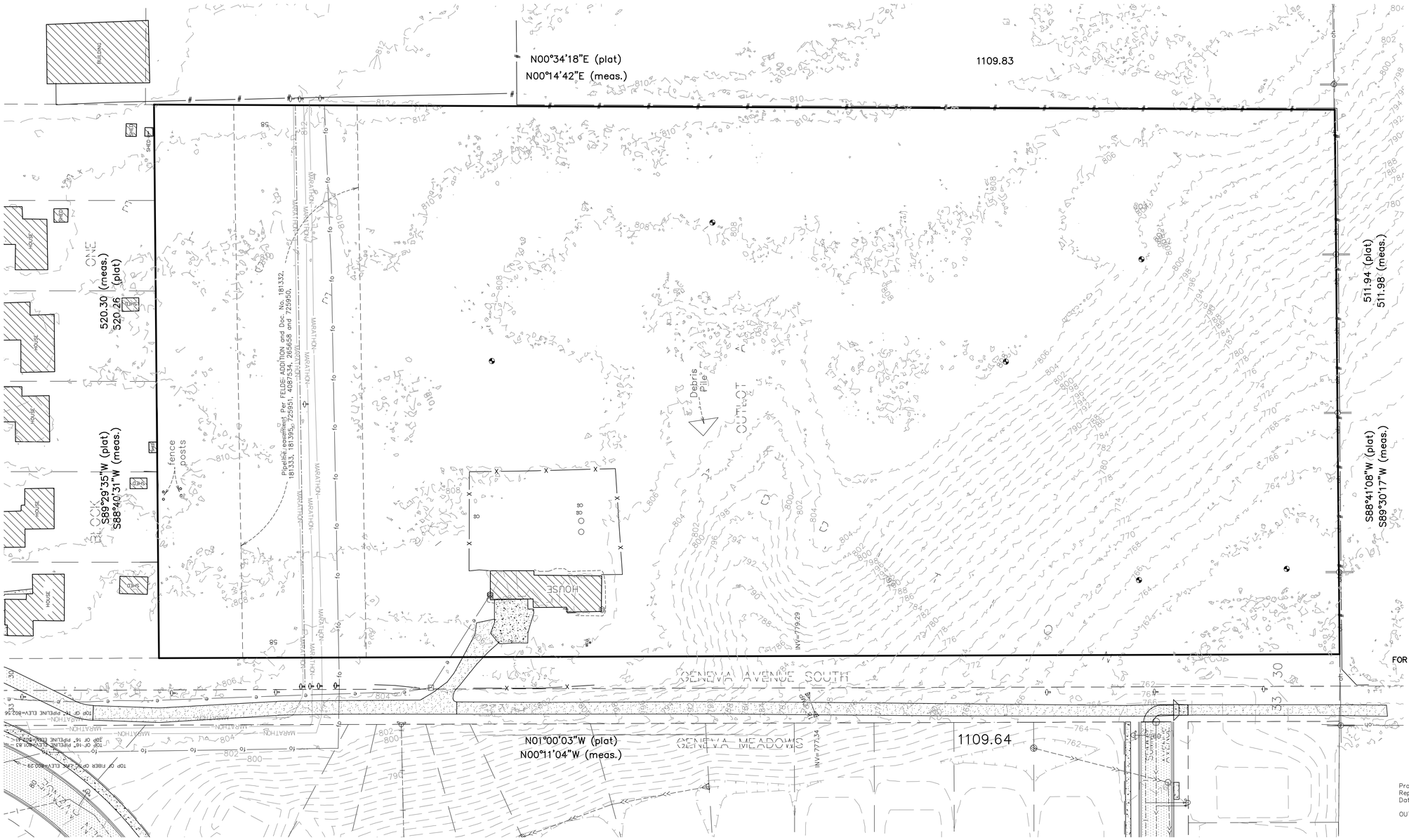
LENNAR HOMES
16305 36TH AVE. NO., SUITE 600
PLYMOUTH, MINNESOTA 55446

GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

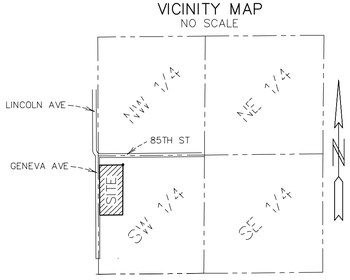
00-ENG-125171-SHEET-LGND

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VICINITY MAP
NO SCALE



SECTION 18, TWP. 027, RGE. 21
WASHINGTON COUNTY, MINNESOTA

LEGEND

- Denotes concrete
- Denotes gravel
- Denotes bituminous
- Denotes storm sewer line
- Denotes water line
- oh — Denotes overhead utility lines
- tv — Denotes underground television line
- MARATHON — Denotes underground pipelines
- fo — Denotes underground fiber optic line
- e — Denotes underground electric line
- # — Denotes fence (chain link)
- X — Denotes fence (barbed wire)
- Denotes flared end section
- SERV — Denotes service
- WELL — Denotes water well
- Denotes cleanout
- Denotes manhole other than sanitary or storm
- Denotes utility pole
- Denotes transformer box
- Denotes natural gas meter
- Denotes electric meter
- Denotes television box
- Denotes cast iron monument
- Denotes found iron pipe
- Denotes sign

FOR TREE LOCATION, SEE PRELIMINARY TREE PRESERVATION PLAN

Property description per ALTA Commitment for Title Insurance issued by Old Republic National Title Insurance Company, File NO.: ORTE751145, Commitment Date: October 25th, 2025 at 7:00 am.

OUTLOT A, FELDE ADDITION, Washington County, Minnesota.

0 25 50 100
GRAPHIC SCALE IN FEET

EX-SURV-125171-BASE.DWG

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I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Surveyor under the laws of the State of Minnesota
Name Peter J. Hawkinson
Reg. No. 42299 Date 02-20-2026

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Date	02-20-2026
Designed	NAP
Drawn	MBG

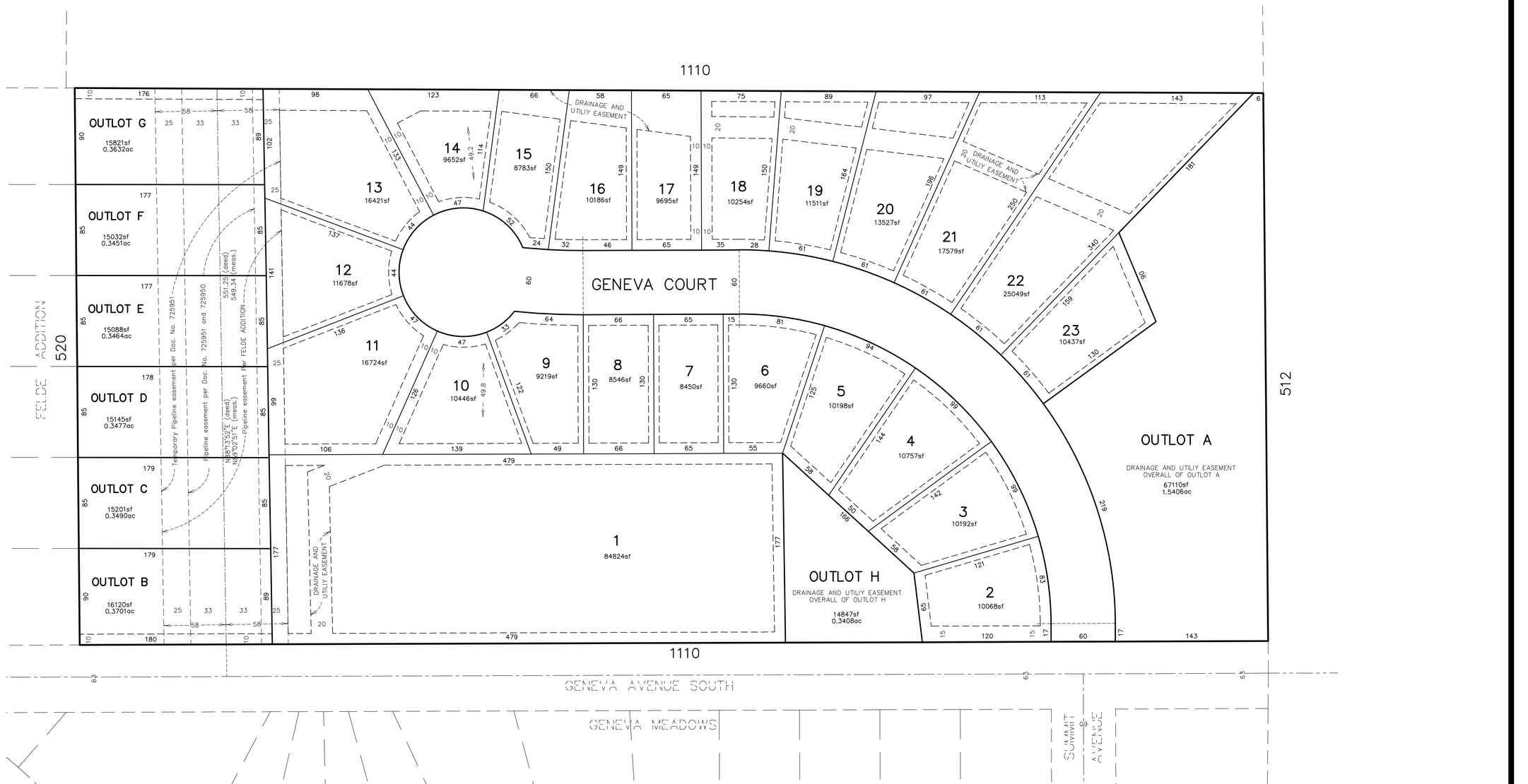
EXISTING CONDITIONS

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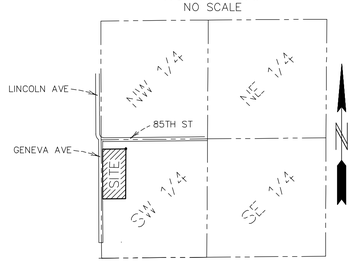
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COTTAGE GROVE, MINNESOTA

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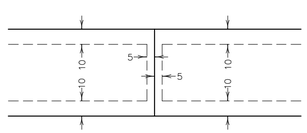


VICINITY MAP
NO SCALE



SECTION 18, TWP. 027, RGE. 21
WASHINGTON COUNTY, MINNESOTA

DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:



being 5 feet in width, and adjoining lot lines unless otherwise indicated, and 10 feet in width and adjoining street lines and rear lot lines unless otherwise indicated on the plat.

NUMBER OF LOTS	23	
NUMBER OF OUTLOTS	8	
TOTAL LOT AREA	7.8938	ACRES
TOTAL OUTLOT AREA	4.0029	ACRES
TOTAL PROPOSED RIGHT OF WAY AREA	1.2518	ACRES
TOTAL GROSS AREA	13.1485	ACRES

Property description per ALTA Commitment for Title Insurance issued by Old Republic National Title Insurance Company, File NO.: ORTE751145, Commitment Date: October 25th, 2025 at 7:00 am.

OUTLOT A, FELDE ADDITION, Washington County, Minnesota.

0 25 50 100
GRAPHIC SCALE IN FEET

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Designed NAP
Drawn MBG

PRELIMINARY PLAT

LENNAR HOMES
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PLYMOUTH, MINNESOTA 55446

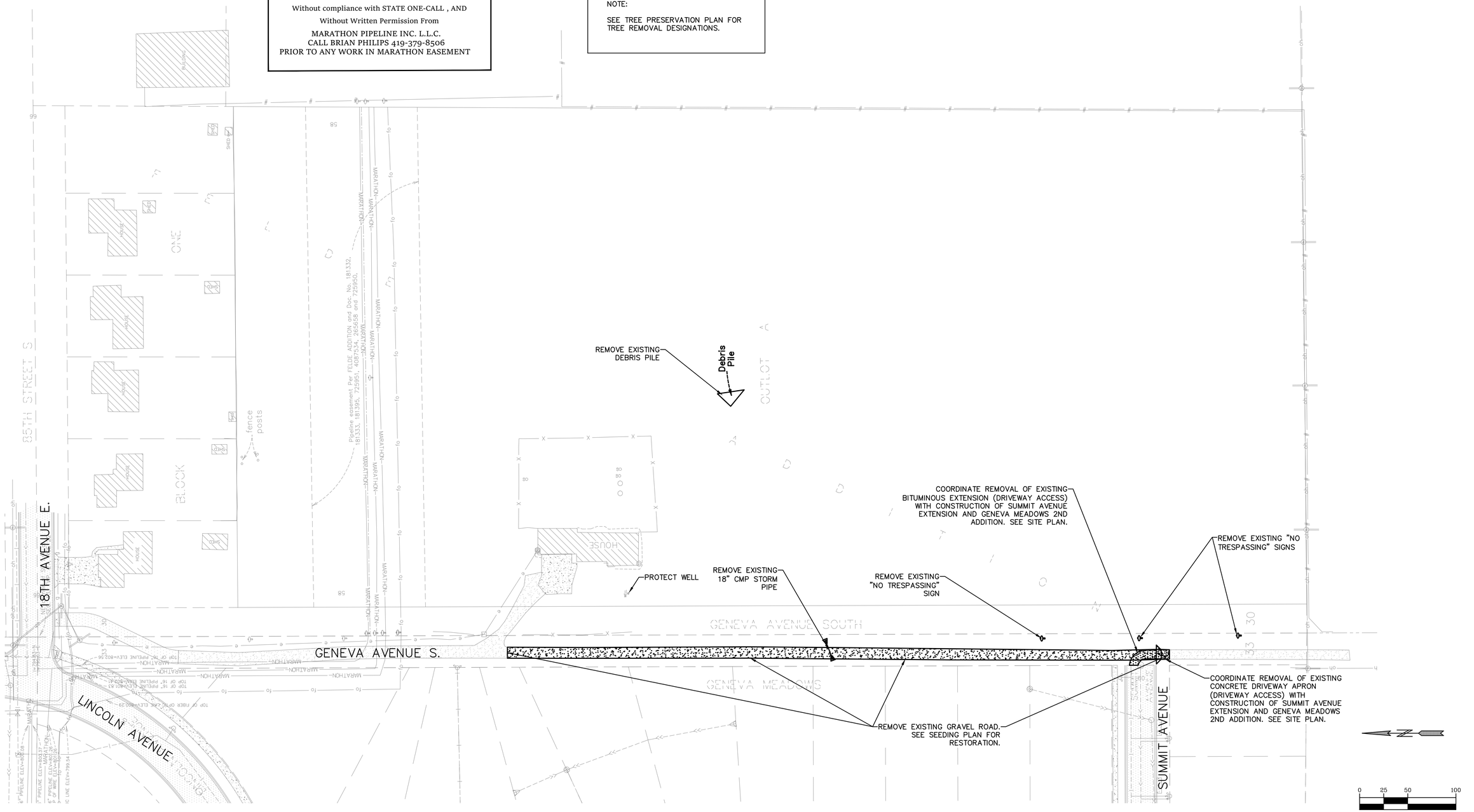
GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

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PRIOR TO ANY WORK IN MARATHON EASEMENT

NOTE:
SEE TREE PRESERVATION PLAN FOR TREE REMOVAL DESIGNATIONS.



BENCH MARK
TOP NUT HYDRANT LOCATED IN NORTHEAST QUADRANT OF LINCOLN AVENUE & 18TH AVENUE E. INTERSECTION
EL.=807.57

00-ENG-125171-SHEET-DEMO

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Designed	NAP
Drawn	MBG

PRELIMINARY REMOVALS PLAN

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PLYMOUTH, MINNESOTA 55446

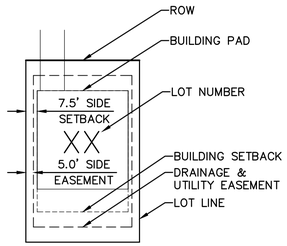
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COTTAGE GROVE, MINNESOTA

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LOT KEY



SETBACK REQUIREMENTS:

EXISTING ZONING: R-1
2040 GUIDE PLAN: LOW DENSITY (LD)
RESIDENTIAL 2-4 UNITS/ACRE
PROPOSED ZONING: R-3

R-3 STANDARDS:
WIDTH: 65'
DEPTH: 130'
FRONT SETBACK: 25'
REAR YARD SETBACK: 35'
SIDE SETBACK: 7.5'
SIDE SETBACK GARAGE: 5'
SIDE SETBACK CORNER: 20'
MAX STRUCTURE HEIGHT: 35'
IMPERVIOUS MAX: 40%

SITE DATA:

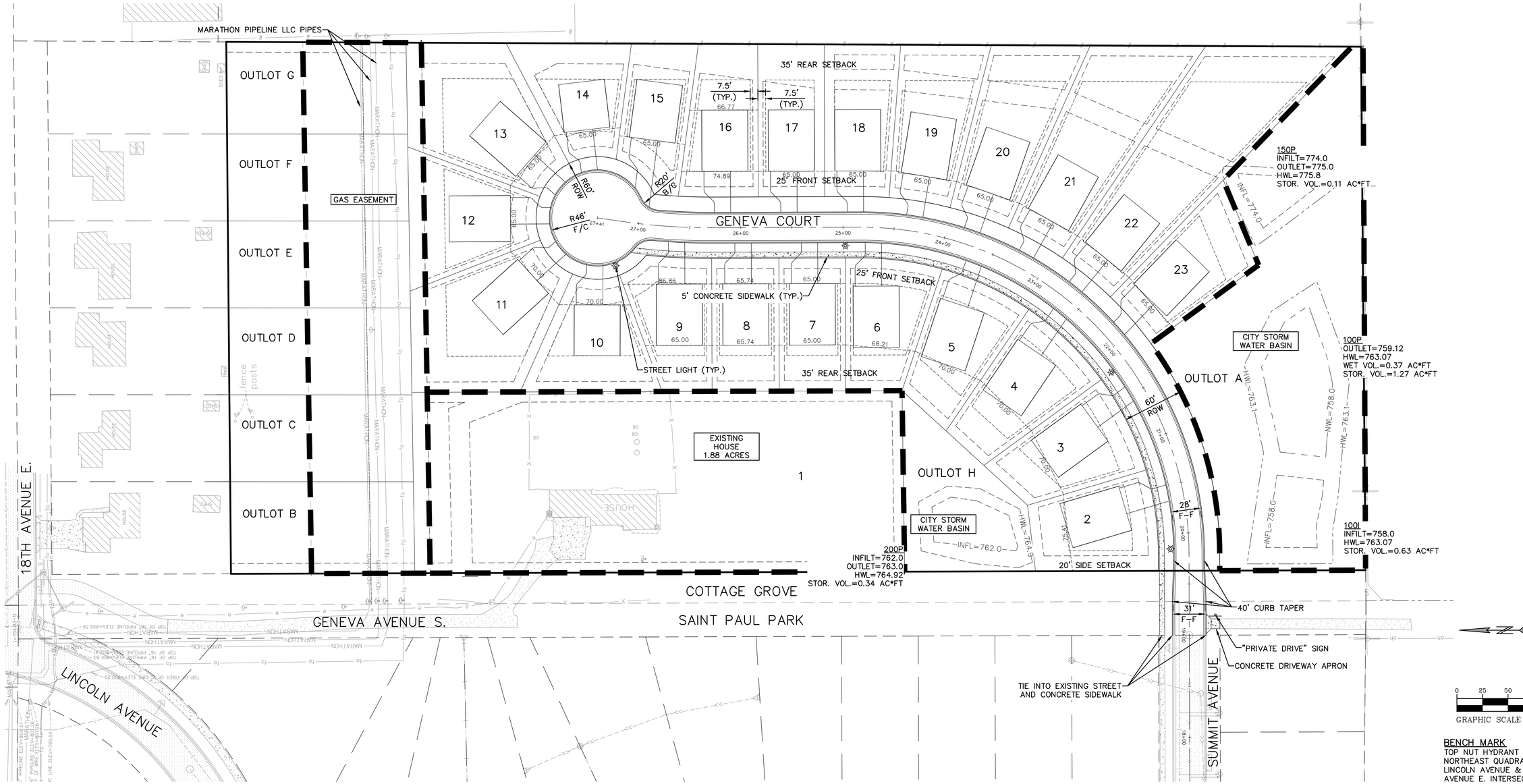
2040 LAND USE
LOW DENISTY (2-4 UNITS/ACRE)

EXISTING ZONING: R-1 (RURAL RESIDENTIAL)
PROPOSED ZONING: R-3

22 - 65' LOTS

DENSITY CALCULATION

TOTAL GROSS AREA	13.15 ACRES
CITY STORM WATER BASIN @ HWL:	0.56 ACRES
GAS EASEMENT:	1.38 ACRES
NET DEVELOPABLE AREA	11.21 ACRES
NET DENSITY = 23/11.21 :	2.05 UNITS/ACRE



BENCH MARK
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EL.=807.57

00-ENG-125171-SHEET-SITE

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Date 02-20-2026
Designed NAP
Drawn MBG

PRELIMINARY SITE PLAN

LENNAR HOMES
16305 36TH AVE. NO., SUITE 600
PLYMOUTH, MINNESOTA 55446

GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

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MARATHON PIPELINE LLC PIPES

OUTLOT G
OUTLOT F
OUTLOT E
OUTLOT D
OUTLOT C
OUTLOT B
OUTLOT A
OUTLOT H

GENEVA COURT
GENEVA AVENUE S.
18TH AVENUE E.
LINCOLN AVENUE
SUMMIT AVENUE

200P
INFILT=762.0
OUTLET=763.0
HWL=764.92
STOR. VOL.=0.34 AC*FT

150P
INFILT=774.0
OUTLET=775.0
HWL=775.8
STOR. VOL.=0.11 AC*FT

100P
OUTLET=759.12
HWL=763.07
WET VOL.=0.37 AC*FT
STOR. VOL.=1.27 AC*FT

100I
INFILT=758.0
HWL=763.07
STOR. VOL.=0.63 AC*FT

NOTE:
MAINTAIN EXISTING FENCE & OVERHEAD POWER LINE

BASIN ACCESS 7% SLOPE MAX.

FLEXAMAT OVERFLOW

SETBACK REQUIREMENTS:

EXISTING ZONING: R-1
2040 GUIDE PLAN: LOW DENSITY (LD)
RESIDENTIAL 2-4 UNITS/ACRE
PROPOSED ZONING: R-3

R-3 STANDARDS:
WIDTH: 65'
DEPTH: 130'
FRONT SETBACK: 25'
REAR YARD SETBACK: 35'
SIDE SETBACK: 7.5'

SIDE SETBACK GARAGE: 5'
SIDE SETBACK CORNER: 20'
MAX STRUCTURE HEIGHT: 35'
IMPERVIOUS MAX: 40%

BUILDING REQUIREMENTS

POND ADJACENT LOTS:	
LOW ADJACENT GROUND	3'+HWL
	2'+EOF
LOCAL LOWPOINTS:	
LOW ADJACENT GROUND	1'+EOF

BENCH MARK
TOP NUT HYDRANT LOCATED IN NORTHEAST QUADRANT OF LINCOLN AVENUE & 18TH AVENUE E. INTERSECTION
EL.=807.57

0 25 50 100
GRAPHIC SCALE IN FEET

00-ENG-125171-SHEET-GRAD

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Drawn	MBG

PRELIMINARY GRADING PLAN

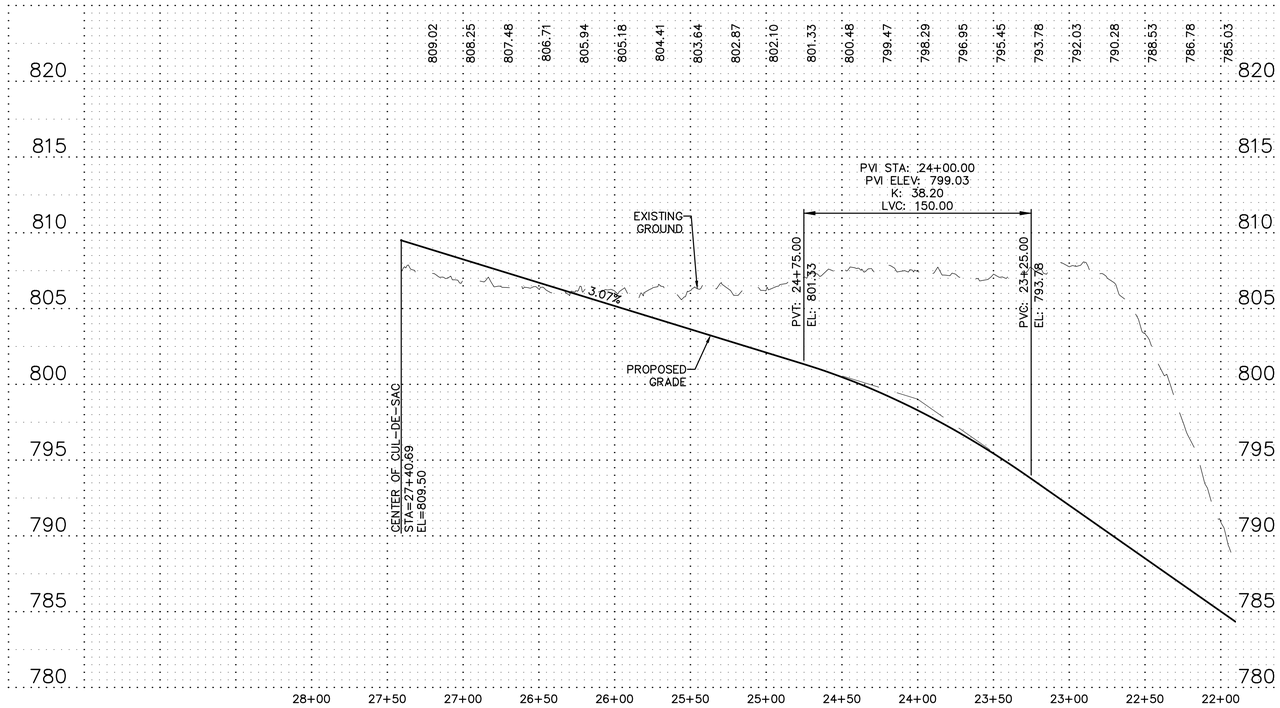
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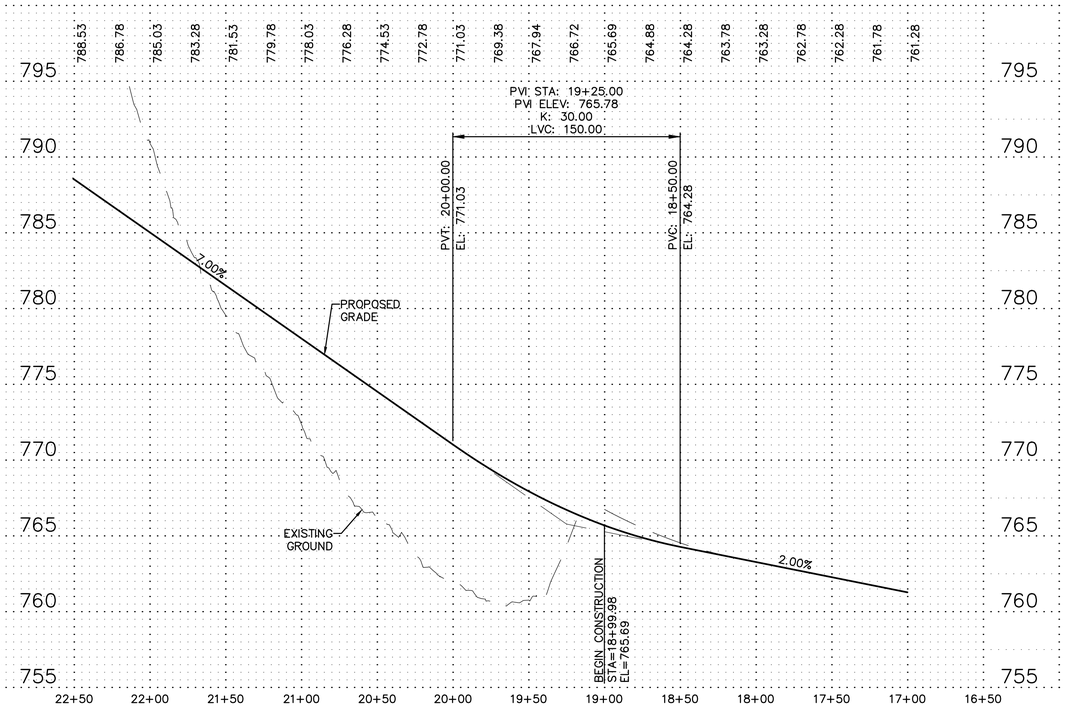
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SUMMIT AVENUE





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Drawn	MBG

PRELIMINARY STREET PROFILE

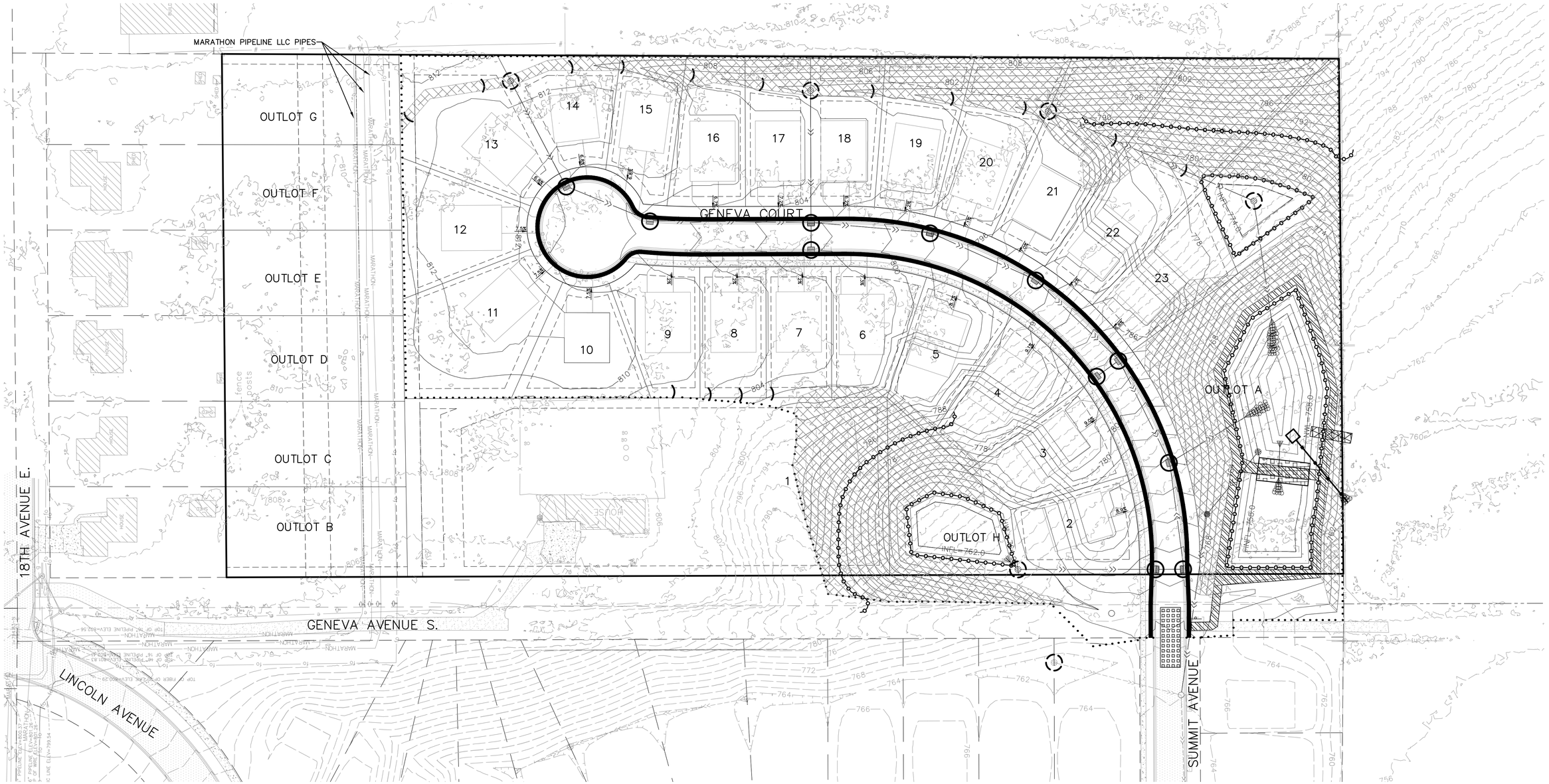
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LEGEND

- ROCK CONSTRUCTION ENTRANCE INSTALL BEFORE START OF GRADING
- PERIMETER EROSION CONTROL FENCE. INSTALL BEFORE START OF GRADING
- HEAVY DUTY SECONDARY EROSION CONTROL FENCE. TO BE INSTALLED 48 HOURS AFTER COMPLETION OF GRADING.
- CAT 20 EROSION CONTROL BLANKET FROM BACK OF CURB TO ROW. TO BE INSTALLED AFTER COMPLETION OF SIDEWALK CONSTRUCTION.
- BASIN ACCESS 7% SLOPE MAX.
- SUMPED RIP RAP PERMANENT ENERGY DISSIPATER, INSTALL WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER.
- CATCH BASIN INLET PROTECTION TO BE INSTALLED AFTER 1ST LIFT OF BITUMINOUS.
- CATCH BASIN INLET PROTECTION TO BE INSTALLED WITH CATCH BASIN GRATE.
- STRAW BIO ROLLS. INSTALL WITHIN 7 DAYS OF GRADING COMPLETION OR BEFORE 1ST RAINFALL EVENT WHICHEVER IS FIRST
- MNDOT CAT 20 EROSION CONTROL BLANKET. INSTALL WITHIN 7 DAYS OF GRADING COMPLETION
- FLEXAMAT OVERFLOW
- STABILIZED EMERGENCY OVERFLOW

0 25 50 100
GRAPHIC SCALE IN FEET

BENCH MARK
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EL.=807.57

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PRELIMINARY EROSION CONTROL PLAN

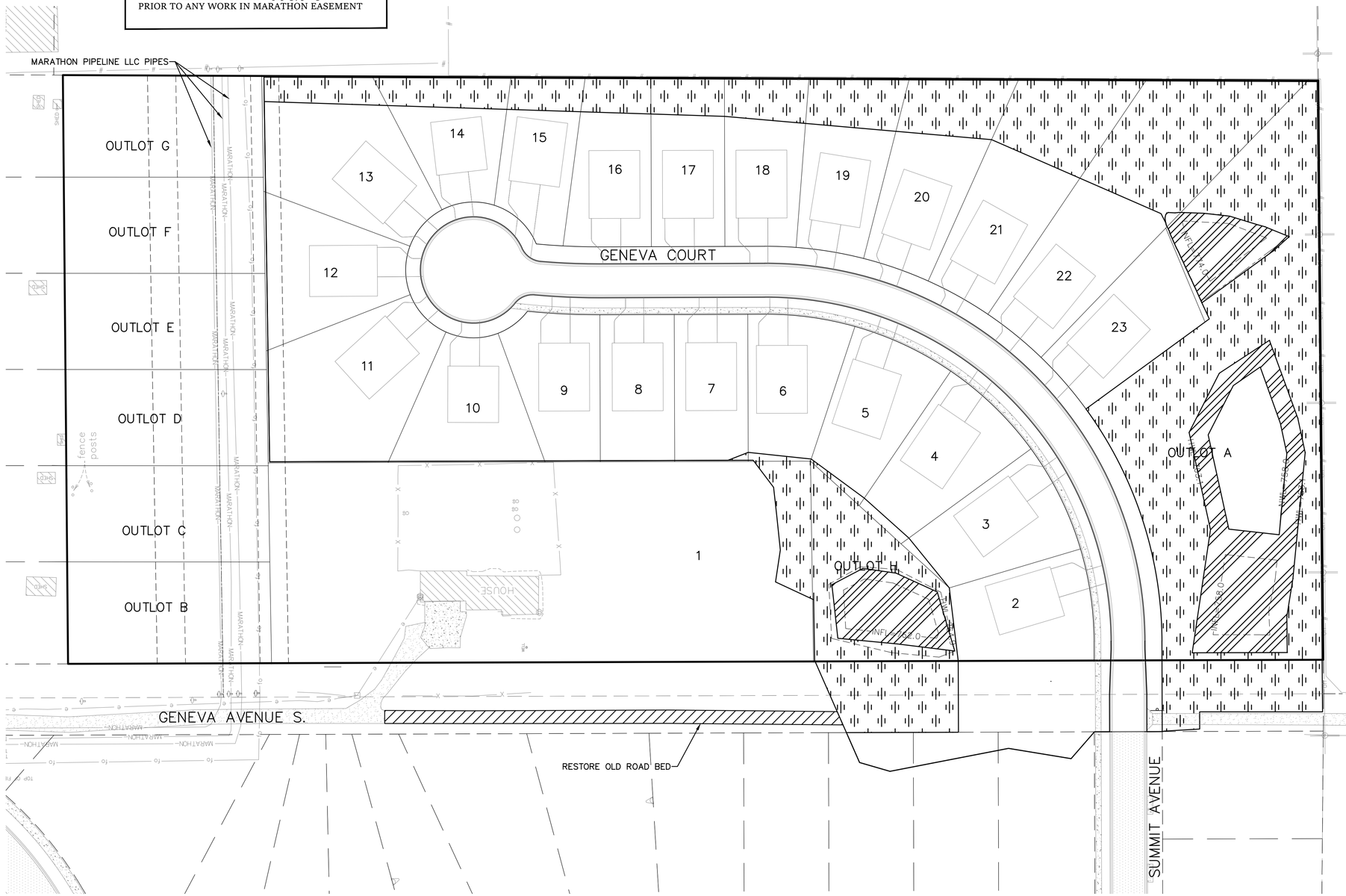
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CALL BRIAN PHILIPS 419-379-8506
PRIOR TO ANY WORK IN MARATHON EASEMENT



TEMPORARY SEED SHALL BE DONE IN ACCORDANCE TO MNDOT 2575 & 3876; CONSISTING OF:
- MAY 1 – AUGUST 1: MINNESOTA STATE SEED MIXTURE O (OATS) @ 100.0 LBS. PER ACRE OR APPROVED EQUAL.
- AUGUST 1 – OCTOBER 1: MINNESOTA STATE SEED MIXTURE WW (WINTER WHEAT) @ 100.0 LBS. PER ACRE OR APPROVED EQUAL.
- MULCH SHALL BE MNDOT 3882, TYPE 1 @ 2 TONS PER ACRE OR APPROVED EQUAL AND DISK ANCHORED IN PLACE OR APPROVED EQUAL, INSTALLED TO MINIMUM 90% COVERAGE OF THE SURFACE AREA DISTURBED.
- MNDOT 3881, TYPE 1 COMMERCIAL FERTILIZER, 10–10–20 @ 200 LBS. PER ACRE

PERMANENT BASIN SEEDING SHALL BE DONE IN ACCORDANCE WITH MNDOT 2575 & 3876 CONSISTING OF:
- WET BASIN BENCH/(IN)FILTRATION BASIN: MINNESOTA STATE SEED MIXTURE WD (WET DITCH) AT 20 POUNDS PER ACRE.
- ABOVE BASIN BENCH TO HIGH WATER LEVEL: MINNESOTA STATE SEED MIXTURE STR (SOUTHERN TALLGRASS ROADSIDE) AT 26 POUNDS PER ACRE.
- MULCH SHALL BE MNDOT 3882, TYPE 3 @ 2 TONS PER ACRE OR APPROVED EQUAL AND DISK ANCHORED IN PLACE OR APPROVED EQUAL.
- MNDOT 3881, TYPE 4 NATURAL–BASED FERTILIZER, 18–1–8 FOR LOAM & CLAY LOAM OR 17–10–7 FOR SANDY SOILS @ 120 LBS PER ACRE EACH

UPLAND/NATURAL AREA SEEDING SHALL BE DONE IN ACCORDANCE TO MNDOT 2575 & 3876; CONSISTING OF:
- MINNESOTA STATE SEED MIXTURE STR (SOUTHERN TALLGRASS ROADSIDE) AT 26 POUNDS PER ACRE.
- MULCH SHALL BE MNDOT 3882, TYPE 3 @ 2 TONS PER ACRE OR APPROVED EQUAL AND DISK ANCHORED IN PLACE OR APPROVED EQUAL,
- MNDOT 3881, TYPE 4 NATURAL–BASED FERTILIZER, 18–1–8 FOR LOAM & CLAY LOAM OR 17–10–7 FOR SANDY SOILS @ 120 LBS PER ACRE EACH

0 25 50 100
GRAPHIC SCALE IN FEET

BENCH MARK
TOP NUT HYDRANT LOCATED IN NORTHEAST QUADRANT OF LINCOLN AVENUE & 18TH AVENUE E. INTERSECTION
EL.=807.57

00-ENG-125171-SHEET-SEED

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2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota
Name Brian N. Molinaro
Reg. No. 47504 Date 02-20-2026

Revisions
1. 03-30-2026 CITY COMMENTS
2. 04-07-2026 MOVE BASINS

Date 02-20-2026
Designed NAP
Drawn MBG

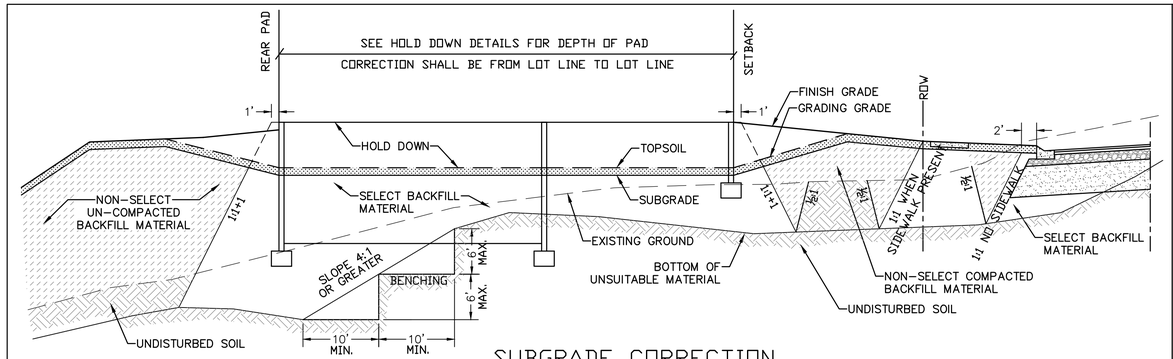
PRELIMINARY SEEDING PLAN

LENNAR HOMES
16305 36TH AVE. NO., SUITE 600
PLYMOUTH, MINNESOTA 55446

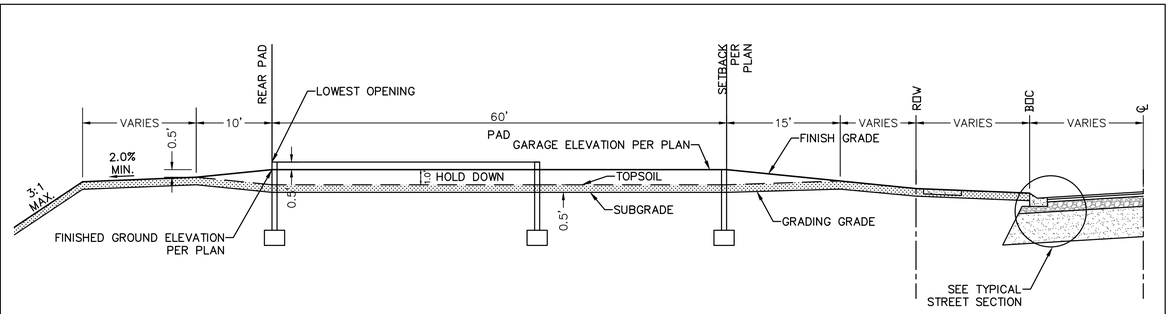
GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

8.11 OF 16

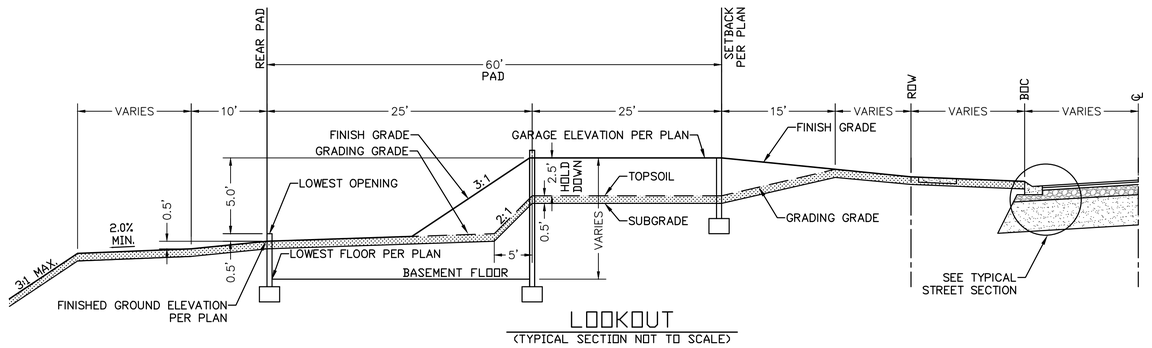
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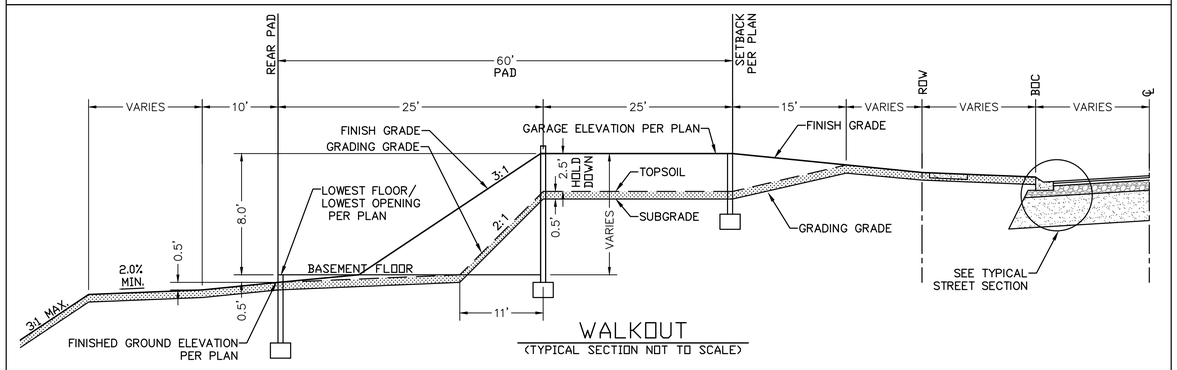
SUBGRADE CORRECTION
(TYPICAL SECTION NOT TO SCALE)



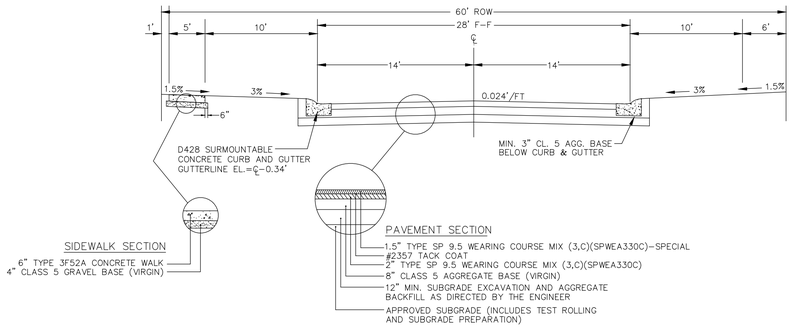
SLAB-ON-GRADE
(TYPICAL SECTION NOT TO SCALE)



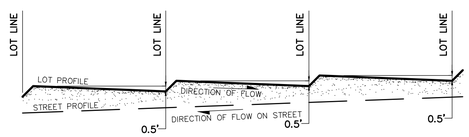
LOOKOUT
(TYPICAL SECTION NOT TO SCALE)



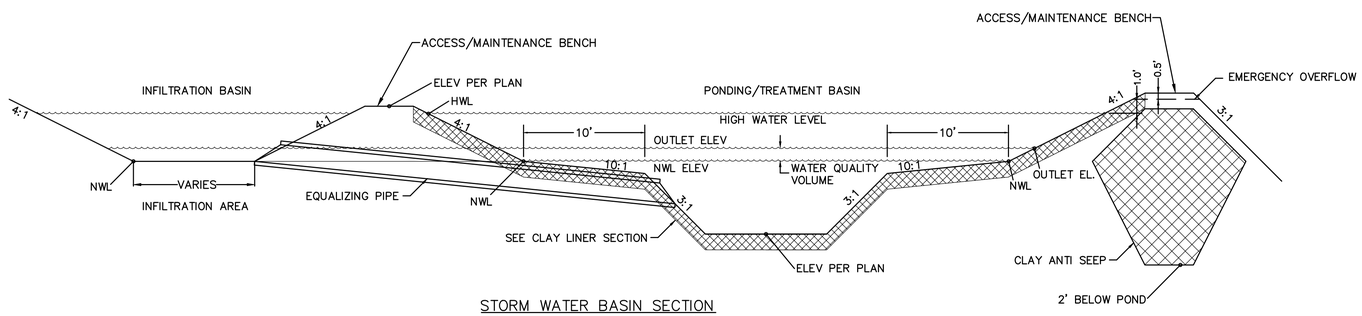
WALKOUT
(TYPICAL SECTION NOT TO SCALE)



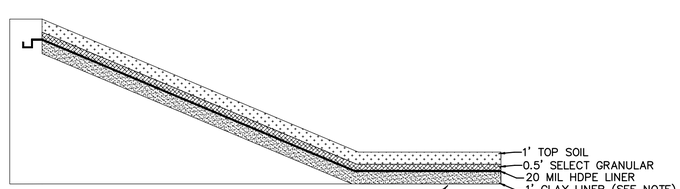
RESIDENTIAL STREET SECTION (TYP.)
TYPICAL SECTION (N.T.S.)



LOT BENCHING DETAIL
NO SCALE



STORM WATER BASIN SECTION
(TYPICAL SECTION NOT TO SCALE)



CLAY LINER SECTION
(TYPICAL SECTION NOT TO SCALE)

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PRELIMINARY GRADING DETAILS

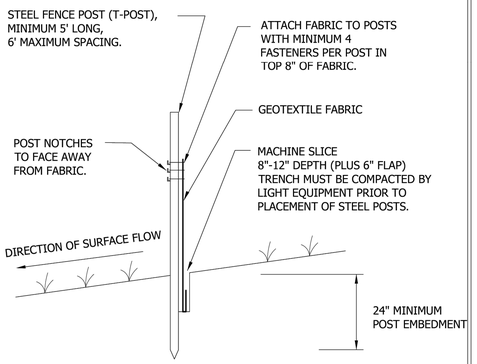
LENNAR HOMES
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GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

00-ENG-125171-SHEET-GRAD-DTLS

9.01 OF 16

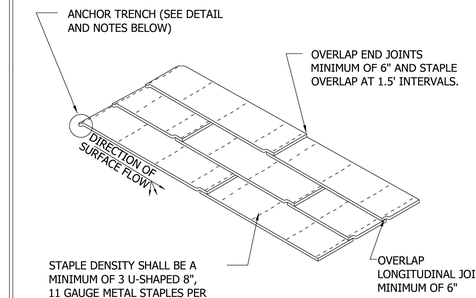
© 2026 Pioneer Engineering, P.A.



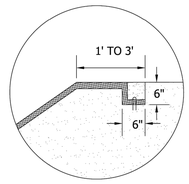
NOTE:
HEAVY-DUTY SILT FENCE INSTALLATION METHODS SHOULD BE USED WHEN DIRECTED BY THE CITY.

Cottage Grove — Where Pride and Prosperity Meet	STANDARD DETAILS MACHINE SLICED SILT FENCE COTTAGE GROVE, MINNESOTA	JANUARY 2025 PLATE NO. ERO-1

48_ERO1.DWG

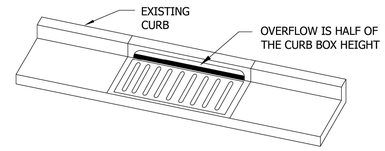


ANCHOR TRENCH
1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT
5. BLANKET LENGTH SHALL NOT EXCEED 100' WITHOUT AN ANCHOR TRENCH

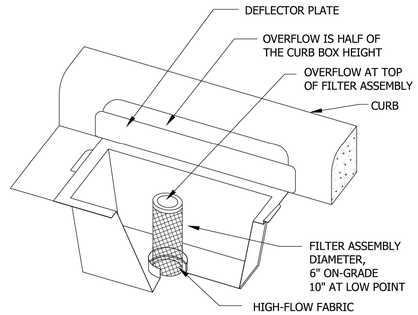


Cottage Grove — Where Pride and Prosperity Meet	STANDARD DETAILS ROLLED EROSION PREVENTION PRODUCTS INSTALLATION COTTAGE GROVE, MINNESOTA	JANUARY 2025 PLATE NO. ERO-5

48_ERO5.DWG

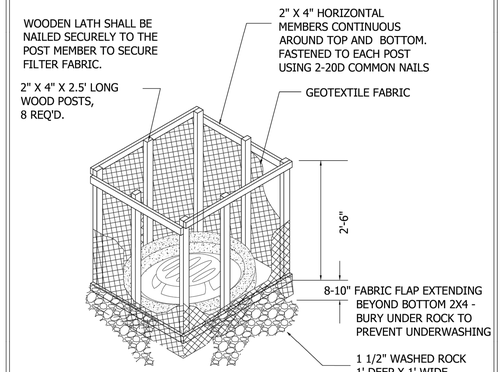


NOTE: USE WIMCO ROAD DRAIN CG-23 OR CG-3290-VB (DEPENDING ON CASTING TYPE) HIGH FLOW INLET PROTECTION CURB AND GUTTER MODELS, OR CITY APPROVED EQUAL.



Cottage Grove — Where Pride and Prosperity Meet	STANDARD DETAILS INLET PROTECTION CATCH BASIN INSERT COTTAGE GROVE, MINNESOTA	JANUARY 2025 PLATE NO. ERO-9

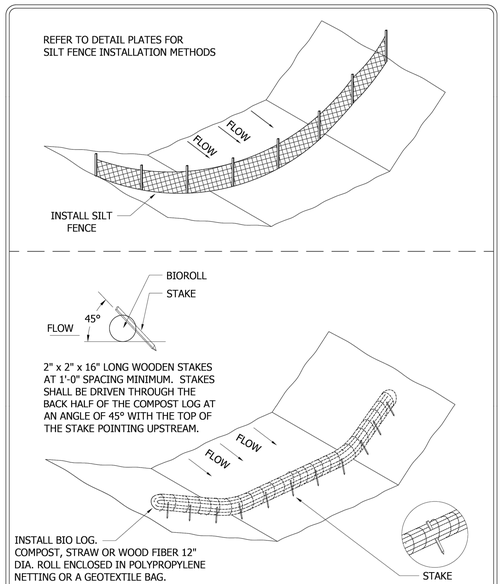
48_ERO9.DWG



NOTES:
CONTRACTOR SHALL CONSTRUCT SILT BOX TO FIT AROUND THE INLET STRUCTURE WITH 6" MINIMUM CLEARANCE TO EDGES OF STRUCTURE. SILT BOX TO BE PLACED ON AN EVEN SURFACE 6" BELOW STRUCTURE OPENING. TOP OF SILT BOX TO EXTEND 18" MINIMUM ABOVE EXISTING GRADE.

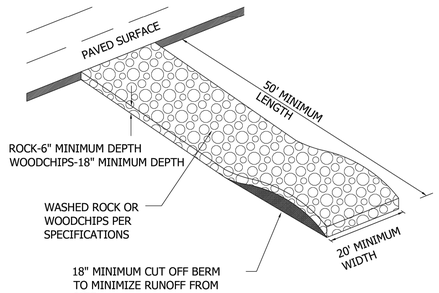
Cottage Grove — Where Pride and Prosperity Meet	STANDARD DETAILS INLET PROTECTION SILT BOX FOR BEEHIVE CASTING COTTAGE GROVE, MINNESOTA	JANUARY 2025 PLATE NO. ERO-10

48_ERO10.DWG



Cottage Grove — Where Pride and Prosperity Meet	STANDARD DETAILS FILTER BERMS COTTAGE GROVE, MINNESOTA	JANUARY 2025 PLATE NO. ERO-11

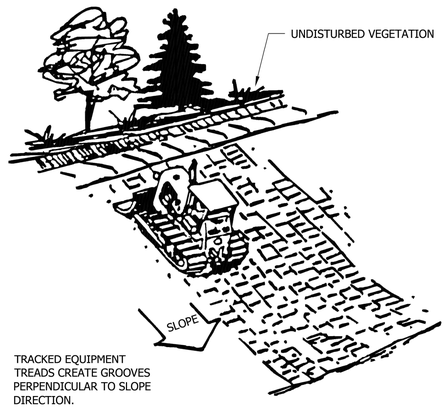
48_ERO11.DWG



NOTES:
1. FILTER FABRIC SHALL BE PLACED UNDER ROCK OR WOODCHIPS TO STOP MUD MIGRATION THROUGH ROCK.
2. ENTRANCE MUST BE MAINTAINED REGULARLY TO PREVENT SEDIMENTATION TRACKING.

Cottage Grove — Where Pride and Prosperity Meet	STANDARD DETAILS CONSTRUCTION ENTRANCE ROCK AND WOODCHIP COTTAGE GROVE, MINNESOTA	JANUARY 2025 PLATE NO. ERO-12

48_ERO12.DWG

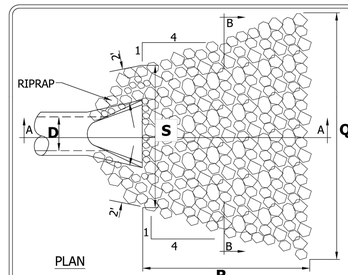


TRACKED EQUIPMENT TREADS CREATE GROOVES PERPENDICULAR TO SLOPE DIRECTION.

NOTE:
ALL SLOPES WITH A GRADE EQUAL TO OR STEEPER THAN 3:1 REQUIRE SLOPE TRACKING. SLOPES WITH A GRADE MORE GRADUAL THAN 3:1 REQUIRE SLOPE TRACKING IF THE STABILIZATION METHOD IS EROSION CONTROL BLANKET OR HYDROMULCH.

Cottage Grove — Where Pride and Prosperity Meet	STANDARD DETAILS SLOPE TRACKING COTTAGE GROVE, MINNESOTA	JANUARY 2025 PLATE NO. ERO-13

48_ERO13.DWG



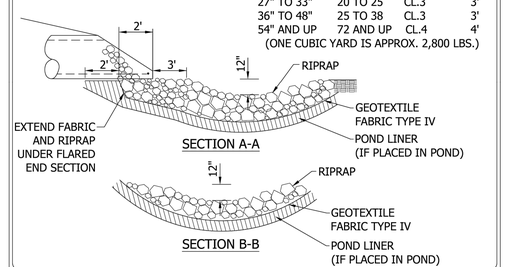
RIPRAP AREA SIZES

D	Q	R	S
12"	11'	15'	7'
24"	15'	15'	9'
36"	19'	15'	11'
48"	20'	16'	12'
54"	25'	22'	13'

RIPRAP REQUIREMENTS

D	CY	CLASS	DEPTH
12" TO 24"	15 TO 20	CL.3	3'
27" TO 33"	20 TO 25	CL.3	3'
36" TO 48"	25 TO 38	CL.3	3'
54" AND UP	72 AND UP	CL.4	4'

(ONE CUBIC YARD IS APPROX. 2,800 LBS.)



Cottage Grove — Where Pride and Prosperity Meet	STANDARD DETAILS RIPRAP AT FLARED END SECTION COTTAGE GROVE, MINNESOTA	JANUARY 2025 PLATE NO. STO-12

48_STO12.DWG

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PRELIMINARY GRADING DETAILS

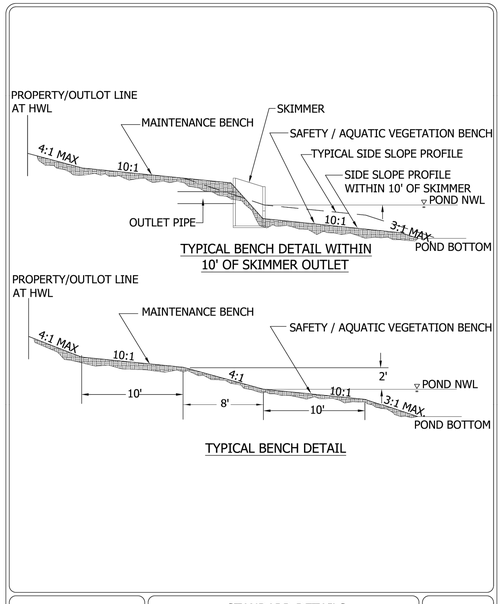
LENNAR HOMES
16305 36TH AVE. NO., SUITE 600
PLYMOUTH, MINNESOTA 55446

GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

00-ENG-125171-SHEET-GRAD-DTLS

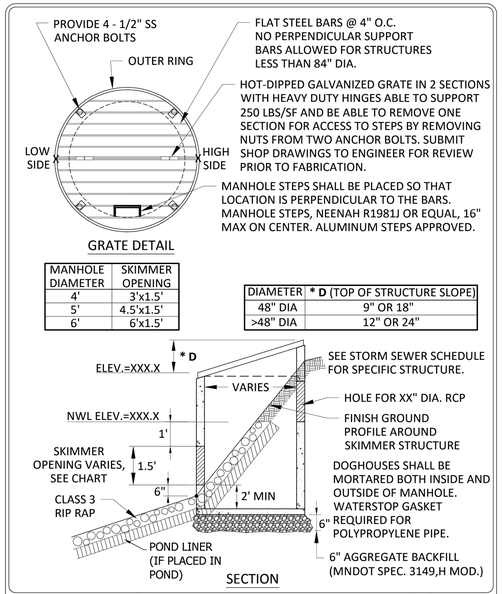
9.02 OF 16

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Cottage Grove — Where Pride and Prosperity Meet	STANDARD DETAILS TYPICAL BENCH DETAIL COTTAGE GROVE, MINNESOTA	JANUARY 2025 PLATE NO. STO-15

48_STO15.DWG

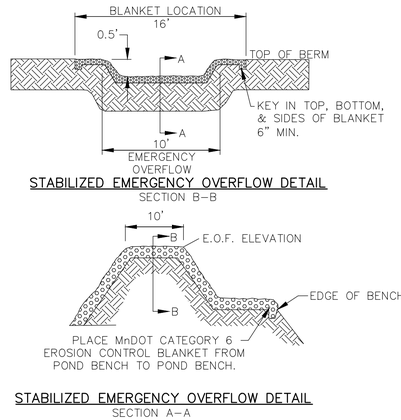


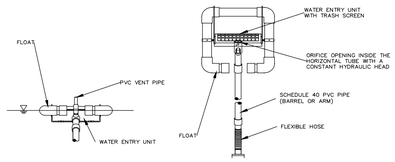
MANHOLE DIAMETER	SKIMMER OPENING
4'	3'x1.5'
5'	4.5'x1.5'
6'	6'x1.5'

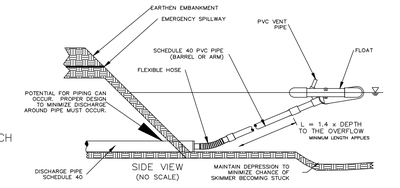
DIAMETER	* D (TOP OF STRUCTURE SLOPE)
48" DIA	9" OR 18"
>48" DIA	12" OR 24"

Cottage Grove — Where Pride and Prosperity Meet	STANDARD DETAILS STANDARD SKIMMER STRUCTURE COTTAGE GROVE, MINNESOTA	JANUARY 2025 PLATE NO. STO-16

48_STO16.DWG



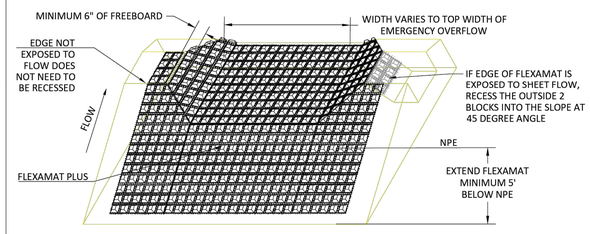




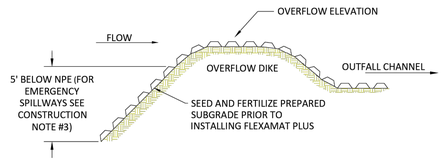
GENERAL NOTES:
1. PROPER DESIGN MUST BE COMPLETED TO MINIMIZE PIPING AROUND DISCHARGE PIPE.
2. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE POND DRAINS IN CORRECT AMOUNT OF TIME. MODIFICATIONS TO ORIFICE OPENING MUST BE APPROVED BY ENGINEER.
3. EMBANKMENT MUST BE COMPACTED TO DESIGN SPECIFICATIONS.
4. EMERGENCY SPILLWAY MUST BE CORRECTLY SIZED AND EROSION PROTECTION INSTALLED.
5. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END OF THE PIPE.
6. INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.
7. EIGHT SIZES OF SKIMMERS ARE AVAILABLE, REFER TO THE FLOW SHEET, CUT SHEET, AND INSTRUCTIONS ON WEB SITE FOR EACH SIZE.

FAIRCLOTH SKIMMER® DISCHARGE SYSTEM OR APPROVED EQUAL

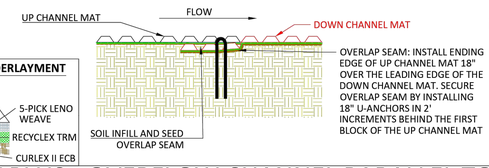
EMERGENCY SPILLWAY - ISOMETRIC VIEW



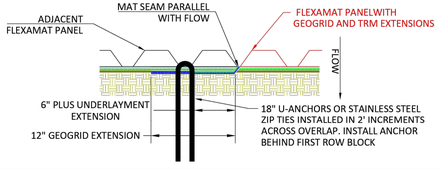
OVERFLOW DIKE - PROFILE VIEW



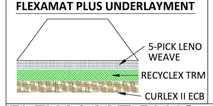
1. OVERLAP METHOD FOR SEAMS PERPENDICULAR TO FLOW



2. OVERLAP METHOD FOR SEAMS PARALLEL TO FLOW



FLEXAMAT PLUS UNDERLAYMENT



FLEXAMAT PLUS - OVERFLOW CHANNEL PARALLEL TO FLOW

CONSTRUCTION NOTES:

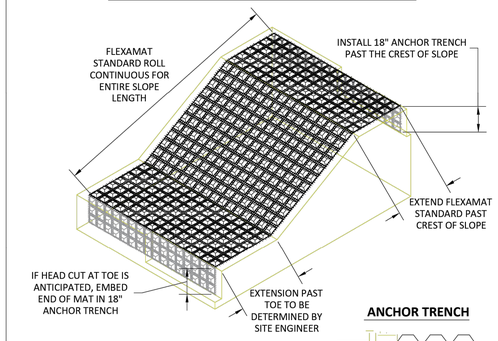
1. AN ENGINEER OR MANUFACTURERS REPRESENTATIVE SHALL BE ONSITE FOR THE START OF THE INSTALLATION.
2. ALL SUBGRADE SURFACES PREPARED FOR PLACEMENT OF MATS SHALL BE SMOOTH AND FREE OF ALL ROCKS, STICKS, ROOTS, OTHER PROTRUSIONS, OR DEBRIS OF ANY KIND. THE PREPARED SURFACE SHALL PROVIDE A FIRM UNYIELDING SUBGRADE FOR THE MATS.
3. PRIOR TO THE FLEXAMAT PLUS INSTALLATION SEED AND FERTILIZE SUBGRADE WITH SITE SPECIFIC SEED MIX IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
4. MAT SHALL EXTEND 5' BELOW NORMAL POND ELEVATION. (FOR EMERGENCY OVERFLOW INSTALLATIONS EXTEND THE MAT 3' DOWN THE INSIDE FACE OF THE OVERFLOW DIKE.)
5. INSTALL FLEXAMAT PLUS ROLLS. MANUFACTURER RECOMMENDS INSTALLING THE WIDEST MAT POSSIBLE FOR SPILLWAY APPLICATIONS.
   - 5.1. FOR WIDTHS WIDER THAN 16', INSTALL 15.5' WIDE MATS WITH GEOGRID AND TRM UNDERLAYMENT EXTENSIONS. INSTALL ADJACENT MAT OVER THE 12" GEOGRID AND 6" TRM UNDERLAYMENT EXTENSIONS OF THE ADJACENT MATS. ENSURE THE GEOGRID AND TRM UNDERLAYMENT EXTENSIONS ARE LAYING FLAT ON THE SUBGRADE BEFORE INSTALLING ADJACENT MAT OVER THE EXTENSIONS. INSTALL #3 REBAR 18" U-ANCHORS IN 2' INCREMENTS ACROSS THE GEOGRID AND TRM EXTENSION OVERLAP. INSTALL ANCHORS PERPENDICULAR TO THE FLOW DIRECTLY BEHIND FIRST ROW OF BLOCKS ON THE ADJACENT MAT.
   - 5.2. FOR ADDITIONAL SECTIONS OF MAT, OVERLAP THE DOWNSTREAM SECTION 18" WITH UPSTREAM SECTION OF MAT. PRIOR TO INSTALLING OVERLAP, FLIP UPSTREAM MAT BACK 24". EXCAVATE 2.25" OF SOIL 18" FROM THE END OF THE UPSTREAM MAT. DOWNSTREAM SECTION IS THEN LAID IN THE SHALLOW TRENCH. RETURN AND TAMP SOIL OVER INITIAL EDGE AND SEED AREA. FLIP END OF UPSTREAM MAT OVER THE SOIL COVERED INITIAL LEADING EDGE. SEED AND FERTILIZE SOIL INFILL PRIOR TO FLIPPING END OF UPSTREAM MAT OVER THE SOIL COVERED INITIAL LEADING EDGE OF DOWNSTREAM MAT. SECURE PERPENDICULAR OVERLAP SEAMS BY INSTALLING #3 REBAR - 18" U ANCHORS PERPENDICULAR TO FLOW IN 2' INCREMENTS.
6. AT THE END OF THE ARMORED SPILLWAY, EMBED THE MAT 18" IN A TERMINATION TRENCH. FILL AND COMPACT TERMINATION TRENCH WITH SUITABLE FILL. (AS SPECIFIED BY EOR.)

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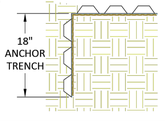
Flexamat® PERMANENT EROSION CONTROL

REV - 1

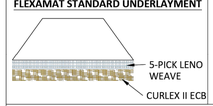
ISOMETRIC VIEW OF SLOPE AND ANCHOR TRENCHES



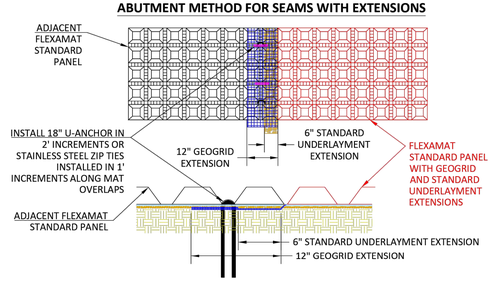
ANCHOR TRENCH



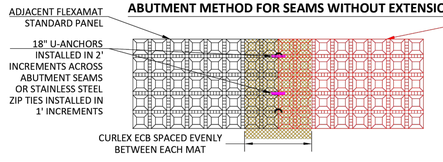
FLEXAMAT STANDARD UNDERLAYMENT



ABUTMENT METHOD FOR SEAMS WITH EXTENSIONS



ABUTMENT METHOD FOR SEAMS WITHOUT EXTENSIONS



FLEXAMAT STANDARD - SLOPE ARMORING

CONSTRUCTION NOTES:

1. AN ENGINEER OR MANUFACTURERS REPRESENTATIVE SHALL BE ONSITE FOR THE START OF THE INSTALLATION.
2. ALL SUBGRADE SURFACES PREPARED FOR PLACEMENT OF MATS SHALL BE SMOOTH AND FREE OF ALL ROCKS, STICKS, ROOTS, OTHER PROTRUSIONS, OR DEBRIS OF ANY KIND.
3. PRIOR TO FLEXAMAT STANDARD INSTALLATION SEED AND FERTILIZE SUBGRADE WITH SITE SPECIFIC SEED MIX IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
4. INSTALL FLEXAMAT STANDARD ROLLS THAT ARE CONTINUOUS FOR ENTIRE SLOPE LENGTH. FOR SLOPES LONGER THAN 16', USE MATS WITH EXTENSIONS CUT TO THE LENGTH OF THE SLOPE. INSTALL MATS TO THAT THE MATTING EXTENDS PAST THE CREST OF SLOPE AND INTO AN 18" ANCHOR TRENCH.
   - 4.1. FOR ARMORED SLOPE LENGTHS 16' OR LESS, INSTALL CURLEX ECB EQUALLY UNDER ADJACENT MATS. SECURE SEAM WITH #3 REBAR 18" U-ANCHORS IN 2' INCREMENTS THE LENGTH OF THE ABUTMENT.
   - 4.2. ARMORED SLOPE LENGTHS LONGER THAN 16', INSTALL NEXT MAT OVER EXTENSIONS.
5. INSTALL SUBSEQUENT MATS OVER THE GEOGRID EXTENSION AND STANDARD UNDERLAYMENT EXTENSION OF THE PREVIOUSLY INSTALLED MAT. ENSURE THE GEOGRID AND STANDARD UNDERLAYMENT EXTENSIONS ARE LAYING FLAT ON THE SUBGRADE BEFORE INSTALLING ADJACENT MAT OVER THE EXTENSIONS.
6. INSTALL #3 REBAR 18" U-ANCHORS IN 2' INCREMENTS ACROSS THE GEOGRID AND STANDARD EXTENSION ABUTMENT. INSTALL ANCHORS PERPENDICULAR TO THE SLOPE DIRECTLY BEHIND FIRST ROW OF BLOCKS ON THE ADJACENT MAT.
7. AT THE END OF THE ARMORED SLOPE, IF HEAD CUT IS ANTICIPATED, EMBED THE MAT 18" IN A TERMINATION TRENCH. FILL AND COMPACT TERMINATION TRENCH WITH SUITABLE FILL.

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

Name Brian N. Molinaro
Reg. No. 47504 Date 02-20-2026

Revisions
1. 03-30-2026 CITY COMMENTS
2. 04-07-2026 MOVE BASINS

Date	02-20-2026
Designed	NAP
Drawn	MBG

PRELIMINARY GRADING DETAILS

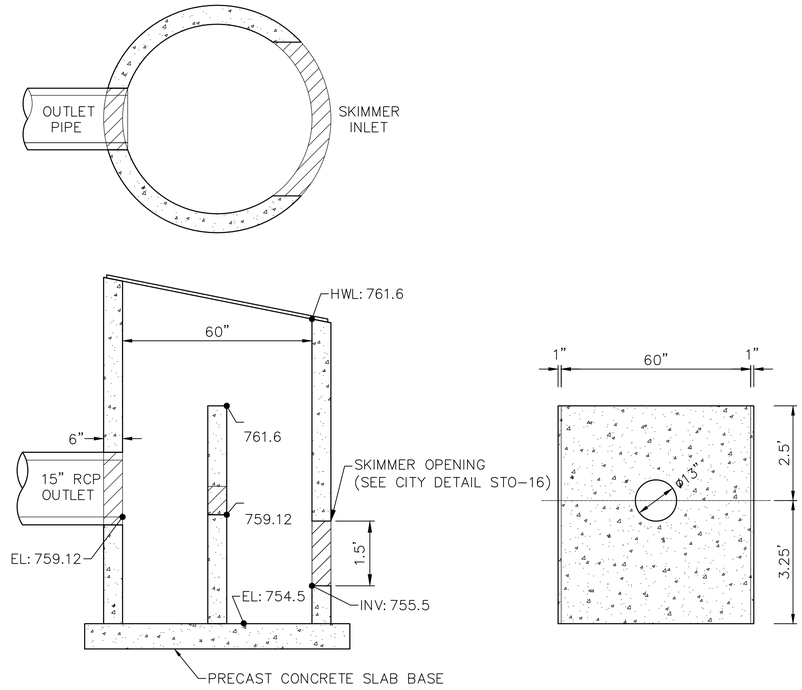
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PLYMOUTH, MINNESOTA 55446

GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

9.03 OF 16

00-ENG-125171-SHEET-GRAD-DTLS

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POND OUTLET CONTROL STRUCTURE OCS-100

(NOT TO SCALE)

NOTES:

1. SEE CITY DETAIL PLATE STO-16 FOR ADDITIONAL STRUCTURE DETAIL INFORMATION.
2. OCS STRUCTURES TO BE BACKFILLED WITH CLAY LINER MATERIAL.

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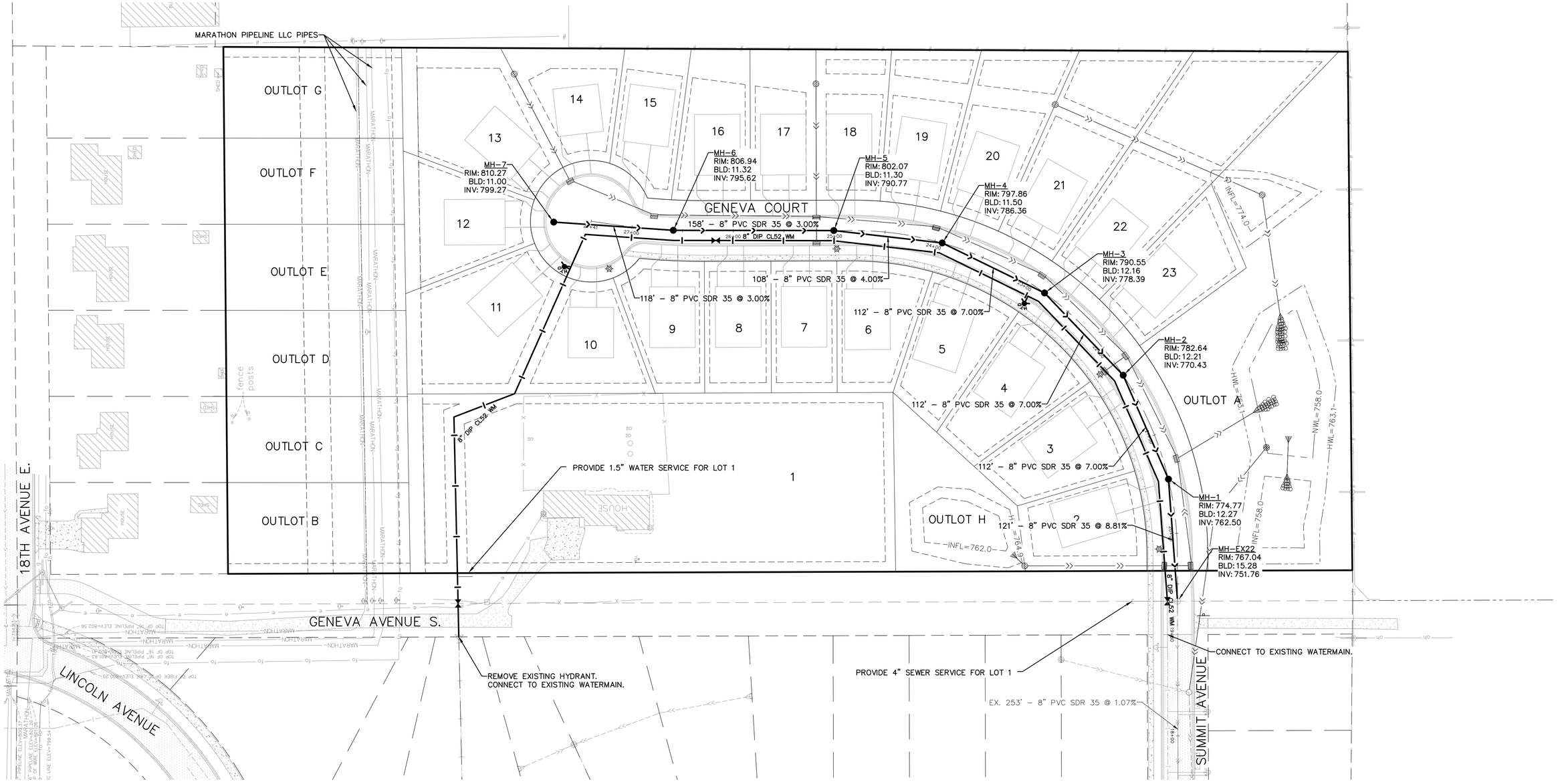
PRELIMINARY OUTLET CONTROL STRUCTURE DETAILS

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PRIOR TO ANY WORK IN MARATHON EASEMENT

SANITARY SEWER & WATERMAIN NOTES:
1. ALL SANITARY SEWER SHALL ADHERE TO THE FOLLOWING:
   - LESS THAN 18' DEPTH = 8" PVC SDR 35
   - 18' TO 28' DEPTH = 8" PVC SDR 26
   - GREATER THAN 28' DEPTH = DETERMINED BY ENGINEER
2. ALL WATERMAIN PIPE SHALL BE 8" DIP UNLESS NOTED OTHERWISE, EXCEPT HYDRANT LEADS WHICH SHALL BE 6"

0 25 50 100
GRAPHIC SCALE IN FEET

BENCH MARK
TOP NUT HYDRANT LOCATED IN NORTHEAST QUADRANT OF LINCOLN AVENUE & 18TH AVENUE E. INTERSECTION
EL.=807.57

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PRELIMINARY SANITARY SEWER & WATERMAIN PLAN

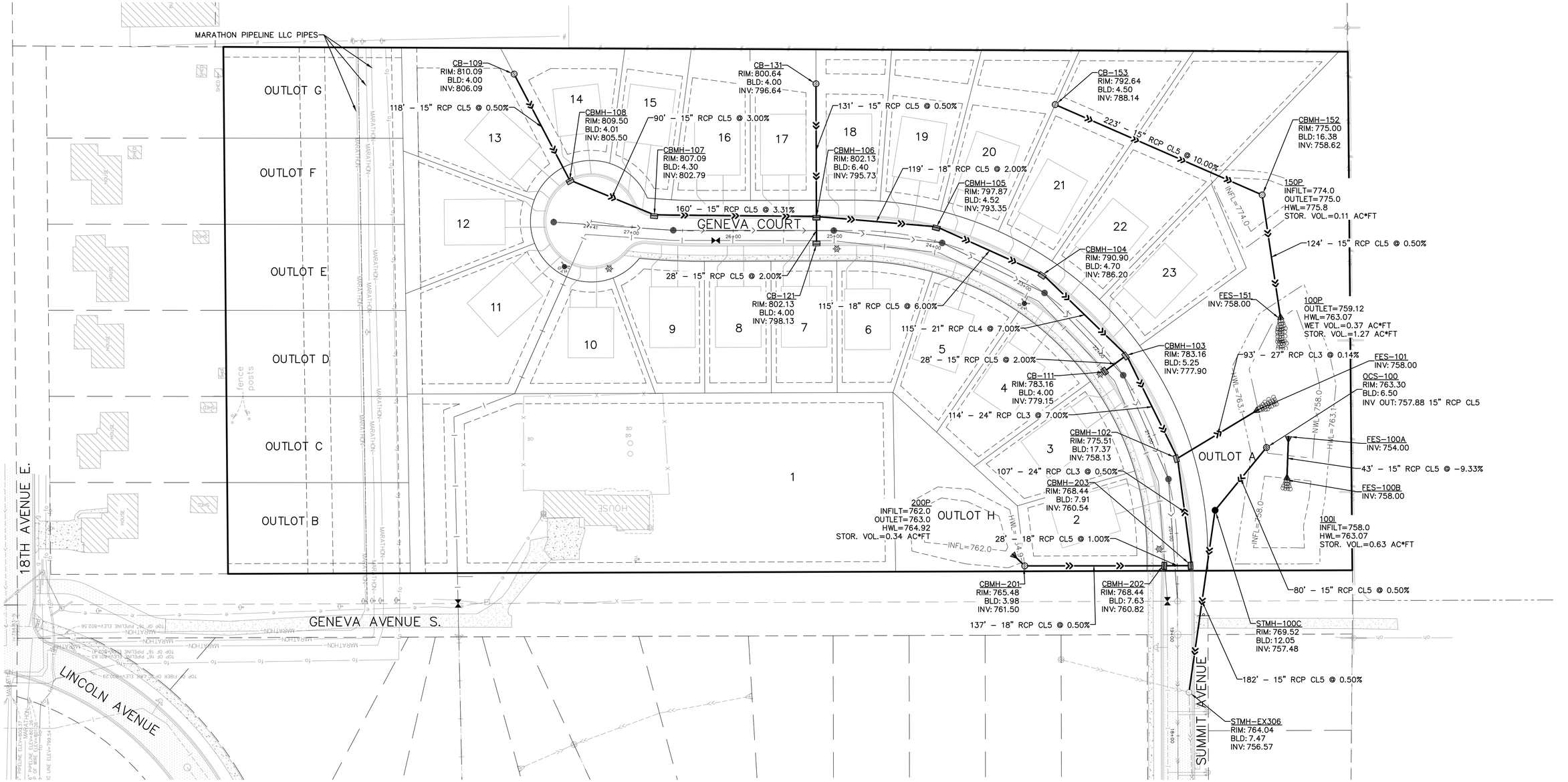
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PRIOR TO ANY WORK IN MARATHON EASEMENT

STORM SEWER NOTE:
1. ALL STORM PIPE SHALL BE RCP UNLESS OTHERWISE NOTED

0 25 50 100
GRAPHIC SCALE IN FEET

BENCH MARK
TOP NUT HYDRANT LOCATED IN NORTHEAST QUADRANT OF LINCOLN AVENUE & 18TH AVENUE E. INTERSECTION
EL.=807.57

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2. 04-07-2026 MOVE BASINS

Date 02-20-2026
Designed NAP
Drawn MBG

PRELIMINARY STORM SEWER PLAN

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GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

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STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

TO COMPLY WITH THE GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY

THE FULL STORMWATER MANAGEMENT PLAN IS A SEPARATE DOCUMENT AVAILABLE UPON REQUEST

CONSTRUCTION ACTIVITY INFORMATION

PROJECT NAME: GENEVA MEADOWS SECOND ADDITION
PROJECT LOCATION:
SUMMIT AVENUE & LINCOLN AVENUE
COTTAGE GROVE, MINNESOTA 55016
WASHINGTON COUNTY
LATITUDE/LONGITUDE: 44.823792, -92.982875

TOTAL PROJECT AREA DISTURBED: 9.11 ACRES
TOTAL EXISTING IMPERVIOUS AREA: 0.10 ACRES
TOTAL PROPOSED IMPERVIOUS AREA: 2.64 ACRES

RECEIVING WATERS:
MISSISSIPPI RIVER

DATES OF CONSTRUCTION:
CONSTRUCTION START DATE: MAY 1, 2026 **EST. COMPLETION DATE:** APRIL 31, 2031

CONTACT INFORMATION

PROJECT OWNER
LENNAR HOMES
STEVE TROSKEY – LAND ENTITLEMENT MANAGER
16355 36TH AVE. N, SUITE #100
Plymouth, MN 55446
PHONE 612-590-0531
EMAIL: STEVE.TROSKEY@LENNAR.COM

CONTRACTOR:
XXCOMPANYXX
FIRST LASTNAME – TITLE
XXX HIGHWAY
City, State Zip
PHONE XXX-XXX-XXXX
EMAIL: XXX@XXXXXXXXXX.COM

GENERAL CONSTRUCTION PROJECT INFORMATION

THE CONSTRUCTION OF NEW STREET AND 22 LOTS FOR RESIDENTIAL DEVELOPMENT. THIS CONSTRUCTION WILL COMPLETE GRADING, INSTALLATION OF SANITARY SEWER, WATERMAIN, STORM SEWER, CONCRETE CURB AND GUTTER, BITUMINOUS SURFACING, CONCRETE SIDEWALK, STREET LIGHTING, LANDSCAPING, EROSION CONTROL, AND TURF ESTABLISHMENT.

BASED ON THE SOIL BORINGS THAT WERE RETRIEVED FROM THE SITE, SOILS ENCOUNTERED ON SITE ARE SILTY SAND, POORLY GRADED SAND, POORLY GRADED SAND WITH SILT, CLAYEY SAND, SILT, SANDY LEAN CLAY, & LIMESTONE.

GENERAL SITE INFORMATION (III.A)

1. THE PROJECT IS REQUIRED TO MEET THE CONSTRUCTION STORMWATER REQUIREMENTS FOR THE NPDES GENERAL STORMWATER PERMIT AND MNDOT SPEC. 1717, 2573, AND 2575.
2. THE CONTRACTOR SHALL INSTALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH MNDOT GENERAL CONDITIONS 2573 TO BE INSPECTED BY THE CITY PRIOR TO STARTING ANY CONSTRUCTION OPERATION THAT MAY CAUSE ANY SEDIMENTATION OR SILTATION AT THE SITE.
3. LOCATIONS, TYPE AND QUANTITY OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES CAN BE FOUND WITHIN THE CONSTRUCTION PLANS.
4. THE PROJECT IS LOCATED WITHIN 1 MILE AND FLOWS TO AN IMPAIRED WATER BODY. THEREFORE, THE PROJECT WILL NEED TO STABILIZE ALL EXPOSED SOILS NO LATER THAN 7 DAYS. DITCHES OR RAVINES THROUGHOUT THE PROJECT THAT ARE DISTURBED SHALL BE STABILIZED WITHIN 24 HOURS.
5. THE PROJECT IS LOCATED WITH 1 MILE AND FLOWS TO AN IMPAIRED WATER BODY. THEREFORE, TEMPORARY SEDIMENT BASINS ARE NEEDED FOR DRAINAGE AREAS OF 5 ACRES OR MORE FLOWING TO A COMMON LOCATION.
6. THE CONTRACTOR SHALL INSTALL ADDITIONAL BMP'S AS NECESSARY TO PREVENT SEDIMENT TRANSPORT PER PERMIT REQUIREMENTS
7. INLET PROTECTION, SILT FENCE AND BIOROLLS SHALL BE INSTALLED IN THE FIELD AS SHOWN ON THE PLANS AS DIRECTED BY THE ENGINEER.
8. PERMIT COVERAGE FOR THIS PROJECT CANNOT BE ISSUED UNTIL ALL OF THE REQUIREMENTS OF SECTION 22 OF THE GENERAL STORMWATER PERMIT WITH REGARDS TO WETLAND PERMITTING, DECISIONS, AND MITIGATIVE SEQUENCING HAVE BEEN FINALIZED AND DOCUMENTED.

THE INTENDED SEQUENCING OF MAJOR CONSTRUCTION ACTIVITIES IS AS FOLLOWS:
1. INSTALL STABILIZED ROCK CONSTRUCTION ENTRANCE
2. INSTALLATION OF SILT FENCE AROUND SITE
3. INSTALL DOUBLE SILT FENCE AROUND WETLAND AREAS
4. INSTALL ORANGE CONSTRUCTION FENCING AROUND INFILTRATION AREAS.
5. CLEAR AND GRUB FOR TEMPORARY SEDIMENT BASIN/POND INSTALL.
6. CONSTRUCT TEMP PONDS – CAN USE PROPOSED BASINS AS TEMP PONDS
7. CLEAR AND GRUB REMAINDER OF SITE
8. STRIP AND STOCKPILE TOPSOIL
9. ROUGH GRADING OF SITE
10. STABILIZE DENUDED AREAS AND STOCKPILES
11. INSTALL SANITARY SEWER, WATER MAIN, STORM SEWER AND SERVICES
12. INSTALL SILT FENCE/INLET PROTECTION AROUND CB'S
13. INSTALL STREET SECTION
14. INSTALL CURB AND GUTTER
15. BITUMINOUS ON STREETS
16. INSTALL SMALL UTILITIES (GAS, ELECTRIC, PHONE, CABLE, ETC.)
17. FINAL GRADE BOULEVARD, INSTALL SEED AND MULCH
18. REMOVE ACCUMULATED SEDIMENT FROM BASIN/POND
19. FINAL GRAD POND/INFILTRATION BASINS (DO NOT COMPACT SOILS IN INFILTRATION AREAS.)
20. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED BY EITHER SEED OR SOD/LANDSCAPING, REMOVE SILT FENCE AND RESEED AREAS DISTURBED BY THE REMOVAL.

ENVIRONMENTALLY SENSITIVE AREAS:
WETLANDS – THERE ARE NO IMPACTS TO WETLANDS PER SECTION 22 OF THE PERMIT. THERE ARE NO WETLANDS ON THE SITE.

SPECIAL AND IMPAIRED WATERS – MISSISSIPPI RIVER **IMPAIRMENT(S):** ALUMINUM; FECAL COLIFORM; MERCURY IN FISH TISSUE; MERCURY IN WATER COLUMN; NUTRIENTS; PCB'S IN FISH TISSUE; PERFLUOROOCTANE SULFONATE (PFOS); PERFLUOROOCTANE SULFONATE (PFOS) IN FISH TISSUE; TOTAL SUSPENDED SOLIDS (TSS).

TMDL – THERE ARE NO ESTABLISHED TMDL PLANS.

SCIENTIFIC OR NATURAL AREAS – THERE ARE NO **SNA WITHIN 1 MILE OF THE PROJECT.**

KARST AREA – THE PROJECT IS NOT **LOCATED WITHIN A KARST AREA.** MINNESOTA DNR KARST FEATURE MAP (KARST FEATURE INVENTORY) LOCATED ONE KARST LOCATION WITHIN 1 MILE OF THE SITE. THIS FEATURE (82D12) IS OVER 1300' AWAY AND IS NOT RECEIVING WATER FROM THIS SITE. SEE KARST MAP IN THE STORM WATER MANAGEMENT PLAN.

CALCAREOUS FENS – THE PROJECT DOES NOT **DISCHARGE TO A FEN.**

TRAINING (21.1)

THE CONTRACTOR SHALL ENSURE THAT THE TRAINING REQUIREMENTS IN PART 21.1 OF THE GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY ARE COMPLIED WITH. THE INDIVIDUALS TRAINED WILL BE RECORDED IN THE SWPPP BEFORE THE START OF CONSTRUCTION OR AS SOON AS PERSONNEL FOR THE PROJECT HAVE BEEN DETERMINED. PROVIDE INFORMATION IN THE SPACE PROVIDED BELOW FOR ADDITIONAL PERSONNEL ON THE PROJECT AS REQUIRED BY THE PERMIT.

SWPPP DESIGNER	COMPANY	CERTIFICATION
SWPPP INSTALLER		
SWPPP INSPECTOR		

PERMANENT STORMWATER MANAGEMENT SYSTEM (15.1)

1. THE PROJECT WILL CREATE A NEW CUMULATIVE IMPERVIOUS SURFACE GREATER THAN OR EQUAL TO ONE ACRE. THE PROJECT PROPOSES TO CONSTRUCT A STORMWATER TREATMENT SYSTEM TO COLLECT RUNOFF TO BE DISCHARGED OFFSITE. TREATMENT FOR THE RUNOFF IS TO BE EXECUTED BY THE PROPOSED STORMWATER MANAGEMENT SYSTEM. CALCULATIONS DETAILING THE BASINS ARE AVAILABLE UPON REQUEST.

BMP SELECTION & STORMWATER MANAGEMENT (7.1)

1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN THE BMPS IDENTIFIED IN THIS PLAN IN AN APPROPRIATE AND FUNCTIONAL MANNER AND IN ACCORDANCE WITH RELEVANT MANUFACTURER SPECIFICATIONS AND ACCEPTED ENGINEERING PRACTICES TO MINIMIZE THE DISCHARGE OF POLLUTANTS IN STORMWATER FROM CONSTRUCTION ACTIVITIES. THESE BMPS SHALL BE INSPECTED BY THE CITY.
2. THE CONTRACTOR SHOULD CONSTRUCT TEMPORARY OR PERMANENT WET SEDIMENTATION BASINS IDENTIFIED IN THIS PLAN (WHEN REQUIRED, SEE SECTION 14 AND 15) AS A FIRST STEP IN CONSTRUCTION AND STORMWATER ROUTED TO THESE.
3. THE CONTRACTOR MUST PHASE CONSTRUCTION SO TO LIMIT DISTURBED LAND TO AREAS THAT CAN BE EFFECTIVELY INSPECTED AND MAINTAINED. PER SECTION 11 OF THE PERMIT.
4. ALL EROSION CONTROL NETTING USED ON THE SITE AS PART OF THE SOIL STABILIZATION TECHNIQUES, ARE ENCOURAGED TO USE PRODUCTS THAT HAVE BEEN SHOWN TO MINIMIZE IMPACTS ON WILDLIFE. THE U.S. FISH & WILDLIFE SERVICE RECOMMENDS USING TYPES OF NETTING PRACTICES THAT ARE CONSIDERED "WILDLIFE FRIENDLY," INCLUDING THOSE THAT USE NATURAL FIBER OR 100 PERCENT BIODEGRADABLE MATERIALS AND THAT USE A LOOSE WEAVE WITH A NON-WELDED, MOVABLE JOINTED NETTING.

EROSION PREVENTION PRACTICES (8.1)

1. THE CONTRACTOR SHALL PHASE THE WORK TO LIMIT THE OVERALL DISTURBANCE OF THE PROJECT AT ANY GIVEN TIME. NATURAL VEGETATIVE BUFFERS SHALL BE MAINTAINED BETWEEN THE WORK LIMITS AND ALL SURFACE WATERS OR WETLANDS THROUGHOUT THE COURSE OF CONSTRUCTION.
2. THE AREAS NOT TO BE DISTURBED WILL BE DELINEATED THROUGH THE USE OF SILT FENCE, BIOROLLS AND CONSTRUCTION STAKING.
3. THE CONTRACTOR SHALL MAINTAIN A NATURAL, VEGETATED BUFFER ADJACENT TO THE WETLANDS WHEREVER POSSIBLE DURING CONSTRUCTION.
4. TEMPORARY COVER SHALL BE PROVIDED USING TEMPORARY SEED WITH EROSION CONTROL BLANKET OR HYDROMULCH.
5. PERMANENT COVER SHALL BE PROVIDED AS DETAILED ON THE CONSTRUCTION PLANS USING SEED WITH EROSION CONTROL BLANKET OR HYDROMULCH. PERMITTEES MUST NOT USE MULCH, HYDROMULCH, TACKIFIER, POLYACRYLAMIDE OR SIMILAR EROSION PREVENTION PRACTICES WITHIN ANY PORTION OF THE NORMAL WETTED PERIMETER OF A TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE SECTION WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT
6. THE CONTRACTOR IS REQUIRED TO PROVIDE ANY ADDITIONAL EROSION PREVENTION MEASURES NECESSARY FOR CONFORMANCE TO THE NPDES CONSTRUCTION PERMIT THROUGHOUT CONSTRUCTION.
7. STABILIZATION TIME FRAMES – INITIATE STABILIZATION IMMEDIATELY WHEN CONSTRUCTION TEMPORARILY OR PERMANENTLY CEASES ON A PORTION OF THE SITE. COMPLETE STABILIZATION WITHIN THE TIME FRAMES LISTED.

7.1.	LAST 200 LINEAL FEET OF DITCH OR SWALE	24 HOURS OF CONNECTION TO SURFACE WATERS
7.2.	REMAINING DITCH OR SWALE	7 DAYS
7.3.	PIPE AND CULVERT OUTLETS	24 HOURS
7.4.	EXPOSED SOIL AND STOCKPILES	7 DAYS

SEDIMENT CONTROL PRACTICES (9.1)

1. SILT FENCE AND ALL OTHER DOWN GRADIENT PERIMETER CONTROL DEVICES SHALL BE INSTALLED AND INSPECTED BY THE CITY PRIOR TO ANY LAND DISTURBANCE ACTIVITY.
2. EROSION CONTROL BLANKET AND BIOROLLS SHALL BE PLACED WITHIN THE DITCH BOTTOMS WITHIN 24 HOURS AFTER FINE GRADING.
3. PRIOR TO STOCKPILING SOIL, SEDIMENT CONTROLS AT THE BASE OF THE STOCKPILE NED TO BE INSTALLED. STOCKPILES LOCATED ON SITE SHALL BE SEEDED, MULCHED OR BLANKETED AND HAVE SILT FENCE OR A BMP APPROVED BY THE ENGINEER IN THE FIELD PLACED AROUND THE BASE OF THE STOCKPILE.
4. MAINTAIN A 50-FOOT NATURAL BUFFER DOWN GRADIENT OF THE SITE OR REDUNDANT SEDIMENT CONTROLS IF BUFFER IS NOT FEASIBLE, WHEN THE CONSTRUCTION IS WITHIN 50 FEET OF A SURFACE WATER.
5. MINIMIZE SOIL COMPACTION BY NOT DISTURBING AREAS OUTSIDE OF THE CONSTRUCTION LIMITS. DELINEATE AREAS NOT TO BE DISTURBED PRIOR TO STARTING GROUND DISTURBING ACTIVITIES. PRESERVE ALL NATURAL BUFFERS SHOWN ON THE PLANS. NO HEAVY CONSTRUCTION EQUIPMENT ALLOWED IN FILTRATION OR INFILTRATION AREAS PER PLANS.
6. CONTRACTOR SHALL USE STREET SWEEPING IN ADDITION TO VEHICLE TRACKING BMPS IF THESE BMPS ALONE ARE NOT ADEQUATE TO PREVENT SEDIMENT TRACKING ONTO THE STREET.
7. ANY SEDIMENT CONTROL PRACTICE USING SOIL IMPLEMENTED BY THE CONTRACTOR SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 24 HOURS OF INSTALLATION.

SEE FOLLOWING SHEET FOR CONTINUED SWPPP NOTES

DEWATERING AND BASIN DRAINING (10.1)

1. DEWATERING IS NOT ANTICIPATED ON THIS PROJECT. HOWEVER, IF DEWATERING IS NECESSARY, THE CONTRACTOR SHALL SUBMIT A PLAN TO THE ENGINEER FOR ACCEPTANCE.
2. IF DEWATERING IS NECESSARY, IT MUST NOT CAUSE NUISANCE CONDITIONS IN SURFACE WATERS FROM DEWATERING AND BASIN DRAINING DISCHARGE.
3. IF THE DEWATERING OR PUMPING PROCESS IS TURBID OR CONTAINS SEDIMENT LADEN WATER, IT MUST BE TREATED THROUGH THE USE OF A SEDIMENT CONTROL (TRAPS, VEGETATIVE FILTER STRIPS, FLOCCULANTS OR OTHER SEDIMENT REDUCING MEASURES) SUCH THAT DISCHARGE DOES NOT VISIBLY CONTAIN MORE TURBIDITY THAN THE RECEIVING WATER.
4. WHEN POSSIBLE, USE WELL VEGETATED (EG. GRASSY OR WOODED) UPLAND AREAS ON THE SITE TO INFILTRATE DEWATERING WATERS BEFORE DISCHARGED OFF SITE.
5. DISCHARGE DIRECTLY INTO A SURFACE WATER OR WETLAND IS NOT PERMITTED. RECEIVING WATERS CANNOT BE USED AS PART OF THE TREATMENT AREA.
6. ALL CONSTRUCTION DEWATERING SHALL BE DISCHARGED TO AN APPROVED LOCATION FOR TREATMENT PRIOR TO DISCHARGE TO THE RECEIVING WATER. THE DEWATERING PLAN SHALL BE DEVELOPED AND SUBMITTED TO THE ENGINEER FOR REVIEW IN ACCORDANCE WITH MNDOT SPEC. 1717.2E.
7. CONDITIONS OF THE SITE MAY REQUIRE A PERMIT TO BE OBTAINED FROM THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES FOR WATER APPROPRIATIONS. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS FOR DEWATERING.
8. THE DISCHARGE POINT OF DEWATERING WATERS SHOULD BE VISUALLY INSPECTED AND PHOTOGRAPHED AT THE BEGINNING OF OPERATION AND AT LEAST ONCE EVERY 24 HOURS OF OPERATION TO ENSURE EXCESS TURBIDITY IS NOT BEING RELEASED TO THE RECEIVING WATERS.'
9. IF NUISANCE CONDITIONS RESULT FROM THE DISCHARGE, PERMITTEES MUST CEASE DEWATERING IMMEDIATELY AND CORRECTIVE ACTIONS MUST OCCUR BEFORE DEWATERING IS RESUMED. NUISANCE CONDITIONS INCLUDES, BUT IS NOT LIMITED TO, A SEDIMENT PLUME IN THE DISCHARGE OR THE DISCHARGE APPEARS CLOUDY, OR OPAQUE, OR HAS A VISIBLE CONTRAST, OR HAS A VISIBLE OIL FILM, OR HAS AQUATIC HABITAT DEGRADATION THAT CAN BE IDENTIFIED BY AN OBSERVER.

INSPECTIONS AND MAINTENANCE (11.1)

1. THE CONTRACTOR SHALL IDENTIFY A CERTIFIED EROSION AND SEDIMENT CONTROL SUPERVISOR TO CONDUCT INSPECTIONS FOR THE PROJECT.
2. THE CONSTRUCTION SITE SHALL BE OBSERVED AT LEAST ONCE EVERY 7 DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS AND 7 DAYS AFTER THAT. PER SECTION 11.11 THE INSPECTION CAN BE ADJUSTED AS FOLLOW:
   - AREAS WITH PERMANENT COVER CAN BE REDUCED TO ONCE A MONTH
   - SITES WITH PERMANENT COVER AND NO CONSTRUCTION ACTIVITY CAN BE REDUCED TO ONCE A MONTH
   - WHERE CONSTRUCTION ACTIVITY HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, INSPECTION MAY BE SUSPENDED AND RESUME WITHIN 24 HOURS OF RUNOFF OCCURRING
3. WHEN SEDIMENT IS OBSERVED UP TO APPROXIMATELY ONE-THIRD OF THE HEIGHT OF SILT FENCE, SEDIMENT SHALL BE REMOVED. SILT FENCE WILL BE REPLACED, OR SUPPLEMENTED IF IT BECOMES NON-FUNCTIONAL.
4. THE CITY OF COTTAGE GROVE IS RESPONSIBLE TO MAINTAIN PERMANENT BMP'S.
5. DURING EACH INSPECTION THE FOLLOWING SHALL BE OBSERVED:
   - ALL EROSION PREVENTION AND SEDIMENT CONTROL BMP'S AND POLLUTION PREVENTION MEASURES.
   - SURFACE WATERS – INCLUDING DITCHES AND CONVEYANCE SYSTEMS NEED TO BE OBSERVED FOR EROSION AND SEDIMENT.
   - CONSTRUCTION SITE VEHICLE EXIT LOCATIONS FOR EVIDENCE OF TRACKING ONTO PAVED SURFACES.
   - INSPECT SURROUNDING PROPERTIES FOR EVIDENCE OF OFF SITE SEDIMENT ACCUMULATION.
   - INFILTRATION AREAS FOR SIGNS OF SEDIMENT DEPOSITION AND COMPACTION (TO ENSURE THAT EQUIPMENT IS NOT BEING DRIVEN ACROSS THE AREA).
7. RECORD ALL INSPECTIONS AND MAINTENANCE ACTIVITIES IN WRITING WITHIN 24 HOURS. SUBMIT INSPECTION REPORTS IN A FORMAT THAT IS ACCEPTABLE TO THE PROJECT ENGINEER. INCLUDE THE FOLLOWING IN THE RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY:
   - DATE AND TIME OF INSPECTIONS
   - NAME OF PERSONS CONDUCTING INSPECTIONS
   - FINDINGS OF INSPECTIONS WITH PHOTOGRAPHS AND RECOMMENDATIONS FOR CORRECTIVE ACTIONS
   - CORRECTIVE ACTIONS TAKEN, INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES
   - DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCH IN 24 HOURS
   - DOCUMENT AND DISCHARGES, DEWATERING OPERATIONS AND NUISANCE CONDITIONS WITH PHOTOGRAPHS.
   - DOCUMENTS AND CHANGES MADE TO THE SWPPP
8. 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 1/2 THE HEIGHT OF THE DEVICE. COMPLETE REPAIRS BY THE END OF THE NEXT BUSINESS DAY FOLLOWING DISCOVERY.
   - B. REPAIR OR REPLACE INLET PROTECTION DEVICES WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT AND/OR DEPTH OF THE DEVICE.
   - C. DRAIN AND REMOVE SEDIMENT FROM TEMPORARY AND PERMANENT SEDIMENT BASINS ONCE THE SEDIMENT HAS REACHED 1/2 THE STORAGE VOLUME. COMPLETE WORK WITHIN 72 HOURS OF DISCOVERY.
   - D. REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS. RESTABILIZE 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.

POLLUTION PREVENTION MANAGEMENT MEASURES (12.1)

ALL WORK NECESSARY TO PROVIDE PROPER POLLUTION PREVENTION MEASURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
1. COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, AND OTHER WASTE MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.
2. CONSTRUCTION MATERIALS NEED TO BE COVERED TO MINIMIZE STORMWATER INTERACTION UNLESS MATERIAL IS NOT A POTENTIAL SOURCE OF STORMWATER CONTAMINATION.
3. OIL, GASOLINE, PAINT AND ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGES. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.
4. EXTERNAL WASHING OF TRUCKS AND OTHER CONSTRUCTION VEHICLES IS NOT ALLOWED ON SITE. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE.
5. ALL LIQUID AND SOLID WASTE GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER THE GROUND WATER IS CONSIDERED AN IMPERMEABLE LINER. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND, AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTE MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

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Drawn	MBG

STORMWATER POLLUTION PREVENTION PLAN

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GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

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5. ANY SPILLS OF HAZARDOUS MATERIALS AND/OR A MINIMUM OF 5-GALLONS PETROLEUM SHALL BE IMMEDIATELY REPORTED TO THE MPCA (STATE DUTY OFFICER: 1.800.422.0798 OR 651.297.8610). ANY SPILLS ABOVE THE REPORTABLE QUANTITIES LIMITS IN THE CODE OF FEDERAL REGULATIONS (CFR) TITLE 40, PART 302 SHALL BE REPORTED TO THE EPA NATIONAL RESPONSE CENTER (1.800.424.8802). IN ORDER TO REDUCE THE RISK OF HAZARDOUS MATERIALS COMING INTO CONTACT WITH STORM WATER, THE FOLLOWING PRACTICES WILL BE FOLLOWED: A) AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCTS REQUIRED TO DO THE WORK, B) ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND IF POSSIBLE, UNDER COVER, C) PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL UNLESS THE ORIGINAL CONTAINER CANNOT BE RESEALED, IN WHICH CASE THE ORIGINAL LABEL AND MATERIALS SAFETY DATA SHALL BE RETAINED, D) SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER, E) WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED BEFORE DISPOSING OF THE CONTAINER, F) THE MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED, AND G) THE OPERATOR WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ON SITE. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

6. ALL SANITARY WASTE WILL BE COLLECTED BY TEMPORARY SANITARY FACILITIES PROVIDED AT THE SITE BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROJECT. ALL CONSTRUCTION PERSONNEL SHALL UTILIZE TEMPORARY SANITARY FACILITIES, WHICH SHALL BE REGULARLY SERVICE BY A COMMERCIAL OPERATOR. TEMPORARY SANITARY FACILITIES SHALL BE PLACED IN A LOCATION WHERE ACCIDENTAL SPILLAGE OF THE FACILITY SHALL NOT DISCHARGE TO THE STORM SEWER SYSTEM.

TEMPORARY SEDIMENTATION BASINS (14.2)

1. TEMPORARY SEDIMENTATION BASINS ARE REQUIRED WHERE 10 OR MORE ACRES DRAIN TO A COMMON LOCATION TO PROVIDE TREATMENT OF THE RUNOFF BEFORE IT LEAVES THE CONSTRUCTION SITE OR ENTERS SURFACE WATERS. WHEN A CONSTRUCTION SITE DISCHARGES TO AN IMPAIRED WATER BODY, TEMPORARY SEDIMENTATION BASINS ARE REQUIRED WHERE 5 OR MORE ACRES DRAIN TO A COMMON LOCATION. TEMPORARY SEDIMENTATION BASINS CAN BE CONVERTED TO PERMANENT BASINS AFTER CONSTRUCTION IS COMPLETE.

2. THE TEMPORARY BASIN MUST PROVIDE LIVE STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A TWO (2)-YEAR, 24-HOUR STORM FROM EACH ACRE DRAINED TO THE BASIN OR 1,800 CUBIC FEET OF LIVE STORAGE PER ACRE DRAINED, WHICHEVER IS GREATER. WHERE PERMITTEES HAVE NOT CALCULATED THE TWO (2)-YEAR, 24-HOUR STORM RUNOFF AMOUNT, THE TEMPORARY BASIN MUST PROVIDE 3,600 CUBIC FEET OF LIVE STORAGE PER ACRE OF THE BASINS DRAINAGE AREA.

3. PERMITTEES MUST DESIGN THE OUTLET STRUCTURE TO WITHDRAW WATER FROM THE SURFACE TO MINIMIZE THE DISCHARGE OF POLLUTANTS. PERMITTEES MAY TEMPORARILY SUSPEND THE USE OF A SURFACE WITHDRAWAL MECHANISM DURING FROZEN CONDITIONS. THE BASIN MUST INCLUDE A STABILIZED EMERGENCY OVERFLOW TO PREVENT FAILURE OF POND INTEGRITY. PROVIDE ENERGY DISSIPATION FOR THE BASIN OUTLET WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER.

4. WHERE A TEMPORARY SEDIMENT BASIN MEETING THE REQUIREMENTS OF THE ABOVE IS INFEASIBLE, PERMITTEES MUST INSTALL EFFECTIVE SEDIMENT CONTROLS SUCH AS SMALLER SEDIMENT BASINS AND/OR SEDIMENT TRAPS, SILT FENCES, VEGETATIVE BUFFER STRIPS OR ANY APPROPRIATE COMBINATION OF MEASURES AS DICTATED BY INDIVIDUAL SITE CONDITIONS. IN DETERMINING WHETHER INSTALLING A SEDIMENT BASIN IS INFEASIBLE, PERMITTEES MUST CONSIDER PUBLIC SAFETY AND MAY CONSIDER FACTORS SUCH AS SITE SOILS, SLOPE, AND AVAILABLE AREA ON-SITE. PERMITTEES MUST DOCUMENT THIS DETERMINATION OF INFEASIBILITY IN THE SWPPP.

FINAL STABILIZATION (4.1)

1. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED AS SHOWN ON THE CONSTRUCTION PLANS. METHODS TO ACHIEVE FINAL STABILIZATION INCLUDE: SEED WITH MULCH OR EROSION CONTROL BLANKET AND SOD.

2. ALL AREAS SEEDED BY MEANS OF BROADCAST SEEDING SHALL BE HAND RAKED TO INCORPORATE THE SEEDS INTO THE TOPSOIL.

3. EROSION CONTROL BLANKETS SHALL BE PLACED IN THE DITCH BOTTOM WITHIN 24 HOURS AFTER FINE GRADING. BIOROLLS SHALL BE PLACED IN CONJUNCTION WITH THE BLANKET IN THE DITCH BOTTOMS. THE BIOROLLS ARE INTENDED TO SERVE AS PERMANENT DITCH CHECKS.

4. THE PERMITTEE WILL SUBMIT A NOTICE OF TERMINATION (NOT) WITHIN 30 DAYS AFTER FINAL STABILIZATION. FINAL STABILIZATION SHALL CONSIST OF A UNIFORM PERENNIAL VEGETATIVE COVER OF AT LEAST 70 PERCENT OF THE EXPECTED FINAL VEGETATIVE GROWTH DENSITY OR OTHER PERMANENT COVER HAS BEEN ESTABLISHED OVER THE ENTIRE PERVIOUS SURFACES.

5. PERMIT COVERAGE TERMINATES ON INDIVIDUAL LOTS IF THE STRUCTURES ARE FINISHED AND TEMPORARY EROSION PREVENTION AND DOWNGRADIENT PERIMETER CONTROL IS COMPLETE, THE RESIDENCE SELLS TO THE HOMEOWNER, AND THE PERMITTEE DISTRIBUTES THE MPCA'S "HOMEOWNER FACT SHEET" TO THE HOMEOWNER.

PERMIT TERMINATION CONDITIONS (13.1)

1. PERMITTEES MUST COMPLETE ALL CONSTRUCTION ACTIVITY AND MUST INSTALL PERMANENT COVER OVER ALL AREAS PRIOR TO SUBMITTING THE NOTICE OF TERMINATION (NOT). VEGETATIVE COVER MUST CONSIST OF A UNIFORM PERENNIAL VEGETATION WITH A DENSITY OF 70 PERCENT OF ITS EXPECTED FINAL GROWTH. VEGETATION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA DICTATES NO VEGETATION, SUCH AS IMPERVIOUS SURFACES OR THE BASE OF A SAND FILTER.

2. FOR RESIDENTIAL CONSTRUCTION ONLY, PERMIT COVERAGE TERMINATES ON INDIVIDUAL LOTS IF THE LOT IS SOLD TO THE HOMEOWNER, STRUCTURES ARE FINISHED, AND PERMANENT COVER HAS BEEN ESTABLISHED. FOR LOTS THAT ARE SOLD TO THE HOMEOWNER WHERE PERMANENT COVER HAS NOT BEEN ESTABLISHED, COVERAGE TERMINATES IF TEMPORARY EROSION PREVENTION AND DOWNGRADIENT PERIMETER CONTROL IS PROPERLY INSTALLED, AND THE PERMITTEE DISTRIBUTES THE MPCA'S "HOMEOWNER FACT SHEET" TO THE HOMEOWNER.

3. WHEN SUBMITTING THE NOT PERMITTEES MUST INCLUDE EITHER GROUND OR AERIAL PHOTOGRAPHS SHOWING THE REQUIREMENTS OF 13.2 HAVE BEEN MET. PERMITTEES ARE NOT REQUIRED TO TAKE PHOTOGRAPHS OF EVERY DISTINCT PART OF THE SITE, HOWEVER THE CONDITIONS PORTRAYED MUST BE SUBSTANTIALLY SIMILAR TO THOSE AREAS THAT ARE NOT PHOTOGRAPHED. PHOTOGRAPHS MUST BE CLEAR AND IN FOCUS AND MUST INCLUDE THE DATE THE PHOTO WAS TAKEN.

RECORDS RETENTION (5.1&6.1)

1. RECORDS MUST BE KEPT ON SITE IN A PHYSICAL OR ELECTRONIC FORMAT DURING NORMAL WORKING HOURS WITH PERSONNEL WHO HAVE OPERATIONAL CONTROL OVER THE APPLICABLE PORTION OF THE SITE. THESE RECORDS MUST INCLUDE:
   A. COPY OF THE SWPPP AND AMENDMENTS
   B. TRAINING DOCUMENTATION
   C. INPSECTION AND MAINTENANCE RECORDS

2. THIS SWPPP WILL BE AMENDED AS NEEDED AND/OR AS REQUIRED BY PROVISIONS OF THE PERMIT. ANY CHANGES TO THE SWPPP SHALL BE NOTED BELOW AND ON THE APPLICABLE PLAN SHEETS. ANY AMENDMENTS TO THE SWPPP MUST BE INCORPORATED WITHIN 7 DAYS TO INCLUDE ADDITIONAL OR MODIFIED BMPS.

3. THE CONTRACTOR WILL RECORD CHANGES TO THE SWPPP AND MAINTAIN DOCUMENTATION OF THESE CHANGES ON SITE AT ALL TIMES. A SUMMARY MAINTENANCE/CONSTRUCTION OBSERVATION REPORT WILL BE RECORDED AFTER EACH SITE INSPECTION/OBSERVATION.

4. THE CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN AND REPAIR THE EROSION AND SEDIMENT CONTROL BMP'S UNTIL FINAL STABILIZATION IS COMPLETE AND A NOTICE OF TERMINATION (NOT) IS SUBMITTED.

ITEM DESCPRIPTION	UNIT	ESTIMATED QUANTITY
CONSTRUCTION LIMIT STAKING	LF	X
ROCK CONSTRUCTION ENTRANCE	EA	1
ROCK CONSTRUCTION ENTRANCE MAINTENANCE	EA	1
EROSION CONTROL FENCE	LF	XXXX
MAINTENANCE OF PERIMETER EROSION CONTROL	YR	1
BIOROLL DITCH CHECK	EA	XXX
STREET SWEEPING AND VACUUMING	YR	1
STORM DRAIN INLET PROTECTION	EA	XX
TEMPORARY SEED AND MULCH	AC	X.X
PERMANENT SEED AND MULCH	AC	X.X
MAINTAIN SEED AND MULCH	AC	X.X
EROSION CONTROL BLANKET (MNDOT CAT. 20)	SY	XXX
VEHICLE AND EQUIPMENT CLEANING	LS	1
VEHICLE AND EQUIPMENT FUELING	LS	1
VEHICLE AND EQUIPMENT MAINTENANCE	LS	1
SPILL PREVENTION AND CONTROL	LS	1
ROCK BERM EROSION CONTROL	LS	1
RIP RAP ENERGY DISSIPATOR	CY	X.X
INDIVIDUAL LOT HOME CONSTRUCTION EROSION CONTROL	EA	XX

AMENDMENT	BY	DATE

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2. 04-07-2026 MOVE BASINS

Date 02-20-2026
Designed NAP
Drawn MBG

STORMWATER POLLUTION PREVENTION PLAN

LENNAR HOMES
16305 36TH AVE. NO., SUITE 600
PLYMOUTH, MINNESOTA 55446

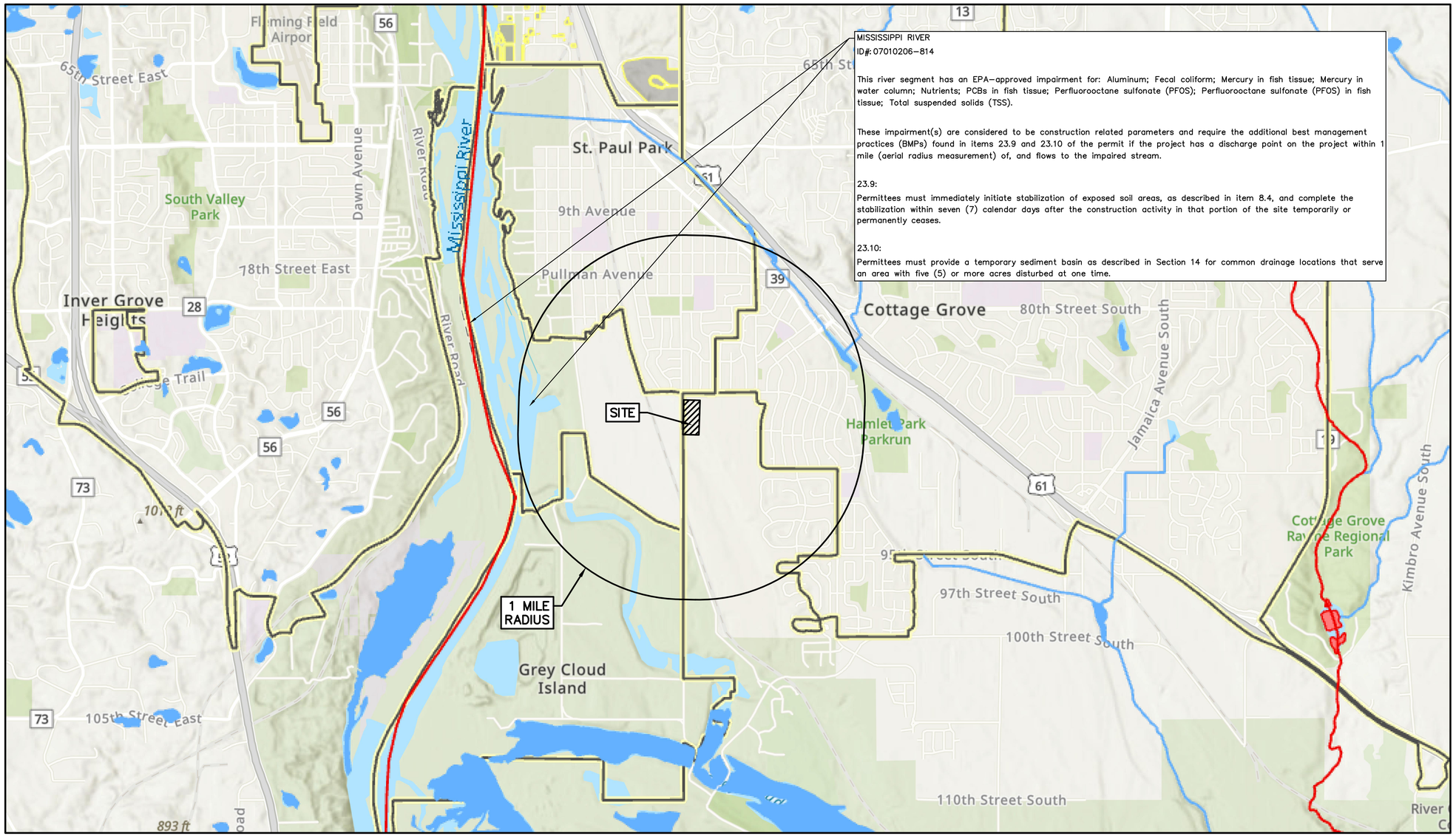
GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

S2 OF S5

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MPCA's Construction Stormwater Special Waters Search



2/2/2026, 8:17:38 AM

- Waterbody Units - Lakes (1)
- Waterbody Units - Streams (1)
- Impaired Lakes with additional construction requirements
- Impaired Streams with additional construction requirements
- MS4 - Platted Areas
- MS4 - MNDOT
- MS4 - County
- MS4 - Watershed District
- MS4 - City or Township
- MS4 - Non-traditional

1:72,224

0 0.42 0.85 1.7 mi

0 0.5 1 2 km

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Minnesota Pollution Control Agency

Esri, NASA, NGA, USGS, FEMA | County of Dakota, Metropolitan Council, MetroGIS, MN Dept Natural Resources, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS | MPCA; US Census Bureau; MNDoT; | MDH |

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MPCA MAP

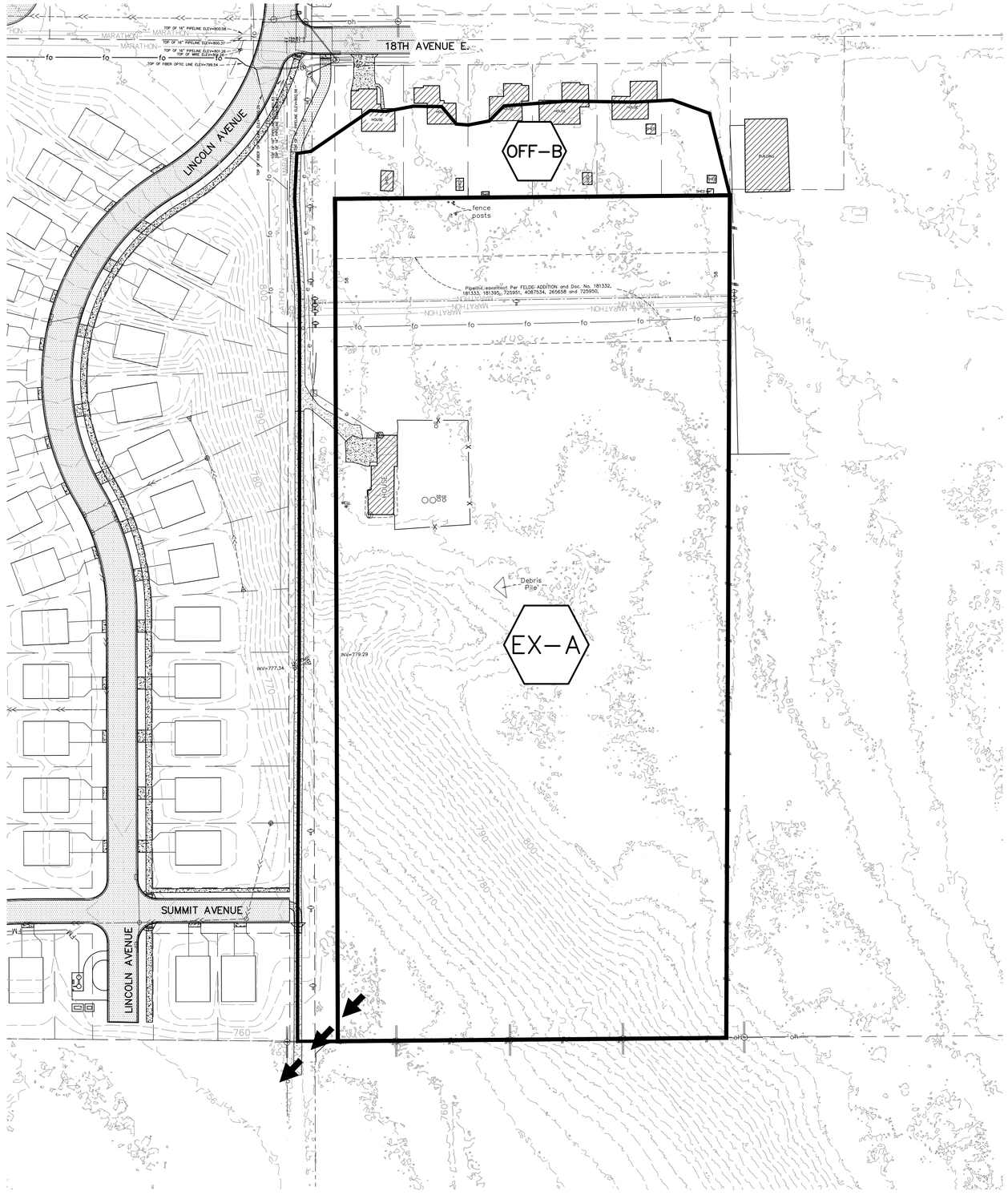
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PRIOR TO ANY WORK IN MARATHON EASEMENT

LEGEND

1 SUBCATCHMENT

FLOW ARROWS

N

0 40 80 160
GRAPHIC SCALE IN FEET

BENCH MARK
TOP NUT HYDRANT LOCATED IN NORTHEAST QUADRANT OF LINCOLN AVENUE & 18TH AVENUE E. INTERSECTION
EL.=807.57

OA-ENG-125171-SHEET-HYDR-EXIS

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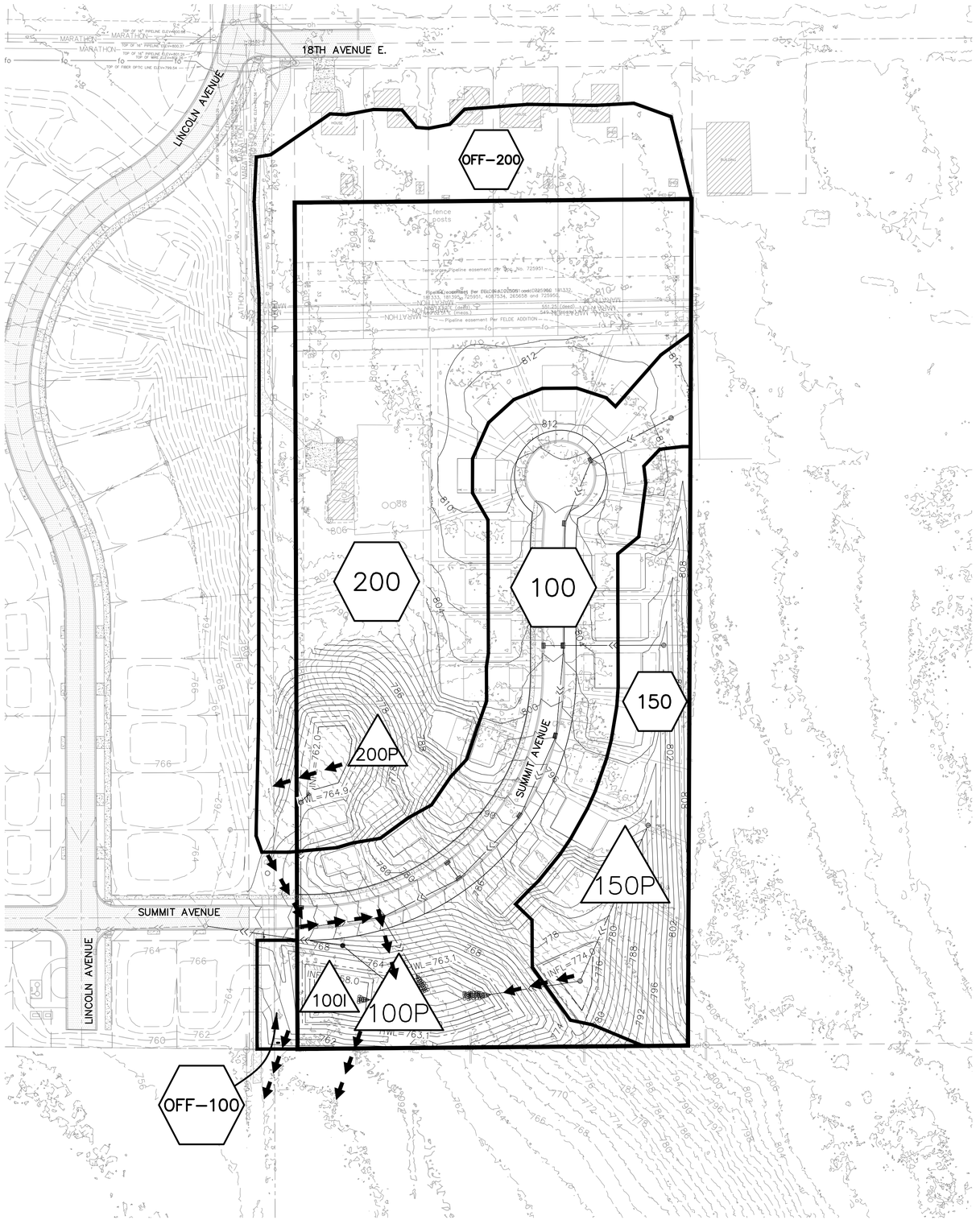
EXISTING HYDROLOGY MAP

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GENEVA MEADOWS SECOND ADDITION
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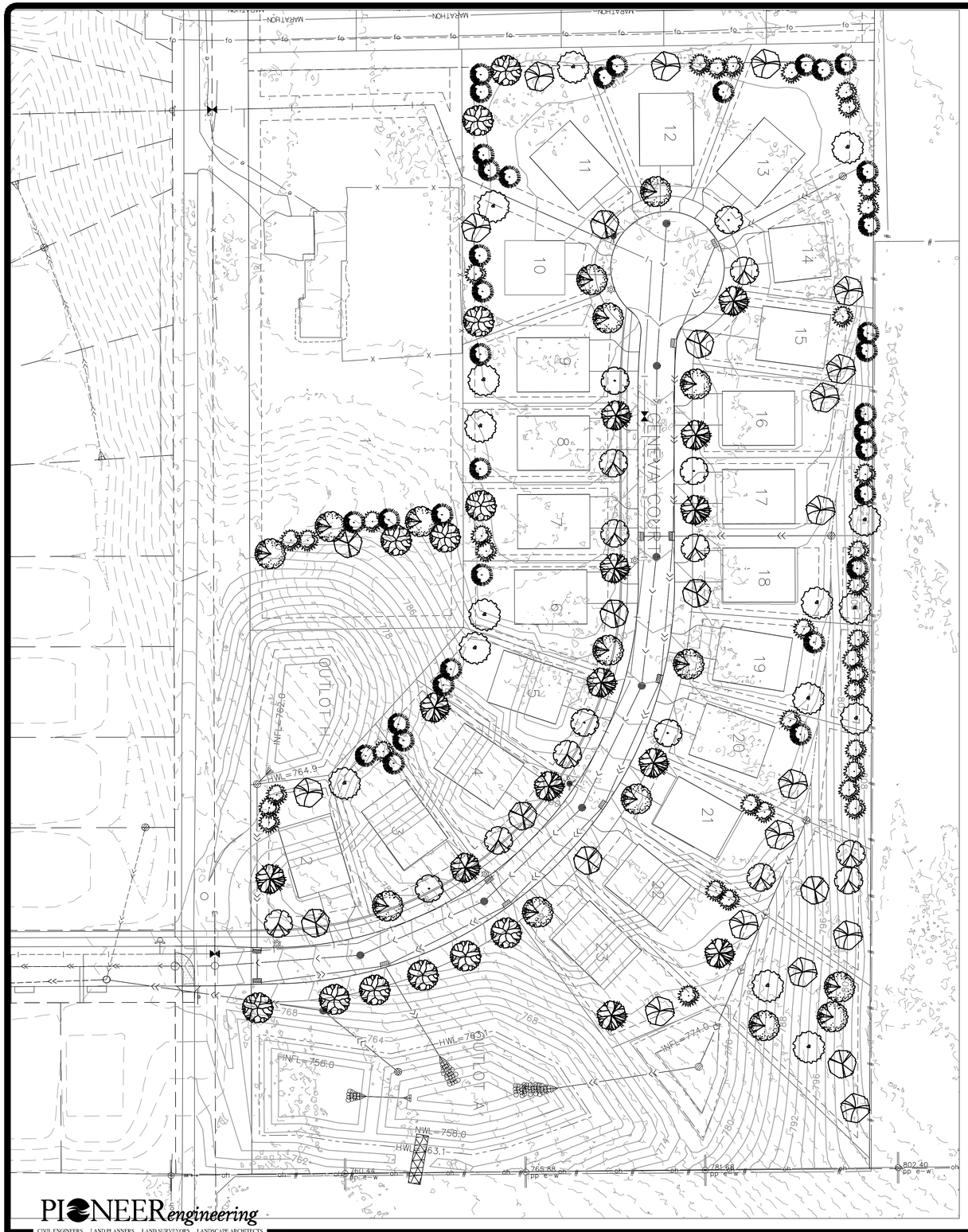
PROPOSED HYDROLOGY MAP

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GENEVA MEADOWS SECOND ADDITION
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PLANT SCHEDULE

KEY	COMMON NAME/Scentific name	ROOT	QUANTITY
	OVERSTORY TREES		
	NORTHWOOD MAPLE/Acer rubrum 'Northwood'	3" B&B	12
	COMMON HACKBERRY/Celtis occidentalis	3" B&B	6
	THORNLESS HONEYLOCUST/Gleditsia triacanthos var. inermis	3" B&B	10
	BOULEVARD LINDEN/Tilia americana 'Boulevard'	3" B&B	10
	NORTHERN PIN OAK/Quercus ellipsoidalis	3" B&B	13
	AUTUMN BLAZE MAPLE/Acer x freemanii 'Jeffersred'	3" B&B	15
	RIVER BIRCH/Betula nigra	10-12' B&B	15
	SWAMP WHITE OAK/Quercus bicolor	3" B&B	16
	EVERGREEN TREES		
	BLACK HILLS SPRUCE/Picea glauca densata	8' B&B	37
	WHITE PINE/Pinus strobus	8' B&B	36
	TOTAL		170

LANDSCAPE NOTES:

OVERSTORY DECIDUOUS TREES REQUIRED:
LOTS LESS THAN 60' WIDE: 2 TREES/LOT (1 IN FRONT YARD)
LOTS 60' WIDE OR GREATER: 3 TREES/LOT (1 IN FRONT YARD)
CONIFEROUS TREES MAY BE SUBSTITUTED FOR ANY OF THE OVERSTORY DECIDUOUS TREES EXCEPT FOR FRONT YARD TREES.

TOTAL LOTS (ALL OVER 60' WIDE): 23 (INCLUDING EXISTING HOME)

TOTAL REQUIRED TREES (3 TREES/LOT): 69

MITIGATION REQUIRED: 582.5" (SEE TREE PRESERVATION PLAN)

PROPOSED TREES: 170; 583"
3" OVERSTORY: 97; 291"
8' CONIFER (COUNTS AS 4"): 73; 292"

LANDSCAPE NOTES

– THE LANDSCAPE CONTRACTOR SHALL VISIT THE PROJECT SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID.

– THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF PROPOSED PHYSICAL START DATE AT LEAST 7 DAYS IN ADVANCE.

– THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FIELD VERIFICATION OF ALL EXISTING UTILITY LOCATIONS ON THE PROJECT SITE WITH GOPHER STATE ONE CALL 1–800–252–1166 PRIOR TO COMMENCING WORK. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF EXISTING UTILITIES DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS TO FACILITATE PLANT RELOCATION.

– GRADING TO BE PERFORMED BY OTHERS.

– NO PLANT MATERIAL SHALL BE INSTALLED UNTIL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.

– ALL PLANT MATERIAL SHALL MEET THE STANDARDS FOUND IN THE AMERICAN ASSOCIATION OF NURSERYMEN–AMERICAN STANDARD FOR NURSERY STOCK.

– ALL CONTAINER MATERIAL TO BE GROWN IN THE CONTAINER A MINIMUM OF SIX (6) MONTHS PRIOR TO PLANTING ON SITE.

– DECIDUOUS AND CONIFEROUS TREES SHALL NOT BE STAKED, BUT THE LANDSCAPE CONTRACTOR MUST GUARANTEE STANDABILITY TO A WIND SPEED OF 60 M.P.H.

– THE LANDSCAPE CONTRACTOR SHALL PROVIDE A MINIMUM GUARANTEE OF ONE YEAR ONE TIME REPLACEMENT ON NEW PLANT MATERIALS. GUARANTEE SHALL BE AGREED UPON BY DEVELOPER/BUILDER AND LANDSCAPE CONTRACTOR.

– THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANTS WHICH ARE DEEMED UNSATISFACTORY BEFORE, DURING OR AFTER INSTALLATION.

– IF THERE IS A DESCREPANCY BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLAN AND THE NUMBER SHOWN ON THE PLANT LIST, THE NUMBER SHOWN ON THE PLAN WILL TAKE PRECEDENCE.

–THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MULCHES AND PLANTING SOIL QUANTITIES TO COMPLETE WORK SHOWN ON THE PLAN. THE LANDSCAPE CONTRACTOR SHALL VERIFY ALL QUANTITIES SHOWN ON THE PLANT SCHEDULE.

– COMMERCIAL GRADE POLY LAWN EDGING SHALL BE INSTALLED WHERE NOTED.

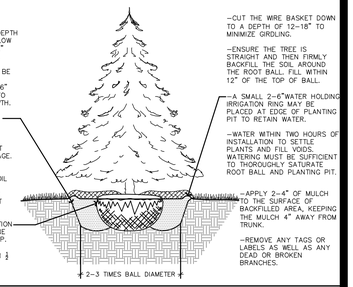
– THE LANDSCAPE CONTRACTOR SHALL REPAIR ALL DAMAGE TO THE SITE CAUSED BY THE PLANTING OPERATION AT NO COST TO THE OWNER.

– THE LANDSCAPE CONTRACTOR SHALL KEEP PAVEMENTS CLEAN UNSTAINED. ALL PEDESTRIAN AND VEHICLE ACCESS TO BE MAINTAINED THROUGHOUT CONSTRUCTION PERIOD. ALL WASTES SHALL BE PROMPTLY REMOVED FROM THE SITE. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

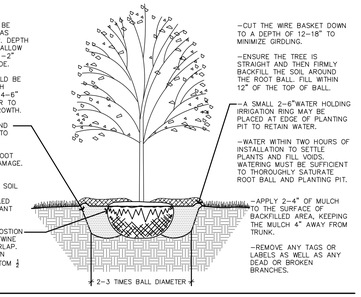
– THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE CODES, REGULATIONS AND PERMITS GOVERNING THE WORK.

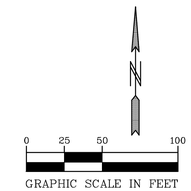
– STORAGE OF MATERIALS OR SUPPLIES ON–SITE WILL NOT BE ALLOWED.

CONIFEROUS TREE PLANTING DETAIL



DECIDUOUS TREE PLANTING DETAIL





00-PLAN-125171-SHEET-LAND

PIONEERengineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota
Name Jennifer L. Thompson
Reg. No. 44763 Date 4-7-2026

Revisions
1. 03-30-2026 CITY COMMENTS
2. 04-07-2026 MOVE BASINS

Date 02-20-2026
Designed JLT
Drawn JLT

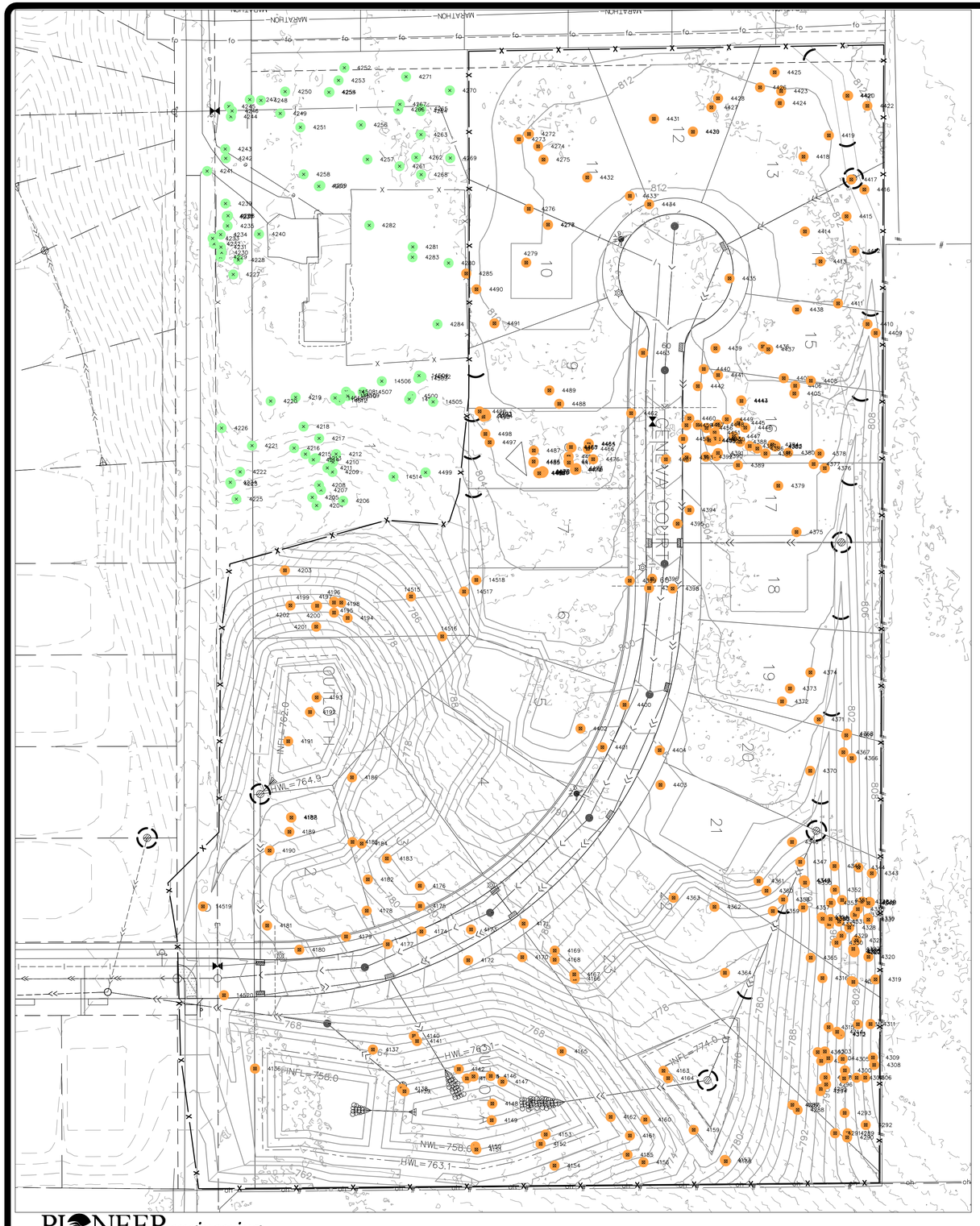
LANDSCAPE PLAN

LENNAR HOMES
16305 36TH AVE. NO., SUITE 600
PLYMOUTH, MINNESOTA 55446

GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

L1 OF 1

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TREE PRESERVATION NOTES

BEFORE LAND CLEARING BEGINS, CONTRACTOR SHOULD MEET WITH THE CONSULTANT ON SITE TO REVIEW ALL WORK PROCEDURES, ACCESS ROUTES, STORAGE AREAS, AND TREE PROTECTION MEASURES.

NO FILL SHOULD BE PLACED AGAINST THE TRUNK, ON THE ROOT CROWN, OR WITHIN THE DRIP LINE AREA OF ANY TREES THAT ARE TO BE SAVED.

NO GRADING, TRENCHING OR PLACEMENT OF EQUIPMENT IS ALLOWED IN THE TREE PROTECTION AREA.

WORK PERFORMED WITHIN THE TREE PROTECTION AREA SHOULD BE DONE BY HAND AND UNDER THE SUPERVISION OF THE CONSULTING ARBORIST.

PRUNING OF OAK TREES MUST NOT TAKE PLACE FROM APRIL 15 TO JULY 15 TO PREVENT THE SPREAD OF OAK WILT DISEASE.

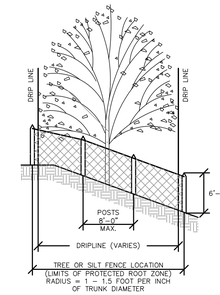
IF WOUNDING OF OAK TREES OCCUR ANYTIME BETWEEN APRIL TO AUGUST, A NON-TOXIC WOUND DRESSING MUST BE APPLIED IMMEDIATELY, (EXCAVATORS MUST HAVE A NON-TOXIC TREE WOUND DRESSING WITH THEM ON DEVELOPMENT SITES).

TREE PROTECTION DETAIL

NOT TO SCALE

TREES TO BE SAVED SHALL BE FENCED OFF WITH BRIGHT ORANGE POLYETHYLENE SAFETY NETTING OR HEAVY DUTY SILT FENCE AND STEEL STAKES AT THE DRIP LINE, OR AS DIRECTED BY THE OWNER'S CONSULTANT.

PROTECTION FENCE WILL HELP INSURE AGAINST DAMAGE BY VEHICLES, COMPACTION OF SOILS AND/OR THE CHEMICAL ALTERATION OF SOILS DUE TO CONCRETE WASHOUT, PAINTS AND LEAKAGE OR SPILLAGE OF ANY TOXIC MATERIALS.



INSTALL TREE OR SILT FENCE PRIOR TO OR AT SAME TIME AS LAND CLEARING.

PROTECTION FENCE SHOULD REMAIN IN PLACE UNTIL ALL CONSTRUCTION IS COMPLETE.

IF PROTECTION FENCE IS DAMAGED OR REMOVED, NEW FENCING MUST BE PLACED BACK IN ORIGINAL POSITION UNTIL CONSTRUCTION IS COMPLETE.

12516 TREE TO BE REMOVED
12514 TREE TO BE SAVED
12429 TREE LOCATED OFF-SITE

TREE INVENTORY PROVIDED BY MIDWEST NATURAL RESOURCES, INC.
KEN ARNDT, FORESTER

* Non Qualifying Trees are Elm, Ash, any DNR defined invasive species, or trees that are dead, mostly dead, or hazard
Non Qualifying Trees are excluded from all calculations

Total Significant Inches: 2,111
Total Significant Inches Removed: 1,693 (80%)
Total Significant Inches Saved: 418
Allowable Removal: 528" (25%)

Removal over threshold: 1,165"

Mitigation required: 50% of 1,117 = 582.5" to be mitigated

N

0 25 50 100
GRAPHIC SCALE IN FEET

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Designed JLT
Drawn JLT

TREE PRESERVATION PLAN

LENNAR HOMES
16305 36TH AVE. NO., SUITE 600
PLYMOUTH, MINNESOTA 55446

GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

T1 OF 2

00-PLAN-125171-SHEET-TREE

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Tag No.	DBH	Common Name	Scientific Name	Notes	*Non Qualifying	Status
4136	13	Siberian Elm	*Ulmus pumila*		X	Remove
4137	25	Siberian Elm	*Ulmus pumila*		X	Remove
4138	14	Siberian Elm	*Ulmus pumila*		X	Remove
4139	15	Siberian Elm	*Ulmus pumila*		X	Remove
4140	12	Siberian Elm	*Ulmus pumila*		X	Remove
4141	12	Siberian Elm	*Ulmus pumila*		X	Remove
4142	13	Siberian Elm	*Ulmus pumila*		X	Remove
4143	11	Black Cherry	*Prunus serotina*			Remove
4144	14	Black Cherry	*Prunus serotina*			Remove
4145	13	Black Cherry	*Prunus serotina*			Remove
4146	14	Siberian Elm	*Ulmus pumila*		X	Remove
4147	10,7	Black Cherry	*Prunus serotina*			Remove
4148	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4149	5	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4150	23	Siberian Elm	*Ulmus pumila*		X	Remove
4151	12	Siberian Elm	*Ulmus pumila*		X	Remove
4152	15	Siberian Elm	*Ulmus pumila*		X	Remove
4153	12	Siberian Elm	*Ulmus pumila*		X	Remove
4154	15	Siberian Elm	*Ulmus pumila*		X	Remove
4155	28,24,24,15	Silver Maple	*Acer saccharinum*			Remove
4156	12	Cottonwood	*Populus deltoides*	50% dead, multiple sucker sh	X	Remove
4157	17	Hackberry	*Celtis occidentalis*			Remove
4158	11	Hackberry	*Celtis occidentalis*			Remove
4159	14,12,12,12	Silver Maple	*Acer saccharinum*			Remove
4160	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4161	2	Red Cedar	*Juniperus virginiana*	15' in height		Remove
4162	18	Red Cedar	*Juniperus virginiana*	50' in height		Remove
4163	22	Silver Maple	*Acer saccharinum*	decayed at base of trunk		Remove
4164	12	Hackberry	*Celtis occidentalis*			Remove
4165	8	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4166	18, 14,12,10	Silver Maple	*Acer saccharinum*			Remove
4167	14	Silver Maple	*Acer saccharinum*			Remove
4168	24	Silver Maple	*Acer saccharinum*			Remove
4169	10,10	Hackberry	*Celtis occidentalis*			Remove
4170	12	Siberian Elm	*Ulmus pumila*		X	Remove
4171	14,14,12,12	Silver Maple	*Acer saccharinum*	rotten and hollow at base	X	Remove
4172	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4173	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4174	12	Silver Maple	*Acer saccharinum*			Remove
4175	14	Silver Maple	*Acer saccharinum*			Remove
4176	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4177	2	Red Cedar	*Juniperus virginiana*	15' in height		Remove
4178	9	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4179	12	Red Cedar	*Juniperus virginiana*	50' in height		Remove
4180	26	Silver Maple	*Acer saccharinum*			Remove
4181	26	Siberian Elm	*Ulmus pumila*		X	Remove
4182	9	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4183	14,14,12,12	Silver Maple	*Acer saccharinum*	base rot, 2 add. stems broken off and dead	X	Remove
4184	13	Siberian Elm	*Ulmus pumila*		X	Remove
4185	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4186	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4187	10	Red Cedar	*Juniperus virginiana*	50' in height		Remove
4188	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4189	13	Siberian Elm	*Ulmus pumila*		X	Remove
4190	15	Silver Maple	*Acer saccharinum*			Remove
4191	12	Siberian Elm	*Ulmus pumila*		X	Remove
4192	14	Siberian Elm	*Ulmus pumila*		X	Remove
4193	12	Siberian Elm	*Ulmus pumila*		X	Remove
4194	9	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4195	9	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4196	2	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4197	7	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4198	11	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4199	7	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4200	4	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4201	10	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4202	10	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4203	8	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4204	16	Hackberry	*Celtis occidentalis*			Save
4205	6	Hackberry	*Celtis occidentalis*			Save
4206	13	Hackberry	*Celtis occidentalis*			Save
4207	6	Hackberry	*Celtis occidentalis*			Save
4208	7	Hackberry	*Celtis occidentalis*			Save
4209	6	Hackberry	*Celtis occidentalis*			Save
4210	12	Hackberry	*Celtis occidentalis*			Save
4211	7,7	Hackberry	*Celtis occidentalis*			Save
4212	6	Hackberry	*Celtis occidentalis*			Save
4213	11	Hackberry	*Celtis occidentalis*			Save
4214	12	Box Elder	*Acer negundo*			Save
4215	24	Siberian Elm	*Ulmus pumila*		X	Save
4216	13	Siberian Elm	*Ulmus pumila*		X	Save
4217	14	Box Elder	*Acer negundo*			Save
4218	14	Hackberry	*Celtis occidentalis*			Save
4219	6	Norhtern Pin Oak	*Quercus ellipsoidalis*			Save
4220	18	Siberian Elm	*Ulmus pumila*		X	Save
4221	15	Siberian Elm	*Ulmus pumila*		X	Save
4222	12	Siberian Elm	*Ulmus pumila*		X	Save
4223	12	Siberian Elm	*Ulmus pumila*		X	Save
4224	17	Siberian Elm	*Ulmus pumila*		X	Save
4225	4	Red Cedar	*Juniperus virginiana*	40' in height		Save
4226	14	Red Cedar	*Juniperus virginiana*	40' in height		Save
4227	14	Siberian Elm	*Ulmus pumila*		X	Save
4228	11	Red Cedar	*Juniperus virginiana*	30' in height		Save
4229	6	Hackberry	*Celtis occidentalis*			Save
4230	7	Hackberry	*Celtis occidentalis*			Save
4231	6	Hackberry	*Celtis occidentalis*			Save
4232	2	Red Cedar	*Juniperus virginiana*	20' in height		Save
4233	6	Hackberry	*Celtis occidentalis*			Save
4234	8	Crabapple	*Malus* sp.			Save

Tag No.	DBH	Common Name	Scientific Name	Notes	*Non Qualifying	Status
4235	12	Red Cedar	*Juniperus virginiana*	40' in height		Save
4236	2	Red Cedar	*Juniperus virginiana*	20' in height		Save
4237	6	Red Cedar	*Juniperus virginiana*	30' in height		Save
4238	3	Red Cedar	*Juniperus virginiana*	30' in height		Save
4239	6	Red Cedar	*Juniperus virginiana*	30' in height		Save
4240	14	Red Cedar	*Juniperus virginiana*	40' in height		Save
4241	14	Siberian Elm	*Ulmus pumila*	30% dead	X	Save
4242	12	American Elm	*Ulmus americana*		X	Save
4243	7	Hackberry	*Celtis occidentalis*			Save
4244	8	Hackberry	*Celtis occidentalis*			Save
4245	14	Siberian Elm	*Ulmus pumila*	camera mounted in tree	X	Save
4246	12	Siberian Elm	*Ulmus pumila*		X	Save
4247	12	American Elm	*Ulmus americana*		X	Save
4248	2	Red Cedar	*Juniperus virginiana*	20' in height		Save
4249	15	American Elm	*Ulmus americana*		X	Save
4250	3	Red Cedar	*Juniperus virginiana*	20' in height		Save
4251	7	Red Cedar	*Juniperus virginiana*	30' in height		Save
4252	5	Red Cedar	*Juniperus virginiana*	30' in height		Save
4253	1	Red Cedar	*Juniperus virginiana*	12' in height		Save
4254	4	Red Cedar	*Juniperus virginiana*	20' in height		Save
4255	6	Black Cherry	*Prunus serotina*			Save
4256	14	Siberian Elm	*Ulmus pumila*		X	Save
4257	12	American Elm	*Ulmus americana*		X	Save
4258	16	American Elm	*Ulmus americana*		X	Save
4259	12	Siberian Elm	*Ulmus pumila*		X	Save
4260	12	Siberian Elm	*Ulmus pumila*		X	Save
4261	14	Siberian Elm	*Ulmus pumila*		X	Save
4262	14	Siberian Elm	*Ulmus pumila*		X	Save
4263	6	Black Cherry	*Prunus serotina*			Save
4264	6	Black Cherry	*Prunus serotina*			Save
4265	3	Red Cedar	*Juniperus virginiana*	20' in height		Save
4266	14,12	Siberian Elm	*Ulmus pumila*		X	Save
4267	2	Red Cedar	*Juniperus virginiana*	20' in height		Save
4268	13	Siberian Elm	*Ulmus pumila*		X	Save
4269	12	Siberian Elm	*Ulmus pumila*		X	Save
4270	2	Red Cedar	*Juniperus virginiana*	20' in height		Save
4271	4	Red Cedar	*Juniperus virginiana*	20' in height		Save
4272	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4273	13	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4274	14	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4275	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4276	16	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4277	9	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4278	6	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4279	3	Red Cedar	*Juniperus virginiana*	15' in height		Remove
4280	12	Siberian Elm	*Ulmus pumila*		X	Save
4281	15	Siberian Elm	*Ulmus pumila*		X	Save
4282	14	Cottonwood	*Populus deltoides*			Save
4283	15	Siberian Elm	*Ulmus pumila*		X	Save
4284	12	Siberian Elm	*Ulmus pumila*		X	Save
4285	12	Siberian Elm	*Ulmus pumila*		X	Remove
4286	14	Siberian Elm	*Ulmus pumila*		X	Remove
4287	2	Red Cedar	*Juniperus virginiana*	15' in height		Remove
4288	2	Red Cedar	*Juniperus virginiana*	15' in height		Remove
4289	5	Red Cedar	*Juniperus virginiana*	15' in height		Remove
4290	2	Red Cedar	*Juniperus virginiana*	15' in height		Remove
4291	15	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4292	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4293	15	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4294	2	Red Cedar	*Juniperus virginiana*	15' in height		Remove
4295	5	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4296	5	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4297	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4298	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4299	12,11	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4300	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4301	4	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4302	17	Siberian Elm	*Ulmus pumila*		X	Remove
4303	14	Siberian Elm	*Ulmus pumila*		X	Remove
4304	18	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4305	12	Siberian Elm	*Ulmus pumila*		X	Remove
4306	12	Red Cedar	*Juniperus virginiana*	20' in height, top broken off		Remove
4307	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4308	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4309	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4310	14	Siberian Elm	*Ulmus pumila*		X	Remove
4311	5,3,3	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4312	5	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4313	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4314	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4315	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4316	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4317	2,2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4318	11	Red Cedar	*Juniperus virginiana*	40' in height		Remove
4319	3	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4320	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4321	1	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4322	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4323	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4324	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4325	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4326	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4327	10,8,6	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4328	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4329	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4330	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4331	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4332	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4333	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4334	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove

Tag No.	DBH	Common Name	Scientific Name	Notes	*Non Qualifying	Status
4335	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4336	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4337	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4338	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4339	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4340	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4341	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4342	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4343	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4344	12	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4345	8	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4346	8	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4347	6	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4348	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4349	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4350	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4351	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4352	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4353	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4354	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4355	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4356	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4357	3,2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4358	8	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4359	8	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4360	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4361	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4362	12,2	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4363	14	Siberian Elm	*Ulmus pumila*	30% dead	X	Remove
4364	12	Cottonwood	*Populus deltoides*			Remove
4365	14,12	Siberian Elm	*Ulmus pumila*		X	Remove
4366	12	Silver Maple	*Acer saccharinum*			Remove
4367	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4368	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4369	3	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4370	3	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4371	14,12,7	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4372	3	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4373	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4374	12,12	American Elm	*Ulmus americana*		X	Remove
4375	12	Siberian Elm	*Ulmus pumila*		X	Remove
4376	8	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4377	8	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4378	12	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4379	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4380	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4381	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4382	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4383	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4384	20	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4385	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4386	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4387	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4388	20	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4389	18	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4390	2,1,1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4391	2,1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4392	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4393	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4394	8	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4395	3	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4396	7	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4397	5	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4398	5	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4399	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4400	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4401	22	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4402	6,4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4403	12,11	American Elm	*Ulmus americana*		X	Remove
4404	3	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4405	13	American Elm	*Ulmus americana*		X	Remove
4406	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4407	12	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4408	3	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4409	18	Siberian Elm	*Ulmus pumila*		X	Remove
4410	12	Siberian Elm	*Ulmus pumila*		X	Remove
4411	12	Siberian Elm	*Ulmus pumila*		X	Remove
4412	11	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4413	14	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4414	8	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4415	14	Siberian Elm	*Ulmus pumila*	decay at base	X	Remove
4416	14	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4417	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4418	9	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4419	12	Siberian Elm	*Ulmus pumila*		X	Remove
4420	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4421	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4422	12	Siberian Elm	*Ulmus pumila*		X	Remove
4423	17	American Elm	*Ulmus americana*		X	Remove
4424	14	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4425	12	American Elm	*Ulmus americana*		X	Remove
4426	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4427	12	Siberian Elm	*Ulmus pumila*		X	Remove
4428	7	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4429	14,11	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4430	6	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4431	12	Siberian Elm	*Ulmus pumila*		X	Remove
4432	7	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4433	14	Siberian Elm	*Ulmus pumila*		X	Remove
4434	12	Red Cedar	*Juniperus virginiana*	30' in height		Remove

Tag No.	DBH	Common Name	Scientific Name	Notes	*Non Qualifying	Status
4435	12	Siberian Elm	*Ulmus pumila*		X	Remove
4436	12	American Elm	*Ulmus americana*		X	Remove
4437	8	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4438	12	Siberian Elm	*Ulmus pumila*		X	Remove
4439	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4440	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4441	12	Siberian Elm	*Ulmus pumila*		X	Remove
4442	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4443	3	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4444	3	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4445	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4446	10,10	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4447	10,8	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4448	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4449	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4450	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4451	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4452	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4453	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4454	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4455	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4456	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4457	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4458	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4459	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4460	10	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4461	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4462	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4463	12	Siberian Elm	*Ulmus pumila*		X	Remove
4464	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4465	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4466	5	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4467	5	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4468	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4469	5	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4470	12	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4471	8	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4472	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4473	12	Siberian Elm	*Ulmus pumila*	rotten at base, 50% dead	X	Remove
4474	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4475	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4476	12	Siberian Elm	*Ulmus pumila*		X	Remove
4477	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4478	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4479	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4480	15	Siberian Elm	*Ulmus pumila*		X	Remove
4481	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4482	3	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4483	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4484	1	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4485	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4486	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4487	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4488	14	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4489	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4490	18	Siberian Elm	*Ulmus pumila*		X	Remove
4491	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4492	3	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4493	2	Red Cedar	*Juniperus virginiana*	12' in height		Remove
4494	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4495	13	Red Cedar	*Juniperus virginiana*	30' in height		Remove
4496	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4497	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4498	2	Red Cedar	*Juniperus virginiana*	20' in height		Remove
4499	5	Red Cedar	*Juniperus virginiana*	30' in height		Save
4500	16	Red Cedar	*Juniperus virginiana*	30' in height		Save
14501	15	Norhtern Pin Oak	*Quercus ellipsoidalis*			Save
14502	13	Red Cedar	*Juniperus virginiana*	30' in height		Save
14503	14	Siberian Elm	*Ulmus pumila*		X	Save
14504	2	Red Cedar	*Juniperus virginiana*	20' in height		Save
14505	6	Red Cedar	*Juniperus virginiana*	20' in height		Save
14506	14	Siberian Elm	*Ulmus pumila*		X	Save
14507	7	Hackberry	*Celtis occidentalis*			Save
14508	10	Hackberry	*Celtis occidentalis*			Save
14509	13	Siberian Elm	*Ulmus pumila*		X	Save
14510	29	Siberian Elm	*Ulmus pumila*		X	Save
14511	6	Hackberry	*Celtis occidentalis*			Save
14512	11	Hackberry	*Celtis occidentalis*			Save
14513	11	Hackberry	*Celtis occidentalis*			Save
14514	12	Siberian Elm	*Ulmus pumila*		X	Save
14515	6	Red Cedar	*Juniperus virginiana*	30' in height		Remove
14516	8	Red Cedar	*Juniperus virginiana*	30' in height		Remove
14517	12	Red Cedar	*Juniperus virginiana*	30' in height		Remove
14518	4	Red Cedar	*Juniperus virginiana*	20' in height		Remove
14519	22,20	Box Elder	*Acer negundo*	rotting at base		Remove
14520	13	Siberian Elm	*Ulmus pumila*		X	Remove

* Non Qualifying Trees are Elm, Ash, any DNR defined invasive species, or trees that are dead, mostly dead, or hazard
Non Qualifying Trees are excluded from all calculations

Total Significant Inches: 2,111
Total Significant Inches Removed: 1,693 (80%)
Total Significant Inches Saved: 418
Allowable Removal: 528" (25%)

Removal over threshold: 1,165"

Mitigation required: 50% of 1,117 = 582.5" to be mitigated

PIONEER*engineering*
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
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I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota
Name Jennifer L. Thompson
Reg. No. 44763 Date 4-7-2026

Revisions
1. 03-30-2026 CITY COMMENTS
2. 04-07-2026 MOVE BASINS

Date 02-20-2026
Designed JLT
Drawn JLT

TREE PRESERVATION PLAN

LENNAR HOMES
16305 36TH AVE. NO., SUITE 600
PLYMOUTH, MINNESOTA 55446

GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

00-PLAN-125171-SHEET-TREE

T2 OF 2

© 2026

Geneva Meadows 2nd Addition

Cottage Grove, Minnesota

Preliminary Storm Water Management Plan



February 27, 2026
Revised April 14, 2026

Property Owner:

Lennar Homes
16305 36th Avenue North
Plymouth, Minnesota 55446

Consultant to Project Owner:

PIONEER *engineering* P.A.

Pioneer Engineering, P.A.
2422 Enterprise Drive
Mendota Heights Minnesota 55120

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Appendix A: Hydrology Maps
Appendix B: HydroCAD Calculations
Appendix C: P8 Calculation
Appendix D: Soil Reports

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

Brian M. Molinaro
Minn. Reg. No. 47504

_____

Date: _____02-27-2026_____

I. Introduction

The following is a hydrology summary for the construction of a 22-home development to be called Geneva Meadows 2nd Addition, located at the east end of Summit Avenue in Cottage Grove, Minnesota. This is a continuation of Geneva Meadows in Saint Paul Park that started construction in 2025.

II. Existing Site Conditions

A. Current Land Use

The site is currently 13.15 acres of fallow farm land with stands of trees stating to grow along the slopes. An existing homesite that will be preserved is located on the west side of the site along a gravel road that serves an additional home to the south.

B. Topography - Existing Hydrology

The existing topography varies across the site from a flat area on the north and south through gentle rolling slopes down to the draining north to south in between. The homesite is on the north end with a gravel road along the western property line. Drainage is overall north east to south west across the site with the majority of the site draining along the est side of the gravel road to the south.

Review of the City of Cottage Grove Storm water management plan defines the site in the SW-A2, The Surface Waters & Wetland Areas that receive stormwater within one mile are shown in the Drainage Maps in APPENDIX A.

C. Special or Impaired Waters

A special and impaired waters search was completed using the MPCA search engine (http://pca-gis02.pca.state.mn.us/CSW/index.html) on February 21, 2026. The project no discharge point within one mile of, and flows to, a special water listed in Appendix A, Part B of the NPDES Construction Site General Permit, but does have a discharge point within one mile of, and flows to, the Mississippi River which is a water listed as impaired under Section 303(D) of the Federal Clean Water Act.

Waterbody ID	07010206-814
Name of Waterbody	Mississippi River
Type	Steam
Special Water	No
Impaired Water	Yes
Pollutants	Fecal Coliform; Mercury in fish tissue; Mercury in water column; Nutrients; PCB in fish tissue; Perfluorooctane Sulfonate (PFOS) in fish tissue; Perfluorooctane Sulfonate (PFOS) in water column; Total suspended solids
Approved TMDL	Yes

D. Groundwater

No groundwater was encounter in the soil borings.

E. Soils

Braun Intertec completed soil borings and prepared a Geotechnical Evaluation Report, dated February 18, 2026. The general geologic profile consists of ½ to 1½ feet of topsoil underlain by Glacial Outwash. The outwash consisted of poorly graded sands and gravel. Based on the soil borings from the geotechnical investigations, the site consists primarily of sand and silty sand consistent with Hydraulic Soil Group A. The complete report can be found in Appendix C.

A review of the USDA Natural Resources Conservation Services Soils Survey Map (See Appendix C) indicated the following soils on site:

Soil Symbol	Soil Name	% of Site	Hydrologic Soil Group	Kf	T factor	Representative value			Erosion Potential
						% Sand	% Silt	% Clay	
7B	Hubbard loamy sand, 1 to 6 percent slopes	3.8	A	0.02	5	83.8	9.2	7	Slight
7D	Hubbard loamy sand, 12 to 18 percent slopes	27.9	A	0.02	5	83.8	9.2	7	Slight
100B	Copaston loam, 0 to 6 percent slopes	3.8	D	0.28	1	43	38.5	18.5	Slight
327	Dickman sandy loam, 0 to 2 percent slopes	64.5	A	0.2	2	68.3	19.7	12	Slight

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

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

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

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

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

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These

consist chiefly of clays that have a high shrink-swell potential, soils that have a high-water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

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

F. Karst

This site, as much of southeastern Minnesota does, lies in an area where there is a potential for Karst in the bedrock.

We have performed a detailed review of the South Washington watershed District karst inventory, which documents several karst related features within 1 mile up stream of this project site, including at least 2 within a 1/4-mile of the site. There is a potential for karst related features at this project site.

III. Proposed Site Conditions & Design Considerations

A. Proposed Development

The proposed development consists of a 22-home subdivision of single-family lots. The total impact area of the proposed development is approximately 13 acres. Local streets will be constructed with underground sewer and water utilities to provide access and services to each lot. Stormwater will be collected by storm sewer and routed to constructed stormwater basins before discharging offsite.

The table below provides information on the estimated acreage of on-site land cover before and after project development.

Cover Types	Existing - Acres Sub-catchments A	Proposed- Acres Sub-catchments 100,150,200	CN Value
Cropland	0.00	0.00	67
Gravel Surface	0.01	0.01	96
Lawn/landscaping	0.26	6.62	58
Meadow	7.74	1.23	30
Woods	5.02	2.41	30
Impervious surfaces	0.10	2.64	98
Pond	0.00	0.22	100
TOTAL *	**13.13**	**13.13**	

*Onsite areas only – does not include offsite areas

B. Proposed Topography

The proposed drainage patterns will be reflective of the existing drainage patterns when possible. With Drainage from North east to the basin on the south west. Two off line infiltration areas are included to provide flow reduction and provide volume mitigation. The drainage maps are shown in Appendix A.

C. Design Requirements

The City of Cottage Grove Stormwater Management Plan requires all new developments to meet flow rate, water quality, and volume requirements. The City or Cottage Grove also refers to requirements of the South Washington Watershed District rules for stormwater management features. These requirements are summarized as follows:

1. Rate Control

Sites are required to meet existing conditions for rate control.

In addition to meeting existing flow rates leaving the property, the city has established maximum discharge rates for the drainage area discharging offsite summarized as follows:

SW-A2 MAX RATE 0.36 cfs/acre

Based on the contributions from the site and through the site – the total discharge allowable would be 5.72 cfs. (13.13 acres onsite and 2.77 acres offsite through basin)

To meet the SWWD requirements, NOAA Atlas 14 rainfall data should be used when modeling the system.

2. Water Quality

The City requires that new development projects include BMPs that at a minimum achieve post-development reductions in TP and TSS by 50% and 80%, respectively. This can be accomplished with any combination of BMP's as designed in the Minnesota Strom Water Manual.

Watershed rules call for a TP loading rate of 0.22 lbs./acre/year or existing loading rates, whichever is less, since the project site drains to the Mississippi River.

To meet the NPDES Construction Stormwater Permit the permanent sedimentation basins must:

- The basin must have a permanent volume of 1800 cubic feet of storage below the outlet pipe for each acre that drains to the basin.
- The basin must be designed to provide live storage for a water quality volume (calculated as an instantaneous volume) of one (1) inch of runoff from the new impervious surfaces created by the project.
- Basin outlets shall be designed such that the water quality volume is discharged at no more than 5.66 cubic feet per second (cfs) per acre of surface area of the pond. The basin's water quality volume is calculated as 1 inch of runoff from the new impervious surfaces created by the project.

3. Volume Control

The required volume reduction is the first 1" of runoff over the development site's impervious surface. The City also requires the location of infiltration basins be located outside the 10-year composite groundwater capture zone.

To meet the NPDES Construction Stormwater Permit the infiltration systems must:

- Be design so that the water quality volume of one (1) inch of runoff from the new impervious surfaces created by the project is retained on site (i.e. infiltration or other volume reduction practices) and not discharged to a Surface Water.
- Discharge the water quality volume routed to the system through the soil surface or filter media within 48 hours or less.
- Verify soil type and to ensure a minimum of three (3) feet of separation from the seasonally saturated soils (or from bedrock) and the bottom of the proposed infiltration/filtration system.

4. Storm Sewer Design

The storm sewer must be designed to handle a 5-year 24-hour ATLAS 14 Storm Event. (City of Cottage Grove Stormwater Management Plan)

5. Pad Elevations

Home low openings should be 3-feet (minimum) above the 100-year HWL
Elevation and 2-feet above the emergency over-flow, when adjacent to a stormwater basin. Home low openings adjacent to temporary ponding areas must be minimum of 1-foot above local EOF's. (City of Cottage Grove SWMP)

D. Proposed Hydrology

The proposed hydrology is designed to maintain drainage patterns similar to existing conditions where possible. To meet the Rate, Volume and water quality requirements one pretreatment basins with infiltration component and two 2 rear yard infiltration areas were designed for the site. The drainage is split into 3 major sub-catchments; East, Central and West. The following is a summary of the proposed components:

East (150)
The eastern drainage consists of drainage rear lots along the east side of the property. These rear yards flow to a infiltration basin in the rear of the property before overflowing to Basin 100. There is an existing swale just off site to the east that intercepts drainage before it reaches the site.

Central (100)
The central drainage consists of Summit Avenue extension as well as the new lots along the road. This is captured with storm sewer and discharges to Basin 100P. This is a wet sedimentation basin with a infiltration component offline (up the 10 year storm) on the west side. The outlet to the basin is through the new Geneva Meadows strom sewer in Saint Paul Park

West
The Western drainage consists of drainage rear lots along the west side of the property. These rear yards flow to a infiltration basin in the rear of the property before overflowing to Basin 100.

IV. Results

1. Rate Control

The proposed flow rate from the proposed development shall not exceed the flow rate of the existing drainage areas for the two, ten and 100-year storm events.

The following table is a summary of the results of the flow rate derived by the HydroCAD models.

Drainage Designation	2-Year Flow Rate (cfs)		10-Year Flow Rate (cfs)		100-Year Flow Rate (cfs)	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
South	0.15	0.00	1.28	1.28	7.44	6.04

The maximum 100-year discharge required by the city is achieved through capturing the majority of the 100-year runoff volume within the live storage volume of the basins, and discharging through an orifice in the control structure weir wall. Reduction is reached for all events.

Based on the contributions from the site and through the site – the total discharge allowable would be 5.72 cfs (13.13 acres onsite and 4.02 acres offsite through basin). The maximum discharge for a 100 year event is 5.06 cfs.

2. Water Quality

The Minnesota Stormwqater Manual allows for the use of wet basins as pretreatment devises to infiltration. These basins need to be 25% of the volume from a 2.5" storm event in the drainage area. Below is a summary of the pretreatment sizes"

Treatment Basin Volume (Wet Storage)		
Basin Model Name (HydroCAD)	2.5" Event Runoff (ac*ft)	Volume Proposed (ac*ft)
100P	0.295	0.367

In addition to meeting the aforementioned guidelines, a P8 model was developed to provide calculations verifying the 50% Phosphorus and 80% TSS removal from water discharged off-site. The P8 model results show 93.86% Phosphorus and 98.64% TSS removal for the required water quality volume. An existing condition P8 model was developed to verify that TSS and TP discharge is reduced in proposed conditions. The following table summarizes the reduced discharge in proposed conditions.

	TSS (lbs/yr)	TP (lbs/yr)
Existing	158.08	0.77
Proposed	21.19	0.29
Reduction by BMP's	98.59%	94.35%

There is an addition TMDL for the site of meeting the Maximum Allowable Total Phosphorus Loading Rate 0.22 (lbs/ac/yr). The site produces 0.022 lbs/ac/year of Total Phosphorous

Results can be found in Appendix B.

3. Volume Control

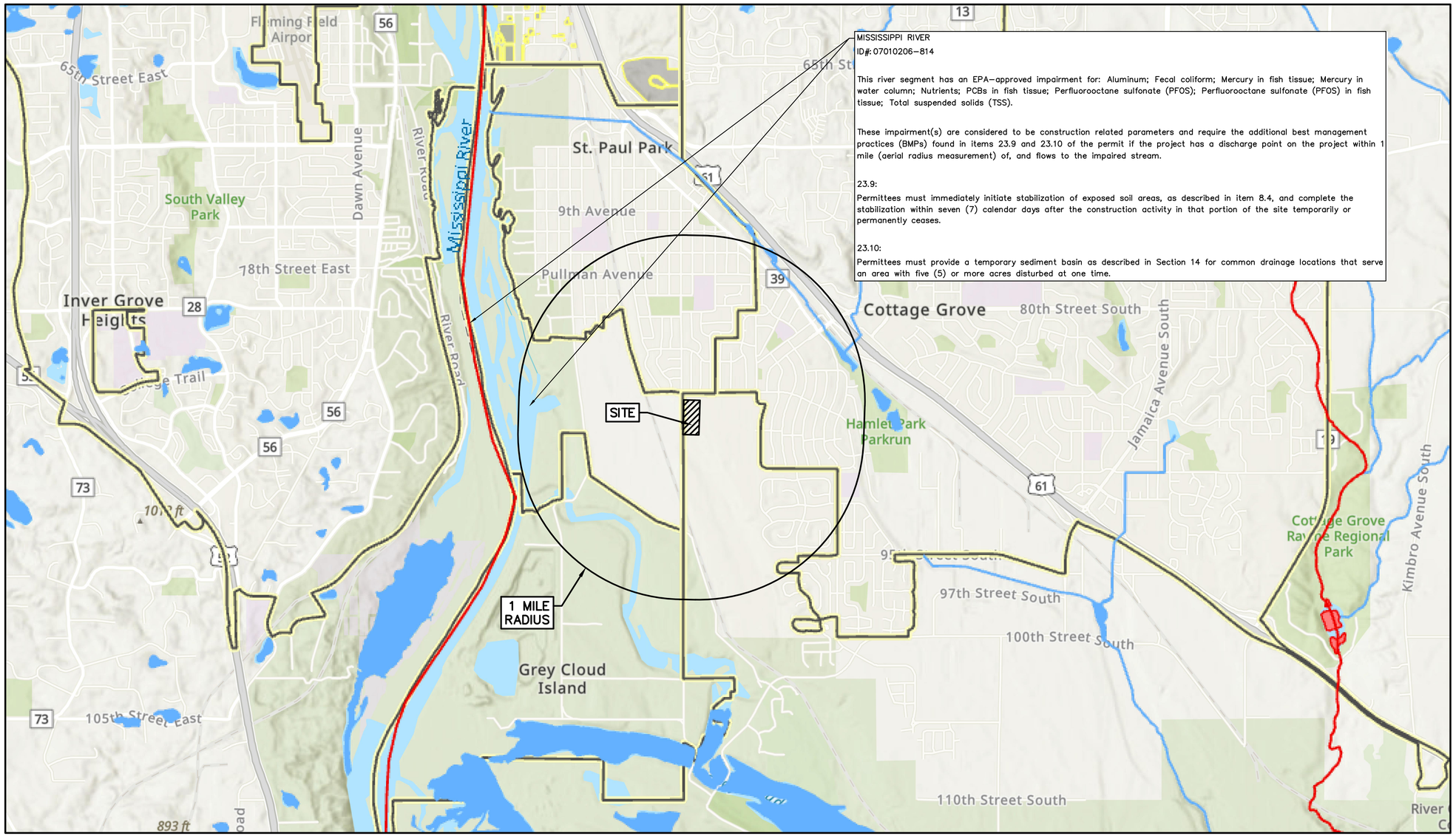
To meet the NPDES Permit the project must be design so that the water quality volume of 1inch of runoff from the new impervious surfaces created by the project is retained on site (i.e. infiltration or other BMP)

Volume Reduction Captured				
Basin Model Name	New Imp. Surface Area (acre)	Live Storage Required 1.0" (ac-ft)	Bottom / Outlet Elev.	Water Quality Volume Proposed (ac*ft)
100I	1.90	0.16	758.0/759.12	0.31
150I	0.28	0.02	774.0 / 775.0	0.06
200I	0.46	0.04	762.0 / 760.5	0.10

Infiltration Basin Capacity					
Basin Name	Captured Volume Below Outlet (ac*ft)	Surface area (sf) @ 1" Volume	Infiltration Rate (in/hr)	Draw Down Time (hr)	48 Hour Drawdown Volume (ac*ft)
100I	0.31	3,829	1.0	48	0.34
150I	0.06	3,195	1.0	48	0.29
200I	0.10	4336	1.0	48	0.40

Appendix A: Hydrology Maps

MPCA's Construction Stormwater Special Waters Search



2/2/2026, 8:17:38 AM

- Waterbody Units - Lakes (1)
- Waterbody Units - Streams (1)
- Impaired Lakes with additional construction requirements
- Impaired Streams with additional construction requirements
- MS4 - Platted Areas
- MS4 - MNDOT
- MS4 - County
- MS4 - Watershed District
- MS4 - City or Township
- MS4 - Non-traditional

1:72,224

0 0.42 0.85 1.7 mi

0 0.5 1 2 km

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Minnesota Pollution Control Agency

Esri, NASA, NGA, USGS, FEMA | County of Dakota, Metropolitan Council, MetroGIS, MN Dept Natural Resources, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS | MPCA; US Census Bureau; MNDoT; | MDH |

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Fax: 681-9488
www.pioneereng.com

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

Name Brian N. Molinaro
Reg. No. 47504 Date 02-20-2026

Revisions
1. 03-30-2026 CITY COMMENTS
2. 04-07-2026 MOVE BASINS

Date 02-20-2026
Designed NAP
Drawn MBG

MPCA MAP

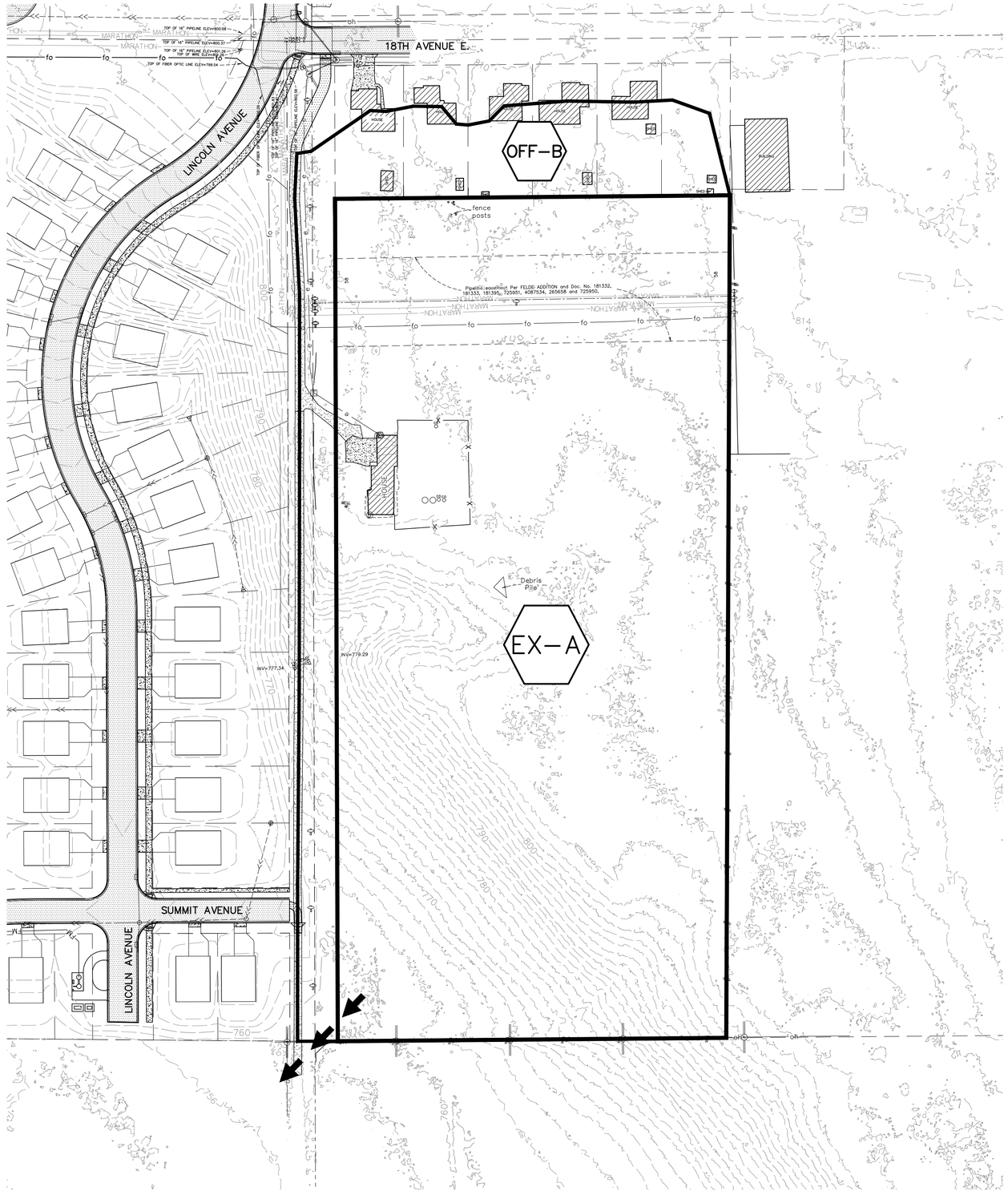
LENNAR HOMES
16305 36TH AVE. NO., SUITE 600
PLYMOUTH, MINNESOTA 55446

GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

S3 OF S5

OA-ENG-125171-SHEET-MPCA

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PRIOR TO ANY WORK IN MARATHON EASEMENT

LEGEND

1 SUBCATCHMENT

FLOW ARROWS

N

0 40 80 160
GRAPHIC SCALE IN FEET

BENCH MARK
TOP NUT HYDRANT LOCATED IN NORTHEAST QUADRANT OF LINCOLN AVENUE & 18TH AVENUE E. INTERSECTION
EL.=807.57

OA-ENG-125171-SHEET-HYDR-EXIS

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Reg. No. 47504 Date 02-20-2026

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Date	02-20-2026
Designed	NAP
Drawn	MBG

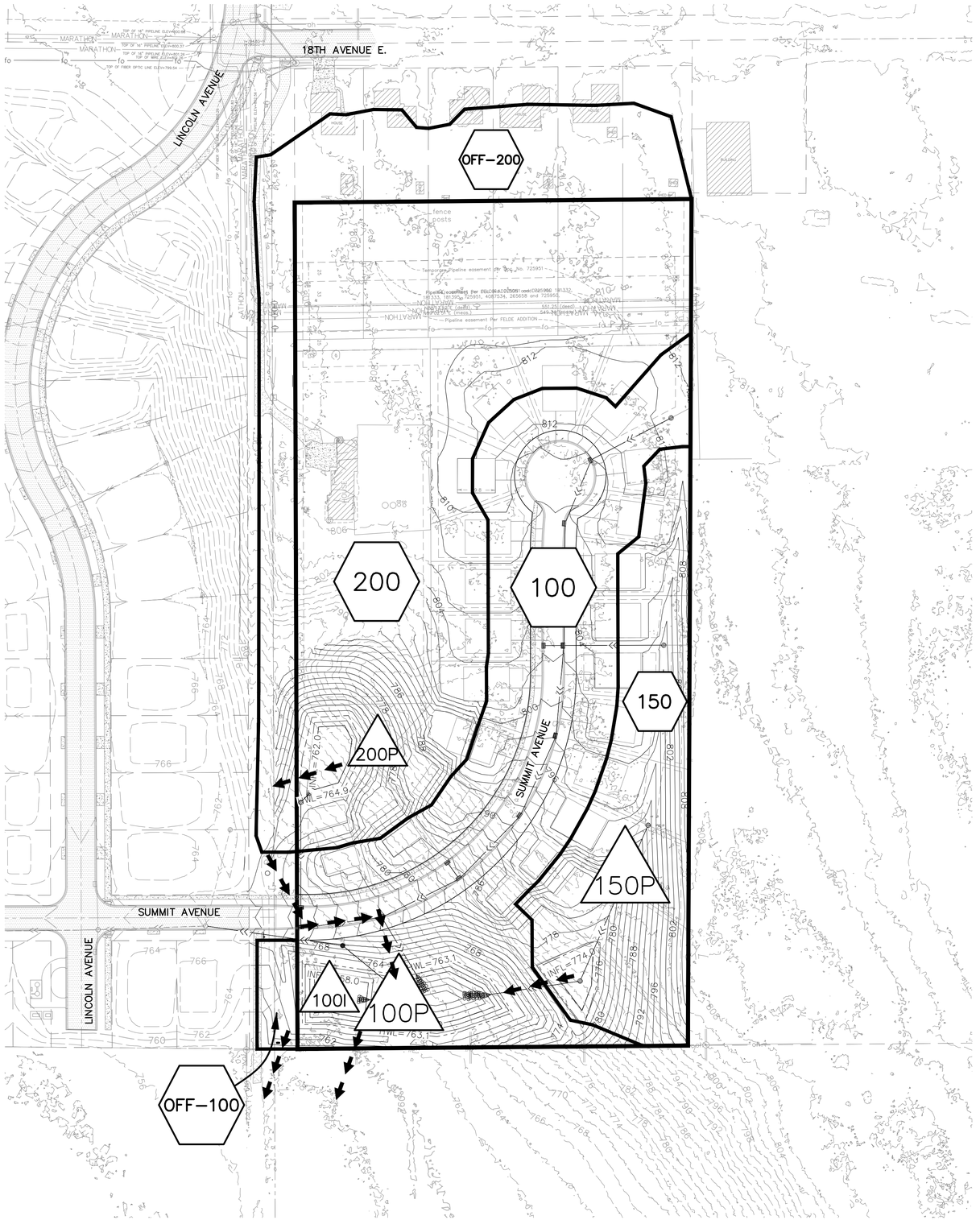
EXISTING HYDROLOGY MAP

LENNAR HOMES
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PLYMOUTH, MINNESOTA 55446

GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

S4 OF S5

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LEGEND

1 — SUBCATCHMENT

200P — POND

FLOW ARROWS

N

0 40 80 160
GRAPHIC SCALE IN FEET

BENCH MARK
TOP NUT HYDRANT LOCATED IN NORTHEAST QUADRANT OF LINCOLN AVENUE & 18TH AVENUE E. INTERSECTION
EL.=807.57

OA-ENG-125171-SHEET-HYDR-PROP

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I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota
Name Brian N. Molinaro
Reg. No. 47504 Date 02-20-2026

Revisions
1. 03-30-2026 CITY COMMENTS
2. 04-07-2026 MOVE BASINS

Date	02-20-2026
Designed	NAP
Drawn	MBG

PROPOSED HYDROLOGY MAP

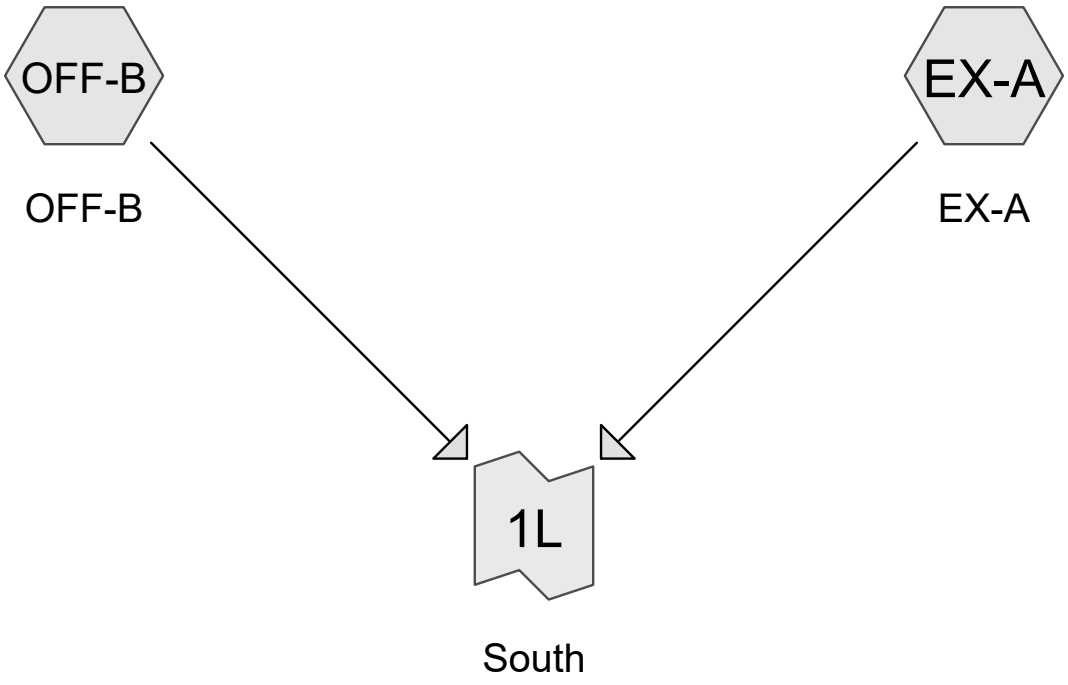
LENNAR HOMES
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GENEVA MEADOWS SECOND ADDITION
COTTAGE GROVE, MINNESOTA

S5 OF S5

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Appendix B: HydroCAD Calculations



Subcat Reach Pond Link

Routing Diagram for 00-125171-Exist Hydro(2-4-26)
Prepared by {enter your company name here}, Printed 3/2/2026
HydroCAD® 10.10-7a s/n 00590 © 2021 HydroCAD Software Solutions LLC

Summary for Subcatchment EX-A: EX-A

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Link 1L : South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	5.022	30	Woods Good, HSG A
*	0.015	76	Gravel, HSG A
*	7.740	30	Meadow, HSG A
*	0.268	66	75%GrassCoverGood, HSG A
*	0.104	98	Impervious, HSG A
	13.149	31	Weighted Average
	13.045		99.21% Pervious Area
	0.104		0.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment OFF-B: OFF-B

Runoff = 0.15 cfs @ 12.59 hrs, Volume= 0.032 af, Depth= 0.14"
Routed to Link 1L : South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	0.533	30	Woods Good, HSG A
*	0.173	76	Gravel, HSG A
*	0.509	30	Meadow, HSG A
*	1.343	66	75%GrassCoverGood, HSG A
*	0.149	98	Impervious, HSG A
	2.707	55	Weighted Average
	2.558		94.50% Pervious Area
	0.149		5.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Link 1L: South

Inflow Area = 15.856 ac, 1.60% Impervious, Inflow Depth = 0.02" for 2-yr event
Inflow = 0.15 cfs @ 12.59 hrs, Volume= 0.032 af
Primary = 0.15 cfs @ 12.59 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-72.00 hrs, dt= 0.01 hrs

Summary for Subcatchment EX-A: EX-A

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Link 1L : South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-yr Rainfall=4.16"

	Area (ac)	CN	Description
*	5.022	30	Woods Good, HSG A
*	0.015	76	Gravel, HSG A
*	7.740	30	Meadow, HSG A
*	0.268	66	75%GrassCoverGood, HSG A
*	0.104	98	Impervious, HSG A
	13.149	31	Weighted Average
	13.045		99.21% Pervious Area
	0.104		0.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment OFF-B: OFF-B

Runoff = 1.28 cfs @ 12.37 hrs, Volume= 0.134 af, Depth= 0.59"
Routed to Link 1L : South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-yr Rainfall=4.16"

	Area (ac)	CN	Description
*	0.533	30	Woods Good, HSG A
*	0.173	76	Gravel, HSG A
*	0.509	30	Meadow, HSG A
*	1.343	66	75%GrassCoverGood, HSG A
*	0.149	98	Impervious, HSG A
	2.707	55	Weighted Average
	2.558		94.50% Pervious Area
	0.149		5.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Link 1L: South

Inflow Area = 15.856 ac, 1.60% Impervious, Inflow Depth = 0.10" for 10-yr event
Inflow = 1.28 cfs @ 12.37 hrs, Volume= 0.134 af
Primary = 1.28 cfs @ 12.37 hrs, Volume= 0.134 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-72.00 hrs, dt= 0.01 hrs

Summary for Subcatchment EX-A: EX-A

Runoff = 1.59 cfs @ 12.60 hrs, Volume= 0.378 af, Depth= 0.34"
Routed to Link 1L : South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-yr(7.4") Rainfall=7.40"

	Area (ac)	CN	Description
*	5.022	30	Woods Good, HSG A
*	0.015	76	Gravel, HSG A
*	7.740	30	Meadow, HSG A
*	0.268	66	75%GrassCoverGood, HSG A
*	0.104	98	Impervious, HSG A
	13.149	31	Weighted Average
	13.045		99.21% Pervious Area
	0.104		0.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment OFF-B: OFF-B

Runoff = 6.87 cfs @ 12.32 hrs, Volume= 0.537 af, Depth= 2.38"
Routed to Link 1L : South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-yr(7.4") Rainfall=7.40"

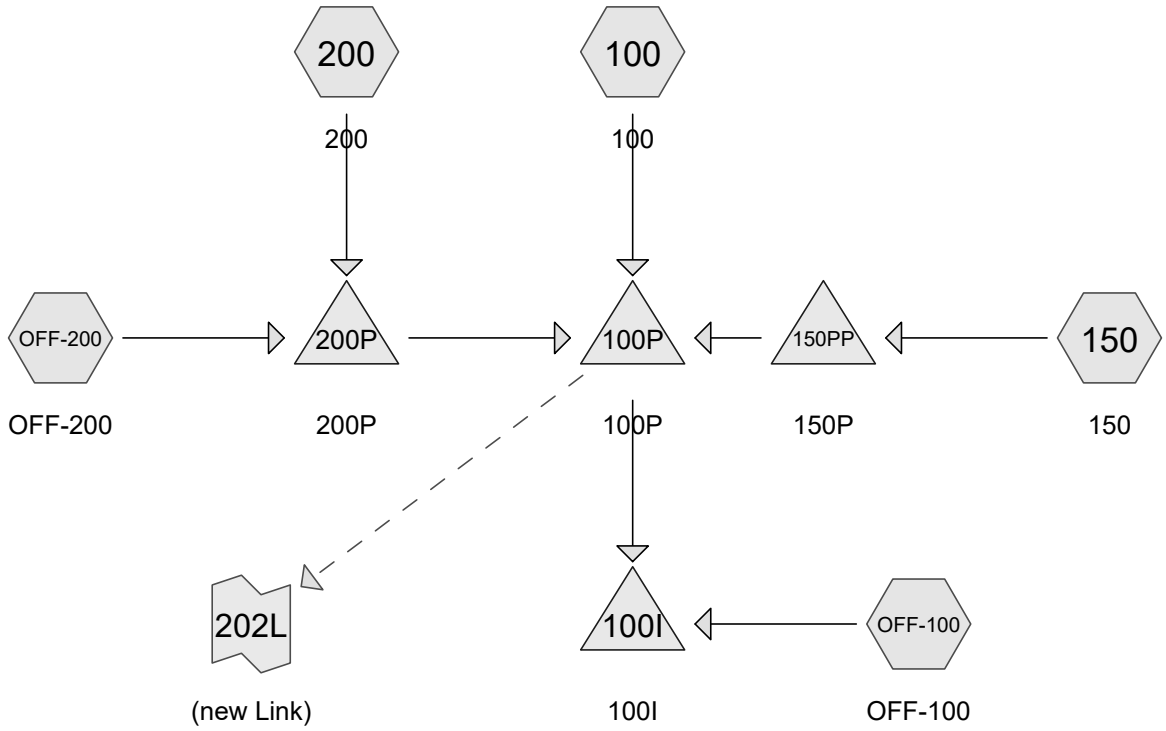
	Area (ac)	CN	Description
*	0.533	30	Woods Good, HSG A
*	0.173	76	Gravel, HSG A
*	0.509	30	Meadow, HSG A
*	1.343	66	75%GrassCoverGood, HSG A
*	0.149	98	Impervious, HSG A
	2.707	55	Weighted Average
	2.558		94.50% Pervious Area
	0.149		5.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Link 1L: South

Inflow Area = 15.856 ac, 1.60% Impervious, Inflow Depth = 0.69" for 100-yr(7.4") event
Inflow = 7.44 cfs @ 12.34 hrs, Volume= 0.915 af
Primary = 7.44 cfs @ 12.34 hrs, Volume= 0.915 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-72.00 hrs, dt= 0.01 hrs



Subcat Reach Pond Link

Routing Diagram for 00-125171-Proposed (4-7-26)
Prepared by {enter your company name here}, Printed 4/14/2026
HydroCAD® 10.10-7a s/n 00590 © 2021 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	MSE 24-hr	3	Default	24.00	1	2.79	2
2	2.5"	MSE 24-hr	3	Default	24.00	1	2.50	2
3	10-yr	MSE 24-hr	3	Default	24.00	1	4.16	2
4	100-yr(7.4")	MSE 24-hr	3	Default	24.00	1	7.40	2

Summary for Subcatchment 100: 100

Runoff = 4.76 cfs @ 12.31 hrs, Volume= 0.370 af, Depth= 0.93"
Routed to Pond 100P : 100P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 2-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	0.227	100	Water Surface, HSG B
*	0.007	30	Woods Good, HSG A
*	0.007	30	Meadow, HSG A
*	2.641	61	75%GrassCoverGood, HSG B
*	1.900	98	Impervious, HSG B
	4.782	77	Weighted Average
	2.655		55.52% Pervious Area
	2.127		44.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment 150: 150

Runoff = 0.75 cfs @ 12.38 hrs, Volume= 0.077 af, Depth= 0.41"
Routed to Pond 150PP : 150P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 2-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	0.007	30	Woods Good, HSG A
*	0.013	30	Meadow, HSG A
*	1.935	61	75%GrassCoverGood, HSG B
*	0.278	98	Impervious, HSG B
	2.233	65	Weighted Average
	1.955		87.55% Pervious Area
	0.278		12.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment 200: 200

Runoff = 0.01 cfs @ 15.13 hrs, Volume= 0.008 af, Depth= 0.02"
Routed to Pond 200P : 200P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 2-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	2.402	30	Woods Good, HSG A
*	0.015	76	Gravel, HSG A
*	1.207	30	Meadow, HSG A
*	2.045	61	75%GrassCoverGood, HSG B
*	0.464	98	Impervious, HSG B
	6.133	46	Weighted Average
	5.669		92.43% Pervious Area
	0.464		7.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment OFF-100: OFF-100

Runoff = 0.01 cfs @ 12.69 hrs, Volume= 0.002 af, Depth= 0.10"
Routed to Pond 100I : 100I

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 2-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	0.018	76	Gravel, HSG A
*	0.052	30	Meadow, HSG A
*	0.103	61	75%GrassCoverGood, HSG B
	0.173	53	Weighted Average
	0.173		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment OFF-200: OFF-200

Runoff = 0.22 cfs @ 12.51 hrs, Volume= 0.040 af, Depth= 0.19"
Routed to Pond 200P : 200P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 2-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	0.380	30	Woods Good, HSG A
*	0.069	76	Gravel, HSG A
*	0.194	30	Meadow, HSG A
*	1.807	61	75%GrassCoverGood, HSG B
*	0.148	98	Impervious, HSG B
	2.598	57	Weighted Average
	2.450		94.30% Pervious Area
	0.148		5.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Pond 100I: 100I

Inflow Area = 15.919 ac, 18.95% Impervious, Inflow Depth > 0.27" for 2-yr event
Inflow = 1.48 cfs @ 12.77 hrs, Volume= 0.365 af
Outflow = 0.09 cfs @ 20.48 hrs, Volume= 0.365 af, Atten= 94%, Lag= 462.5 min
Discarded = 0.09 cfs @ 20.48 hrs, Volume= 0.365 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Peak Elev= 759.12' @ 20.48 hrs Surf.Area= 3,919 sf Storage= 3,909 cf

Plug-Flow detention time= 445.9 min calculated for 0.365 af (100% of inflow)
Center-of-Mass det. time= 445.8 min (2,292.6 - 1,846.8)

Volume	Invert	Avail.Storage	Storage Description
#1	758.00'	33,499 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
758.00	3,072	0	0
760.00	4,586	7,658	7,658
762.00	6,388	10,974	18,632
764.00	8,479	14,867	33,499

Device	Routing	Invert	Outlet Devices
#1	Discarded	758.00'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.09 cfs @ 20.48 hrs HW=759.12' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.09 cfs)

Summary for Pond 100P: 100P

Inflow Area = 15.746 ac, 19.16% Impervious, Inflow Depth = 0.28" for 2-yr event
Inflow = 4.76 cfs @ 12.31 hrs, Volume= 0.370 af
Outflow = 1.47 cfs @ 12.77 hrs, Volume= 0.363 af, Atten= 69%, Lag= 27.7 min
Primary = 1.47 cfs @ 12.77 hrs, Volume= 0.363 af
Routed to Pond 100I : 100I
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link 202L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Starting Elev= 758.00' Surf.Area= 7,261 sf Storage= 15,952 cf
Peak Elev= 759.12' @ 20.47 hrs Surf.Area= 8,552 sf Storage= 24,796 cf (8,844 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 1,010.3 min (1,850.5 - 840.2)

Volume	Invert	Avail.Storage	Storage Description
#1	754.00'	81,681 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
754.00	715	0	0
758.00	7,261	15,952	15,952
760.00	9,569	16,830	32,782
762.00	12,155	21,724	54,506
764.00	15,020	27,175	81,681

Device	Routing	Invert	Outlet Devices
#1	Primary	758.00'	**15.0" Round Culvert** L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 758.00' / 758.00' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	762.00'	**75.0' long + 10.0 '/' SideZ x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Secondary	759.12'	**13.0" Round Culvert** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 759.12' / 757.22' S= 0.0095 '/' Cc= 0.900 n= 0.013, Flow Area= 0.92 sf

Primary OutFlow Max=1.47 cfs @ 12.77 hrs HW=758.82' TW=758.56' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 1.47 cfs @ 2.45 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=758.00' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Controls 0.00 cfs)

Summary for Pond 150PP: 150P

Inflow Area = 2.233 ac, 12.45% Impervious, Inflow Depth = 0.41" for 2-yr event
Inflow = 0.75 cfs @ 12.38 hrs, Volume= 0.077 af
Outflow = 0.07 cfs @ 15.23 hrs, Volume= 0.077 af, Atten= 91%, Lag= 171.4 min
Discarded = 0.07 cfs @ 15.23 hrs, Volume= 0.077 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Pond 100P : 100P

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Peak Elev= 774.64' @ 15.23 hrs Surf.Area= 2,890 sf Storage= 1,673 cf

Plug-Flow detention time= 283.6 min calculated for 0.077 af (100% of inflow)
Center-of-Mass det. time= 283.6 min (1,162.0 - 878.4)

Volume	Invert	Avail.Storage	Storage Description
#1	774.00'	7,439 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
774.00	2,354	0	0
775.00	3,195	2,775	2,775
776.00	6,134	4,665	7,439

Device	Routing	Invert	Outlet Devices
#1	Device 2	775.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	770.00'	**15.0" Round Culvert** L= 122.0' Ke= 0.500 Inlet / Outlet Invert= 770.00' / 764.00' S= 0.0492 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#3	Discarded	774.00'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.07 cfs @ 15.23 hrs HW=774.64' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=774.00' TW=758.00' (Dynamic Tailwater)
└**2=Culvert** (Passes 0.00 cfs of 10.86 cfs potential flow)
└**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 200P: 200P

Inflow Area = 8.731 ac, 7.01% Impervious, Inflow Depth = 0.07" for 2-yr event
Inflow = 0.22 cfs @ 12.51 hrs, Volume= 0.048 af
Outflow = 0.09 cfs @ 13.63 hrs, Volume= 0.048 af, Atten= 60%, Lag= 67.1 min
Discarded = 0.09 cfs @ 13.63 hrs, Volume= 0.048 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Pond 100P : 100P

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Peak Elev= 762.08' @ 13.63 hrs Surf.Area= 3,880 sf Storage= 312 cf

Plug-Flow detention time= 24.8 min calculated for 0.048 af (100% of inflow)
Center-of-Mass det. time= 24.8 min (982.3 - 957.5)

Volume	Invert	Avail.Storage	Storage Description
#1	762.00'	26,231 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
762.00	3,840	0	0
764.00	4,831	8,671	8,671
765.00	8,983	6,907	15,578
766.00	12,322	10,653	26,231

Device	Routing	Invert	Outlet Devices
#1	Primary	766.26'	**10.0' long + 10.0 '/' SideZ x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Primary	763.00'	**18.0" Round Culvert** L= 111.0' Ke= 0.500 Inlet / Outlet Invert= 763.00' / 762.45' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#3	Discarded	762.00'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.09 cfs @ 13.63 hrs HW=762.08' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=762.00' TW=758.00' (Dynamic Tailwater)
├**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
└**2=Culvert** (Controls 0.00 cfs)

Summary for Link 202L: (new Link)

Inflow	=	0.00 cfs @	5.00 hrs, Volume=	0.000 af	
Primary	=	0.00 cfs @	5.00 hrs, Volume=	0.000 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs

Summary for Subcatchment 100: 100

Runoff = 3.71 cfs @ 12.33 hrs, Volume= 0.295 af, Depth= 0.74"
Routed to Pond 100P : 100P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 2.5" Rainfall=2.50"

	Area (ac)	CN	Description
*	0.227	100	Water Surface, HSG B
*	0.007	30	Woods Good, HSG A
*	0.007	30	Meadow, HSG A
*	2.641	61	75%GrassCoverGood, HSG B
*	1.900	98	Impervious, HSG B
	4.782	77	Weighted Average
	2.655		55.52% Pervious Area
	2.127		44.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment 150: 150

Runoff = 0.47 cfs @ 12.38 hrs, Volume= 0.055 af, Depth= 0.30"
Routed to Pond 150PP : 150P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 2.5" Rainfall=2.50"

	Area (ac)	CN	Description
*	0.007	30	Woods Good, HSG A
*	0.013	30	Meadow, HSG A
*	1.935	61	75%GrassCoverGood, HSG B
*	0.278	98	Impervious, HSG B
	2.233	65	Weighted Average
	1.955		87.55% Pervious Area
	0.278		12.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment 200: 200

Runoff = 0.00 cfs @ 21.04 hrs, Volume= 0.001 af, Depth= 0.00"
Routed to Pond 200P : 200P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 2.5" Rainfall=2.50"

	Area (ac)	CN	Description
*	2.402	30	Woods Good, HSG A
*	0.015	76	Gravel, HSG A
*	1.207	30	Meadow, HSG A
*	2.045	61	75%GrassCoverGood, HSG B
*	0.464	98	Impervious, HSG B
	6.133	46	Weighted Average
	5.669		92.43% Pervious Area
	0.464		7.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment OFF-100: OFF-100

Runoff = 0.00 cfs @ 13.36 hrs, Volume= 0.001 af, Depth= 0.05"
Routed to Pond 100I : 100I

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 2.5" Rainfall=2.50"

	Area (ac)	CN	Description
*	0.018	76	Gravel, HSG A
*	0.052	30	Meadow, HSG A
*	0.103	61	75%GrassCoverGood, HSG B
	0.173	53	Weighted Average
	0.173		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment OFF-200: OFF-200

Runoff = 0.10 cfs @ 12.60 hrs, Volume= 0.025 af, Depth= 0.12"
Routed to Pond 200P : 200P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 2.5" Rainfall=2.50"

	Area (ac)	CN	Description
*	0.380	30	Woods Good, HSG A
*	0.069	76	Gravel, HSG A
*	0.194	30	Meadow, HSG A
*	1.807	61	75%GrassCoverGood, HSG B
*	0.148	98	Impervious, HSG B
	2.598	57	Weighted Average
	2.450		94.30% Pervious Area
	0.148		5.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Pond 100I: 100I

Inflow Area = 15.919 ac, 18.95% Impervious, Inflow Depth > 0.22" for 2.5" event
Inflow = 1.01 cfs @ 12.85 hrs, Volume= 0.290 af
Outflow = 0.09 cfs @ 19.76 hrs, Volume= 0.290 af, Atten= 91%, Lag= 414.5 min
Discarded = 0.09 cfs @ 19.76 hrs, Volume= 0.290 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Peak Elev= 758.87' @ 19.76 hrs Surf.Area= 3,731 sf Storage= 2,963 cf

Plug-Flow detention time= 358.1 min calculated for 0.290 af (100% of inflow)
Center-of-Mass det. time= 358.0 min (2,038.5 - 1,680.5)

Volume	Invert	Avail.Storage	Storage Description
#1	758.00'	33,499 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
758.00	3,072	0	0
760.00	4,586	7,658	7,658
762.00	6,388	10,974	18,632
764.00	8,479	14,867	33,499

Device	Routing	Invert	Outlet Devices
#1	Discarded	758.00'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.09 cfs @ 19.76 hrs HW=758.87' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.09 cfs)

Summary for Pond 100P: 100P

Inflow Area = 15.746 ac, 19.16% Impervious, Inflow Depth = 0.22" for 2.5" event
Inflow = 3.71 cfs @ 12.33 hrs, Volume= 0.295 af
Outflow = 1.01 cfs @ 12.85 hrs, Volume= 0.289 af, Atten= 73%, Lag= 30.9 min
Primary = 1.01 cfs @ 12.85 hrs, Volume= 0.289 af
Routed to Pond 100I : 100I
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link 202L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Starting Elev= 758.00' Surf.Area= 7,261 sf Storage= 15,952 cf
Peak Elev= 758.87' @ 19.74 hrs Surf.Area= 8,267 sf Storage= 22,719 cf (6,767 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 836.9 min (1,682.4 - 845.5)

Volume	Invert	Avail.Storage	Storage Description
#1	754.00'	81,681 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
754.00	715	0	0
758.00	7,261	15,952	15,952
760.00	9,569	16,830	32,782
762.00	12,155	21,724	54,506
764.00	15,020	27,175	81,681

Device	Routing	Invert	Outlet Devices
#1	Primary	758.00'	**15.0" Round Culvert** L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 758.00' / 758.00' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	762.00'	**75.0' long + 10.0 '/' SideZ x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Secondary	759.12'	**13.0" Round Culvert** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 759.12' / 757.22' S= 0.0095 '/' Cc= 0.900 n= 0.013, Flow Area= 0.92 sf

Primary OutFlow Max=1.01 cfs @ 12.85 hrs HW=758.68' TW=758.42' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 1.01 cfs @ 2.16 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=758.00' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Controls 0.00 cfs)

Summary for Pond 150PP: 150P

Inflow Area = 2.233 ac, 12.45% Impervious, Inflow Depth = 0.30" for 2.5" event
Inflow = 0.47 cfs @ 12.38 hrs, Volume= 0.055 af
Outflow = 0.06 cfs @ 14.56 hrs, Volume= 0.055 af, Atten= 87%, Lag= 131.2 min
Discarded = 0.06 cfs @ 14.56 hrs, Volume= 0.055 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Pond 100P : 100P

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Peak Elev= 774.39' @ 14.56 hrs Surf.Area= 2,686 sf Storage= 995 cf

Plug-Flow detention time= 173.0 min calculated for 0.055 af (100% of inflow)
Center-of-Mass det. time= 173.0 min (1,062.9 - 889.9)

Volume	Invert	Avail.Storage	Storage Description
#1	774.00'	7,439 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
774.00	2,354	0	0
775.00	3,195	2,775	2,775
776.00	6,134	4,665	7,439

Device	Routing	Invert	Outlet Devices
#1	Device 2	775.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	770.00'	**15.0" Round Culvert** L= 122.0' Ke= 0.500 Inlet / Outlet Invert= 770.00' / 764.00' S= 0.0492 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#3	Discarded	774.00'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.06 cfs @ 14.56 hrs HW=774.39' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=774.00' TW=758.00' (Dynamic Tailwater)
└**2=Culvert** (Passes 0.00 cfs of 10.86 cfs potential flow)
└**1=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 200P: 200P

Inflow Area = 8.731 ac, 7.01% Impervious, Inflow Depth = 0.04" for 2.5" event
Inflow = 0.10 cfs @ 12.60 hrs, Volume= 0.026 af
Outflow = 0.09 cfs @ 12.82 hrs, Volume= 0.026 af, Atten= 14%, Lag= 13.2 min
Discarded = 0.09 cfs @ 12.82 hrs, Volume= 0.026 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Pond 100P : 100P

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Peak Elev= 762.01' @ 12.82 hrs Surf.Area= 3,846 sf Storage= 43 cf

Plug-Flow detention time= 7.3 min calculated for 0.026 af (100% of inflow)
Center-of-Mass det. time= 7.3 min (968.6 - 961.3)

Volume	Invert	Avail.Storage	Storage Description
#1	762.00'	26,231 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
762.00	3,840	0	0
764.00	4,831	8,671	8,671
765.00	8,983	6,907	15,578
766.00	12,322	10,653	26,231

Device	Routing	Invert	Outlet Devices
#1	Primary	766.26'	**10.0' long + 10.0 '/' SideZ x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Primary	763.00'	**18.0" Round Culvert** L= 111.0' Ke= 0.500 Inlet / Outlet Invert= 763.00' / 762.45' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#3	Discarded	762.00'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.09 cfs @ 12.82 hrs HW=762.01' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=762.00' TW=758.00' (Dynamic Tailwater)
├**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
└**2=Culvert** (Controls 0.00 cfs)

Summary for Link 202L: (new Link)

Inflow	=	0.00 cfs @	5.00 hrs, Volume=	0.000 af	
Primary	=	0.00 cfs @	5.00 hrs, Volume=	0.000 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs

Summary for Subcatchment 100: 100

Runoff = 10.33 cfs @ 12.29 hrs, Volume= 0.772 af, Depth= 1.94"
Routed to Pond 100P : 100P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 10-yr Rainfall=4.16"

	Area (ac)	CN	Description
*	0.227	100	Water Surface, HSG B
*	0.007	30	Woods Good, HSG A
*	0.007	30	Meadow, HSG A
*	2.641	61	75%GrassCoverGood, HSG B
*	1.900	98	Impervious, HSG B
	4.782	77	Weighted Average
	2.655		55.52% Pervious Area
	2.127		44.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment 150: 150

Runoff = 2.58 cfs @ 12.33 hrs, Volume= 0.209 af, Depth= 1.12"
Routed to Pond 150PP : 150P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 10-yr Rainfall=4.16"

	Area (ac)	CN	Description
*	0.007	30	Woods Good, HSG A
*	0.013	30	Meadow, HSG A
*	1.935	61	75%GrassCoverGood, HSG B
*	0.278	98	Impervious, HSG B
	2.233	65	Weighted Average
	1.955		87.55% Pervious Area
	0.278		12.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment 200: 200

Runoff = 0.62 cfs @ 12.56 hrs, Volume= 0.124 af, Depth= 0.24"
Routed to Pond 200P : 200P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 10-yr Rainfall=4.16"

	Area (ac)	CN	Description
*	2.402	30	Woods Good, HSG A
*	0.015	76	Gravel, HSG A
*	1.207	30	Meadow, HSG A
*	2.045	61	75%GrassCoverGood, HSG B
*	0.464	98	Impervious, HSG B
	6.133	46	Weighted Average
	5.669		92.43% Pervious Area
	0.464		7.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment OFF-100: OFF-100

Runoff = 0.06 cfs @ 12.38 hrs, Volume= 0.007 af, Depth= 0.51"
Routed to Pond 100I : 100I

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 10-yr Rainfall=4.16"

	Area (ac)	CN	Description
*	0.018	76	Gravel, HSG A
*	0.052	30	Meadow, HSG A
*	0.103	61	75%GrassCoverGood, HSG B
	0.173	53	Weighted Average
	0.173		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment OFF-200: OFF-200

Runoff = 1.54 cfs @ 12.36 hrs, Volume= 0.149 af, Depth= 0.69"
Routed to Pond 200P : 200P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 10-yr Rainfall=4.16"

	Area (ac)	CN	Description
*	0.380	30	Woods Good, HSG A
*	0.069	76	Gravel, HSG A
*	0.194	30	Meadow, HSG A
*	1.807	61	75%GrassCoverGood, HSG B
*	0.148	98	Impervious, HSG B
	2.598	57	Weighted Average
	2.450		94.30% Pervious Area
	0.148		5.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Pond 100I: 100I

Inflow Area = 15.919 ac, 18.95% Impervious, Inflow Depth > 0.31" for 10-yr event
Inflow = 4.00 cfs @ 12.54 hrs, Volume= 0.411 af
Outflow = 0.10 cfs @ 13.50 hrs, Volume= 0.411 af, Atten= 97%, Lag= 57.4 min
Discarded = 0.10 cfs @ 13.50 hrs, Volume= 0.411 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Peak Elev= 759.77' @ 13.50 hrs Surf.Area= 4,411 sf Storage= 6,615 cf

Plug-Flow detention time= 529.4 min calculated for 0.411 af (100% of inflow)
Center-of-Mass det. time= 529.2 min (2,398.4 - 1,869.2)

Volume	Invert	Avail.Storage	Storage Description
#1	758.00'	33,499 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
758.00	3,072	0	0
760.00	4,586	7,658	7,658
762.00	6,388	10,974	18,632
764.00	8,479	14,867	33,499

Device	Routing	Invert	Outlet Devices
#1	Discarded	758.00'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.10 cfs @ 13.50 hrs HW=759.77' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.10 cfs)

Summary for Pond 100P: 100P

Inflow Area = 15.746 ac, 19.16% Impervious, Inflow Depth = 0.71" for 10-yr event
Inflow = 10.33 cfs @ 12.29 hrs, Volume= 0.935 af
Outflow = 4.52 cfs @ 12.54 hrs, Volume= 0.927 af, Atten= 56%, Lag= 15.0 min
Primary = 3.95 cfs @ 12.54 hrs, Volume= 0.404 af
Routed to Pond 100I : 100I
Secondary = 1.58 cfs @ 13.49 hrs, Volume= 0.523 af
Routed to Link 202L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Starting Elev= 758.00' Surf.Area= 7,261 sf Storage= 15,952 cf
Peak Elev= 759.77' @ 13.49 hrs Surf.Area= 9,302 sf Storage= 30,597 cf (14,645 cf above start)

Plug-Flow detention time= 984.5 min calculated for 0.561 af (60% of inflow)
Center-of-Mass det. time= 521.5 min (1,356.1 - 834.6)

Volume	Invert	Avail.Storage	Storage Description
#1	754.00'	81,681 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
754.00	715	0	0
758.00	7,261	15,952	15,952
760.00	9,569	16,830	32,782
762.00	12,155	21,724	54,506
764.00	15,020	27,175	81,681

Device	Routing	Invert	Outlet Devices
#1	Primary	758.00'	**15.0" Round Culvert** L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 758.00' / 758.00' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	762.00'	**75.0' long + 10.0 '/' SideZ x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Secondary	759.12'	**13.0" Round Culvert** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 759.12' / 757.22' S= 0.0095 '/' Cc= 0.900 n= 0.013, Flow Area= 0.92 sf

Primary OutFlow Max=3.94 cfs @ 12.54 hrs HW=759.49' TW=759.04' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 3.94 cfs @ 3.21 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=1.58 cfs @ 13.49 hrs HW=759.77' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Inlet Controls 1.58 cfs @ 2.74 fps)

Summary for Pond 150PP: 150P

Inflow Area = 2.233 ac, 12.45% Impervious, Inflow Depth = 1.12" for 10-yr event
Inflow = 2.58 cfs @ 12.33 hrs, Volume= 0.209 af
Outflow = 1.19 cfs @ 12.65 hrs, Volume= 0.209 af, Atten= 54%, Lag= 19.3 min
Discarded = 0.08 cfs @ 12.65 hrs, Volume= 0.127 af
Primary = 1.11 cfs @ 12.65 hrs, Volume= 0.082 af
Routed to Pond 100P : 100P

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Peak Elev= 775.14' @ 12.65 hrs Surf.Area= 3,615 sf Storage= 3,261 cf

Plug-Flow detention time= 286.0 min calculated for 0.209 af (100% of inflow)
Center-of-Mass det. time= 286.0 min (1,135.7 - 849.7)

Volume	Invert	Avail.Storage	Storage Description
#1	774.00'	7,439 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
774.00	2,354	0	0
775.00	3,195	2,775	2,775
776.00	6,134	4,665	7,439

Device	Routing	Invert	Outlet Devices
#1	Device 2	775.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	770.00'	**15.0" Round Culvert** L= 122.0' Ke= 0.500 Inlet / Outlet Invert= 770.00' / 764.00' S= 0.0492 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#3	Discarded	774.00'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.08 cfs @ 12.65 hrs HW=775.14' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=1.11 cfs @ 12.65 hrs HW=775.14' TW=759.57' (Dynamic Tailwater)
└**2=Culvert** (Passes 1.11 cfs of 12.56 cfs potential flow)
└**1=Orifice/Grate** (Weir Controls 1.11 cfs @ 1.24 fps)

Summary for Pond 200P: 200P

Inflow Area = 8.731 ac, 7.01% Impervious, Inflow Depth = 0.38" for 10-yr event
Inflow = 1.99 cfs @ 12.40 hrs, Volume= 0.273 af
Outflow = 0.38 cfs @ 13.89 hrs, Volume= 0.273 af, Atten= 81%, Lag= 89.6 min
Discarded = 0.10 cfs @ 13.89 hrs, Volume= 0.193 af
Primary = 0.27 cfs @ 13.89 hrs, Volume= 0.080 af
Routed to Pond 100P : 100P

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Peak Elev= 763.27' @ 13.89 hrs Surf.Area= 4,467 sf Storage= 5,257 cf

Plug-Flow detention time= 388.0 min calculated for 0.273 af (100% of inflow)
Center-of-Mass det. time= 388.0 min (1,288.0 - 900.0)

Volume	Invert	Avail.Storage	Storage Description
#1	762.00'	26,231 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
762.00	3,840	0	0
764.00	4,831	8,671	8,671
765.00	8,983	6,907	15,578
766.00	12,322	10,653	26,231

Device	Routing	Invert	Outlet Devices
#1	Primary	766.26'	**10.0' long + 10.0 '/' SideZ x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Primary	763.00'	**18.0" Round Culvert** L= 111.0' Ke= 0.500 Inlet / Outlet Invert= 763.00' / 762.45' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#3	Discarded	762.00'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.10 cfs @ 13.89 hrs HW=763.27' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=0.27 cfs @ 13.89 hrs HW=763.27' TW=759.74' (Dynamic Tailwater)
├**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
└**2=Culvert** (Barrel Controls 0.27 cfs @ 1.96 fps)

Summary for Link 202L: (new Link)

Inflow	=	1.58 cfs @	13.49 hrs, Volume=	0.523 af	
Primary	=	1.58 cfs @	13.49 hrs, Volume=	0.523 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs

Summary for Subcatchment 100: 100

Runoff = 25.28 cfs @ 12.29 hrs, Volume= 1.884 af, Depth= 4.73"
Routed to Pond 100P : 100P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 100-yr(7.4") Rainfall=7.40"

	Area (ac)	CN	Description
*	0.227	100	Water Surface, HSG B
*	0.007	30	Woods Good, HSG A
*	0.007	30	Meadow, HSG A
*	2.641	61	75%GrassCoverGood, HSG B
*	1.900	98	Impervious, HSG B
	4.782	77	Weighted Average
	2.655		55.52% Pervious Area
	2.127		44.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment 150: 150

Runoff = 8.50 cfs @ 12.29 hrs, Volume= 0.635 af, Depth= 3.41"
Routed to Pond 150PP : 150P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 100-yr(7.4") Rainfall=7.40"

	Area (ac)	CN	Description
*	0.007	30	Woods Good, HSG A
*	0.013	30	Meadow, HSG A
*	1.935	61	75%GrassCoverGood, HSG B
*	0.278	98	Impervious, HSG B
	2.233	65	Weighted Average
	1.955		87.55% Pervious Area
	0.278		12.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment 200: 200

Runoff = 8.81 cfs @ 12.33 hrs, Volume= 0.777 af, Depth= 1.52"
Routed to Pond 200P : 200P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 100-yr(7.4") Rainfall=7.40"

	Area (ac)	CN	Description
*	2.402	30	Woods Good, HSG A
*	0.015	76	Gravel, HSG A
*	1.207	30	Meadow, HSG A
*	2.045	61	75%GrassCoverGood, HSG B
*	0.464	98	Impervious, HSG B
	6.133	46	Weighted Average
	5.669		92.43% Pervious Area
	0.464		7.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment OFF-100: OFF-100

Runoff = 0.40 cfs @ 12.33 hrs, Volume= 0.031 af, Depth= 2.18"
Routed to Pond 100I : 100I

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 100-yr(7.4") Rainfall=7.40"

	Area (ac)	CN	Description
*	0.018	76	Gravel, HSG A
*	0.052	30	Meadow, HSG A
*	0.103	61	75%GrassCoverGood, HSG B
	0.173	53	Weighted Average
	0.173		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Subcatchment OFF-200: OFF-200

Runoff = 7.26 cfs @ 12.31 hrs, Volume= 0.559 af, Depth= 2.58"
Routed to Pond 200P : 200P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
MSE 24-hr 3 100-yr(7.4") Rainfall=7.40"

	Area (ac)	CN	Description
*	0.380	30	Woods Good, HSG A
*	0.069	76	Gravel, HSG A
*	0.194	30	Meadow, HSG A
*	1.807	61	75%GrassCoverGood, HSG B
*	0.148	98	Impervious, HSG B
	2.598	57	Weighted Average
	2.450		94.30% Pervious Area
	0.148		5.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry,**

Summary for Pond 100I: 100I

Inflow Area = 15.919 ac, 18.95% Impervious, Inflow Depth > 0.61" for 100-yr(7.4") event
Inflow = 18.48 cfs @ 12.57 hrs, Volume= 0.815 af
Outflow = 0.17 cfs @ 13.56 hrs, Volume= 0.807 af, Atten= 99%, Lag= 59.2 min
Discarded = 0.17 cfs @ 13.56 hrs, Volume= 0.807 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Peak Elev= 763.07' @ 13.56 hrs Surf.Area= 7,506 sf Storage= 26,061 cf

Plug-Flow detention time= 1,337.0 min calculated for 0.807 af (99% of inflow)
Center-of-Mass det. time= 1,290.4 min (2,931.1 - 1,640.7)

Volume	Invert	Avail.Storage	Storage Description
#1	758.00'	33,499 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
758.00	3,072	0	0
760.00	4,586	7,658	7,658
762.00	6,388	10,974	18,632
764.00	8,479	14,867	33,499

Device	Routing	Invert	Outlet Devices
#1	Discarded	758.00'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.17 cfs @ 13.56 hrs HW=763.07' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.17 cfs)

Summary for Pond 100P: 100P

Inflow Area = 15.746 ac, 19.16% Impervious, Inflow Depth = 2.66" for 100-yr(7.4") event
Inflow = 36.80 cfs @ 12.35 hrs, Volume= 3.490 af
Outflow = 23.70 cfs @ 12.57 hrs, Volume= 3.462 af, Atten= 36%, Lag= 13.6 min
Primary = 18.26 cfs @ 12.57 hrs, Volume= 0.784 af
Routed to Pond 100I : 100I
Secondary = 6.04 cfs @ 13.57 hrs, Volume= 2.678 af
Routed to Link 202L : (new Link)

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Starting Elev= 758.00' Surf.Area= 7,261 sf Storage= 15,952 cf
Peak Elev= 763.07' @ 13.57 hrs Surf.Area= 13,687 sf Storage= 68,322 cf (52,370 cf above start)

Plug-Flow detention time= 375.3 min calculated for 3.095 af (89% of inflow)
Center-of-Mass det. time= 285.1 min (1,111.5 - 826.4)

Volume	Invert	Avail.Storage	Storage Description
#1	754.00'	81,681 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
754.00	715	0	0
758.00	7,261	15,952	15,952
760.00	9,569	16,830	32,782
762.00	12,155	21,724	54,506
764.00	15,020	27,175	81,681

Device	Routing	Invert	Outlet Devices
#1	Primary	758.00'	**15.0" Round Culvert** L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 758.00' / 758.00' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	762.00'	**75.0' long + 10.0 '/' SideZ x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Secondary	759.12'	**13.0" Round Culvert** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 759.12' / 757.22' S= 0.0095 '/' Cc= 0.900 n= 0.013, Flow Area= 0.92 sf

Primary OutFlow Max=18.22 cfs @ 12.57 hrs HW=762.17' TW=761.41' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 5.15 cfs @ 4.20 fps)
└—**2=Broad-Crested Rectangular Weir** (Weir Controls 13.06 cfs @ 1.02 fps)

Secondary OutFlow Max=6.04 cfs @ 13.57 hrs HW=763.07' TW=0.00' (Dynamic Tailwater)
↑—**3=Culvert** (Barrel Controls 6.04 cfs @ 6.55 fps)

Summary for Pond 150PP: 150P

Inflow Area = 2.233 ac, 12.45% Impervious, Inflow Depth = 3.41" for 100-yr(7.4") event
Inflow = 8.50 cfs @ 12.29 hrs, Volume= 0.635 af
Outflow = 7.87 cfs @ 12.37 hrs, Volume= 0.635 af, Atten= 7%, Lag= 4.9 min
Discarded = 0.11 cfs @ 12.37 hrs, Volume= 0.146 af
Primary = 7.76 cfs @ 12.37 hrs, Volume= 0.489 af
Routed to Pond 100P : 100P

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Peak Elev= 775.52' @ 12.37 hrs Surf.Area= 4,731 sf Storage= 4,846 cf

Plug-Flow detention time= 112.0 min calculated for 0.635 af (100% of inflow)
Center-of-Mass det. time= 112.0 min (936.7 - 824.7)

Volume	Invert	Avail.Storage	Storage Description
#1	774.00'	7,439 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
774.00	2,354	0	0
775.00	3,195	2,775	2,775
776.00	6,134	4,665	7,439

Device	Routing	Invert	Outlet Devices
#1	Device 2	775.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	770.00'	**15.0" Round Culvert** L= 122.0' Ke= 0.500 Inlet / Outlet Invert= 770.00' / 764.00' S= 0.0492 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#3	Discarded	774.00'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.11 cfs @ 12.37 hrs HW=775.52' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=7.76 cfs @ 12.37 hrs HW=775.52' TW=761.17' (Dynamic Tailwater)
└**2=Culvert** (Passes 7.76 cfs of 13.08 cfs potential flow)
└**1=Orifice/Grate** (Weir Controls 7.76 cfs @ 2.36 fps)

Summary for Pond 200P: 200P

Inflow Area = 8.731 ac, 7.01% Impervious, Inflow Depth = 1.84" for 100-yr(7.4") event
Inflow = 16.04 cfs @ 12.33 hrs, Volume= 1.336 af
Outflow = 8.12 cfs @ 12.63 hrs, Volume= 1.336 af, Atten= 49%, Lag= 17.8 min
Discarded = 0.20 cfs @ 12.63 hrs, Volume= 0.220 af
Primary = 7.92 cfs @ 12.63 hrs, Volume= 1.116 af
Routed to Pond 100P : 100P

Routing by Dyn-Stor-Ind method, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs
Peak Elev= 764.92' @ 12.63 hrs Surf.Area= 8,671 sf Storage= 14,914 cf

Plug-Flow detention time= 109.3 min calculated for 1.336 af (100% of inflow)
Center-of-Mass det. time= 109.3 min (961.5 - 852.2)

Volume	Invert	Avail.Storage	Storage Description
#1	762.00'	26,231 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
762.00	3,840	0	0
764.00	4,831	8,671	8,671
765.00	8,983	6,907	15,578
766.00	12,322	10,653	26,231

Device	Routing	Invert	Outlet Devices
#1	Primary	766.26'	**10.0' long + 10.0 '/' SideZ x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Primary	763.00'	**18.0" Round Culvert** L= 111.0' Ke= 0.500 Inlet / Outlet Invert= 763.00' / 762.45' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#3	Discarded	762.00'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.20 cfs @ 12.63 hrs HW=764.92' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.20 cfs)

Primary OutFlow Max=7.92 cfs @ 12.63 hrs HW=764.92' TW=762.17' (Dynamic Tailwater)
├**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
└**2=Culvert** (Barrel Controls 7.92 cfs @ 4.53 fps)

Summary for Link 202L: (new Link)

Inflow	=	6.04 cfs @	13.57 hrs, Volume=	2.678 af
Primary	=	6.04 cfs @	13.57 hrs, Volume=	2.678 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-100.00 hrs, dt= 0.001 hrs

Appendix C: P8 Calculations

P8 Urban Catchment Model, Version 3.5				Run Date	03/02/26
Case	00-125171-Existing-(02-27-26) - Copy.p8c	FirstDate	01/01/71	Precip(in)	870.4
Title	Msp Case	LastDate	12/31/00	Rain(in)	756.51
PrecFile	MSP_19700101-20001231.pcp	Events	2196	Snow(in)	113.84
PartFile	nurp50.p8p	TotalHrs	261888	TotalYrs	29.88

Case Title	Msp Case
Case Data File	00-125171-Existing-(02-27-26) - Copy.p8c
Path	L:\Engineering 3D\25\125171 Krenner Site\Hydrology Design\P8\
Case Notes:	□
Storm Data File	MSP_19700101-20001231.pcp
Particle File	nurp50.p8p
Air Temp File File	MSP_19700101-20001231.tem

Time Steps Per Hour	60
Minimum Inter-Event Time (hrs)	10
Maximum Continuity Error %	2
Rainfall Breakpoint (inches)	0.8
Precipitation Scale Factor	1
Air Temp Offset (deg-F)	0
Loops Thru Storm File	5
Simulation Dates	
Start	1/1/1971
Keep	1/1/1971
Stop	12/31/2000

Max Snowfall Temperature (deg-f)	32.0
SnowMelt Temperature (deg-f)	32.0
Snowmelt Coef (in/degF-Day)	0.06
Soil Freeze Temp (deg-F)	32.0
Snowmelt Abstraction Factor	1.00
Evapo-Trans. Calibration Factor	1.00
Growing Season Start Month	5
Growing Season End Month	10

5-Day Antecedent Rainfall + Runoff (inches)		
CN Antecedent Moisture Condition	AMC-II	AMC-III
Growing Season	1.40	2.10
NonGrowing Season	0.50	1.10

Watershed Data						
Watershed Name	Existing A					
Runoff to Device	ADD DRAIN					
Infiltration to Device						
Watershed Area	13.13					
SCS Curve Number (Pervious)	61					
Scale Factor for Pervious Runoff Load	1					
Indirectly Connected Imperv Fraction	0.00826					
UnSwept Impervious Fraction	0					
UnSwept Depression Storage (inches)	0.02					

UnSwept Imperv. Runoff Coefficient	1					
UnSwept Scale Factor for Particle Loads	1					
Swept Impervious Fraction	0					
Swept Depression Storage (inches)	0.01					
Swept Imperv. Runoff Coefficient	1					
Swept Scale Factor for Particle Loads	1					
Sweeping Frequency	0.5					
Sweeping Efficiency	1					
Sweeping Start Date (MMDD)	101					
Sweeping Stop Date (MMDD)	1231					

Device Data						
Device Name	ADD DRAIN					
Device Type	PIPE					
Infiltration Outlet						
Normal Outlet						
Spillway Outlet						
Particle Removal Scale Factor						
Bottom Elevation (ft)						
Bottom Area (acres)						
Permanent Pool Area (acres)						
Permanent Pool Volume (ac-ft)						
Perm Pool Infilt Rate (in/hr)						
Flood Pool Area (acres)						
Flood Pool Volume (ac-ft)						
Flood Pool Infilt Rate (in/hr)						
Infilt Basin Void Fraction (%)						
Detention Pond Outlet Parameters						
Outlet Type						
Outlet Orifice Diameter (in)						
Orifice Discharge Coef						
Outlet Weir Length (ft)						
Weir Discharge Coef						
Perforated Riser Height (ft)						
Number of Holes in Riser						
Holes Diameter						
Flood Pool Drain Time (hrs)						
Swale Parameters						
Length of Flow Path (ft)						
Slope of Flow Path %						
Bottom Width (ft)						
Side Slope (ft-v/ft-h)						
Maximum Depth of Flow (ft)						
Mannings n Constant						
Hydraulic Model						
Pipe, Splitter, Aquifer Parameter						
Hydraulic Res. Time (hrs)	0.3					

Particle Data					
Particle File	nurp50.p8p				
Particle Class	P0%	P10%	P30%	P50%	P80%

Filtration Efficiency (%)	90	100	100	100	100
Settling Velocity (ft/hr)	0	0.03	0.3	1.5	15
First Order Decay Rate (1/day)	0	0	0	0	0
2nd Order Decay (1/day-ppm)	0	0	0	0	0
Impervious Runoff Conc (ppm)	1	0	0	0	0
Pervious Runoff Conc (ppm)	1	100	100	100	200
Pervious Conc Exponent	0	1	1	1	1
Accum. Rate (lbs-ac-day)	0	1.75	1.75	1.75	3.5
Particle Removal Rate (1/day)	0	0.25	0.25	0.25	0.25
Washoff Coefficient	0	20	20	20	20
Washoff Exponent	0	2	2	2	2
Sweeper Efficiency	0	0	0	5	15

Water Quality Component Data							
Component Name	TSS	TP	TKN	CU	PB	ZN	HC

Water Quality Criteria (ppm)							
Level 1	5	0.025	2	2	0.02	5	0.1
Level 2	10	0.05	1	0.0048	0.014	0.0362	0.5
Level 3	20	0.1	0.5	0.02	0.15	0.38	1

Content Scale Factor	1	1	1	1	1	1	1

Particle Composition (mg/kg)							
P0%	0	99000	600000	13600	2000	640000	250000
P10%	1000000	3850	15000	340	180	1600	22500
P30%	1000000	3850	15000	340	180	1600	22500
P50%	1000000	3850	15000	340	180	1600	22500
P80%	1000000	0	0	340	180	0	22500

P8 Urban Catchment Model, Version 3.5				Run Date	03/02/26
Case	00-125171-Existing-(02-27-26) - Copy.p8c	FirstDate	01/01/71	Precip(in)	870.4
Title	Msp Case	LastDate	12/31/00	Rain(in)	756.51
PrecFile	MSP_19700101-20001231.pcp	Events	2196	Snow(in)	113.84
PartFile	nurp50.p8p	TotalHrs	261888	TotalYrs	29.88

Mass Balances by Device

Device: ADD DRAIN	Type:	PIPE			
	Flow	Loads(lbs)		Concentrations (ppm)	
Mass Balance Term	acre-ft	TSS	TP	TSS	TP
01 watershed inflows	45.35	4742.50	23.16	38.47	0.19
06 normal outlet	45.35	4742.50	23.16	38.47	0.19
09 total inflow	45.35	4742.50	23.16	38.47	0.19
10 surface outflow	45.35	4742.50	23.16	38.47	0.19
12 total outflow	45.35	4742.50	23.16	38.47	0.19
14 storage increase	0.00	0.00	0.00		
15 mass balance check	0.00	0.00	0.00		
Load Reduction (%)	0.00	0.00	0.00		

P8 Urban Catchment Model, Version 3.5

Case	00-125171-Proposed-(04-14-26).p8c	FirstDate	01/01/71	Run Date	04/15/26
Title	Msp Case	LastDate	12/31/00	Precip(in)	870.4
PrecFile	MSP_19700101-20001231.pcp	Events	2196	Rain(in)	756.51
PartFile	nurp50.p8p	TotalHrs	261888	Snow(in)	113.84
				TotalYrs	29.88

File Directory	L:\Engineering 3D\25\125171 Krenner Site\Hydrology Design\P8\
Case Title	Msp Case
Case File	00-125171-Proposed-(04-14-26).p8c
Particle File	nurp50.p8p
Temperature File	MSP_19700101-20001231.tem
Storm File	MSP_19700101-20001231.pcp
Precip Scale Factor	1

Watersheds	3
Devices	5
Particles	5
WQ Components	7

Start Date	01/01/71
Keep Date	01/01/71
Stop Date	12/31/00
Storm Count	2196
Total Hours	261888
Wet Hours	28761
Precip (in)	870
Rain (in)	757
Snowfall (in)	114
Snowmelt (in)	116
EvapoTran(in)	655

Overall TSS Removal(%)	1
Water Balance Error(%)	0
TSS Mass Balance Error (%)	0

P8 Urban Catchment Model, Version 3.5

Case	00-125171-Proposed-(04-14-26).p8c	FirstDate	01/01/71	Run Date	04/15/26
Title	Msp Case	LastDate	12/31/00	Precip(in)	870.4
PrecFile	MSP_19700101-20001231.pcp	Events	2196	Rain(in)	756.51
PartFile	nurp50.p8p	TotalHrs	261888	Snow(in)	113.84
				TotalYrs	29.88

Mass Balances by Device

Device: OVERALL	Type:	NONE			
	Flow	Loads(lbs)		Concentrations (ppm)	
Mass Balance Term	acre-ft	TSS	TP	TSS	TP
01 watershed inflows	183.83	46671.12	158.28	93.41	0.32
03 infiltrate	177.64	2541.38	57.56	5.26	0.12
04 exfiltrate	177.64	0.00	4.78		0.01
05 filtered	0.00	2541.38	52.78	0.00	0.00
06 normal outlet	6.19	657.98	4.16	39.13	0.25
08 sedimen + decay	0.00	43471.32	96.56	0.00	0.00
09 total inflow	183.83	46671.12	158.28	93.41	0.32
10 surface outflow	6.19	657.98	4.16	39.13	0.25
11 groundw outflow	177.64	0.00	4.78		0.01
12 total outflow	183.83	657.98	8.94	1.32	0.02
13 total trapped	0.00	46012.71	149.34		
14 storage increase	0.00	0.00	0.00		
15 mass balance check	0.00	0.44	0.00		
Load Reduction (%)	0.00	98.59	94.35		

Device: Basin 150I	Type:	INF_BASIN			
	Flow	Loads(lbs)		Concentrations (ppm)	
Mass Balance Term	acre-ft	TSS	TP	TSS	TP
01 watershed inflows	13.63	2117.49	8.56	57.18	0.23
03 infiltrate	12.37	218.50	4.15	6.50	0.12
04 exfiltrate	12.37	0.00	0.33		0.01
05 filtered	0.00	218.50	3.82	0.00	0.00
07 spillway outlet	1.25	598.09	2.40	175.58	0.71
08 sedimen + decay	0.00	1300.54	2.00	0.00	0.00
09 total inflow	13.63	2117.49	8.56	57.18	0.23
10 surface outflow	1.25	598.09	2.40	175.58	0.71
11 groundw outflow	12.37	0.00	0.33		0.01
12 total outflow	13.63	598.09	2.73	16.15	0.07
13 total trapped	0.00	1519.05	5.82		
14 storage increase	0.00	0.00	0.00		
15 mass balance check	0.00	0.35	0.00		
Load Reduction (%)	0.00	71.74	68.03		

Device: Basin 200I	Type:	INF_BASIN			
	Flow	Loads(lbs)		Concentrations (ppm)	

Mass Balance Term	acre-ft	TSS	TP	TSS	TP
01 watershed inflows	7.18	287.53	2.60	14.74	0.13
03 infiltrate	7.18	56.39	2.15	2.89	0.11
04 exfiltrate	7.18	0.00	0.19		0.01
05 filtered	0.00	56.39	1.95	0.00	0.00
08 sedimen + decay	0.00	231.05	0.45	0.00	0.00
09 total inflow	7.18	287.53	2.60	14.74	0.13
11 groundw outflow	7.18	0.00	0.19		0.01
12 total outflow	7.18	0.00	0.19		0.01
13 total trapped	0.00	287.44	2.40		
14 storage increase	0.00	0.00	0.00		
15 mass balance check	0.00	0.08	0.00		
Load Reduction (%)	0.00	99.97	92.55		

Device: Basin 100	Type:	POND			
	Flow	Loads(lbs)		Concentrations (ppm)	
Mass Balance Term	acre-ft	TSS	TP	TSS	TP
01 watershed inflows	163.02	44266.10	147.12	99.90	0.33
02 upstream device	1.25	598.09	2.40	175.58	0.71
06 normal outlet	164.27	5751.57	65.56	12.88	0.15
08 sedimen + decay	0.00	39112.62	83.97	0.00	0.00
09 total inflow	164.27	44864.19	149.53	100.48	0.33
10 surface outflow	164.27	5751.57	65.56	12.88	0.15
12 total outflow	164.27	5751.57	65.56	12.88	0.15
13 total trapped	0.00	39112.62	83.97		
14 storage increase	0.00	0.00	0.00		
15 mass balance check	0.00	0.00	0.00		
Load Reduction (%)	0.00	87.18	56.16		

Device: Basin 100I	Type:	INF_BASIN			
	Flow	Loads(lbs)		Concentrations (ppm)	
Mass Balance Term	acre-ft	TSS	TP	TSS	TP
02 upstream device	164.27	5751.57	65.56	12.88	0.15
03 infiltrate	158.09	2266.49	51.26	5.27	0.12
04 exfiltrate	158.09	0.00	4.25		0.01
05 filtered	0.00	2266.49	47.00	0.00	0.00
07 spillway outlet	6.19	657.98	4.16	39.13	0.25
08 sedimen + decay	0.00	2827.11	10.14	0.00	0.00
09 total inflow	164.27	5751.57	65.56	12.88	0.15
10 surface outflow	6.19	657.98	4.16	39.13	0.25
11 groundw outflow	158.09	0.00	4.25		0.01
12 total outflow	164.27	657.98	8.41	1.47	0.02
13 total trapped	0.00	5093.60	57.14		
14 storage increase	0.00	0.00	0.00		
15 mass balance check	0.00	0.00	0.00		
Load Reduction (%)	0.00	88.56	87.17		

Device: ADD DRAIN	Type:	PIPE			
	Flow	Loads(lbs)		Concentrations (ppm)	
Mass Balance Term	acre-ft	TSS	TP	TSS	TP
02 upstream device	6.19	657.98	4.16	39.13	0.25
06 normal outlet	6.19	657.98	4.16	39.13	0.25
09 total inflow	6.19	657.98	4.16	39.13	0.25
10 surface outflow	6.19	657.98	4.16	39.13	0.25
12 total outflow	6.19	657.98	4.16	39.13	0.25
14 storage increase	0.00	0.00	0.00		
15 mass balance check	0.00	0.00	0.00		
Load Reduction (%)	0.00	0.00	0.00		

Appendix D: NRCS Soils Report & Geotechnical Reports

BRAUN INTERTEC

the science you build on

Geotechnical Evaluation Report

Krenner Property

8591 Geneva Avenue South
Cottage Grove, Minnesota

Prepared for

Lennar Corporation

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





Ryan M. Braun, PE
Senior Engineer
License Number: 60238
February 18, 2026

Braun Intertec Corporation

Project 10003351_001

February 18, 2026 Project 10003351_001

Jacob Champeau
Lennar Corporation
16355 36th Avenue North, Suite #100
Plymouth, MN 55446

Re: Geotechnical Evaluation
Krenner Property
8591 Geneva Avenue South
Cottage Grove, Minnesota

Dear Mr. Champeau:

We are pleased to present this geotechnical evaluation report for the new residential development located on the Krenner Property. Please read the entire report for the results of the soil borings and our recommendations.

Thank you for making Braun Intertec Corporation (Braun Intertec) your geotechnical consultant for this project. If you have questions about this report, or if there are other services that we can provide in support of our work to date, please contact Ryan Braun at 952.738.2171 (rbraun@braunintertec.com) or Joe Westphal at 952.995.2238 (jwestphal@braunintertec.com).

Sincerely,
Braun Intertec Corporation

Ryan M. Braun, PE
Senior Engineer

Joseph L. Westphal, PE
Director, Senior Engineer

c: Akeel Meghjee, Lennar Corporation
Joseph Jablonski, Lennar Corporation
Nicholas Polta, Pioneer Engineering, P.A.

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Appendix

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1.0 Introduction

1.1 Project Description

This geotechnical evaluation report addresses the proposed design and construction of the residential development, located at 8591 Geneva Avenue South in Cottage Grove, Minnesota. The project will include the construction of a new single-family residential development. The proposed development will also include associated streets, sidewalks, curb and gutter, site utilities, and stormwater management features. The site layout provided shows the proposed development will include a total of 25 single-family homes. We understand that the homes could consist of a variety of types within the development including slab-on-grade, full basement, walk-out and look-out style homes. Figure 1-1 below shows an illustration of the proposed site layout.

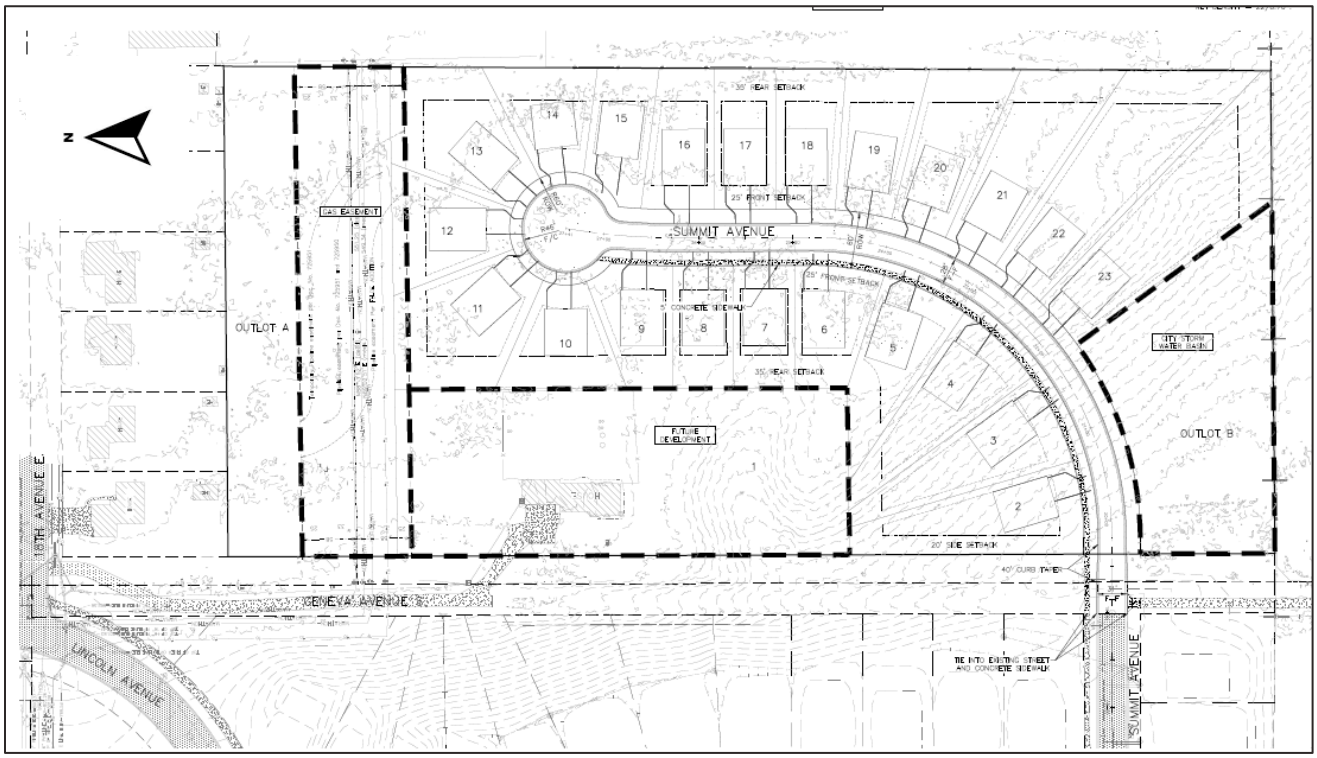


Figure 1-1. Site Layout
Figure provided by Pioneer Engineering, P.A. dated February 4, 2026.

1.1.1 Structural Loads

We have assumed that the construction will consist of one to two-story, wood framed homes with full- or partial-depth basements, supported by cast in place concrete foundations. We have assumed that bearing wall loads associated with the proposed residential construction will range from 3 to 4 kips (3,000 to 4,000) per linear foot (klf) and column loads, if any, will be no greater than 50 kips per column.

1.1.2 Pavement and Traffic Loads

We have assumed that bituminous pavements, typical of residential neighborhoods, will be subject to normal traffic conditions of cars, with occasional school buses, garbage trucks and light delivery trucks and road maintenance equipment estimated to be under 150,000 equivalent single axle loads (ESAL) over an assumed design life of 20 years.

1.2 Site Conditions and History

Currently, and historically the site has been used for agricultural purposes and undeveloped vacant land with portions of wooded areas and tall grass. Based on aerial imagery, it appears there is a residential property located to the northwest of the site and is not a part of the land being acquired at this time. The site has significant grade change and is generally sloping from the north downwards to the southwest of the site, with surface elevations at the borings ranging from about 760 to 810 Mean Sea Level (MSL). Figure 1-2 below, shows an aerial photograph of the site outlined in red.

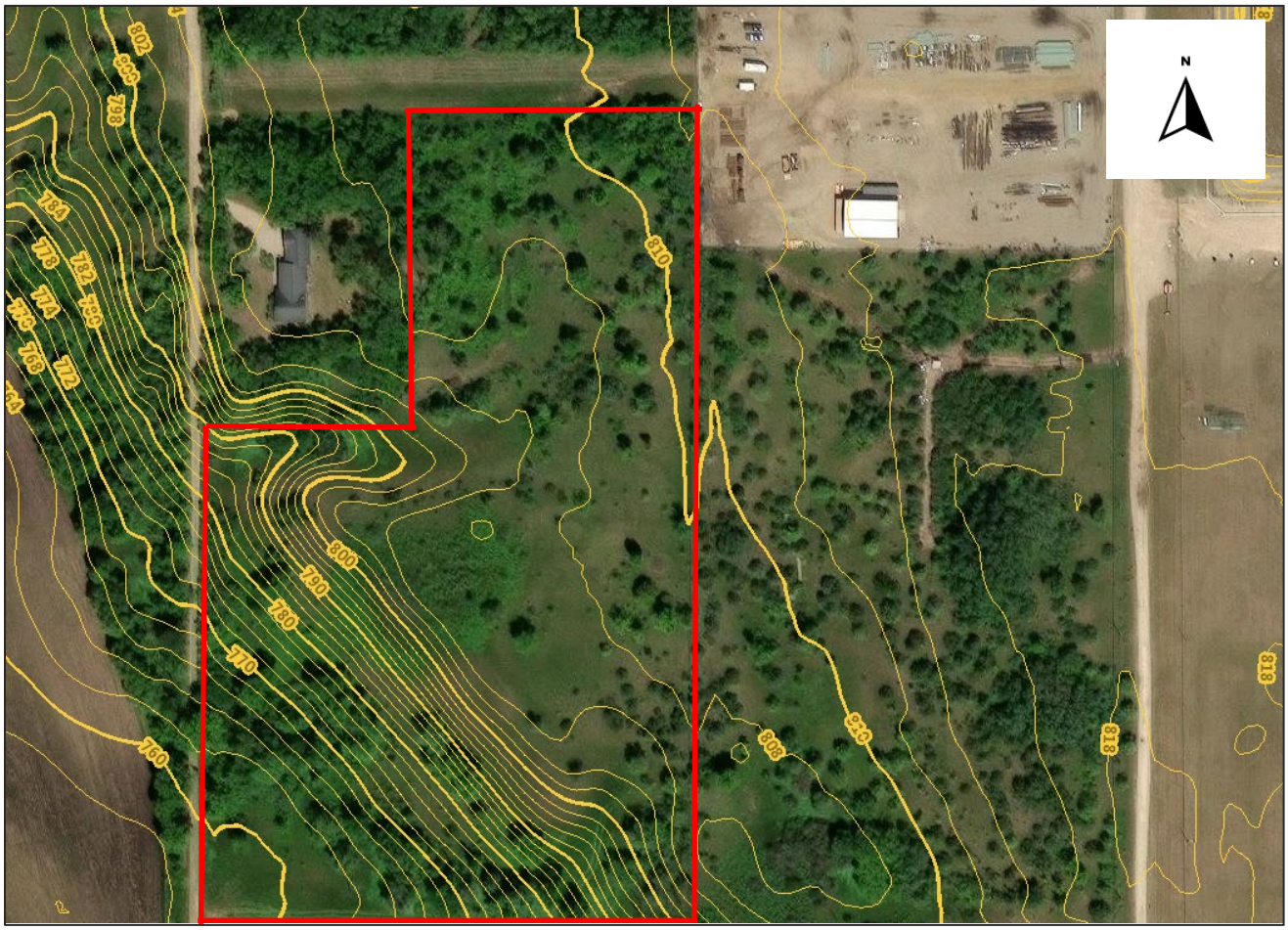


Figure 1-2. Aerial Photograph of the Site in 2025

Figure provided by MnTOPO.

1.3 Purpose

The purpose of our geotechnical evaluation will be to characterize subsurface geologic conditions at selected exploration locations, evaluate their impact on the project, and provide geotechnical recommendations for the design and construction of the residential development.

1.4 Background Information and Reference Documents

We reviewed the following information:

- Existing topographic map prepared by MnTOPO.
- Site concept plan prepared by Pioneer Engineering, P.A, dated February 4, 2026.
- Draft Phase I Environmental Site Assessment prepared by Braun Intertec under project number 10003093_001, dated December 11, 2025.
- Adjacent Geotechnical Exploration Report under project number B2409955.01, dated May 30, 2025, for the Ganeva Meadows project.

In addition to the provided sources, we have used several publicly available sources of information.

- Current and historic aerial photos from Google Earth, Minnesota Historical Aerial Photographs Online and Washington County GIS for information on site history.
- Geologic Atlas of Washington County, Minnesota – Surficial Geology map prepared and published by the Minnesota Geological Survey, dated 2016 for geological information of native soils.

We have described our understanding of the proposed construction and site to the extent others reported it to us. Depending on the extent of available information, we may have made assumptions based on our experience with similar projects. If we have not correctly recorded or interpreted the project details, the project team should notify us. New or changed information could require additional evaluation, analyses, and/or recommendations.

1.5 Scope of Services

We performed our scope of services for the project in accordance with our Proposal 10003351_001 to Lennar Corporation, dated December 29, 2025. The following list describes the geotechnical tasks completed in accordance with our authorized scope of services.

- Reviewing the background information and reference documents previously cited.
- Staking and clearing the exploration location of underground utilities. Braun Intertec selected and staked the new exploration locations. We acquired the surface elevations and locations with GPS technology using the State of Minnesota's permanent GPS base station network. The Soil Boring Location Sketch included in the Appendix shows the approximate locations of the borings.

- Performing six standard penetration test (SPT) borings, denoted as ST-1 to ST-6, to nominal depths of 15 to 20 feet below grade across the site. Boring ST-6 encountered refusal prior to achieving proposed depth.
- Performing laboratory testing on select samples to aid in soil classification and engineering analysis.
- Preparing this report containing a boring location sketch, logs of soil borings, a summary of the soils encountered, results of laboratory tests, and recommendations for structure and pavement subgrade preparation and the design of foundations, floor slabs, exterior slabs, utilities, stormwater improvements and pavements.

We performed this geotechnical evaluation concurrently with a Phase I Environmental Assessment (ESA) and Internal Audit which we will submit separately. The project team should review the Phase I ESA and Internal Audit reports in conjunction with this geotechnical evaluation report to understand both the geotechnical and environmental aspects of the site and how they may impact one another.

2.0 Results

2.1 Geologic Overview

As part of our assessment, we reviewed the geologic maps for the general site area. Based on the geologic maps for Washington County dated 2016, the geology of the site generally consists of glacially deposited sands and gravel. We also reviewed bedrock geology and depth to bedrock maps for Washington County dated 2016. The depth to bedrock is relatively shallow, commonly less than 50 feet below existing grades and generally consists of Limestone from the Shakopee Formation.

We based the geologic origins used in this report on the soil types, in-situ and laboratory testing, and available common knowledge of the geological history of the site. Because of the complex depositional history, geologic origins can be difficult to ascertain. We did not perform a detailed investigation of the geologic history for the site.

2.2 Boring Results

Table 2-1 provides a summary of the soil boring results, in the general order we encountered the strata. Please refer to the Log of Boring sheets in the Appendix for additional details. The Descriptive Terminology sheet in the Appendix includes definitions of abbreviations used in the table below.

Table 2-1. Subsurface Profile Summary*

Strata	Soil Type -ASTM Classification	Range of Penetration Resistances	Commentary and Details
Topsoil	SM	N/A	▪ Encountered in all borings and consists predominantly of silty sand (SM). ▪ Thicknesses at boring locations were approximately 1/2 feet. ▪ Generally brown in color. ▪ Moisture condition generally moist.
Alluvial	SP, SP-SM, SM, SC, CL	4 to 20 Blows per Foot (BPF)	▪ Predominantly consists of poorly graded sand (SP) and poorly graded sand with silt (SP-SM) with lesser amounts of silty sand (SM), clayey sand (SC), and sandy lean clay (CL). ▪ Generally brown in color. ▪ Moisture condition generally moist.
Glacial Deposits	SP, SP-SM, SM	4 to 52 BPF	▪ Intermixed layers of glacial outwash and till. ▪ Variable amounts of gravel; may contain cobbles and boulders. ▪ Moisture condition generally moist.
Apparent Bedrock	Limestone	50 blows for 3 inches of penetration	▪ Encountered in Boring ST-6** ▪ Highly weathered bedrock at an approximate elevation of 752 1/2 feet.

*Abbreviations are defined in the attached Descriptive Terminology sheet.
**Shallow bedrock is likely to be encountered in other areas of the site.

2.3 Groundwater

We did not observe groundwater while advancing our borings. Therefore, it appears that groundwater is below the depths explored. Project planning should anticipate seasonal and annual fluctuations of groundwater.

2.4 Laboratory Test Results

The boring logs show the results of laboratory testing we performed, next to the tested sample depth. The tests were completed in accordance with the latest American Society for Testing and Materials (ASTM) standards. The Appendix contains the results of these tests.

The moisture content (ASTM D 2216) of the selected samples varied from approximately 6 to 24 percent moisture by weight with the majority of the samples ranging from 8 to 16 percent of moisture by weight. This indicates that a majority of the material is slightly below or near its probable optimum moisture content. Some of the soils are likely over their probable optimum moisture content such as the samples with greater than 16 percent moisture.

Our mechanical analyses (ASTM C 117) indicated that the selected samples contained 4 to 26 percent silt and clay by weight. This indicates soils with classifications of poorly graded sand (SP), poorly graded sand with silt (SP-SM), or silty sand (SM).

3.0 Recommendations

3.1 Design and Construction Discussion

The site generally appears suitable for the proposed residential development following mass grading construction. We have not been provided with grading plans at this time but based on the elevation change on the site and the import that was required for the development to the west, we anticipate that import soils may be required during mass grading for this development. Shallow bedrock was encountered during our investigation, which could complicate the proposed development. Key discussion points for the project are provided below.

3.1.1 Building Subgrade Preparation

Based on the results of our subsurface exploration and evaluation, spread footing foundations bearing on engineered fill and/or native soils can support the proposed houses, after performing subgrade preparation. Subgrade preparation includes removing existing vegetation, topsoil, and any existing structures and soft/very loose soils. As the site has historically been used for agricultural purposes, there is the possibility of field drain lines which will also need to be removed, if encountered.

Although preliminary grading plans were not available, we anticipate cuts and fills to be less than 10 feet from existing grades.

3.1.2 Shallow Bedrock Site

Limestone bedrock was identified generally in the southwest corner of the site, which could affect utility line trenches, plumbing, footing excavations and stormwater management systems. The highly weathered limestone may possibly be excavated with a toothed excavating bucket; however, this will likely only work for only the upper weathered bedrock. Deeper excavation will likely require a hydraulic hammer, ripper, or explosive techniques. It is also possible that there may be areas where the bedrock has been eroded by nature and there may be deeper areas of soil which have filled in subsurface erosion channels.

Each house pad will require easily excavatable soil (not bedrock) a minimum of **4 feet below the proposed low floor grade**. This 4-foot soil buffer zone will allow the installation of water and sanitary sewer services, foundations (spread footings and poured foundation walls) as well as interior plumbing (including drain tile and sump baskets) below the lowest floor, as required.

3.1.3 Reuse of On-Site Soils

The on-site soils that are free of organic materials and debris, are generally suitable for reuse as engineered fill. Some of the on-site soils may require moisture conditioning prior to reuse and compaction. The moisture conditioning may require watering (or wetting) some of the native sands. While some of the silty sands and clays encountered in the borings may require drying to achieve proper moisture content for compaction. The moisture conditioning process needs favorable weather (such as summer months) along with time and space to properly moisture condition the soils for reuse and compaction.

Based on the results of our mechanical analysis tests, a majority of the sandy soils present onsite appear suitable for reuse as select granular fill material for the roadways. If there is excess sand material during mass grading it could be stockpiled for reuse during street construction. We would recommend performing full sieve analysis of the material before and after stockpiling. Any material to be used as engineered fill should be tested and approved by the geotechnical engineer prior to placement.

3.1.4 Pavement

Based on the soil borings, it is our opinion the pavements can be constructed on the on-site fill and/or native alluvial soils, as long as the in-place soils can pass a proofroll test. If difficulties passing a proofroll on these soils occur during construction, re-engineering of the existing soil or excavation to more suitable soils may be necessary prior to raising grade. In addition, we recommend a minimum of 4 feet of soil cover over shallow bedrock areas, such as around Boring ST-6.

3.1.5 Karst

This site, as much of southeastern Minnesota does, lies in an area where there is a potential for Karst in the bedrock. The site contains a shallow soil cover over limestone bedrock.

We have performed a detailed review of the South Washington watershed District karst inventory, which documents several karst related features with 1 mile of this project site, including at least 2 within a 1/4 mile of the site. There is a potential for karst related features at this project site. We have discussed the potential of karst related concerns with the developer.

3.1.6 Reuse of Limestone Bedrock

Limestone removed from excavations is typically not reused as engineered fill. Often, the pieces of removed limestone exceed 4 inches in diameter and are too large to reuse as engineered fill. In addition, portions of the removed limestone are typically wet and require moisture conditioning (drying) which is often impractical. If reuse of some limestone is permitted, limestone fragments under 4 inches in size may be blended with soil, but we recommend no more than one part limestone fragment to three parts engineered soil (approximately 25 percent by volume, or less).

Alternatively, limestone that is removed during excavations could likely be crushed and reused as an engineered product, if permitted. We anticipate MnDOT Class 5 Aggregate Base could possibly be produced, provided an experienced crushing and screening process is used. Additional soundness and durability testing of the limestone should be performed prior to crushing.

3.1.7 Recommended Additional Exploration

Based on the Depth to bedrock maps we reviewed and the presence of shallow bedrock in ST-6, We recommend additional exploration to check for presence of shallow bedrock in other areas, prior to mass grading. This includes areas of where more than 5 feet of cut is proposed in mass grading, or along the sanitary sewer alignment where final inverts are greater than 10 feet below existing grade. These exploration locations could be performed with additional SPT soil borings, Power auger borings, or potentially with test pit excavations.

3.2 Site Grading and Subgrade Preparation

3.2.1 Building Subgrade Excavations

We recommend removing the topsoil and any unsuitable material below the proposed house pads and their oversize areas. We define unsuitable materials as existing fill (if encountered), frozen materials, organic soils, existing structures, existing utilities, vegetation, and soft/very loose soils. Table 3-1 shows the anticipated excavation depths and bottom elevations at each of the boring locations. We have included soil correction depths at all the borings, assuming a building pad or pavement will be constructed.

Table 3-1. Building Excavation Depths

Location	Measured Surface Elevation (ft)	Anticipated Excavation Depth (ft)	Anticipated Bottom Elevation (ft)
ST-1	808.5	1	807 1/2
ST-2	807.9	1	806 1/2
ST-3	806.9	1	805 1/2
ST-4	765.0	1	764
ST-5	803.9	4	799 1/2
ST-6	760.0	1	759

Excavation depths will vary between the borings. Portions of the excavations may also extend deeper than indicated by the borings. A geotechnical representative should observe the excavations to make the necessary field judgments regarding the suitability of the exposed soils.

Following the removal of the unsuitable soils and prior to placement of additional engineered fill, we recommend the contractor surface compact the exposed native granular soils with several passes of large, self-propelled vibratory compactor.

The contractor should use equipment and techniques to minimize soil disturbance of the clayey and silty sand soils. If soils become disturbed or are wet, we recommend excavation and replacement.

3.2.2 House Pad Bedrock Separation

We recommend that the house pads have easily excavatable soil (not bedrock) a minimum of 4 feet below the proposed low floor grade. This 4-foot soil buffer zone will allow the installation of water and sanitary sewer services, foundations (spread footings and poured foundation walls) as well as interior plumbing (including drain tile and sump baskets) below the lowest floor.

Based on the proposed basement floor grades, and lowest floor elevations in the final grading plan (currently unavailable), we anticipate areas of bedrock conflicts, and the recommended separation may not be met, generally along the southern portion of the site. Test pits should be performed during mass grading to verify that the recommended 4-foot (or greater) bedrock separations are provided. Any areas where bedrock is found with less than 4-foot of separation, bedrock removal for the full extent of the proposed house pad envelope should be performed.

Based on this evaluation we are confident the bedrock surface is not flat; therefore, it is assumed there will be variable depths to bedrock within each house pad. In areas where extensive bedrock removal occurs for utility construction, stormwater ponds, or general mass grading, the adjacent house pad(s) should also be evaluated.

3.2.3 Excavation Oversizing

When removing unsuitable materials below structures or pavements, we recommend the excavation extend outward and downward at a slope of 1H:1V (horizontal:vertical) or flatter. See Figure 3-1 for an illustration of excavation oversizing.

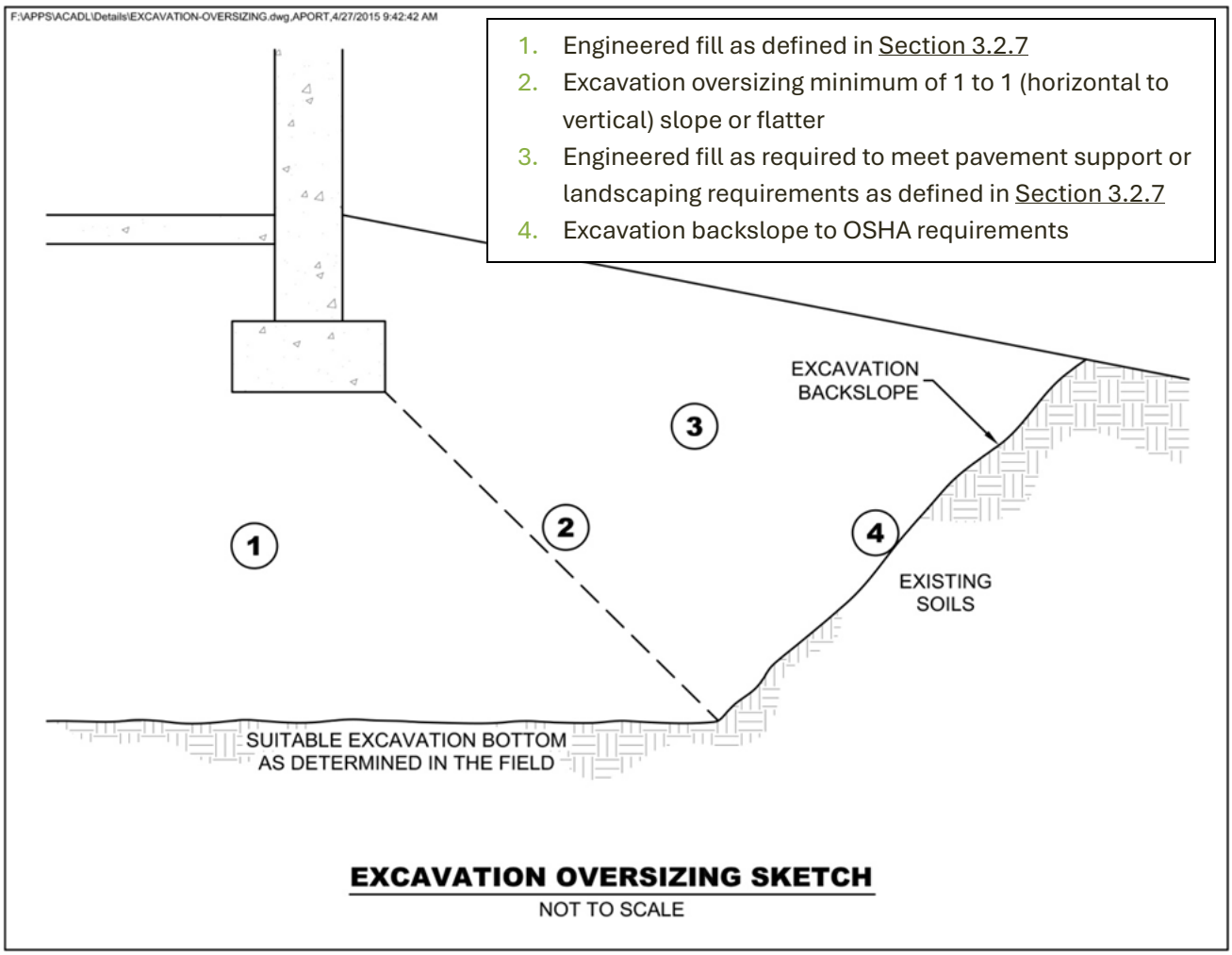


Figure 3-1. Generalized Illustration of Oversizing

3.2.4 Excavated Slopes

Based on the borings, we anticipate on-site soils in excavations will consist of sandy and silty/clayey soils. The sandy soils are typically considered Type C Soil under OSHA (Occupational Safety and Health Administration) guidelines. OSHA guidelines indicate unsupported excavations in Type C soils should have a gradient no steeper than 1 1/2H:1V. The clayey/silty soils are typically considered Type B Soil under OSHA guidelines. OSHA guidelines indicate unsupported excavations in Type B soils should have a gradient no steeper than 1H:1V.Slopes constructed in this manner may still exhibit surface sloughing. OSHA requires an engineer to evaluate slopes or excavations over 20 feet in depth.

An OSHA-approved qualified person should review the soil classification in the field. Excavations must comply with the requirements of OSHA 29 CFR, Part 1926, Subpart P, “Excavations and Trenches.” This document states that excavation safety is the responsibility of the contractor. The project specifications should reference these OSHA requirements.

3.2.5 Pavement and Exterior Slab Subgrade Preparation

We recommend the following steps for pavement and exterior slab subgrade preparation. Note that project planning may require additional subcuts to limit frost heave.

1. Strip unsuitable soils consisting of topsoil, organic soils, and existing fill, if encountered, down to suitable native soils.
2. Have a geotechnical representative observe the excavated subgrade to evaluate if additional subgrade improvements are necessary, specifically soft or saturated soils.
3. Slope subgrade soils to areas of sand or drain tile (if fine grained soils are present) to allow the removal of accumulating water.
4. Scarify, moisture condition and surface compact the subgrade with at least three passes of a large roller with a minimum drum diameter of 3 1/2 feet.
5. Place pavement engineered fill to grade and compact in accordance with Section 3.2.7 to bottom of pavement and exterior slab section. See Section 3.6 for additional considerations related to frost heave.
6. Proofroll the pavement or exterior slab subgrade as described in Section 3.2.6.

3.2.6 Pavement Subgrade Proofroll

After preparing the subgrade as described above and prior to the placement of the aggregate base, we recommend proofrolling the subgrade soils with a fully loaded tandem-axle truck. Alternatively, if SP or SP-SM soils are present at pavement subgrades, the proofroll may be conducted after the placement of the aggregate base, to allow for confinement of the sandy soils or prior to aggregate base placement using a front-end loader with a full bucket. We also recommend having a geotechnical representative observe the proofroll. Areas that fail the proofroll likely indicate soft or weak areas that will require additional soil correction work to support pavements.

The contractor should correct areas that display excessive yielding or rutting during the proofroll, as determined by the geotechnical representative. Possible options for subgrade correction include moisture conditioning and recompaction, subcutting and replacement with soil or crushed aggregate, chemical stabilization, and/or geotextiles. We recommend performing a second proofroll after the aggregate base material is in place, and prior to placing bituminous or concrete pavement.

3.2.7 Engineered Fill Materials and Compaction

Table 3-2 below contains our recommendations for engineered fill materials.

Table 3-2. Engineered Fill Materials*

Locations To Be Used	Engineered Fill Classification	Possible Soil Type Descriptions	Gradation	Additional Requirements
▪ Below foundations < 10 ft of fill	Structural fill	SP, SP-SM, SM, SC, CL	100% passing 2-inch sieve	< 2% Organic Content (OC) Plasticity Index (PI)<20%
▪ Below foundations > 10 ft of fill	Deep Structural fill	SP, SP-SM	100% passing 2-inch sieve < 12% passing #200 sieve	< 2% OC
▪ Drainage layer ▪ Non-frost-susceptible	▪ Free draining ▪ Non-frost-susceptible fill	GP, GW, SP, SW	100% passing 1-inch sieve < 50% passing #40 sieve < 5% passing #200 sieve	< 2% OC
Behind below-grade walls, beyond drainage layer	Retained fill	SP, SP-SM, SM	100% passing 3-inch sieve < 20% passing #200 sieve	< 2% OC PI< 4%
Pavements	Pavement fill	SP, SP-SM, SM, SC, CL	100% passing 3-inch sieve	< 2% OC PI < 20%
Below landscaped surfaces, where subsidence is not a concern	Non-structural fill	Any	100% passing 6-inch sieve	< 10% OC PI<20%

* More select soils comprised of coarse sands with < 5% passing #200 sieve may be needed to accommodate work occurring in periods of wet or freezing weather.

Project grading plans were not available at the time of this report, so it is unknown if there will be any deep fill areas. If only clay or silty sand fill is used to fill house pads where more than 10 feet of fill is needed, a construction delay of at least 3 to 9 months may be needed, depending on the final depths of clay and silty sand fill used. As an alternative, on lots where deep fills are needed, sand fill (less than 12 percent passing the #200 sieve) could be used to initially fill the excavations below these house pads. The sand fill should be placed in thin compacted lifts, up to an elevation of 10 feet or less from the finished basement floor grades. On-site fine-grained soil can then be used to complete construction of the building pads. If the alternative method of filling the house pads partially with sand fill is used, a construction delay would not be needed. Based on the amount of granular soils at this site, we assume most construction delays can be avoided, provided the grading contractor is careful to place on-site granular soils within deeper house pad fills.

We recommend spreading engineered fill in loose lifts of approximately 8 to 12 inches thick. We recommend compacting each lift of engineered fill with a full size vibratory or sheepsfoot compactor, in accordance with the criteria presented below in Table 3-3. The project documents should specify relative compaction of engineered fill, based on the structure located above the engineered fill, and vertical proximity to that structure.

Table 3-3. Compaction Recommendations Summary

Reference	Relative Compaction, percent (ASTM D698 – Standard Proctor)	Moisture Content Variance from Optimum, percentage points	
		< 12% Passing #200 Sieve (typically SP, SP-SM)	> 12% Passing #200 Sieve (typically CL, SC, ML, SM)
Below building foundations and oversizing zones, less than 10 feet of fill	95	**	-1 to +3
Below building foundations and oversizing zones, more than 10 feet of fill	98	**	-1 to +2
Within 3 feet of pavement subgrade	100	**	-2 to +1
More than 3 feet below pavement subgrade	95	**	-1 to +3
Below landscaped surfaces	90	**	-1 to +3
Adjacent to below grade wall	95*	**	-1 to +3

*Increase compaction requirement to meet compaction required for structure supported by this engineered fill.
**The moisture content of the clean sand fill should be greater than 5 percent, but no more than 1 percentage point over optimum.

The project documents should not allow the contractor to use frozen material as engineered fill or to place engineered fill on frozen material. Frost should not penetrate under foundations during construction.

We recommend performing density tests in engineered fill to evaluate if the contractors are effectively compacting the soil and meeting project requirements.

3.3 Spread Footings

3.3.1 Embedment Depth

For frost protection, we recommend embedding perimeter footings of the structures, including attached garages, a minimum of 42 inches below the lowest exterior grade. Interior footings may be placed directly below floor slabs unless they will be subjected to freezing. We recommend embedding building footings not heated during winter construction, and other unheated footings associated with porches, decks, or stoops 60 inches below the lowest exterior grade.

3.3.2 Subgrade Improvement

If a small amount of groundwater is present within the footing excavation, or if the footing subgrade soils become disturbed prior to placing forms or reinforcement, we recommend subcutting the soft or wet soil and placing a 6- to 8-inch layer of crushed aggregate, which should be compacted into the subgrade. The aggregate will provide a stable working surface and will allow for the flow of water to a drain tile or sump pump.

3.3.3 Net Allowable Bearing Pressure

We recommend sizing spread footings to exert a net allowable bearing pressure of up to 2,000 pounds per square foot (psf). This value includes a safety factor of at least 3.0 with regard to bearing capacity failure.

3.3.4 Settlement

We estimate that total and differential settlements among the footings will amount to less than 1- and 1/2-inch, respectively, under the assumed loads. Settlements could be higher if more than 10 feet of clayey fill is used to construct the building pads. Those lots would require a construction delay. To avoid a construction delay, those pads requiring more than 10 feet of fill below the lowest floor grades could initially be filled with clean sand fill, meeting the soil classification of poorly graded sand (SP) or poorly graded sand with silt (SP-SM) up to an elevation of less than 10 feet below the lowest floor slab and oversize areas. Less select clayey soil can then be used to fill the remainder of the building pad and oversize areas.

3.4 Below-Grade Walls

The following sections address soil parameters for basement wall design. Although construction of retaining walls has not been specified for this project to date, the following recommendations can also be used for preliminary retaining wall design. Additional soil analysis, including additional soil borings may be needed for final retaining wall design.

3.4.1 Drainage Control

We recommend installing drain tile to remove water behind the below-grade walls, at the location shown in Figure 3-2. The below-grade wall drainage system should also incorporate free-draining, engineered fill or a drainage board placed against the wall and connected to the drain tile.

Even with the use of free-draining, engineered fill, we recommend general waterproofing of below-grade walls that surround occupied or potentially occupied areas because of the potential cost impacts related to seepage after construction is complete.

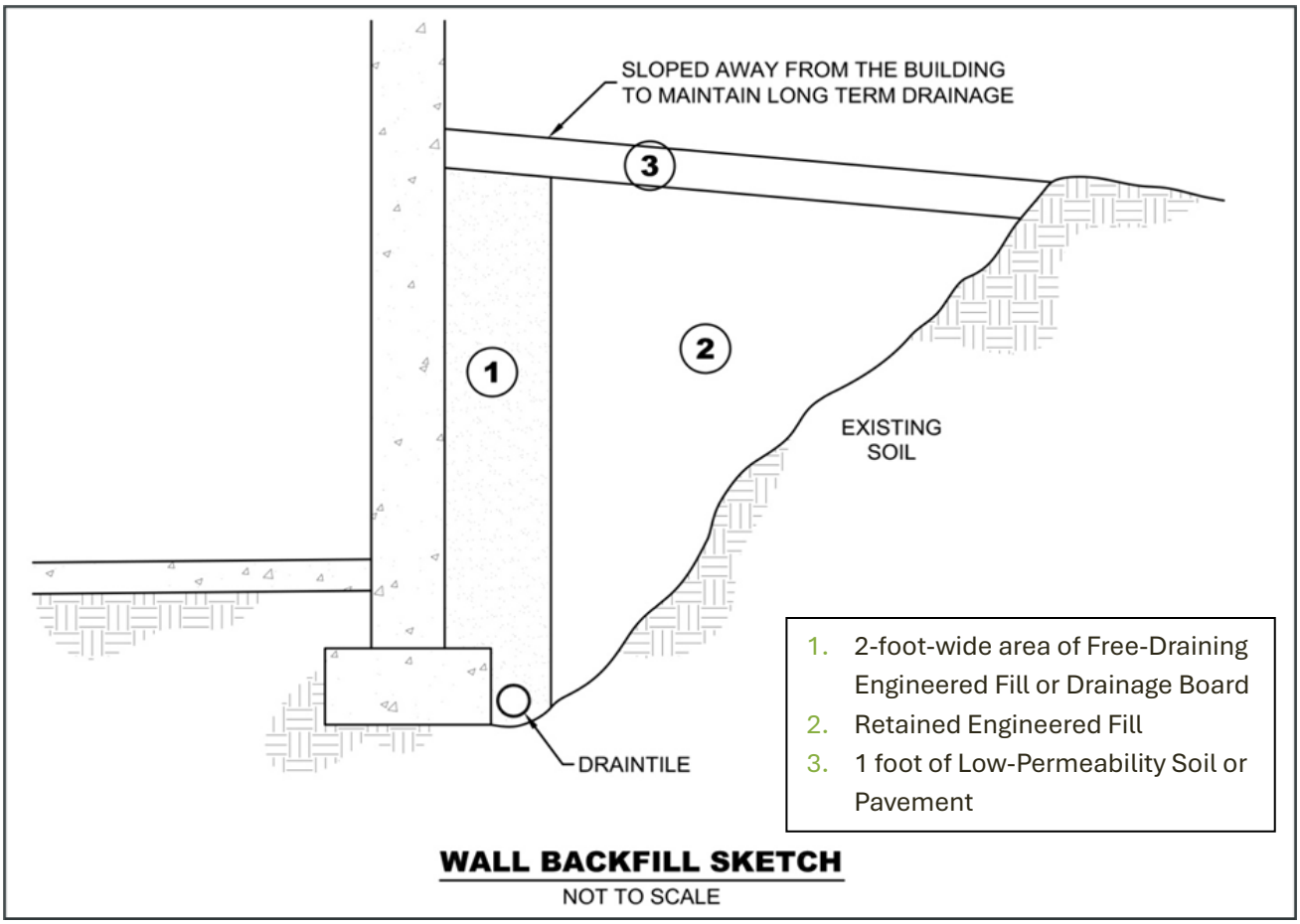


Figure 3-2. Generalized Illustration of Wall Engineered Fill

The materials listed in the sketch should meet the definitions in Section 3.4. Low-permeability material is capable of directing water away from the wall, like clay, topsoil, or pavement. The project documents should indicate if the contractor should brace the walls prior to filling and allow unbalanced fill heights.

3.4.2 Configuring and Resisting Lateral Loads

Below-grade wall design can use active earth pressure conditions if the walls can rotate slightly. If the wall design cannot tolerate rotation, then design should use at-rest earth pressure conditions. Rotation up to 0.002 times the wall height is generally required for walls supporting sand. Rotation up to 0.02 times the wall height is required when wall supports clay.

Table 3-4 presents our recommended lateral coefficients and equivalent fluid pressures for wall design of active, at-rest and passive earth pressure conditions. The table also provides recommended wet unit weights and internal friction angles. Designs should also consider the slope of any engineered fill, and dead or live loads placed behind the walls within a horizontal distance that is equal to the height of the walls. Our recommended values assume the wall design provides drainage so water cannot accumulate behind the walls. The construction documents should clearly identify what soils the contractor should use for engineered fill of walls.

Table 3-4. Recommended Below-Grade Wall Design Parameters – Drained Conditions

Retained Soil	Wet Unit Weight (pcf)	Friction Angle (degrees)	Equivalent Active Fluid Pressure (pcf)	Equivalent At-Rest Fluid Pressure (pcf)	Equivalent Passive Fluid Pressure* (pcf)
Imported/ On-site Sand (SP, SP-SM)	120	33	35	55	N/A
On-site Silty Sand (SM)	125	30	42	62	375
On-site clayey soil (CL, SC)	125	26	50	70	320

* Based on Rankine model for soils in a region behind the wall extending at least 2 horizontal feet beyond the bottom outer edges of the wall footings and then rising up and away from the wall at an angle no steeper than 60 degrees from horizontal.

Sliding resistance between the bottom of the footing and the soil can also resist lateral pressures. We recommend assuming a sliding coefficient equal to 0.3 between the concrete and soil.

The values presented in this section are un-factored.

3.5 Interior Slabs

3.5.1 Proposed Slab Separation

We recommend that the house pads have easily excavatable soil (not bedrock) a minimum of 4 feet below the proposed low floor grade. See Section 3.2.2 for more discussion.

3.5.2 Moisture Vapor Protection

Excess transmission of water vapor could cause floor dampness, certain types of floor bonding agents to separate, or mold to form under floor coverings. If project planning includes using floor coverings or coatings, we recommend placing a vapor retarder or vapor barrier immediately beneath the slab. We also recommend consulting with floor covering manufacturers regarding the appropriate type, use and installation of the vapor retarder or barrier to preserve warranty assurances.

3.5.3 Radon

We recommend installing a radon mitigation system in accordance with local building code. Our certified and licensed radon mitigation professionals can assist in the design, at your request.

3.6 Frost Protection

3.6.1 General

A mixture of silty sand and clayey soils will underlie exterior slabs, as well as pavements. We consider these soils to be moderately to highly frost susceptible. Soils of this type can retain moisture and heave upon freezing. In general, this characteristic is not an issue unless these soils become saturated, due to surface runoff or infiltration, or are excessively wet in-situ. Once frozen, unfavorable amounts of general and isolated heaving of the soils and the surface structures supported on them could develop. This type of heaving could affect design drainage patterns and the performance of exterior slabs and pavements, as well as any isolated exterior footings and piers.

Note that general runoff and infiltration from precipitation are not the only sources of water that can saturate subgrade soils and contribute to frost heave. Roof drainage and irrigation of landscaped areas in close proximity to exterior slabs, pavements, and isolated footings and piers, contribute as well.

3.6.2 Frost Heave Mitigation

To address most of the heave related issues, we recommend setting general site grades and grades for exterior surface features to direct surface drainage away from buildings, across large, paved areas and away from walkways. Such grading will limit the potential for saturation of the subgrade and subsequent heaving. General grades should also have enough “slope” to tolerate potential larger areas of heave, which may not fully settle after thawing.

Even small amounts of frost-related differential movement at walkway joints or cracks can create tripping hazards. Project planning can explore several subgrade improvement options to address this condition.

One of the more conservative subgrade improvement options to mitigate potential heave is removing any frost-susceptible soils present below the exterior slab areas down to a minimum depth of 4 feet below subgrade elevations. We recommend filling the resulting excavation with non-frost-susceptible fill. We recommend providing drainage at the base of the subcut, as well as gradual transitions from this subcut (3H:1V or flatter gradient). We also recommend sloping the bottom of the excavation toward one or more collection points to remove any water entering the engineered fill. This approach will not be effective in controlling frost heave without removing the water.

An important geometric aspect of the excavation and replacement approach described above is sloping the banks of the excavations to create a more gradual transition between the unexcavated soils considered frost susceptible and the engineered fill in the excavated area, which is not frost susceptible. The slope allows attenuation of differential movement that may occur along the excavation boundary. We recommend slopes that are 3H:1V, or flatter, along transitions between frost-susceptible and non-frost-susceptible soils.

Figure 3-3 shows an illustration summarizing some of the recommendations.

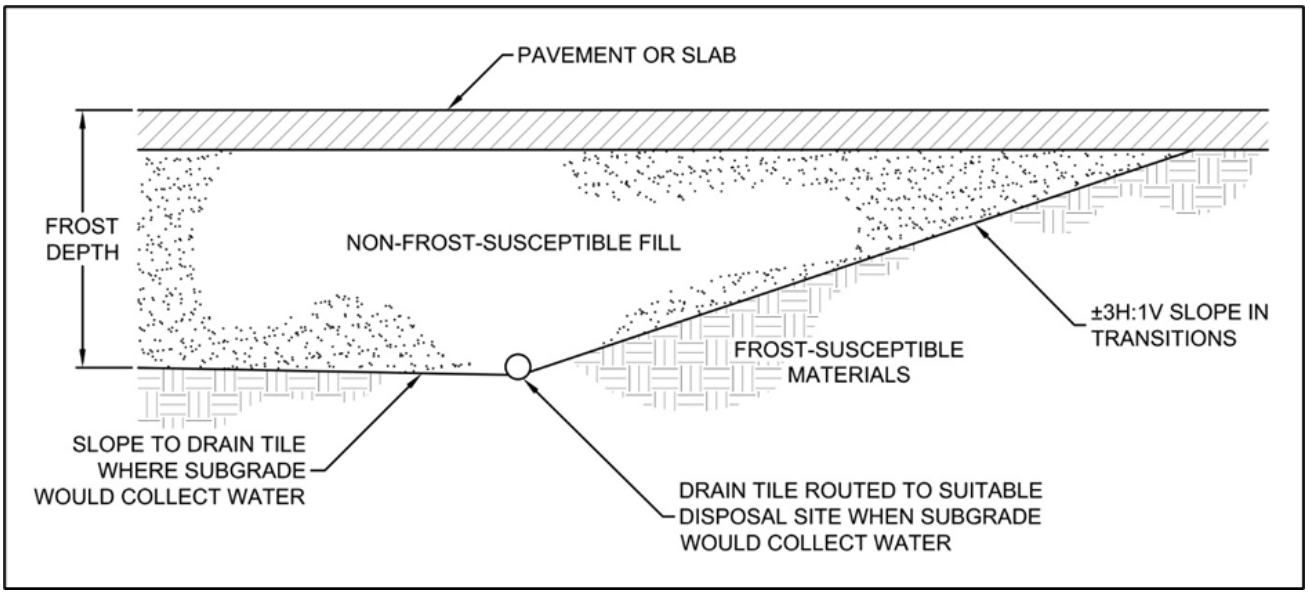


Figure 3-3. Frost Protection Geometry Illustration

Another option is to limit frost heave in critical areas, such as doorways and entrances, via frost-depth footings or localized excavations with sloped transitions between frost-susceptible and non-frost-susceptible soils, as described above.

Over the life of slabs and pavements, cracks will develop, and joints will open up, which will expose the subgrade and allow water to enter from the surface and either saturate or perch atop the subgrade soils. This water intrusion increases the potential for frost heave or moisture-related distress near the crack or joint. Therefore, we recommend implementing a detailed maintenance program to seal and/or fill any cracks and joints. The maintenance program should give special attention to areas where dissimilar materials abut one another, where construction joints occur and where shrinkage cracks develop.

3.7 Pavements and Exterior Slabs

3.7.1 Design Sections

Our scope of services for this project did not include laboratory tests on subgrade soils to determine an R-value for pavement design. Based on our experience with similar silty sand and clayey soils anticipated at the pavement subgrade elevation, we recommend pavement design assume an R-value of 20.

We assume that the City of Cottage Grove Standard Plates will be used pavement designs. If City standard plates aren't available, we recommend a bituminous pavement section that includes a minimum of 3 1/2 inches of bituminous pavement (a 1 1/2-inch surface course over a 2-inch base course) over 8 inches of aggregate base material over 18 inches of select granular. The local government agency may require alternative standard pavement sections.

The ongoing performance of bituminous pavements is impacted by conditions under which the pavement is asked to perform in. These conditions include the environmental conditions, the actual use conditions, and the level of ongoing maintenance performed. Because of normal thermos-expansion and contraction, it is not unusual to have cracking develop within the first few years of placement and for the cracking to continue throughout the life of the pavement. A regular maintenance plan should be developed for filling cracks to lessen the potential impacts for cold weather distress due to frost heave or warm weather distress due to wetting and softening of the subgrade. It is also not unusual for the pavement to require a seal coat within the first 5 to 10 years to increase the long-term performance of the bituminous pavement.

3.7.2 Bituminous Pavement Materials

Appropriate mix designs are critical to the performance of flexible pavements. We can provide recommendations for pavement material selection during final pavement design.

3.7.3 Subgrade Drainage

We recommend installing perforated drainpipes throughout pavement areas at low points, around catch basins, and behind curb in landscaped areas. However, subgrade drainage should **not be required** where the pavement section subgrade consists of granular soils, with less than 20 percent passing a #200 Sieve. When required, we recommend installing drainpipes along pavement and exterior slab edges where exterior grades promote drainage toward those edge areas. Given the lack of groundwater observed and amount of granular soils, we assume drain tile could be omitted throughout the majority of the site.

Where drain tile is required, the contractor should place drainpipes at the base of the granular subbase layer or in shallow trenches just below the aggregate base material where no subbase is present.

3.7.4 Performance and Maintenance

We based the above pavement designs on a 20-year performance life for bituminous. This is the amount of time before we anticipate the pavement will require reconstruction. This performance assumes routine maintenance, such as seal coating and crack sealing. The actual pavement life will vary depending on variations in weather, traffic conditions and maintenance.

It is common to place the non-wear course of bituminous and then delay placement of wear course. For this situation, we recommend evaluating if the reduced pavement section will have sufficient structure to support construction traffic.

3.8 Utilities

3.8.1 Subgrade Stabilization

Earthwork activities associated with utility installations located inside the building area should adhere to the recommendations in Section 3.2.

For exterior utilities, we anticipate the soils at typical invert elevations will be suitable for utility support. However, if construction encounters unfavorable conditions such as soft clay, organic soils or perched water

at invert grades, the unsuitable soils may require some additional subcutting and replacement with sand or crushed rock to prepare a proper subgrade for pipe support. Project design and construction should not place utilities within the 1H:1V oversizing of foundations.

3.8.2 Excavations in Bedrock

As previously stated, excavations for utilities may encounter zones of bedrock at proposed pipe subgrade bearing elevations. The bedrock surface may be weathered where a typical backhoe can excavate through it but if excavations for utilities extend beyond the upper 3 feet of bedrock, the contractor will likely need alternative excavation practices, relatively larger equipment, pneumatic chisels, hammers, rippers, or blasting to remove more sound, less weathered bedrock below auger refusal depths. The rock should be removed deep enough that a suitable bedding material can also be placed beneath the pipes.

3.8.3 Corrosion Potential

The soil borings indicated the site predominantly consists of sandy soils with lesser amounts of clayey soil. We consider the sandy soils to be non- to slightly corrosive to metallic conduits. However, the clayey soils should be corrosive to metallic conduits unless the clayey soils are tested to verify that they are not corrosive to metallic conduits. If utilities extend through clay soils, we recommend bedding the utilities in sandy soil free of any clay lumps or constructing the utilities with non-corrosive materials.

3.9 Stormwater

We understand that stormwater basins or ponds will be included within the proposed development. Typical stormwater recommendations can be found in the Minnesota Stormwater Manual.

We understand the South Washington Watershed District, in conjunction with the stormwater manual, allows construction of infiltration stormwater ponds when there is a minimum 10 feet of soil separation from the proposed pond bottom to limestone bedrock surface. We further understand if there is less 10 feet of separation from the bottom of ponds to the bedrock surface, infiltration is not permitted, and stormwater basins require placement of a clay liner.

Based on our review of the current civil plans, the identified karst related features being in close proximity of the site, and the shallow depth to bedrock, **we do not recommend infiltration of stormwater at this site**. Furthermore, the stormwater management plan should consider a potential of long-term karst related concerns.

We understand the South Washington Watershed District, in conjunction with the stormwater manual, allows construction of retention stormwater ponds in close proximity to the limestone bedrock surface provided a clay liner is placed. For the clay liner, we recommend the clay liner be at least 2 feet thick and consist of lean clay soils with Plasticity Index (PI) of 20 or less. Additional soil parameters can be provided if required or requested. A project alternative could include using a manufactured geo-synthetic liner (minimum 12 mil Thickness) instead of a clay liner.

4.0 Procedures

4.1 Penetration Test Borings

We drilled the penetration test borings with an all-terrain vehicle (ATV)-mounted core and auger drill equipped with hollow-stem auger. We performed the borings in general accordance with ASTM D6151 taking penetration test samples at 2 1/2- or 5-foot intervals in general accordance with ASTM D1586. The boring logs show the actual sample intervals and corresponding depths.

We sealed penetration test boreholes meeting the Minnesota Department of Health (MDH) Environmental Borehole criteria with an MDH-approved grout.

4.2 Exploration Logs

4.2.1 Log of Boring Sheets

The Appendix includes Log of Boring sheets for our penetration test borings. The logs identify and describe the penetrated geologic materials and present the results of penetration resistance and other in-situ tests performed. The logs also present the results of laboratory tests performed on penetration test samples and groundwater measurements.

We inferred strata boundaries from changes in the penetration test samples and the auger cuttings. Because we did not perform continuous sampling, the strata boundary depths are only approximate. The boundary depths likely vary away from the boring locations, and the boundaries themselves may occur as gradual rather than abrupt transitions.

4.2.2 Geologic Origins

We assigned geologic origins to the materials shown on the logs and referenced within this report, based on: (1) a review of the background information and reference documents cited above, (2) visual classification of the various geologic material samples retrieved during the course of our subsurface exploration, (3) penetration resistance and other in-situ testing performed for the project, (4) laboratory test results, and (5) available common knowledge of the geologic processes and environments that have impacted the site and surrounding area in the past .

4.3 Material Classification and Testing

4.3.1 Visual and Manual Classification

We visually and manually classified the geologic materials encountered based on ASTM D2488. When we performed laboratory classification tests, we used the results to classify the geologic materials in accordance with ASTM D2487. The Appendix includes a chart explaining the classification system we used.

4.3.2 Laboratory Testing

The exploration logs in the Appendix note most of the results of the laboratory tests performed on geologic material samples. We performed the tests in general accordance with ASTM procedures.

4.4 Groundwater Measurements

The drillers checked for groundwater while advancing the penetration test borings, and again after auger withdrawal. We then filled the boreholes, as noted on the boring logs.

5.0 Qualifications

5.1 Variations in Subsurface Conditions

5.1.1 Material Strata

We developed our evaluation, analyses, and recommendations from a limited amount of site and subsurface information. It is not standard engineering practice to retrieve material samples from exploration locations continuously with depth. Therefore, we must infer strata boundaries and thicknesses to some extent. Strata boundaries may also be gradual transitions, and project planning should expect the strata to vary in depth, elevation, and thickness, away from the exploration locations.

Variations in subsurface conditions present between exploration locations may not be revealed until performing additional exploration work or starting construction. If future activity for this project reveals any such variations, you should notify us so that we may reevaluate our recommendations. Such variations could increase construction costs, and we recommend including a contingency to accommodate them.

5.1.2 Groundwater Levels

We made groundwater measurements under the conditions reported herein and shown on the exploration logs and interpreted in the text of this report. Note that the observation periods were relatively short, and project planning can expect groundwater levels to fluctuate in response to rainfall, flooding, irrigation, seasonal freezing and thawing, surface drainage modifications and other seasonal and annual factors.

5.2 Continuity of Professional Responsibility

5.2.1 Plan Review

We based this report on a limited amount of information, and we made a number of assumptions to help us develop our recommendations. We should be retained to review the geotechnical aspects of the designs and specifications. This review will allow us to evaluate whether we anticipated the design correctly, if any design changes affect the validity of our recommendations, and if the design and specifications correctly interpret and implement our recommendations.

5.2.2 Construction Observations and Testing

We recommend retaining Braun Intertec to perform the required observations and testing during construction as part of the ongoing geotechnical evaluation. This will allow us to correlate the subsurface conditions exposed during construction with those encountered by the borings and provide professional continuity from the design phase to the construction phase. If we do not perform observations and testing during construction, it becomes the responsibility of others to validate the assumption made during the preparation of this report and to accept the construction-related geotechnical engineer-of-record responsibilities.

5.3 Use of Report

This report is for the exclusive use of the addressed parties. Without written approval, we assume no responsibility to other parties regarding this report. Our evaluation, analyses and recommendations may not be appropriate for other parties or projects.

5.4 Standard of Care

In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

Appendix

Soil Boring Location Sketch
Log of Boring Sheets ST-1 through ST-6
Descriptive Terminology of Soil

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DENOTES APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING

N

75' 0 150'

SCALE: 1"= 150'

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The science you build on
11001 Hampshire Avenue S
Minneapolis, MN 55438
952.995.2000
braunintertec.com

Drawing Information

Project No:	10003351_001
Drawing No:	10003351-001
Drawn By:	JAG
Date Drawn:	1/2/25
Checked By:	RB
Last Modified:	1/29/26

Project Information

Krenner Property

8591 Geneva Avenue S.

Cottage Grove, Minnesota

Soil Boring Location Sketch

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10003351_001
Geotechnical Evaluation
Krenner Property
8591 Geneva Avenue South
Cottage Grove, Minnesota

BORING: **ST-1**
LOCATION: Captured with RTK GPS.
DATUM: NAD 1983 HARN Adj MN Washington (US Feet)
NORTHING: 4963477.0 EASTING: 501366.0
DRILLER: M. Hoppe LOGGED BY: A. Trousil START DATE: 01/15/26 END DATE: 01/15/26
SURFACE ELEVATION: 808.5 ft RIG: 7504 METHOD: 3 1/4" HSA SURFACING: Grass, weeds WEATHER:

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
808.0		SILTY SAND (SM), fine-grained, trace roots, brown, moist (TOPSOIL)					
0.5		POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, trace Gravel, brown, moist, loose (ALLUVIUM)		1-3-4 (7) 12"		8	P200=7%
804.5							
4.0		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, brown, moist, loose to medium dense (GLACIAL OUTWASH)	5	3-4-4 (8) 12"			
				3-5-5 (10) 14"			
			10	4-6-5 (11) 12"			
				3-3-4 (7) 16"			
794.0							
14.5		END OF BORING	15				Water not observed while drilling.
		Boring immediately backfilled					

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10003351_001
Geotechnical Evaluation
Krenner Property
8591 Geneva Avenue South
Cottage Grove, Minnesota

BORING: **ST-2**
LOCATION: Captured with RTK GPS.
DATUM: NAD 1983 HARN Adj MN Washington (US Feet)
NORTHING: 4963413.9 EASTING: 501405.8
DRILLER: M. Hoppe LOGGED BY: A. Trousil START DATE: 01/15/26 END DATE: 01/15/26
SURFACE ELEVATION: 807.9 ft RIG: 7504 METHOD: 3 1/4" HSA SURFACING: Grass, weeds WEATHER:

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
807.4		SILTY SAND (SM), fine to medium-grained, trace roots, trace Gravel, brown, moist (TOPSOIL)					
0.5		CLAYEY SAND (SC), fine-grained, brown, moist, medium to stiff (ALLUVIUM)		1-4-4 (8) 6"		16	
			5	4-5-4 (9) 2"		16	
801.9							
6.0		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, brown, moist, medium dense to loose (GLACIAL OUTWASH)		4-8-8 (16) 16"			
			10	4-8-11 (19) 12"			
				3-4-6 (10) 12"			
793.4							
14.5		END OF BORING	15				Water not observed while drilling.
		Boring immediately backfilled					

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10003351_001
Geotechnical Evaluation
Krenner Property
8591 Geneva Avenue South
Cottage Grove, Minnesota

BORING: **ST-3**
LOCATION: Captured with RTK GPS.
DATUM: NAD 1983 HARN Adj MN Washington (US Feet)
NORTHING: 4963329.8 EASTING: 501366.1
DRILLER: M. Hoppe LOGGED BY: A. Trousil START DATE: 01/15/26 END DATE: 01/15/26
SURFACE ELEVATION: 806.9 ft RIG: 7504 METHOD: 3 1/4" HSA SURFACING: Grass, weeds WEATHER:

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
806.4		SILTY SAND (SM), fine to medium-grained, trace roots, trace Gravel, brown, moist (TOPSOIL)					
0.5		CLAYEY SAND (SC), brown, moist, medium (ALLUVIUM)		2-4-3 (7) 10"		14	
803.9		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, brown, dry to moist, very loose to medium dense (GLACIAL OUTWASH)					
3.0			5	3-2-2 (4) 12"			
				5-7-7 (14) 12"			
			10	4-5-6 (11) 12"			
				3-5-5 (10) 10"			
792.4							
14.5		END OF BORING	15				Water not observed while drilling.
		Boring immediately backfilled					

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10003351_001
Geotechnical Evaluation
Krenner Property
8591 Geneva Avenue South
Cottage Grove, Minnesota

BORING: **ST-4**
LOCATION: Captured with RTK GPS.
DATUM: NAD 1983 HARN Adj MN Washington (US Feet)
NORTHING: 4963291.6 EASTING: 501303.7
DRILLER: M. Hoppe LOGGED BY: A. Trousil START DATE: 01/15/26 END DATE: 01/15/26
SURFACE ELEVATION: 765.0 ft RIG: 7504 METHOD: 3 1/4" HSA SURFACING: Grass, weeds WEATHER:

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
764.5		SILTY SAND (SM), fine to medium-grained, trace roots, trace Gravel, brown, moist (TOPSOIL)					
0.5		SILTY SAND (SM), fine to medium-grained, with Gravel, brown, moist, medium dense (ALLUVIUM)		4-10-10 (20) 8"		6	P200=16%
761.0							
4.0		POORLY GRADED SAND with SILT (SP-SM), fine to coarse-grained, with Gravel, brown, moist, medium dense to very dense (GLACIAL OUTWASH)	5	5-6-14 (20) 12"			
				21-32-50/6" (REF) 2"			
			10	14-19-17 (36) 12"			
				11-21-31 (52) 10"			
750.5							
14.5		END OF BORING	15				Water not observed while drilling.
		Boring immediately backfilled					

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10003351_001
Geotechnical Evaluation
Krenner Property
8591 Geneva Avenue South
Cottage Grove, Minnesota

BORING: **ST-5**
LOCATION: Captured with RTK GPS.
DATUM: NAD 1983 HARN Adj MN Washington (US Feet)
NORTHING: 4963291.1 EASTING: 501395.5
DRILLER: M. Hoppe LOGGED BY: A. Trousil START DATE: 01/15/26 END DATE: 01/15/26
SURFACE ELEVATION: 803.9 ft RIG: 7504 METHOD: 3 1/4" HSA SURFACING: Grass, weeds WEATHER:

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
803.4		SILTY SAND (SM), fine to medium-grained, trace roots, trace Gravel, brown, moist (TOPSOIL)					
0.5		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, brown, moist, very loose (ALLUVIUM)		2-2-2 (4) 12"		8	P200=4%
799.4							
4.5		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, brown, moist, loose to medium dense (GLACIAL OUTWASH)	5	4-3-5 (8) 12"			
				1-7-6 (13) 12"			
			10	3-6-8 (14) 10"			
				6-7-8 (15) 12"			
789.4							
14.5		END OF BORING	15				Water not observed while drilling.
		Boring immediately backfilled					

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10003351_001
Geotechnical Evaluation
Krenner Property
8591 Geneva Avenue South
Cottage Grove, Minnesota

BORING: **ST-6**
LOCATION: Captured with RTK GPS.
DATUM: NAD 1983 HARN Adj MN Washington (US Feet)
NORTHING: 4963249.3 EASTING: 501306.9
DRILLER: M. Hoppe LOGGED BY: A. Trousil START DATE: 01/15/26 END DATE: 01/15/26
SURFACE ELEVATION: 760.0 ft RIG: 7504 METHOD: 3 1/4" HSA SURFACING: Grass, weeds WEATHER:

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
759.5		SILT (ML), trace roots, trace Gravel, brown, moist (TOPSOIL)					
0.5		SANDY LEAN CLAY (CL), brown, moist, medium (ALLUVIUM)		3-2-4 (6) 6"		24	
756.0							
4.0		SILTY SAND (SM), fine to medium-grained, trace Gravel, brown, moist, loose (GLACIAL TILL)	5	3-4-5 (9) 12"		14	P200=26%
752.5				31-50/3" (REF) 8"			
7.5		LIMESTONE, tan, dry, highly weathered, (APPARENT BEDROCK)		20-24-33 (57) 12"			
750.0			10				
10.0		END OF BORING Boring immediately backfilled					Water not observed while drilling.
			15				

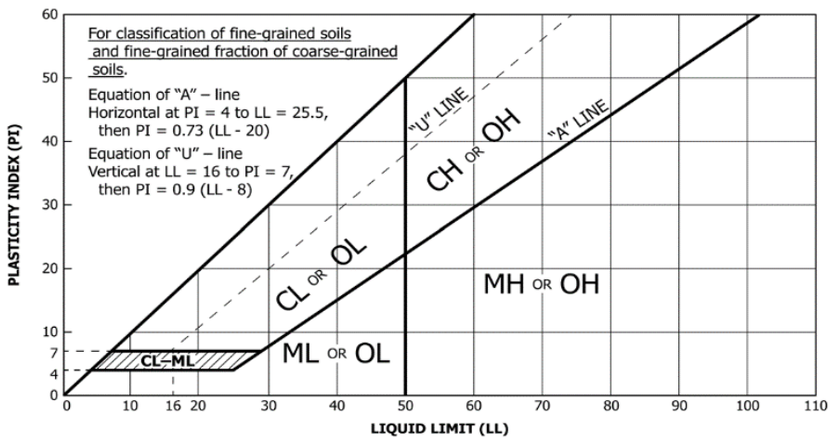
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Descriptive Terminology of Soil

Based on Standards ASTM D2487/2488
(Unified Soil Classification System)

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[A]				Soil Classification	
				Group Symbol	Group Name[B]
Coarse-grained Soils (more than 50% retained on No. 200 sieve)	Gravels (More than 50% of coarse fraction retained on No. 4 sieve)	Clean Gravels (Less than 5% fines[C])	$C_u \geq 4$ and $1 \leq C_c \leq 3^D$	GW	Well-graded gravel[E]
			$C_u < 4$ and/or ($C_c < 1$ or $C_c > 3$)[D]	GP	Poorly graded gravel[E]
		Gravels with Fines (More than 12% fines[C])	Fines classify as ML or MH	GM	Silty gravel[E F G]
			Fines Classify as CL or CH	GC	Clayey gravel[E F G]
	Sands (50% or more coarse fraction passes No. 4 sieve)	Clean Sands (Less than 5% fines[H])	$C_u \geq 6$ and $1 \leq C_c \leq 3^D$	SW	Well-graded sand[I]
			$C_u < 6$ and/or ($C_c < 1$ or $C_c > 3$)[D]	SP	Poorly graded sand[I]
		Sands with Fines (More than 12% fines[H])	Fines classify as ML or MH	SM	Silty sand[F G I]
			Fines classify as CL or CH	SC	Clayey sand[F G I]
Fine-grained Soils (50% or more passes the No. 200 sieve)	Silts and Clays (Liquid limit less than 50)	Inorganic	PI > 7 and plots on or above "A" line[J]	CL	Lean clay[K L M]
			PI < 4 or plots below "A" line[J]	ML	Silt[K L M]
		Organic	Liquid Limit – oven dried / Liquid Limit – not dried <0.75	OL	Organic clay[K L M N] / Organic silt[K L M O]
	Silts and Clays (Liquid limit 50 or more)	Inorganic	PI plots on or above "A" line	CH	Fat clay[K L M]
			PI plots below "A" line	MH	Elastic silt[K L M]
		Organic	Liquid Limit – oven dried / Liquid Limit – not dried <0.75	OH	Organic clay[K L M P] / Organic silt[K L M Q]
Highly Organic Soils		Primarily organic matter, dark in color, and organic odor		PT	Peat

A. Based on the material passing the 3-inch (75-mm) sieve.
B. If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
C. Gravels with 5 to 12% fines require dual symbols:
   GW-GM well-graded gravel with silt
   GW-GC well-graded gravel with clay
   GP-GM poorly graded gravel with silt
   GP-GC poorly graded gravel with clay
D. $C_u = D_{60} / D_{10}$ $C_c = (D_{30})^2 / (D_{10} \times D_{60})$
E. If soil contains ≥ 15% sand, add "with sand" to group name.
F. If fines classify as CL-ML, use dual symbol GC-GM or SC-SM.
G. If fines are organic, add "with organic fines" to group name.
H. Sands with 5 to 12% fines require dual symbols:
   SW-SM well-graded sand with silt
   SW-SC well-graded sand with clay
   SP-SM poorly graded sand with silt
   SP-SC poorly graded sand with clay
I. If soil contains ≥ 15% gravel, add "with gravel" to group name.
J. If Atterberg limits plot in hatched area, soil is CL-ML, silty clay.
K. If soil contains 15 to < 30% plus No. 200, add "with sand" or "with gravel", whichever is predominant.
L. If soil contains ≥ 30% plus No. 200, predominantly sand, add "sandy" to group name.
M. If soil contains ≥ 30% plus No. 200 predominantly gravel, add "gravelly" to group name.
N. PI ≥ 4 and plots on or above "A" line.
O. PI < 4 or plots below "A" line.
P. PI plots on or above "A" line.
Q. PI plots below "A" line.



Laboratory Tests

DD	Dry density, pcf	**q_p**	Pocket penetrometer strength, tsf
WD	Wet density, pcf	**q_U**	Unconfined compression test, tsf
P200	% Passing #200 sieve	**LL**	Liquid limit
MC	Moisture content, %	**PL**	Plastic limit
OC	Organic content, %	**PI**	Plasticity index

Particle Size Identification

Boulders..... over 12"
Cobbles..... 3" to 12"
Gravel
  Coarse..... 3/4" to 3" (19.00 mm to 75.00 mm)
  Fine..... No. 4 to 3/4" (4.75 mm to 19.00 mm)
Sand
  Coarse..... No. 10 to No. 4 (2.00 mm to 4.75 mm)
  Medium..... No. 40 to No. 10 (0.425 mm to 2.00 mm)
  Fine..... No. 200 to No. 40 (0.075 mm to 0.425 mm)
Silt..... No. 200 (0.075 mm) to .005 mm
Clay..... < .005 mm

Relative Proportions[L,M]

trace..... 0 to 5%
little..... 6 to 14%
with..... ≥ 15%

Inclusion Thicknesses

lens..... 0 to 1/8"
seam..... 1/8" to 1"
layer..... over 1"

Apparent Relative Density of Cohesionless Soils

Very loose ..... 0 to 4 BPF
Loose ..... 5 to 10 BPF
Medium dense..... 11 to 30 BPF
Dense..... 31 to 50 BPF
Very dense..... over 50 BPF

Consistency of Cohesive Soils	Blows Per Foot	Approximate Unconfined Compressive Strength
Very soft	0 to 1 BPF	< 0.25 tsf
Soft	2 to 4 BPF	0.25 to 0.5 tsf
Medium	5 to 8 BPF	0.5 to 1 tsf
Stiff	9 to 15 BPF	1 to 2 tsf
Very Stiff	16 to 30 BPF	2 to 4 tsf
Hard	over 30 BPF	> 4 tsf

Moisture Content:

Dry: Absence of moisture, dusty, dry to the touch.
Moist: Damp but no visible water.
Wet: Visible free water, usually soil is below water table.

Drilling Notes:

Blows/N-value: Blows indicate the driving resistance recorded for each 6-inch interval. The reported N-value is the blows per foot recorded by summing the second and third interval in accordance with the Standard Penetration Test, ASTM D1586.

Partial Penetration: If the sampler could not be driven through a full 6-inch interval, the number of blows for that partial penetration is shown as #/x" (i.e. 50/2"). The N-value is reported as "REF" indicating refusal.

Recovery: Indicates the inches of sample recovered from the sampled interval. For a standard penetration test, full recovery is 18", and is 24" for a thinwall/shelby tube sample.

WOH: Indicates the sampler penetrated soil under weight of hammer and rods alone; driving not required.

WOR: Indicates the sampler penetrated soil under weight of rods alone; hammer weight and driving not required.

Water Level: Indicates the water level measured by the drillers either while drilling (▽), at the end of drilling (▼), or at some time after drilling (▽).

Sample Symbols

Standard Penetration Test
Modified California (MC)
Auger
Grab Sample
Rock Core
Thinwall (TW)/Shelby Tube (SH)
Texas Cone Penetrometer
Dynamic Cone Penetrometer

5/2021

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Bldg. 1 Suite E130
Oakdale, MN 55128

Ph: (651) 704-9970
Bolton-Menk.com

MEMORANDUM

Date: 04/22/2026

To: Paul Sponholz, PE

From: Mike Boex, PE

Subject: Geneva Meadows Second Addition Plan Review
City of Cottage Grove, MN
Project No.: 26X.143036.000

This memo summarizes the review of the Geneva Meadows Second Addition Preliminary Plat Submittal, submitted by Pioneer, dated 4/07/2026 (received 04/14/2026).

Preliminary Plat Plans

Sheet C1.00:

1. On the final plans, identify the vertical datum of the benchmarks used on the project.
2. Revise the note on the plans such that the City of Cottage Grove's 2026 Standard Specifications for Street and Utility Construction shall govern for all improvements within the public right-of-way, public easement, or public parcels.

Sheet C3.01:

3. It appears the pipeline easement encompasses the proposed rear-yard drainage and utility easements of lots 11-13.
    a. The grading depicted on sheet C6.01 will require approval from the pipeline; provide documentation of approval and any restrictions once obtained.

Sheet C5.01:

4. Streetlights: There are only 4 streetlights as part of this development. Look into options to serve this development. If it makes sense to connect to SPP/Xcel to avoid installing an additional service cabinet, City of Cottage Grove would consider that.
    a. If streetlights are proposed to be owned and maintained by the City of Cottage Grove, final plans should include the following:
        i. Feed point (service cabinet) location and source of power should be identified on the plan.
        ii. Wiring diagrams should be provided in the plans.
        iii. Identify wire sizes on the plan. Wire to be placed in conduit (1.5-inch minimum schedule 40). See city specifications for minimum wire sizes.
        iv. This development would use city standard detail LGT-7 for light fixtures within the development.
5. Move the streetlight by station 20+00 just inside the Geneva Avenue right-of-way.

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6. Easement widths will be confirmed with final plan and profile sheets. The minimum easement width should be twice as wide as the maximum pipe depth to invert.
7. Open space marker locations (city detail STR-40) will determined by the City and provided shortly. Include detail STR-40 in the plans.

Sheet C6.01:

8. Pond benching (wet basin) shall conform to city standard detail STO-15.
9. All slopes within a public outlot or right-of-way shall be a maximum of 1(V): 4(H), except as depicted on city standard detail STO-15. Grading within the existing Geneva Avenue right-of-way and ponding outlots appear to exceed the maximum amount.
10. City pond outlots shall cover stormwater ponds in their entirety to the proposed HWL.
11. It appears some of the proposed grading on the project exceeds 1(V): 3(H) – e.g. between lots 21 & 22. Slopes steeper than these are generally considered non-maintainable for property owners. Please review the project area and clarify if retaining walls will be needed.
    a. Retaining walls, if needed, shall be kept out of drainage and utility easement or public outlot and should be placed entirely on private property.
12. Pond access routes shall have a maximum longitudinal slope of 1(V):6(H).
    a. The pond access route should not utilize the existing private drive on the south side of Geneva Court; please adjust the access location to the east.
13. Freeboard Standards:
    a. For stormwater facilities with emergency overflows, the low adjacent grade elevation for all new structures must be a minimum of 3 feet above both the peak surface water elevation for the 100-year precipitation event and 2 feet above the emergency overflow elevation of any immediately adjacent new stormwater basin.
        i. Lot 2 does not meet this requirement to the EOF.
    b. For backyard and side-yard conveyance and temporary ponding areas, there must be at least 1 foot between the overland overflow elevation and the low adjacent grade elevation of the adjacent structure.
        i. It appears this requirement has been met.

Sheet C7.01:

14. Vertical curves: Minimum K=19 (crest) and K=37 (sag) shall be provided per Cottage Grove's Engineering Standards document.

Sheet C8.11:

15. There is upland/natural area seeding shown over the backyard storm sewer swale behind lots 13-22, and within City-owned outlots. Given maintenance concerns, the City asks that both the drainage swale and portions of outlot abutting the street right-of-way to the pond be changed to sod.
    a. For clarity, depict drainage and utility easements and utility pipes to better depict limits of restoration changes.

Sheet C9.01:

16. Review the City's 2026 standard specification and standard details. "Special" wear course is no longer required on residential roadways. https://www.cottagegrovemn.gov/251/City-Standards
    a. Final plans shall identify that a bituminous wedge per city standard detail STR-26 shall be placed after the first lift to protect the curb during home construction.
17. Pond liner:
    a. Clay shall have a maximum permeability of 1x10-6 cm/s.
    b. There appear to be conflicting notes about the liner thickness; the section depicts 1-ft of clay while the note indicates 2-ft of an-site clayey material. The Geotech report recommends a 2-ft thickness and includes other recommendations such as a Plasticity Index of 20 or less – include these on the plans. Per city standards, any clay liner should still be covered with 1-ft of topsoil.
        a. The City does not wish to use an HDPE liner in lieu of providing city-standard materials. If the developer wishes to provide an HDPE liner in addition to the standards above, that is acceptable.
    c. The liner appears to extend from pond bottom to HWL in the storm basin section which is acceptable. However, the clay liner section includes a note with "basin liner to end of aquatic bench." Revise this note as it doesn't appear appropriate.

Sheet C9.11:

18. The City will allow submerged outlet pipes on this project to better fit outlet structures into pond slopes. As depicted, the front of this structure would be approximately 3.6-vf above the proposed grading.
    a. For a submerged outlet, the top of pipe should be 1-vf (min.) below the NWL, and the invert should be 2-ft (min.) above the bottom of the pond. A minimum adverse grade of 1% from submerged invert to outlet structure should be provided. Outlet structure location will be further reviewed with final plans but could be placed further back in the pond slope to match proposed grading.

Sheet C10.01:

19. Evaluate shifting the proposed watermain a bit to the north within lot 1, placing it 15-ft off the pipeline easement. Additional bends could be placed within the Geneva Avenue right-of-way.
20. Clarify where utilities were left or will be left with the first addition.
    a. If needed, extend proposed pipe to the "connect to existing watermain" location.
    b. Similarly, clarify where the sanitary manhole will be constructed in the first addition. Cottage Grove has plans dated 10-22-2025; if there are more current plans please provide those.
21. Provide an 8" sewer stub north into the Geneva Avenue right-of-way.

Sheet C11.01:

22. Pretreatment: Please provide a sump on CBMH 102.

Sheet L1:

23. Ensure all trees are outside of the drainage and utility easements, especially in the front yard.

24. The trees in Outlot A along the street shall be reduced to 3 trees maximum.
    a. The species should conform to the City's approved list, attached to this memo.
25. The City Forester left a comment for Lot 22: "There are a lot of trees planted in this lot. While the trees are young, growth won't be an issue, but as they grow this could lead to canopy conflict (especially with several of these trees being Autumn Blaze Maple which grow quickly). Additionally, the faster growing trees (Autumn Blaze) could shade out the slower growing species. I would look at cutting out a couple of these trees." We request that these be spaced out or thinned out on this lot a bit.
26. List the following planting restrictions on the plan such that they can be adhered to during installation and ensure they are applied to the proposed plan:
    a. Deciduous trees should be located a minimum of 5' off any utility pipe.
    b. Coniferous trees should be located a minimum of 15' off any utility pipe.
    c. No tree should be located within 10' of a hydrant or 15' from a streetlight.
    d. No trees should be located within a storm pond HWL.
    e. No trees should be located within a storm pond's 20-ft access route, and no coniferous trees within 5' of the 20' pond access route.
    f. No coniferous trees within 20' of a proposed sidewalk/trail.
    g. No deciduous trees within 5' of sidewalk/trail/driveways.
    h. Trees shall not be planted within drainage and utility easements

Sheet T1:

27. Some of the trees identified to save on Lot 1 will need to be removed for the proposed watermain installation. Please update sheets T1 and T2 accordingly.

Stormwater:

28. Geotechnical report provides specific guidance relating to the stormwater pond and infiltration basins:
    a. "*Based on...the identified karst related features being in close proximity of the site, and the shallow depth to bedrock, we do not recommend infiltration of stormwater at this site."* Please convert infiltration basins to ponds or filtration basins with liners or other non-infiltration BMPS.
    b. "*Stormwater ponds in close proximity to the limestone bedrock surface...recommend the clay liner be at least 2 feet thick..."* Coordinate with comment #17 in this memo.
29. Sheet 11.01 of 16 shows a 15" storm pipe conveying stormwater into St Paul Park on Summit Avenue.
    a. Once obtained, provide documentation that St Paul Park has approved this storm connection and outflow rate.
30. HydroCAD:
    a. Please include the inflow and outflow hydrograph plots in the HydroCAD report so the model routings and stability can be reviewed.

b. Curve Numbers: Subcatchment 200 includes 3.6 acres of woods/meadow simulated as CN 30, and Subcatchment Off-200 includes 0.57 acres of woods/meadow simulated as CN 30. In areas of site grading and compaction, pervious areas with HSG A soils should be modeled with CN 61. Please adjust the curve numbers or explain reasoning for use of CN 30.

c. The 0.17 acre OFF-100 subwatershed is routed in the model to flow into the infiltration basin 100I. Sheet S5 of 5 indicates that area OFF-100 flows off-site rather than to 100I. Please correct the routing in HydroCAD.

d. Pond 100P routes the EOF to Pond 100I. Plan sheet 6.01 shows the EOF on the south side of basin 100P so overflows would not pass into Pond 100I. Please add elevations to the overflow from 100P to 100I.

e. Sheet 6.01 of 16 shows the Pond 100P EOF at elevation 763.2 feet. HydroCAD for Pond 100P includes a 75' long weir at 762.0 feet. Please adjust the model and plans to be consistent or explain the differences.

f. Sheet 11.01 of 16 shows a 15" RCP extending from OCS-100 to STMH-EX306. HydroCAD is simulating a 13" RCP in this reach. Please revise the HydroCAD model to simulate in series both the 13" orifice and the 15" RCP outlet pipe.

31. The HydroCAD HWL for Pond 150P is 775.52 feet. Sheet 6.01 lists a HWL of 775.8 feet. Please adjust the HWL on Sheet 6.01.

32. Sheet 9.11: OCS-100 HWL on detail 761.6 does not match the HydroCAD HWL of 763.07 feet. Please update the detail.

33. Sheet 6.01 Grading Plan: Please show proposed spot elevations on the flexmat overflow between Pond 100P and Pond 100I.

34. Pond skimmer detail refers to city standard detail STO-16, but STO-23 would be more applicable to outlets with weir walls and orifices. If a submerged pipe is utilized, a custom detail should be created utilizing applicable features from the City's details. Please also check the weir wall vertical dimensions shown on sheet 9.11 of 16.

35. Sheet S1 of S5 includes a note that basins can be used as temporary sediment basins. Please clarify if infiltration basins will be allowed to be used as temporary sediment basins and if so, list the measures taken to protect the infiltration basin function (e.g. rigorous erosion control, limiting compaction, delaying final grading until the site is fully stabilized).

36. Rate Control: Site Area includes 13.1 acres. Target outflow from 13.1 acres at 0.064 cfs/acre = 0.84 cfs. Proposed Outflow is 6 cfs. This exceeds Cottage Grove's surface water management plan target rate of 0.84 cfs, but if the City of St. Paul Park is going to approve the stormwater flow into St. Paul Park, then the SWMP target discharge rate does not apply.

37. P8 Water Quality Model:

    a. Please set *Impervious Depression Storage to 0.1 as per SWWD.*

    b. Please set Impervious Runoff Coefficient to 0.9 as per SWWD

    c. The proposed conditions P8 model results provided do not include the watershed characteristics and device data. Please provide the proposed conditions input data along with the model results.

38. Infiltration/Filtration Basin Soil Media: For a successful vegetation establishment, the City recommends providing a Filter Topsoil Borrow (MnDOT 3877.2G) consisting of 70% sand (meeting the gradation requirements of 3126 “Fine Aggregate for Portland Cement Concrete”) and 30% Grade 2 Compost (MnDOT 3890). Lower compost levels have typically proved difficult when establishing vegetation in basins. Please include the proposed infiltration/filtration soil media in the plans.
39. Testing: The City will require post-construction testing to verify the infiltration/filtration rate and drawdown period of any infiltration/filtration basins. Please add the following to the infiltration basin plan notes: “Post construction testing of the infiltration rate and drawdown period will be required.” Post construction testing should yield results of approximately twice the design rate, providing a safety factor. If test results exceed 8.3 inches per hour, soil will need to be amended to slow the infiltration rate below 8.3 inches per hour.
40. Rational Storm Sewer Design: Rational Storm Sewer Design: On-site storm sewer should be sized to a 5-year rational method design. Submit design calculations for the storm sewer system and a drainage area map showing each catchment with manholes and catch basins labeled. Include individual pipe segment velocities with calculations for review. Trunk facilities should be analyzed and designed to accommodate the 100-year ponded discharges plus 5-year rational flows from areas that enter the trunk to be carried to the next storage area downstream.
41. NPDES Construction Stormwater Permit: As this project disturbs more than 1 acre, an NPDES Construction Stormwater Permit and SWPPP will be required. Please note on the SWPPP that the City requires perimeter controls at back of curb and around lots during the home building phases.
42. Models and CAD Files: Please note that digital copies of the final version stormwater models (HydroCAD and MIDS) and shapefiles or CAD drawings of existing and proposed drainage areas are to be submitted to the city once the review and revision process is complete.

STAFF REPORT CASE: PP/CUP/SP2026-013

ITEM: 6.D

PUBLIC MEETING DATE: 4/27/26 **TENTATIVE COUNCIL REVIEW DATE: 5/20/26**

APPLICATION

APPLICANT: Kwik Trip Inc.

REQUEST: A Preliminary Plat, Site Plan Review, and Conditional Use Permit (CUP) to construct a 9,176 square foot convenience store with a 4,800 square foot 10-dispenser island fueling canopy and a 1,200 square foot commercial diesel 3-lane canopy. The proposed project would be located on approximately 9.8 acres of the 30.25-acre parcel of land. The Applicant has also had a Preliminary Plat prepared to dedicate right-of-way for Manning Avenue to the east and 114th Street to the north.

SITE DATA

LOCATION: Northwest Corner of Manning Avenue and Highway 61

ZONING: B-3, General Business District

GUIDED LAND USE: Commercial

LAND USE OF ADJACENT PROPERTIES:	CURRENT	GUIDED
NORTH:	Residential/Religious	Rural Residential
EAST:	Denmark Township	Denmark Township
SOUTH:	Commercial	Commercial
WEST:	Commercial	Commercial

SIZE: Site = 9.8 acres

DENSITY: N/A

RECOMMENDATION

Approval, subject to the conditions stipulated in this staff report.

COTTAGE GROVE PLANNING DIVISION

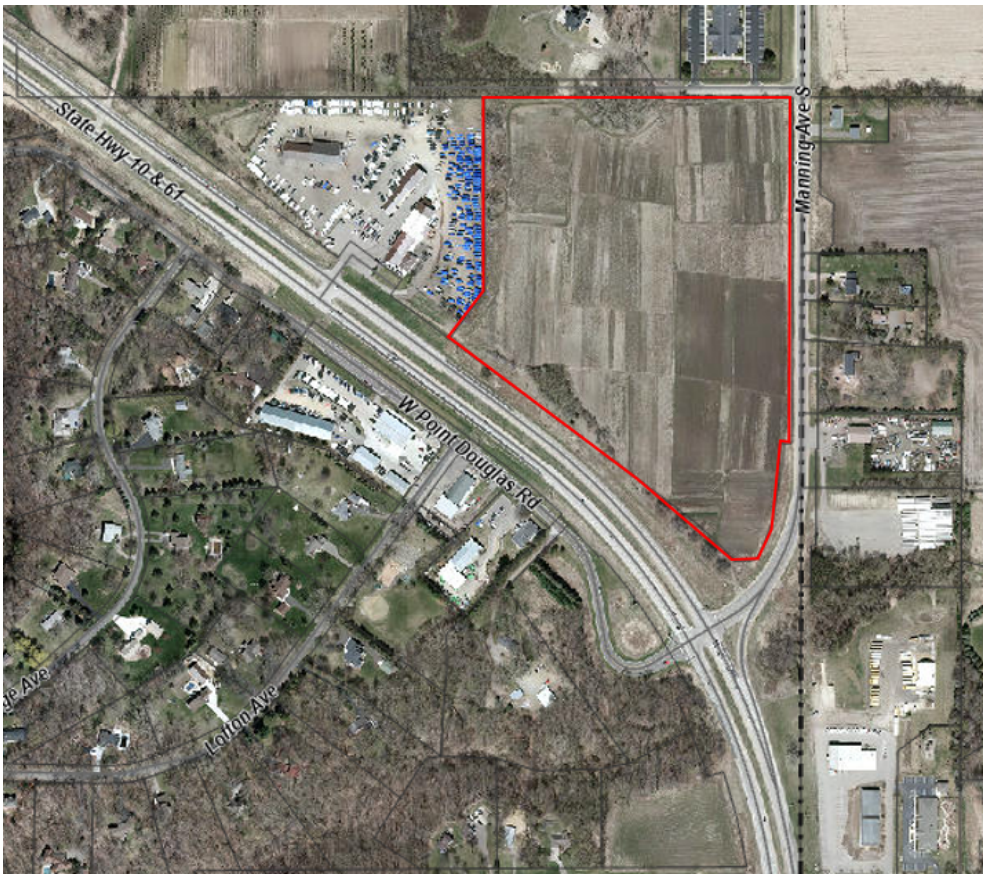
Planning Staff Contact: Samantha Pierret, Senior Planner; 651-458-2825; spierret@cottagegrovemn.gov

Application Accepted: 4/14/2026 60-Day Review Deadline: 6/14/2026

Planning Staff Report
Kwik Trip – Highway 61/Manning Avenue
Planning Case No. PP, CUP, SP 2026-013
April 27, 2026

Proposal

Kwik Trip Inc. (Applicant) has submitted an application for a Preliminary Plat, Site Plan Review, and Conditional Use Permit (CUP) to construct a 9,176 square foot convenience store with a 4,800 square foot 10-dispenser island fueling canopy and a 1,200 square foot commercial diesel 3-lane canopy at the corner of Manning Avenue and Highway 61. The proposed project would be located on approximately 9.8 acres of the 30.25-acre parcel of land. The Applicant has also had a Preliminary Plat prepared to dedicate right-of-way for Manning Avenue to the east and 114th Street to the north.



Location Map

Review Schedule

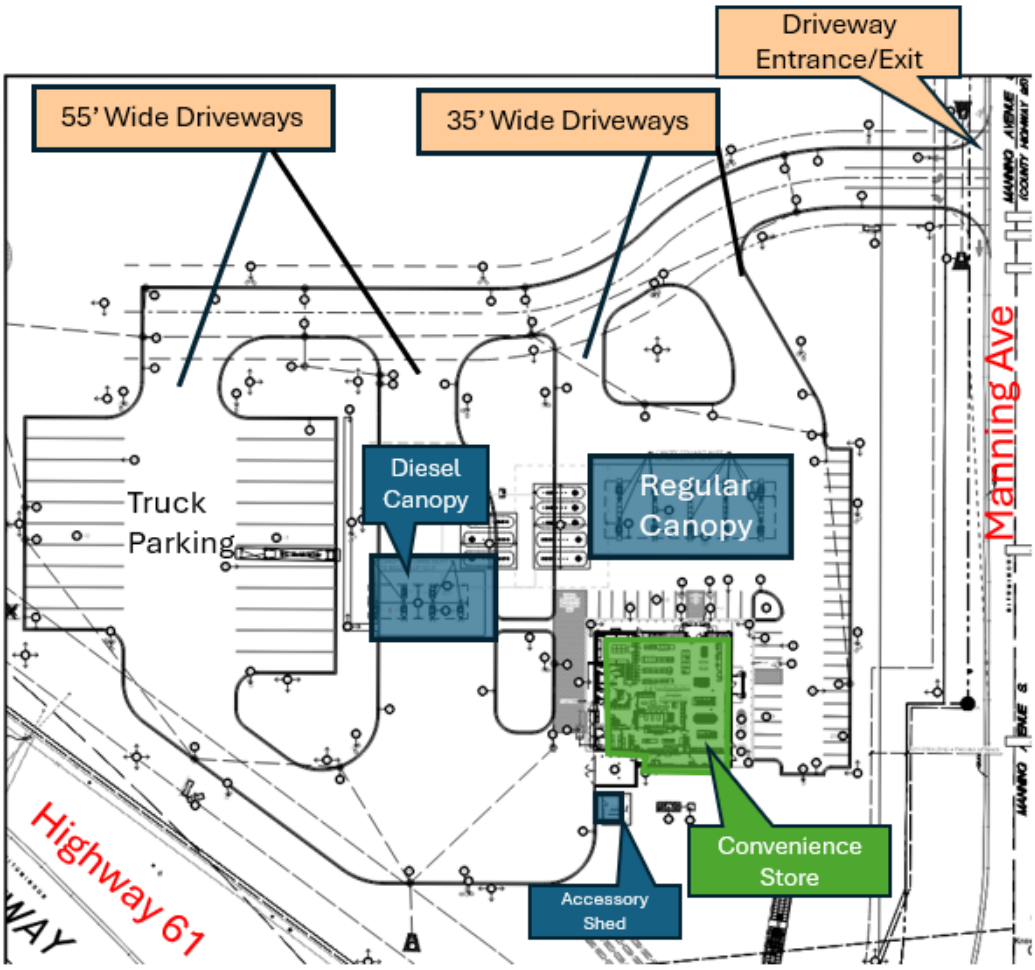
Application Received: March 26, 2026
Application Accepted: April 14, 2026
Planning Commission Meeting: April 27, 2026
Tentative City Council Meeting: May 20, 2026
60-Day Review Deadline: June 13, 2026

Background

The subject site is currently a vacant lot, previously used for crop farming, owned by Kwik Trip Inc. Current surrounding uses include recreational vehicle sales, service, and storage at 61 Marine to the west, religious and residential uses to the north across 114th Street, residential and industrial uses to the east across Manning Avenue in Denmark Township, and commercial uses to the south across Highway 61 along West Point Douglas Road.

Proposed Use

The Applicant is proposing to construct a 9,176 square foot convenience store with a 4,800 square foot dispenser island canopy, a 1,200 square foot commercial diesel dispenser canopy, and a 440 square foot accessory shed. The proposed building is a single-story structure that would be operated and owned by Kwik Trip Inc., which operates in 6 states and is based out of LaCrosse, WI. Along with traditional fuel dispensing, hot and cold food and beverages, ice, tobacco, alcohol, lotto and propane sales, Kwik Trip also sells fresh produce and grocery items, bakery, dairy, and fresh meat products. The applicant anticipates hiring 25 to 30 new employees to operate the store 24 hours a day, 7 days a week.



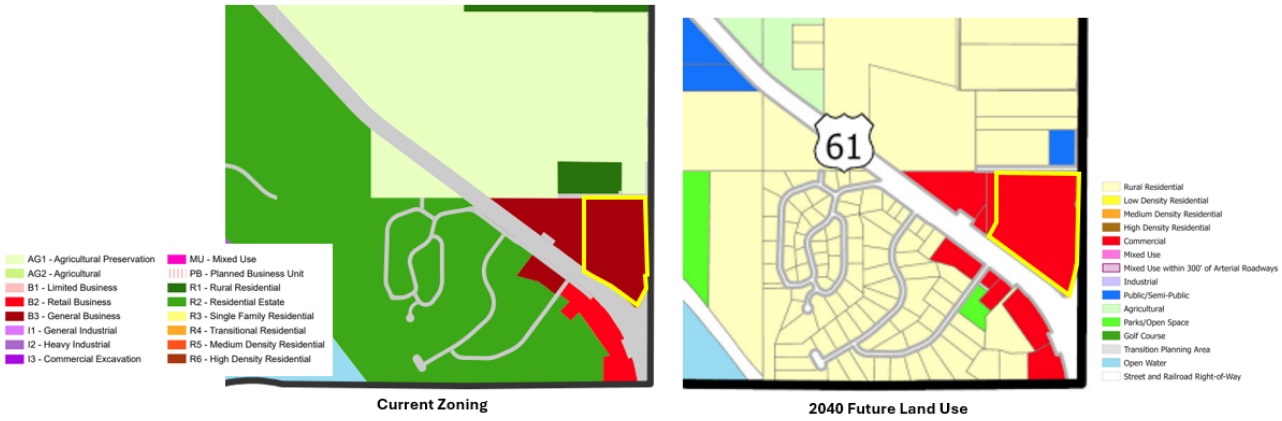
Proposed Site Plan

Given the Applicant plans to use approximately 10 acres of the existing 30-acre property, there will be space for future commercial development on the remaining acreage. The Applicant owns the entire property, and any future development proposals must meet all City Codes and obtain all required approvals.

Planning Considerations

Zoning and Comprehensive Plan

The subject site is zoned B-3, General Business District, and is guided as Commercial in the 2040 Comprehensive Plan. The proposed use is consistent with the City's zoning ordinance and land use plan as gas stations are permitted with a CUP within the General Business District.



Conditional Use Permit

The purpose of a Conditional Use Permit is to authorize and regulate uses that may be beneficial in a specific instance to the general welfare of the community yet ensure that such uses are not detrimental to surrounding property and are consistent with the stated purpose of the zoning district.

The permit shall be approved solely for the proposed use of a particular site, not for a particular person or firm. When granting a Conditional Use Permit, the City may impose conditions as it deems necessary to serve and protect the health, safety, convenience, and general welfare of the community.

When evaluating any proposed Conditional Use Permit, the Planning Commission shall consider the following findings:

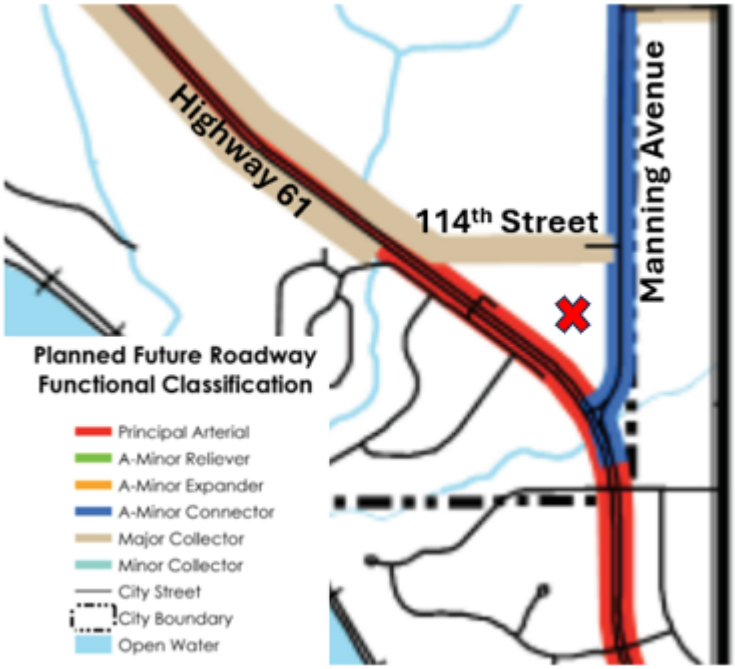
1. *Compliance with and effect upon the Comprehensive Plan, including public facilities and capital improvement plans.*
2. *The establishment, maintenance or operation of the conditional use will promote and enhance the general public welfare and will not be detrimental to or endanger the public health, safety, morals or comfort.*
3. *The conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood.*

4. *The establishment of the conditional use will not impede the normal and orderly development and improvement of surrounding property for uses permitted in the district.*
5. *Adequate public facilities and services are available or can be reasonably provided to accommodate the use which is proposed.*
6. *The conditional use shall, in all other respects, conform to the applicable regulations of the district in which it is located.*
7. *The conditional use complies with the general and specific performance standards as specified by the Zoning Code.*

The proposed use of a gas station-major use on the subject property is consistent with the findings above as described in the following report.

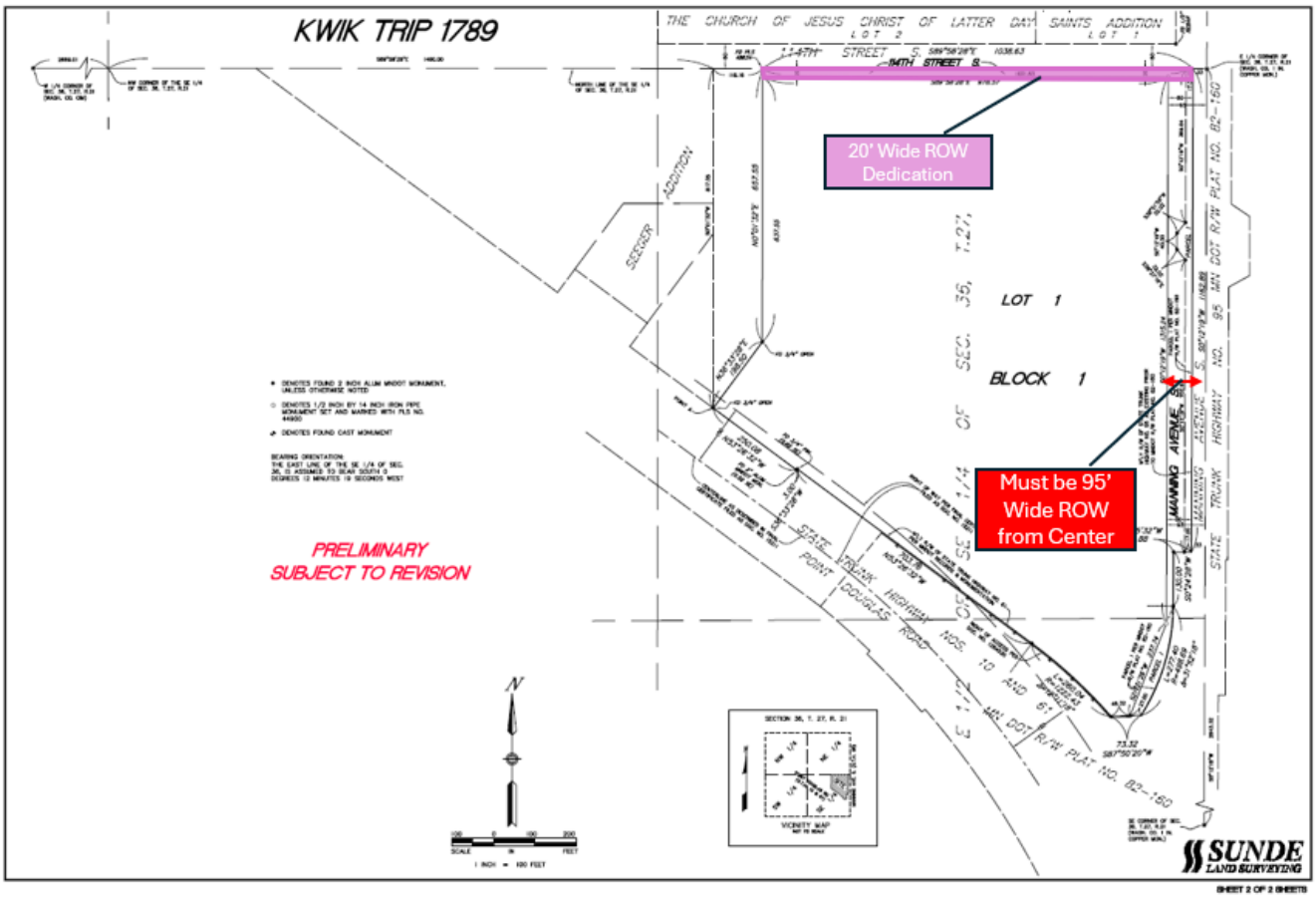
Preliminary Plat

The Applicant is required to plat the property to dedicate right-of-way for Manning Avenue and 114th Street. The Manning Avenue right-of-way must be 95 feet wide from the center of the road per MnDOT to accommodate future improvements to Manning Avenue and a future trail corridor. The Manning Avenue right-of-way currently varies in width, but generally, the Applicant will be dedicating an additional 60 feet along the east property line to meet these width requirements. The property is bordered by 114th Street to the north. 114th Street is designated as a major collector roadway in the City's 2040 Comprehensive Plan; therefore, an additional 20 feet of right-of-way shall be dedicated on the south side of 114th Street.



Future Roadway Classification – 2040 Comprehensive Plan

Sixty feet of 114th Street right-of-way was dedicated during the development of the church and residence to the north with the understanding that additional right-of-way would be dedicated by the southerly parcel at the time of development.



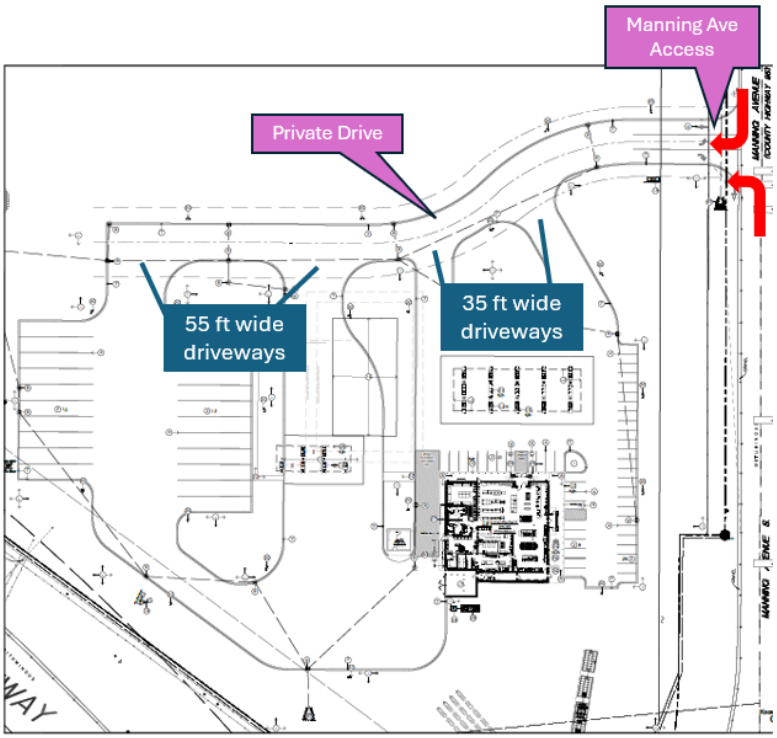
Site Access

The site's primary access will be located off Manning Avenue, which is a MnDOT road, via one 42-foot-wide driveway entrance. This proposed driveway location was reviewed by MnDOT based on guidance from the AASHTO Green Book and the MnDOT Access Management Manual for distance from the Highway 61 intersection, 114th Street intersection, and for sight lines. The proposed driveway location is an acceptable location to MnDOT given these distance and sight line requirements.

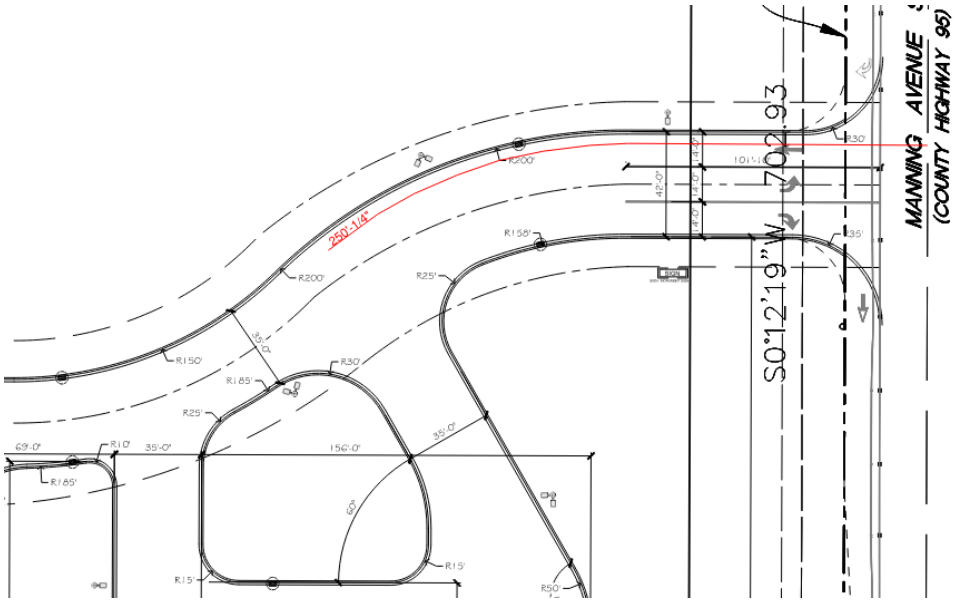
Turn lanes will be added on Manning Avenue for southbound right turns into the property and northbound left turns into the property. The Applicant has been working with MnDOT on a preliminary layout; however, per MnDOT requirements, the final design, approvals, and construction must be a City-led project that is publicly bid and inspected to MnDOT requirements. The City will implement the final design, approvals and construction at the cost of the Applicant. The City does not guarantee approvals from MnDOT, and if not approved, the Applicant will need to work with MnDOT for alternate access to the site.

There will be four driveways of varying widths on the south side of the proposed access drive to accommodate various vehicle turning movements and access to diesel pumps and truck parking. The first two driveways are proposed to be 35 feet wide for access to the regular fuel island and convenience store. The third driveway is proposed to be 55 feet wide and will function as a truck access to the diesel canopy. The fourth driveway is proposed to be 55 feet wide and will access a truck parking area.

The proposed access will be a private driveway; therefore, the number and width of access points is acceptable because this is not proposed to be a public street. The Applicant will be responsible for all maintenance of the entire driveway area from Manning Avenue throughout the site. Future development of the remaining acres to the north will access from the private drive, which will likely connect to 114th Street at time of future development. A private maintenance agreement between future users should be recorded against all properties at time of future development.



The distance from Manning Avenue to the first internal driveway is approximately 250 feet (approximately 10 vehicles). Given this distance, it is not anticipated that backups will occur on to Manning Avenue. There is also vehicle stacking space within the turn lanes proposed on Manning Avenue that provides additional room for vehicles waiting to turn into Kwik Trip.



Vehicle Stacking within Private Drive

The Comprehensive Plan depicts future Transportation Trails along Highway 61 and along Manning Avenue. Additional planning efforts and collaboration with the County and State are needed before these trails can be constructed; therefore, the Applicant is not proposing to construct any trail segments at this time. The Applicant is aware of the trail plans that will be constructed within the MnDOT right-of-way.

Parking

City Code Title 11-3-4 requires 4 parking spaces plus 2 spaces for each service stall. Additional required parking was calculated using the Retail requirements of one space for each 200 square feet of floor area. With a 9,176 square foot building, the total number of parking spaces required is 50. The Applicant is proposing 47 surface parking stalls, 22 truck parking stalls, and 23 spaces at fuel service pumps for a total of 92 spaces.

Surface parking, drive aisles, and truck staging must be located 20 feet from public ROWs and 10 feet from interior side and rear lot lines. Submitted plans show at least 20 feet between the ROWs and parking areas.

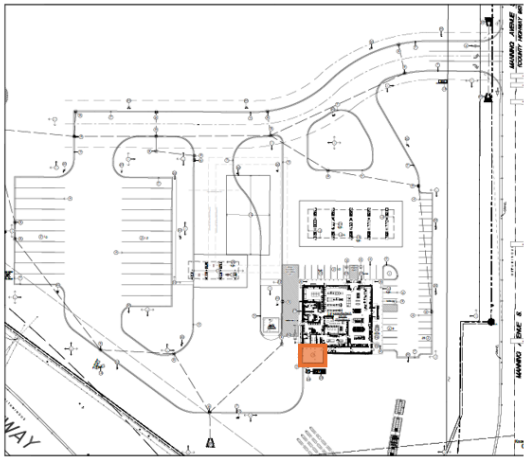
Building Setbacks

The proposed fuel island canopies exceed all setback requirements in Title 11-4-5, Motor Fuel Stations. The canopies will be over 10 feet from all right-of-way lines and over 20 feet from all adjacent property lines and all pumps will be over 25 feet from all property lines. The convenience store and accessory shed are proposed to meet all required setbacks in the B-3 District. The convenience store will be over 25 feet from front yard property line (Manning Avenue), over 25 feet from the side yard adjacent to a street (Highway 61 and 114th Street) and over 35 feet from the rear yard property line. The accessory shed will be located behind the front plane of the convenience store and will be over 35 feet from the rear property line as required.

Trash Enclosure

The proposed trash enclosure will be located on the southwest corner of the convenience store. The Applicant has proposed the structure to be constructed with utility brick materials consistent with the materials used on the principal structure and will be eight feet tall.

City Code Title 11-3-8 states that trash enclosures must be setback a minimum of 10 feet from the adjacent property lines. The proposed trash enclosure is located over 166 feet from the nearest property line (east).



Proposed Trash Enclosure Location

Architecture

City Code Title 11-3-11 requires structures in the Business Districts to be comprised of a minimum of three different Class 1 or Class 2 materials and be composed of at least 65 percent Class 1 materials and use no more than 10 percent Class 4 materials.

The Applicant is proposing 92.8 percent Class 1 and 2 materials, 5.2 percent Class 3 materials, and 2 percent Class 4 materials. The proposed building will be comprised of three different Class 1 materials (modular brick veneer (red brick), brick soldier course (tan brick), and glass; one Class 3 material (EIFS); and one Class 4 material (hollow metal doors), which are listed below.

Class 1 Materials
- Brick (two types) 77.1%
- Glass Windows and Doors: 16.5%

Class 3 Materials
- EIFS: 5.2%

Class 4 Materials
- Hollow Metal Doors 2%


FRONT LEFT VIEW



FRONT RIGHT VIEW



REAR RIGHT VIEW



FRONT ELEVATION



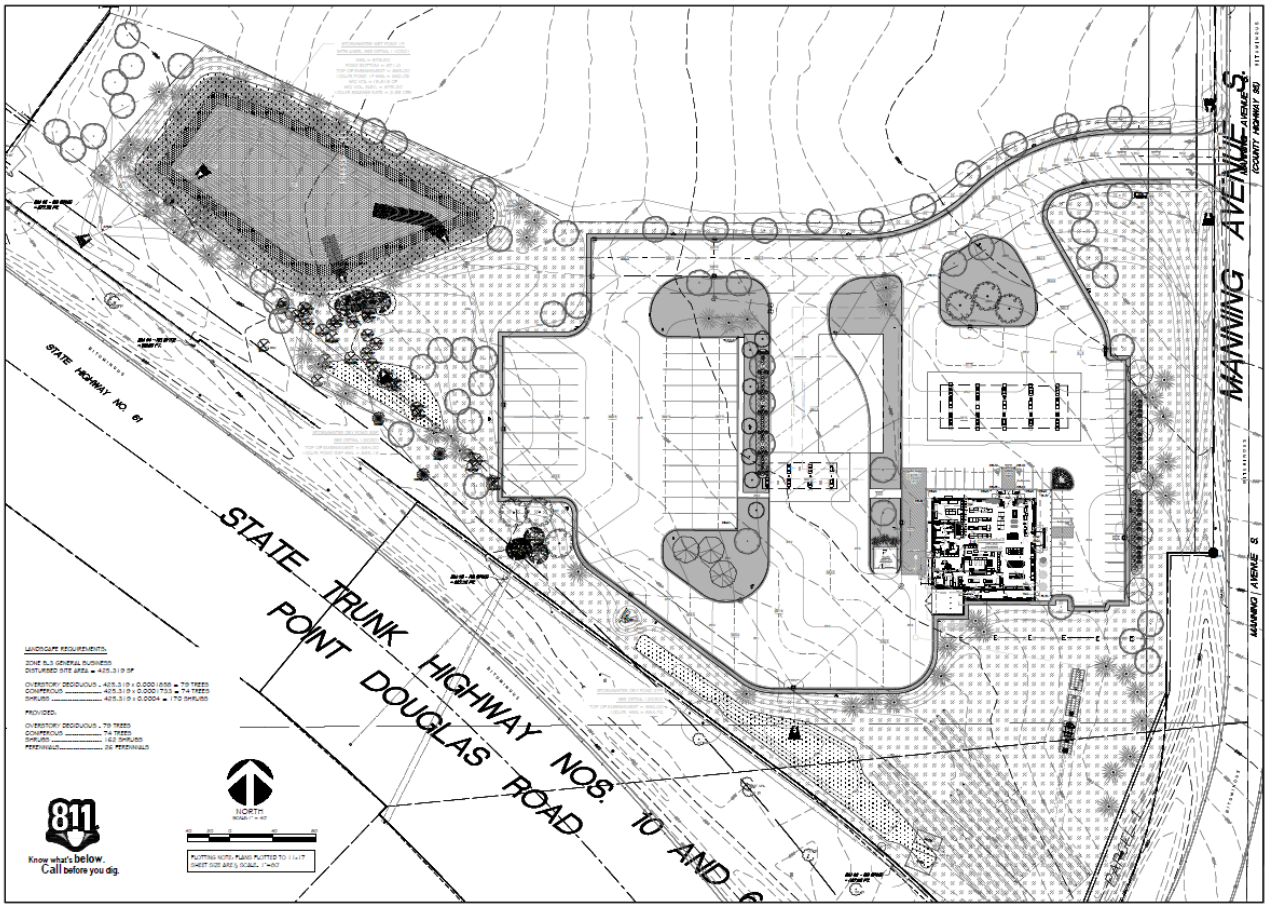
REAR LEFT VIEW

Landscaping/Tree Mitigation

The Applicant has submitted a detailed landscape plan. City Code Title 11-3-12 requires that a minimum number of trees and shrubs be provided based on the site area of the subject property. Landscaping requirements are calculated by multiplying the disturbed area of the site by coefficients found in the City's Zoning Code. The disturbed area is 425,319 square feet. City Code allows the subtraction of stormwater basin areas from the total area which results in 387,421.80 square feet of impacted area. Staff calculated required landscaping based on 387,421.80 square feet, resulting in the required plantings below.

Landscape Plantings	General Business District Standards	Proposed
Overstory Trees	72	78
Coniferous Trees	67	74
Shrubs	155	170

A mixture of overstory and coniferous trees are proposed to be installed around the site. Parking lot islands will be landscaped with sod, shrubs, and trees, and landscape beds will be installed on the east side of the parking lot. The parking lot will have over eight percent of the parking lot area comprised of landscaped islands in compliance with City Code. Title 11-4-5 requires a twenty-foot-wide landscaped yard to be planted and maintained behind all property lines adjacent to public streets. The parking lot along Manning Avenue will be twenty feet from the property line and the entire area between the right of way and parking lot shall be sodded. A fifteen-foot-wide sod strip shall be planted around the entire parking lot/private drive. On properties over five acres, staff may approve native plantings in front yards or side/rear yards adjacent to public roadways. The Applicant has proposed seed mixture around the site; this is reasonable given the size and location of the site. Seed will be planted around the detention basin and stormwater pond, in the ditch along Manning Avenue, and over the septic system. All re-vegetation within MnDOT rights-of-way shall be approved by MnDOT. The site will meet City Code standards requiring 20 percent open space in the B-3 District by providing over 50 percent open space in the proposed development area (461,765 square feet of development with 236,673 square feet of green space equals 51 percent open space).



Landscape Plan

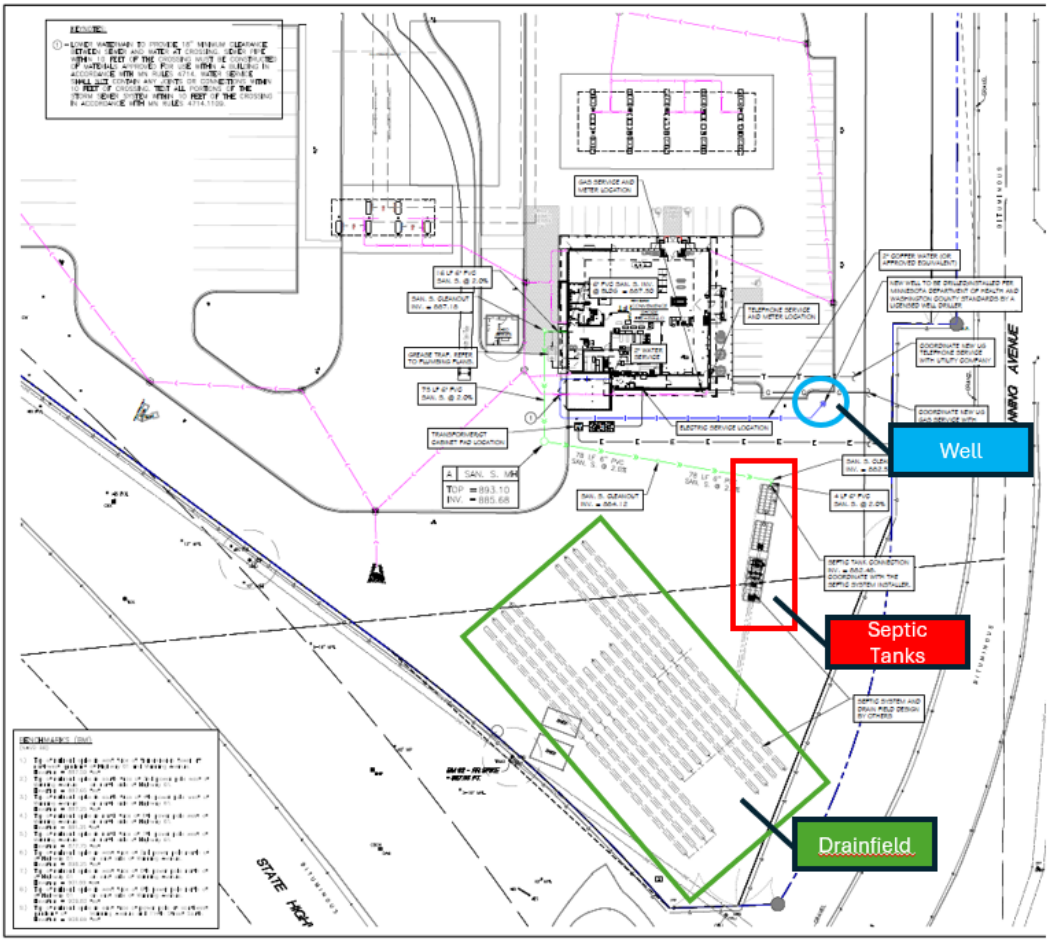
A tree inventory has been completed for the site. The Applicant may remove up to 40 percent of qualifying tree inches on site before mitigation is required by City Code. The Applicant has identified 112 qualifying inches on site and proposes to remove 39 inches or 35 percent of existing inches; therefore, mitigation is not required.

Outdoor Lighting

Outdoor light fixtures will consist of 22 parking lot light poles. Five poles will be 16 feet in height, and 17 poles will be 27 feet in height. There will be 15 single head poles and 7 double head poles all with downward directed lights. In addition, the Applicant has proposed 32 LED lights mounted under the fuel canopies. Twelve LED lights will be under the diesel fuel canopy and 20 will be under the standard fuel canopy. These lights will also be downward directed under the canopies. There will be 37 recessed LED downlights along the exterior of the convenience store. The north and east sides of the convenience store will also have LED stripes mounted in the gables of the roof. City Code Title 11-3-10 limits the amount of light that can be emitted from commercial property to 0.5 foot-candles at the property line abutting residential parcels and 1.0 foot-candle at the property line when abutting business or industrial parcels. The Applicant has submitted a photometric plan that is consistent with the City Code given the proposed foot candles do not exceed more than 0.5 at the east property line abutting residential uses.

Utilities

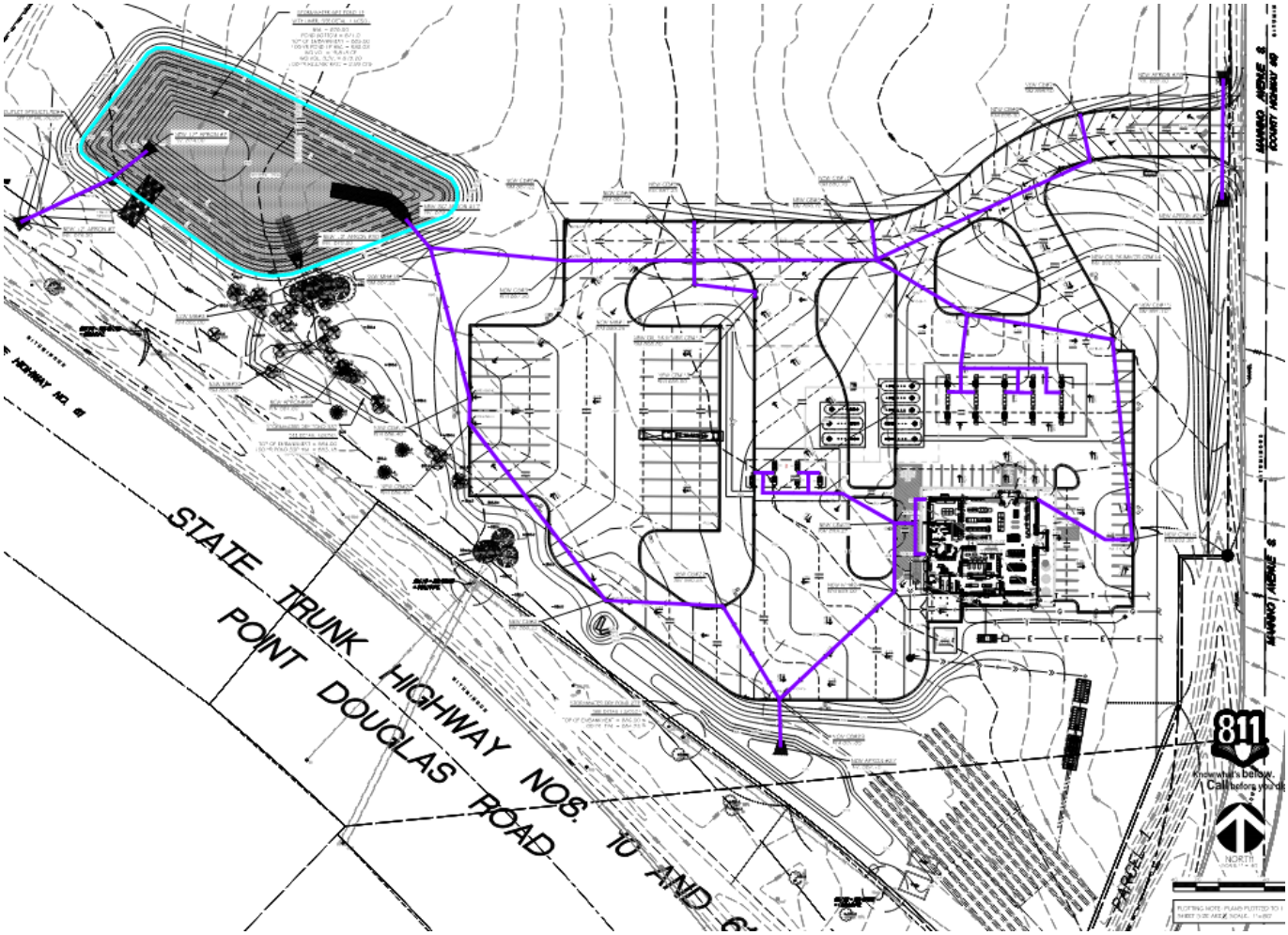
The subject property is located outside the Metropolitan Urban Service Area (MUSA). The Applicant has proposed to install a private septic system and well to serve the use. The septic tanks and drainfield will be located in the southeast corner of the site. The well will be located in the southeast corner of the parking area along Manning Avenue. The septic and well must be permitted by Washington County and the Minnesota Department of Health respectively.



Private Utility Locations

Surface Water Management/Grading

The site grading for the project is proposed to meet the surface water management requirements established by the State, Watershed District, and the City's Surface Water Management Plan. Below are the proposed site stormwater improvements. Site stormwater will be collected and treated in a new stormwater basin southwest of the proposed convenience store and parking/drive lanes and ultimately discharged into the Highway 61 right-of-way. The proposed pond serves the new developed area and some adjacent natural areas. If additional development is proposed on the remainder of the property, additional stormwater infrastructure will be needed to accommodate the associated drainage. Drainage along Manning Avenue will remain within the ditches currently along Manning Avenue, and drainage along Highway 61 will remain within the ditches currently along Highway 61.



Proposed Stormwater Improvements

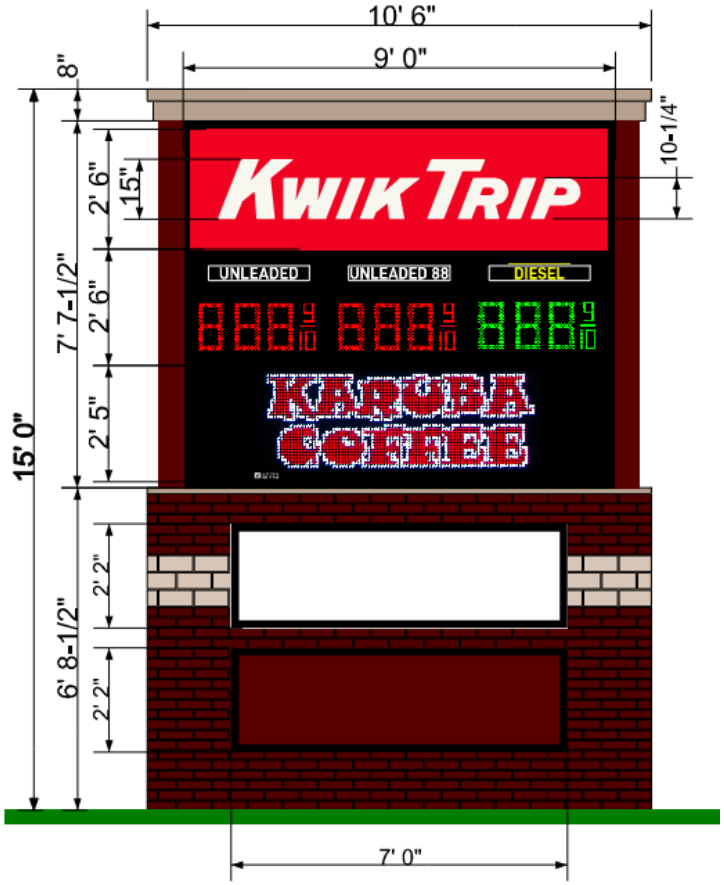
Design of the stormwater management facilities will need to meet the requirements as set forth in the engineering memo dated April 13, 2026. A stormwater maintenance agreement is required for the maintenance of the private stormwater pond.

Signage

The Applicant has submitted a sign plan for review. One double-faced monument sign with three gasoline pricers, illuminated product names, and space for future tenant signage has been

proposed on the south side of the property along Highway 61. A second monument sign with illuminated product names and four gasoline pricers is proposed at the entrance on Manning Avenue. A second, joint monument sign may be approved for properties or businesses in a commercial building complex with approval of an Administrative Conditional Use Permit. Since the remaining acreage of the site may be developed with commercial uses in the future and the property fronts two major road rights-of-way, a second, joint monument sign may be installed on site. The ACUP for the second monument sign will be reviewed during the building permit process.

The maximum square footage of copy on monument signs is based on the size of the principal structure. For Kwik Trip, the maximum size is 70 total square feet of copy for all users and 15 feet in height. The Highway 61 monument sign is proposed to be 15 feet tall and have 68.6 square feet of copy for Kwik Trip and 15.17 square feet for each future tenant. The Manning Avenue shared monument sign is proposed to be 15 feet tall and have 69.75 square feet of copy for Kwik Trip. Dynamic display areas are limited to 24 total square feet per property. The monument sign proposed along Highway 61 is proposed to have 21.75 square feet of dynamic display per side. The dynamic display area on the monument sign along Manning Avenue is proposed to be 18.7 square feet on each side. A revised sign plan must be submitted meeting City Code standards of 70 total square feet of copy for all users on joint monument signs and a maximum of 24 total square feet for dynamic displays on the property prior to issuance of a building permit.



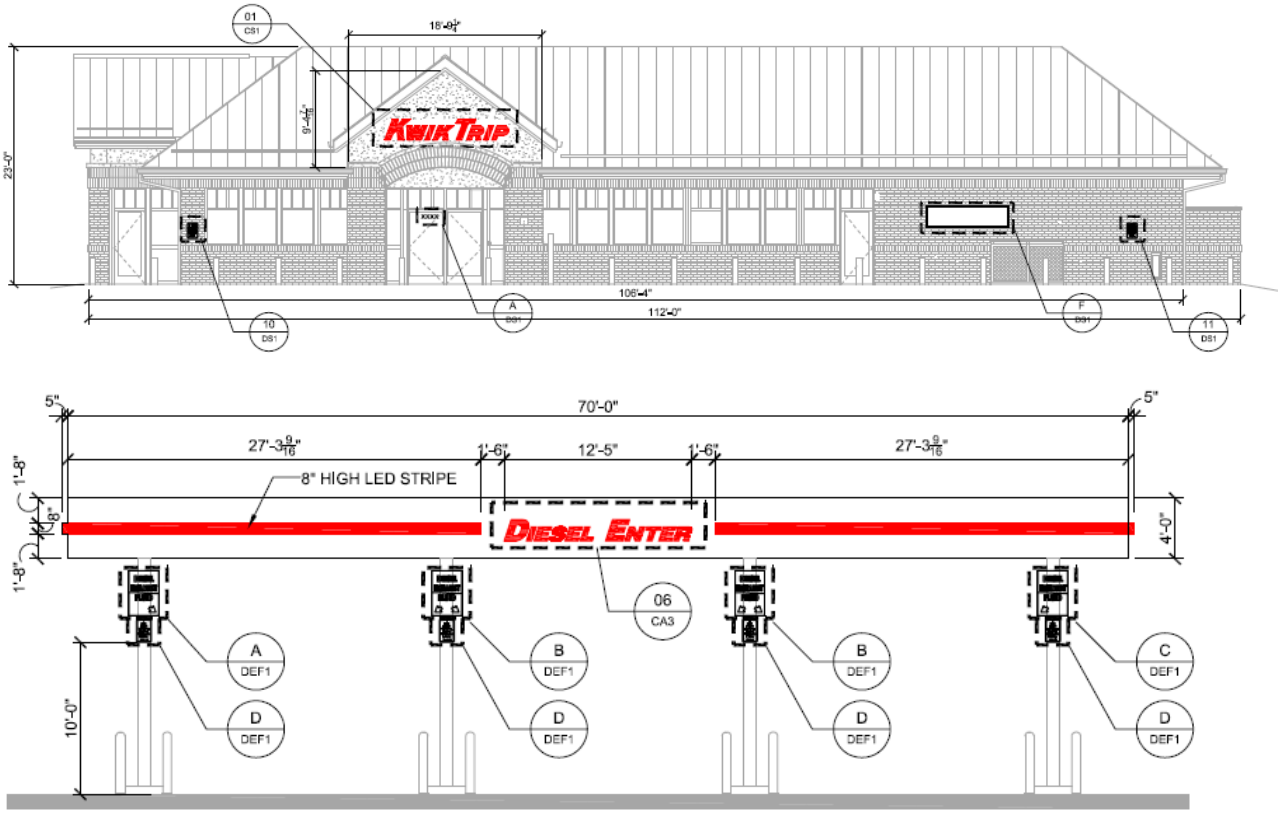
Joint Monument Sign

The base of all monument signs must be constructed of Class 1 materials similar to those on the building.

Additional allowed signage includes 100 square feet of wall signage per exterior wall on a maximum of three sides of the principal structure. Signs on canopies are considered wall signs and must be considered as part of the individual wall area calculation.

The Applicant has proposed the Kwik Trip red logo 24 inches high and 12 feet in length (24 square feet) on three sides of the convenience store (east, south, and north sides). A red Kwik Trip logo of the same size (24 square feet) will be on the north side of the regular fuel canopy. A 'Diesel Enter' and 'Diesel Exit' logo 18.61 square feet and 16.25 square feet) respectively are proposed on the north and south sides of the diesel canopy. A 24 square foot Kwik Trip red logo is proposed

on the west side of the diesel canopy. The canopies will have six-inch-high red vinyl striping on all four sides. Wall signs meet code requirements for size and location.



North View

11-4-5: Motor Fuel Stations

Title 11-4-5 contains specific requirements for Motor Fuel Stations.

A. All gas pumps must be set back no less than 25 feet from all property lines.
The Applicant has provided a site plan where all gas pumps exceed the 25-foot setback requirement (83 feet proposed for regular fuel and 296 feet minimum proposed for diesel pumps).

B. Regulates the canopies.

1. Overhead canopies shall be not less than 10 feet from the street right of way line.
The submitted site plan shows the regular fuel canopy 62.5 feet from the proposed Manning Avenue right-of-way and 420 feet from the Highway 61 right-of-way. The diesel canopy is proposed to be 279 feet from the proposed Manning Avenue right-of-way and 240 feet from the Highway 61 right-of-way.

2. Total height of the canopy shall not exceed 20 feet.
Both canopies are proposed to be 20 feet tall.

3. No light banding is allowed around the exterior of the canopy.

No light banding has been proposed. Instead, a six-inch-tall unlit red band will be installed on all four sides of the canopies.

4. Canopy columns shall be constructed of a primary material that matches and complements the principal building.
   The canopy columns will be constructed in a manner and color that complements the proposed convenience store.

C. Each motor fuel station shall be designed to be as compatible as possible with the general architectural intent of the area in which it is located.
   The convenience store will be constructed of mostly brick with glass windows and doors. The surrounding area is primarily commercial uses mostly focused on recreational vehicle and boat sales, storage and service with some industrial uses, residential uses, and a church. The architectural style will be complementary to other structures in the industrial area.

D. A minimum 20-foot landscaped yard shall be planted and maintained behind all property lines adjacent to public streets, except at driveway entrances.
   The area between the front property line along Manning Avenue and the parking lot shall be sodded and will contain a variety of plantings. A 15-foot strip of sod will be installed around the parking lot. Areas outside the 15-foot sod boundary may be seeded including stormwater ponds and detention basins. Ditches within the MnDOT right of way shall be re-established with vegetation approved by MnDOT.

E. Whenever a motor fuel station abuts a residential district screening is required. A fence is not required within fifteen feet of a street right-of-way line.
   There are residences to the east across Manning Avenue in Denmark Township. Screening vegetation will be planted along the parking lot on the east side of the parcel. The existing dwellings have existing mature tree cover in front yards and/or are separated from the site by the road and distance.

Future Site Development

The Applicant proposes to develop approximately 10 acres of the existing 30.25-acre parcel. The Applicant owns the entire parcel. Future development may utilize 114th Street for access or the proposed private driveway onto Manning Avenue for access. If extended, the private driveway must remain a private drive maintained by the Applicant and any future property owners. If the property is split in the future to accommodate future development, another plat will be required. All future development must comply with City Codes and obtain all appropriate permits. Any connection to 114th Street will trigger improvements at the intersection with Manning Avenue including but not limited to turn lanes and lowering of the hill crest to improve sight lines. The 114th Street improvements will be at the expense of the future developer. Costs associated with adding turn lanes on Manning Avenue at 114th Street will be at the future developer's expense. Costs associated with improvements to Manning Avenue sight lines will be shared between the City and MnDOT.



Development Fees
The Applicant will be required to pay park dedication and stormwater area charges prior to the issuance of a building permit. Park dedication fees and stormwater fees will be calculated using the disturbed area. Other area charges such as sanitary sewer and water will be charged in the future when infrastructure is available and the property makes connection to those systems.

Public Hearing Notices
The public hearing notice for the April 27, 2026, Planning Commission meeting was published in the *Saint Paul Pioneer Press* and mailed on April 15, 2026, to 21 property owners that are within 500 feet of the proposed project. City Staff has not received any comments at the time of writing the report.

Recommendations

That the Planning Commission recommend that the City Council approve the Preliminary Plat, Conditional Use Permit, and Site Plan Review for a 9,176 square foot convenience store with a 4,800 square foot dispenser island canopy and a 1,200 square foot commercial diesel dispenser canopy to be located on Manning Avenue, subject to the following conditions:

Site Plan Review
1. The project shall be completed in accordance with the plans submitted as amended by the conditions of approval. Any significant changes to the plans, as determined by planning staff, shall require review and approval by the Planning Commission and City Council.

2. The Site Plan approval shall expire one (1) year from the date of City Council approval unless a building permit has been requested, or a time extension has been granted by the City Council. The City Council may extend the expiration date of such approval upon written application by the person to whom the approval was granted.

3. All applicable permits (i.e. building, electrical, grading, right-of-way, and mechanical) and a commercial plan review packet must be completed, submitted, and approved by the City prior to the commencement of any construction activities. Detailed construction plans must be reviewed and approved by the Building Official and Fire Marshal.

4. All applicable well and septic permits shall be approved by the appropriate permitting authority prior to approval of a building permit. Verification of approval shall be submitted to planning staff. Secondary septic locations approved by the permitting authority shall be provided to planning staff.

5. The design for the septic drainfield shall be provided to the City with the building permit application package. The drainfield shall not negatively impact the proposed drainage ditch along Highway 61 south of the proposed convenience store.

6. The Applicant shall provide the City with the preliminary turn lane layouts as reviewed by MnDOT. The City will then prepare the final design and submit it to MnDOT for approval. If approved, the City will publicly bid the project and oversee the inspection of the turn lanes within the Manning Avenue right-of-way at the cost of the Applicant. If MnDOT does not approve the turn lanes, the Applicant will need to revise their site plan to reflect another access.

7. Installation of landscaping shall occur in a timely fashion and be consistent with an approved plan. A letter of credit in the amount of 150 percent of the landscape estimate shall be submitted to the City as required by City ordinance prior to the issuance of a building permit. The financial guarantee shall be held until all required plantings are installed. At such time of installation, the Planning Department shall conduct an inspection to verify compliance with the landscape plan. If the inspection is approved, 50 percent of the financial guarantee shall be released. One year from the date of initial inspection a follow-up inspection shall be conducted to verify survivability. If the follow-up inspection is approved, the remainder of the financial guarantee shall be released.

8. All light poles shall be a maximum of 27 feet in height, including base, and shall be downward directed, with LED lamps unless approved in writing by Planning staff. Recessed lighting on the convenience store structure shall be downward directed.

9. Applicant must apply for and obtain a grading permit from the City prior to beginning any work on the subject site. Grading, drainage, and erosion control plans must be approved by the City Engineer, other necessary permits (i.e. NPDES permit) must be obtained, and a preconstruction meeting must be held prior to issuance of a grading permit. The Applicant shall be responsible for the costs for the City to inspect the site in relation to erosion control conformance.

10. A Stormwater Management Agreement shall be recorded prior to issuance of a building permit.

11. The Applicant must provide the City with an as-built survey of all utilities and grading plans prior to issuance of the certificate of occupancy.

12. Proposed trash enclosure shall be constructed using the same materials and patterns used on the building and shall be a minimum of 6 feet in height.

13. The Applicant is responsible for removing debris from all adjacent public and private roadways during their grading and construction process. The adjacent streets shall be swept clean daily or as needed.

14. The site shall be sodded between the front property line along Manning Avenue and the parking lot. A fifteen-foot-wide sod strip shall be installed around the parking lot and driveway perimeter on all other sides.

15. Prior to the issuance of a building permit, the Developer shall incorporate the recommendations, requirements, and evaluations noted in the Bolton & Menk memorandum dated April 13, 2026, and subject to modifications that are agreed to by the developer and City Engineer. All comments shall be adopted herein by reference.

16. Prior to the issuance of a grading permit, the final grading, drainage, and erosion control plans shall be approved by the City Engineer.

17. Irrigation shall be provided for all landscaped areas. The irrigation system shall consist of an underground sprinkling system that is designed by a professional irrigation installer to meet the water requirements of the site's specific vegetation. The system shall be detailed on the final landscaping plan.

18. An updated sign package shall be submitted prior to issuance of a building permit that depicts a joint monument sign meeting maximum area of 70 total square feet and dynamic display signage not exceeding 24 total square feet on the property.

19. A building permit is required to be submitted prior to the installation of any signage on the site.

20. Light banding shall not be allowed on canopies.

21. No signage or landscape plantings shall be installed or planted within public rights-of-way or drainage and utility easements. Updated sign plans and landscaping plans shall be submitted prior to building permit approval.

Conditional Use Permit

22. The Conditional Use Permit approval shall expire one (1) year from the date of City Council approval unless a building permit has been requested or a time extension has been granted by the City Council. The City Council may extend the expiration date of such approval upon written application by the person to whom the approval was granted.

23. Rubbish, waste, and recycling containers shall be stored compliant with City ordinance screening requirements and shall always be maintained so as not to cause odors or other public nuisances.

24. Noise from gas pump videos or media shall not be audible at the property lines of the site.

25. The access driveway shall be a private driveway maintained by the Applicant and their successors.

26. Future site development shall be required to apply for appropriate City permits prior to development.

27. If the private driveway is extended to serve future users or any parcel not owned by the Applicant or their successors, a driveway maintenance agreement shall be submitted to planning staff prior to issuance of grading and building permits.

28. No additional access points onto Manning Avenue shall be permitted.

29. Future development utilizing 114th Street shall be responsible for the costs of improving 114th Street to meet City standards and shall share in the costs of improving the intersection of 114th Street with Manning Avenue including, but not limited to, turn lanes and improvements necessary to meet sight distances along Manning Avenue. 114th Street improvement is required upon future platting or splitting of the parcel or future development that is not associated with the proposed motor fuel station on site.

Preliminary Plat

30. Prior to the release of the Final Plat, the Applicant shall enter into a Development Agreement with the City for proposed road improvements. The signed Development Agreement shall be recorded with the Washington County Recorder's Office with the Final Plat.

31. The proposed width of the right of way of Manning Avenue shall be depicted at 95 feet from center on the Final Plat.

32. Ten-foot-wide drainage and utility easements shall be added around the site perimeter on the Final Plat.

33. The Preliminary Plat approval shall expire one (1) year from the date of City Council approval.

Prepared by
Samantha Pierret, AICP
Senior Planner

Attachments
- Architectural Set
- Site Civil Plans
- Engineering Review Memo
- Sign Package



CANOPY ELEVATION

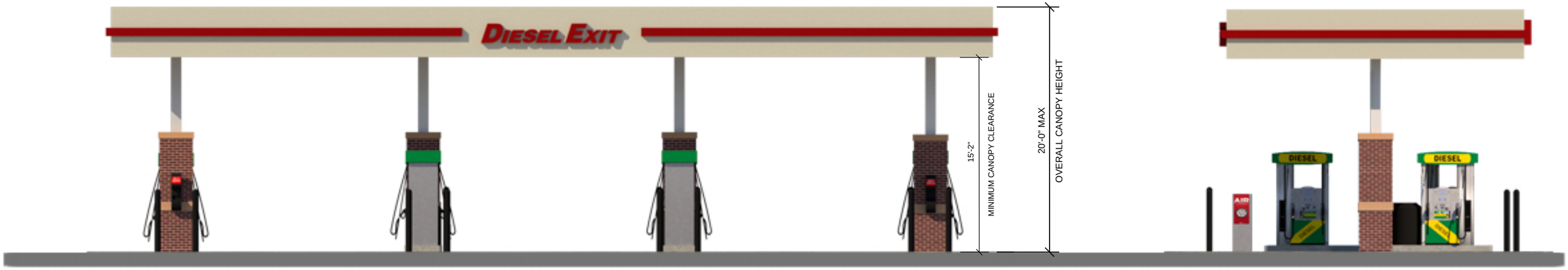


CANOPY PERSPECTIVE

KWIK TRIP
KWIK STAR

KWIK TRIP, INC.
P.O. Box 2107
1626 Oak Street
La Crosse WI 54602-2107
PH. (608) 781-8988

10 MPD Canopy



CANOPY EXIT ELEVATION

CANOPY END ELEVATION

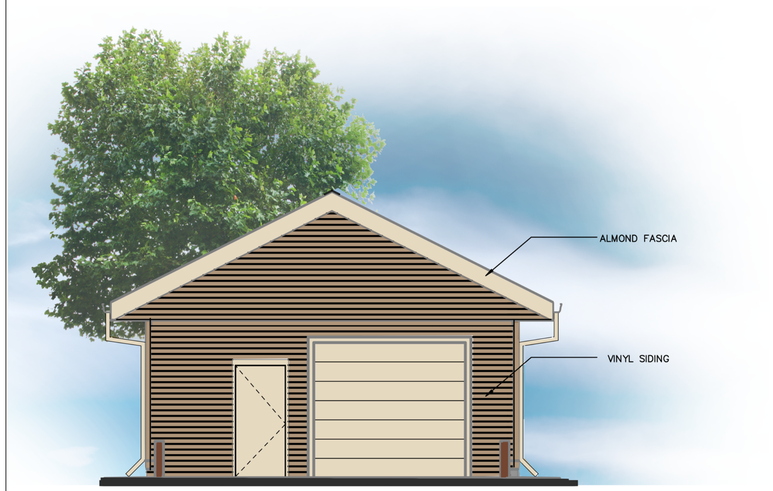


CANOPY PERSPECTIVE

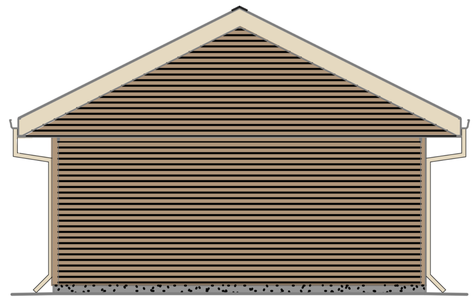
KWIK TRIP
KWIK STAR

KWIK TRIP, INC.
P.O. Box 2107
1626 Oak Street
La Crosse, WI 54602-2107
PH. (608) 781-8988
Fax (608) 781-8960

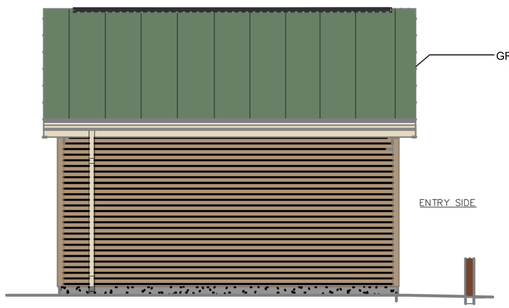
3 Lane Diesel Canopy



1 **FRONT ELEVATION**
1/4" = 1'-0"



2 **BACK ELEVATION**
1/4" = 1'-0"



3 **LEFT/RIGHT ELEVATIONS**
1/4" = 1'-0"

VANTAGE ARCHITECTS INC
750 N. Third Street
La Crosse, WI 54601
Ph (608) 784-2729
Fax (608) 784-2826

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FRONT LEFT VIEW



FRONT RIGHT VIEW



REAR RIGHT VIEW



REAR LEFT VIEW



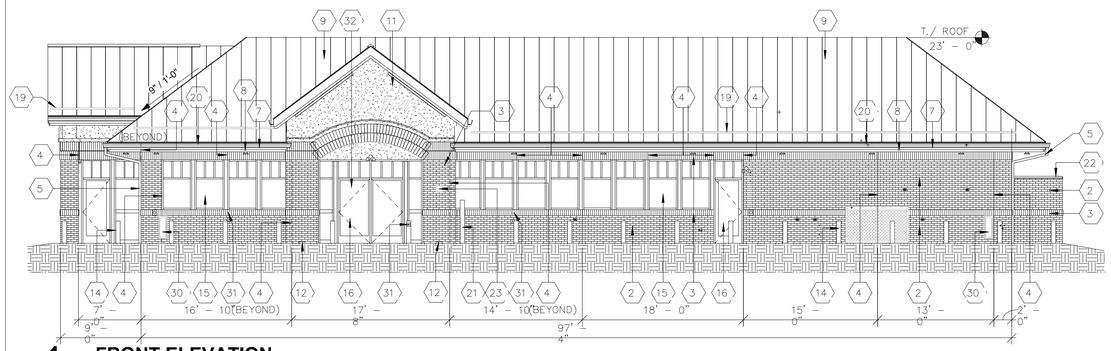
FRONT ELEVATION

KWIK TRIP

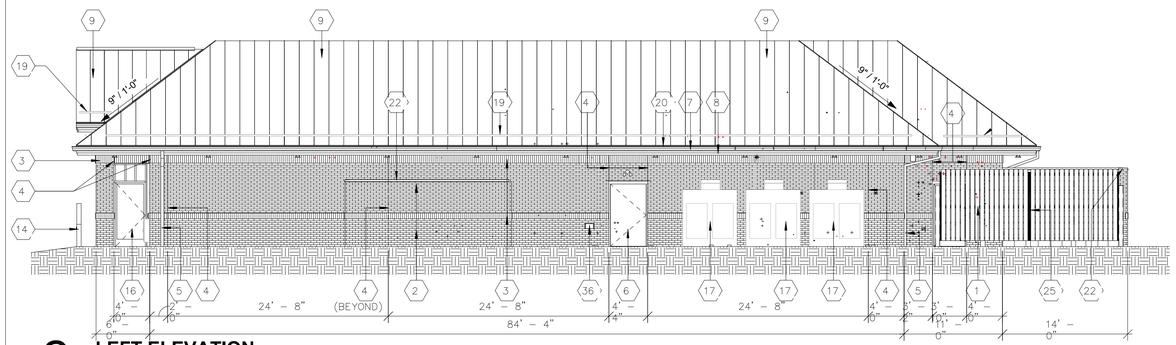
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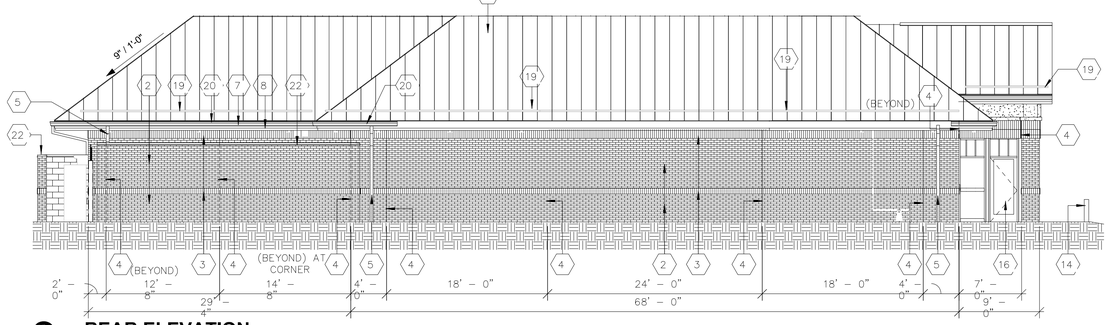
EXTERIOR ELEVATIONS
LEFT HAND GEN 3



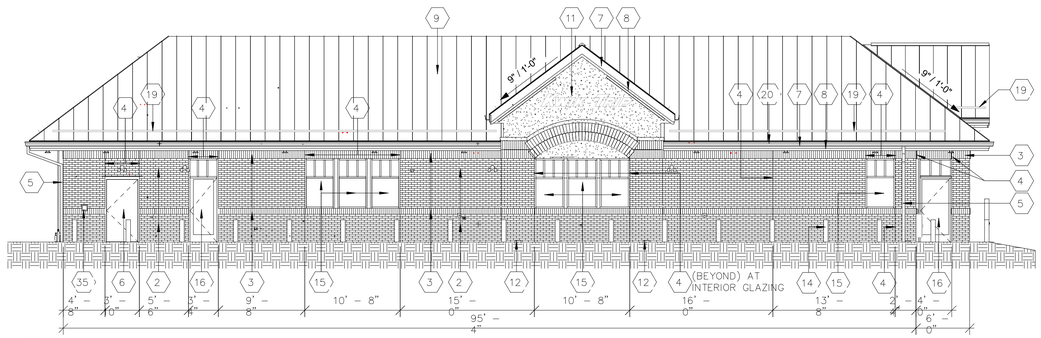
1 **FRONT ELEVATION**
1/8" = 1'–0"



2 **LEFT ELEVATION**
1/8" = 1'–0"



3 **REAR ELEVATION**
1/8" = 1'–0"



4 **RIGHT ELEVATION**
1/8" = 1'–0"

Front Elevation	Area SF	% Elevation
Brick	672	29%
EIFS	120	5%
Glass Storefront Doors	97	4%
Storefront Windows	345	15%
Standing Seam Roof	1064	46%
	2298	

Delivery Elevation		
Brick	1060	45%
Glass Storefront Doors	37	2%
H.M. Doors	64	3%
Standing Seam Roof	1211	51%
	2372	

Rear Elevation		
Brick	1039	46%
Glass Storefront Doors	34	1%
Storefront Windows	31	1%
Standing Seam Roof	1169	51%
	2273	

Side Vestibule Elevation		
Brick	822	37%
EIFS	106	5%
Glass Storefront Doors	68	3%
Storefront Windows	137	6%
H.M. Doors	28	1%
Standing Seam Roof	1072	48%
	2233	

EXTERIOR ELEVATION KEYNOTES

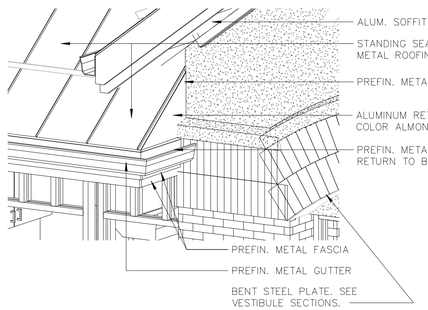
MARK	DESCRIPTION
1	TRASH ENCLOSURE.
2	MODULAR BRICK VENEER (RED).
3	BRICK SOLDIER COURSE (TAN). SEE SECTION FOR SIZE
4	BRICK CONTROL JOINT. SEALANT COLOR TO MATCH BRICK COLOR.
5	ALUMINUM DOWNSPOUT.
6	HOLLOW METAL DOOR & FRAME. PAINT. CAULK COLOR TO MATCH BRICK.
7	ALUMINUM FASCIA – ALMOND.
8	ALUMINUM FASCIA – RED.
9	PREFINSIHED STANDING SEAM METAL ROOFING.
10	CT CABINET AND ELECTRICAL METER. RE: ELECT. PLANS.
11	EIFS. COLOR: TAN.
12	CAST ALUMINUM BRICK VENT – ACCEPTABLE OPTIONS: HOHMANN & BARNARD #C825, 8" X 2 1/4" OR EX 825.
13	EMERGENCY FUEL SHUT OFF. RECESS FLUSH w/ WALL.
14	6" BOLLARD w/ 40" PLASTIC SLEEVE. SEE SHEET A124.
15	ALUMINUM STOREFRONT FRAMING w/ INSULATED GLAZING. CAULK COLOR GRAY DYMONIC.
16	ALUMINUM STOREFRONT ENTRANCE. CAULK COLOR GRAY DYMONIC,
17	ICE MERCHANDISER
18	LP CAGE
19	SNOW RETENTION BAR
20	PREFINISHED METAL GUTTER
21	BLUE HDCP. BOLLARD. REFER TO SITE PLANS.
22	PREFINISHED METAL WALL CAP.
23	KNOX BOX LOCATION WHEN NEEDED. OWNER PROVIDED.
24	SPLASH BLOCK
25	PROVIDE LOCK BOLT FOR EACH LEAF
26	INSULATED POLYCARBONATE DOOR
27	12 X 12 GLASS BLOCK
28	6 X 6 GLASS BLOCK
29	SUPPLY FAN. SEE HVAC PLANS.
30	FIRE EXTINGUISHER CABINET
31	HANDICAP PUSH PLATE. SE EELECTRICAL SHEETS FOR MOUNTING HEIGHTS.
32	STREET ADDRESS NUMBERS TO BE LOCATED ON ENTRANCE DOOR. VERIFY WITH OWNER BEFORE APPLYING.
33	BRICK SOLDIER COURSE FIELD COLOR – (RED).
34	ALUMINUM STOREFRONT FRAMING w/ INSULATED SPANDREL GLAZING. CAULK COLOR GRAY DYMONIC.
35	CO2 FILL BOX. SEE FLOOR PLAN FOR MOUNTING HEIGHTS.
36	RECESSED OIL FILL BOX. SEE FLOOR PLAN FOR MOUNTING HEIGHTS.

Exterior Door Color Code

BAC Blend-a-Color	02	32	64	120
W1 White	-	12	1	-
B1 Black	-	24	1	-
R2 Maroon	-	19	-	-
R3 Magenta	-	26	1	1

EXTERIOR COLOR SCHEDULE

MATERIAL	MANUFACURER	COLOR
BOLLARDS	--	BLACK, GLOSS
FASCIA	UNA-CLAD 24 GA.	REGAL RED ALMOND
GUTTERS & DOWNSPOUTS	--	ALMOND
SOFFIT	UNA-CLAD	ALMOND
METAL ROOF	UNA-CLAD	HEMLOCK GREEN
MORTAR	--	GREY
SEALANT RED BRICK	TREMCO DYMONIC	REDWOOD TAN
TAN BRICK	TREMCO DYMONIC	LIMESTONE
ROOF CAP CAR WASH	UNA-CLAD	HEMLOCK GREEN
TAN BRICK	LEGENDARY	CLEAR BUFF
RED BRICK	LEGENDARY	CABERNET BURGUNDY
EIFS	TOTAL WALL	DIRTY MARTINI SWIRL TEXTURE
TRASH ENCLOSURE CAP	UNA-CLAD	HEMLOCK GREEN
BRICK LINTEL PAINT	TOTAL WALL	MORNING MIST (OR EQUAL)



8 **FRONT VESTIBULE METAL ROOF RETURN**

EXTERIOR ELEVATION NOTES

A. SEE FLOOR PLAN FOR WINDOW TYPE KEYS.
B. CONTROL JOINT SEALANT TO MACH VENEER COLOR.
C. ALL DOWNSPOUTS TO CONNECT W/ BELOW GRADE DRAIN.
D. VERIFY NUMBER OF GABLE'S AND LOCATION OF SIGNAGE WITH OWNER.
E. CAST ALUMINUM BRICK VENT SHALL APPLY TO ALL STORES WITH CANOPY BRICK COLUMNS. REFER TO A700/A701 IF STORE REQUIRES BRICK COLUMNS
F. CONTROL JOINTS LOCATED AT WINDOW AND DOOR LOCATIONS TO HAVE BACKER ROAD AND SEALANT AT LOOSE LINTELS.

VANTAGE ARCHITECTS ▼ INC
750 N. Third Street ▼ La Crosse, WI 54601
Ph (608) 784-2729 Fax (608) 784-2826

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FAX (608) 781-8960

09.06.2024

PROJECT TITLE: Store #1739 Kwik Trip, Inc.
PROJECT LOCATION: Cottage Grove, MN

JOB #:
DATE:
DRAWN BY: Author
TYPE:

REVISIONS

NO.	DATE

SHEET TITLE
Exterior Elevations

SHEET NO.
A200

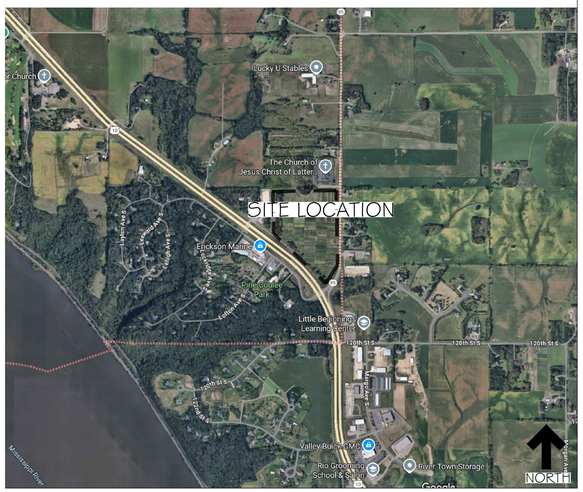
SITE IMPROVEMENT PLANS FOR:

KWIK TRIP #1789
COTTAGE GROVE, MN

SITE LOCATION MAP:



SITE AERIAL MAP:



DRAWING INDEX

C001	TITLE SHEET
C010	ALTA SURVEY
C180	SITE CIRCULATION PLAN
C181	SITE DIMENSION PLAN
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C200	GRADE PLAN
C201	GRADE PLAN
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C203	GRADE PLAN
C300	STORM SEWER PLAN EAST
C301	STORM SEWER PLAN WEST
C302	STORM NOTES & DETAILS
C400	UTILITY PLAN
C401	UTILITY NOTES & DETAILS
C402	UTILITY DETAILS
C500	SITE PLAN DETAILS
C501	SITE PLAN DETAILS
C600	EROSION CONTROL PLAN
C601	EROSION CONTROL NOTES
C602	EROSION CONTROL DETAILS
C603	EROSION CONTROL DETAILS
C700	LANDSCAPE PLAN
C701	LANDSCAPE PLAN ENLARGED
C702	TREE INVENTORY & REMOVE
C703	TREE INVENTORY & REMOVAL ENLARGED
C800	PHOTOMETRIC SITE PLAN
C801	PHOTOMETRIC RENDER PLAN

OWNER:
KWIK TRIP INC.
1626 OAK STREET
LA CROSSE, WI 54602
CONTACT LEAH BERLIN
608-793-6461

SITE PLANNER:
INSITES SITE PLANNING
3131 FERNBROOK LN N, SUITE 260
PLYMOUTH, MN 55447
BOB MUELLER
763-383-8400
Bob@InsitesInc.net

CIVIL ENGINEER:
SUNDE ENGINEERING
10830 NESBITT AVE SOUTH
BLOOMINGTON, MN 55437
952-881-3344

ARCHITECT:
VANTAGE ARCHITECTS
750 3RD ST N, SUITE F
LA CROSSE, WI 54601
608-784-2729

SURVEYOR:
SUNDE LAND SURVEYING
9001 EAST BLOOMINGTON
FREEWAY BLOOMINGTON, MN
55420
952-881-2455

KWIK TRIP

KWIK STAR

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LACROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

TITLE SHEET

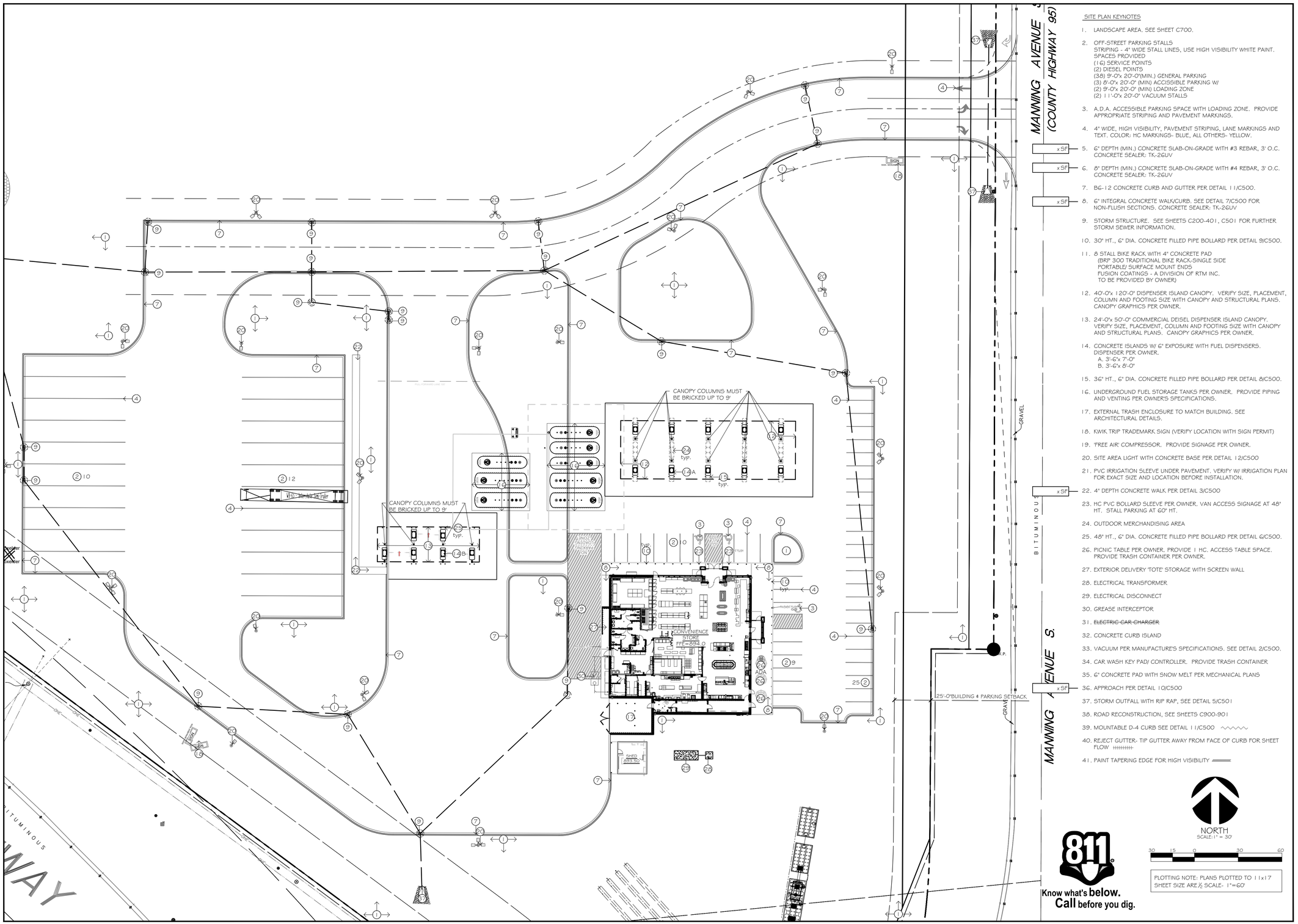
CONVENIENCE STORE 1789

-- COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	06AUG25	INTERNAL REVIEW 2
	19SEP25	SUBMITTAL
	28JAN26	CITY COMMENTS
	27FEB26	DR3

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 25-1789
DATE 02/27/2026
SHEET C001

INSITES 25-010 PM LB



SITE PLAN KEYNOTES

1. LANDSCAPE AREA. SEE SHEET C700.
2. OFF-STREET PARKING STALLS
   STRIPING - 4" WIDE STALL LINES, USE HIGH VISIBILITY WHITE PAINT.
   SPACES PROVIDED
   (16) SERVICE POINTS
   (2) DIESEL POINTS
   (38) 9'-0"x 20'-0"(MIN.) GENERAL PARKING
   (3) 8'-0"x 20'-0" (MIN) ACCISSIBLE PARKING W/
   (2) 9'-0"x 20'-0" (MIN) LOADING ZONE
   (2) 11'-0"x 20'-0" VACUUM STALLS
3. A.D.A. ACCESSIBLE PARKING SPACE WITH LOADING ZONE. PROVIDE APPROPRIATE STRIPING AND PAVEMENT MARKINGS.
4. 4" WIDE, HIGH VISIBILITY, PAVEMENT STRIPING, LANE MARKINGS AND TEXT. COLOR: HC MARKINGS- BLUE, ALL OTHERS- YELLOW.
5. x SF — 6" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #3 REBAR, 3' O.C. CONCRETE SEALER: TK-2GUV
6. x SF — 8" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #4 REBAR, 3' O.C. CONCRETE SEALER: TK-2GUV
7. BG-12 CONCRETE CURB AND GUTTER PER DETAIL 11/C500.
8. x SF — 6" INTEGRAL CONCRETE WALK/CURB. SEE DETAIL 7/C500 FOR NON-FLUSH SECTIONS. CONCRETE SEALER: TK-2GUV
9. STORM STRUCTURE. SEE SHEETS C200-401, C501 FOR FURTHER STORM SEWER INFORMATION.
10. 30" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD PER DETAIL 9/C500.
11. 8 STALL BIKE RACK WITH 4" CONCRETE PAD
    (BRP 300 TRADITIONAL BIKE RACK-SINGLE SIDE
    PORTABLE/ SURFACE MOUNT ENDS
    FUSION COATINGS - A DIVISION OF RTM INC.
    TO BE PROVIDED BY OWNER)
12. 40'-0"x 120'-0" DISPENSER ISLAND CANOPY. VERIFY SIZE, PLACEMENT, COLUMN AND FOOTING SIZE WITH CANOPY AND STRUCTURAL PLANS. CANOPY GRAPHICS PER OWNER.
13. 24'-0"x 50'-0" COMMERCIAL DEISEL DISPENSER ISLAND CANOPY. VERIFY SIZE, PLACEMENT, COLUMN AND FOOTING SIZE WITH CANOPY AND STRUCTURAL PLANS. CANOPY GRAPHICS PER OWNER.
14. CONCRETE ISLANDS W/ 6" EXPOSURE WITH FUEL DISPENSERS. DISPENSER PER OWNER.
    A. 3'-6"x 7'-0"
    B. 3'-6"x 8'-0"
15. 36" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD PER DETAIL 8/C500.
16. UNDERGROUND FUEL STORAGE TANKS PER OWNER. PROVIDE PIPING AND VENTING PER OWNER'S SPECIFICATIONS.
17. EXTERNAL TRASH ENCLOSURE TO MATCH BUILDING. SEE ARCHITECTURAL DETAILS.
18. KWIK TRIP TRADEMARK SIGN (VERIFY LOCATION WITH SIGN PERMIT)
19. "FREE AIR" COMPRESSOR. PROVIDE SIGNAGE PER OWNER.
20. SITE AREA LIGHT WITH CONCRETE BASE PER DETAIL 12/C500
21. PVC IRRIGATION SLEEVE UNDER PAVEMENT. VERIFY W/ IRRIGATION PLAN FOR EXACT SIZE AND LOCATION BEFORE INSTALLATION.
22. x SF — 4' DEPTH CONCRETE WALK PER DETAIL 3/C500
23. HC PVC BOLLARD SLEEVE PER OWNER. VAN ACCESS SIGNAGE AT 48" HT. STALL PARKING AT 60" HT.
24. OUTDOOR MERCHANDISING AREA
25. 48" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD PER DETAIL 6/C500.
26. PICNIC TABLE PER OWNER. PROVIDE 1 HC. ACCESS TABLE SPACE. PROVIDE TRASH CONTAINER PER OWNER.
27. EXTERIOR DELIVERY 'TOTE' STORAGE WITH SCREEN WALL
28. ELECTRICAL TRANSFORMER
29. ELECTRICAL DISCONNECT
30. GREASE INTERCEPTOR
31. ~~ELECTRIC CAR CHARGER~~
32. CONCRETE CURB ISLAND
33. VACUUM PER MANUFACTURE'S SPECIFICATIONS. SEE DETAIL 2/C500.
34. CAR WASH KEY PAD/ CONTROLLER. PROVIDE TRASH CONTAINER
35. 6" CONCRETE PAD WITH SNOW MELT PER MECHANICAL PLANS
36. x SF — APPROACH PER DETAIL 10/C500
37. STORM OUTFALL WITH RIP RAP, SEE DETAIL 5/C501
38. ROAD RECONSTRUCTION, SEE SHEETS C900-901
39. MOUNTABLE D-4 CURB SEE DETAIL 11/C500
40. REJECT GUTTER- TIP GUTTER AWAY FROM FACE OF CURB FOR SHEET FLOW
41. PAINT TAPERING EDGE FOR HIGH VISIBILITY

NORTH
SCALE: 1" = 30'

30 15 0 30 60

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=60'

811 Know what's below. Call before you dig.

KWIK TRIP
KWIK STAR

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insites
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763.383.8400
insitesinc.net mail@insitesinc.net

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Date 2-2026 License No. 19306

Signed Robert J. Mueller

SITE KEYNOTE PLAN

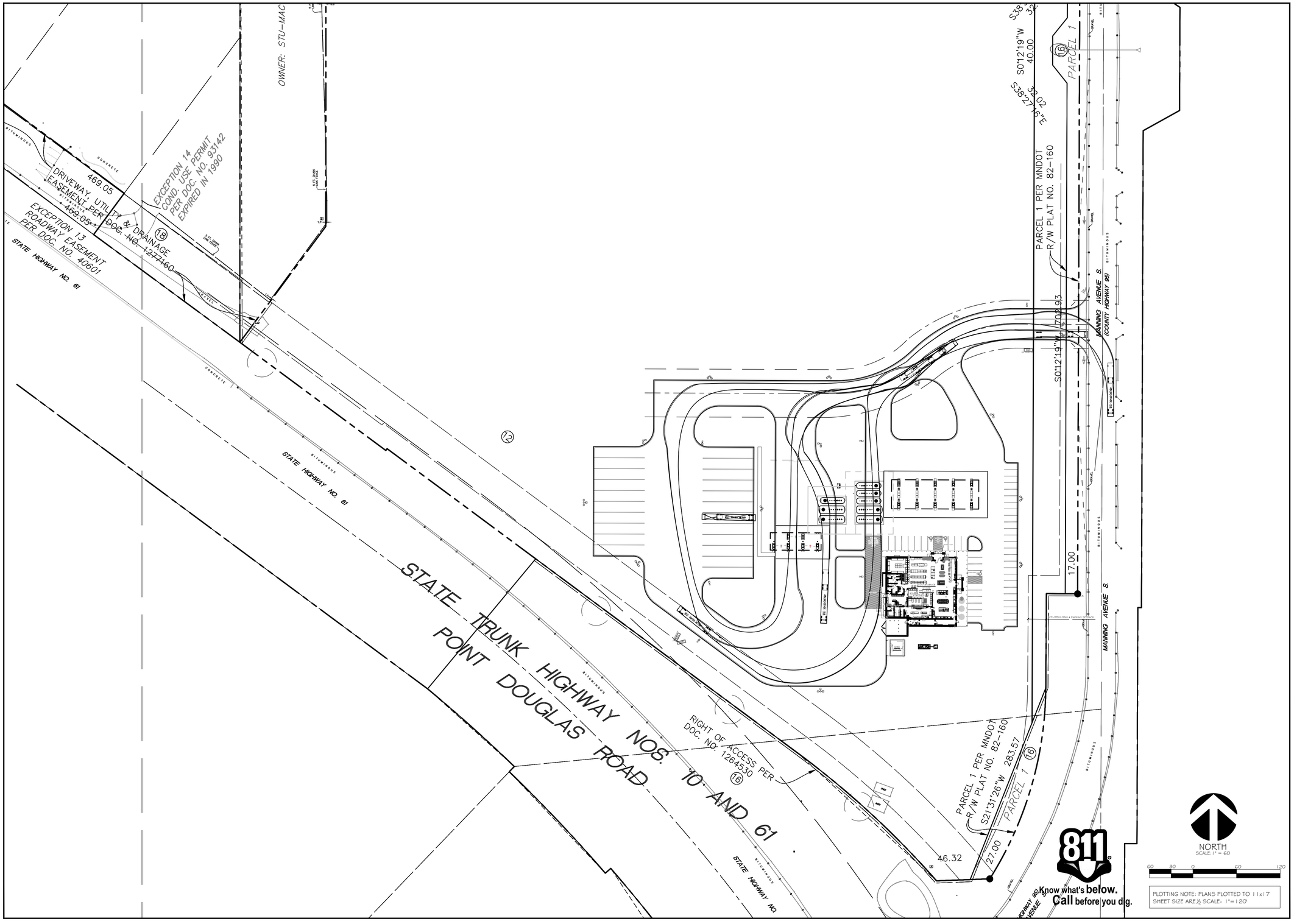
CONVENIENCE STORE 1789

-- COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	06AUG25	INTERNAL REVIEW 2
-	19SEP25	SUBMITTAL
-	28JAN26	CITY COMMENTS
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DRAWN BY
SCALE GRAPHIC
PROJ. NO. 25-1789
DATE 02/27/2026
SHEET C100

MSITES 25-010 PM LB



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SITE CIRCULATION PLAN

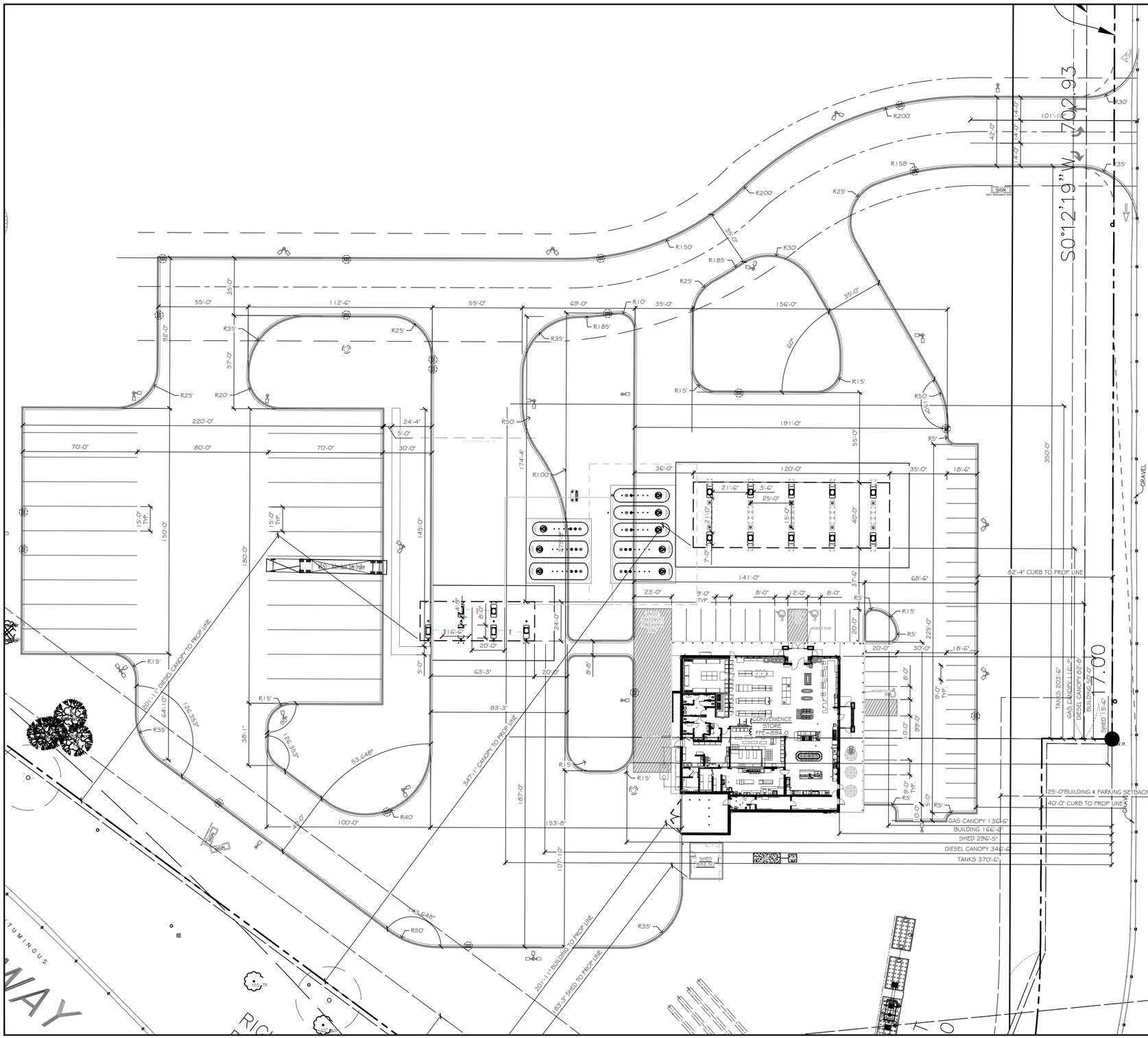
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DRAWN BY	
SCALE	GRAPHIC
PROJ. NO.	25-1789
DATE	02/27/2026
SHEET	**C180**

INSITES 25-0110 PM: LB



CONSTRUCTION NOTE:

CONSTRUCTION FENCING TO BE INSTALLED AROUND ENTIRE CONSTRUCTION SITE. COORDINATE WITH OWNER FOR FENCING AND GATE LOCATIONS AND APPROPRIATE SIGNAGE INSTALLATION.

LAYOUT NOTES:

1. PLAN PREPARED FROM AN ALTA/ACSM LAND TITLE SURVEY BY:
   SUNDE LAND SURVEYING
   9001 EAST BLOOMINGTON FREEWAY
   BLOOMINGTON, MN 55420
   952-881-2455
2. CURBS ARE DIMENSIONED TO FACE OF CURB.
3. CONVENIENCE STORE AND ISLAND COMPLEXES ARE LOCATED FROM THE NORTHWEST PROPERTY CORNER AND ALIGNED PARALLEL/ PERPENDICULAR TO THE WEST PROPERTY LINE UNLESS OTHERWISE INDICATED ON THIS PLAN.
4. UNLESS SHOWN OTHERWISE ON THIS DRAWING, CONTRACTOR SHALL PROVIDE CONTROL JOINTS, CONSTRUCTION JOINTS, AND EXPANSION JOINTS IN SLAB ON GRADE, SIDEWALKS AND DRIVES.
   CONTROL JOINT MAXIMUM DISTANCE: WALKS- 8' O.C., ALL OTHERS- 10' O.C. SAW CUT CONTROL JOINTS MINIMUM ONE-QUARTER CONCRETE THICKNESS.
   EXPANSION JOINT MAXIMUM DISTANCE: WALKS- 24' O.C., ALL OTHERS- 40' O.C. DOWEL ALL EXPANSION JOINTS- MAXIMUM 24" O.C.
5. CONCRETE IN ISLAND COMPLEX SHALL BE SMOOTH BROOM FINISHED.
6. EXTERIOR CONCRETE SURFACES TO BE SEALED. CONCRETE SEALER:
   APR 15- OCT 31 USE: TK-2GUV
   NOV 1- DEC 31 USE: TK-290
7. EXPANSION JOINTS SHALL BE DECK-O-FOAMED AND CAULKED WITH SL1

SITE DATA:

ZONING DISTRICT:	B-2
TOTAL SITE AREA:	461,765 SF
EX. IMPERVIOUS:	0 SF
PARKING REQUIREMENTS	
PARKING REQUIRED	4+2 PER SERVICE STALL=50
PARKING PROVIDED	69 STALLS(3 ADA, 22 TRUCK) + 23 SRV. PNTS
BUILDING HEIGHTS	
CONVENIENCE STORE	24.5'
CANOPY	20.0'
BUILDING SETBACKS	
FRONT	25'
REAR	10'
SIDE	10'
PROPOSED GREEN AREA:	236,673 SF
PROPOSED HARD COVER:	176,019 SF
PAVED AREA:	166,843 SF
BUILDING AREA:	9,176 SF

Know what's **below.**
Call before you dig.

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=60'

KWIK TRIP

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SITE DIMENSION PLAN

CONVENIENCE STORE 1789

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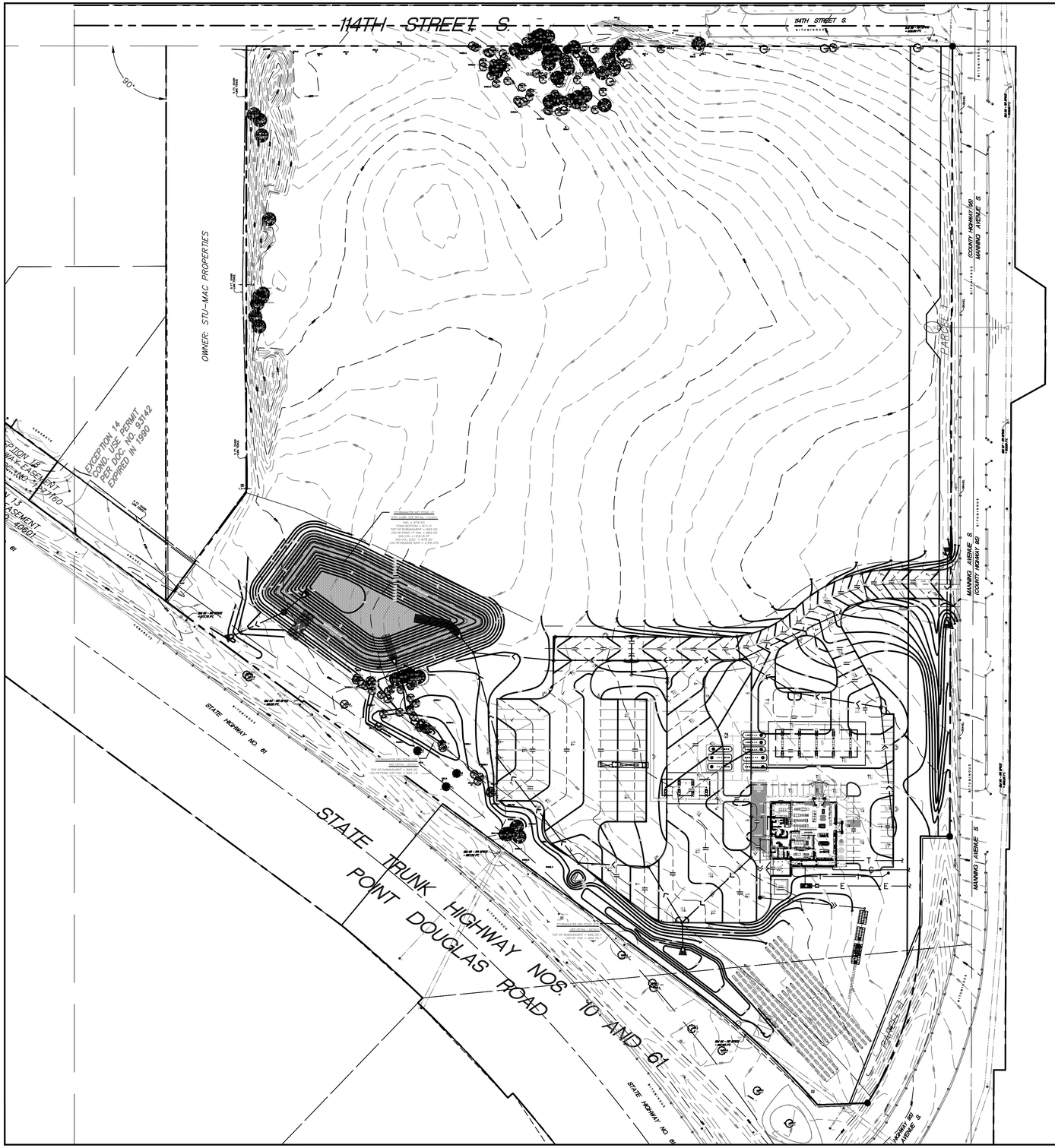
SCALE GRAPHIC

PROJ. NO. 25-1789

DATE 02/27/2026

SHEET **C181**

INSITES 25-010 PM LB



NOTE: CONTRACTOR TO OBTAIN RIGHT-OF-WAY EXCAVATION PERMIT PRIOR TO BEGINNING SITE WORK.

CONSTRUCTION NOTE:

CONSTRUCTION FENCING TO BE INSTALLED AROUND ENTIRE CONSTRUCTION SITE. COORDINATE WITH OWNER FOR FENCING AND GATE LOCATIONS AND APPROPRIATE SIGNAGE INSTALLATION.

NOTE:

- REFER TO OTHER PROJECT PLANS AND INFORMATION RELATED TO THIS PROJECT PRIOR TO BEGINNING ANY GRADING WORK.

- PLAN PREPARED FROM ALTA/ACSM LAND TITLE SURVEY BY:

SUNDE LAND SURVEYING
9001 EAST BLOOMINGTON FREEWAY
BLOOMINGTON, MN 55420
952-881-2455

- CONTRACTOR SHALL LOCATE ALL UTILITIES WHICH MAY AFFECT THIS WORK AND NOTIFY OWNER OF ANY CONFLICTS.

- CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED ELEVATIONS PRIOR TO START OF CONSTRUCTION. VERIFY CRITICAL ELEVATIONS TO ENSURE CONFORMANCE WITH GRADING PLAN, PARTICULARLY WITH WALK AND/ OR PAVEMENTS TO REMAIN. MEET EXISTING GRADES ALONG STREETS, PROPERTY LINES AND DRIVEWAY ENTRANCES. RESTORE ALL EXISTING PAVEMENTS THAT REMAIN TO THEIR ORIGINAL, IF NOT BETTER CONDITION. NOTIFY OWNER OF ANY CONFLICTS.

- AREAS NOT PAVED AND TO BE LANDSCAPED SHALL RECEIVE MINIMUM OF 4" DEPTH COMPACTED TOPSOIL.

- CONTRACTOR SHALL COORDINATE GRADING AND INSTALLATION OF DRIVES IN R.O.W. WITH APPROPRIATE GOVERNMENT AGENCIES. OBTAIN APPROPRIATE PERMITS FOR GRADING AND DRAINAGE IN ALL R.O.W.

- REFER TO OWNER'S SPECIFICATIONS FOR CURB, APPROACH, BITUMINOUS, AND CONCRETE PROFILES, AS WELL AS ADDITIONAL SITE STANDARDS RELATED TO THIS PROJECT.

FINISHED FLOOR ELEVATIONS

PROPOSED CONVENIENCE STORE
FINISHED ELEVATION = 894.0 FEET

BENCHMARK
SEE SURVEY FOR BENCHMARK INFORMATION

NOTE GRADING CONTRACTOR:

ANY PROPERTY IRONS THAT ARE DISTURBED IN THE GRADING PROCESS SHALL BE RESET BY A LICENSED LAND SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.

811 Know what's below. Call before you dig.

NORTH
SCALE: 1" = 80'

80 40 0 80 160

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=160'

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GRADE PLAN

CONVENIENCE STORE 1789

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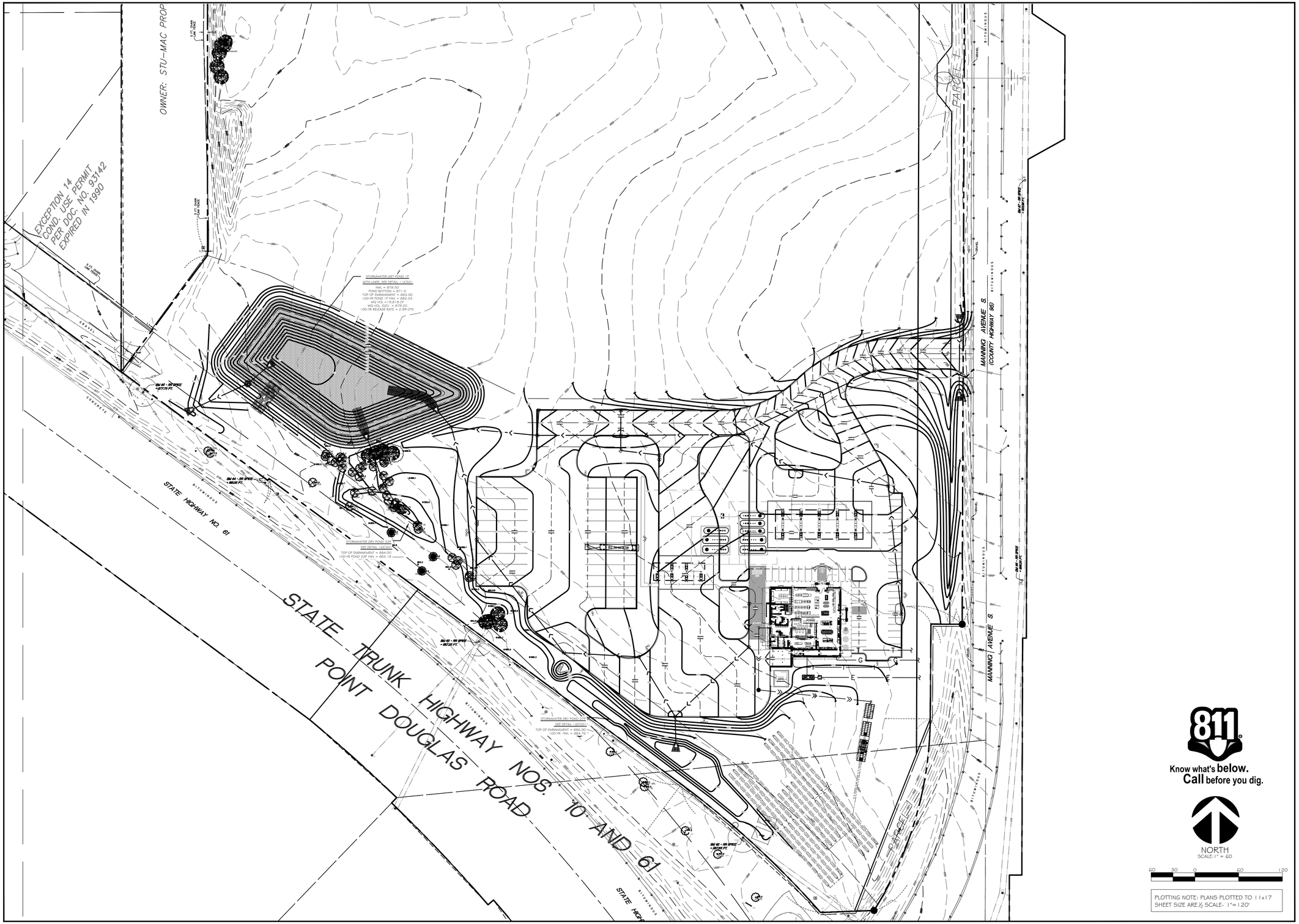
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PROJ. NO. 25-1789

DATE 02/27/2026

SHEET **C200**

INSITES 25-010 PM LB



Know what's **below.**
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NORTH
SCALE: 1" = 60'

60 30 0 60 120

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=120'

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SCALE GRAPHIC

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DATE 02/27/2026

SHEET **C201**

INSITES 25-010 PM: LB

STORMWATER WET POND 1P
WITH LINER, SEE DETAIL 11/C501
NWL = 876.50
POND BOTTOM = 871.0
TOP OF EMBANKMENT = 883.00
100-YR POND 1P HWL = 882.03
WQ VOL = 19,616 CF
WQ VOL. ELEV. = 879.20
100-YR RELEASE RATE = 2.99 CFS

NEW OUTLET STRUCTURE#1
SEE DETAIL 2/C501

NEW 12" APRON #2
INV. 874.00

NEW 36" APRON #17
INV. 879.20

NEW 12" APRON #7
INV. 876.50

NEW 12" APRON #30
INV. 875.20

NEW MH#18
RIM 887.25

NEW MH#3
RIM 885.00

NEW MH#32
RIM 885.00

NEW APRON#33
RIM 881.50

STORMWATER DRY POND 33P
SEE DETAIL 12/C501
TOP OF EMBANKMENT = 884.00
100-YR POND 33P HWL = 883.18

NEW CB#19
RIM 886.40

NEW CB#20
RIM 886.40

BM #4 - RR SPIKE
= 881.35 FT.

BM #3 - RR SPIKE
= 887.25 FT.

BM #2 - RR SPIKE
= 887.65 FT.

BM #5 - RR SPIKE
= 888.25 FT.

STATE HIGHWAY NO. 61

STATE TRUNK HIGHWAY NOS. 10 AND 61
POINT DOUGLAS ROAD

MANNING AVENUE S
(COUNTY HIGHWAY 95)

NEW CB#8
RIM 887.22

NEW CB#4
RIM 887.25

NEW CB#9
RIM 887.25

NEW CB#10
RIM 890.70

NEW CB#5
RIM 890.70

NEW CB#3
RIM 887.50

NEW MH#11
RIM 889.25

NEW OIL SKIMMER CB#12
RIM 888.80

NEW CB#13
RIM 888.90

NEW CB#7
RIM 898.50

NEW CB#6
RIM 898.30

NEW APRON #26
INV. 899.20

NEW APRON #28
INV. 898.00

NEW OIL SKIMMER CB#14
RIM 890.78

NEW CB#15
RIM 891.70

NEW CB#16
RIM 892.30

NEW CB#25
RIM 893.27

NEW MH#24
RIM 893.00

NEW CB#22
RIM 890.65

NEW CB#21
RIM 888.25

NEW CB#23
RIM 891.55

NEW APRON #27
INV. 882.10

STORMWATER DRY POND 27P
SEE DETAIL 12/C501
TOP OF EMBANKMENT = 886.00
100-YR HWL = 884.76

CONVENIENCE STORE
FF=897.5

CANOPY

PARCEL 1

811 Know what's below. Call before you dig.

NORTH
SCALE: 1" = 40'

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=80'

KWIK TRIP

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GRADE PLAN

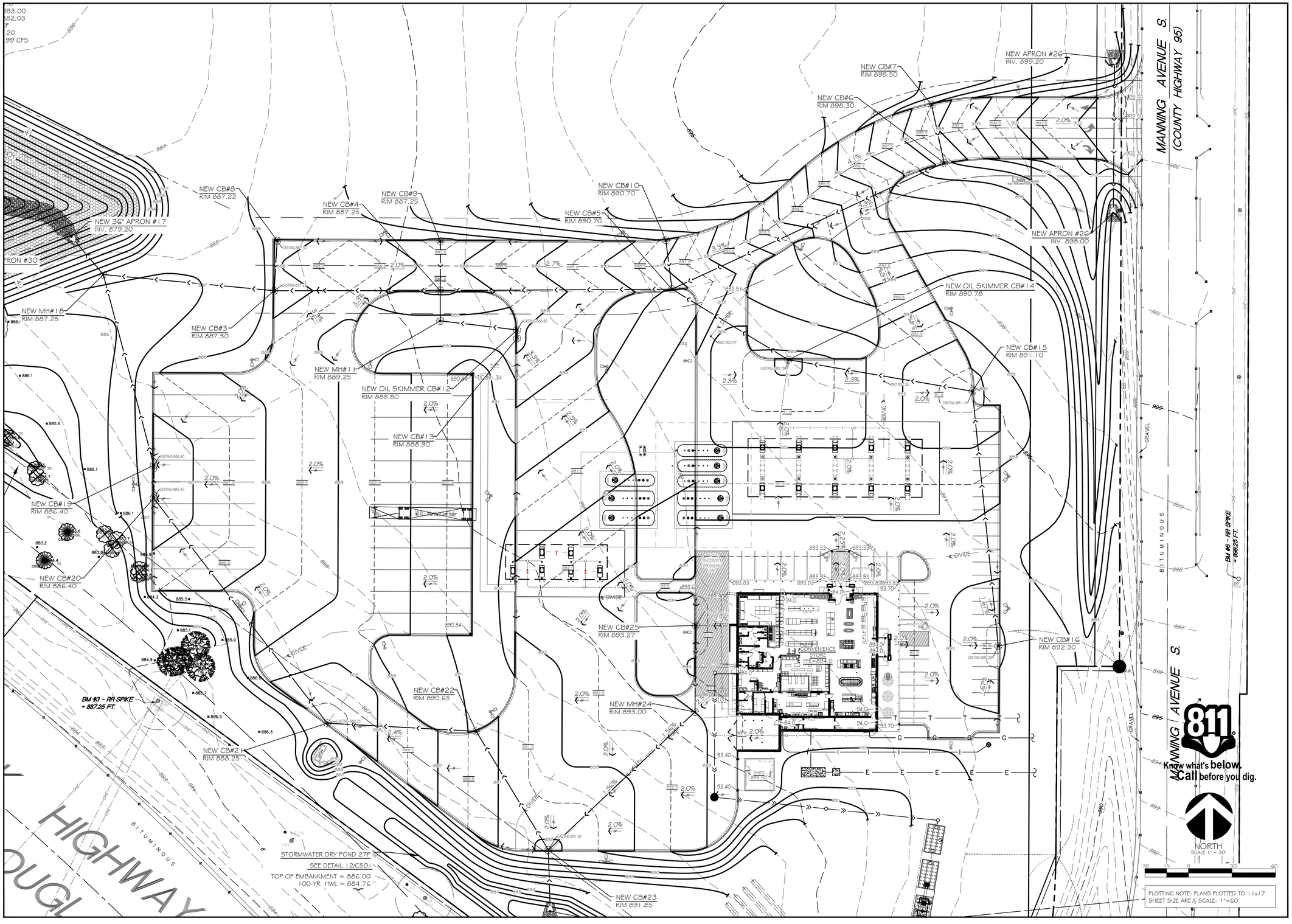
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SHEET **C202**

INSITES 25-010 PM: EB



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CONVENIENCE STORE 1789

-- COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	06AUG25	INTERNAL REVIEW 2
-	19SEP25	SUBMITTAL
-	26JAN26	CITY COMMENTS
-	27FEB26	OR3

DRAWN BY

SCALE GRAPHIC

PROJ. NO. 25-1789

DATE 02/27/2026

SHEET **C203**

INSITES 25-010 PM: LB

GOPHER STATE ONE CALL

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(651) 454-0002 LOCAL

The subsurface utility information shown on this plan is utility Quality Level D. This quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

KEYNOTES:

1. Minnesota Rules Section 310.5: All storm sewer inlets to the storm water pond must have inverts at or above the Water Quality level of the pond as determined by the applicable City or Watershed District design requirements.
2. CL III RIP RAP TO POND BOTTOM

The City of Cottage Grove's Standard Specifications for Street and Utility Construction shall govern for all improvements within the public right-of-way or drainage and utility easement.

SEE SHEET C301

NEW 36" APRON #17
INV. 879.20

35LF 30" RCP @ 0.43%

34LF 36" RCP @ 0.32%

#30

118LF 30" RCP @ 1.16%

NEW MH#18
RIM 887.25
INV. 879.31

P @ 0.50%

12" H.D.P.E. @ 7.23%

NEW CB#8
RIM 887.22
INV. 880.63

NEW CB#4
RIM 887.25
INV. 881.25

NEW CB#9
RIM 887.25
INV. 881.42

NEW CB#10
RIM 890.70
INV. 882.25

NEW CB#5
RIM 890.70
INV. 882.10

34 LF 24" RCP 0.30%

34LF 12" RCP @ 0.50%

114LF 24" RCP @ 0.50%

160LF 24" RCP @ 0.53%

21LF 15" RCP @ 0.50%

53LF 15" H.D.P.E @ 2.25%

NEW CB#3
RIM 887.50
INV. 880.68

6LF 12" H.D.P.E @ 0.83%

NEW MH#11
RIM 889.25
INV. 881.64

NEW OIL SKIMMER CB#12
RIM 888.80
INV. 882.55
SEE DETAIL 1/C302

136 LF 24" RCP @ 0.55%

NEW CB#13
RIM 888.90
INV. 882.60

23LF 24" H.D.P.E. @ 0.43%

NEW CB#19
RIM 886.40
INV. 880.06

NEW CB#20
RIM 886.40
INV. 880.16

196LF 18" H.D.P.E. @ 0.50%

BM #3 - RR SPIKE
= 887.25 FT.

NEW CB#21
RIM 888.25
INV. 881.14

103LF 18" H.D.P.E. @ 0.50%

NEW CB#22
RIM 890.65
INV. 881.65

NEW MH#24
RIM 893.00
INV. 884.76

96LF 15" H.D.P.E. @ 0.57%

139LF 12" H.D.P.E. @ 1.84%

STORMWATER DRY POND 27P
SEE DETAIL 12/C501
TOP OF EMBANKMENT = 886.00
100-YR HWL = 884.76

42 LF 6" PVC @ 1.0%

NEW CB#23
RIM 891.85
INV. 881.65

NEW APRON #27
INV. 882.10

NORTH

30 15 0 30 60

NEW CB#7
RIM 898.50
INV. 890.35

NEW CB#6
RIM 898.30
INV. 889.94

NEW APRON #26
INV. 899.20

107LF 18" RCP 2.90%

41 LF 12" RCP 1.00%

NEW APRON #25
INV. 898.00

206 LF 12" RCP 3.81%

94 LF 18" H.D.P.E @ 0.51%

NEW OIL SKIMMER CB#14
RIM 890.78
INV. 882.58
SEE DETAIL 1/C302

129 LF 12" H.D.P.E @ 2.0%

NEW CB#15
RIM 891.10
INV. 885.14

177 12" H.D.P.E @ 1.0%

48 LF 10" PVC @ 1.0%
(48" BURY OR INSULATE PIPE)

50 LF 8" PVC @ 1.0%
(48" BURY OR INSULATE PIPE)

44 LF 4" PVC @ 1.0%
(48" BURY OR INSULATE PIPE)

22 LF 6" PVC @ 1.0%
(48" BURY OR INSULATE PIPE)

13 LF 4" PVC @ 1.0% (TYP)
(48" BURY OR INSULATE PIPE)

10 LF 4 PVC @ 1.0% (TYP)
(48" BURY OR INSULATE PIPE)

18 LF 6" PVC @ 1.0%
(48" BURY OR INSULATE PIPE)

57 LF 6" PVC @ 1.0%
(48" BURY OR INSULATE PIPE)

83 LF 8" PVC @ 1.0%
(48" BURY OR INSULATE PIPE)

32 LF 6" PVC @ 1.0%
(48" BURY OR INSULATE PIPE)

92 LF 6" PVC @ 1.0%
(48" BURY OR INSULATE PIPE)

18 LF 8" PVC @ 1.0%
(48" BURY OR INSULATE PIPE)

57 LF 8" PVC @ 1.0%
(48" BURY OR INSULATE PIPE)

CONVENIENCE STORE
FFE=894.0

NEW CB#16
RIM 892.30
INV. 886.91

28 LF 6" PVC SCH 40@ 1.0%
(48" BURY OR INSULATE PIPE)

53 LF 6" PVC SCH 40 @ 1.0%
(48" BURY OR INSULATE PIPE)

71 LF 8" PVC SCH 40@ 1.0%
(48" BURY OR INSULATE PIPE)

SHED
893.50

MANNING AVENUE
(COUNTY HIGHWAY 19)

BITUMINOUS

GRAVEL

GRAVEL

MANNING AVENUE S.

BM #6 - RR SPIKE
= 898.25 FT.

BENCHMARKS (BM)
(NAVD 88)

1.) Top of railroad spike in west face of transmission tower at northwest quadrant of Highway 61 and Manning Avenue. Elevation = 887.59 feet
2.) Top of railroad spike in south face of 2nd power pole west of Manning Avenue on north side of Highway 61. Elevation = 887.65 feet
3.) Top of railroad spike in south face of 4th power pole west of Manning Avenue on north side of Highway 61. Elevation = 887.25 feet
4.) Top of railroad spike in north face of 6th power pole west of Manning Avenue on north side of Highway 61. Elevation = 881.35 feet
5.) Top of railroad spike in north face of 7th power pole west of Manning Avenue on north side of Highway 61. Elevation = 877.75 feet
6.) Top of railroad spike in west face of 2nd power pole north of of Highway 61 on east side of Manning Avenue. Elevation = 898.25 feet
7.) Top of railroad spike in west face of 6th power pole north of of Highway 61 on east side of Manning Avenue. Elevation = 901.99 feet
8.) Top of railroad spike in west face of 8th power pole north of of Highway 61 on east side of Manning Avenue. Elevation = 909.83 feet
9.) Top of railroad spike in east face of power pole at southwest quadrant of Manning Avenue and 114th Street South. Elevation = 908.69 feet

KWIK TRIP

KWIK STAR

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Brian H. Mundstock

DATE:02/27/26 REG. NO.: 23468

STORM SEWER PLAN EAST

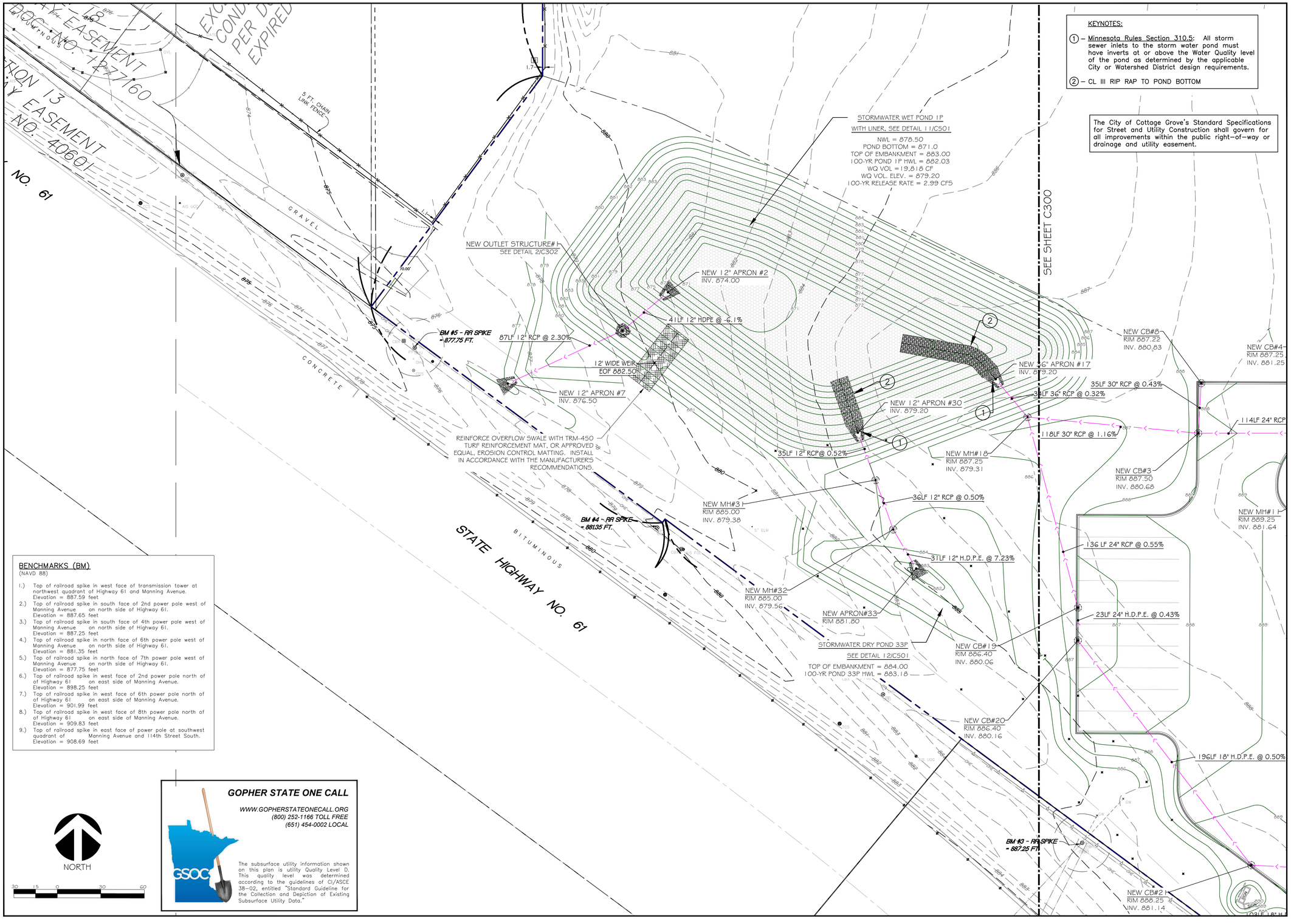
CONVENIENCE STORE 1789

- COTTAGE GROVE, MINNESOTA

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-	26JAN26	CITY COMMENTS
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DRAWN BY: MW
SCALE: GRAPHIC
PROJ. NO.: 25-1789
DATE: 04/21/2025
SHEET: C300

KWIK TRIP P.M. L.D.



BENCHMARKS (BM)
(NAVD 88)

1.) Top of railroad spike in west face of transmission tower at northwest quadrant of Highway 61 and Manning Avenue. Elevation = 887.59 feet
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NORTH
30 15 0 30 60

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Brian H. Munstock
DATE:02/27/26 REG. NO.: 23468

STORM SEWER PLAN WEST
CONVENIENCE STORE 1789
- COTTAGE GROVE, MINNESOTA

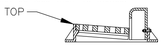
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DRAWN BY	MW
SCALE	GRAPHIC
PROJ. NO.	25-1789
DATE	04/21/2025
SHEET	C301

KWIK TRIP P.M. L.B.

STORM DRAINAGE:

1. Secure all permits and pay all fees prior to the start of construction. Obtain permits from the City for work in the public right-of-way.
2. Submit shop drawings for all structures to the Owner and Engineer for review and comment prior to ordering/purchasing and installation.
3. Unless otherwise indicated, use reinforced, precast, concrete maintenance holes and catchbasins conforming to ASTM C478, furnished with water stop rubber gaskets and precast bases. Joints for all precast maintenance hole sections shall have confined, rubber "O"-ring gaskets in accordance with ASTM C443. These joints are normally used in sewers to hold infiltration and exfiltration to a practical minimum and are adequate for hydrostatic heads up to 30'. The inside barrel diameter shall not be less than 48 inches.
4. Install catchbasin castings with specified top elevation at the front rim.

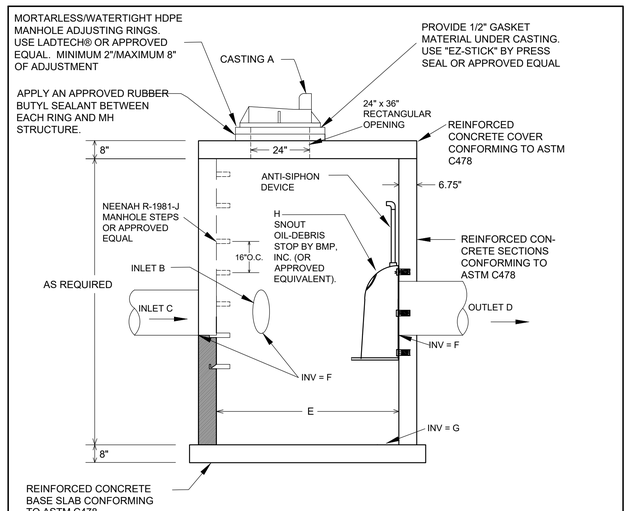


5. All joints and connections in the sewer system shall be gastight or watertight. Inlet and outlet connections to sewer manholes must use flexible compression joints located between 12 and 36 inches from the manhole in accordance with Minnesota Rules part 4714.719.6. Where permitted by the administrative authority as an alternate installation method, approved resilient rubber joints or waterstop gaskets may be used in order to make watertight connections to manholes and other structures (see Minnesota Rules part 4714.301.2). Use Fernco "Concrete Manhole Adaptors" or "Large Diameter Waterstops", Press-Seal "Waterstop Grouting Rings", or approved equal. Cement mortar joints are permitted only for repairs or connections to existing lines having such joints.
6. The building sewer starts 2 feet outside of the building. See Minnesota Rules part 4714.715.1. Material installed within 2 feet of the building must be of materials approved for use inside of or within the building.
7. The exterior storm water piping must comply with the following requirements: (A) Double wyes may not be used for drainage fittings in the horizontal position (see Minnesota Rules, Chapter 4714, Section 310.5), because proper pipe slope cannot be maintained on both of the lateral branches. (B) Changes in direction in drainage piping must be made by appropriate use of wyes and bends (see Minnesota Rules part 4714.706). When connecting any vertical drop to a horizontal run, use a wye and a 1/8 bend (45 deg), or a sanitary combo. A sanitary combo is a combination wye and a 1/8 bend combined in a single fitting. The reason is to form a long radius bend in order to insure that the waste is directed in the downstream direction as it enters the horizontal run. Tees are not allowed where the direction of flow changes from either vertical to horizontal or horizontal to horizontal.
8. PVC Pipe (Outside of the Building): Use solid-core, Schedule 40 Polyvinyl Chloride (PVC) Plastic Pipe for all designated PVC storm sewer services outside of the building. The PVC pipe shall meet or exceed the industry standards and requirements as set forth by the American Society for Testing and Materials (ASTM) D1785 and D2665. Fittings must comply with ASTM D1866, D2665, or F794. Joints must be approved mechanical or push-on utilizing an elastomeric seal. Use of solvent cement joints is allowed for building services. Solvent cement joints in PVC pipe must include use of ASTM F656 purple primer and cement in accordance with Minnesota Rules part 4714.605.2.2. Pipe with solvent cement joints shall be joined with PVC cement conforming to ASTM D2564. The installation must comply with ASTM D2321, which requires open-trench installation on a continuous granular bed.
9. Cleanouts: Install cleanouts on all roof drains. Cleanouts shall be installed at every wye, sweep, and bend. Install cleanouts on all storm sewer services in accordance with Minnesota Rules part 4717.719 and 4714.1101.13. The distance between cleanouts in horizontal piping shall not exceed 100 feet for pipes 4-inch and over in size. Cleanouts shall be of the same nominal size as the pipes they serve. Include frost sleeves and concrete frame and pipe support. Install a meter box frame and solid lid (Neenah R-1914-A, or approved equal) over all cleanouts. Provide cleanouts at the base of the roof leader connections at the gas island pump stations.
10. Fittings: Provide directional fittings for the storm piping serving the gas island pump stations. All changes in direction of flow in drain piping shall be made by the appropriate use of 45 degree wyes, long or short sweep quarter bends, sixth, eighth, or sixteenth bends, or by a combination of these or other equivalent fittings.
11. RCP: Reinforced concrete pipe (RCP) and fittings shall conform to ASTM C76, Design C, with circular reinforcing for the class of pipe specified. Use Class IV RCP for pipes 21" and larger. Use Class V RCP for pipes 18" and smaller. Joints shall be made up of concrete surfaces with a groove on the spigot for an O-ring rubber gasket (also referred to as a confined O-ring type joint) in accordance with ASTM C361. These joints are normally used in gravity sewers where exceptional tightness is required. This type of joint provides excellent inherent water tightness in both the straight and deflected position and meets all the joint requirements of ASTM C443.
12. RC Aprons: Install a reinforced concrete apron on the free end of all daylighted RCP storm sewer pipes. Tie the last three sections (including apron) of all daylighted RCP storm sewer with a minimum of two tie bolt fasteners per joint. This requirement applies to both upstream and downstream pipe inlets and outlets. For concrete culverts, tie all joints. Ties to be used only to hold the pipe sections together, not for pulling the sections tight. Nuts and washers are not required on inside of 675 mm (27 inch) or less diameter pipes.
13. Grates on horizontal pipes: Install safety-trash grates on all horizontal inlets/outlets greater than 6 inches in diameter. The grates shall be placed so that the rods or bars are not more than 3 inches downstream of the inlet/outlet. Rods or bars shall be spaced so that the openings do not permit the passage of a 6-inch sphere.
14. Testing: Test all portions of storm sewer that are within 10 feet of buildings, within 10 feet of buried water, lines, within 50 feet of water wells, or that pass through soil or water identified as being contaminated in accordance with the Minnesota Rules part 4714.1107. Building storm sewers shall be tested in accordance with Minnesota Rules part 4714.712 or the Hydrostatic Test Method from the City Engineers Association of Minnesota. The Hydrostatic Test Method, provisions E2 and E3, as specified in Standard Utilities Specifications for Watermain and Service Line Installation and Sanitary Sewer and Storm Sewer Installation, written and published by the City Engineers Association of Minnesota, 2018 edition, is incorporated by reference. Test all flexible storm sewer lines for deflection after the sewer line has been installed and backfill has been in place for at least 30 days. No pipe shall exceed a deflection of 5%. If the test fails, make necessary repairs and retest.
15. Draintile: In accordance with Minnesota Rules part 4714.1101.4.6, use perforated polyvinyl chloride PVC (ASTM D2729) or corrugated polyethylene PE (ASTM F667) on all draintile. Install draintile with high permittivity circular knit polymeric filament filter sock per ASTM D6707-01. MnDot 3733 Type I sewn seam non-woven fabric shall not be used. Draintile pipe directly connected to the storm sewer is classified as storm sewer. Draintile inlet elevations to the catch basins must be above the storm sewer outlet elevations.
16. Use Neenah R-3067 casting with curb box and type R grate, or approved equal, on CB#3-CB#10, CB#12-CB#20, CB#22 and CB#23. Casting shall include the "DUMP NO WASTE. DRAINS TO FRESH WATER." environmental notice.
17. Use Neenah Foundry Co. R-1642 casting with self-sealing, solid, type B lid, or approved equal, on all storm sewer maintenance holes. Covers shall bear the "Storm Sewer" label.
18. Trace Wire: Install locating wires on all conductive and non-conductive storm sewer, sanitary sewer, and water lines in accordance with the Minnesota Rural Water Association (MRWA) Trace Wire Specification Guide and Details (www.mrwa.com/PDF/TracerWireSpecGuideFinalweb9.pdf). Use #12 HDPE-insulated copper-clad steel wire rated for underground service. The color of the insulating jacket shall be as follows: ground=red, storm sewer=green, sanitary sewer=green, and water lines=blue. Install the wire on the bottom side of the pipe below the spring line. Fasten the wire to the pipe with tape or plastic ties at 5' intervals. Do not wrap the trace wire around the corresponding utility. Do not connect the trace wire to existing conductive utilities. Use Copperhead Dryconn 3-Way or Locking Snake Bite connectors rated for underground direct bury applications or approved equal at all crossings or service connections. Twist on connectors are not allowed. Trace wire must be properly grounded at all dead ends and services. Install grade-level/in-ground trace wire access boxes and drive-in magnesium grounding anodes at all dead ends, services, and fire hydrants. Trace wire access boxes shall be color coded as follows: storm sewer=green, sanitary sewer=green, and water lines=blue.
19. Detectable Warning Tape: Install detectable underground warning tape directly above all underground utilities at a depth of 457 mm (18 inches) below finished grade, unless otherwise indicated. Underground warning tape shall be 3-inches wide with a minimum 5.0 mil overall thickness. Tape shall be manufactured using a 0.8 mil clear virgin polypropylene film, reverse printed and laminated to a 0.35 mil solid aluminum foil core, and then laminated to a 3.75 mil clear virgin polyethylene film. The aluminum backing makes underground assets easy to find using a non-ferrous locator. Tape shall be printed using a diagonally striped design for maximum visibility and meet the APWA Color-Code standard for identification of buried utilities. Use Pro-Line Safety Products (www.prolinesafety.com) detectable marking tape or approved equal.
20. In no case shall water from roofs be allowed to flow upon the public sidewalk (see Minnesota Rules part 4714.1101.2). This shall include the discharge from all rainwater conductors, including overflow roof drains.
21. The minimum depth of cover for building and canopy roof drain leaders without insulation is 5 feet. Insulate roof drain leaders at locations where the depth of cover is less than 5 feet. Provide a minimum insulation thickness of 2 inches. The insulation must be at least 4 feet wide and centered on the pipe. Install the insulation boards 6 inches above the tops of the pipes on mechanically compacted and leveled pipe bedding material. Use high density, closed cell, rigid board material equivalent to DOW Styrofoam HI-40 plastic foam insulation.
22. Install all pipe with the ASTM identification numbers on the top for inspection. Commence pipe laying at the lowest point in the proposed sewer line. Field verify that there is positive drainage at the outfall location. Lay the pipe with the bell end or receiving groove end of the pipe pointing upgrade. When connecting to an existing pipe, uncover the existing pipe in order to allow any adjustments in the proposed line and grade before laying any pipe. Do not lay pipes in water or when the trench conditions are unsuitable for such work.
23. Line ponds with 2' thick impervious clay liner per detail.
24. Clean sediment and debris from sewers, sumps and stormwater basins prior to final owner acceptance.
25. Televise all existing lines prior to connection.
26. Install finger drains at each and every proposed catchbasin (see detail). Finger drains around catch basin inlets shall not be installed below the crown of the storm drain piping.
27. Provide a final storm water management report that will serve to verify that the intent of the approved storm water management design has been met. The report shall include record drawings, measurements, and photographic evidence of the as-built storm water management system. The report shall substantiate that all aspects of the original design have been adequately provided for by the construction of the project.

HDPE REQUIREMENTS:

1. Install dual-wall, smooth interior, corrugated high-density polyethylene (HDPE) pipe at locations indicated on the plan. High-density polyethylene (HDPE) storm sewers must meet ASTM F714 (see Minnesota Rules, Chapter 4714 and Installation Standard 1).
2. Dual-wall, smooth interior, corrugated high-density polyethylene (HDPE) pipe shall conform to the requirements of AASHTO M252 for pipe sizes 4-inch to 10-inch diameter. Dual-wall, smooth interior, corrugated high-density polyethylene (HDPE) pipe shall conform to the requirements of ASTM F2306 (virgin PE material) for pipe sizes 12-inch to 60-inch diameter.
3. All fittings must comply with ASTM Standard D3212.
4. Water-tight joints must be used at all connections including structures in conformance with ASTM F2510.
5. HDPE pipes must be listed and labeled.
6. HDPE pipes must be installed with a minimum 10-feet separation from water piping and may not cross above water service lines (see UPC Section 720.1).
7. HDPE pipes must not be installed within 10 feet of building. The connection between HDPE and a different pipe material must be made by means of an approved transition coupling for the specific application.
8. HDPE pipe connections into all concrete structures must be made with water tight materials utilizing Nyoplast "Manhole Adaptors" along with Press-Seal or Kor-N-Seal "Watertight Connector", Cast-A-Seal "Precast Watertight Connector", or approved equals. Where the alignment precludes the use of the above approved watertight methods, Conseal 231 WaterStop sealant, or approved equal will only be allowed as approved by the Administrative Authority.
9. HDPE pipe installation must be open-trench on a continuous granular bed per ASTM D2321 and manufacturer's installation instructions. All sections of the corrugated HDPE pipe shall be coupled in order to provide water tight joints.
10. Perform deflection tests on all HDPE pipe after the sewer lines have been installed and backfill has been in place for at least 30 days. No pipe shall exceed a deflection of 5%. If the test fails, make necessary repairs and perform the test again until acceptable. Supply the mandrel for deflection testing. If the deflection test is to be run using a rigid ball or mandrel, it shall have a diameter equal to 95% of the inside diameter of the pipe. The ball or mandrel shall be clearly stamped with the diameter. Perform the tests without mechanical pulling devices.

The City of Cottage Grove's Standard Specifications for Street and Utility Construction shall govern for all improvements within the public right-of-way or drainage and utility easement.

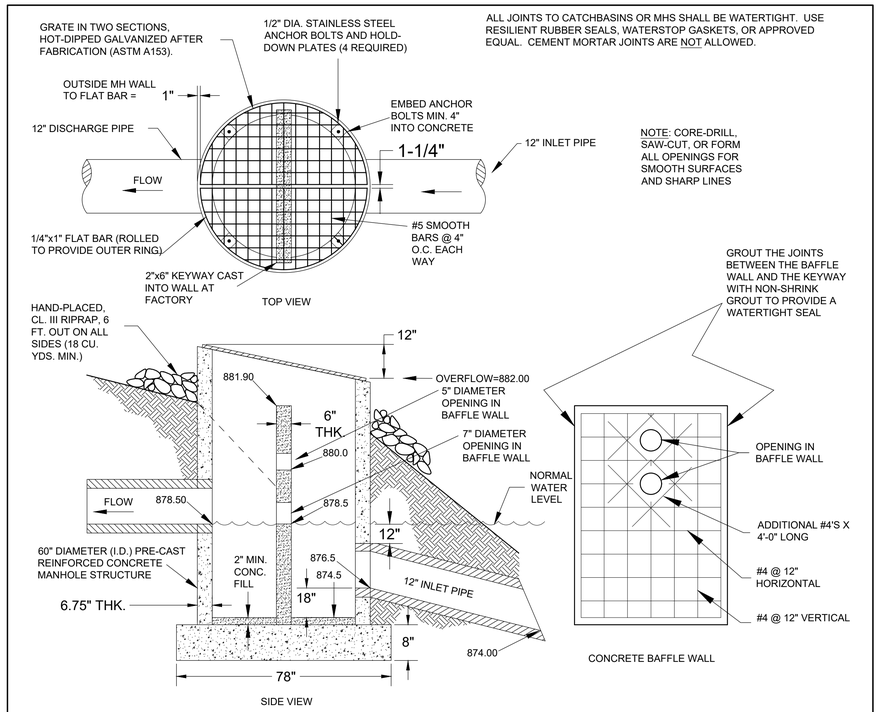


ALL JOINTS TO CATCHBASINS OR MHS SHALL BE WATERTIGHT. USE RESILIENT RUBBER SEALS, WATERSTOP GASKETS, OR APPROVED EQUAL. CEMENT MORTAR JOINTS ARE NOT ALLOWED.

STRUCTURE #	A	B	C	D	E	F	G	H
CB#12	Neenah R-3067-R	–	12" HDPE	15" HDPE	5' DIA.	882.55	878.55	18R
CB#14	Neenah R-3067-R	10" PVC	12" HDPE	18" HDPE	5' DIA.	882.58	878.58	24R

1 C302 OIL SKIMMER STRUCTURE DETAIL SCHEDULE

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NOTE: CORE-DRILL, SAW-CUT, OR FORM ALL OPENINGS FOR SMOOTH SURFACES AND SHARP LINES

2 C302 OUTLET CONTROL STRUCTURE #1

KWIK TRIP

KWIK STAR

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Brian H. Murdstock

DATE: 02/27/26 REG. NO.: 23468

STORM SEWER NOTES AND DETAILS
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- COTTAGE GROVE, MINNESOTA

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-	22MAY25	INTERNAL REVIEW 1
-	06AUG25	INTERNAL REVIEW 2
-	19SEP25	SUBMITTAL
-	26JAN26	CITY COMMENTS
-	27FEB26	CRS

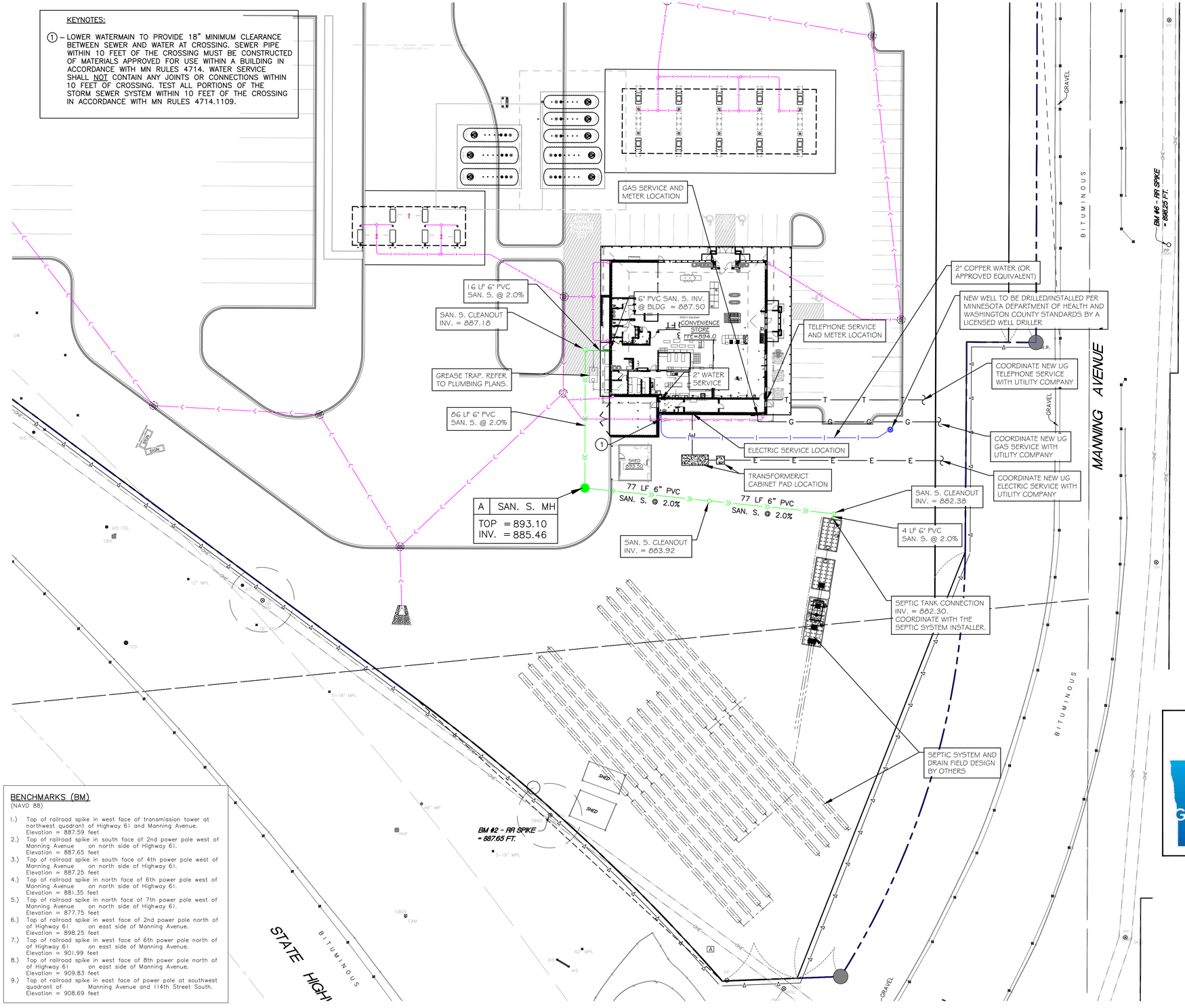
DRAWN BY	MW
SCALE	GRAPHIC
PROJ. NO.	25-1789
DATE	04/21/2025
SHEET	C302

KWIK TRIP P.N.: L.B.

KEYNOTES:

(1) – LOWER WATERMAIN TO PROVIDE 18" MINIMUM CLEARANCE BETWEEN SEWER AND WATER AT CROSSING. SEWER PIPE WITHIN 10 FEET OF THE CROSSING MUST BE CONSTRUCTED OF MATERIALS APPROVED FOR USE WITHIN A BUILDING IN ACCORDANCE WITH MN RULES 4714. WATER SERVICE SHALL NOT CONTAIN ANY JOINTS OR CONNECTIONS WITHIN 10 FEET OF CROSSING. TEST ALL PORTIONS OF THE STORM SEWER SYSTEM WITHIN 10 FEET OF THE CROSSING IN ACCORDANCE WITH MN RULES 4714.1109.

The City of Cottage Grove's Standard Specifications for Street and Utility Construction shall govern for all improvements within the public right-of-way or drainage and utility easement.



BENCHMARKS (BM)
(NAVD 88)

1.) Top of railroad spike in west face of transmission tower at northwest quadrant of Highway 61 and Manning Avenue. Elevation = 887.59 feet
2.) Top of railroad spike in south face of 2nd power pole west of Manning Avenue on north side of Highway 61. Elevation = 887.65 feet
3.) Top of railroad spike in south face of 4th power pole west of Manning Avenue on north side of Highway 61. Elevation = 887.25 feet
4.) Top of railroad spike in north face of 6th power pole west of Manning Avenue on north side of Highway 61. Elevation = 881.35 feet
5.) Top of railroad spike in north face of 7th power pole west of Manning Avenue on north side of Highway 61. Elevation = 877.75 feet
6.) Top of railroad spike in west face of 2nd power pole north of of Highway 61 on east side of Manning Avenue. Elevation = 898.25 feet
7.) Top of railroad spike in west face of 6th power pole north of of Highway 61 on east side of Manning Avenue. Elevation = 901.99 feet
8.) Top of railroad spike in west face of 8th power pole north of of Highway 61 on east side of Manning Avenue. Elevation = 909.83 feet
9.) Top of railroad spike in east face of power pole at southwest quadrant of Manning Avenue and 114th Street South. Elevation = 908.69 feet

GOPHER STATE ONE CALL
WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

The subsurface utility information shown on this plan is utility Quality Level D. This quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

NORTH
30 15 0 30 60

KWIK TRIP
KWIK STAR

KWIK TRIP, Inc.
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1626 OAK STREET
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PH. (608) 781-8988
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SUNDE ENGINEERING, PLLC.
10800 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
(952) 881-1913 FAX
www.sundeeng.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Brian H. Munderloh
DATE: 02/27/26 REG. NO.: 23468

UTILITY PLAN

CONVENIENCE STORE 1789 - COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	05AUG25	INTERNAL REVIEW 2
-	19SEP25	SUBMITTAL
-	26JAN26	CITY COMMENTS
-	27FEB26	OR3

DRAWN BY	MW
SCALE	GRAPHIC
PROJ. NO.	25-1789
DATE	04/21/2025
SHEET	C400

KWIK TRIP PM: L.B.

GENERAL:

1. Existing boundary, location, topographic, and utility information shown on this plan is from a field survey by Sunde Land Surveying Inc. dated 11/14/2024. The Engineer is not responsible for inaccuracies related to the survey information.

2. Perform all construction work in accordance with State and Local requirements.

3. Perform all construction activity in accordance with the Minnesota Pollution Control Agency GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY issued August 1, 2023 and all subsequent amendments thereto.

4. Comply with all applicable local, state, and federal safety regulations. Comply with the work safety practices specified by the Occupational Safety and Health Administration (OSHA). OSHA prohibits entry into "confined spaces," such as manholes and inlets (see 29 CFR Section 1910.146), without undertaking certain specific practices and procedures. Perform excavations in accordance with the requirements of O.S.H.A. 29 CFR, Part 1926, Subpart P, Excavations. Trenching standards require protective systems on trenches deeper than 5 feet. Bench or slope sidewalls in order to provide safe working conditions and stability for the placement of engineered fill. Do not expose workers to the dangers of being struck by material and equipment. Keep soil and other materials at least 2 feet from the edge of any trenches. Trenches must be inspected by a competent individual, be free of standing water and atmospheric hazards, and have a safe means of entering and exiting before allowing a worker to enter. The Contractor is responsible for naming the "Competent Individual" in accordance with CFR 1926.6. Sloping or benching for excavations greater than 20 feet deep must be approved by a registered professional engineer (www.osha.gov).

5. Safety is solely the responsibility of the Contractor, who is also solely responsible for the construction means, methods, techniques, sequences or procedures, and for safety precautions and programs in connection with the Work.

6. The Engineer shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work. The Engineer's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures.

7. Examine all local conditions at the site, and assume responsibility as to the grades, contours, and the character of the earth, existing conditions, and other items that may be encountered during excavation work above or below the existing grades. Review the drawings, specifications, and geotechnical report covering this work and become familiar with the anticipated site conditions.

8. Refer to the architectural plans for building and stoop dimensions, site layout and dimensions, pavement sections and details, striping, and other site features.

9. A licensed surveyor shall perform construction staking. The Contractor shall provide and be responsible for the staking. Verify all plan and detail dimensions prior to construction staking. Stake the limits of walkways and curbing prior to valvebox, maintenance hole, and catchbasin installation. Adjust valvebox and maintenance hole locations in order to avoid conflicts with curb and gutter. Adjust catchbasin locations in order to align properly with curb and gutter.

10. Provide temporary fences, barricades, coverings, and other protections in order to preserve existing items to remain, and to prevent injury or damage to person or property.

11. Provide all traffic control required in order to construct the proposed improvements. Traffic control design and associated government approvals are the responsibility of the Contractor. Comply with local authorities and the latest version of the Minnesota Manual on Uniform Traffic Control Devices (MMUTCD), including the Field Manual for Temporary Traffic Control Zone Layouts. If the temporary traffic control zone affects the movement of pedestrians, provide adequate temporary pedestrian access and walkways. If the temporary traffic control zone affects an accessible and detectable pedestrian facility, maintain accessibility and detectability along the alternate pedestrian route in accordance with the provisions for pedestrian and worker safety contained in Part 6 of the MMUTCD.

12. Connect to existing sanitary sewer MH's by coredrilling. Connect to existing storm sewer MH's by either sawcutting or coredrilling. Use saws or drills that provide water to the blade. Meet all City standards and specifications for the the connection. Reconstruct inverts after installation. Use water stop gaskets in order to provide watertight seals when penetrating a structure wall with a pipe. Take measurements before beginning construction to ensure that service connections do not cut into maintenance access structure joints or pipe barrel joints.

13. Completely remove existing concrete and masonry structures that are located within the proposed building and future building expansion areas. All other existing sewer and watermain pipes that are to be abandoned shall either be removed, or completely filled with sand or controlled low strength material (CLSM) also known as flowable concrete fill. Bulkhead ends of the pipe segment to be decommissioned with concrete. All other existing sanitary sewer and storm sewer structures that are to be abandoned in place shall be abandoned as follows: (1) remove castings, rings, and top sections, (2) bulkhead any pipe openings, (3) break two 4-inch diameter holes in the barrel at the bottom of the structures for drainage and cover the holes with geotextile filter fabric, and (4) fill the structures with sand or CLSM.

14. Testing and Inspections: All plumbing installations, including water and sewer services, must be tested and inspected in accordance with the requirements of the Minnesota Plumbing Code (Minnesota Rules Chapter 4714). Coordinate testing and inspection with the State Health Department and the City Public Works Department. No drainage or plumbing work may be covered prior to completing the required tests and inspections.

15. Coordinate building utility connection locations at 2 ft. out from the proposed building with the interior Plumbing Contractor prior to construction. Verify water and sewer service locations, sizes, and elevations with the Mechanical Engineer prior to construction. Coordinate construction and connections with the Mechanical Contractor.

16. The subsurface utility information shown on this plan is utility Quality Level D. This quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" by the FHA.

17. The locations of existing utilities shown on this plan are from record information. The Engineer does not guarantee that all existing utilities are shown or, if shown, exist in the locations indicated on the plan. It is the Contractor's responsibility to ascertain the final vertical and horizontal location of all existing utilities (including water and sewer lines and appurtenances). Notify the Engineer of any discrepancies.

18. The Contractor is solely responsible for all utility locates. Contact utility companies for locations of all public and private utilities within the work area prior to beginning construction. Contact GOPHER STATE ONE CALL at (651) 454-0002 in the Minneapolis/St. Paul metro area, or 1-800-252-1166 elsewhere in Minnesota for exact locations of existing utilities at least 48 working hours (not including weekends and holidays) before beginning any construction in accordance with Minnesota Statute 216D. Obtain ticket number and meet with representatives of the various utilities at the site. Provide the Owner with the ticket number information. Gopher State One Call is a free service that locates municipal and utility company lines, but does not locate private utility lines. Use an independent locator service or other means in order to obtain locations of private utility lines including, but not limited to, underground electric cables, telephone, TV, and lawn sprinkler lines.

19. Pothole to verify the positions of existing underground facilities at a sufficient number of locations in order to assure that no conflict with the proposed work exists and that sufficient clearance is available.

20. Where existing gas, electric, cable, or telephone utilities conflict with the Work, coordinate the abandonment, relocation, offset, or support of the existing utilities with the appropriate local utility companies. Coordinate new gas meter and gas line installation, electric meter and electric service installation, cable service, and telephone service installation with the local utility companies.

21. When working near existing telephone or electric poles, brace the poles for support. When working around existing underground utilities that become exposed, provide sufficient support in order to prevent excessive stress on the existing piping. The location and preservation of existing underground utilities is solely the responsibility of the Contractor.

22. Temporary support systems are the responsibility of the Contractor, who is also solely responsible for the construction means, methods, techniques, sequences or procedures, and for safety precautions and programs in connection with the temporary support systems. Temporary support systems include, but are not limited to, shoring, sheeting, bracing, anchorages, excavation support walls, directional boring, auger jacking, soil stabilization, and other methods of protecting existing improvements.

23. Arrange for and secure suitable disposal areas off-site. Dispose of all excess soil, waste material, debris, and all materials not designated for salvage. Waste material and debris includes trees, stumps, pipe, concrete, asphaltic concrete, cans, or other waste material from the construction operations. Obtain the rights to any waste area for disposal of unsuitable or surplus material either shown or not shown on the plans. All work in disposing of such material shall be considered incidental to the work. All disposal must conform to applicable solid waste disposal permit regulations. Obtain all necessary permits at no cost to the Owner.

24. Store and protect existing site features that need to be removed and replaced in connection with the Work. Replace damaged or stolen site features at no additional cost to the Owner.

25. Straight line saw-cut existing bituminous or concrete surfacing at the perimeter of pavement removal areas. Use saws that provide water to the blade. Do not allow the slurry produced by this process to be tracked outside of the immediate work area or discharged into the sewer system. Tack and match all connections to existing bituminous pavement.

26. Relocate overhead power, telephone, and cable lines as required. Seal and report any existing unused on-site wells and septic systems in accordance with Minnesota Department of Health (MDH) requirements. Provide the MDH with a Well and Boring Sealing Record, or certify in writing that there are no unused wells on the property.

27. All materials required for this work shall be new material conforming to the requirements for class, kind, grade, size, quality, and other details specified herein or as shown on the Plans. Do not use recycled or salvaged aggregate, asphaltic pavement, crushed concrete, or scrap shingles. Unless otherwise indicated, the Contractor shall furnish all required materials and labor in order to perform the construction in accordance with the construction documents, specifications, and regulatory agencies.

28. Reconstruct driveways and patch street to match existing pavement section and grade. Sod right-of-way. Restore the public right-of-way at temporary construction entrance locations. Replace any concrete curb and gutter, bituminous pavement, sidewalk, or vegetative cover damaged by the construction activity. Restore damaged turf with sod within the public right-of-way. The work area shown is general and may need to be adjusted in the field.

29. Cut turf edges in order to allow for a uniform straight edge at locations where new sod meets existing turf. No jagged or uneven edges are allowed. Remove topsoil as required at joints between existing and new turf in order to allow the surface of the new sod to be flush with the existing.

30. Document existing conditions (photographs, video, field survey, etc.) in order to enable restoration to match existing conditions and in order to ensure that restored areas have positive drainage similar to existing conditions.

31. Provide positive drainage away from buildings at all times. Provide and maintain temporary drainage throughout construction until the permanent drainage system and structures are in place and operational. Install temporary ditches, piping, pumps, or other means as necessary in order to insure proper drainage at all times. Provide low points at building pads or roadways with positive outfalls. Do not block drainage from or direct excess drainage to adjacent property.

32. Protect all structures and landscaping not labeled for demolition from damage during construction. Provide protective coverings and enclosures as necessary to prevent damage to existing work that is to remain. Existing work to remain may include items such as trees, shrubs, lawns, sidewalks, drives, curbs, utilities, buildings and/or other structures on or adjacent to the site. Provide temporary fences and barricades as required for the safe and proper execution of the work and the protection of persons and property. Provide building surveys and seismic monitoring in locations where demolition, excavation, underpinning, pile driving, compacting, or similar work is to be performed adjacent to or in the vicinity of existing structures. Return any on-site or off-site areas disturbed directly or indirectly due to construction to a condition equal to or better than the existing condition.

33. Protect sub grades from damage by surface water runoff.

34. Full design strength is not available in bituminous pavement areas until the final lift of asphalt is compacted into place. Protect pavement areas from overloading by delivery trucks, construction equipment, and other vehicles.

35. When sawing or drilling concrete or masonry, use saws that provide water to the blade. Do not allow the slurry produced by this process to be tracked outside of the immediate work area or discharged into the sewer system.

36. Adjust all public and private structures including curb stops, valve boxes, maintenance hole castings, catchbasin castings, cleanout covers, and similar items to finished grade. Comply with the requirements of each structure's owner. Structures being reset in paved areas must meet the owner's requirements for traffic loading.

37. Grading for all sidewalks and accessible routes, including driveway crossings, shall conform to current State and Federal Americans with Disabilities Act (ADA) requirements. In accordance with ADA Section 403.3, slopes shall not exceed exceed 2% cross slope or 5% in the direction of travel. Sidewalk access to external building doors shall be ADA compliant. Accessible parking stalls shall not exceed 2% slope in any direction.

38. Curb ramps on accessible routes shall comply with sections 405 and 406 of the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

39. Accessible parking spaces shall include the International Symbol of Accessibility complying with ADA Section 703.7.2.1, painted in the center of the parking space, 4-ft. high. Install handicapped access aisles with white 4-inch wide painted stripes 18-inches on center and at 45 degree angles to the stalls.

40. Accessible parking spaces shall be provided in accordance with Minnesota Rules 1341.0502 A117.1 Section 502.

41. Install all pipe with the ASTM identification numbers on the top for inspection. Commence pipe laying at the lowest point in the proposed sewer line. Field verify that there is positive drainage at the outfall location. Lay the pipe with the bell end or receiving groove end of the pipe pointing upgrade. When connecting to an existing pipe, uncover the existing pipe in order to allow any adjustments in the proposed line and grade before laying any pipe. Do not lay pipes in water or when the trench conditions are unsuitable for such work.

42. Obtain and pay for all permits, tests, inspections, etc. required by agencies that have jurisdiction over the project including the NPDES permit from the State. The Contractor is responsible for all bonds, letters of credit, or cash sureties related to the work. Execute and inspect work in accordance with all local and state codes, rules, ordinances, or regulations pertaining to the particular type of work involved.

43. Measure pipe lengths from center-of-structure to center-of-structure, or to the end of aprons.

44. Obtain permits from the City for work in the public right-of-way.

45. Refer to the geotechnical report by the Soils Engineer for dewatering requirements.

46. Test boring data shown on the plans were accumulated for designing and estimating purposes. Their appearance on the plan does not constitute a guarantee that conditions other than those indicated will not be encountered.

47. The minimum depth of cover for building and canopy roof drain leaders without insulation is 5 feet. Insulate roof drain leaders at locations where the depth of cover is less than 5 feet. Provide a minimum insulation thickness of 2 inches. The insulation must be at least 4 feet wide and centered on the pipe. Install the insulation boards 6 inches above the tops of the pipes on mechanically compacted and leveled pipe bedding material. Use high density, closed cell, rigid board material equivalent to DOW Styrofoam HI-40 plastic foam insulation.

48. Insulate utility lines at locations indicated on the plans. Provide a minimum insulation thickness of 4 inches. The insulation must be at least 4 feet wide and centered on the pipe. Install the insulation boards 6 inches above the tops of the pipes on mechanically compacted and leveled pipe bedding material. Use high density, closed cell, rigid board material equivalent to DOW Styrofoam Highload 40 Polystyrene Insulation. Individual insulation board dimensions typically measure 4' wide by 8' long by 2" thk.

49. Construct sanitary sewer, watermain, and storm sewer utilities in accordance with the City Engineer's Association of Minnesota Standard Specifications sections 2600, 2611, 2621, 2631, and 2641 dated 2023, or the latest revised edition.

50. These plans, prepared by Sunde Engineering, PLLC., do not extend to or include systems pertaining to the safety of the construction contractor or its employees, agents, or representatives in the performance of the work. The seal of Sunde Engineering's registered professional engineer hereon does not extend to any such safety systems that may nor or hereafter be incorporated into these plans. The construction contractor shall prepare or obtain the appropriate safety systems which may be required by U.S. Occupational Safety and Health Administration (OSHA) and/or local regulations.

51. Existing utilities shown on this plan are located as accurately as possible. However, the Engineer does not guarantee that all utilities are shown, or if shown are in the exact locations indicated on the plan. It is the Contractor's responsibility to ascertain the final vertical and horizontal location of all existing utilities (including municipal water and sewer lines and appurtenances) and to notify the owners of the utilities a minimum of 48 working hours before starting construction in a given area, requesting location in the field, as exact as possible, of all utilities which may be affected by the construction.

52. Trace Wire: Install locating wires on all conductive and non-conductive storm sewer, sanitary sewer, and water lines in accordance with the Minnesota Rural Water Association (MRWA) Trace Wire Specification Guide and Details (www.mrwa.com/PDF/TracerWireSpecGuideFinalweb9.pdf). Use #12 HDPE-insulated copper-clad steel wire rated for underground service. The color of the insulating jacket shall be as follows: ground=red, storm sewer=green, sanitary sewer=green, and water lines=blue. Install the wire on the bottom side of the pipe below the spring line. Fasten the wire to the pipe with tape or plastic ties at 5' intervals. Do not wrap the trace wire around the corresponding utility. Do not connect the trace wire to existing conductive utilities. Use Copperhead Dryconn 3-Way or Locking Snake Bite connectors rated for underground direct bury applications or approved equal at all crossings or service connections. Twist on connectors are not allowed. Trace wire must be properly grounded at all dead ends and services. Install grade-level/in-ground trace wire access boxes and drive-in magnesium grounding anodes at all dead ends, services, and fire hydrants. Trace wire access boxes shall be color coded as follows: storm sewer=green, sanitary sewer=green, and water lines=blue.

53. Detectable Warning Tape: Install detectable underground warning tape directly above all underground utilities at a depth of 457 mm (18 inches) below finished grade, unless otherwise indicated. Underground warning tape shall be 3-inches wide with a minimum 5.0 mil overall thickness. Tape shall be manufactured using a 0.8 mil clear virgin polypropylene film, reverse printed and laminated to a 0.35 mil solid aluminum foil core, and then laminated to a 3.75 mil clear virgin polyethylene film. The aluminum backing makes underground assets easy to find using a non-ferrous locator. Tape shall be printed using a diagonally striped design for maximum visibility and meet the APWA Color-Code standard for identification of buried utilities. Use Pro-Line Safety Products (www.prolinesafety.com) detectable marking tape or approved equal.

54. See architectural for building waterproofing and foundation drainage.

55. Place #3 rebar at 3' on center in all 6" thick concrete pavement locations. Place #4 rebar at 4' on center in all 8" thick concrete pavement locations.

56. Place #4 x 2'-0" tie bar at 3' on center in all concrete curb and gutter.

57. Provide as-builts in accordance with City and Watershed District requirements. Record as-built information as construction progresses or at appropriate construction intervals. Secure and deliver to the Owner as-built information showing locations, top, and invert elevations of maintenance holes, catchbasins, cleanouts, inlet and outlet pipes, valves, hydrants, and related structures. Location ties shall be to permanent landmarks or buildings.

58. In order to document and verify acceptance for adequate storm water treatment, provide a post-construction as-built survey in accordance with City and Watershed District requirements for all storm water infrastructure. This as-built survey shall include, but is not limited to, locations, top, and invert elevations of maintenance holes, catchbasins, cleanouts; all basin/swale grades; pipe inlets, outlet pipes and structures; emergency overflows, orifices, weirs; pipe sizes; draintile elevations and sizes; ponds, tanks, infiltration or filtration basins; and any associated storm water infrastructure.

59. Test reports required for project close-out include, but are not limited to: density test reports, bacteriological tests on the water system, pressure tests on the water system, leak tests on the sewer system, deflection tests on all HDPE pipe.

60. Property Corners: Take care during construction and excavation in order to protect survey markers, monuments, and/or property irons.

WATER DISTRIBUTION SYSTEM:

1. Secure all permits and pay all fees prior to the start of construction. Obtain permits from the City for work in the public right-of-way.

2. Bring all site utilities to 2' outside of the building line with the exception of the water service. Extend water service into the building and up to the flange for the water meter. Do not install PVC water service pipe under or within any building, structure, or part thereof.

3. Separation of Water and Sewer: Construct sewer and water services in accordance with Minnesota Rules part 4714.720 and 4714.721. Provide a minimum horizontal separation of 10 feet between all water and sewer lines, including manholes, catch basins, storm sewer, sanitary sewer, draintile, or other potential sources for contamination in accordance with Minnesota Rules part 4714.609.6. Measure the separation distance from the outer edge of the pipe to the outer edge of the contamination source (outer edge of structures, piping, etc.) At water and sewer crossings, the bottom of the water pipe located within ten feet of the point of crossing must be at least 12-inches above the top of the sewer. When this is not feasible, the sewer pipe material must be approved for use inside of or within a building in accordance with the requirements of Minnesota Rules part 4714.701. Only ASTM D1785, D2665, F891, or F1488 Schedule 40 PVC may cross above or less than 12 inches below potable water lines (see Minnesota Rules part 4714.720.1). No joints or connections are allowed on the water line within 10-feet of the crossing.

4. Watermain Depth: Maintain 8-feet of cover over the top of the water lines to the finished grade. Verify elevation of proposed and existing water lines at all utility crossings. Install the water lines at greater depths in order to clear storm sewers, sanitary sewers, or other utilities as required. Include costs to lower water lines in the base bid.

5. Disinfection: Disinfect all completed watermains in accordance with AWWA Standard C651. If the tablet or continuous feed methods are used, disinfect the completed watermain with water that contains at least 50 ppm of available chlorine in accordance with Minnesota Rules part 4714.609.9. Do not use the tablet method on solvent-welded plastic or on screwed-joint steel pipe because of the danger of fire or explosion from the reaction of the joint compounds with the calcium hypochlorite. Retain the treated water in the pipeline for at least 24 hours. Measure the chlorine residual at the end of the 24 hour period. The free chlorine residual must be at least 10 mg/l measured at any point in the line. Measurement of the chlorine concentration at regular intervals shall be in accordance with Standard Methods, AWWA M-12, or using appropriate chlorine test kits.

6. Testing: Pressure test and perform bacteriological tests on all water lines under the supervision of the City Public Works Department. Notify the City at least 24 working hours prior to any testing. Pressure test the water system in accordance with Minnesota Rules part 4714.609.4. Pressurize the waterline to a water pressure of 1034-kPa (150-psi) gauge pressure (measured at the point of lowest elevation) by means of a pump connected to the pipe in a satisfactory manner. Do not add water to the watermain in order to maintain the required pressure during the water main pressure testing. Minnesota Department of Labor and Industry: The test section of pipe shall withstand the test without leaking for a period of not less than 15 minutes. Minnesota Department of Health: The watermain shall be pressure tested at 150-psi for at least two hours with not more than a 2-psi pressure drop during the last hour of the test.

7. All water supply piping connected to municipal water main must have a 150 psi minimum pressure rating.

8. Copper tube for water services must comply with ASTM B88 and shall have a weight not less than Type L (in accordance with Minnesota Rules part 4714.604.2).

9. Polyvinyl Chloride (PVC) Building Water Services must comply with ASTM D1785, ASTM D2241, or AWWA C900; pressure rated for water (See Minnesota Rules part 4714.604). Do not install PVC water service pipe under or within any building, structure, or part thereof.

10. Polyethylene (PE) Building Water Services must comply with the requirements of AWWA Standard C901; pressure rated for water (See Minnesota Rules part 4714.604). Do not install PE water service pipe under or within any building, structure, or part thereof. PE pipe ranges in nominal size from 3/4 in. (19 mm) through 3 in. (76 mm) and conforms to the outside-diameter (OD) dimensions of iron pipe size (IPS). PE tubing ranges in size from 3/4 in. (19 mm) through 2 in. (51 mm) and conforms to the OD dimensions of copper tube size (CTS).

11. Ductile iron pipe (DIP) water services must comply with AWWA C151/ANSI A21.51 or AWWA C115/ANSI A21.15 (See Minnesota Rules part 4714.604). Use Thickness Class 52 DIP with push-on joints. Use petroleum resistant gaskets, Nitrile (NBR), or approved equal. Use only ANSI 316 stainless steel bolts and nuts on all watermain fittings, valves, and hydrants.

12. Polyethylene Sheet Or Tubes For Corrosion Protection Of Buried Ductile Iron: Polyethylene encasement is required on all buried ductile iron pipe, fittings, valves, and other appurtenances. Polyethylene encasement must comply with AWWA C105/ANSI A21.5. Use V-Bio Enhanced Polyethylene Encasement (www.mcwaneductile.com) or approved equal.

13. Polyvinyl Chloride (PVC) Watermain: Use AWWA C900 for all PVC watermain furnished with integral elastomeric bell and spigot joints; minimum pressure Class 150; dimension ratio not greater than 18; laying length 20 feet. Use EBAA Iron, Inc., "Series 2000 PV Megalug," or approved equal for restraint on C900 PVC watermain. Use only ANSI 316 stainless steel bolts and nuts on all watermain fittings, valves, and hydrants.

14. Use mechanical joint restraint devices for joint restraint on all watermain bends having a vertical or horizontal deflection of 22-1/2 degrees or greater, all valves, stubs, extensions, tees, crosses, plugs, all hydrant valves, and all hydrants in accordance with City requirements. Use "Series 1100 Megalug" manufactured by EBAA Iron Inc., Eastland, Texas, or approved equal, installed in accordance with manufacturer's recommendations for restraint on Ductile Iron Pipe. Restraining devices are to have epoxy coating or approved equivalent. Restraining device hardware shall be ANSI 316 stainless steel, or approved equivalent.

15. Watermain Valves: At all valve locations which require a 12" or smaller valve, install gate valves which are of the compression resilient seated (CRS) type. Use American Flow Control's Series 2500 Ductile Iron Resilient Wedge Gate Valve, or approved equal. Gate valves shall conform to AWWA C509. Install cast iron valve boxes conforming to ASTM A48 at each valve location. Valve boxes shall be the three-piece type with 5-1/4" shafts. Use Tyler 6860-G with No. 6 base, or equivalent. Valve boxes shall have at least 6" of adjustment above and below finished grade. Drop covers on valve boxes shall be round and bear the word "WATER" cast on the top. Use Tyler 6860-G "Stayput" covers with extended skirt, or equivalent. All valve hardware shall be ANSI 316 stainless steel, or approved equivalent.

16. Curb Valves and Boxes: Use Mueller H-10334 extension type curb box with Minneapolis pattern base, or approved equal, at all $\frac{3}{4}$" through 2" curb stop locations. Stationary rod is required on all curb stops. Use Mueller Company Mark II Oriseal No. H-15154N curb stop, or approved equal, and stainless steel stem rod.

20. Threaded hose connections including hose bibbs and hydrants must include a back flow prevention device in accordance with Minnesota Rules, part 4714.0603 and UPC part 603.0. Wall hydrants must meet ASSE Standard 1019 (see Table 603.2). Where permitted by the administrative authority, wall hydrants may utilize non-removable ASSE 1052 backflow preventers or non-removable ASSE 1011 vacuum breakers and provision is made to protect from freezing (see Minnesota Rules, Chapter 4714, Sections 603.5.7, 312.6, and 301.1.2).

21. Lead Content: All newly installed or replacement pipes, pipe fittings, plumbing fittings and fixtures, including backflow preventers, that are installed on potable water systems or systems that are designed to distribute water for potable use, are required to meet the Reduction of Lead in Drinking Water Act, which establishes a maximum lead content of 0.25 percent by weighted average of the wetted surfaces. See Minnesota Rules part 4714.604.2. Solder and flux for potable water systems shall contain less than 0.2 percent lead. Joints must include non-corrosive non-toxic paste-type flux complying with ASTM B813 (see Minnesota Rules, Chapter 4714, Section 605.1.4).

22. Do not exceed the manufacturer's specifications for curvature of pipe and deflection at pipe joints. Securely close all open ends of pipe and fittings with watertight plugs when work is not in progress. Keep the interior of all pipes clean and remove any dirt or debris from joint surfaces after the pipes have been lowered into the trench. Install all valves plumb and located according to the plans.

23. Insulate the watermain at locations indicated on the plans. Provide a minimum insulation thickness of 4 inches. The insulation must be at least 4 feet wide and centered on the pipe. Install the insulation boards 6 inches above the tops of the pipes on mechanically compacted and leveled pipe bedding material. Use high density, closed cell, rigid board material equivalent to DOW Styrofoam Highload 40 Polystyrene Insulation. Individual insulation board dimensions typically measure 4' wide by 8' long by 2" thk.

SANITARY SEWER:

1. Secure all permits and pay all fees prior to the start of construction. Obtain permits from the City/County for installation of the septic system. Install Septic system per septic and drainfield plans by others and according to City/County standards. Register Septic system with Minnesota Department of Health.

2. Submit shop drawings for all structures to the Owner and Engineer for review and comment prior to ordering/purchasing and installation.

3. Unless otherwise indicated, use reinforced, precast, concrete maintenance holes conforming to ASTM C478, furnished with precast bases. Sanitary sewer maintenance holes shall be supplied with pre-formed inverts and flexible neoprene sleeve connections for all lateral lines 375 mm (15 inches) in diameter or less, unless otherwise indicated. Joints for all precast maintenance hole sections shall have confined, rubber "O"-ring gaskets in accordance with ASTM C443. These joints are normally used in sewers to hold infiltration and exfiltration to a practical minimum and are adequate for hydrostatic heads up to 30'. The inside barrel diameter shall not be less than 48 inches.

4. All joints and connections in the sewer system shall be gastight or watertight. Inlet and outlet connections to sewer manholes must use flexible compression joints located between 12 and 36 inches from the manhole in accordance with Minnesota Rules part 4714.719.6. Where permitted by the administrative authority as an alternate installation method, approved resilient rubber joints or waterstop gaskets may be used in order to make watertight connections to manholes and other structures (see Minnesota Rules part 4714.301.2). Use Fernco "Concrete Manhole Adaptors" or "Large Diameter Waterstops", Press-Seal "Waterstop Grouting Rings", or approved equal. Cement mortar joints are permitted only for repairs or connections to existing lines having such joints.

5. The building sewer starts 2 feet outside of the building. See Minnesota Rules part 4714.715.1. Material installed within 2 feet of the building must be of materials approved for use inside of or within the building.

6. The exterior sanitary sewer piping must comply with the following requirements: (A) Double wyes may not be used for drainage fittings in the horizontal position (see Minnesota Rules, Chapter 4714, Section 310.5) because proper pipe slope cannot be maintained on both of the lateral branches. (B) Changes in direction in drainage piping must be made by appropriate use of wyes and bends (see Minnesota Rules, Chapter 4714, Section 706.0). When connecting any vertical drop to a horizontal run, use a wye and a 1/8 bend (45 deg), or a sanitary combo. A sanitary combo is a combination wye and a 1/8 bend combined in a single fitting. The reason is to form a long radius bend in order to insure that the waste is directed in the downstream direction as it enters the horizontal run. Tees are not allowed where the direction of flow changes from either vertical to horizontal or horizontal to horizontal.

7. Pipe: Use solid-core, Schedule 40 Polyvinyl Chloride (PVC) Plastic Pipe for all designated PVC sanitary sewer services outside of the building. The PVC pipe shall meet or exceed the industry standards and requirements as set forth by the American Society for Testing and Materials (ASTM) D1785 and D2665. Fittings must comply with ASTM D1866, D2665, or F794. Joints must be approved mechanical or push-on utilizing an elastomeric seal. Use of solvent cement joints is allowed for building services. Solvent cement joints in PVC pipe must use ASTM F656 purple primer and ASTM D2564 cement in accordance with Minnesota Rules part 4714.605.2.2. The installation must comply with ASTM D2321, which requires open-trench installation on a continuous granular bed.

8. Cleanouts: Install cleanouts on all sanitary sewer services in accordance with Minnesota Rules part 4714.719. Install cleanouts for pipes 4-inch and over in size at intervals not to exceed 100 feet in straight runs and for each aggregate horizontal change in direction exceeding 135 degrees. Cleanouts shall be of the same nominal size as the pipes they serve. Include frost sleeves and concrete frame and pipe support. Install a meter box frame and solid lid (Neenah R-1914-A, or approved equal) over all cleanouts.

9. Testing: Pressure test all sanitary sewer in accordance with the Minnesota Rules Sections 4714.712 and 4714.723. Concrete manholes and sewer lines shall be tested by negative pressure in accordance with ASTM C1214-19, ASTM C1244-17, or the Hydrostatic Test Method in section 1107.2.3(b). Test all flexible sanitary sewer lines for deflection after the sewer line has been installed and backfill has been in place for at least 30 days. No pipe shall exceed a deflection of 5%. If the test fails, make necessary repairs and retest.

10. Install flexible watertight frame/chimney seals on all sanitary sewer maintenance holes in order to seal the outside of the chimney from the cast iron frame down to the cone. The seal shall be a continuous seamless band made of high quality EPDM (Ethylene Propylene Diene Monomer) rubber with a minimum thickness of 65 mills. Use Internal/External Adapter Seal as manufactured by Adaptor, Inc. (www.adaptorinc.com/wp-content/uploads/2019/04/ADAP_IEManholeSeal.pdf), Infi-Shield Uni-band one piece molded sealing system as manufactured bySealing Systems, Inc. (www.ssisealingsystems.com), or approved equal.

11. Use Neenah Foundry Co. R-1642 casting with self-sealing, solid, type B lid, or approved equal, on all sanitary sewer maintenance holes. Covers shall bear the "Sanitary Sewer" label.

12. Grease Interceptor: The grease interceptor shall be readily accessible. Manhole risers for grease interceptor tanks shall be provided with a substantial, fitted, gas-tight cover of concrete, steel, cast iron or other approved material. Manhole covers shall terminate at or above grade and shall have an approved locking device. A minimum 4x6-inch permanent label shall be affixed to the manhole cover, identifying the interceptor tank with the words GREASE INTERCEPTOR.

13. The minimum depth of cover for sanitary sewer without insulation is 5 feet. Insulate sanitary sewer services at locations where the depth of cover is less than 5 feet. Provide a minimum insulation thickness of 4 inches. The insulation must be at least 4 feet wide and centered on the pipe. Install the insulation boards 6 inches above the tops of the pipes on mechanically compacted and leveled pipe bedding material. Use high density, closed cell, rigid board material equivalent to DOW Styrofoam Highload 40 Polystyrene Insulation. Individual insulation board dimensions typically measure 4' wide by 8' long by 2" thk.

14. Install all pipe with the ASTM identification numbers on the top for inspection. Commence pipe laying at the lowest point in the proposed sewer line. Field verify that there is positive drainage at the outfall location. Lay the pipe with the bell end or receiving groove end of the pipe pointing upgrade. When connecting to an existing pipe, uncover the existing pipe in order to allow any adjustments in the proposed line and grade before laying any pipe. Do not lay pipes in water or when the trench conditions are unsuitable for such work.

15. All saddle tee or wye fittings must provide an integrally molded pipe stop in the branch for positive protection against service pipe insertion beyond the inside of the sewer main pipe wall.

16. Terminate all new sewer stubs with a water-tight gasketed cap properly braced in order to withstand the infiltration-exfiltration test. Install grade-level/in-ground trace wire access boxes and drive-in magnesium grounding anodes at the end of all stubs.

KWIK TRIP, Inc.
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Sunde Engineering, PLLC.
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10800 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
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www.sundecivil.com

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

Brian H. Munderloh

DATE: 02/27/26 REG. NO.: 23468

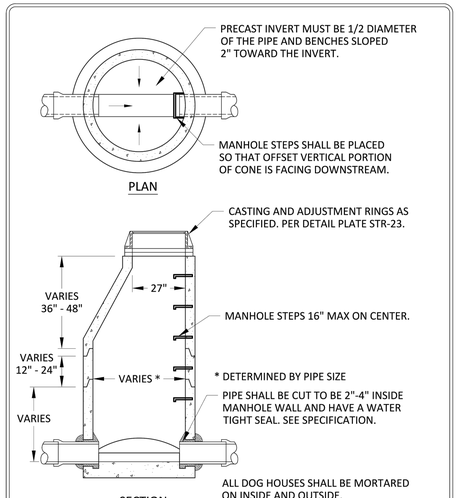
UTILITY NOTES - CONVENIENCE STORE 1789 - COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	06AUG25	INTERNAL REVIEW 2
-	19SEP25	SUBMITTAL
-	26JAN26	CITY COMMENTS
-	27FEB26	CR3

DRAWN BY	MW
SCALE	GRAPHIC
PROJ. NO.	25-1789
DATE	04/21/2025
SHEET	C401

KWIK TRIP PM: L.B.

The City of Cottage Grove's Standard Specifications for Street and Utility Construction shall govern for all improvements within the public right-of-way or drainage and utility easement.



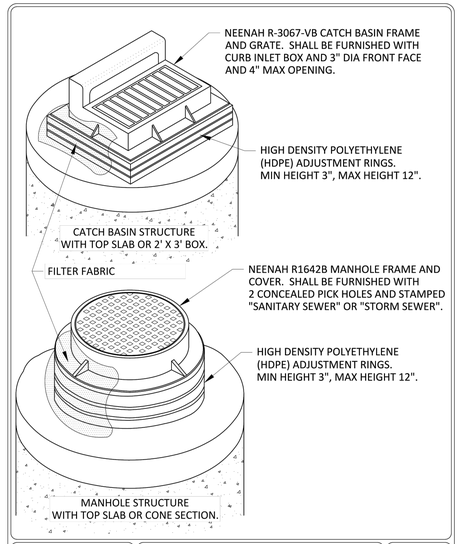
Cottage Grove — Where Pride and Prosperity Meet

STANDARD DETAILS
SANITARY SEWER MANHOLE
COTTAGE GROVE, MINNESOTA

JANUARY 2025

PLATE NO. SAN-1

48_SAN1.DWG



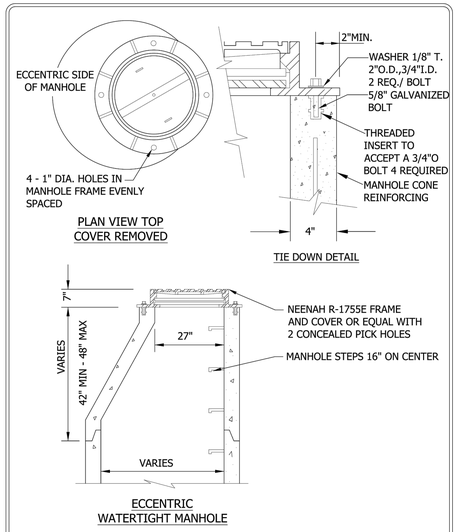
Cottage Grove — Where Pride and Prosperity Meet

STANDARD DETAILS
CATCHBASIN AND MANHOLE ADJUSTMENT
COTTAGE GROVE, MINNESOTA

JANUARY 2025

PLATE NO. STR-23

48_STR23.DWG



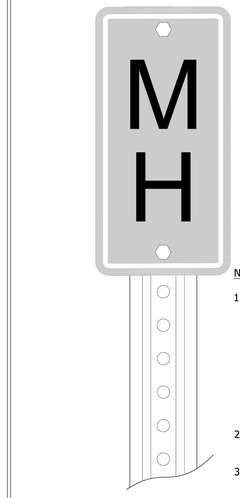
Cottage Grove — Where Pride and Prosperity Meet

STANDARD DETAILS
WATERTIGHT CASTING FOR SANITARY SEWER MANHOLE
COTTAGE GROVE, MINNESOTA

JANUARY 2025

PLATE NO. SAN-5

48_SAN5.DWG



NOTES:

1. 6"x12" SIGN PANEL:
   - 1.1. MH FOR SANITARY - WHITE LETTERS ON GREEN HIP SHEETING WITH WHITE BORDER.
   - 1.2. SW FOR STORM SEWER - WHITE LETTERS ON GREEN HIP SHEETING WITH WHITE BORDER.
   - 1.1. GV FOR WATER MAIN - WHITE LETTERS ON BLUE HIP SHEETING WITH WHITE BORDER
2. U-CHANNEL GALVANIZED POST, MINIMUM 3 LB/FT 6'-6" LONG.
3. REQUIRED FOR STRUCTURES LOCATED IN NON-MAINTAINED AREAS AS DIRECTED BY ENGINEER.

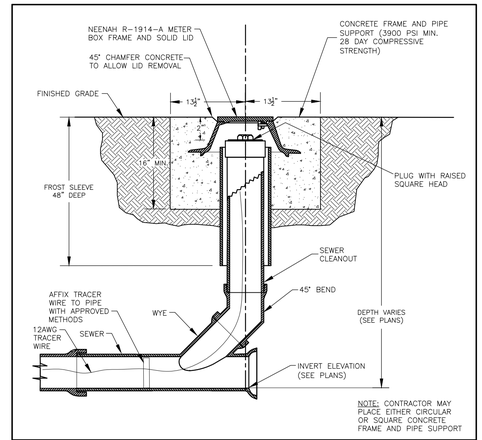
Cottage Grove — Where Pride and Prosperity Meet

STANDARD DETAILS
STRUCTURE MARKER SIGN
COTTAGE GROVE, MINNESOTA

JANUARY 2025

PLATE NO. STR-41

48_STR41.DWG



SEWER CLEANOUT

KWIK TRIP
KWIK STAR

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Brian H. Munderloh

Brian H. Munderloh

DATE: 02/27/26 REG. NO.: 23468

CITY UTILITY STANDARD DETAILS

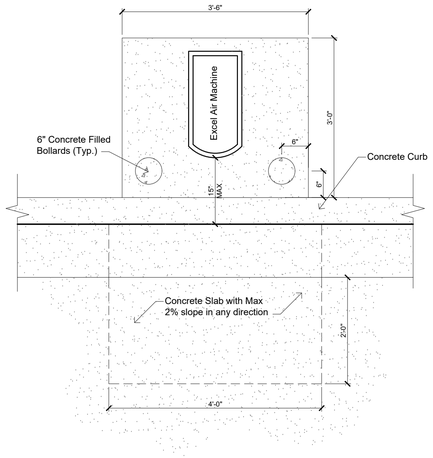
CONVENIENCE STORE 1789

- COTTAGE GROVE, MINNESOTA

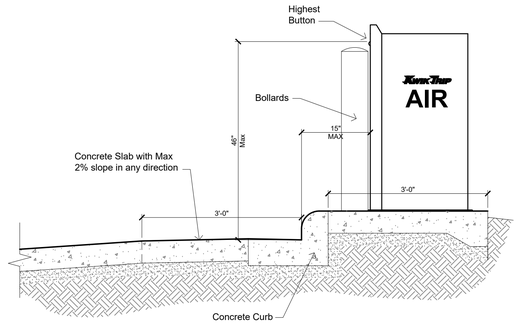
NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	06AUG25	INTERNAL REVIEW 2
-	19SEP25	SUBMITTAL
-	26JAN26	CITY COMMENTS
-	27FEB26	ORS

DRAWN BY: MW
SCALE: GRAPHIC
PROJ. NO.: 25-1789
DATE: 04/21/2025
SHEET: C402

KWIK TRIP PM: L.B.



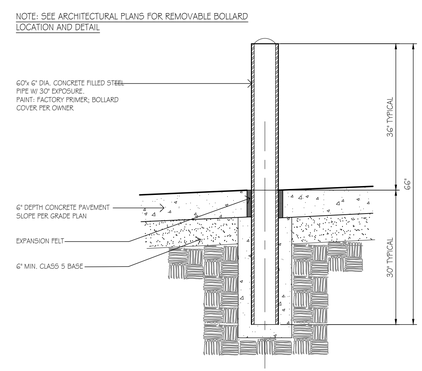




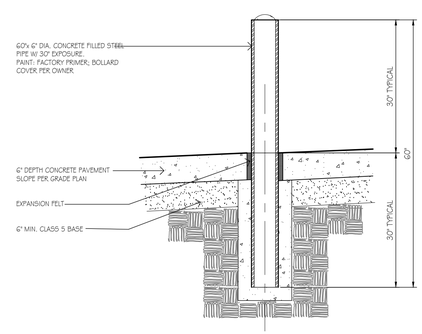
Plan View Detail
NTS

Side View Detail
NTS

2 | C500 AIR COMPRESSOR DETAIL
NOT TO SCALE



8 | C500 36" HEIGHT PIPE BOLLARD
SCALE - 3/8" = 1'-0"



9 | C500 30" HEIGHT PIPE BOLLARD
SCALE - 3/8" = 1'-0"

NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT

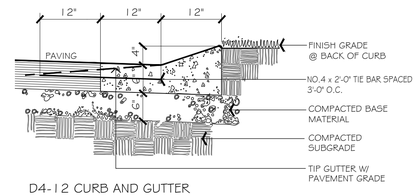
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

TIE BARS ARE REQUIRED FOR CURB AND GUTTERS WHEN ADJACENT TO CONCRETE PAVEMENT

THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

WHEN ADJACENT TO 8" PAVEMENT, PAM THICKNESS WILL BE 8" MIN



D4-12 CURB AND GUTTER

11 | C500 CONCRETE CURB DETAIL
SCALE - 3/4" = 1'-0"

NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT

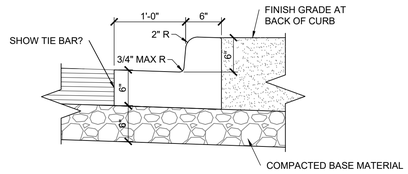
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

TIE BARS ARE REQUIRED FOR CURB AND GUTTERS WHEN ADJACENT TO CONCRETE PAVEMENT

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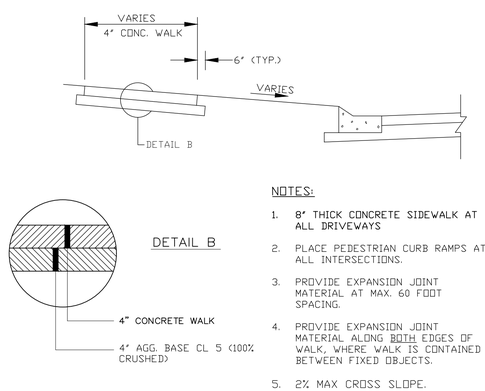
UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

WHEN ADJACENT TO 8" PAVEMENT, PAM THICKNESS WILL BE 8" MIN



B6-12 CURB AND GUTTER

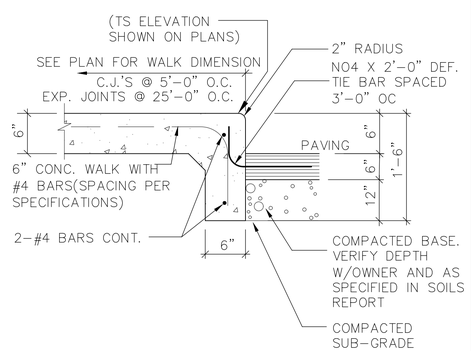
11 | C500 CONCRETE CURB DETAIL
SCALE - 3/4" = 1'-0"



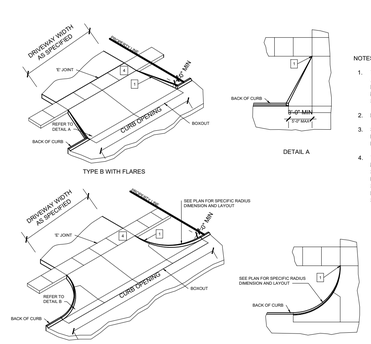
NOTES:

1. 8" THICK CONCRETE SIDEWALK AT ALL DRIVEWAYS
2. PLACE PEDESTRIAN CURB RAMPS AT ALL INTERSECTIONS.
3. PROVIDE EXPANSION JOINT MATERIAL AT MAX. 60 FOOT SPACING.
4. PROVIDE EXPANSION JOINT MATERIAL ALONG BOTH EDGES OF WALK, WHERE WALK IS CONTAINED BETWEEN FIXED OBJECTS.
5. 2% MAX CROSS SLOPE.

3 | C500 CONCRETE WALK/ PAD DETAIL
NOT TO SCALE



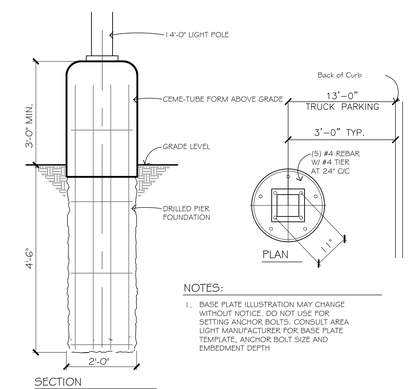
7 | C500 SIDEWALK/ CURB DETAIL
NOT TO SCALE



NOTES

1. TRANSITION THE CURB HEIGHT TO 0" AT END TAPER/RADIUS OR AT THE FRONT EDGE OF THE SIDEWALK. DO NOT EXTEND RAISED CURB CROSS SIDEWALK.
2. PAVEMENT THICKNESS: 8 INCHES
3. SIDEWALK THICKNESS THROUGH DRIVEWAY TO MATCH THICKNESS OF DRIVEWAY.
4. TARGET CROSS SLOPE OF 1.5% WITH A MAXIMUM CROSS SLOPE OF 2.0% IF SPECIFIED IN THE CONTRACT DOCUMENTS. CONSTRUCT THE SIDEWALK THROUGH THE DRIVEWAY 5 FEET WIDE TO SERVE AS A PASSING SPACE.

10 | C500 CONCRETE APPROACH DETAIL
NOT TO SCALE



NOTES:

1. BASE PLATE ILLUSTRATION MAY CHANGE WITHOUT NOTICE. DO NOT USE FOR SETTING ANCHOR BOLTS. CONSULT AREA LIGHT MANUFACTURER FOR BASE PLATE TEMPLATE, ANCHOR BOLT SIZE AND EMBEDMENT DEPTH

12 | C500 ROUND AREALIGHT FOUNDATION
SCALE - 1/2"= 1'-0"

KWIK TRIP
KWIK STAR

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P.O. BOX 2107
1626 OAK STREET
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FAX (608) 781-8960

insites
SITE PLANNING LANDSCAPE ARCHITECTURE
4209 Lancaster Lane North Suite 113
Plymouth, Minnesota 55441
763.383.8400
insitesinc.net mail@insitesinc.net

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

Date 2-2026 License No. 19306

Signed Robert J. Mueller

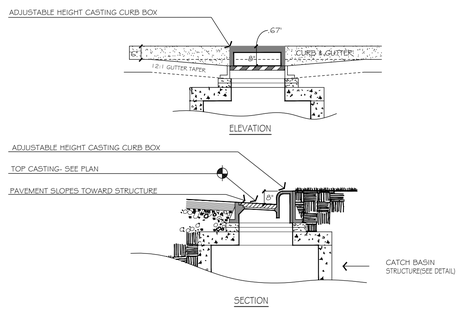
CONVENIENCE STORE 1789
-- COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	06AUG25	INTERNAL REVIEW 2
	19SEP25	SUBMITTAL
	26JAN26	CITY COMMENTS
	27FEB26	CK3

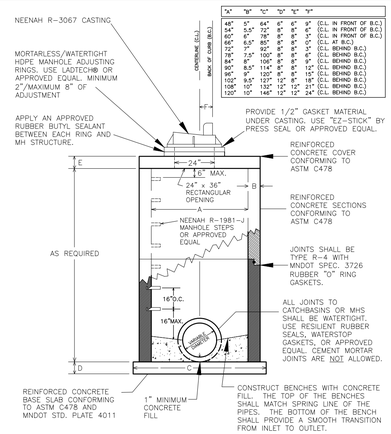
DRAWN BY
SCALE GRAPHIC
PROJ. NO. 25-1789
DATE 02/27/2026
SHEET C500

INSITES 25-0 © PM LB

NOTE: THIS CURB CONSTRUCTION DETAIL IS TO BE USED AT LOW POINTS WHEN INDICATED ON PLAN. SEE GRADE PLAN FOR SPECIFIC CURB ELEVATIONS THAT REFLECT 8" DIFFERENCE FROM TOP OF CURB TO CASTING (SEE ACTUAL CB DETAILS FOR STRUCTURE INFO.)

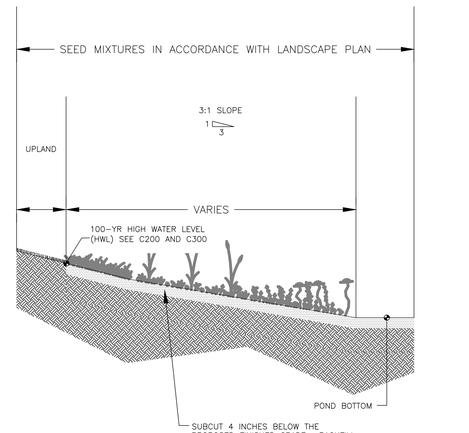


4 | C501 — CURBLINE DETAIL AT CATCHBASIN CURB/PAVEMENT LOW POINTS (SPECIFIC LOCATIONS)
NOT TO SCALE



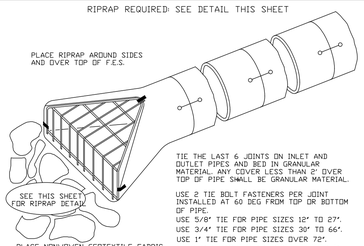
"A"	"B"	"C"	"D"	"E"	"F"
48"	5"	64"	8"	8"	8" (CL. IN FRONT OF B.C.)
54"	5.5"	72"	8"	8"	8" (CL. IN FRONT OF B.C.)
60"	6"	80"	8"	8"	8" (CL. IN FRONT OF B.C.)
72"	7.5"	96"	8"	8"	8" (CL. BEHIND B.C.)
78"	8"	102"	8"	8"	8" (CL. BEHIND B.C.)
78"	7.5"	100"	8"	8"	8" (CL. BEHIND B.C.)
84"	8"	108"	8"	8"	8" (CL. BEHIND B.C.)
90"	8.5"	114"	8"	8"	12" (CL. BEHIND B.C.)
96"	9"	120"	8"	8"	15" (CL. BEHIND B.C.)
102"	9.5"	127"	12"	8"	18" (CL. BEHIND B.C.)
108"	10"	132"	12"	12"	21" (CL. BEHIND B.C.)
120"	10"	146"	12"	12"	24" (CL. BEHIND B.C.)

7 | C501 — STANDARD STORM SEWER CATCHBASIN
NOT TO SCALE



12 | C501 — DRY POND CROSS-SECTION – NO LINER
NOT TO SCALE

RIPRAP REQUIRED: SEE DETAIL THIS SHEET



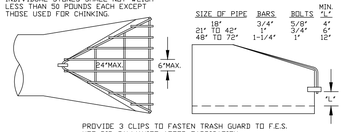
TIE THE LAST 6 JOINTS ON INLET AND OUTLET PIPES AND BED IN GRANULAR MATERIAL. ANY COVER LESS THAN 2' OVER TOP OF PIPE SHALL BE GRANULAR MATERIAL.

USE 2 TIE BOLT FASTENERS PER JOINT INSTALLED AT 60 DEG FROM TOP OR BOTTOM OF PIPE.
USE 5/8" TIE FOR PIPE SIZES 12" TO 27".
USE 3/4" TIE FOR PIPE SIZES 30" TO 66".
USE 1" TIE FOR PIPE SIZES OVER 72".

NUTS AND WASHERS ARE NOT REQUIRED ON PIPE SIZE LESS THAN 21".

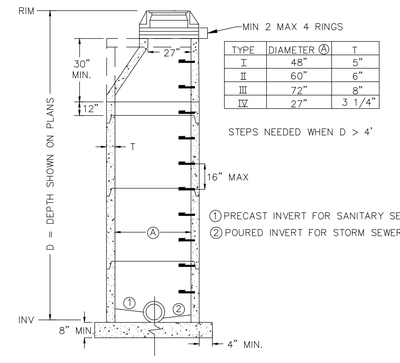
TRASH GUARDS WILL BE REQUIRED ON 18" OR LARGER PIPE. IN PLACE OF TRASH GUARDS ENERGY DISSIPATORS MAY BE USED.

SIZE OF PIPE	BARS	BOLTS	MIN. "L"
18"	3/4"	5/8"	4"
21" TO 42"	1"	3/4"	6"
48" TO 72"	1-1/4"	1"	12"



PROVIDE 3 CLIPS TO FASTEN TRASH GUARD TO F.E.S. HOT DIP GALVANIZE AFTER FABRICATION.

2 | C501 — FLARED END SECTION WITH TRASH GUARD
NOT TO SCALE

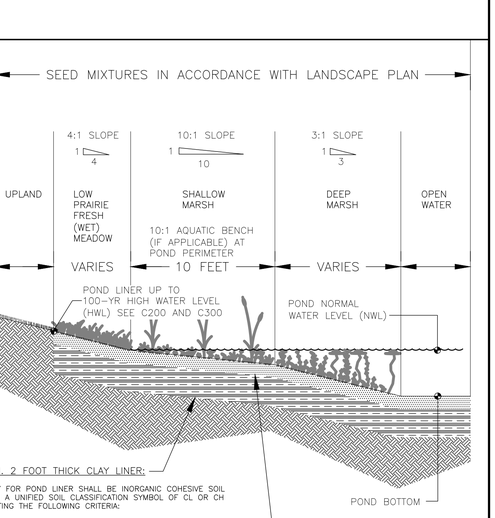


TYPE	DIAMETER (A)	T
I	48"	5"
II	60"	6"
III	72"	8"
IV	27"	3 1/4"

STEPS NEEDED WHEN D > 4'

① PRECAST INVERT FOR SANITARY SEWERS.
② POURED INVERT FOR STORM SEWERS.

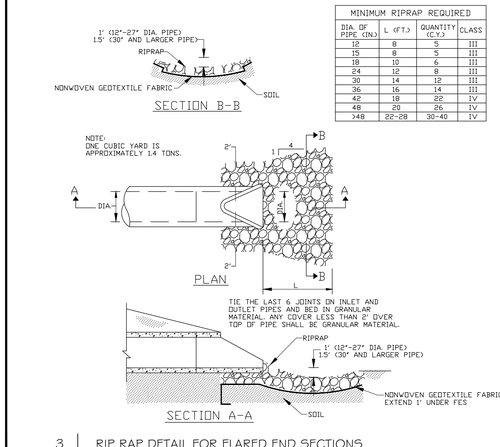
8 | C501 — PRECAST REINFORCE CONC. MANHOLE
NOT TO SCALE



CLAY FOR POND LINER SHALL BE INORGANIC COHESIVE SOIL WITH A UNIFIED SOIL CLASSIFICATION SYMBOL OF CL OR CH MEETING THE FOLLOWING CRITERIA:

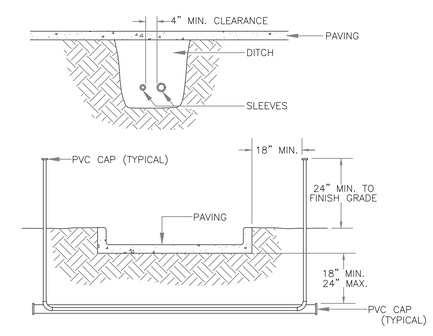
- LIQUID LIMIT (LL): LL > 25 WITH NONE LESS THAN 20.
- PLASTICITY INDEX (PI): PI > 12 WITH NONE LESS THAN 10.
- PERCENT FINER THAN #200 SIEVE: > 50% (WET SIEVE).
- PERCENT FINER THAN 1 INCH: > 95%.
- MAXIMUM PARTICLE SIZE: 2 INCH (DRY SIEVE).
- LINER THICKNESS: 2.0 FEET MIN.
- COMPACTION REQUIREMENT: 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY AND 90% FOR MODIFIED PROCTOR.
- MAXIMUM HYDRAULIC CONDUCTIVITY OF COMPACTED SAMPLE AT 95% OF MAXIMUM DENSITY (ASTM D-698): 1x10E-7 CM/SEC.
- CLAY INSTALLED WET OF OPTIMUM IF USING STANDARD PROCTOR, AND 2% WET OF OPTIMUM IF USING MODIFIED PROCTOR.
- SMOOTH DRUM COMPACTION EQUIPMENT IS NOT ALLOWED FOR CLAY COMPACTION.
- CLAY SHALL BE PLACED IN LIFTS OF NO GREATER THAN 6" PRIOR TO COMPACTION.
- CLAY SHALL BE DISKED OR OTHERWISE MECHANICALLY PROCESSED BEFORE COMPACTION TO BREAK UP CLODS. MAXIMUM CLOD SIZE IS 4".

11 | C501 — POND CROSS-SECTION
NOT TO SCALE



MINIMUM RIPRAP REQUIRED			
DIA. OF PIPE (IN.)	L (FT.)	QUANTITY (C.Y.)	CLASS
12	8	5	III
15	8	5	III
18	10	6	III
24	12	8	III
30	14	12	III
36	16	14	III
42	18	22	IV
48	20	26	IV
>48	22-28	30-40	IV

3 | C501 — RIP RAP DETAIL FOR FLARED END SECTIONS
NOT TO SCALE



NOTES:
1. ALL PVC IRRIGATION SLEEVES TO BE SCH 40 PVC PIPE.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND THE SMALLER SLEEVE TO 24-INCHES MINIMUM ABOVE FINISH GRADE.
4. MECHANICALLY TAMP TO 95% PROCTOR.

9 | C501 — TYPICAL SLEEVING
NOT TO SCALE

KWIK TRIP
KWIK STAR

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LACROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

insites
SITE PLANNING LANDSCAPE ARCHITECTURE
4209 Lancaster Lane North Suite 113
Plymouth, Minnesota 55441
763.383.8400
insitesmn.net mail@insitesmn.net

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

Date 2-2026 License No. 19306

Signed Robert J. Mueller

SITE PLAN DETAILS

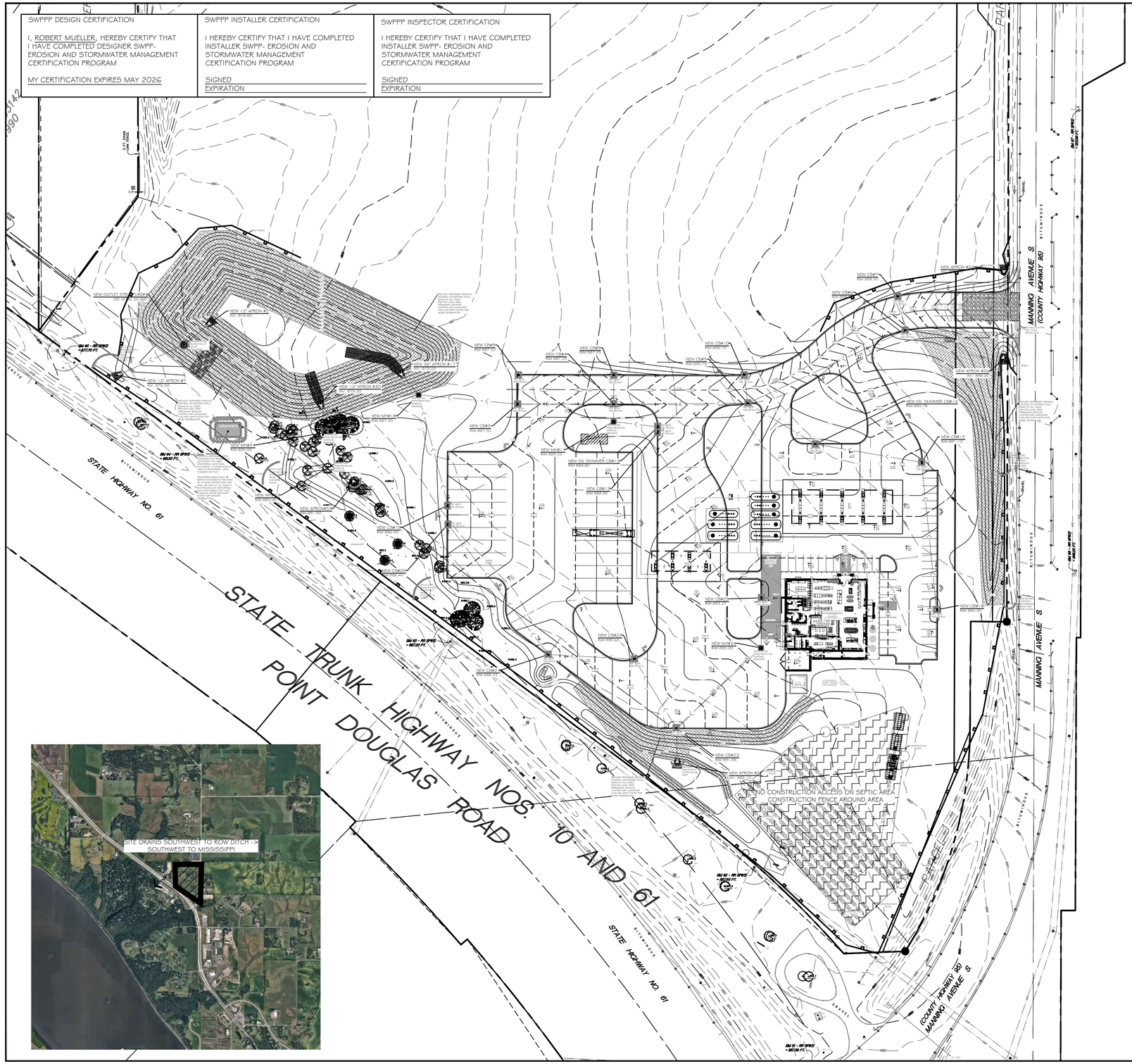
CONVENIENCE STORE 1789
-- COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	08AUG25	INTERNAL REVIEW 2
-	19SEP25	SUBMITTAL
-	26JAN26	CITY COMMENTS
-	27FEB26	OR3

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 25-1789
DATE 02/27/2026
SHEET C501

INSITES 25-0107 PM LB

SWPPP DESIGN CERTIFICATION	SWPPP INSTALLER CERTIFICATION	SWPPP INSPECTOR CERTIFICATION
I, ROBERT MUELLER, HEREBY CERTIFY THAT I HAVE COMPLETED DESIGNER SWPP-EROSION AND STORMWATER MANAGEMENT CERTIFICATION PROGRAM MY CERTIFICATION EXPIRES MAY 2026	I HEREBY CERTIFY THAT I HAVE COMPLETED INSTALLER SWPP- EROSION AND STORMWATER MANAGEMENT CERTIFICATION PROGRAM SIGNED EXPIRATION	I HEREBY CERTIFY THAT I HAVE COMPLETED INSTALLER SWPP- EROSION AND STORMWATER MANAGEMENT CERTIFICATION PROGRAM SIGNED EXPIRATION


STATE HIGHWAY NO. 61
STATE TRUNK HIGHWAY NOS. 10 AND 61
POINT DOUGLAS ROAD
MANNING AVENUE S
(COUNTY HIGHWAY 80)
(COUNTY HIGHWAY 80) MANNING AVENUE S
PARCEL
NO CONSTRUCTION ACCESS ON SEPTIC AREA
CONSTRUCTION FENCE AROUND AREA
BITUMINOUS
GRAVEL
NEW CB#1
NEW CB#2
NEW CB#3
NEW CB#4
NEW CB#5
NEW CB#6
NEW CB#7
NEW CB#8
NEW CB#9
NEW CB#10
NEW CB#11
NEW CB#12
NEW CB#13
NEW CB#14
NEW CB#15
NEW CB#16
NEW CB#17
NEW CB#18
NEW CB#19
NEW CB#20
NEW CB#21
NEW CB#22
NEW CB#23
NEW MH#1
NEW MH#2
NEW MH#3
NEW MH#4
NEW MH#5
NEW OIL SKIMMER CB#14
NEW OIL SKIMMER CB#15
NEW APRON #16
NEW APRON #17
NEW APRON #18
NEW APRON #19
NEW APRON #20
NEW APRON #21
NEW APRON #22
NEW APRON #23
NEW APRON #24
NEW APRON #25
NEW OUTLET RISER #1
NEW OUTLET RISER #2
NEW OUTLET RISER #3
NEW OUTLET RISER #4
NEW 12" APRON #1
NEW 12" APRON #2
NEW 12" APRON #3
NEW 12" APRON #4
NEW 12" APRON #5
NEW 12" APRON #6
NEW 12" APRON #7
NEW 12" APRON #8
NEW 12" APRON #9
NEW 12" APRON #10
NEW 12" APRON #11
NEW 12" APRON #12
NEW 12" APRON #13
NEW 12" APRON #14
NEW 12" APRON #15
NEW 12" APRON #16
NEW 12" APRON #17
NEW 12" APRON #18
NEW 12" APRON #19
NEW 12" APRON #20
NEW 12" APRON #21
NEW 12" APRON #22
NEW 12" APRON #23
NEW 12" APRON #24
NEW 12" APRON #25
SW-12 - RIP RAP - 1600 SQ. FT.
SW-13 - RIP RAP - 1600 SQ. FT.
SW-14 - RIP RAP - 1600 SQ. FT.
SW-15 - RIP RAP - 1600 SQ. FT.
SW-16 - RIP RAP - 1600 SQ. FT.

GENERAL STORMWATER POLLUTION PREVENTION:

Apply for and obtain the General Storm Water Permit for Construction Activity from the Minnesota Pollution Control Agency.

Storm Water Pollution Prevention Plan (SWPPP): The SWPPP includes this narrative, Plan Sheets C500-501 and C600, and the Storm water Management Calculations. Keep a copy of the SWPPP, all changes to it, and inspections and maintenance records at the site during the construction. During the construction process the SWPPP will have to be amended to the changes performed by the contractor. the owner shall be aware of the amendments prior to changes made in the SWPPP. All notes, photographs, recorded dates, sketches, references, and diagrams will have to be recorded and made available as part of the SWPPP permit.

Individual(s) preparing the SWPPP for the project, overseeing implementation of the SWPPP, revising and amending the SWPPP, and at least one individual on the project performing installation, inspection, maintenance, and repairs of BMP's must be trained. The training must be done by a local, state, federal agencies; professional organization; or other entities with expertise in erosion prevention, sediment control, or permanent Storm water management. Training information and those certified must be noted in the SWPPP. Documentation of this information must be included in the SWPPP or made available within 72 hours. All trained individuals must be identified, including DESIGNER, INSTALLER and INSPECTOR.

Responsible Parties: The contractor must designate a person knowledgeable and experienced in the application of erosion prevention and sediment control BMPs who will oversee the implementation of the SWPPP, and the installation, inspection, and maintenance of the erosion prevention and sediment control BMPs before and during construction.

CONTACT LEAH BERLIN
KWIK TRIP INC
1626 OAK STREET
LACROSSE, WI 54602
608-793-6461

The owner is responsible for identifying who will have responsibility for the long term operation and maintenance of the permanent storm water management systems.

SITE INVESTIGATION, INSTALLATION, IMPLEMENTATION :

Contractor shall ensure a trained person will oversee the installation of all devices. Name and certification of individual(s) responsible for installation shall be in the SWPPP. those individuals include those overseeing implementation and/or performing or supervising the installation.

1. Prior to any work, contractor shall visit the site, document existing conditions as necessary(photos, notes, etc) and note existing drainage patterns on and off site that are related to the project. Installer and inspector of the SWPPP shall determine on site if there are additional ways to create buffer zones and or phasing of the project construction to limit the extent of exposed soils. If this is determined to be helpful, the SWPPP shall be amended accordingly. These notes and changes shall be part of the SWPPP.

2. Install all temporary erosion and sediment control measures including silt fence, rock construction entrance(s), erosion control berms, rock filters, silt sacks, rock /earth berms, and sedimentation basins. Protect all receiving waters, catch basins, ditches, inlets etc. in and around the site. All protective and preventative measures must be in place and inspected prior to beginning site clearing, grading, or other land-disturbing activity.

3. Prior to beginning site clearing and grading, protect all storm sewer inlets that receive runoff from disturbed areas. In order to prevent sediment from leaving the site and entering the downstream storm sewer system, seal all storm sewer inlets that are not needed for site drainage during construction. Protect all other storm sewer inlets by installing sediment control devices, such as silt sacks, or rocked filtration logs/weirs. Straw bales or fabric under the grates are not acceptable forms of inlet protection. Protect new storm sewer inlets as they are completed. Maintain storm sewer inlet protection in place until all sources with potential for discharging to the inlets are stabilized.

4. Before beginning construction, install a TEMPORARY ROCK CONSTRUCTION ENTRANCE at each point where vehicles exit the construction site When at all possible contractor shall designate only one access point for vehicles entering and exiting the site. The rock on the entrance will have to be inspected daily and replaced or rock supplemented by the contractor when over 50% of the voids in the rock are filled. A cleaning station should be made available to drivers and visibly signed to see. Provide shovels, brooms and/or hose with a wash out area so soils can be removed from vehicles on site.

5. Avoid entire removal of trees and surface vegetation all at once whenever possible as this limits the amount of site susceptible to erosion. Schedule construction zones and note this on the SWPPP in order to expose the smallest practical area of soil at any given time. Utilize vegetation removed by on site grinding and mulching and using this material to protect the soil from erosion.

6. Areas That Discharge to Special or Impaired Waters: As a general rule for areas draining less than 10 acres, additional or alternative measures shall take place which include but are not limited to installing multiple lines of silt fence, constructing small basins/sediment collection ditches, vegetative strips, tarps, mulching or forms of temporary vegetation. Following initial soil disturbance or re-disturbance, complete permanent or temporary stabilization against erosion due to rain, wind, and running water within 7 calendar days on all disturbed or graded areas. This requirement does not apply to those areas that are currently being used for material storage on a daily basis or for those areas in which grading, site building, or other construction activities are actively underway. Provide temporary cover on all stacked topsoil piles, and other areas of stockpiled excavated material in order to prevent soil erosion and rapid runoff during the construction period. Stockpiles can be mulched,covered with poly or fabric, and or seeded during prolonged exposure. Prolonged periods of open, bare earth without grass cover will not be permitted. Stabilize all disturbed green-space areas with a minimum of 4" topsoil immediately after final sub-grade completion. Seed and mulch, or sod and protect these areas within 48 hours after completion of final grading work (weather permitting). Stabilize all disturbed areas to be paved using early application of gravel base. Stabilize the normal wetted perimeter of any temporary or permanent drainage ditch that conveys water from the construction site, or diverts water around the construction site, within 200 lineal feet from the property edge, or within 200 feet from the point of discharge to any surface water. Stabilize temporary or permanent drainage ditches within 24 hours of connecting to a surface water. Protect outfalls minimum of 200feet down stream and to the side of the discharge point. Additional settling "pots" achieved by filter logs or filtered stick bales staked in the channel will dissipate the water energy. Provide pipe outlets with temporary or permanent energy dissipation within 24 hours of connection to a surface water.

7. Receiving Waters - It is the contractors responsibility to inspect the site discharge point as well as downstream to the receiving body of water(pond, lake, stream, etc.) on a regular basis including after each storm event and document if any differences or changes in normal in discharge and if material is leaving the construction site. If so it shall be documented and removed immediately. Contractor shall be aware of DNR "water restrictions" during specified fish spawning time frames and all exposed soil areas that are within 200 feet of the waters edge, and drain to these waters must complete the stabilization activities within 24 hours of the restriction period.

NOTE: ALL EROSION AND SEDIMENT CONTROL DEVICES WILL BE CHECKED BY THE CONTRACTOR AFTER EACH STORM EVENT AND BE MAINTAINED, OR IMPROVED UPON AFTER EVERY STORM EVENT TO ENSURE ADEQUATE PERFORMANCE.

POLLUTION CONTROL:

1. Designate a Concrete Wash-out and truck wash area:
   Make it visible in the field to vehicle operators and note this on the SWPPP.

   a. When washouts occur on the site, concrete washout water must be contained in a leak-proof containment facility or impermeable liner. Liquid and solid wastes may not touch the ground and there must not be runoff from the concrete washout operations or areas.

   b. Limit external washing of trucks and other construction vehicles to a defined area preferably before the construction access/exit point. Wash vehicles only on an area stabilized with stone that drains into an approved sediment trapping device. Contain runoff and properly dispose of waste. Engine degreasing is prohibited.

2. Solid Waste: Properly dispose of collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris, and other wastes in compliance with Minnesota Pollution Control Agency requirements.

3. Hazardous Materials: Properly dispose of all waste and unused building materials (including garbage debris, cleaning wastes, oil, gasoline, paint, wastewater, toxic materials, and hazardous materials) off-site. Do not allow waste and unused building materials to be carried by runoff into a receiving channel or storm sewer system. Properly store oil, gasoline, paint, and other hazardous materials in order to prevent spills, leaks, or other discharge. Include secondary containment. Restrict access to storage areas in order to prevent vandalism. Storage and disposal of hazardous materials must be in compliance with MPCA regulations.

4. Machinery: and mechanized equipment that leaks waste shall have a protective barrer or containment under the device adequate to contain the waste. Properly dispose of the waste.

5. Emergency spill station: Contractor shall locate and sign an emergency spill station that has necessary containment or cleanup devices for all workers to access.

EROSION CONTROL :

Apply necessary moisture to the construction area and haul roads to prevent the spread of dust.

Contractor shall utilize coarsely ground wood and tree mulches to cover exposed soils. Mulches shall be stored on site to supplement and use in problem areas during all phases of the construction project.

Contractor shall uses star tack or other organic substances in situations to prevent soil from eroding away by wind or rain.

Whenever possible contractor shall grade areas of soil to limit potential of erosion, to include tracking perpendicular to fall line of grades as well as diverting water flows from problematic areas on the site.

Seeding, fiber blankets, poly/tarps or cover mulches, disked mulches and compost can be used to cover temporarily exposed areas from wind and rain. Other methods by the contractor shall be documented in the SWPPP.

SEDIMENT CONTROL:

Inlet Sediment Control Protection Devices:
The following area approved Inlet Sediment Control Devices:

a. Road Drain Top Slab Model RD 23 (fits rough opening for 2'x3' inlet), Road Drain Top Slab Model RD 27 (fits rough opening for 27" inlet), or Road Drain Top Slab Model CG 3067 (fits Neenah Casting with 35-1/4"x17-3/4" dimensions) manufactured by:
WIMCO
799 Theis Drive
Shakopee, MN, 55379
Phone (952) 233-3055
or approved equal

b. Silt Sack manufactured by:
ACF ENVIRONMENTAL
2831 Cardwell Road
Richmond, VA, 23234
Phone (800) 448-3636
or approved equal

c. InfraSafe Sediment Control Barrier. Install geotextile sock on the outside of the barrier in order to trap additional fines. Standard frames are available to fit 24" to 30" diameter and 2'x3' openings.
Distributed by:
ROYAL ENTERPRISES AMERICA
30622 Forest Boulevard
Stacy, MN, 55079
Phone (651) 462-2130
or approved equal

d. Ridge Bag Rock Log. Use rock logs only for curb inlets after pavement is in place.
Manufactured by RED BARN RIDGE, 3135
County Road 136, Saint Cloud, MN, 35301
Phone (320) 253-3744
or approved equal

e. Inflatable drain plugs by Interstate Products www.interstateproducts.com or approved equal

Riprap:
Place a 450 mm (18 inch) thick layer of MNDOT 3601 Class III riprap onto a 225 mm (9 inch) thick layer of MNDOT 3601.2.B granular filter material at locations indicated on the plan in accordance with MNDOT 2511. Install two layers of MNDOT 3733 Type IV Geotextile fabric beneath the granular filter material. At pipe outfalls configure the installation as shown on MNDOT Standard Plate No. 3133C for the size of pipe indicated and extend the geotextile fabric under the culvert apron a minimum of 3 feet. For pipe sizes smaller than 300 mm (12 inch) diameter, the minimum quantity of riprap and filter blanket shall be no less than that required for 300 mm (12 inch) diameter pipes.

Silt Fence:
Install silt fence along the contour (on a level horizontal plane) with the ends turned up (J-hooks) in order to help pond water behind the fence. Install the silt fence on the uphill side of the support posts. Provide a post spacing of 1.2 m (4 feet) or less. Drive posts at least 0.6 m (2 feet) into the ground. Anchor the silt fence fabric in a trench at least 152 mm (6 inches) deep and 152 mm (6 inches) wide dug on the up-slope side of the support posts. Lay the fabric in the trench and then backfill and compact with a vibratory plate compactor. Make any splices in the fabric at a fence post. At splices, overlap the fabric at least 152 mm (6 inches), fold it over, and securely fasten it to the fence post. Silt fence supporting posts shall be 51 mm (2 inch) square or larger hardwood, pine, or standard T- or U-section steel posts. T- or U-section steel posts shall weigh not less than 1.8602 kg per meter (1.25 lb per lineal foot). Posts shall have a minimum length of 1524 mm (5 feet). Posts shall have projections to facilitate fastening the fabric and prevent slippage. Geo-textile fabric shall meet the requirements of MNDOT Standard Specification 3886 for pre-assembled silt fence, furnished in a continuous roll in order to avoid splices. Geo-textile fabric shall be uniform in texture and appearance and have no defects, flaws, or tears. The fabric shall contain sufficient ultraviolet (UV) ray inhibitor and stabilizers to provide a minimum two-year service life outdoors. Fabric color shall be international orange. In high traffic areas contractor shall reinforce silt fence with wire fencing and metal posts. extreme circumstances will require temporary concrete median sections to support material backing of stock piled soil or filled earth.

Install silt-fence, or other effective sediment controls, around all temporary soil stockpiles. Locate soil or dirt stockpiles containing more than 10 cubic yards of material such that the down-slope drainage length is no less than 8 m (25 feet) from the toe of the pile to a roadway or drainage channel. If remaining for more than seven days, stabilize the stockpiles by mulching, vegetative cover, tarps, or other means. Control erosion from all stockpiles by placing silt fence barriers around the piles. During street repair, cover construction soil or dirt stockpiles located closer than 8 m (25 feet) to a roadway or drainage channel with tarps, and protect storm sewer inlets with silt sacks or staked silt-fence. Do not stock pile soil or material near catch basins or drainage ways.

Temporary Rock Construction Entrance:
Use 25 mm (1 inch) to 50 mm (2 inch) diameter rock, MNDOT Standard Specification 3137 CA-1, CA-2, CA-3, or equal Coarse Aggregate. Place the aggregate in a layer at least 152 mm (6 inches) thick across the entire width of the entrance. Extend the rock entrance at least 15 m (50 feet) into the construction zone. Use a MNDOT Standard Specification 3733 Type V permeable geo-textile fabric material beneath the aggregate in order to prevent migration of soil into the rock from below. Maintain the entrance in a condition that will prevent tracking or flowing of sediment onto paved roadways. Provide periodic top dressing with additional stone as required. Close entrances not protected by temporary rock construction entrances to all construction traffic.

Temporary Sediment Basins
In the construction process or if noted on the plan the contractor shall construct temporary sediment basin(s). the basin shall be constructed before other construction starts. As per general rule the sediment basin shall be sized appropriately to a capacity related to the drainage area on a ratio of 3,600 cubic feet of sediment storage per acre of drainage zone entering the basin. Sediment basin shall be fenced if side slope exceed 4:1. Basins shall be inspected after every rainfall even. Sediment shall be removed at time of 1/2 the wetted volume/depth if filled. Sediment material shall be removed and stabilized. If changes to the basin are made, document and amend the SWPPP.

DEWATERING:

If de-watering is required and sump pumps are used, all pumped water must be discharged through an erosion control facility (temporary sedimentation basin, grit chamber, sand filter, up-flow chamber, hydro-cyclone, swirl concentrator, de-watering bag-not less than 100NTU's or other appropriate facility). Contractor shall allow silt and sediment to settle out in sediment basin prior to discharge and leaving the construction site. Proper energy dissipation must be provided at the outlet of the pump system. Discharge clear water only to vegetated areas, and must be discharged in a manner that does not cause nuisance conditions such as erosion in receiving channels or down slope properties. To achieve better separation of the material suspended in the water where soils are high in clay content, a biodegradable not toxic flocculent agent may be required.

If the contractor determines that de-watering will be necessary, a de-watering plan may have to be submitted to the watershed and/or DNR by the contractor for approval. A trench permit may also have to be submitted and will be the responsibility of the contractor. Water pumped from the site shall be pumped and treated for water quality per watershed and/or DNR.

Wet Basin gravity fed draw down shall be performed with a floating head intake "Faircloth skimmer" or similar device to remove clear un-silted water column in the ponds or temporary basins or excavated areas. Should areas need to be pumped contractor shall use a "Hale floating pump" to drawn down areas below gravity fed inverts.

For more information and materials on de-watering go to by Interstate Products www.interstateproducts.com
www.haleproducts.com and www.faircloth skimmer.com

INSPECTIONS-MAINTENANCE-DAILY RECORD-AMEND THE SWPP PLAN

Contractor must ensure that a trained person will oversee and inspect the construction site at least once every 7 days during active construction and within 24 hours after rainfall events greater that 0.5 inches in 24 hours.. Following an inspection that occurs within 24 hours after a rainfall event, the next inspection must be conducted within 7 days after the rainfall event. Note date and time in the SWPPP documents and name of person doing the inspections. Any changes made as the result of the inspection must be documented in the SWPPP.

1. Inspect all erosion and sediment control devices, stabilized areas, and infiltration areas on a daily basis until land-disturbing activity has ceased. Thereafter, inspect at least on a weekly basis until vegetative cover is established. Inspect all erosion and sediment control devices, stabilized areas, and infiltration areas within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Remove accumulated sediment deposits from behind erosion and sediment control devices as needed. Do not allow sediment to accumulate to a depth of more than one-third of the height of the erosion and sediment control devices. Immediately replace deteriorated, damaged, rotted, or missing erosion control devices. Document inspections and dates of rainfall events. Maintain a written log of all inspection, maintenance, and repair activities related to erosion and sediment control facilities. All nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs within 24 hours after discovery, or as soon as field conditions allow access.

2. All inspections and maintenance activities must be recorded in writing DAILY in a detailed record(notes, photographs, sketches, etc, and kept with the SWPPP.

3. Remove all soils and sediments tracked or otherwise deposited onto adjacent property, pavement areas, sidewalks, streets, and alleys. Removal shall be on a daily basis throughout the duration of the construction. Clean paved roadways by shoveling or wet-sweeping. Do not dry sweep. If necessary, scrape paved surfaces in order to loosen compacted sediment material prior to sweeping. Haul sediment material to a suitable disposal area. Street washing is allowed only after sediment has been removed by shoveling or sweeping.

4. All soil hauled from the site shall be accounted for and documented in the SWPP. Its final destination and how the soil has been stored and stabilized.

5. Maintain all temporary erosion and sediment control devices in place until the contributing drainage area has been stabilized (hard-surfaced areas paved and vegetation established in green-space). Repair any rilling, gully formation, or washouts. After final establishment of permanent stabilization, remove all temporary synthetic, structural, and non-biodegradable erosion and sediment control devices and any accumulated sediments. Dispose-of off site. Restore permanent sedimentation basins to their design condition immediately following stabilization of the site.

6. Clean sedimentation basins, storm sewer catch basins, ditches, and other drainage facilities as required in order to maintain their effectiveness. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 of the storage volume. Drainage and removal must be completed within 72 hours, or as soon as field conditions allow access.

7. Inspect infiltration areas to ensure that no sediment from ongoing construction activities is accumulating. Remove sediment immediately ensuring sub-soils are not compacted by machinery.

8. Every vehicle shall not track material off-site. Clean the wheels of construction vehicles in order to remove soils before the vehicles leave the construction site. Wash vehicles only on an area stabilized with stone that drains into an approved sediment trapping device.

9. Reinforce erosion control facilities in areas where concentrated flows occur (such as swales, ditches, and areas in front of culverts and catch basins) by backing them with snow fence, wire mesh, or stiff plastic mesh reinforcement until paving and turf establishment operations have been completed. Posts for the reinforcing fence shall be 100 mm (4 inch) diameter wood posts, or standard steel fence posts weighing not less than 0.59 kg (1.3 lbs) per lineal foot, with a minimum length of 762 mm (30 inches) plus burial depth. Space posts for the reinforcing fence at intervals of 3 m (10 feet) or less. Drive posts for the reinforcing fence at least 0.6 m (2 feet) into the ground.

GENERAL SOIL STABILIZATION:
(SEE LANDSCAPE PLAN FOR MORE INFORMATION)

Establishment of lawn, prairie/wildflower and/or plant bed areas will be noted on the landscape plan to ensure stabilization of soils, re-staking of sod where applicable, proper watering and mulch maintenance will be required. Inspect seeded or sodded areas on a timely day-to-day basis. In the event of a seeding failure, reseed and re-mulch the areas where the original seed has failed to grow and perform additional watering as necessary at no additional cost to the Owner. Special maintenance provisions for wild and prairie grass seeded areas as noted in the landscape plan. Promptly replace all sod that dries out to the point where it is presumed dead and all sod that has been damaged, displaced, weakened, or heavily infested with weeds at no additional cost to the Owner.

In areas to be temporarily seeded, use seed mixture equivalent to MNDOT No. 21-113 (Soil Building Cover Crop). Apply seed mixture at a rate of 110 lb per acre in accordance with MNDOT Standard Spec. 3876-1. For permanent turf stabilization (not sodded) use seed mixture equivalent to MNDOT No. 25-131(Low Maintenance Turf). Apply seed mixture at a rate of 220 lb per acre in accordance with MNDOT Standard Spec. 3876-1. For permanent installations incorporate a fertilizer (slow release type with 10 week residual) consisting of 23-0-30 (%N-P-K) into the soil at an application rate of 200 lbs per acre by disking prior to seeding. In problematic areas it may be necessary to us a low phosphorus organic fertilizer in cases where seeds may not germinate. If this is the case, seed and fertilizer shall be disked into the surface and mulched properly to ensure germination and uptake of the Phosphorus by the seed.

For additional reference see MNDOT Standard Spec. Table 3876-1 for season of planting introduced seed mixtures. To ensure adequate germination of the seed the work will be performed as follows:
Spring- from April 1 through May 15.
Fall- from August 15 to September 20.
After September 20, wait until October 30 to perform dormant seeding. Dormant seeding will only be allowed if the maximum soil temperature at a depth of 25 mm (1 inch) does not exceed 4.44 degrees C (40 degrees F) in order to prevent germination.

In seeded areas with slopes steeper than 3:1 and lengths less than 15 meters (50 feet), install biodegradable erosion control blankets uniformly over the soil surface by hand within 24 hours after seeding in accordance with manufacturers recommendations. Use MNDOT Standard Spec. 3885 Straw 1S, or Wood Fiber 1S type blanket.

NOTE: THE PROJECT'S LANDSCAPE PLAN IS PART OF THE SWPP FOR SOIL STABILIZATION. REFERENCES SHALL BE MADE TO THE APPROVED LANDSCAPE PLAN. AMENDMENTS TO THE LANDSCAPE PLAN SHALL BE APPROVED BY THE OWNER AND DOCUMENTED AS PART OF THE SWPP

SWPPP DESIGN CERTIFICATION	SWPPP INSTALLER CERTIFICATION	SWPPP INSPECTOR CERTIFICATION
I, Robert Mueller, hereby certify that I have completed designer SWPP-Erosion and Stormwater Management Certification Program My certification expires May 2023	I hereby certify that I have completed Installer SWPP- Erosion and Stormwater Management Certification Program signed expiration	I hereby certify that I have completed Inspector SWPP- Erosion and Stormwater Management Certification Program signed expiration

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

Date 2-2026 License No. 19306
Signed
Robert J. Mueller

EROSION CONTROL NOTES

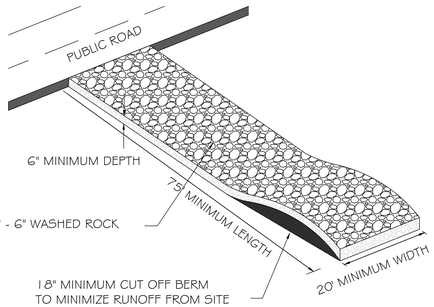
CONVENIENCE STORE 1789

-- COTTAGE GROVE, MINNESOTA

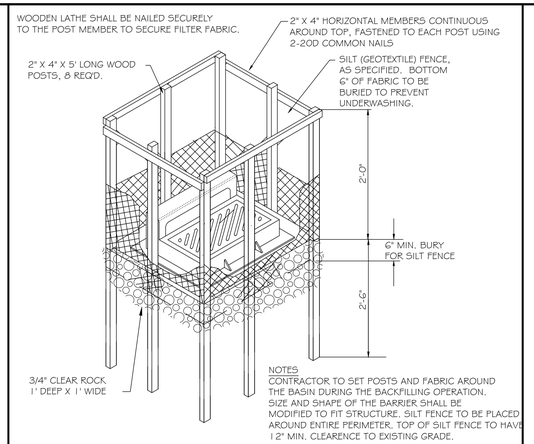
NO.	DATE	DESCRIPTION
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	19SEP25	SUBMITTAL
	26JAN26	CITY COMMENTS
	27FEB26	DRS

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 25-1789
DATE 02/27/2026
SHEET **C601**

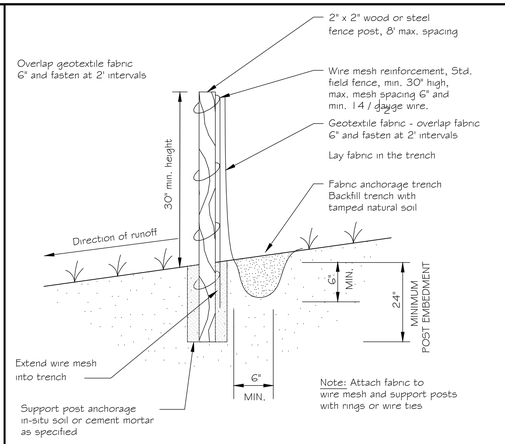
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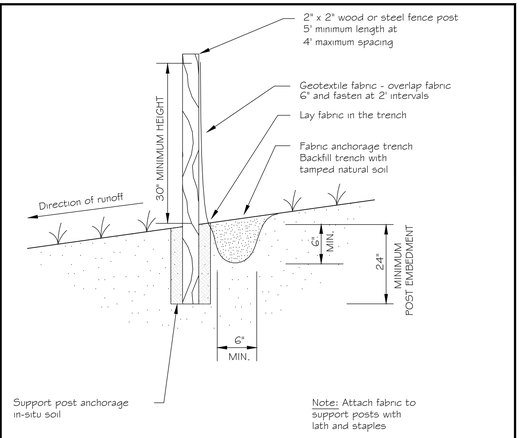
1 | C602 ROCK CONSTRUCTION ENTRANCE



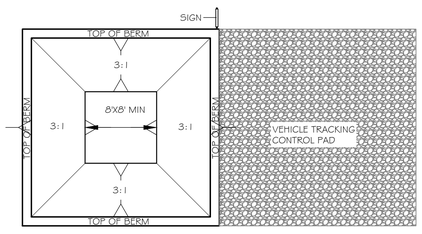
2 | C602 EROSION CONTROL AROUND CATCH BASIN



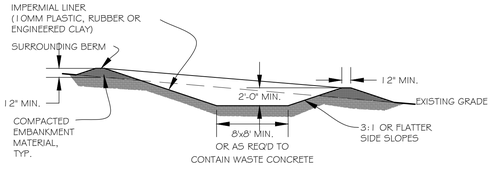
3 | C602 HEAVY DUTY SILT FENCE



4 | C602 SILT FENCE



PLAN
1/8"= 1'-0"



TYPICAL SECTION
1/8"= 1'-0"

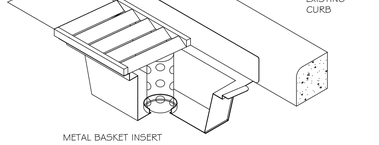
CONCRETE WASHOUT AREA INSTALLATION NOTES

1. SEE EROSION CONTROL PLAN FOR LOCATIONS OF CONCRETE WASHOUT AREA(S). TO BE PLACED A MIN. OF 50' FROM DRAINAGEWAYS, BODIES OF WATER, AND INLETS.)
2. THE CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL PAD IS REQ'D AT THE ACCESS POINT(S).
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA(S), AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREAS TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
5. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.

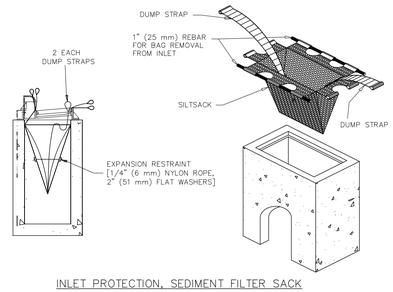
CONCRETE WASHOUT AREA MAINTENANCE NOTES

6. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE
7. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
8. WHEN CONCRETE WASHOUT AREA(S) IS REMOVED, THE DISTURBED AREA SHALL BE STABILIZED PER SITE EROSION CONTROL MEASURES.
9. INSPECT WEEKLY AND DURING AND AFTER ALL STORM EVENTS. CLEAN-OUT OR COVER WASHOUT AREA PRIOR TO PREDICTED STORM EVENTS TO PREVENT OVER-FLOW.

5 | C602 CONCRETE WASHOUT AREA



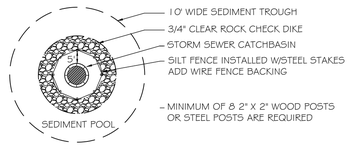
INLET PROTECTION, METAL BASKET TYPE



INLET PROTECTION, SEDIMENT FILTER SACK

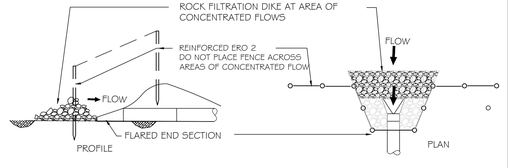
6 | C602 INLET PROTECTION AT CATCH BASIN

A. EROSION CONTROL AROUND BEEHIVE BASINS

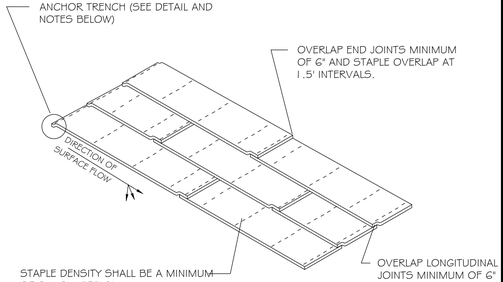


PLAN

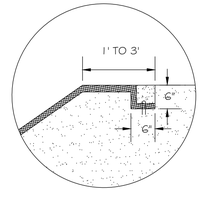
B. EROSION CONTROL AT FLARED END SECTION
TOP OF SILT FENCE TO BE LOWER THAN
LOWEST ADJACENT OVERFLOW



7 | C602 EROSION CONTROL FOR OPEN SPACE CATCH BASINS AND FLARED-END SECTIONS



ANCHOR TRENCH
1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT
5. BLANKET LENGTH SHALL NOT EXCEED 100' WITHOUT AN ANCHOR TRENCH



8 | C602 EROSION CONTROL BLANKET INSTALLATION

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Date 2-2026 License No. 19306

Signed Robert J. Mueller

EROSION CONTROL NOTES

CONVENIENCE STORE 1789

-- COTTAGE GROVE, MINNESOTA

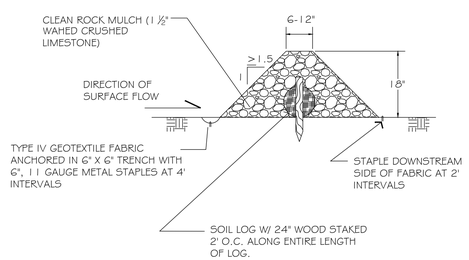
NO.	DATE	DESCRIPTION
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-	28JAN26	CITY COMMENTS
-	27FEB26	DR3

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 25-1789
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SHEET **C602**

M:\SITES 25-010 PM LB

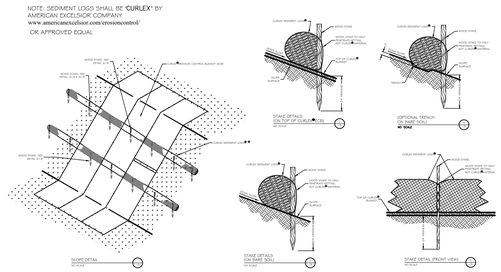
I. ROCK WEEPER @ MINIMAL WATER FLOWS

II. BIO WEEPER @ CONCETRATED FLOWS

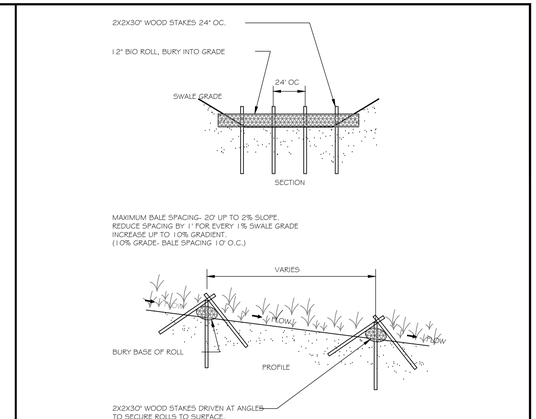


1 | C603 | DITCH CHECKS, ROCK WEEPERS, & ROCK BIO WEEPERS
EROSION CONTROL

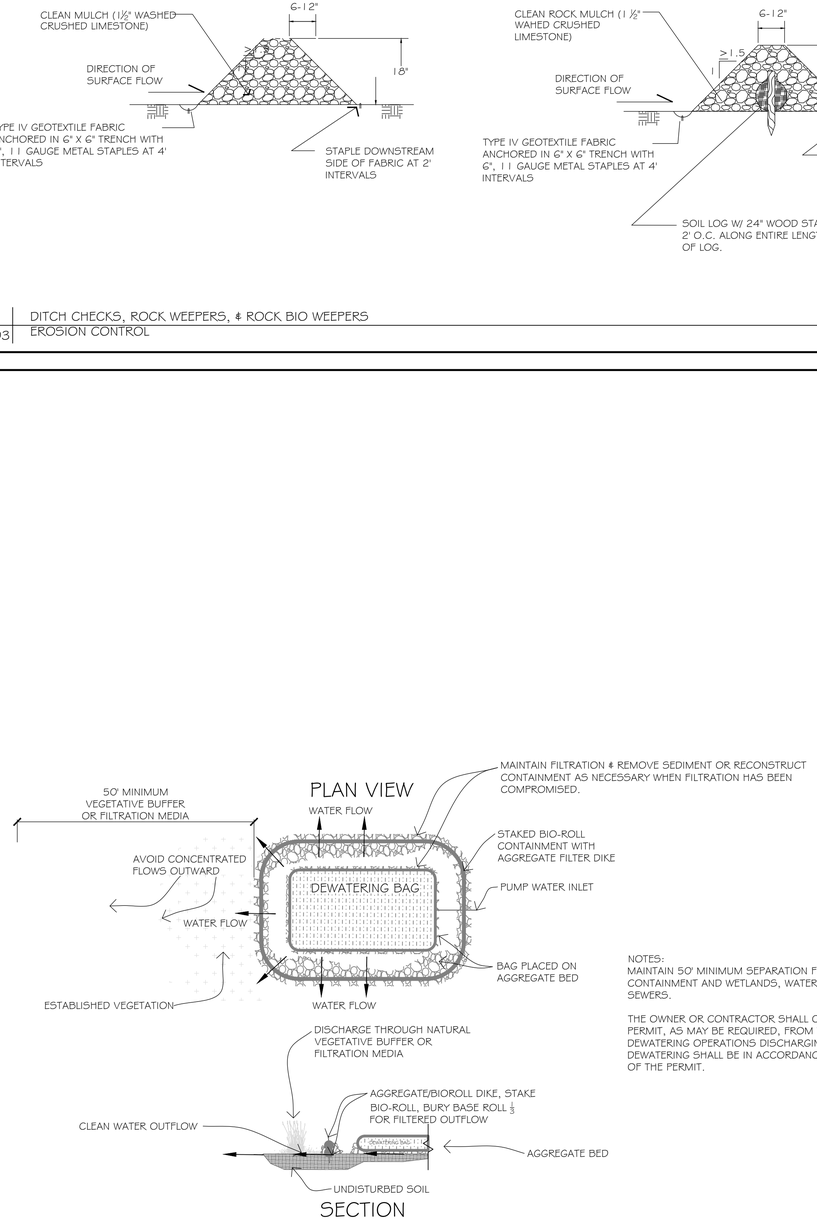
NOTE: SEDIMENT LOGS SHALL BE 'CURLEX' BY AMERICAN EXCELSIOR COMPANY www.americanexcelsior.com/erosioncontrol/ OR APPROVED EQUAL



2 | C603 | BIO ROLL INSTALLATION



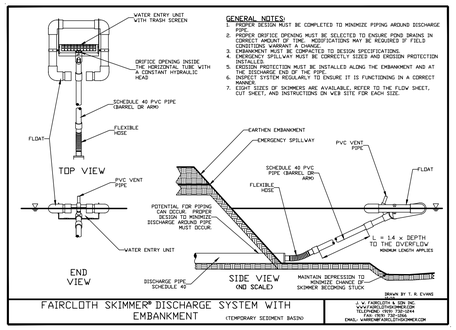
3 | C603 | DITCH CHECKS FOR DRAINAGE SWALES

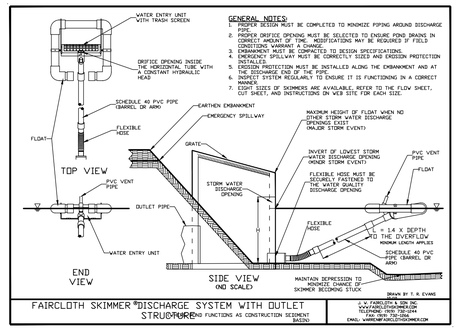


NOTES:
MAINTAIN 50' MINIMUM SEPARATION FROM DISCHARGE CONTAINMENT AND WETLANDS, WATER BODIES, OR STORM SEWERS.

THE OWNER OR CONTRACTOR SHALL OBTAIN DEWATERING PERMIT, AS MAY BE REQUIRED, FROM THE STATE PRIOR TO ANY DEWATERING OPERATIONS DISCHARGING FROM THE SITE. ALL DEWATERING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT.

4 | C603 | DEWATERING BAG INSTALLATION, FOR DISCHARGING ERODED, SUSPENDED PARTICLES IN WATER
NOT TO SCALE





NOTE: USE ONLY IF NEEDED. WHEN CONSTRUCTION IS FINISHED, SEDIMENT IS TO BE REMOVED FROM POND. ONCE THE POND IS STABILIZED THE FAIRCLOTH SKIMMER CAN BE REMOVED AND THE INLET PIPE TO THE OUTLET STRUCTURE BE MADE FUNCTIONAL PER DETAIL SHEET SP3

5 | C603 | FAIRCLOTH SKIMMER DISCHARGE SYSTEM(OR APPROVED EQUAL BY OWNER)
SEDIMENT CONTROL

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EROSION CONTROL NOTES

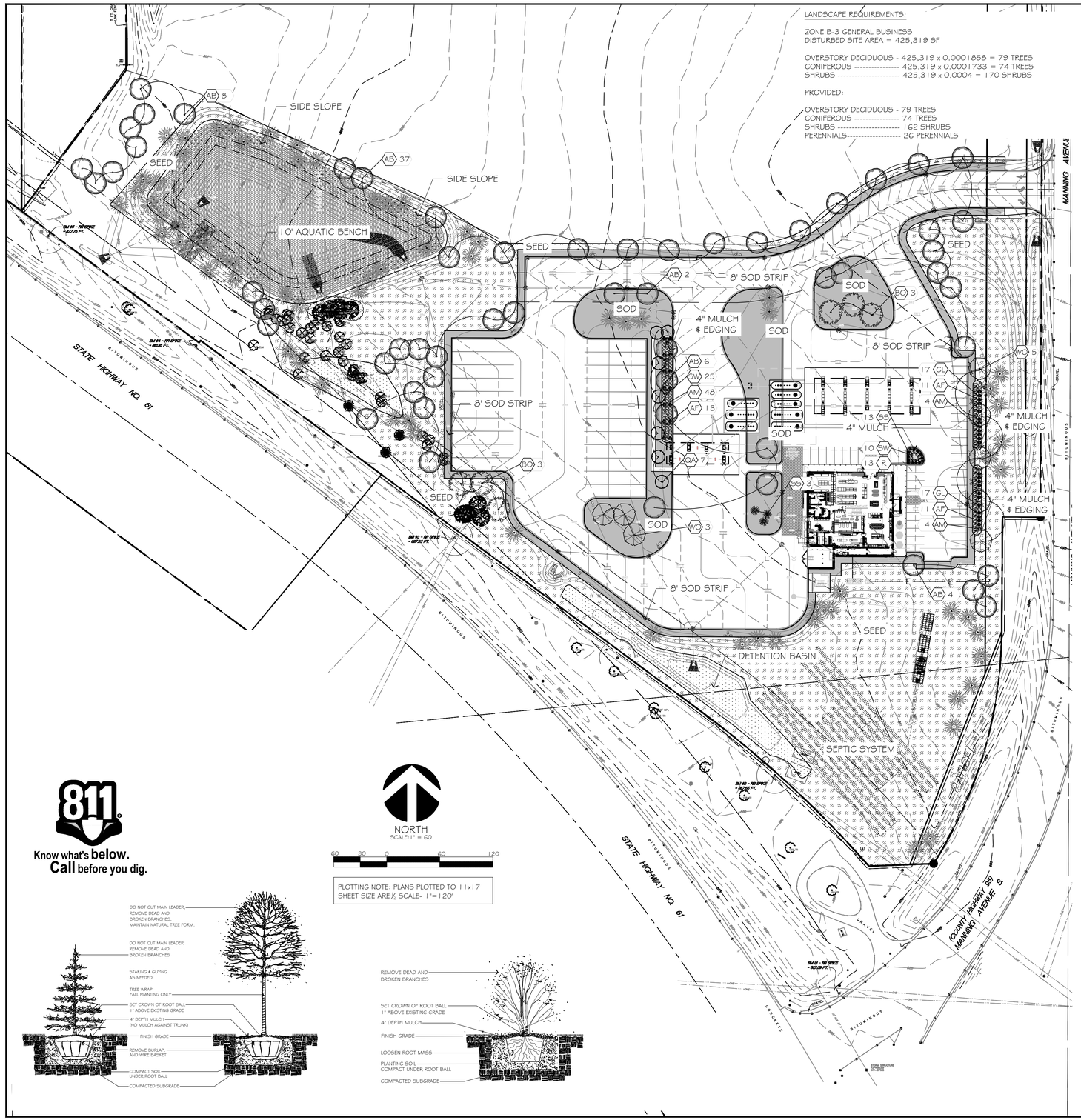
CONVENIENCE STORE 1789

-- COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
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	27FEB26	OR3

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DATE 02/27/2026
SHEET C603

INSITES 25-010 PM LB



LANDSCAPE REQUIREMENTS:

ZONE B-3 GENERAL BUSINESS
DISTURBED SITE AREA = 425,319 SF

OVERSTORY DECIDUOUS - 425,319 x 0.0001858 = 79 TREES
CONIFEROUS ---------- 425,319 x 0.0001733 = 74 TREES
SHRUBS ---------- 425,319 x 0.0004 = 170 SHRUBS

PROVIDED:

OVERSTORY DECIDUOUS - 79 TREES
CONIFEROUS ---------- 74 TREES
SHRUBS ---------- 162 SHRUBS
PERENNIALS ---------- 26 PERENNIALS

NOTES:

- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR PLANTING IN ALL R.O.W.
- LANDSCAPE CONTRACTOR SHALL VERIFY ALL UTILITIES WHICH MAY EFFECT HIS WORK.
- LANDSCAPE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHERS AT SITE AND COMPLETE HIS WORK PER OWNERS CONSTRUCTION SCHEDULE.
- ALL PLANT MATERIALS SHALL BE GUARANTEED ONE (1) FULL YEAR UPON TOTAL COMPLETION AND ACCEPTANCE BY OWNER, WITH ONE TIME REPLACEMENT AT APPROPRIATE TIME OR UPON REQUEST OF OWNER.
- REPLACEMENT TOPSOIL SHALL BE CLEAN, FREE OF STONES, WEEDS, AND OTHER UNDESIRABLE DEBRIS.
- PLANTING SOIL MIX (INCIDENTAL COST ITEM)
  1. MIX 1 LB. 5-20-20 COMMERCIAL FERTILIZER PER CU. YD. TOPSOIL
  2. THOROUGHLY MIX 1-PART SAND AND 1-PART PEAT MOSS WITH 5-PARTS FERTILIZER AND TOP SOIL.
- USE PLANTING SOIL AT ALL LOCATIONS PER DETAILS THIS SHEET.
- LANDSCAPE CONTRACTOR SHALL VERIFY TOPSOIL DEPTH AND NOTIFY OWNER OF ANY DEFICIENCY.
- SOD SHALL BE CULTURED WITH PREDOMINATELY KENTUCKY BLUEGRASS SEED OF RECENT DISEASE RESISTANT INTRODUCTIONS. NO GUARANTEE ON SOD EXCEPT ANY SOD NOT SATISFACTORY AT TIME OF COMPLETION INSPECTION SHALL BE PROMPTLY REPLACED PRIOR TO COMPLETION OF JOB. STAKE SOD ON SLOPES 3:1 AND GREATER.
- WHERE EXISTING CONCRETE/ ASPHALT AREAS ARE TO BE REPLACED WITH LANDSCAPING, PROVISIONS SHOULD BE TAKEN TO COORDINATE EXCAVATION OF SUBSOIL TO A DEPTH OF 2' WITH GRADING CONTRACTOR. REPLACE WITH COMPACTED TOPSOIL. ALL AREAS TO BE LANDSCAPED AND SODDED SHALL BE GRADED SMOOTH AND EVEN.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR SODDING ALL AREAS WHICH ARE DISTURBED BY CONSTRUCTION INCLUDING ALL R.O.W. AND ADJACENT PROPERTIES.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR PROVIDING BLANKET ON ALL SEEDED AREAS THAT ARE SLOPED. MULCH APPLICATION FOR ALL OTHER SEEDED AREAS SHALL BE EITHER HYDROMULCH OR DISKED STRAW DEPENDING ON SEED TYPE, APPLICATION, AND OWNER REQUEST.
- LANDSCAPE CONTRACTOR TO INSTALL 'VALLEY VIEW', "BLACK DIAMOND" EDGING AROUND ALL PLANTING BEDS AS SHOWN ON THIS PLAN.
- ALL MULCH TO BE FINELY SHREDDED HARDWOOD ORGANIC BARK MULCH. NO DYED MULCHES. INSTALL 4" DEPTH. NO FILTER FABRIC BENEATH ORGANIC MULCHES. NO EDGING AROUND ALL TREES OUTSIDE SHRUB BEDS.
- IF SPECIFIED; ALL GRAVEL MULCH SHALL BE 1"+ DIA. WASHED "RIVER ROCK". INSTALL 4" DEPTH WITH APPROVED WEED FABRIC BARRIER IF INDICATED PLAN.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR IRRIGATION SYSTEM INSTALLATION PER IRRIGATION PLAN. DESIGN SHALL BE APPROVED BY OWNER PRIOR TO INSTALLATION. IRRIGATION DESIGN SHOULD ENCOMPASS ALL LANDSCAPE AREAS WITH SOD AND/ OR PLANTINGS, FROM CURB TO CURB, R.O.W. SHOULD BE IRRIGATED FROM SPRINKLER HEADS LOCATED WITHIN PROPERTY BOUNDARY. CARE SHOULD BE TAKEN IN VICINITY OF ALL WALKS AND DRIVES TO MINIMIZE OVER SPRAY. COORDINATE INSTALLATION OF ALL PVC SLEEVE UNDER DRIVE AREAS WITH GENERAL CONTRACTOR.
- LANDSCAPE CONTRACTOR SHALL CLEAN ALL PAVEMENT AREAS AFTER ALL LANDSCAPE INSTALLATION IS COMPLETE AND ACCEPTED BY OWNER AND DAILY AS DEEMED NECESSARY BY THE CITY.
- GENERAL CONTRACTOR TO SWEEP PAVEMENT AREAS PRIOR TO TURN OVER TO OWNER.

PLANT MATERIAL

		QUANTITY	SIZE	ROOT TYPE	COMMON NAME / BOTANICAL NAME	HEIGHT' X WIDTH'
OVERSTORY TREES						
	AB	57	2.5" CAL.	B&B	AUTUMN BLAZE MAPLE *Acer x freemanii 'Jeffersred'*	45' x 35'
	BO	6	2.5" CAL.	B&B	BUR OAK *Quercus macrocarpa*	60' x 60'
	WO	8	2.5" CAL	B&B	WHITE OAK *Quercus alba*	50' x 50'
	QA	7	10' HT	B&B	QUAKING ASPEN *Populus tremuloides*	50' x 25'
EVERGREEN TREES						
	AP	71	10' HT	B&B	AUSTRIAN PINE *Pinus nigra*	60' x 40'
	SS	3	6' HT	pot	SWISS STONE ALGONQUIN PILLAR *Pinus cembra 'Algonquin Pillar'*	25' x 10'
SHRUBS						
	SW	35	#3 CONT	pot	SUMMER WINE NINEBARK *Physocarpus opulifolius 'Seward'*	5' x 5'
	AF	37	#3 CONT	pot	ARCTIC FIRE DOGWOOD *Cornus stolonifera 'Farrow'*	4 X 4'
	AM	56	#3 CONT	pot	AUTUMN MAGIC CHOKEBERRY *Aronia melanocarpa 'Autumn Magic'*	4' x 3'
	GL	34	#3 CONT	pot	GRO-LOW FRAGRANT SUMAC *Rhus aromatica 'Gro-Low'*	2' x 7'
PERENNIALS						
	R	13	#1 CONT	pot	GOLDSTRUM RUDBEKIA *Rudbeckia 'Goldstrum'*	30" x 18"
	SS	13	#1 CONT	pot	SHOWY GOLDENROD *Solidago speciosa*	2.5' x 4'

EDGING - 483 LF
MULCH - 40 CY
SOD - 5,387 SY

	19,370 SY	TURF GRASS: BLUE GRASS MIX. MNDOT MIX 2575.608 25-151 SEED RESIDENTIAL TURFFGRASS (OR APPROVED EQUAL). PROVIDE EROSION CONTROL BLANKET ON SIDE SLOPES.
	1,542 SY	STORM BASIN SLOPES: UPLAND MIX, MNDOT TALL ROADSIDE MIX (OR APPROVED EQUAL). PROVIDE EROSION CONTROL BLANKET ON SIDE SLOPES. - MIX #36-241 / 36-411 SEED NORTHWEST TALLGRASS ROADSIDE - MIX #36-241 / 36-211 SEED SOUTHERN TALLGRASS ROADSIDE
	754 SY	10' AQUATIC EMERGENT BENCH: MNDOT MIX #2575.608 33-261 / 33-361 SEED WET DITCH. OR APPROVED EQUAL TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING SPECIES BELOW:
	1,433 SY	DETENTION BASIN: MNDOT MIX #2575.608 33-261 / 36- 361 SEED WET DITCH. OR APPROVED EQUAL TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING SPECIES BELOW

FORBS - *Canada Anemone, Marsh Milkweed, Common Milkweed, Canada Milkvetch, Nodding Bur Marigold, Canada Tick Trefoil, Flat-topped Aster, Common Bonset...*
GRASSES - *Big Bluestem, Fringed Brome, Bluejoint, Nodding Wild Rye, Virginia Wild Rye, Tall Manna Grass, Rice Cut Grass, Perennial Ryegrass, Switchgrass, Fowl Bluegrass...*
SEDGES - *Porcupine Sedge, Awl fruited Sedge, Fox Sedge, Duddley's Rush, Dark Green Bulrush, Woolgrass...*

ALL MIXTURES SHALL BE SUBMITTED & APPROVED BY OWNER.
INSTALL PER STATE DOT SPECIFICATIONS, FOR PRAIRIE & DITCH INSTALLATIONS THAT MAY INCLUDE SPECIFIC EROSION PROTECTION ON THE SEED.

811 Know what's below. Call before you dig.

NORTH
SCALE: 1" = 60'

60 30 0 60 120

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=120'

KWIK TRIP
KWIK STAR

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LACROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

insites
SITE PLANNING LANDSCAPE ARCHITECTURE
4205 Lancaster Lane North Suite 113
Plymouth, Minnesota 55441
763. 383. 8400
insitesinc.net mail@insitesinc.net

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

Date 2-2026 License No. 19306
Signed Robert J. Mueller

LANDSCAPE PLAN

CONVENIENCE STORE 1789
-- COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	06AUG25	INTERNAL REVIEW 2
-	19SEP25	SUBMITTAL
-	28JAN26	CITY COMMENTS
-	27FEB26	DR3

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 25-1789
DATE 02/27/2026
SHEET C700

INSITES 25-010 PM LB

STORMWATER WET POND 1P
WITH LINER, SEE DETAIL 1 1/CS01
NWL = 878.50
POND BOTTOM = 871.0
TOP OF EMBANKMENT = 883.00
100-YR POND 1P HWL = 882.03
WQ VOL. = 19,619 CF
WQ VOL. ELEV. = 879.20
100-YR RELEASE RATE = 2.39 CFS

STORMWATER DRY POND 3.0P
SEE DETAIL 1 2/CS01
TOP OF EMBANKMENT = 884.00
100-YR POND 3.0P HWL = 883.19

STORMWATER DRY POND 3.1P
SEE DETAIL 1 2/CS01
TOP OF EMBANKMENT = 886.00
100-YR POND 3.1P HWL = 884.71

BM #5 - RR SPIKE
= 877.75 FT.

BM #4 - RR SPIKE
= 881.35 FT.

BM #3 - RR SPIKE
= 887.25 FT.

BM #2 - RR SPIKE
= 887.85 FT.

STATE HIGHWAY NO. 61

STATE TRUNK HIGHWAY NOS. 10 AND 61
POINT DOUGLAS ROAD

MANNING AVENUE S.
MANNING AVENUE (COUNTY HIGHWAY 95)

MANNING | AVENUE S.

BITUMINOUS

GRAVEL

LANDSCAPE REQUIREMENTS:

ZONE B-3 GENERAL BUSINESS
DISTURBED SITE AREA = 425,319 SF

OVERSTORY DECIDUOUS - 425,319 x 0.0001858 = 79 TREES
CONIFEROUS ---------- 425,319 x 0.0001733 = 74 TREES
SHRUBS ---------- 425,319 x 0.0004 = 170 SHRUBS

PROVIDED:

OVERSTORY DECIDUOUS - 79 TREES
CONIFEROUS ---------- 74 TREES
SHRUBS ---------- 162 SHRUBS
PERENNIALS---------- 26 PERENNIALS

811
Know what's below.
Call before you dig.

NORTH
SCALE: 1" = 40

40 20 0 40 80

PLOTTING NOTE: PLANS PLOTTED TO 11x17
SHEET SIZE ARE ½ SCALE- 1"=80'

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Date 2-2026 Lic. 19306

Signed Robert J. Mueller

LANDSCAPE PLAN

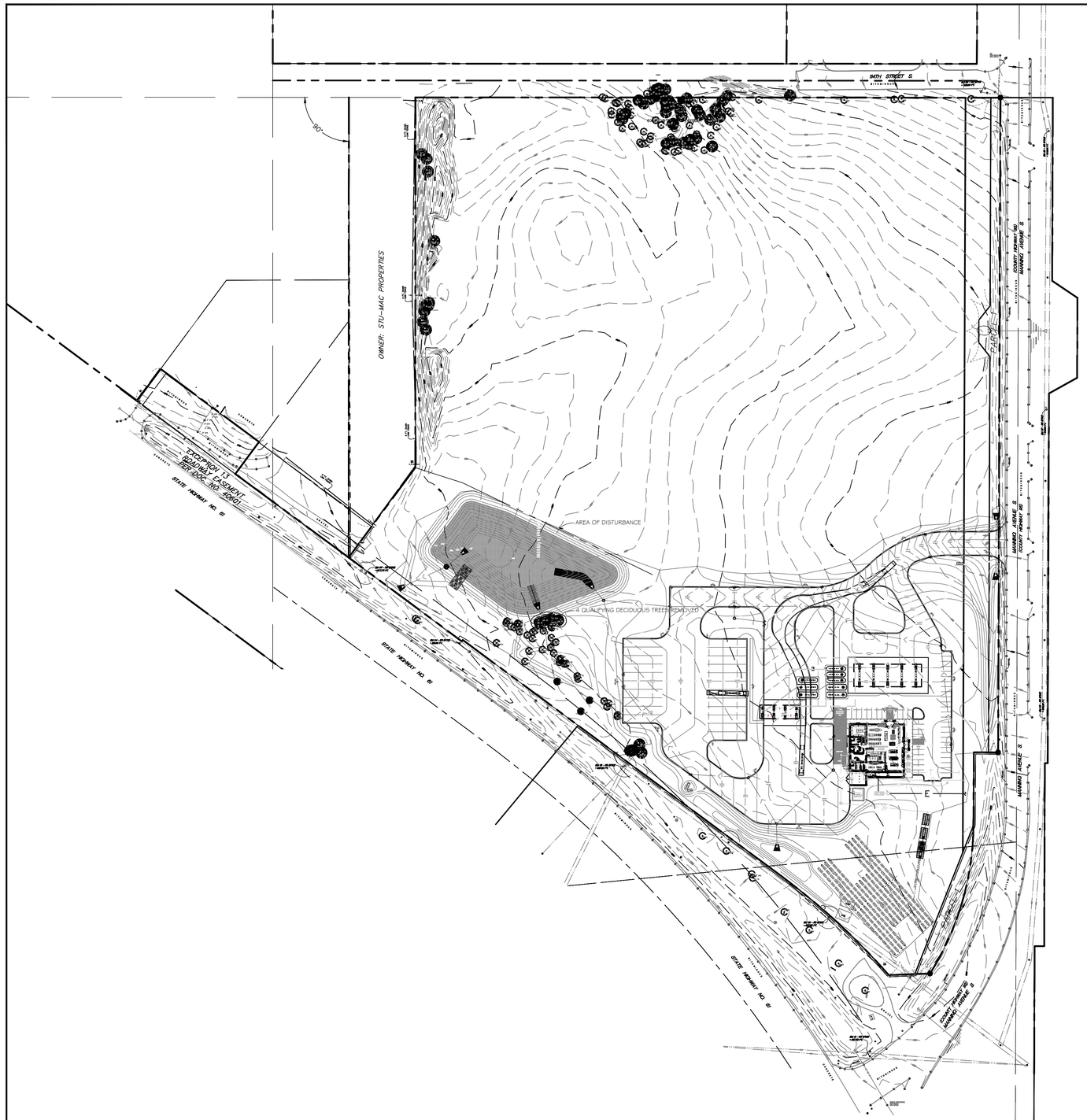
CONVENIENCE STORE 1789

COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	06AUG25	INTERNAL REVIEW 2
-	19SEP25	SUBMITTAL
	26JAN26	CITY COMMENTS
	27FEB26	OR3

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 25-1789
DATE 02/27/2026
SHEET C701

INSITES 25-010 PM LB



OUTSIDE SCOPE OF WORK

Tag #	Botanical Name	Common Name	Diameter (in)	Height (ft)	Condition	Remarks
1	Acer negundo	Boxelder	7.8		Fair	TA
2	Acer negundo	Boxelder		16	Fair	TA
3	Acer negundo	Boxelder		8	Fair	TA
4	Acer negundo	Boxelder		6	Fair	DADB
5	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
6	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
7	Acer negundo	Boxelder		8	Good	CDCC
8	Acer negundo	Boxelder		8	Fair	CDCC
9	Acer negundo	Boxelder		10	Fair	DADB
10	Acer negundo	Boxelder		8	Fair	DADB
11	Populus deltoides	Cottonwood, Eastern		31	Fair	TA
12	Populus deltoides	Cottonwood, Eastern		31	Fair	DADB
13	Acer negundo	Boxelder		6	Fair	DADB
14	Populus deltoides	Cottonwood, Eastern		26	Fair	DADB
15	Populus deltoides	Cottonwood, Eastern		45	Fair	DADB
16	Acer negundo	Boxelder		12	Fair	TA
17	Populus deltoides	Cottonwood, Eastern		43	Fair	DADB
18	Acer negundo	Boxelder	7,6,4		Fair	DADB
19	Prunus serotina	Cherry, Black		6	Fair	DADB
20	Acer negundo	Boxelder		31	Fair	DADB
21	Acer negundo	Boxelder		8	Fair	DADB
22	Populus deltoides	Cottonwood, Eastern		20	Fair	DADB
23	Acer negundo	Boxelder		6	Fair	DADB
24	Populus deltoides	Cottonwood, Eastern		20	Fair	DADB
25	Acer negundo	Boxelder		6	Fair	DADB
26	Acer negundo	Boxelder		6	Fair	DADB
27	Acer negundo	Boxelder		6	Fair	DADB
28	Populus deltoides	Cottonwood, Eastern		30	Fair	DADB
29	Acer negundo	Boxelder	8,4		Fair	DADB
30	Acer negundo	Boxelder	9,7		Fair	DADB
31	Acer negundo	Boxelder		7	Fair	DADB
32	Populus deltoides	Cottonwood, Eastern		24	Fair	DADB
33	Populus deltoides	Cottonwood, Eastern	33,27		Fair	DADB
34	Acer negundo	Boxelder		7	Fair	DADB
35	Acer negundo	Boxelder		6	Fair	DADB
36	Acer negundo	Boxelder	10,4		Fair	DADB
37	Acer negundo	Boxelder		6	Fair	DADB
38	Acer negundo	Boxelder		8	Fair	DADB
39	Populus deltoides	Cottonwood, Eastern		20	Fair	DADB
40	Acer negundo	Boxelder		6	Fair	DADB
41	Prunus serotina	Cherry, Black		6	Fair	DADB
42	Populus deltoides	Cottonwood, Eastern		20	Fair	DADB
43	Acer negundo	Boxelder		6	Fair	DADB
44	Acer negundo	Boxelder		8	Fair	DADB
45	Acer negundo	Boxelder		8	Fair	DADB
46	Populus deltoides	Cottonwood, Eastern	24		Fair	DADB
47	Populus deltoides	Cottonwood, Eastern	19		Fair	DADB
48	Acer negundo	Boxelder		6	Fair	DADB
49	Acer negundo	Boxelder		6	Fair	DADB
50	Juniperus virginiana	Redcedar, Eastern		16	Fair	DADB
51	Prunus serotina	Cherry, Black		6	Fair	DADB
52	Populus deltoides	Cottonwood, Eastern	12		Fair	DADB
53	Acer negundo	Boxelder		6	Fair	DADB
54	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
55	Populus deltoides	Cottonwood, Eastern		20	Fair	DADB
56	Populus deltoides	Cottonwood, Eastern		24	Fair	DADB
57	Prunus serotina	Cherry, Black		6	Fair	DADB
58	Populus deltoides	Cottonwood, Eastern		30	Fair	TA
59	Populus deltoides	Cottonwood, Eastern		8	Fair	DADB
60	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
61	Populus deltoides	Cottonwood, Eastern		16	Fair	DADB
62	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
63	Juniperus virginiana	Redcedar, Eastern		26	Fair	DADB
64	Acer negundo	Boxelder		11	Fair	DADB
65	Populus deltoides	Cottonwood, Eastern		38	Fair	DADB
66	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
67	Populus deltoides	Cottonwood, Eastern		16	Fair	DADB
68	Acer negundo	Boxelder		20	Fair	SHRB
69	Acer negundo	Boxelder		20	Fair	DADB
70	Populus deltoides	Cottonwood, Eastern		20	Fair	DADB
71	Acer negundo	Boxelder	8,6		Fair	TA
72	Acer negundo	Boxelder		7	Fair	TA
73	Acer negundo	Boxelder		8	Fair	DADB
74	Acer negundo	Boxelder		26	Fair	DADB
75	Acer negundo	Boxelder		8	Fair	DADB
76	Acer negundo	Boxelder		12	Poor	CDCC
77	Acer negundo	Boxelder		8	Fair	DADB
78	Acer negundo	Boxelder		8	Fair	DADB
79	Prunus serotina	Cherry, Black		6	Fair	DADB
80	Populus deltoides	Cottonwood, Eastern		36	Fair	DADB
81	Populus deltoides	Cottonwood, Eastern	34,24		Fair	DADB
82	Acer negundo	Boxelder		6	Fair	DADB
83	Acer negundo	Boxelder	8,3		Fair	DADB
84	Acer negundo	Boxelder		10	Fair	DADB
85	Acer negundo	Boxelder	8,7		Fair	DADB
86	Acer negundo	Boxelder		11	Fair	DADB
87	Acer negundo	Boxelder		6	Fair	DADB
88	Acer negundo	Boxelder		10	Fair	DADB
89	Acer negundo	Boxelder		6	Fair	DADB
90	Acer negundo	Boxelder	8,8,8		Fair	DADB
91	Acer negundo	Boxelder	8,6		Poor	CDCC
92	Populus deltoides	Cottonwood, Eastern		34	Fair	DADB

OUTSIDE SCOPE OF WORK

Tag #	Botanical Name	Common Name	Diameter (in)	Height (ft)	Condition	Remarks
98	Populus deltoides	Cottonwood, Eastern		30	Fair	DADB
99	Populus deltoides	Cottonwood, Eastern		32	Fair	DADB
100	Populus deltoides	Cottonwood, Eastern		31	Fair	DADB
101	Populus deltoides	Cottonwood, Eastern		28	Fair	DADB
102						
103	Populus deltoides	Cottonwood, Eastern		23	Fair	DADB
104	Populus deltoides	Cottonwood, Eastern		36	Fair	DADB
105	Populus deltoides	Cottonwood, Eastern		20	Fair	DADB
106	Populus deltoides	Cottonwood, Eastern		18	Poor	CDCC
107	Populus deltoides	Cottonwood, Eastern		26	Fair	DADB
108	Maclura pomifera	Osageapple, Common		23	Fair	DADB
109	Acer negundo	Boxelder		7	Poor	CDCC
110	Acer negundo	Boxelder	11,11,4		Fair	TA
111	Acer negundo	Boxelder		9	Fair	DADB
112	Acer negundo	Boxelder		9	Fair	DADB
113	Acer negundo	Boxelder		15	Fair	DADB
114	Acer negundo	Boxelder		6	Fair	DADB
115	Acer negundo	Boxelder		18	Fair	DADB
116	Acer negundo	Boxelder		6	Fair	DADB
117	Acer negundo	Boxelder		9	Fair	DADB
118	Acer negundo	Boxelder		7	Fair	CDCC
119	Acer negundo	Boxelder		7	Fair	DADB
120	Acer negundo	Boxelder		10	Fair	DADB
121	Prunus serotina	Cherry, Black		7	Fair	DADB
122	Prunus serotina	Cherry, Black		6	Fair	DADB
123	Prunus serotina	Cherry, Black		6	Fair	DADB
124	Prunus serotina	Cherry, Black		10	Fair	TA
125	Acer negundo	Boxelder		9	Fair	TA
126	Acer negundo	Boxelder		13	Fair	DADB
127	Acer negundo	Boxelder		11	Fair	DADB
128	Acer negundo	Boxelder		31	Fair	CDCC
129	Juniperus virginiana	Redcedar, Eastern			20 Fair	DADB
130	Juniperus virginiana	Redcedar, Eastern			12 Good	
131	Acer negundo	Boxelder		10	Fair	DADB
132	Acer negundo	Boxelder		12	Fair	DADB
133	Acer negundo	Boxelder		12	Fair	DADB
134	Acer negundo	Boxelder		10	Fair	DADB
135	Acer negundo	Boxelder		23	Fair	TA
136	Acer negundo	Boxelder		16	Fair	DADB
137	Acer negundo	Boxelder		13	Fair	DADB
138	Acer negundo	Boxelder		14	Fair	DADB
139	Acer negundo	Boxelder	12,12,7		Fair	DADB
140	Acer negundo	Boxelder		11	Fair	DADB
141	Juniperus virginiana	Redcedar, Eastern			18 Fair	DADB
142	Acer negundo	Boxelder	17,13,7		Fair	DADB
143	Acer negundo	Boxelder	17,14,12,10		Fair	SHRB
144	Juniperus virginiana	Redcedar, Eastern			30 Fair	DADB
145	Juniperus virginiana	Redcedar, Eastern			20 Fair	DADB
146	Acer negundo	Boxelder	11,7,7,5		Fair	DADB
147	Acer negundo	Boxelder		9	Fair	DADB
148	Acer negundo	Boxelder	8,6		Fair	DADB
149	Acer negundo	Boxelder		8	Fair	DADB
150	Acer negundo	Boxelder		16	Fair	TA
151	Populus deltoides	Cottonwood, Eastern		28	Fair	DADB
152	Populus deltoides	Cottonwood, Eastern		10	Fair	DADB
153	Populus deltoides	Cottonwood, Eastern		35	Fair	DADB
154	Acer negundo	Boxelder	14,12,9,5		Fair	DADB
155	Acer saccharinum	Maple, Silver		42	Fair	CDCC
156	Acer saccharinum	Maple, Silver		45	Fair	TA
157	Acer saccharinum	Maple, Silver		46	Fair	DADB
158	Acer saccharinum	Maple, Silver		30	Poor	CDCC
159	Acer saccharinum	Maple, Silver		40	Good	CDCC
160	Acer saccharinum	Maple, Silver		46	Fair	TA

INSIDE SCOPE OF WORK

Multi-stem trees were measured by taking the total of all stems at 4.5ft above ground.

DADB	(DEATH, ANIMOR WINDOWS BRANCHES)
CDCC	(CAVITY, DECAY, CANKER, CRACK)
TA	(TREE ARCHITECTURE)
IPM	(INSECT/DISEASE MANAGEMENT)

Staff consider signs of stress, poor structure, mechanical damage, soil and root problems, disease, and pests in the assessment of tree condition.

Good	
Fair	
Poor	

Started collection in the NE corner and worked West, then South down to the SE corner. Tag #102 was dropped and lost, so it is not part of the inventory.

QUALIFYING DECIDUOUS TREES SAVED

QUALIFYING EVERGREEN TREES SAVED

NON-QUALIFYING TREES REMOVED

QUALIFYING DECIDUOUS TREES REMOVED

PERMITTED REMOVAL THRESHOLD(PERCENT OF EXISTING QUALIFYING INCHES) FOR COMMERCIAL IS 40%

TOTAL QUALIFYING TREES WITHIN THE AREA OF DISTURBANCE = 112 INCHES
QUALIFYING TREES REMOVED=39 INCHES (35%)
NO REPLACEMENT MITIGATION REQUIRED

NORTH
SCALE: 1" = 100'

100 50 0 100 200

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=200'.

Know what's below. Call before you dig.

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Date 2-2026 License No. 19306

Signed Robert J. Mueller

TREE INVENTORY/REMOVAL

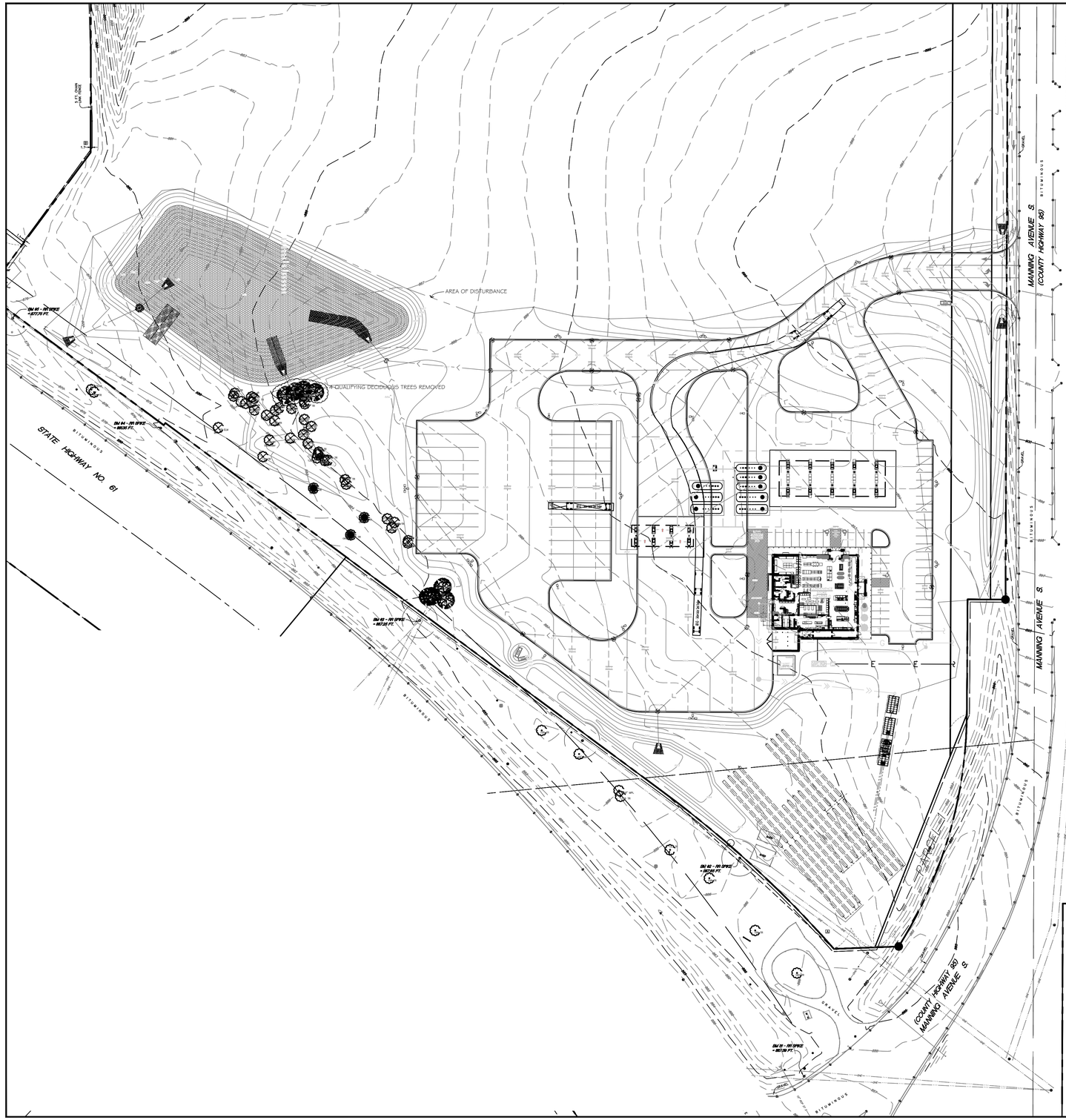
CONVENIENCE STORE 1789

COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	06AUG25	INTERNAL REVIEW 2
-	19SEP25	SUBMITTAL
	28JAN26	CITY COMMENTS
	27FEB26	DR3

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 25-1789
DATE 02/27/2026
SHEET C702

INSITES 25-010 PM LB



Tag #	Botanical Name	Common Name	Diameter (in)	Height (ft)	Condition	Remarks
1	Acer negundo	Boxelder	7.6		Fair	TA
2	Acer negundo	Boxelder		16	Fair	TA
3	Acer negundo	Boxelder		7	Fair	TA
4	Acer negundo	Boxelder		6	Fair	DADB
5	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
6	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
7	Acer negundo	Boxelder		6	Good	DADB
8	Acer negundo	Boxelder		6	Fair	CODC
9	Acer negundo	Boxelder		10	Fair	DADB
10	Acer negundo	Boxelder		6	Fair	DADB
11	Populus deltoides	Cottonwood, Eastern		31	Fair	TA
12	Populus deltoides	Cottonwood, Eastern		21.5	Fair	DADB
13	Acer negundo	Boxelder		6	Fair	DADB
14	Populus deltoides	Cottonwood, Eastern		26	Fair	DADB
15	Populus deltoides	Cottonwood, Eastern		41	Fair	DADB
16	Acer negundo	Boxelder		12	Fair	TA
17	Populus deltoides	Cottonwood, Eastern		43	Fair	DADB
18	Acer negundo	Boxelder	7.8,4		Fair	DADB
19	Prunus serotina	Cherry, Black		6	Fair	DADB
20	Acer negundo	Boxelder		31	Fair	DADB
21	Acer negundo	Boxelder		8	Fair	DADB
22	Populus deltoides	Cottonwood, Eastern		20	Fair	DADB
23	Acer negundo	Boxelder		7	Fair	DADB
24	Populus deltoides	Cottonwood, Eastern		20	Fair	DADB
25	Acer negundo	Boxelder		6	Fair	DADB
26	Acer negundo	Boxelder		15	Fair	DADB
27	Acer negundo	Boxelder		6	Fair	DADB
28	Populus deltoides	Cottonwood, Eastern		30	Fair	DADB
29	Acer negundo	Boxelder	8.4		Fair	DADB
30	Acer negundo	Boxelder	9.7		Fair	DADB
31	Acer negundo	Boxelder		7	Fair	DADB
32	Populus deltoides	Cottonwood, Eastern		24	Fair	DADB
33	Acer negundo	Boxelder	13.27		Fair	DADB
34	Acer negundo	Boxelder		7	Fair	DADB
35	Acer negundo	Boxelder		6	Fair	DADB
36	Acer negundo	Boxelder	10.4		Fair	DADB
37	Acer negundo	Boxelder		6	Fair	DADB
38	Acer negundo	Boxelder		6	Fair	DADB
39	Populus deltoides	Cottonwood, Eastern		20	Fair	DADB
40	Acer negundo	Boxelder	8.6		Fair	DADB
41	Prunus serotina	Cherry, Black		6	Fair	DADB
42	Populus deltoides	Cottonwood, Eastern		40	Fair	DADB
43	Acer negundo	Boxelder		6	Fair	DADB
44	Acer negundo	Boxelder		8	Fair	DADB
45	Acer negundo	Boxelder		6	Fair	DADB
46	Populus deltoides	Cottonwood, Eastern	24		Fair	DADB
47	Populus deltoides	Cottonwood, Eastern	19		Fair	DADB
48	Acer negundo	Boxelder		6	Fair	DADB
49	Acer negundo	Boxelder		6	Fair	DADB
50	Juniperus virginiana	Redcedar, Eastern		16	Fair	DADB
51	Prunus serotina	Cherry, Black		6	Fair	DADB
52	Populus deltoides	Cottonwood, Eastern		12	Fair	DADB
53	Acer negundo	Boxelder		6	Fair	DADB
54	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
55	Populus deltoides	Cottonwood, Eastern		30	Fair	DADB
56	Populus deltoides	Cottonwood, Eastern		24	Fair	DADB
57	Prunus serotina	Cherry, Black		6	Fair	DADB
58	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
59	Populus deltoides	Cottonwood, Eastern		30	Fair	TA
60	Populus deltoides	Cottonwood, Eastern		6	Fair	DADB
61	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
62	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
63	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
64	Populus deltoides	Cottonwood, Eastern		16	Fair	DADB
65	Juniperus virginiana	Redcedar, Eastern		26	Fair	DADB
66	Acer negundo	Boxelder		6	Fair	DADB
67	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
68	Acer negundo	Boxelder		6	Fair	DADB
69	Populus deltoides	Cottonwood, Eastern		38	Fair	DADB
70	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
71	Populus deltoides	Cottonwood, Eastern		16	Fair	DADB
72	Acer negundo	Boxelder		6	Fair	DADB
73	Acer negundo	Boxelder		20	Fair	DADB
74	Populus deltoides	Cottonwood, Eastern		20	Fair	DADB
75	Acer negundo	Boxelder	8.6		Fair	TA
76	Acer negundo	Boxelder		7	Fair	TA
77	Acer negundo	Boxelder		6	Fair	DADB
78	Acer negundo	Boxelder		26	Fair	DADB
79	Acer negundo	Boxelder		6	Fair	DADB
80	Acer negundo	Boxelder		12	Poor	CODC
81	Acer negundo	Boxelder		6	Fair	DADB
82	Acer negundo	Boxelder		6	Fair	DADB
83	Acer negundo	Boxelder		6	Fair	DADB
84	Prunus serotina	Cherry, Black		6	Fair	DADB
85	Acer negundo	Boxelder		6	Fair	DADB
86	Populus deltoides	Cottonwood, Eastern	34.24		Fair	DADB
87	Acer negundo	Boxelder		6	Fair	DADB
88	Acer negundo	Boxelder	9.3		Fair	DADB
89	Acer negundo	Boxelder		10	Fair	DADB
90	Acer negundo	Boxelder	9.7		Fair	DADB
91	Acer negundo	Boxelder		11	Fair	DADB
92	Acer negundo	Boxelder		6	Fair	DADB
93	Acer negundo	Boxelder		10	Fair	DADB
94	Acer negundo	Boxelder		7	Fair	DADB
95	Acer negundo	Boxelder	8.8,9		Fair	DADB
96	Acer negundo	Boxelder	9.8		Poor	CODC
97	Populus deltoides	Cottonwood, Eastern		24	Fair	DADB
98	Populus deltoides	Cottonwood, Eastern		30	Fair	DADB
99	Populus deltoides	Cottonwood, Eastern		32	Fair	DADB
100	Populus deltoides	Cottonwood, Eastern		31	Fair	DADB
101	Populus deltoides	Cottonwood, Eastern		28	Fair	DADB
102						
103	Populus deltoides	Cottonwood, Eastern		23	Fair	DADB
104	Populus deltoides	Cottonwood, Eastern		36	Fair	DADB
105	Populus deltoides	Cottonwood, Eastern		20	Fair	DADB
106	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
107	Populus deltoides	Cottonwood, Eastern		26	Fair	DADB
108	Maclura pomifera	Osageapple, Common		33	Fair	TA
109	Acer negundo	Boxelder		7	Poor	CODC
110	Acer negundo	Boxelder	11.11.4		Fair	TA
111	Acer negundo	Boxelder		9	Fair	DADB
112	Acer negundo	Boxelder		9	Fair	DADB
113	Acer negundo	Boxelder		15	Fair	DADB
114	Acer negundo	Boxelder		6	Fair	DADB
115	Acer negundo	Boxelder		18	Fair	DADB
116	Acer negundo	Boxelder		6	Fair	DADB
117	Acer negundo	Boxelder		9	Fair	DADB
118	Acer negundo	Boxelder		7	Fair	CODC
119	Acer negundo	Boxelder		7	Fair	DADB
120	Acer negundo	Boxelder		10	Fair	DADB
121	Prunus serotina	Cherry, Black		7	Fair	DADB
122	Prunus serotina	Cherry, Black		6	Fair	DADB
123	Prunus serotina	Cherry, Black		9	Fair	DADB
124	Prunus serotina	Cherry, Black		16	Fair	TA
125	Acer negundo	Boxelder		9	Fair	TA
126	Acer negundo	Boxelder		13	Fair	DADB
127	Acer negundo	Boxelder		11	Fair	DADB
128	Acer negundo	Boxelder		31	Fair	CODC
129	Juniperus virginiana	Redcedar, Eastern			20	Fair DADB
130	Juniperus virginiana	Redcedar, Eastern			12	Good DADB
131	Acer negundo	Boxelder		10	Fair	DADB
132	Acer negundo	Boxelder		12	Fair	DADB
133	Acer negundo	Boxelder		12	Fair	DADB
134	Acer negundo	Boxelder		10	Fair	DADB
135	Acer negundo	Boxelder		23	Fair	TA
136	Acer negundo	Boxelder		16	Fair	DADB
137	Acer negundo	Boxelder		13	Fair	DADB
138	Acer negundo	Boxelder		14	Fair	DADB
139	Acer negundo	Boxelder	12.12.7		Fair	DADB
140	Acer negundo	Boxelder		11	Fair	DADB
141	Juniperus virginiana	Redcedar, Eastern			18	Fair DADB
142	Acer negundo	Boxelder	17.13.7			Fair DADB
143	Acer negundo	Boxelder	17.14.12.10			Fair DADB
144	Juniperus virginiana	Redcedar, Eastern			30	Fair DADB
145	Juniperus virginiana	Redcedar, Eastern			20	Fair DADB
146	Acer negundo	Boxelder	11.7.7.5			Fair DADB
147	Acer negundo	Boxelder		9	Fair	DADB
148	Acer negundo	Boxelder	8.6		Fair	DADB
149	Acer negundo	Boxelder		8	Fair	DADB
150	Acer negundo	Boxelder		16	Fair	TA
151	Populus deltoides	Cottonwood, Eastern		28	Fair	DADB
152	Populus deltoides	Cottonwood, Eastern		18	Fair	DADB
153	Populus deltoides	Cottonwood, Eastern		35	Fair	DADB
154	Acer negundo	Boxelder	14.12.9.5		Fair	DADB
155	Acer saccharinum	Maple, Silver		42	Fair	CODC
156	Acer saccharinum	Maple, Silver		45	Fair	TA
157	Acer saccharinum	Maple, Silver		46	Fair	DADB
158	Acer saccharinum	Maple, Silver		30	Poor	CODC
159	Acer saccharinum	Maple, Silver		45	Good	DADB
160	Acer saccharinum	Maple, Silver		46	Fair	TA

Multi-stem trees were measured by taking the total of all stems at 4.5ft above ground.

DADB	(DAMAGE, ANIMAL/BROWSE)
CODC	(CAVITY, DECAY, CANKER, CRACK)
TA	(TREE ARCHITECTURE)
IDM	(INSECT/DISEASE MANAGEMENT)

Visual condition signs of stress, poor structure, mechanical damage, soil and root problems, disease, and pests in the assessment of tree condition.

Good
Fair
Poor

Started collection in the NE corner and worked West, then South down to the SE corner. Tag #102 was dropped and lost, so it is not part of the inventory.

	QUALIFYING DECIDUOUS TREES SAVED
	QUALIFYING EVERGREEN TREES SAVED
Boxelder	NON-QUALIFYING TREES REMOVED
	QUALIFYING DECIDUOUS TREES REMOVED

ERMITTED REMOVAL THRESHOLD(PERCENT OF EXISTING QUALIFYING INCHES) FOR COMMERCIAL IS 40%

TOTAL QUALIFYING TREES WITHIN THE AREA OF DISTURBANCE = 112 INCHES
QUALIFYING TREES REMOVED=39 INCHES (35%)
NO REPLACEMENT MITIGATION REQUIRED

NORTH
SCALE:1" = 60

60 30 0 60 120

PLOTTING NOTE: PLANS PLOTTED TO 11x17
SHEET SIZE ARE ½ SCALE- 1"=120'

811 Know what's below. Call before you dig.

KWIK TRIP
KWIK STAR

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LACROSSE, WI 54602-2107
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insites
SITE PLANNING LANDSCAPE ARCHITECTURE
4205 Lancaster Lane North Suite 113
Plymouth, Minnesota 55441
763. 383. 8400
insitesinc.net mail@insitesinc.net

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly licensed Landscape Architect under the laws of the State of Minnesota

Date 2-2026 Lic. 19306

Signed Robert J. Mueller

TREE INVENTORY/REMOVAL

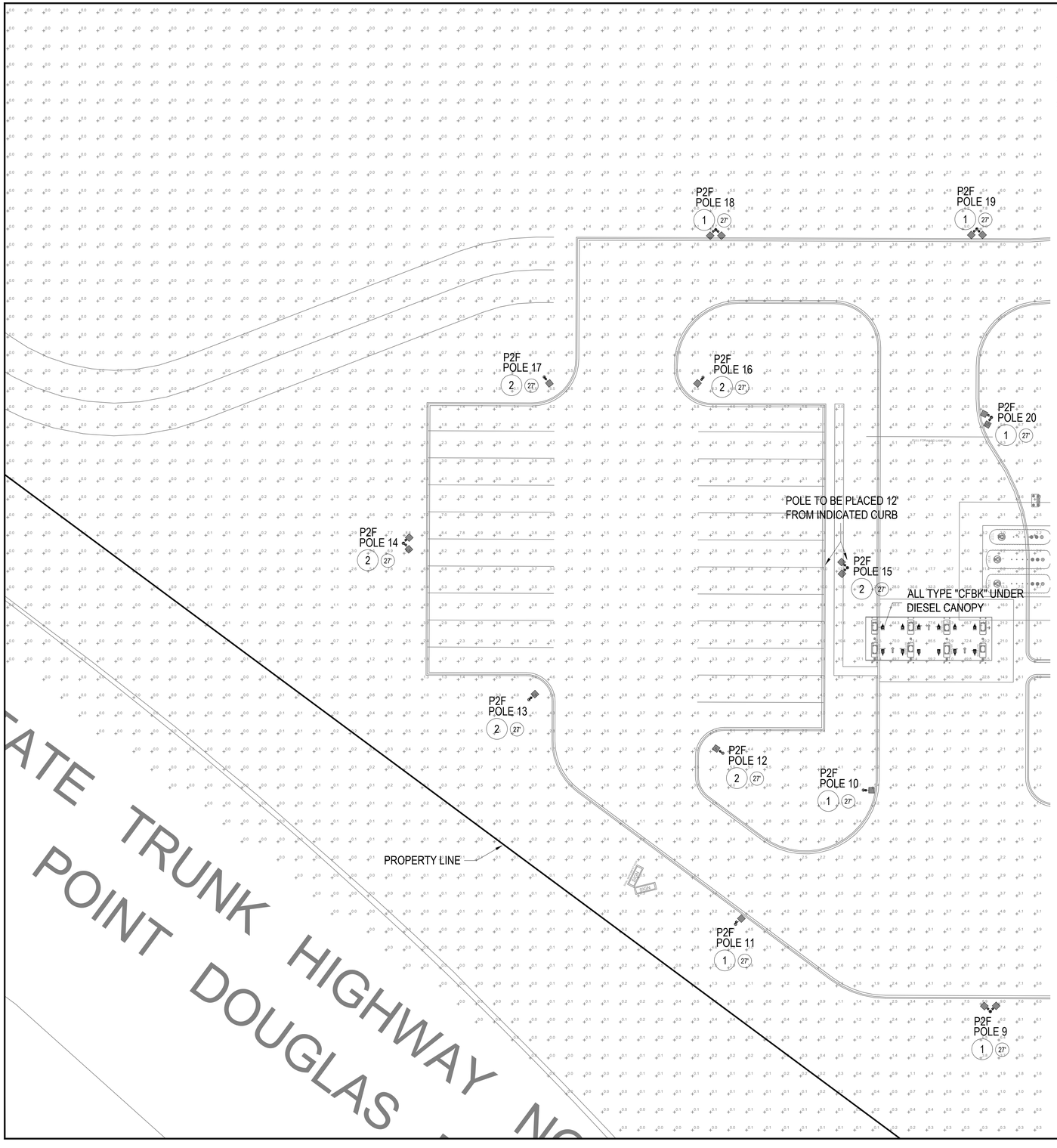
CONVENIENCE STORE 1789

-- COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	06AUG25	INTERNAL REVIEW 2
-	19SEP25	SUBMITTAL
	28JAN26	CITY COMMENTS
	27FEB26	CR3

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 25-1789
DATE 02/27/2026
SHEET C702

INSITES 25-010 PM LB



GENERAL NOTES:

1. FOOTCANDLE LEVELS SHOWN ON THIS PLAN ARE CALCULATED AT GRADE LEVEL.
2. ALL POLES SHALL BE INSTALLED A MINIMUM OF 6'-0" FROM BACK OF CURB TO EDGE OF POLE BASE UNLESS NOTED.
3. POLES THAT ARE LOCATED AT CORNER OF ISLAND SHALL BE A MINIMUM OF 6'-0" FROM BACK OF CURB TO EDGE OF POLE BASE. POLES THAT MUST BE INSTALLED LESS THAN 6'-0" FROM BACK OF CURB TO EDGE OF POLE BASE SHALL HAVE PROTECTIVE BOLLARDS INSTALLED AROUND THE POLE BASE. COORDINATE WITH KWIK TRIP PRIOR TO INSTALLATION.

KEYED NOTES:

(1) CONTRACTOR SHALL POLE MOUNT FIXTURE 6'-0" FROM BACK OF CURB TO EDGE OF POLE BASE.

(2) CONTRACTOR SHALL POLE MOUNT FIXTURE 12'-0" FROM BACK OF CURB TO EDGE OF POLE BASE.

FIXTURE QUANTITIES

D20 - 37
S7E - 4
CF - 20
CFBK - 12
P2F - 29

PROVIDE (5) 16' POLES AND (17) 27' POLES.

CALCULATION STATISTICS

OVERALL SITE:
AVERAGE: 1.3 FC
MAXIMUM: 87.0 FC
MINIMUM: 0.0 FC

FIXTURE TYPES:

D20 - RECESSED LED DOWNLIGHT
GOTHAM EVO-35/30-8AR-WD-120-TRW

S7E - LED STRIP LIGHT MOUNTED IN GABLE LITHONIA
TZL1N-L96-10000LM-FST-MVOLT

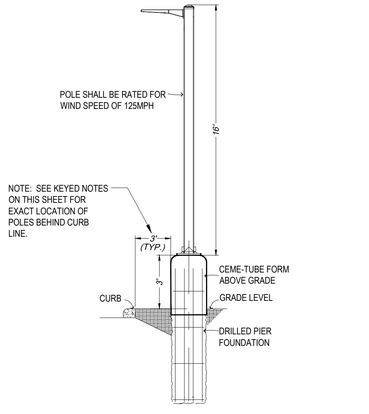
CF - LSI LIGHTING: SCV-LED-23L-SCFT-UNV-DIM-50-WHT MOUNTED UNDER GAS CANOPY MOUNT FIXTURES WITH FORWARD THROW OPTIC AIMING IN DIRECTION OF ARROW.

CFBK - LSI LIGHTING: SCV-LED-23L-SCFT-UNV-DIM-50-BLK MOUNTED UNDER DIESEL CANOPY MOUNT FIXTURES WITH FORWARD THROW OPTIC AIMING IN DIRECTION OF ARROW.

P2F - LSI LIGHTING: MRS-LED-30L-SIL-FT-UNV-50-70CRI-WHT

FIXTURE SYMBOLS:

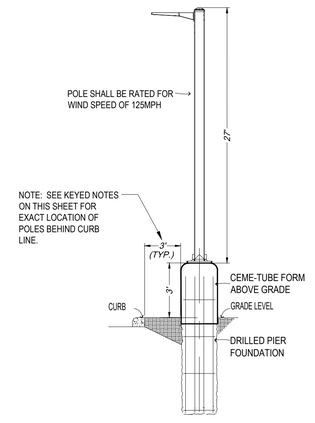
- LED FORWARD THROW LIGHT MOUNTED UNDER FUEL CANOPIES
- LED STRIP LIGHT MOUNTED IN GABLE
- RECESSED LED DOWNLIGHT
- POLE MOUNTED LED FIXTURE
- (16' / 27') POLE HEIGHT



LOT LIGHT ELEVATION DETAIL

NOT TO SCALE

DETAIL APPLIES TO POLES 1 THRU 8, 19, 21 THRU 22



LOT LIGHT ELEVATION DETAIL

NOT TO SCALE

DETAIL APPLIES TO POLES 9 THRU 18, 20

Know what's **below.** **Call** before you dig.

NORTH
SCALE: 1" = 30'

30 15 0 30 60

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=60'

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

Date 2-2026 Reg. No. 53354

Signed

PHOTOMETRIC SITE PLAN

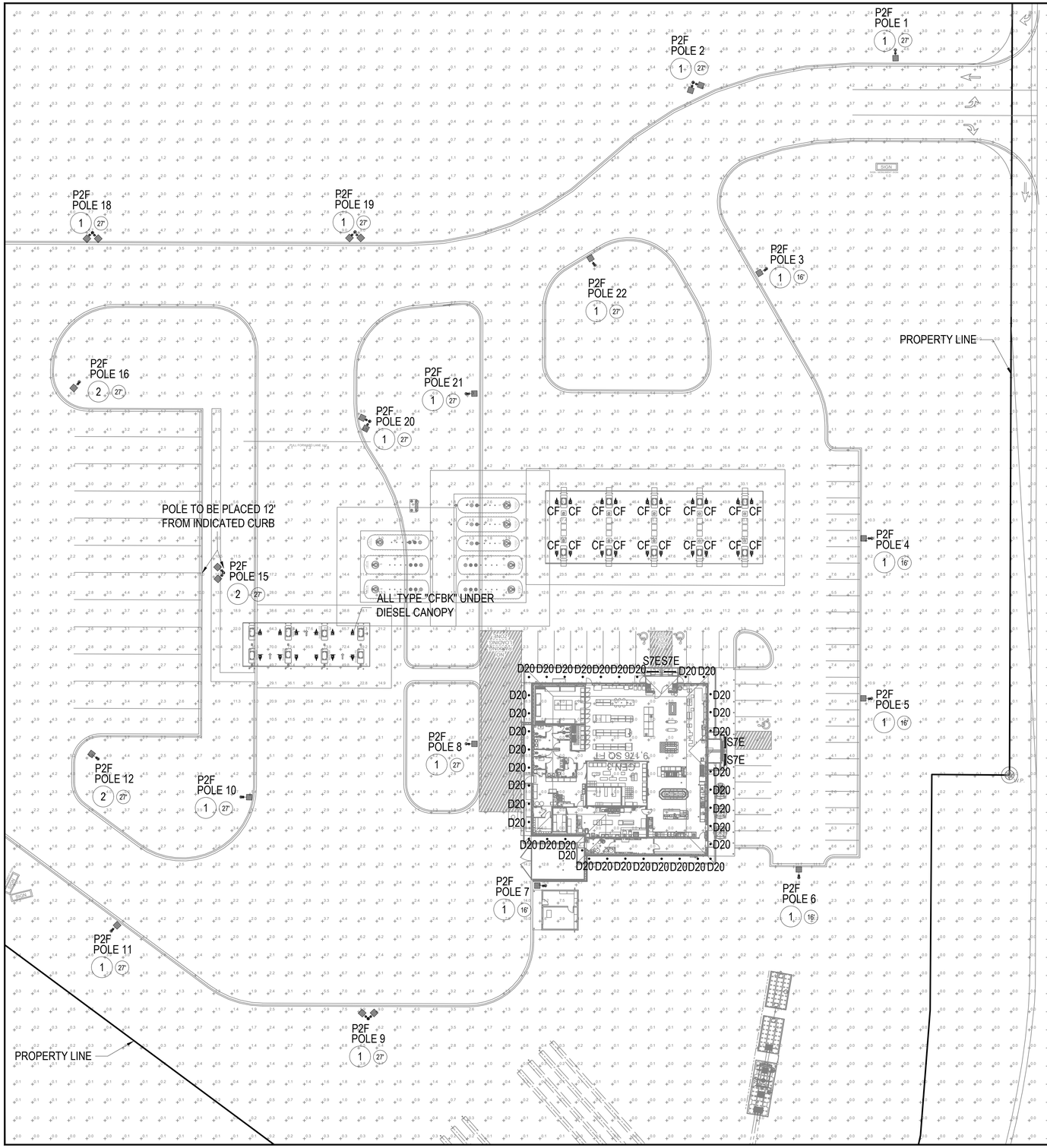
CONVENIENCE STORE 1789

-- COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
-	22MAY25	INTERNAL REVIEW 1
-	06AUG25	INTERNAL REVIEW 2
-	19SEPT25	SUBMITTAL
-	26JAN26	CITY COMMENTS 1
-	23FEB26	CITY COMMENTS 2

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 25-1789
DATE 04/21/2025
SHEET **C800**

INSITES 25-01 0 PM L:\5



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D20 - 37
S7E - 4
CF - 20
CFBK - 12
P2F - 29

PROVIDE (5) 16' POLES AND (17) 27' POLES.

FIXTURE TYPES:

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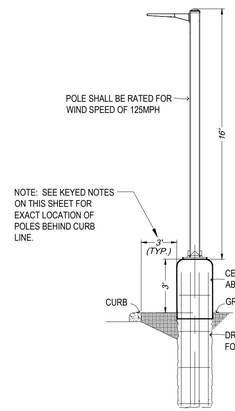
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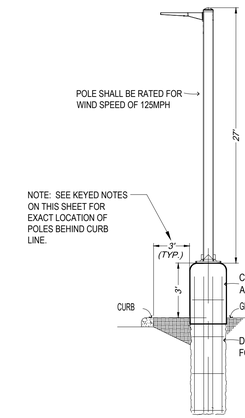
- LED FORWARD THROW LIGHT MOUNTED UNDER FUEL CANOPIES
- LED STRIP LIGHT MOUNTED IN GABLE
- RECESSED LED DOWNLIGHT
- POLE MOUNTED LED FIXTURE
- 16' 27' POLE HEIGHT



LOT LIGHT ELEVATION DETAIL

NOT TO SCALE

DETAIL APPLIES TO POLES 3 THRU 7



LOT LIGHT ELEVATION DETAIL

NOT TO SCALE

DETAIL APPLIES TO POLES 1 THRU 2, 8 THRU 22

Know what's **below.** **Call** before you dig.

NORTH
SCALE: 1" = 30'

30 15 0 30 60

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=60'

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

Date 2-2026 Reg. No. 43354

Signed

PHOTOMETRIC SITE PLAN

CONVENIENCE STORE 1789

-- COTTAGE GROVE, MINNESOTA

NO.	DATE	DESCRIPTION
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-	19SEPT25	SUBMITTAL
-	26JAN26	CITY COMMENTS 1
-	23FEB26	CITY COMMENTS 2

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 25-1789
DATE 04/21/2025
SHEET **C801**

INSITES 25-01 PM LB

BOLTON & MENK
Real People. Real Solutions.

3507 High Point Drive North
Bldg. 1 Suite E130
Oakdale, MN 55128

Ph: (651) 704-9970
Bolton-Menk.com

MEMORANDUM

Date: 04/13/2026

To: Paul Sponholz, PE

From: Mike Boex, PE

Subject: Kwik Trip Store 1789 (TH 10/61 & MN 95) Plan Review
City of Cottage Grove, MN
Project No.: 26X.139196.000

This memo summarizes the review of the Kwik Trip Store #1789 (TH 10/61 & MN 95) Plan Submittal, submitted by Kwik Trip Inc., dated 1/28/2026 (received 3/26/2026).

Preliminary Plat Plans

Plat:

1. The plat reflects a continuous right-of-way width along Manning Avenue of 93-feet; however, the City believes MnDOT was requesting 95-feet.
2. MnDOT may require a separate 20-ft trail easement along Hwy. 61.
    a. If required, private infrastructure should not encroach onto the easement.
3. Provide a 10-ft perimeter drainage and utility easement around the new lot.
4. Through the records search that was performed during preparation of the plat, clarify the right-of-way per document 15211 and why the new lot was not modified to follow this boundary.
5. Washington County records indicate this property may be subject to a Northern States Power Company Easement per Book 150 Deeds Pg 480 (unspecified location). This type of easement wasn't apparent on the submitted plans; please indicate what the property research found.

Sheet C001:

6. Identify the vertical datum of the benchmarks used on the project.
7. Please add a note on the cover sheet that the City of Cottage Grove's Standard Specifications for Street and Utility Construction shall govern for all improvements within the City right-of-way, public easement, or public parcels. Work in state right-of-way will follow MnDOT specifications, 2025 edition.

Sheet C100:

8. Numerous aspects of the east-west road/drive connection to Manning Avenue do not meet city standards, or is not set up for clear public/private delineation in the future.
    a. Based on the submitted plat, the road/drive lies within a single lot and will therefore be considered privately owned and maintained.

Bolton & Menk is an equal opportunity employer.

   b. If there is ever a petition to make this road public in the future, the City reserves the right to make the necessary modifications to bring the road into compliance with City standards at no cost to the City. This would also mean limiting the site to three (max.) access connections vs. the four depicted.

      i. Alternately, the road can remain private and utilize private access and maintenance agreements with other future users of the site.

9. Surfacing improvements shall be identified on future submittals; no pavement sections appear to be identified.
10. Per city code, all parking stalls shall have a minimum width of 9-ft.
11. Numerous keynotes (perhaps up to fourteen) appear to be unused on the plan. Please remove unneeded keynotes or identify where they are used.
12. For context, Manning Avenue turn lane improvements should be depicted on the plans. The radius of the new drive appears to extend beyond turn lane arrows (perhaps new lanes) on Manning Avenue. As shown, the plans are unclear.
    a. Preliminary layout of turn and bypass lanes along Manning Avenue have been discussed with MnDOT. Further discussion will be needed to determine final design, bidding and construction given it needs to be publicly let and constructed through the public process.
13. As a reminder, the City will include costs in the developer's agreement regarding a cost-share on the turn lanes/sight correction at 114th Street.
14. Additional details regarding the proposed shed shall be submitted to the City for review.

Sheet C180:

15. Truck turning movements appear to run over the island at the third drive entrance.
16. Turning movements will need to contemplate turn lane improvements on Manning Avenue.

Sheet C202:

17. MnDOT will review proposed grading within Manning Avenue (TH 95) and TH 61/10 right-of-way.
    a. The grading plan should be updated once Manning Avenue improvements are depicted.
18. Both TH 95 and TH 61 are designated corridors for future trails according to the Regional Bicycle Transportation Network. TH 61/10 has a trail planned as part of the Metro Collaborative Bikeway while TH 95 has a trail planned as part of the Mississippi River Trail Bikeway.
    a. Grading should consider areas for future trail improvements.
       i. TH 61/10: trail in 20-ft trail easement adjacent to right-of-way
       ii. TH 95/Manning Avenue: trail within proposed right-of-way

Sheet C203:

19. The maximum intersection approach grade to Manning Avenue: provide a 2% maximum grade for the first 100-ft approaching an intersection (at a yield or stop condition), as measured from the proposed stop location.

Sheet C300:

20. Attempt to place the new oil skimmer (currently at CB#12) at a low point to contain a potential spill to the skimmer structure. As depicted, it appears there is a potential for bypass flow to the low point at CB#4.
21. Pretreatment: Two Oil skimmers include 4' sump manholes upstream of the pond, however sumps at CB#3 and CB#19 would be helpful in providing pretreatment to the pond.

Sheet C301:

22. A MnDOT permit is anticipated for both grading and stormwater work.
    a. The pond outlet should consider the location of the future trail; further coordination with MnDOT is anticipated.

Sheet C400:

23. Submit the septic design and Washington County approvals to the City once complete. Depict all applicable Washington County setbacks, demonstrating compliance, on the plan per the County's ordinance.

Sheet C500:

24. It appears details 10 and 11 are not referenced within the plan. Please remove unused details or indicate where they are used.

Sheet C700:

25. Avoid planting trees or shrubs within public right-of-way. There are currently plantings proposed within Manning Avenue right-of-way.
    a. Plantings should also avoid the TH 61/10 trail easement.
26. Notes: there is a statement that "irrigation design should encompass all landscape area with sod and/or plantings." This should be revised to include all turf grass, even if seeded.
27. It is recommended to plant trees a minimum of 5-ft away from the private water, sewer, or storm sewer pipes.
28. Provide 15-ft of sod along all hardscape (i.e. private road and parking lot), sod within interior islands, and sod from new Manning Avenue MnDOT right-of-way line from south side of private road to SE corner of the proposed building. Areas within MnDOT right-of-way will be determined by MnDOT (anticipate seed mix) and areas outside of 15-ft requirement can be seed mix.
29. 79 overstory trees are required but the planting table adds up to 78 overstory trees.

Sheet C800:

30. The fixture quantities tabulation doesn't appear to match what's depicted on the plan.
31. Pole heights:
    a. The details state light poles 1-4 are 16-ft height, while the fixture quantities state there are ten 16-ft poles.
    b. The details state light poles 5-25 are 27-ft height, while only 22 total poles are depicted.
    c. Please resolve all differences between the plans and notes.

Traffic Study & Related Comments:

32. A memo dated 10/15/2025 was provided to Kwik Trip on 10/30/2025. Revise the traffic impact analysis accordingly and depict improvements as outlined in the memo.

Stormwater:

33. HydroCAD:
    a. Please include the inflow and outflow hydrograph plots in the HydroCAD report so the model routings and stability can be reviewed.
    b. HydroCAD simulates a 4" vertical orifice at elevation 880, but a 5" orifice is shown on Sheet C302. HydroCAD also simulates a 6' length weir at elevation 882, but a 60" weir is shown on Sheet C302 at elevation 881.9 feet. Please be consistent.
34. Soil Borings: Soil borings are required in the vicinity of proposed volume control BMPs. Borings are needed to identify soil conditions and the presence of groundwater or bedrock. Soil borings should extend a minimum of 5 feet below the lowest constructed elevation of proposed BMPs.
35. P8 Water Quality Model:
    a. The P8 existing conditions model shows a very low TP load of only 0.67 lbs./year from 11.06 acres. We would expect about 0.5 lbs./acre/year from ag lands--so about 5.5 lbs./year. For example, MIDS suggests a TP load of about 4.46 lbs./year from 11.06 acres of HSGB Turf. Please review the existing conditions P8 assumptions and results.
    b. The proposed conditions P8 includes an unswept impervious runoff coefficient of 0.6 which is less than the SWWD guidance value of 0.9, so please update the P8 model.
36. Total phosphorus (TP) allowable rates are not met. The allowed loading rate is 0.22 lbs./acre/year at 11.06 acre is 2.43 lbs./year, while the current proposed discharge is 3.6 lbs./year. The proposed stormwater ponds are not sufficient to achieve the required TP rates. TP mitigation can be made with a cash dedication; the cost for commercial development is $22,868.00 per lb. of TP removal.
37. Peak discharge rate is exceeded for the 100-year storm event. The surface water management plan unit outflow rate for the Link TS 11.06 acres is 7.52 cfs (11.06 acres * 0.68 cfs/acre). The current design shows 14.07 cfs discharge—which exceeds the target discharge rate by 6.5 cfs.
    a. The 2.03 acre subwatershed 2S contributes a peak flow of 11.2 cfs in the 100-year flood. Subwatershed 2S comprises 18% of the 11.06 acre. The stormwater narrative report describes uncontrolled runoff from subwatershed 2S: "*The remainder of the unrestricted flows are from areas that are in easements that can't be used for storage or are areas where storm sewers/swales are not able to flow into the wet basin, which is why the TS Link discharge doesn't work for the 100-year event*." Please work to further reduce the discharge from uncontrolled areas, including subwatershed 2S, to align closer with the target unit outflow rate of 0.68 cfs/acre or explain why this is not feasible.
38. TSS reduction is not being met. The existing TSS rate (allowable rate) is 141 lb./yr. The proposed conditions TSS rate is 282 lb./year. Please work to meet the TSS requirements.
39. Rational Storm Sewer Design: The Storm Sewer Design table includes a number of errors in the computed pipe velocity column. Velocity values listed do not appear to match either the HydroCAD model or a Manning's equation value. Please check and update the pipe velocities listed within the Storm Sewer Design table.

40. The City will require an executed stormwater maintenance agreement for the proposed stormwater features on the site.
41. NPDES Construction Stormwater Permit: As this project disturbs more than 1 acre, an NPDES Construction Stormwater Permit and SWPPP will be required.
42. Models: Please note that digital copies of the final version stormwater models and shapefiles or CAD drawings of existing and proposed drainage areas are to be submitted to the city once the review and revision process is complete.

PROPOSED SIGNS:
#01 24" LED KWIK TRIP BUILDING LETTERS
#02 24" LED KWIK TRIP BUILDING LETTERS
#03 24" LED KWIK TRIP BUILDING LETTERS
#05 24" LED KWIK TRIP CANOPY LETTERS
#06 24" LED KWIK TRIP CANOPY LETTERS
#07 18" LED DIESEL ENTER CANOPY SIGN
#08 18" LED DIESEL EXIT CANOPY SIGN
#09 - #15 30 MINUTE PARKING SIGNS
#16 NO PARKING SIGN
#17- #20 COMBINATION TRUCK PARKING/24 PARKING SIGNS
#21 -#28 NO PARKING SIGNS
#29 DRIVEWAY DIRECTIONAL SIGN
#30 FREESTANDING MONUMENT SIGN
#31 FREESTANDING MONUMENT SIGN

STATE TRUNK HIGHWAY NOS. 10 AND 61
POINT DOUGLAS ROAD
STATE HIGHWAY NO. 61
MANNING AVENUE S.
(COUNTY HIGHWAY 95)
STATE TRUNK HIGHWAY NO.
PARCEL 1
BITUMINOUS
GRAVEL
63'-0"
22'-0"
BM 65 - RR SPIKE = 877.76 FT.
BM 64 - RR SPIKE = 881.55 FT.
BM 63 - RR SPIKE = 887.26 FT.
BM 66 - RR SPIKE = 883.67 FT.
BM 67 - RR SPIKE = 882.57 FT.
9,119 SQ FT

SITE PLAN
1" = 90'-0"

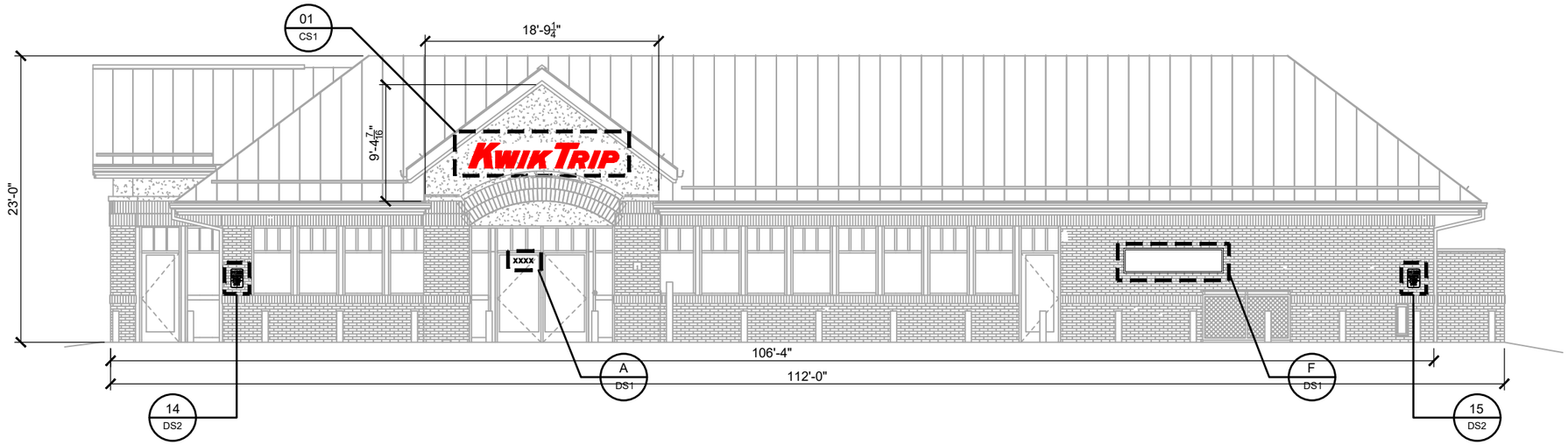
KWIK TRIP
KWIK STAR

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

SITE PLAN
CONVENIENCE STORE #1789
WITH SIDE DIESEL
HWY 61 & CTY RD 95
COTTAGE GROVE, MN

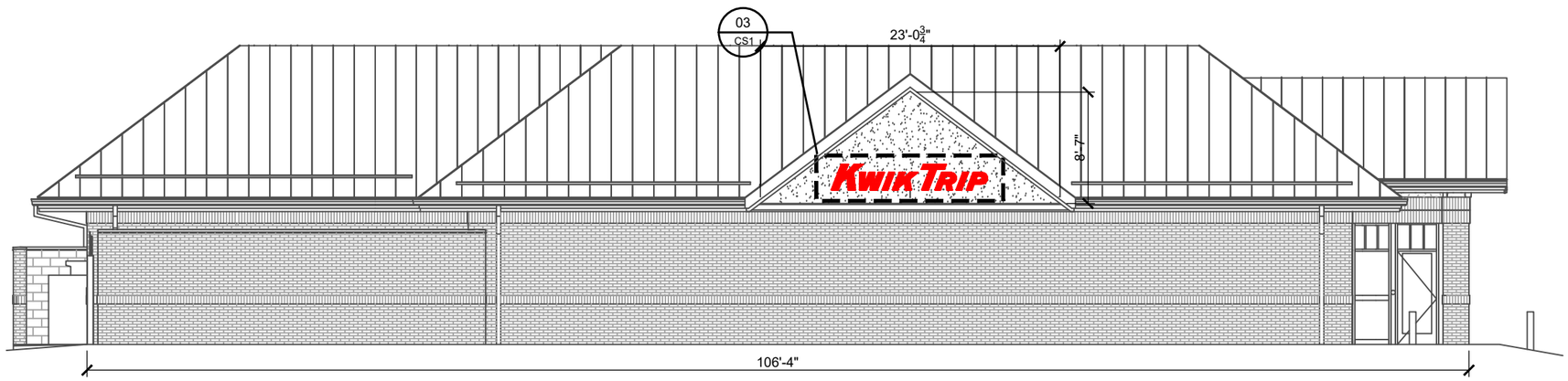
#	DATE	DESCRIPTION
1	2026 02/06	BKGD UPDATE
2	2026 02/19	NO LED STRIPE
3	2026 03/02	LED STRIPE

DRAWN BY	MJM
SCALE	MULTIPLE
PROJ. NO.	0001
DATE	2025 08-04
SHEET	SP1



STORE ELEVATION

SCALE: 3/32" = 1'-0"



STORE ELEVATION

SCALE: 3/32" = 1'-0"



LOGO DETAIL - SIGNs #01 & 03

SCALE: 1/2" = 1'-0"

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CONVENIENCE STORE SIGNAGE

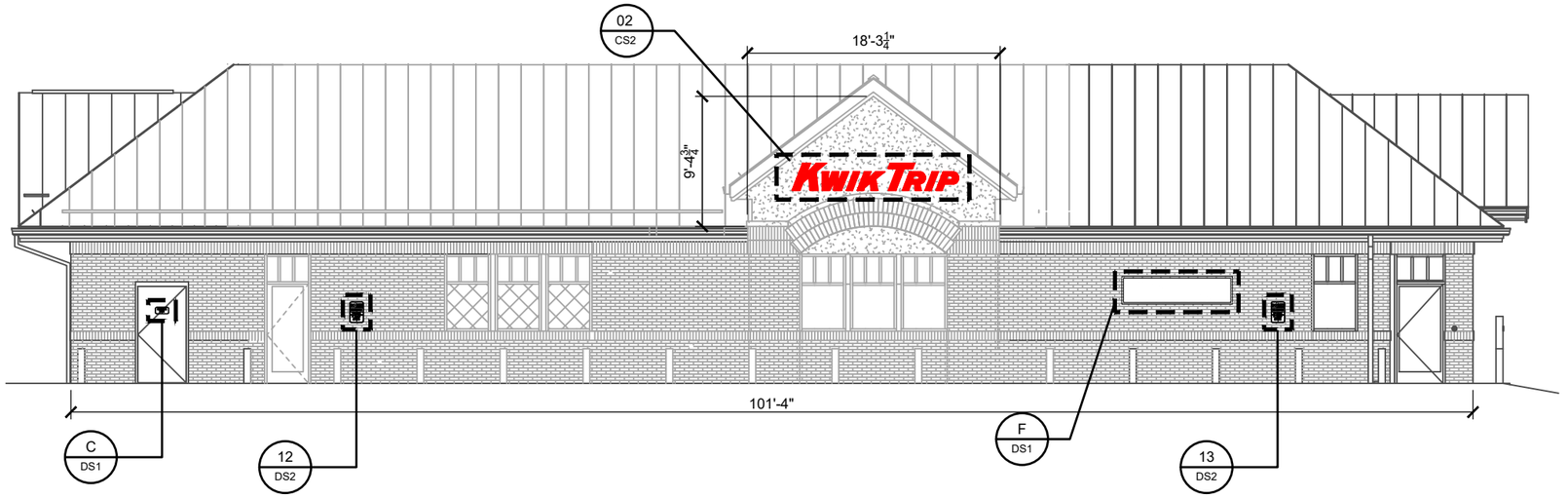
CONVENIENCE STORE #1789
WITH SIDE DIESEL

HWY 61 & CTY RD 95
COTTAGE GROVE, MN

#	DATE	DESCRIPTION

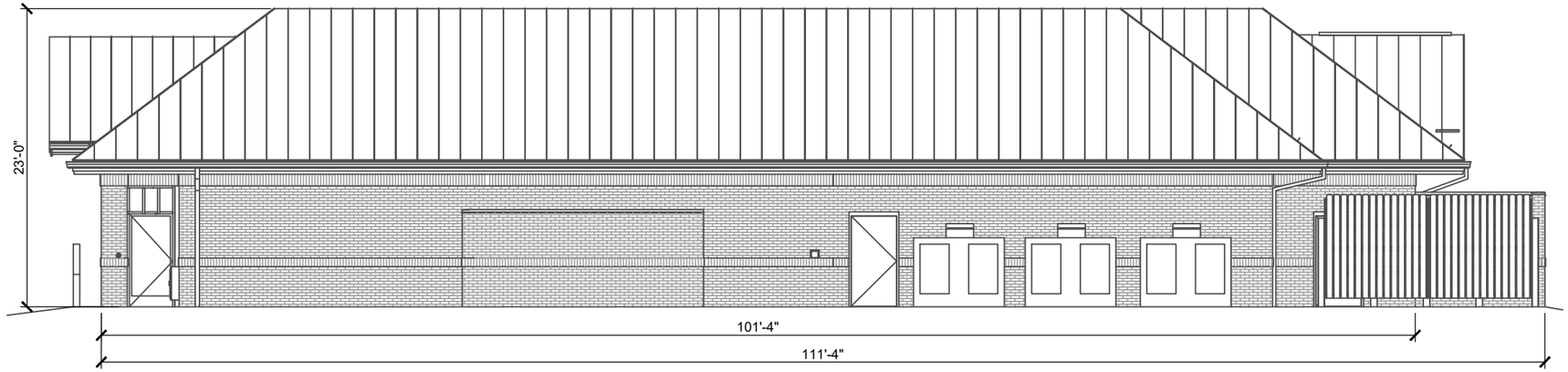
DRAWN BY	MJM
SCALE	MULTIPLE
PROJ. NO.	0001
DATE	2025 08-04
SHEET	CS1

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STORE ELEVATION

SCALE: 3/32" = 1'-0"



STORE ELEVATION

SCALE: 3/32" = 1'-0"



LOGO DETAIL - SIGN #02

SCALE: 1/2" = 1'-0"

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CONVENIENCE STORE SIGNAGE

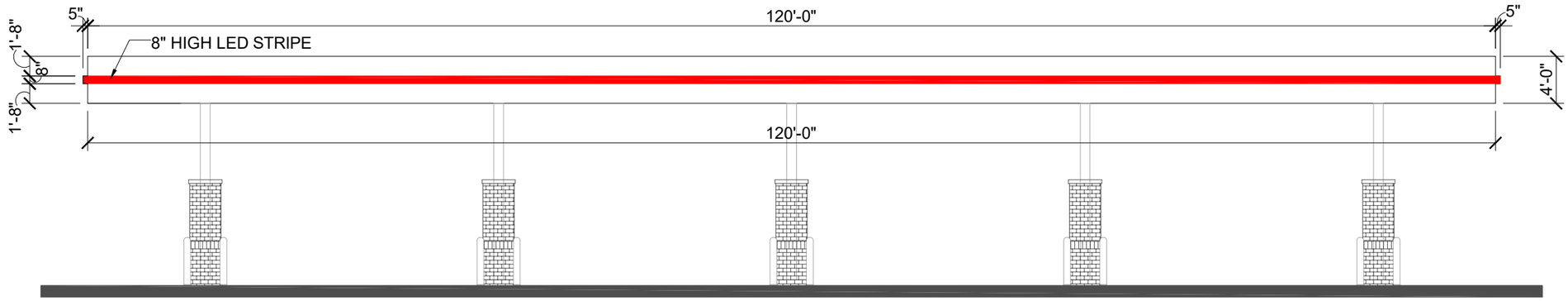
CONVENIENCE STORE #1789
WITH SIDE DIESEL

HWY 61 & CTY RD 95
COTTAGE GROVE, MN

#	DATE	DESCRIPTION

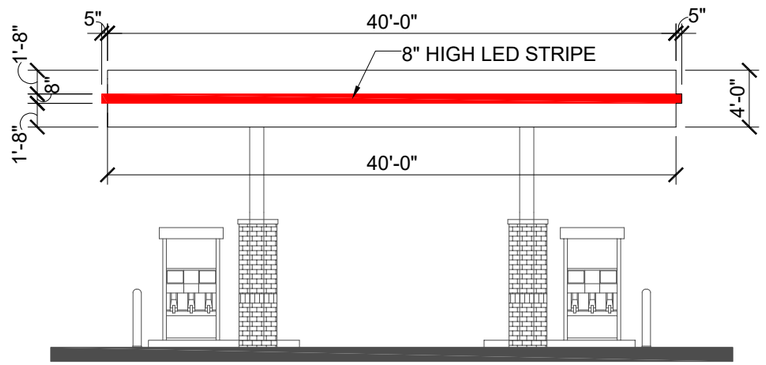
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PROJ. NO.	0001
DATE	2025 08-04
SHEET	CS2

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CANOPY ELEVATION

SCALE: 3/32" = 1'-0"



CANOPY ELEVATION

SCALE: 3/32" = 1'-0"

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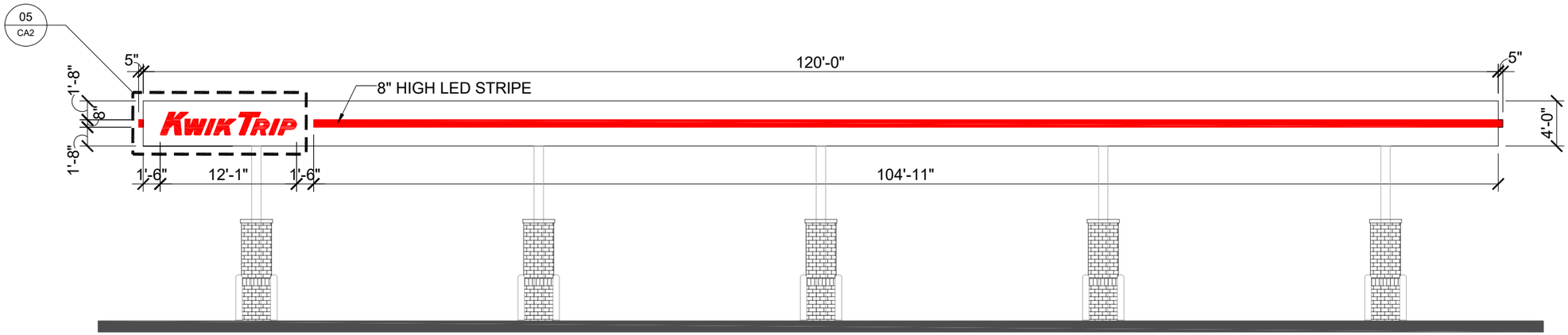
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CONVENIENCE STORE #1789
WITH SIDE DIESEL

HWY 61 & CTY RD 95
COTTAGE GROVE, MN

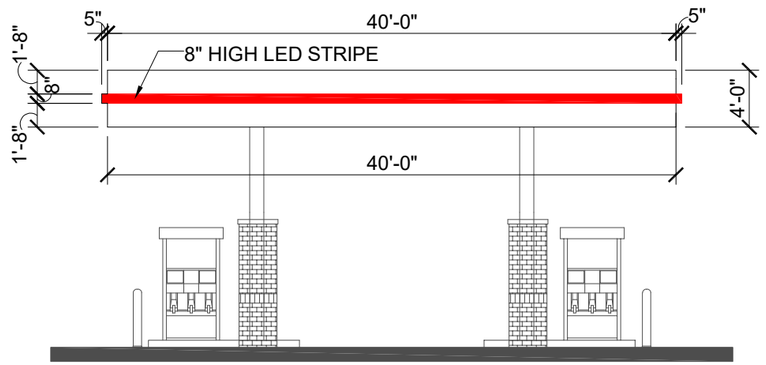
#	DATE	DESCRIPTION
1	2026 02/06	BKGD UPDATE
2	2026 02/19	NO LED STRIPE
3	2026 03/02	LED STRIPE
5	2026 04/06	CITY COMMENTS

DRAWN BY	MJM
SCALE	MULTIPLE
PROJ. NO.	0001
DATE	2025 08-04
SHEET	CA1



CANOPY ELEVATION

SCALE: 3/32" = 1'-0"



CANOPY ELEVATION

SCALE: 3/32" = 1'-0"



LOGO DETAIL - SIGN #05

SCALE: 1/2" = 1'-0"

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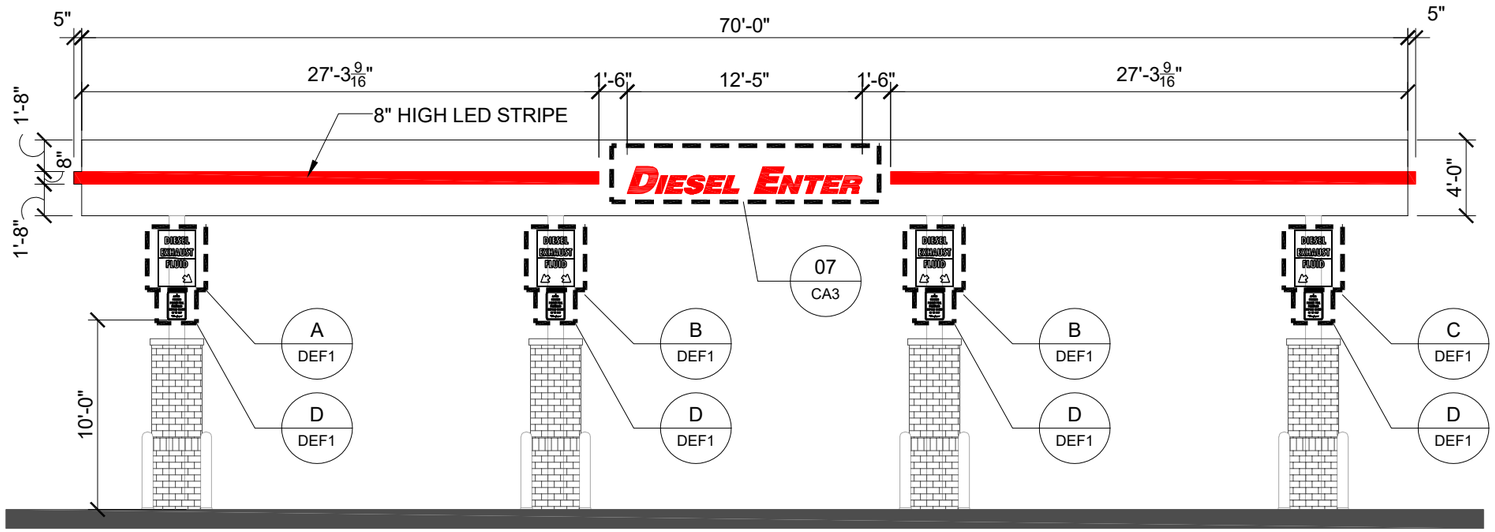
CANOPY SIGNAGE

CONVENIENCE STORE #1789
WITH SIDE DIESEL

HWY 61 & CTY RD 95
COTTAGE GROVE, MN

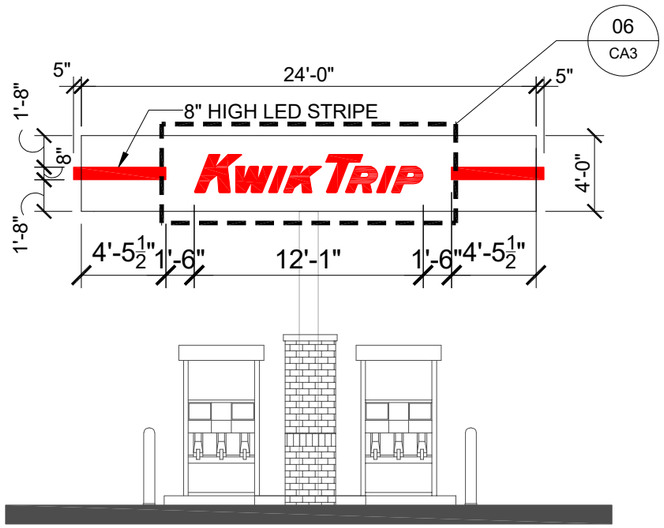
#	DATE	DESCRIPTION
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2	2026 02/19	NO LED STRIPE
3	2026 03/02	LED STRIPE
5	2026 04/06	CITY COMMENTS

DRAWN BY	MJM
SCALE	MULTIPLE
PROJ. NO.	0001
DATE	2025 08-04
SHEET	CA2



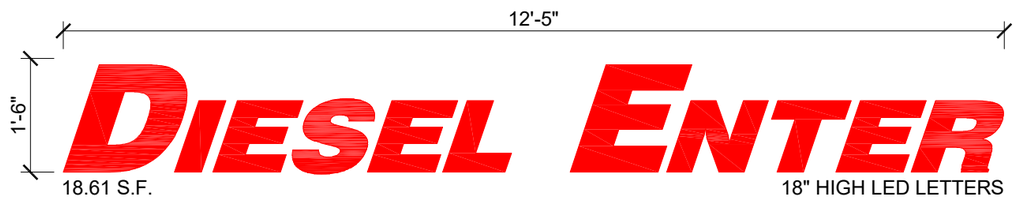
CANOPY ELEVATION

SCALE: 1/8" = 1'-0"



CANOPY ELEVATION

SCALE: 1/8" = 1'-0"



LOGO DETAIL - SIGN #07

SCALE: 1/2" = 1'-0"



LOGO DETAIL - SIGN #06

SCALE: 1/2" = 1'-0"

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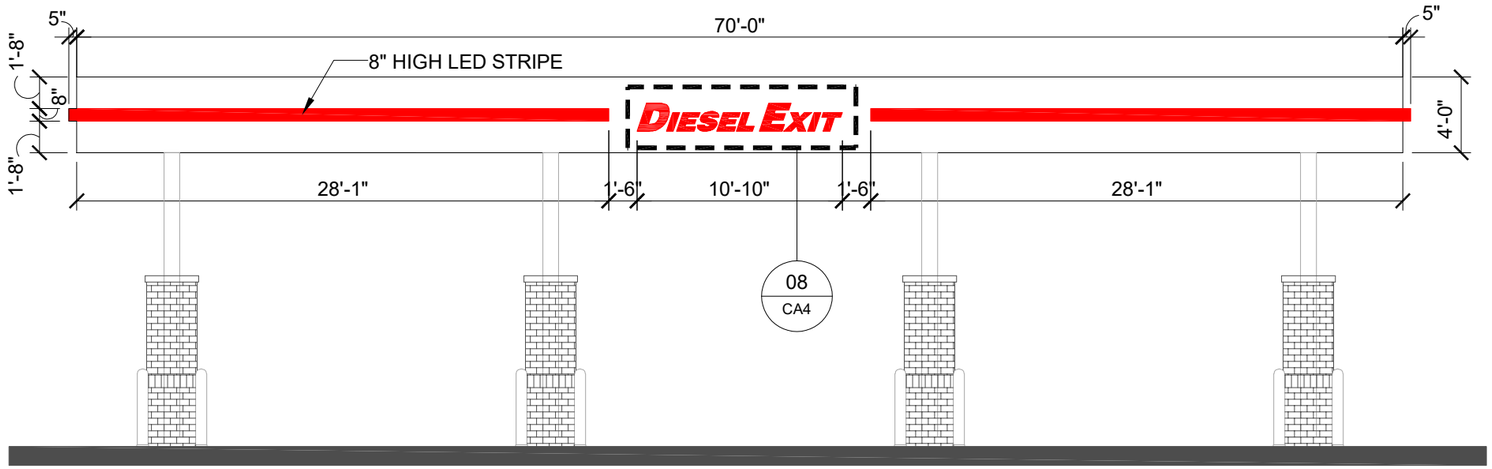
CANOPY SIGNAGE

CONVENIENCE STORE #1789
WITH SIDE DIESEL

HWY 61 & CTY RD 95
COTTAGE GROVE, MN

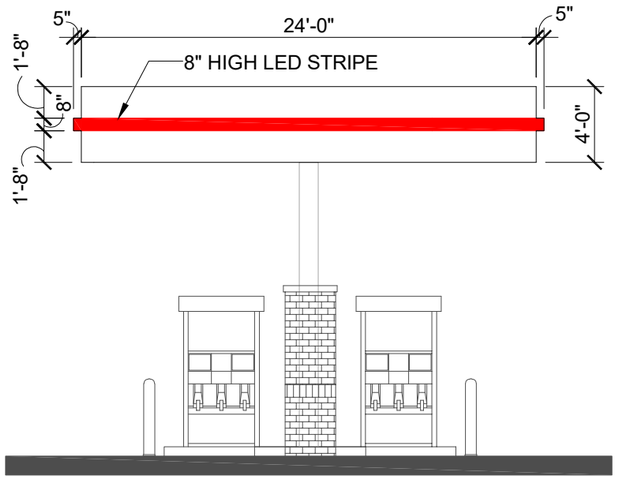
#	DATE	DESCRIPTION
1	2026 02/06	BKGD UPDATE
2	2026 02/19	NO LED STRIPE
3	2026 03/02	LED STRIPE
5	2026 04/06	CITY COMMENTS

DRAWN BY	MJM
SCALE	MULTIPLE
PROJ. NO.	0001
DATE	2025 08-04
SHEET	CA3



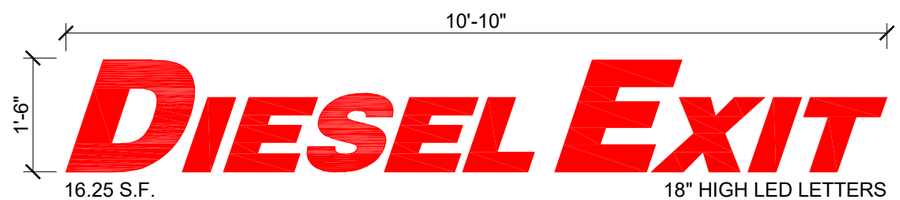
CANOPY ELEVATION

SCALE: 1/8" = 1'-0"



CANOPY ELEVATION

SCALE: 1/8" = 1'-0"



LOGO DETAIL - SIGN #08

SCALE: 1/2" = 1'-0"

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CANOPY SIGNAGE

CONVENIENCE STORE #1789
WITH SIDE DIESEL

HWY 61 & CTY RD 95
COTTAGE GROVE, MN

#	DATE	DESCRIPTION
1	2026 02/06	BKGD UPDATE
2	2026 02/19	NO LED STRIPE
3	2026 03/02	LED STRIPE
4	2026 04/06	CITY COMMENTS

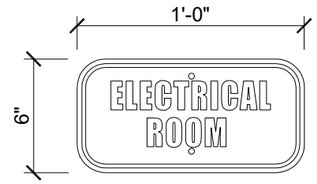
DRAWN BY	MJM
SCALE	MULTIPLE
PROJ. NO.	0001
DATE	2025 08-04
SHEET	CA4



5" WHITE VINYL ADDRESS LETTERS
ON GLASS DOOR AS SHOWN ABOVE
(VERIFY ACTUAL NUMBERS WITH PROJECT MANAGER)

ADDRESS SIGN A

SCALE: 3/4" = 1'-0"



C

INFORMATIONAL SIGN C

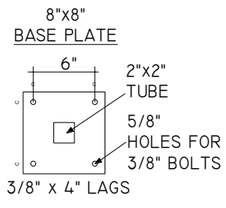
SCALE: 1 1/2" = 1'-0"

GENERAL SPECIFICATIONS

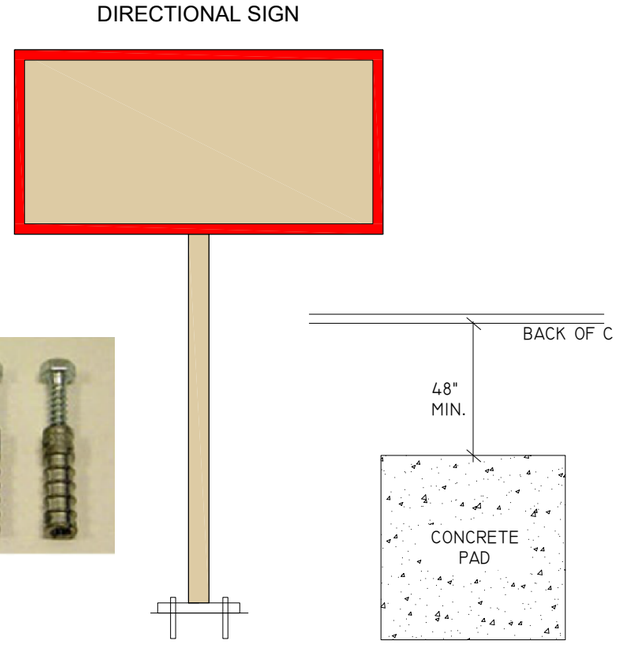
ROOM SIGNS
Qty: 3 total (different copy on each)
Size: per art
Material: white sign blank
Finish: cut vinyl

Install along with various signs for same site, crew to give to KT trim guys to install.

NOTES:
- SIGN VENDOR TO ANCHOR SIGN/S TO CONCRETE PAD
- SIGN VENDOR TO ANCHOR SIGNS WITH (4) 3/8" X 4" LAGS & SHIELD ANCHORS. USE STAINLESS STEEL HARDWARE
- STAINLESS STEEL FLAT WASHERS MAY BE USED UNDER BASE PLATE AS NEEDED TO SHIM SIGN TO BE PLUMB
- CONCRETE PAD INSTALLED BY OTHERS (KWIK TRIP/KWIK STAR CONCRETE VENDOR)
  - CONCRETE PAD TO BE 5"X 36"X 36"
- CONCRETE PAD TO BE AT LEAST 48" FROM BACK OF CURB

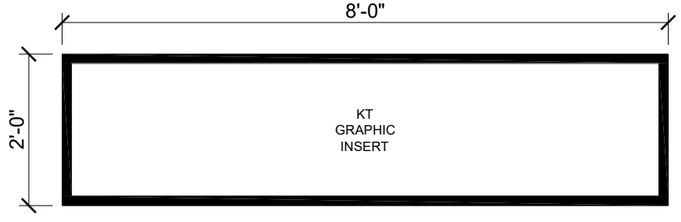






DIRECTIONAL SIGN CONCRETE BASE DETAIL

NOT TO SCALE



"SIGN F"
BLACK ALUMINUM FRAME

INFORMATIONAL SIGNS F

SCALE: 1/2" = 1'-0"

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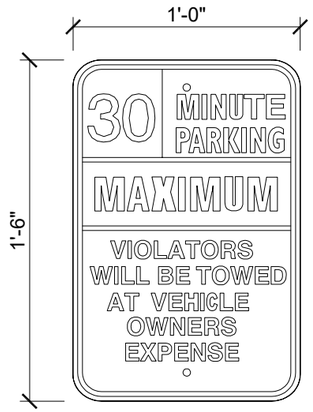
DIRECTIONAL SIGNAGE
CONVENIENCE STORE #1789
WITH SIDE DIESEL
HWY 61 & CTY RD 95
COTTAGE GROVE, MN

#	DATE	DESCRIPTION
1	2026 02/06	BKGD UPDATE

DRAWN BY	MJM
SCALE	MULTIPLE
PROJ. NO.	0001
DATE	2025 08-04
SHEET	DS1

GENERAL SPECIFICATIONS

18"x12" ALUMINUM SIGN
Qty:
Size: 18"x12"
Material: Standard white blank
Finish: cut vinyl graphics
Install: on building



QTY 4
SIGNS #12-15

PARKING SIGNS #12-15

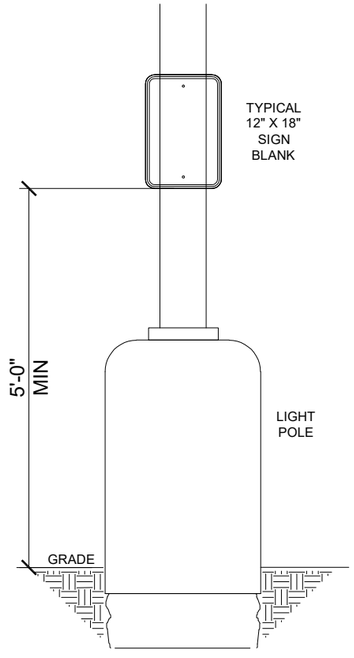
SCALE: 1 1/2" = 1'-0"

12" X 18" ALUMINUM SIGN

SINGLE SIDED SIGN



QTY: 6
SIGNS #16, #22, #23,
#26 - #28



PARKING SIGNS #16, #22, #23, #26 - #28

SCALE: 1/2" = 1'-0"

12" X 18" ALUMINUM SIGN

SINGLE SIDED SIGN

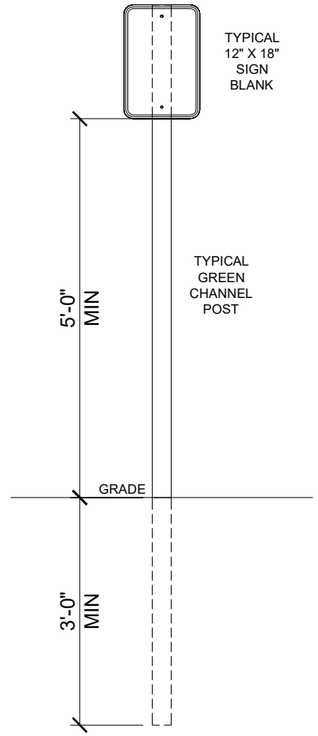


QTY: 3
SIGNS #09-#11

SINGLE SIDED SIGN



QTY: 3
SIGNS #21, #24 & #25



PARKING SIGNS #09-11 & #16, #21-28

SCALE: 1/2" = 1'-0"

SINGLE SIDED DIRECTIONAL SIGN



NON-LIT DIRECTIONAL SIGN
RED & BLACK VINYL ON LIGHT BEIGE ALUMINUM
1'-6"H X 3'-0"W X 4'-6"T= 4.50 SQ FT

12" X 18" ALUMINUM SIGN

PARKING SIGNS #17-20

SCALE: 3/4" = 1'-0"

KWIK TRIP

KWIK STAR

KWIK TRIP, Inc.
P.O. BOX 2107
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LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

DIRECTIONAL SIGNAGE

CONVENIENCE STORE #1789
WITH SIDE DIESEL

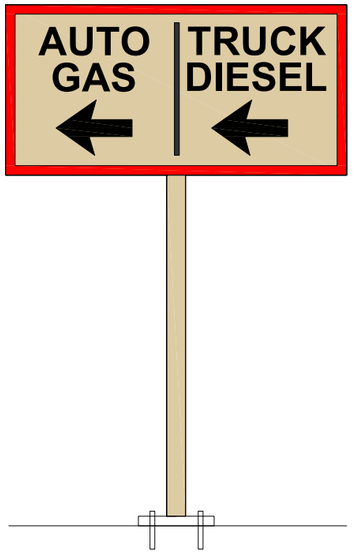
HWY 61 & CTY RD 95
COTTAGE GROVE, MN

#	DATE	DESCRIPTION
1	2026 02/06	BKGD UPDATE

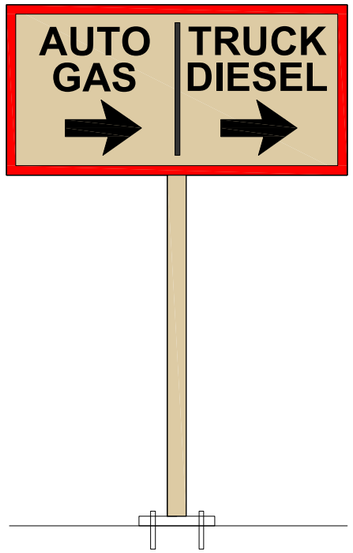
DRAWN BY	MJM
SCALE	MULTIPLE
PROJ. NO.	0001
DATE	2025 08-04
SHEET	DS2

DOUBLE SIDED DIRECTIONAL SIGN

SOUTH SIDE



NORTH SIDE



NON-LIT DIRECTIONAL SIGN
RED & BLACK VINYL ON LIGHT BEIGE ALUMINUM
1'-6"H X 3'-0"W X 4'-6"T= 4.50 SQ FT

DIRECTIONAL SIGN #29

SCALE: 3/4" = 1'-0"

#30 & #31 KWIK STAR FREESTANDING MONUMENT SIGN

SEE ATTACHED ARTWORK

KWIK TRIP

KWIK STAR

KWIK TRIP, Inc.
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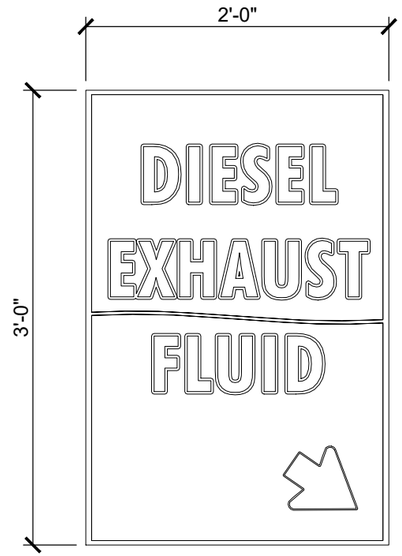
DIRECTIONAL SIGNAGE

CONVENIENCE STORE #1789
WITH SIDE DIESEL

HWY 61 & CTY RD 95
COTTAGE GROVE, MN

#	DATE	DESCRIPTION
1	2026 02/06	BKGD UPDATE

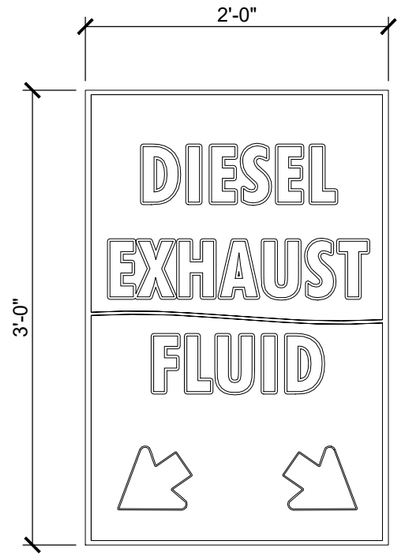
DRAWN BY	MJM
SCALE	MULTIPLE
PROJ. NO.	0001
DATE	2025 08-04
SHEET	DS3



QTY: X

DEF SIGN A

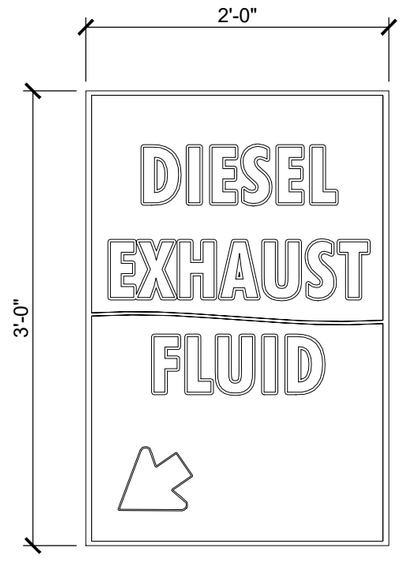
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QTY: X

DEF SIGN B

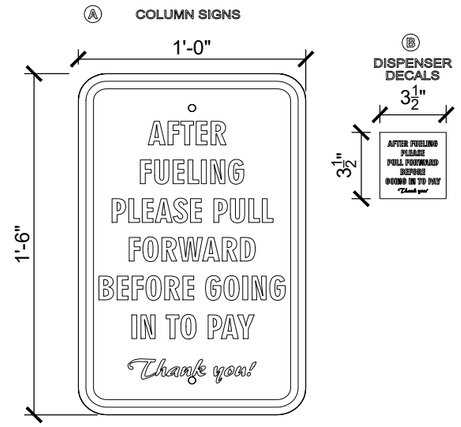
SCALE: 3/4" = 1'-0"



QTY: X

DEF SIGN C

SCALE: 3/4" = 1'-0"



PULL AHEAD SIGN D

SCALE: 1 1/2" = 1'-0"

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

DEF / DSL SIGNAGE

CONVENIENCE STORE #1789
WITH SIDE DIESEL

HWY 61 & CTY RD 95
COTTAGE GROVE, MN

#	DATE	DESCRIPTION

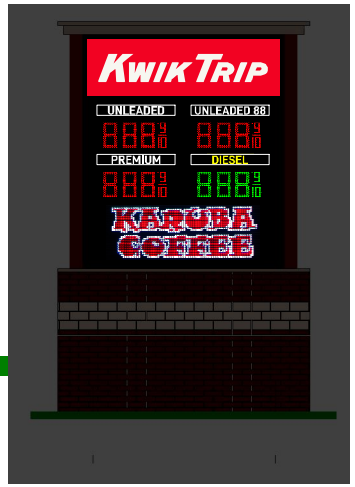
DRAWN BY	MJM
SCALE	MULTIPLE
PROJ. NO.	0001
DATE	2025 08-04
SHEET	DEF1

K:\RetailBuildingOperations_Shared\Store Engineering_Shared\Development\Potential Sites\NC 1789 Cottage Grove, MN (HWY 61 & County Rd 95)\Project XXXX\Plans\Gas-Signs-Canopy\Signs\1789 Sign Plan REV1.dwg, 9/30/2025 10:23:28 AM

SIGN #30

PRICE DIGITS TO BE DAKTRONICS - DAKTRONICS AND WATCHFIRE ARE APPROVED MANUFACTURERS FOR EMCS





Approved by:_____ Date:_____ Landlord:_____ Date:_____

*Colors on sketch are only a representation, actual color of finished product may differ from this sketch.
*To make the best use of standard sized materials and control costs the size of the finished product may vary slightly.

La Crosse Sign Group
lacrossesign.com
1450 Oak Forest Drive, Onalaska, WI 54650, 608-781-1450
2242 Mustang Way, Madison, WI 53718, 608-222-5353
2502 Melby Street, Eau Claire, WI 54703, 715-835-6189

This artwork is copyright La Crosse Sign Group and may not otherwise be used without permission. It is the property of La Crosse Sign Group and must be returned to them upon request.

Client
Kwik Trip #1789
Cottage Grove, MN
Project
A - Monument

Consultant
Carlee Strong

Design Art
Danielle Hadley

Monument Sign Specifications
-MAIN ID: Fabricated Aluminum w/ Flat Illuminated Faces
-Pricers: 12" FL-5000 & Illuminated Products
-Message Center: Watchfire 72x216 8mm

Area
-MAIN CABINET: 69.75
-Total 69.75 sqft

Color Key

1. Black S/G
2. MP 55090- PMS186c Red S/G
3. White
4. Yellow
5. Black
6.

Job Number
132066-3b

Creation Date
1/27/2026

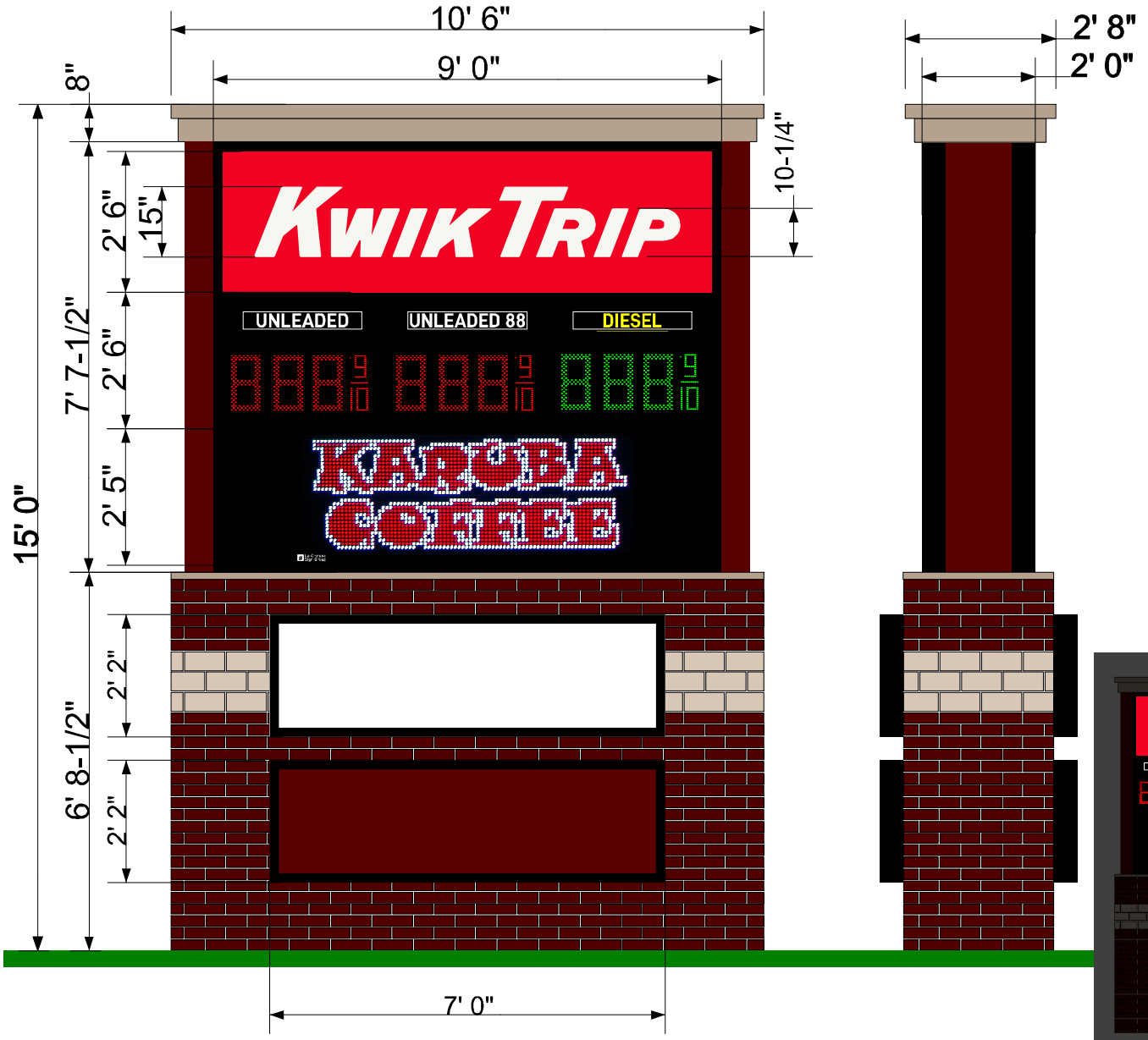
Revision Date
3/10/2026

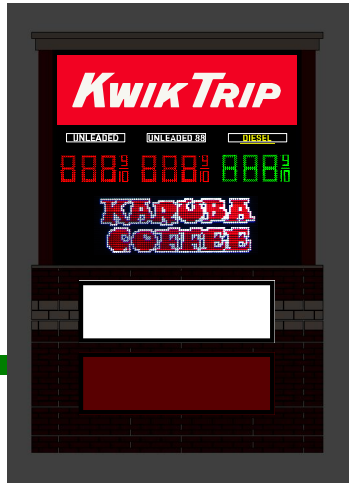
Revision Number
3

File Path
1 - Kwik Trip\Cottage Grove, MN 1789\ 132066
-Artwork for KT1789 Cottage Grove\Design\1789
Cottage Grove Art 132066-3b Monument

SIGN #31

PRICE DIGITS TO BE DAKTRONICS - DAKTRONICS AND WATCHFIRE ARE APPROVED MANUFACTURERS FOR EMCS





Approved by:_____ Date:_____ Landlord:_____ Date:_____

*Colors on sketch are only a representation, actual color of finished product may differ from this sketch.
*To make the best use of standard sized materials and control costs the size of the finished product may vary slightly.

La Crosse Sign Group
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Client
Kwik Trip #1789
Cottage Grove, MN
Project
A - Monument

Consultant
Carlee Strong

Design Art
Danielle Hadley

Monument Sign Specifications
-MAIN ID: Fabricated Aluminum w/ Flat Illuminated Faces
-Pricers: 12" FL-5000 & Illuminated Products
-Message Center: Watchfire 72x216 8mm
-Tenant Cabinets: Illuminated w/ Flat Illuminated Faces

Area
-MAIN CABINET: 68.6
-TENANTS: 15.17 each = 30.34 total
-Total 98.94 sqft

Color Key
1. Black S/G
2. MP 55090- PMS186c Red S/G
3. White
4. Yellow
5. Black
6.

Job Number
132066-3a

Creation Date
1/27/2026

Revision Date
3/10/2026

Revision Number
3

File Path
1 - Kwik Trip\Cottage Grove, MN 1789\ 132066
-Artwork for KT1789 Cottage Grove\Design\1789
Cottage Grove Art 132066-3a Monument

KWIK TRIP 1789

KNOW ALL PERSONS BY THESE PRESENTS: That Kwik Trip, Inc., a Wisconsin corporation, owner of the following described property;

That part of the Southeast Quarter of Section 36, Township 27 North , Range 21 West, Washington County, Minnesota, lying west of the westerly right of way line of State Trunk Highway No. 95, as it existed prior to the recording of MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 82–160, according to the recorded plat thereof and lying northerly of the northerly right of way line of State Trunk Highway No. 61 and lying east of the following described line: Commencing at the northwest corner of said Southeast Quarter; thence South 89 degrees 58 minutes 28 seconds East, assumed bearing , along the north line of said Southeast Quarter, a distance of 1460.00 feet; thence South 00 degrees 01 minute 32 seconds West, a distance of 817.05 feet to the northerly right of way line of State Trunk Highway No. 61, to a point hereinafter referred to as point A; thence North 00 degrees 01 minutes 32 seconds East, a distance of 817.05 feet to the north line of said Southeast Quarter; thence South 89 degrees 58 minutes 28 seconds East, along said north line, a distance of 118.16 feet to the point of beginning of the line to be described; thence South 00 degrees 01 minutes 32 seconds West, a distance of 657.55 feet to the intersection with a line that bears North 36 degrees 33 minutes 28 seconds East from said Point A; thence South 36 degrees 33 minutes 28 seconds West, a distance of 198.50 feet to said Point A, and there terminating.

Has caused the same to be surveyed and platted as KWIK TRIP 1789 and does hereby dedicate to the public for public use the public way as shown on this plat and also dedicate the drainage and utility easement as created by this plat.

In witness whereof said Kwik Trip, Inc., a Wisconsin corporation, has caused these presents to be signed by its proper officer this _____ day of _____, 20__.

Signed: Kwik Trip, Inc., a Wisconsin corporation

By: _____ its _____

By: _____ its _____

STATE OF MINNESOTA
COUNTY OF _____

This instrument was acknowledged before me on this _____ day of _____, 20___, by _____, its _____ of Kwik Trip, Inc., a Wisconsin corporation.

_____ (Signature)
_____ (Printed Name)
Notary Public, _____ County, Minnesota
My Commission Expires: _____

I, Arlee J. Carlson, do 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 _____, 20___.

_____
Arlee J. Carlson, Licensed Land Surveyor
Minnesota License No. 44900

STATE OF MINNESOTA
COUNTY OF _____

This instrument was acknowledged before me on this _____ day of _____, 20___ by Arlee J. Carlson, Licensed Land Surveyor.

_____ (Signature)
_____ (Printed Name)
Notary Public, _____ County, Minnesota
My Commission Expires: _____

CITY COUNCIL, CITY OF COTTAGE GROVE, MINNESOTA

This plat was approved by the City Council of Cottage Grove, Minnesota, this _____ day of _____, 20___, and hereby certifies compliance with all requirements as set forth in Minnesota Statutes, Section 505.03, Subd. 2.

Signed: _____ Mayor Signed: _____ Clerk

COUNTY SURVEYOR, COUNTY OF WASHINGTON, STATE OF MINNESOTA

Pursuant to Chapter 820, Laws of Minnesota, 1971, and in accordance with Minnesota Statutes, Section 505.021, Subd. 11, this plat has been reviewed and approved this _____ day of _____, 20___.

By: _____ Washington County Surveyor By: _____

COUNTY AUDITOR/TREASURER

Pursuant to Minnesota Statutes, Section 505.021, Subd. 9 and Section 272.12, taxes payable in the year 20___ on real estate hereinbefore described, have been paid; and there are no delinquent taxes and transfer has been entered on this ____ day of _____, 20__.

By _____ Washington County Auditor/Treasurer By _____ Deputy

COUNTY REGISTRAR OF TITLES

Document Number _____

I hereby certify that this instrument was filed in the Office of the Registrar of Titles for record on this _____ day of _____, 20__, at _____ o'clock __.M., and was duly recorded in Washington County Records.

By _____ Washington County Registrar of Titles By _____ Deputy

PRELIMINARY
SUBJECT TO REVISION

SUNDE LAND SURVEYING

KWIK TRIP 1789

- ● DENOTES FOUND 2 INCH ALUM MNDOT MONUMENT, UNLESS OTHERWISE NOTED
- ○ DENOTES 1/2 INCH BY 14 INCH IRON PIPE MONUMENT SET AND MARKED WITH PLS NO. 44900
- ◔ DENOTES FOUND CAST MONUMENT

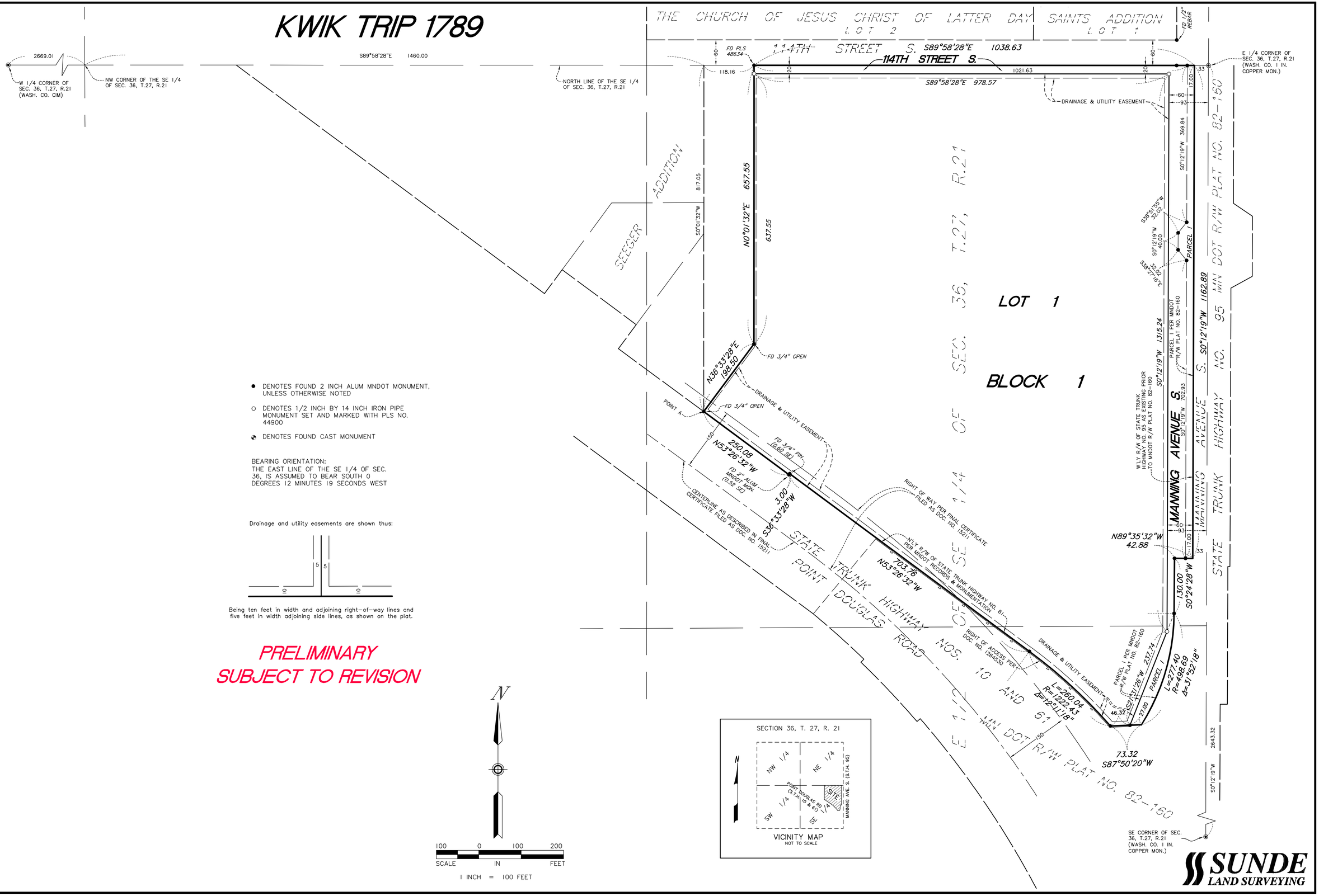
BEARING ORIENTATION:
THE EAST LINE OF THE SE 1/4 OF SEC. 36, IS ASSUMED TO BEAR SOUTH 0 DEGREES 12 MINUTES 19 SECONDS WEST

Drainage and utility easements are shown thus:

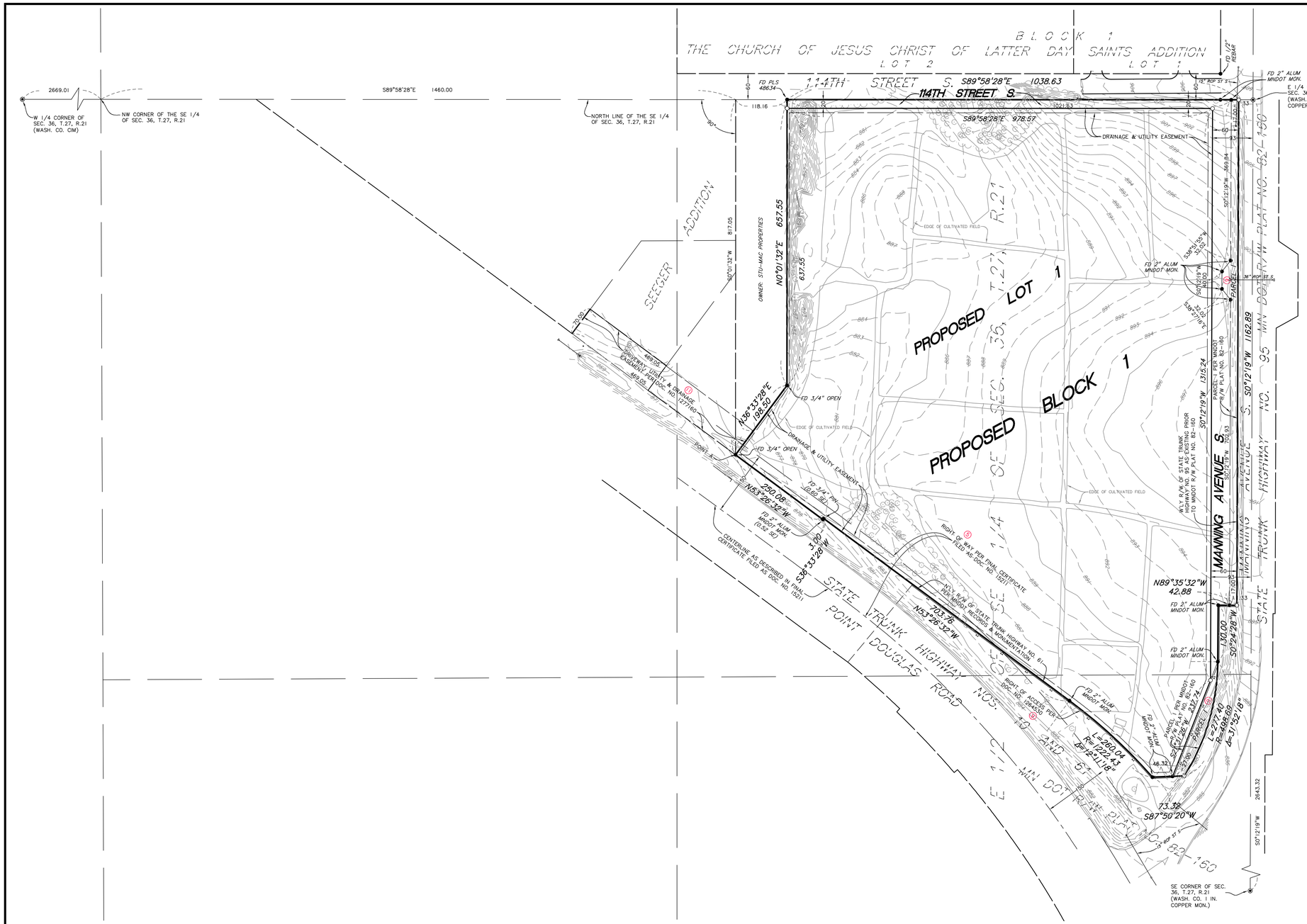
Being ten feet in width and adjoining right-of-way lines and five feet in width adjoining side lines, as shown on the plat.

PRELIMINARY
SUBJECT TO REVISION

VICINITY MAP
NOT TO SCALE



SUNDE LAND SURVEYING



DESCRIPTION OF PROPERTY SURVEYED

(Per First American Title Insurance Company Owners Policy of Title Insurance File No. 1660590, policy date January 1, 2025)

The Land referred to herein below is situated in the County of Washington, State of Minnesota, and is described as follows:

That part of the Southeast Quarter of Section 36, Township 27 North, Range 21 West, Washington County, Minnesota, lying west of the westerly right of way line of State Trunk Highway No. 95, as it existed prior to the recording of MINNESOTA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLAT NO. 82–160, according to the recorded plat thereof and lying northerly of the northerly right of way line of State Trunk Highway No. 61 and lying east of the following described line:

Commencing at the northwest corner of said Southeast Quarter; thence South 89 degrees 58 minutes 28 seconds East, assumed bearing, along the north line of said Southeast Quarter, a distance of 1460.00 feet; thence South 00 degrees 01 minute 32 seconds West, a distance of 817.05 feet to the northerly right of way line of State Trunk Highway No. 61, to a point hereinafter referred to as point A; thence North 00 degrees 01 minutes 32 seconds East, a distance of 817.05 feet to the north line of said Southeast Quarter, thence South 89 degrees 58 minutes 28 seconds East, along said north line, a distance of 118.16 feet to the point of beginning of the line to be described; thence South 00 degrees 01 minutes 32 seconds West, a distance of 657.55 feet to the intersection with a line that bears North 36 degrees 33 minutes 28 seconds East from said Point A; thence South 36 degrees 33 minutes 28 seconds West, a distance of 198.50 feet to said Point A, and there terminating.

NOTE: This property is Torrens, the Torrens Certificate No. is 80426.

TITLE COMMITMENT

First American Title Insurance Company Owners Policy of Title Insurance File No. 1660590, policy date January 1, 2025, was relied upon as to matters of record.

Schedule B Exceptions:

(1) Exceptions are indicated on survey with circled numbers unless otherwise noted. Items not listed below are standard exceptions and/or are not survey related.

2. An easement for electric energy transmission and incidental purposes in the document recorded May 27, 1949 as Doc. No. 4582 of Official Records. [it is a blanket easement]
3. Condemnation of certain lands taken by the State of Minnesota for trunk highway and incidental purposes as contained in Final Certificate recorded July 2, 1953 as Doc. No.6575, together with the right of access. [part of MNDOT R/W plat No. 82–160]
4. An easement for electric energy transmission and incidental purposes in the document recorded June 20, 1960 as Doc. No. 14402 of Official Records. [it is not on, or does not touch, the surveyed property.]
5. Condemnation of certain lands taken by the State of Minnesota for trunk highway and incidental purposes as contained in Final Certificate recorded September 20, 1960 as Doc. No.15211, together with the right of access. [shown on survey]
6. The terms, provisions and easement(s) contained in the document entitled "Easement and Agreement" recorded May 1, 1975 as Doc. No. 40601 of Official Records. [amended per exception 18]
7. The terms and provisions contained in the document entitled "Resolution No. 88–227" recorded November 18, 1988 as Doc. No. 93142 of Official Records. [expired]
8. A document entitled "Minnesota Department of Transportation Right of Way Plat No. 82–147" recorded May 10, 2018 as Doc. No. 1253357 of Official Records. [amended by MNDOT R/W Plat No. 82–160]
9. Condemnation of certain lands taken by the State of Minnesota for trunk highway and incidental purposes as contained in Final Certificate recorded March 16, 2020 as Doc. No.1264530, together with the right of access. [shown on survey]
10. The terms and provisions contained in the document entitled "Resolution 2020–135" recorded November 19, 2020 as Doc. No. 1269903 of Official Records. [not plottable]
11. The terms, provisions and easement(s) contained in the document entitled "Easement Agreement for Driveway, Utility and Drainage Purposes" recorded September 28, 2021 as Doc. No. 1277160 of Official Records. [shown on survey]
12. Rights of the public in and to that portion of the Land lying within State Highway No. 61 and Manning Avenue South aka State Highway No. 95.

GENERAL NOTES

1.) Survey coordinate basis: Washington County System NAD83 (1986 adjustment)

2.) Adjoining ownership information shown hereon was obtained from the Washington County Property Tax Information web site.

UTILITY NOTES

1.) Utility information from plans and markings was combined with observed evidence of utilities to develop a view of the underground utilities shown hereon. However, lacking excavation, the exact location of underground features cannot be accurately, completely and reliably depicted. In addition, Gopher State One Call locate requests from surveyors may be ignored or result in an incomplete response. Where additional or more detailed information is required, excavation and/or a private utility locate request may be necessary.

2.) Other underground utilities of which we are unaware may exist. Verify all utilities critical to construction or design.

3.) Some underground utility locations are shown as marked onsite by those utility companies whose locators responded to our Gopher State One Call, ticket numbers 242402074, 242402076, 242402157 and 242402158.

4.) Contact GOPHER STATE ONE CALL at 651–454–0002 (800–252–1166) for precise onsite location of utilities prior to any excavation.

ZONING NOTES

1.) Zoning information is per Zoning Map of Cottage Grove.

2.) The existing zoning classification of the subject property is B3 – General Business.

FLOOD ZONE NOTE

1.) The subject property appears to lie within Zone X (Area of Minimal Flood Hazard) per the National Flood Insurance Program, Flood Insurance Rate Map No. 27163C0438E, dated February 3, 2010, Community No. 270502. This information was obtained from the FEMA Map Service Center web site.

PARKING

No designated parking spaces were observed on site.

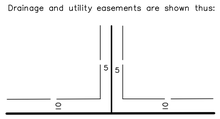
AREAS

Gross = 1,316,815 square feet or 30.230 acres
Proposed Lot 1 = 1,217,912 square feet or 27.959 acres
Dedicated Manning Avenue & 114th Street = 98,903 square feet or 2.271 acres

LEGEND

- ○ Denotes iron monument set marked with P.L.S. No. 44900
- ● Denotes found monument
- —△— Denotes Right of Access

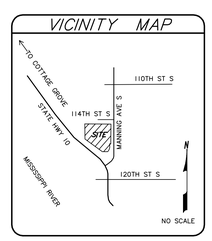
Drainage and utility easements are shown thus:

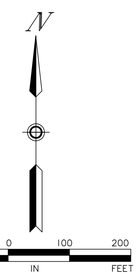


Being ten feet in width and adjoining right–of–way lines and five feet in width adjoining side lines, as shown on the plat.

OWNER/APPLICANT

Kwik Trip, Inc
1626 Oak Street
LaCrosse, WI 54602–2107
Contact Person: Leah Berlin
Phone (608) 793–6221





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

Dated this 5th day of March, 2026

SUNDE LAND SURVEYING, LLC

By: Arlee J. Carlson

Arlee J. Carlson, P.L.S. Minn. Lic. No. 44900

Added D & U easements	MAP	4/03/2026
Revised Dedicated roadway	MAP	3/05/2026
Revision	By	Date
	MAP	

Drawing Title:

PRELIMINARY PLAT OF:

KWIK TRIP 1789

MANNING AVE., COTTAGE GROVE, MN

SUNDE LAND SURVEYING
Main Office:
9001 East Bloomington Freeway (35W) • Suite 118
Bloomington, Minnesota 55420–3435
952–881–2455 (Fax: 952–888–9526)
www.sunde.com

Project: 2024–121–A Bk/Pg: 1307/1	Date: 3/05/2026
Township: 27 Range: 21 Section: 36	
File: 2024121A–pplat–R1.dwg	Sheet: 1 of 1

KWIK TRIP INC.

Store Engineering

PHONE 608-793-5555
FAX 608-781-8960

1626 Oak St., P.O. Box 2107
La Crosse, WI 54602

www.kwiktrip.com

February 18, 2026

City of Cottage Grove
Jennifer Levitt – City Administrator
12800 Ravine Parkway South
Cottage Grove, MN 55016

RE: Kwik Star 1789 – Site Plan Application

Dear Ms. Levitt,

This letter is intended to accompany the submittal for our application to the City of Cottage Grove for Site Plan Review. Please accept this letter as our request to be considered for the Planning Commission Meeting Agenda as well as the City Council Meeting Agenda.

Kwik Trip, Inc. is proposing the construction of a convenience store with a 10-dispenser fueling canopy and a 3-lane diesel canopy. Included in the submittal are the Civil plans, Stormwater Calculations, Building/ Canopy Elevations, and the Sign plan.

Operations

The requested hours of operation will be 24 hours for all uses. The type of products sold will be similar to our existing stores throughout the Midwest: fresh produce, bakery and dairy, hot and cold food and beverages, fresh meat and groceries, tobacco products, lotto, convenience store merchandise, alcohol, gasoline, diesel, E-85, ice and propane. The outside merchandising of products is being requested next to the store (two ice chests and one propane cage) and underneath the proposed main canopy. To ensure the freshest products are sold in our stores, we request daily deliveries be allowed.

Buildings, Architecture and Site Design

The architectural elements in this state-of-the-art building consist of a full brick cladding, standing seam metal roof, store front aluminum openings and stucco accents. Extensive

landscaping, storm water facilities, monument and wall signage, customer and employee parking, concrete paving with curb and gutter are also included in the overall site design.

Investment in the City

This project will be a multi-million-dollar investment in the City of Cottage Grove. Not only in the physical improvements and development of a vacant parcel, but also an investment of approximately 25 to 30 new permanent jobs with-in the City of Cottage Grove.

Community Partner

We pride ourselves in being an asset in the communities where we are located. Families can walk or ride their bikes to our stores. Retirees on fixed income can access fresh groceries like milk, eggs, bread and fruit just steps from their car. We take pride in giving back to the communities we serve with charitable donations and by partnering with local non-profits. Kwik Trip would be happy to provide any additional information or answer any questions or concerns the City of Cottage Grove may have with our submittal. Please feel free to call or email with any questions you may have.

Sincerely,

Scott Zietlow
Development / Construction Manager
SJZietlow@KwikTrip.com
608-793-5933

COTTAGE GROVE PLANNING COMMISSION **March 23, 2026**
12800 Ravine Parkway South
Cottage Grove, MN 55016
COUNCIL CHAMBER - 7:00 P.M.

The Regular Meeting of the Planning Commission was held in the Council Chamber and telecast on Local Government Cable Channel 16.

1. CALL TO ORDER

Fisher called the Planning Commission meeting to order at 7:00 p.m.

2. ROLL CALL

Schmitz called the roll: Pradeep Bhat-Here; Ken Brittain-Here; Jessica Fisher-Here; Eric Knable-Here; John Stechmann-Here; Brad Madison-Here; Terrence Woodman-Excused Absence.

Members Absent: Terry Woodman

Staff Present: Emily Schmitz, Community Development Director; Samantha Pierret, Senior Planner; Paul Sponholz, City Engineer; Alanna Sobottka, Assistant City Engineer; Justin Olsen, City Council Liaison.

3. APPROVAL OF AGENDA

Brittain made a motion to approve the agenda. Stechmann seconded. The motion was approved unanimously (6-to-0 vote).

4. OPEN FORUM

Fisher opened the Open Forum and asked if anyone wished to address the Planning Commission on any non-agenda item. No one spoke. Fisher closed the Open Forum.

5. CHAIR'S EXPLANATION OF THE PUBLIC HEARING PROCESS

Fisher explained the purpose of the Planning Commission, which serves in an advisory capacity to the City Council, and that the City Council makes all final decisions. In addition, she explained the process of conducting a Public Hearing and requested that any person wishing to speak should go to the podium and state their full name and address for the public record.

6. PUBLIC HEARINGS AND APPLICATIONS

A. River Bend - Case PP2026-008
Betsy Dippel has applied for a preliminary plat to subdivide the existing 9.09-acre parcel located at 10020 Grey Cloud Trail into four separate parcels. The Applicant has proposed creating two lots on the south side of Grey Cloud Trail, one for the existing dwelling and another for a future dwelling. Two outlots will be created on the south side of Grey Cloud Trail, so all land under common ownership will be three acres or more.

Pierret summarized the staff report and recommended approval subject to the conditions stipulated in the staff report.

Fisher asked if the Applicant wanted to add anything, and she did. Fisher asked her to come up to the podium and state your name and address, please.

I'm Betsy Dippel, I'm the owner of the property with my husband, and we've been there for 42 years, since 1984. The reason we're doing this is to help the property move forward to the next generation. Thank you for being here tonight. So, Kaylee wrote something up and give me a second here to pull it up, and I'm just going to read it for you: *"Thank you for your time and reviewing our application. We understand that the City has established policies and fee structures tied to subdivision and future development, and we do appreciate that some of the fees are deferred until a Building Permit is applied for. We also appreciate that the staff has always worked with us to reduce portions of the application-related costs. I wanted to share our perspective: As long-time residents of Cottage Grove, we have owned and maintained this property for 42 years and have contributed through property taxes and past assessments, including approximately $10,000 toward the road improvement adjacent to our property. I can't remember the year, maybe 2016, about 10 years ago. As part of this process, we understand that the land beneath that road will now be dedicated as public Right-of-Way. What is difficult for us is that this represents both a prior financial investment and now a loss of land value without a clear understanding of how that is accounted for in the overall process. In addition, this request is not part of a broader development project, we are simply trying to divide the property to support family use with the possibility of one additional home in the future. Because of that, the combination of required land dedication and future fees, especially as they apply per lot, feels significant relative to the limited impact this change would have on the property and surrounding area. We are not here to challenge the City's policies, but to better understand how situations like ours are evaluated and whether there is any flexibility or consideration when there has already been a substantial prior contribution tied to the same area of land. We want to work collaboratively and respectfully with the City as we move forward. Thank you again for your time and consideration."* Fisher said thank you.

Fisher said with that, I will open it up to the commissioners. Do you have any questions for the applicant or for staff? None were asked.

Fisher opened the Public Hearing. No one spoke. Fisher closed the Public Hearing.

Fisher asked if there were any further questions or discussion from the commission.

Stechmann said I appreciate the comments from Ms. Dippel. I also saw the numbers when it comes to the park dedication fee and the connection fees and what have you, and they're not insignificant; I appreciate your comments, but I think that those are fixed by municipal ordinance and other regulations pertaining to the City of Cottage Grove. So, I don't know if there's any wiggle room or something along those lines, but I do understand the comments that you make. I see myself voting in favor of this.

Fisher asked do we need to have someone from staff address the questions that were brought up by the Applicant?

Schmitz replied Madam Chair, Commissioners, I'm happy to simply add that in circumstances where we have these larger lots that are being created, perhaps some of you have been around long enough for some of those lots where we've created a new buildable lot on Kimbro, kind of in that area where there are larger, three-acre parcels. We do use what we consider to be our real friendly calculation where we look at it as a whole, and we say as development continues to grow, eventually there will be multiple lots, right? We'll see more of that low density that you typically see in these developed areas. So, we make sure that we're not using these acreage-based fees for these larger lots for that three acres; we're doing a calculation to say in the future, there will potentially be multiple lots created, and so we want to make sure we're recognizing these larger lots, unless there considered development rather than creating another opportunity for a single-family home. So, I hope that helps add a little bit of context and detail to those fees, and Commissioner Stechmann, you hit the nail on the head, these are fees that are adopted by the City on our Fee Table on an annual basis and we hold true to those throughout the year.

Ms. Dippel said I want to speak again or is it too late? Fisher replied this is my first meeting, so you're testing me. I'm sorry, we've already opened and closed the Public Hearing. Fisher asked if there was any further discussion from the Planning Commission before we talk about a motion? There was none.

Fisher said I'll look for a motion on this application.

Brittain made a motion to approve the River Bend Preliminary Plat subject to the conditions stipulated in the staff report. Knable seconded. The motion was approved unanimously (6-to-0 vote).

B. Ravara Trails - Case CP2026-003

Twin City Land Development has applied for a minor land use modification to the Comprehensive Plan to re-guide 9.5 acres of the proposed Ravara Trails development east of Keats Avenue, north of 77th Street, and south of 70th Street, from High Density Residential to Medium Density Residential.

Pierret summarized the staff report and recommended approval based on the findings stipulated in the staff report.

Fisher asked if the Applicant wished to add anything, but they did not wish to do so. Fisher asked if there were any questions for staff from the commission.

Knable said thank you. So, the Met Council said no to the sewer connection until we did a Comprehensive Plan Amendment? Pierret replied that is correct, that have put a pause on that sewer connection permit until the area is re-guided to match our proposed density in the 2040 Comprehensive Plan. Therefore, we are re-guiding it to match that density at the request of the Met Council. Knable asked and they will relook at it again, once it gets through us and the City Council? Pierret replied so, what will happen is after it goes through City Council, staff will submit the proposed re-guidance to the Met Council where they have 15 business days to determine whether it can be administratively approved by the Met Council or if it needs to go to the full Met Council. If it needs to go to the full Met Council, it could take up to 60 days for the full Met Council to act on this. Knable said thank you, I just wanted to know if it had to go like to a different aspect of the Met Council; Pierret replied yes. Knable said okay, thank you. Pierret said we are not sure yet.

Fisher asked if there were any other questions from the commission, none were made.

Fisher opened the Public Hearing. No one spoke. Fisher closed the Public Hearing.

Fisher asked if there were any further comments or questions, none were made. Fisher said I'll look for a motion.

Knable made a motion to approve the minor land use modification to the Comprehensive Plan Amendment based on the findings stipulated in the staff report. Madison seconded.

Fisher asked if there was any further discussion on the motion.

Brittain said I'm just clarifying, does that include subject to conditions stipulated in the staff report? Knable replied yes.

The motion was approved unanimously (6-to-0 vote).

Fisher said this application will be on the April 1, 2026 City Council Agenda.

C. Zoning Code Updates - TA2026-009
The City of Cottage Grove has applied for Zoning Text Amendments to the Zoning Code (Title 11).

Pierret summarized the staff report and recommended approval.

Fisher thanked Pierret and asked if the commissioners had any questions.

Brittain said first, I'd like to commend you on your implementation of the clear-view triangle. I know that we've been talking about it for a while and it's been a complex issue, and I think that you've come up with an elegant solution that doesn't make it too complicated to enforce. The question that I do have is will the clear-view triangle on plats going forward be visible on the plat, like other easements are? Pierret replied so, currently, it's not a requirement in our Subdivision Code that the clear-view triangle be delineated. Staff is just reviewing the development applications, preliminary plats as they come in, and we're being very clear with developers and applicants, saying make sure the clear-view triangle is kept clear, we're considering where people may put a fence or something like that. One thing I will mention is we are working on updating our Subdivision Code here in 2026, so perhaps that's an item for discussion at that time, too. Brittain said okay, I just bring that up because having the homeowner of a new lot with that information embedded within the plat that they get when they build the lot, I think would help go a long way to confusion of whether they, it'd be their first indicator of hey, there's this line under here, I don't understand so they could ask about it instead of coming back later. So, if that's something that we could do in the Subdivision Ordinance, if we could consider that, that'd be great. But with respect to what you're talking about here, I fully support it, and I appreciate all your hard work in getting that implemented.

Fisher asked if there were any questions.

Bhat said so, this is regarding the same clear-view triangle. I'm uncertain as to how moving the definition of the description from one section to the other section will help in enforcing it. Pierret replied so, moving the language, it's just adding it to another section of our Code where you would more readily expect to see the requirements for no obstructions in the clear-view triangle, especially when it comes to landscaping; landscaping has been kind of less clear because it's not in the landscaping part of the Code, it's found in our Fence section and in our Sign section. So, adding it to the Landscaping section will just add it to a part of the Code where you'd be more readily looking for clear-view triangle regulations in the Landscaping section. The last thing I'll say is that we are adding that provision that the City can order the removal of obstructions from the clear-view triangle; that's not currently in our Code, so right now, it's not currently in the Code that the City can order the removal of a fence or tall vegetation. So, that's also going to clear things up. Bhat said thank you. Just one more question. Is there any benefit in having this language in both sections, if we're moving it from one section and moving it to the other, could we keep it where it is and also add it to the Landscaping section? Pierret replied it's proposed to just add it to the Landscaping section and keep it with the Fences and the Signs as well; so, three different places in the Code so everybody can see it. Bhat said okay, thank you.

Stechmann said quick question: So, does the identity of the complainant remain private or confidential, or does that become public data? Pierret replied that is a good question, I will toss it over to the Community Development Director, former Code Enforcement Officer. Schmitz replied Madam Chair, Commissioner Stechmann, it certainly can be anonymous. If you submit a complaint to the City, you do not have to provide your name and/or address or contact information for that matter, obviously, if it comes in an email, etc. So, it could remain anonymous. Stechmann said okay, thanks.

Knable asked on the outdoor sales display, so stores that keep product on their sidewalks in front of their stores, is that going to be a permit required to have that now? Pierret replied no, a permit will not be required, it's considered an accessory use. We are just clearing up that those are a permitted accessory use, and they just need to be kept in a well-maintained condition, preferably not selling mulch around Christmastime or something like that. Knable said okay, so when they open up a garden center, that will need to get renewed if it hasn't been renewed for, what's the timeframe for that? Pierret replied for the garden center in a separate tent in the parking lot, once they get an Administrative Conditional Use Permit, that is valid as long as that business is operational, so it's a one-time thing; but we're checking the Building Permit every year that's required for the tent, to make sure they're meeting setbacks and things like that. Knable said okay, thank you.

Fisher said I have one question to finish off the list here. So, with the side yard setbacks, you spoke about the density that the Met Council has been pushing for it. Is this something that the Met Council specifically asked for with the five-foot side yard setbacks, or is this something that we're wanting to kind of preemptively change because you see that's where the Met Council is going? Pierret replied Madam Chair, so with the 40-foot wide lots, part of the PUDs that we've approved in the past have also been 40-foot wide lots and 5-foot side yard setbacks. So, the developers have been telling us that this is what works on these 40-foot wide lots are these lesser setbacks. I'll just add that I know the developers have been telling us that these are very popular lot sizes, they are very popular within the City of Cottage Grove and across the Twin Cities. As you mentioned, the Met Council is requiring additional density. So, reducing those setbacks and being proactive about these 40-foot wide lots that we are getting regular requests for is just helping us be kind of I'll say ahead of the game with the Met Council as we got into our 2050 Comprehensive Plan process. Fisher replied sure. Okay, thank you.

Fisher opened the Public Hearing. No one spoke. Fisher closed the Public Hearing.

Fisher asked if there was any further discussion or questions from the commission, and there were none. Fisher said all right, then I'll look for a motion.

Brittain made a motion to approve the proposed Zoning Text Amendments to the City Code Title 11, Zoning Code. Stechmann seconded. The motion was approved unanimously (6-to-0 vote).

Fisher said this item will be on the April 15, 2026 City Council agenda.

7. APPROVAL OF MINUTES

A. Approval of the February 23, 2026, Planning Commission Meeting Minutes

Knable made a motion to approve the February 23, 2026, Planning Commission Meeting Minutes. Bhat seconded. Motion passed unanimously (6-to-0 vote).

8. REPORTS

A. RECAP OF MARCH 4 AND MARCH 18, 2026 CITY COUNCIL MEETINGS

Schmitz said looking back at March, as you recall, we had a large agenda in February, so there were a handful of items that Council reviewed:
March 4: Council approved the Panera project, which we are hopeful to see a Building Permit here soon for their work in transitioning that old gas station location into Panera. Council also approved the New Life Church, south on Highway 61, for their addition to their building; again, they're hopeful to get going as soon as Spring decides to stick around.

March 18: This meeting was heavy with Preliminary Plats, if you recall. This evening we talked about the Comprehensive Plan Amendment for Ravara Trails for the 269 single-family, 306 townhome units, so that Preliminary Plat was approved. Talcott Glen was approved, which is the Lennar project kind of on the other side of the highway, 177 single-family lots, so of course they're looking to get moving this Spring. McHattie Landing's Preliminary Plat was approved with those 85 lots at Jamaica and Ravine Parkway. Again, they're hopeful to get moving this Spring.

Schmitz said finally what I will note, to kind of keep going on the Comprehensive Plan Amendment, staff is meeting with Met Council staff to talk more in detail about their new interpretation of a policy, for lack of a better way to put it. Some of you have been around long enough that we've regularly used density averaging for projects in the past. When we put our land use map together as a part of our Comprehensive Plan Updates, we typically, as Sam had mentioned, don't use straight lines; sometimes we're just trying to get that different feel for a neighborhood, but that doesn't always mean that it's practical when you start to put it into implementation. Sometimes those land uses cross over property lines, and you don't have two property owners that are navigating development at the same time, so you don't necessarily have an area of a land use that can support development on its own. So, we've navigated this way, for lack of a better way to put it, for decades; so, this is a new interpretation for us that we're going to continue to try to better understand and hopeful that we can still be efficient in our development in Cottage Grove as we continue to grow. So, please know that those conversations will continue to happen as we want to make sure we have what's best for our community as we continue to move forward.

With that, Council Member Olsen is here as well if he has anything to add.

Council Member Olsen said thank you. If I could ask you to please meet me down in front, I would very much appreciate it. We have a special guest that we're going to honor this evening, and I'd like to have the Planning Commission down in front to join me.

PRESENTATION OF PLAQUE TO EVAN FRAZIER

Council Member Olsen said please join me if you would, Mr. Frazier. The reason I asked all of you down here this evening is one of the things that happens every year, at the end of February, is we have turnover at our various commission levels. The terms for commissioners expire at the end of February, and in many cases, those commissioners are reappointed to continue their service with the City; but on occasion, they've reached the end of their term limit, so what we do in those circumstances is we ask those folks to step down, and if they choose to come back and serve again as a commissioner, they have to wait 12 months before they're able to do that. So, this evening you'll note that it's March, so we have some new faces in the group here tonight. We've got a new Chair, so let's congratulate Commissioner Fisher on her becoming Chair, and for those of you referring to her, it would be Madam Chair. Everyone applauded. Then, to my left over here, at the end, we've got our brand new Planning Commissioner, Brad Madison, so let's congratulate him. Everyone applauded. For those of you who don't know, Brad and his wife, Louise, they are the owners of The Madison in Old Cottage Grove, a beautiful venue that they've really done some amazing things with; so, if you haven't had a chance to check it out, I would strongly encourage you to do so. but, of course, in order for those new positions to occur, we have to have somebody or somebodies who step away from the commission for a period of time, and in this case, it's Commissioner Evan Frazier. Evan, thanks for being here tonight, I appreciate it. Evan has served on the Planning Commission since 2017 here in the City of Cottage Grove, so nine years. And the reason he got that extra year is because he was here in the COVID days, so all the COVID kids got an extra year on the commission, and we were grateful that that occurred. Also, in those nine years, Evan was Chair of the Commission for five years.

So, if I think back to when he started in 2017, as a commissioner, the City of Cottage Grove's population was approximately 36,000 people, and today it's approximately 44,000 people, and all 8,000 of those people came because of Evan, there's no doubt, that's absolutely true. So, we'll hope that people will continue to move here, even though Evan's not sitting here. But one of the things that we like to do when somebody does take a step away from the commission is we like to honor them with a little bit of a plaque, it's nothing super special, but I'm going to read it. Then I'm going to ask Evan if he has any words he'd like to share; and he's probably got stories because he's been here for nine years, and there's been an awful lot that's gone on in the City in that time. The City of Cottage Grove would love to just present this plaque to Evan in appreciation of dedicated service to the City and to our Planning Commission, and again it's got the dates of service here, 2017 through 2026. This is a small token of our deep appreciation for the job that you did, not just as a commissioner but also as a Chair, you were phenomenal in that role. I was lucky enough to have coffee with Jessica on Saturday, and all she could say was oh, my God, what are people going to think because I'm not Evan. But she'll be great, she'll do just fine. That being said, you left some big shoes to fill. So, I want to present this to you on behalf of the City. How about a round of applause for Evan? Everyone applauded. Council Member Olsen asked Evan if there were some words he'd like to share with the millions watching at home. Evan said well, I just want to thank everyone, first of all everyone who's in this room, for doing the work you're doing. In my day job, I'm also in public service, and so I know that the people who do things like this, who volunteer on boards, who work for the City, don't get thanks enough on a normal basis. So, thank you all for what you do and the hard work you do for the City because some days it is very hard, and you get people in here who are not happy with the decisions that have to be made, but the job is to make the right decision based on the rules and the laws that we have to live by. So, thank you all. I know probably most of you heard my speech before about this is the closest government gets to people's lives here in the City, and that it is a better system and it is a better process when people show up and are motivated to work together on this. So, again, thank you all for everything that you do. Council Member Olsen replied thank you, sir. Everyone applauded.

There was a request to get a picture for the yearbook, and Schmitz said we're going to take a couple because we want them to be good. Excellent.

Council Member Olsen said and let's thank Evan for sitting through the entire meeting, we weren't going to let him off easy. So, we're grateful that he was here for this one last go round, and we hope to see you again at the dais here soon. All right, thank you, sir, and enjoy. Evan replied thank you, and everyone applauded. Council Member Olsen said thank you all for joining me to recognize Evan, and again, congratulations to Commissioner Fisher for now become Chair Fisher, and to our newest commissioner, Brad Madison. You're in good hands sitting next to John, he'll take good care of you, so you'll be just fine. If there are any questions that the commission has for me, as always, I'm here to answer those so feel free.

Fisher said all right, thank you, Council Member. I did say I have big shoes to fill, just for the record, he wasn't making that up. Council Member Olsen replied no, that was true. Fisher said so thank you, it was good to see Evan again, and thank you, and I will do my best to think like you, sir.

Fisher asked does anybody have any questions or requests of our City Councilman? There were none. Council Member Olsen replied that's just the way I like it, thank you.

B. RESPONSE TO PLANNING COMMISSION INQUIRIES - None.

C. PLANNING COMMISSION REQUESTS - None.

9. ANNUAL ORGANIZATIONAL MEETING

A. ADOPT 2025 PLANNING COMMISSION RULES

Fisher said we need to accept the 2026 Planning Commission Rules. So, before we do that, Fisher asked if there were any questions, comments, or proposed changes to these Rules. There were none. Fisher said I would look for a motion to accept the rules for 2026.

Stechmann made a motion to Approve the 2026 Planning Commission Rules. Second by Brittain. Motion passed unanimously (6-to-0 vote).

B. ELECTION OF OFFICERS

Fisher said first, we need to nominate somebody for the Vice Chair position. Emily, do we need to talk about what their jobs are as the Vice Chair? Schmitz replied Madam Chair, I'm happy to just give an overview. So, the Vice Chair will step in, in any instance where the Chair might be absent for any reason. The Secretary is responsible for maintaining the Roll on a meeting basis, so making sure that they're calling that Roll. Fisher said okay, thank you.

With that, are there any nominations for Vice Chair? You can also nominate yourself. Any nominations for Vice Chair? Brittain asked if there is anybody else that wants to do it. Britain said I'd be more than willing to step in if Jessica's not around, but if somebody wants to do it, I'm more than willing to not. Fisher said okay, so there's a nomination for Commissioner Brittain to be the Vice Chair. Are there any other nominations? It says here I have to ask three times; are there any nominations for Vice Chair? If not, then we will vote for Commissioner Brittain to be voted in as the Vice Chair. I can just vote it, right? I don't need a motion. Council Member Olsen said Madam Chair, if I may? Chair Fisher replied yes. Council Member Olsen said if Commissioner Brittain is the only nominee, then he would be approved by unanimous consent, so there's no need to vote. Fisher replied thank you for the clarification. Council Member Olsen replied you're welcome. Fisher said so, Commissioner Brittain is officially the Vice Chair for 2026.

Fisher said moving on to Secretary, are there any nominations for the Secretary position? Bhat said I can be the Secretary. Fisher said okay, Commissioner Bhat has nominated himself to be secretary. Are there any other nominations for Secretary? Fisher said one last time, any other nominations for Secretary? If not, then Commissioner Bhat by unanimous consent will be our new Secretary.

10. ADJOURNMENT

Knable made a motion to adjourn the meeting. Madison seconded. Motion passed unanimously (6-to-0 vote). The meeting was adjourned at 7:49 p.m.