CITY OF NORTH OAKS

Regular Planning Commission Meeting
Thursday, February 29, 2024
7:00 PM, Community Meeting Room, 100 Village Center Drive

MEETING AGENDA

Remote Access - *Planning Commission members will participate in person in Council Chambers (Community Room, 100 Village Center Drive, Suite 150, North Oaks, MN) during the meeting. Members of the public are welcome to attend. Any person wishing to monitor the meeting electronically from a remote location may do so by calling the following Zoom meeting videoconference number: 1-312-626-6799, Webinar ID: 830 9377 7327 or by joining the meeting via the following link: https://us02web.zoom.us/j/83093777327.*

1. **Call To Order**

2. **Roll Call**

3. **Pledge**

4. **Citizen Comments** - *Members of the public are invited to make comments to the Planning Commission during the public comments section. Up to four minutes shall be allowed for each speaker. No action will be taken by the Commission on items raised during the public comment period unless the item appears as an agenda item for action.*

5. **Approval of Agenda**

6. **Approval of Previous Month's Minutes**

6a. Approval of Planning Commission Minutes of 11.30.2023
Planning Commission Minutes_11.30.2023 v2.pdf

7. **Business Action Items**

7a. Public Hearing- Consider Conditional Use Permit for building height in excess of 35 feet for property located at 8 Sherwood Trail.
2024-02-29 staff packet_8 Sherwood Trail.pdf

7b. Public Hearing- Consider Conditional Use Permit for building height in excess of 35 feet for property located at 1 Sherwood Trail.
2024-02-29 PC Packet_1 Sherwood Trail.pdf

7c.Public Hearing- Consider Conditional Use Permit for building height in excess of 35 feet for property located at 2 Sherwood Trail.
2024-02-29 Staff packet_2 Sherwood Trail.pdf

7d.Public Hearing- Consider Conditional Use Permit for garage size in excess of 1,500 square feet and building addition for property located at 70 W. Pleasant Lake Road.
2024-02-29 PC Packet_70 W Pleasant.pdf

7e.Consider septic variance for property located at 4 Dove Lane
2024-02-29 Staff packet_4 dove lane.pdf

7f.Public Hearing - Consider Ordinance amending City Code XV, Chapter 151, Regarding garage definitions and garage size standards
2024-02-29 PC Packet_garage size ordinance v2.pdf

7g. Public Hearing - Consider Ordinance amending City Code Title XV, Chapter 151, Regarding building height and setback standards in the RSL - Residential Single Family Low Density District
2024-02-29 PC packet_setback ordinance v3.pdf

7h.Consider Ordinance amending City Code Title XIII, Chapter 130, regarding unnecessary noise
Memo re Noise Ordinance.pdf

Ord Amd Noise Restrictions 2.23.2024.pdf

8. Commissioner Report(s)

9. Adjourn

North Oaks Planning Commission
Meeting Minutes
City of North Oaks Community Meeting Room
November 30, 2023

1. CALL TO ORDER

Chair Cremons called the meeting to order at 7:00 p.m.

2. ROLL CALL

Present: Chair David Cremons, Commissioners Grover Sayre III, Bob Ostlund, Joyce Yoshimura-Rank, Stig Hauge, Nick Sandell, Councilor Mark Azman
Staff Present: Administrator Kevin Kress, City Attorney Bridget Nason, City Planner Kendra Lindahl
Others Present: Videographer John
A quorum was declared present

3. PLEDGE OF ALLEGIANCE

Chair Cremons led the Council in the Pledge of Allegiance.

4. CITIZEN COMMENTS

Resident Bill McNee, 11 Sunset Lane, spoke on concern of the fence variance request. He is concerned about the precedent it sets with the look and durability of vinyl fencing and the long-term visual effect and maintenance as it ages.

Patty Model Jansen who lives across the street in Three Oaks development which is across the road from the proposed fencing. She is concerned about a huge vinyl fence, believes tree shielding and berm already in place that would do the same.

5. APPROVAL OF AGENDA

Chair Cremons

MOTION by Yoshimura-Rank, seconded Sandell, to approve the agenda as amended. Motion carried unanimously.

6. APPROVAL OF PREVIOUS MONTH'S MINUTES

- **Approval of October 26, 2023 Meeting Minutes**

MOTION by Yoshimura-Rank, seconded by Sayre, to approve the Planning Commission Meeting Minutes of October 26, 2023. Motion carried unanimously.

7. BUSINESS ACTION ITEMS

a. Discussion and Possible Action on Fence Variance #23-7 at Spring Farm Development

- City Planner Lindahl introduced the two variance fence requests regarding the fence request: 1st is to allow a 6-foot-tall fence with less than a 30-foot setback from the lot lines (12 feet from Centerville Road and 2.2 feet from west lot line of 63 Spring Farm Road). The 2nd variance is to allow the fence to cross property lines (with cross three common open space parcels – tracts YYY, ZZZ, and AAAA on RLS 639. There is nothing in code that prohibits the vinyl type of fence, just the solid nature of fence. The ordinance provides 12 standards for fences including open space, and the plans comply with all but 2 requiring variances. Variances must reflect "practical difficulty". The fence would be between 2 feet to residential lot lines and 12 feet to Centerville Road.
- There is also a utility line crossing. There would need to be agreement that they would remove the portion of fence if utility work is needed on that easement.
- The staff report reflects 2 options: If believe the variances meet the standard for practical difficulty and choose to approve, there are findings noted. If do not believe variance standards have been met, then Commission should recommend denial with findings that the variance standards have not met based on discussions from the meeting. The ordinance states fence in excess of 48" high must be at least 30 % open through the structure to allow the passage of light, wind and air.
- John Sonnek from Charles Cudd Company from a 30 % open fence to a closed fence. He stated a row of trees doesn't work here because the old growth trees are in place, and a row of arborvitaes won't grow well underneath existing oaks. He believes a fence would also provide better noise buffer from traffic than trees. The 6-foot fence would provide privacy from inside homes from the traffic.
- Yoshimura-Rank asked if there is research showing reduction in noise.
- Sayre asked why they selected vinyl. Sonnek noted stated it was select due to their experience of longevity, as opposed to wood fences which can deteriorate quicker and require ongoing maintenance by Homeowners Association.
- Sonnek noted they selected white since it blends in better during winter when there is no leaf coverage. The fence is about 900-1200 feet. It would stay on the North Oaks side of the current oak trees. There is a lot of maples and buckthorn, which actually provides undergrowth.
- Ostlund asked how long the fence is. Planner Lindahl noted Page 18 of packet shows the actual location. Cremons noted it is 1,000 feet. Kress stated there is no other City variance that has been previously granted for solid wall fence. Cremons concerned about setting precedent when there are many other homes in North Oaks that also back up to a road corridor.
- Sandell mentioned he believes that some of the other developments could follow suit, however believes this does have some unique aspects due to proximity as the location of the fence would not be on private property, but on homeowners association land.
- Kress asked why a fence and not install a secondary natural berm. Applicant stated a fence would preserve trees.
- Sonnek noted that NOHOA has not provided their input yet, he believes they are waiting on City input.
- Attorney Nason stated there could be conditions to maintain up keep.

- Cremons asked how many trees would have to come down to provide more berm. Sonnek stated a lot. Sonnek stated the fence as presented is at 1st floor level, and land is designed with concern for water flowage.
- Commissioners general feedback asked for a shortest fence option, concern for quality of materials, and whether there are alternative options.
- Attorney Nason reinterated the factors for approving a variances including: they must be in harmony with environment and that practical difficulties must exist outside of the owners control. Economic considerations alone are insufficient to find for a variance. Council can place conditions of maintenance requirements if they approve the variance request.
- Cremons noted the deadline for decision is December 25th. Believes that additional discussion is needed to address both needs of new homeowners and neighbors across the street. He asked if can revisit at a later time to allow time to explore better options.
- Attorney Nason stated if desire they can continue it to the next meeting with request to applicant to provide additional information, with City staff to send a 60-extension letter from the December 25th date.
- Krista Wolter, 7 Skillman Lane, noted that as a realtor she that has taken buyers through the model home that backs up to Centerville Road. The buyers felt they would not like to see the cars going back and forth. There are lots of trees along Centerville, it would be nice if they were Evergreens. The concern is the visual for buyers.
- Sayre asked if they felt there is a safety concern due to proximity to road. Wolter did not feel that was a concern due to the berm, it is more of a visual road issue.
- Administrator Kress asked that Charles Cudd meet with the City Forester to see if alternate option of adding trees, as well as meeting with Ramsey County to see if there are any plans for the easement / road. Kress would also like to discuss with original developer to see if alternatives.
- Cremons suggested the City issue the 60-day letter, and in interim reach out to NOHOA for their feedback, as well as meet on site with City Forester and Mark Houge of North Oaks Company.

MOTION by Sayre, seconded by Yoshimura-Rank, to continue the hearing to January Planning Commission meeting. Motion carried unanimously.

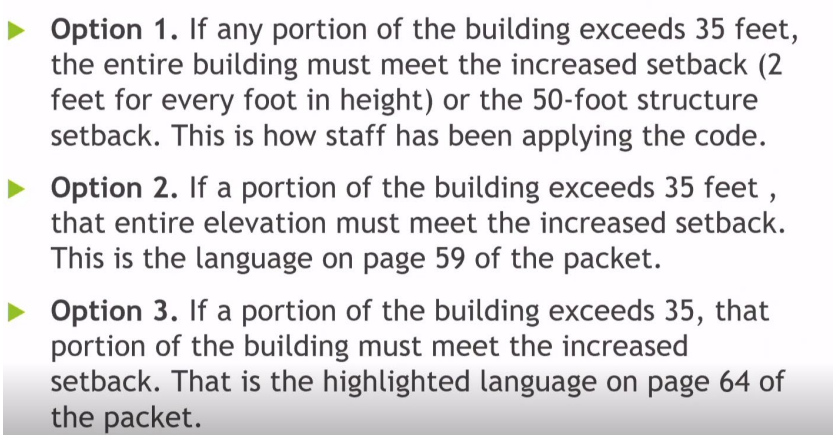
7b. Discussion on Garage Size Ordinance Amendment

- City Planner Lindall noted this is a follow up discussion regarding the verbiage for the revised Garage CUP ordinance. The working group has met and revised the threshold for requiring a CUP for excess garage space to 2,000 feet. There is no change to the verbiage referencing Floor Area Ratio. The Planning Commission is asked to review draft language and provide feedback for staff. If sufficient, can schedule a public hearing in January.
- Attorney Nason stated that the F.A.R. verbiage is not required because it is elsewhere, however it can be placed here as well if want to bring it to attention.
- Planner Lindall clarified that not all zoning has a .12 floor area ratio (F.A.R.). The .12 FAR listed only applies to RSL, so it could be confusing. Possibly more general statement that "Garage must be calculated in the F.A.R. calculation" would add more clarity.

- Commissioners seemed comfortable with the 2,000 square feet threshold and general F.A.R. statement. A public hearing will be scheduled as part of the January 2024 Planning Commission hearing.

7c. Discussion of Setback/Natural Suitability Ordinance Amendment

Discussion of Height Setback

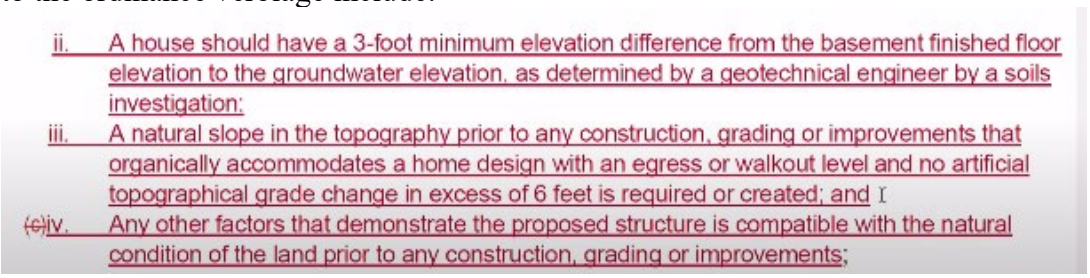
- Cremons stated this a follow up to prior discussion. Lindall clarified the language of working group is on Page 59 with the alternate language on 65. The focus of discussion was whether if just a portion of building exceeds the 35 feet, does the ENTIRE building needs to have a set 50 foot setback, or whether just that side adjacent to the lot line.
- Key points of the 3 options:
  - Chimney and weather vanes do not count as building height.
  - The options include: move whole building, move building wall, or move element, for the side that is in excess of 35 feet.
  - 

- Council Liaison Azman believes that portion or elevation that exceeds 35' only requires the additional setback. Administrator Kress noted that the way it is worded on page 64 is clear to him and allows clarity for applicants. He would also like to have examples shown as "exhibits" as part of the CUP application to help applicants visualize requirements.
- The Ordinance verbiage will be tweaked and scheduled for review at January meeting.

Discussion natural topography for walk-outs.

- Lindall stated working group still under discussion to nail down how to determine verbiage in what is considered a natural condition for a walkout "suitable site". Updates

to the ordinance verbiage include:



ii. A house should have a 3-foot minimum elevation difference from the basement finished floor elevation to the groundwater elevation, as determined by a geotechnical engineer by a soils investigation;

iii. A natural slope in the topography prior to any construction, grading or improvements that organically accommodates a home design with an egress or walkout level and no artificial topographical grade change in excess of 6 feet is required or created; and

~~(c)~~iv. Any other factors that demonstrate the proposed structure is compatible with the natural condition of the land prior to any construction, grading or improvements;

- Cremons stated the intent is to look at the condition of the property at the time the applicant submits. It has a natural slope in topography, no artificial grade change in total excess of 6 feet is required or created for the walkout.
- Sayre noted that it shouldn't be too restrictive, however it is difficult to know what is too restrictive. The goal is to prevent builders from bringing in soil and raising a house on a hill to create an artificial slope.
- Lindall stated that every home and lot is different. Good builders can make homes that fit the land and 6 feet seems reasonable.
- Azman stated that North Oaks guiding principal is to build homes to the land, rather than designing the house and making the lot fit it.
- General consensus that the 6 feet seems reasonable, if it meets the character of land.
- Tweaks will be made to the ordinance based on conversation of Planning Commission, noticed for public hearing and a vote taken at the next meeting.

8. COMMISSIONER REPORT(S)

- Administrator Kress stated the deadline for Planning Commission openings is tomorrow at 4 p.m. There have been a few applications received so far.

9. ADJOURN

Chair Cremons stated the next scheduled meeting of the Planning Commission is Thursday, January 25, 2024.

There was additional conversation by Commissioners regarding the fence proposal on Centerville Road. Commissioners are encouraged to visit the model home to get a feel for what it is like for the new homebuyers.

MOTION by Yoshimura-Rank, seconded by Hauge, to adjourn the Planning Commission meeting at 8:59 p.m. Motion carried unanimously by roll call.

_____ _____

Kevin Kress, City Administrator David Cremons, Chair

Date approved_____

CITY OF NorthOaks
Building on a tradition of innovation

PLANNING REPORT

TO: North Oaks Planning Commission

FROM: Kendra Lindahl, City Planner
Kevin Kress, City Administrator
Bridget McCauley Nason, City Attorney
Michael Nielson, City Engineer

DATE: February 29, 2024

RE: **PUBLIC HEARING**. Conditional Use Permit for Building Height in Excess of 35 feet at 8 Sherwood Trail

Date Application Submitted	January 25, 2024
Date Application Determined Complete:	February 2, 2024
Planning Commission Meeting Date:	February 29, 2024
City Council Meeting Date:	March 14, 2024
60-day Review Date:	March 25, 2024

REQUEST

Mark Englund of Hansen Homes has requested approval of a conditional use permit to allow the construction of a new home at 8 Sherwood Trail to be 44.2 feet in height where 35 feet in is the maximum height permitted in the City Code. The applicant's narrative is attached, as well as building elevations, a survey and a site plan for the proposed structure.

BACKGROUND

The site is currently undeveloped. The property is in the East Preserve development.

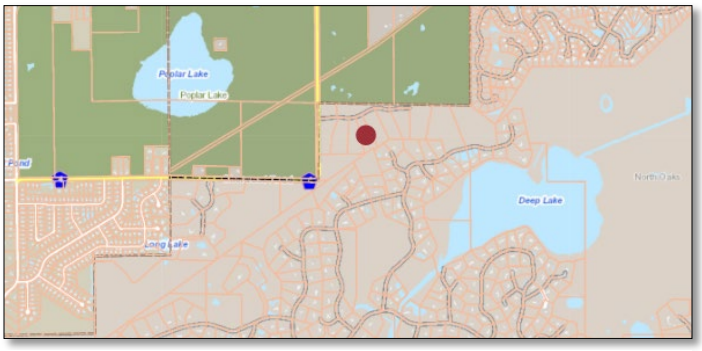


Figure 1 - Subject Parcel

Zoning and Land Use

The property is guided Low Density residential and is zoned Residential Single Family – Low Density (RSL). Homes greater than 35 feet in height are subject to the conditional use permit (CUP) standards and process in Section 151.050(D.7) (conditional uses), Section 151.076 (CUP review criteria) and Section 151.079 (CUP procedure) of the Zoning Code.

The 2.6-acre property is located along Sherwood Trail, east of the intersection of Sherwood Trail and Sherwood Road (County Road 4).

PLANNING ANALYSIS

Height

The applicant is requesting a CUP to allow the southern (rear) elevation of the proposed home to exceed 35 feet in height. Elevations provided by the applicant show the proposed home to be 44.2 inches in height along the side and rear facades. The front facade of the home is 34.9 feet in height. Building height is defined as the vertical distance from grade as defined herein to the top ridge of the highest roof surface in Section 151.005 of the Zoning Code.

Setbacks

The proposed single-family home exceeds the 30-foot minimum setback requirements at all property lines and street easements. The front elevation is set back 274.3 feet from the roadway easement. The side elevations are 42.2 feet from the east property line and 69.5 feet from the west property line. The rear elevation is setback more than 200 feet from the rear property line. The east building setback encroaches into the additional setback required for buildings in excess of 35 feet in height. Staff has included a condition requiring the applicant to shift the location of the building so it complies with the additional side setback requirements.

Size

The footprint of the house is approximately 3,730 square feet. A FAR worksheet has not been provided with the application. Plans must be in compliance with the maximum 12% FAR requirement at the time of review by the Building Official.

Wetlands

There are two wetlands on the site. The Code requires a 30-foot setback from the wetlands plus VLAWMO encourages a 30-foot wetland buffer. The Code also requires that driveways be 30-feet from the property line. The applicant did not request a setback variance but a setback variance is required to construct the house at the proposed location.

The approved plans for the East Preserve development showed the home site at the front of the lot, which would have eliminated the need for the driveway variance. It is the applicant's responsibility to show that the practical difficulties exist, and that the mandatory criteria for issuance of a variance are met, before the City Council could approve the required variance. Without a variance from the wetland setback requirements, the proposed house cannot be constructed as proposed.

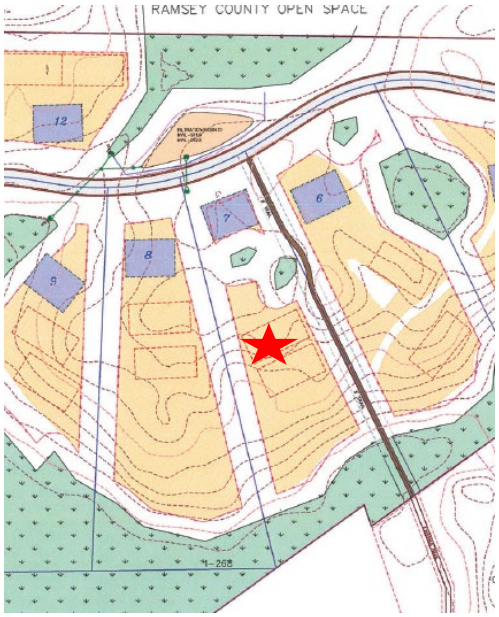


Figure 2- preliminary plans

Septic

Section 51.01 of the City Code requires the plans to show the location of two septic systems, each 5,000 sq. ft. in size, that comply with setbacks and will be protected during construction. The plans must be revised to show the second septic site with supporting documentation from a licensed SSTS professional.

Building Height CUP

To allow a conditional use permit for a home greater than 35 feet in height, Section 151.05(D.7) of the Zoning Code requires that the following criteria be considered:

1. *The front elevation of the building does not exceed 35 feet in height at any point;*

   The proposed front elevation does not exceed 35 feet at any point.

2. *The building height at any other elevation does not exceed 45 feet;*

   The building height at the rear and side elevations does not exceed 45 feet.

3. *The environmental and topographical conditions of the lot prior to building development are naturally suited to the design of a building with an egress or walkout level;*

   Based on review of the plans, topography of the site and Ramsey County GIS, the proposed home and walkout level appear conducive to the site's natural layout. Prior to construction, the City will review all erosion control measures to ensure that the construction project does not adversely affect the surrounding environment. The City Engineer will make periodic site visits during construction to ensure all erosion control measures are fully complied with.

4. *Buildings shall be limited to a basement and 2 full stories. Finished areas within the roof structure will be considered a full story;*

   The proposed home is two full stories with a basement.

5. *Any time the side or rear elevations of a building exceeds 35 feet in height within 50 feet of adjacent lot lines, the building line shall be setback an additional 2 feet from the adjacent setback line for each foot in height above 35 feet; and*

   The proposed front elevation is a maximum of 35 feet tall. The side and rear elevations are 44.2 feet in height. The increased height of the side and rear elevations requires a 50 foot setback from their respective property lines. The rear and west elevations comply with the additional setback standard. The east elevation is situated 42.2 feet from the east property line and must be setback an additional 8 feet. Plans shall be revised to comply with the required 50 foot setback from the side and rear elevations. There is space within the site to shift the building to the west in order to accommodate the additional setback.

6. *Section 151.083 is complied with.*

   The applicant has complied with the fees associated with Section 151.083.

In addition to the standards identified for the specific CUP request, the City must also review the conditional use permit request against the standards in Section 151.076 of the City Code. Staff has reviewed the request against those standards:

1. *Relationship of the proposed conditional use to the Comprehensive Plan;*

The proposed use is consistent with the uses anticipated in the Comprehensive Plan and the permitted uses in the single family zoning district.

2. *The nature of the land and adjacent land or building where the use is to be located;*

   The use is consistent with the surrounding land uses.

3. *Whether the use will in any way depreciate the area in which it is proposed;*

   The proposed single-family should not negatively impact adjacent property values.

4. *The effect upon traffic into and from the land and on adjoining roads, streets, and highways;*

   The proposed use will not create a traffic impact.

5. *Whether the use would disrupt the reasonable use and enjoyment of other land in the neighborhood;*

   The proposed single-family home use will not cause a negative impact to the use and enjoyment of other land in the neighborhood.

6. *Whether adequate utilities, roads, streets, and other facilities exist or will be available in the near future;*

   There are adequate utilities, roads, streets, and other facilities available to the property.

7. *Whether the proposed conditional use conforms to all of the provisions of this chapter;*

   The proposed request is compliant with the City's zoning code.

8. *The effect up natural drainage patterns onto and from the site;*

   Finished grading will work with existing drainage patterns.

7. *Whether the proposed use will be detrimental to or endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the city;*

The use as proposed will not be detrimental to or endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the city;

9. *Whether the proposed use would create additional requirements at public cost for public facilities and services and whether or not the use will be detrimental to the economic welfare of the neighborhood or city; and*

   As proposed, the use will not create additional requirements at public cost for public facilities and services and will not be detrimental to the economic welfare of the neighborhood or city.

10. *Whether the proposed use is environmentally sound and will not involve uses, activities, processes, materials, equipment, and conditions of operation that will be detrimental to any persons, land, or the general welfare because of excessive production of traffic, noise, smoke, fumes, wastes, toxins, glare, or orders.*

    Beyond initial construction activity, and based on erosion control requirements, the proposed residential use and grading activity will not be detrimental to the environment or surrounding area.

Attached for reference:

Exhibit A:	Location Map
Exhibit B:	Site Survey dated January 25, 2024
Exhibit C:	Applicant Narrative dated January 25, 2024
Exhibit D:	Building elevations dated January 25, 2024
Exhibit E:	VLAWMO Letter dated March 9, 2023
Exhibit F:	City Engineer memo dated February 14, 2024

STAFF RECOMMENDATION

Staff recommends that the Planning Commission continue this request so that the applicant can evaluate options for the lot, revise the plans to show two septic sites and either: 1) apply for a setback variance or revise the plans to comply with the required wetland setbacks.

PLANNING COMMISSION OPTIONS
In consideration of the conditional use permit application, the Planning Commission has the following options:

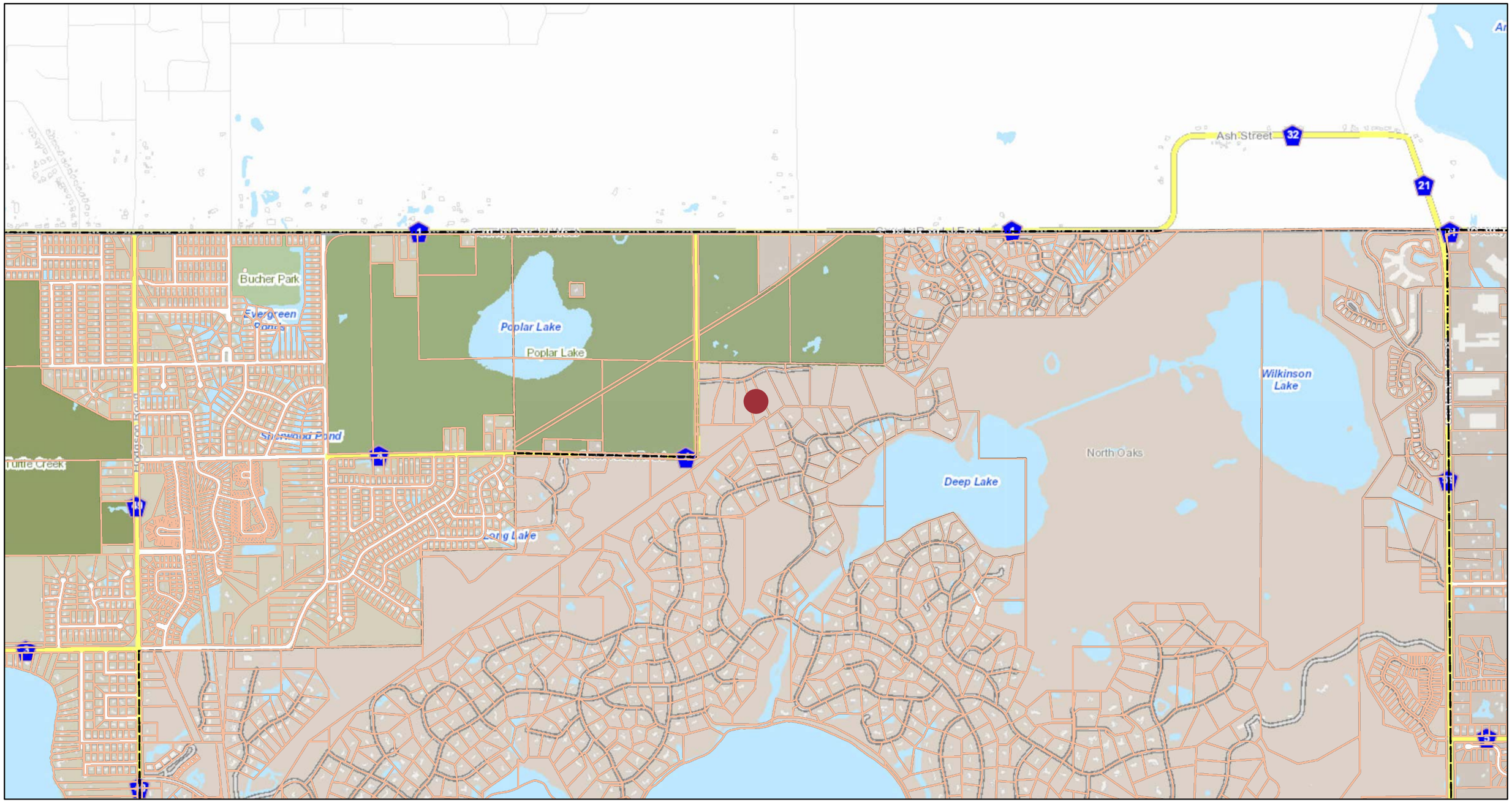
A) **Recommend approval** of the application with conditions, based on the applicant's submission, the contents of this report, public testimony and other evidence available to the Planning Commission.

- This option should be utilized if the Planning Commission finds the proposal adheres to all City Code requirements or will do so with conditions.

B) **Recommend denial** of the application with findings for denial clearly articulated.

C) **Recommend continuance** of the application review based on the need for more information in which to process the request. This would allow the applicant time to apply for a variance so that the conditional use permit applicant and variance can be reviewed together.

Map Ramsey



2/6/2024, 12:05:50 PM

Personal Property

Tax Parcels

Cities

County Offices

1:16,000

0 0.2 0.4 0.8 mi

0 0.3 0.6 1.2 km

DESCRIPTION OF PROPERTY SURVEYED

Tract G, REGISTERED LAND SURVEY NO. 634, according to the recorded plat thereof, Ramsey County, Minnesota.

GENERAL NOTES

1) **Site Address**: 8 Sherwood Trail, North Oaks, Minnesota 55127

2) **Flood Zone Information**: This property appears to lie in Zone X (Areas outside the 1-percent annual chance floodplain, areas of 1% annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1% annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.) per Flood Insurance Rate Map, Community Panel No. 27123C0030G, effective date of June 4th, 2010.

3) **Parcel Area Information**: Gross Area: 113,362 s.f. ~ 2.60 acres
Roadway Easement Area: 3,547 s.f. ~ 0.08 acres
Lot Area To Roadway Easement: 109,815 s.f. ~ 2.52 acres
Wetland Area: 23,404 s.f ~ 0.49 acres

4) **Principal Structure Setbacks** - Front: 30 feet from roadway easement
Side: 30 feet
Rear: 30 feet

Please note that the general restrictions for the subject property may have been amended through a city process. We could be unaware of such amendments if they are not in a recorded document provided to us. We recommend that a zoning letter be obtained from the Zoning Administrator for the current restrictions for this site.

5) **Utilities**: We have shown the location of utilities to the best of our ability based on observed evidence together with evidence from the following sources: plans obtained from utility companies, plans provided by client, markings by utility companies and other appropriate sources. We have used this information to develop a view of the underground utilities for this site. However, lacking excavation, the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary. Also, please note that seasonal conditions may inhibit our ability to visibly observe all the utilities located on the subject property.

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 25th day of January, 2024.

Daniel L. Schmidt, PLS Minnesota License No. 26147
schmidt@sathre.com

Tract G, #8 Sherwood Trail

An easement, for purposes of a roadway for ingress and egress, over the northwesterly 30.00 feet thereof and being adjacent to Tract L, REGISTERED LAND SURVEY NO. 634.
An easement for utility purposes over the southeasterly 12.00 feet of the northwesterly 42.00 feet thereof.
An easement for trail purposes lying 15 feet each side of the following described line:
Beginning at the southeast corner of Tract G, thence on a bearing of North 11 degrees 00 minutes 00 seconds East, assuming the most southeasterly line of said Tract G bears South 54 degrees 38 minutes 09 seconds West, a distance of 85.00 feet;
thence North 22 degrees 22 minutes 00 seconds West, a distance of 76.00 feet;
thence North 64 degrees 27 minutes 40 seconds West, a distance of 83.14 feet;
thence North 26 degrees 09 minutes 36 seconds West, a distance of 169.00 feet;
thence North 00 degrees 40 minutes 00 seconds East, a distance of 55.00 feet;
thence North 48 degrees 00 minutes 54 seconds West, a distance of 80.11 feet to a point on the northeasterly line of said Tract G, distant 122.00 feet from the most northeast corner of said Tract G;
thence North 26 degrees 09 minutes 36 seconds West, a distance of 122.00 feet to said northeast corner.

Proposed Elevations - WO

Proposed Garage Floor Elevation	= 921.0
Proposed Top of Foundation Elevation	= 921.3
Proposed Basement Floor Elevation	= 912.6

Offset Irons
(elevations are to the top of pipe)

OS #1= 914.07	OS #2= 916.85
OS #4= 910.60	OS #3= 913.24

Grading Quantities (CY)	
Fill	
Cut	30.03
House Footing	0
Garage Footing	0
Porch Footing	0
Driveway	0
Egress Pit	0
Total Fill	0
Total Cut	30.03
Total (+/-)	30.03

NORTH

Bearings are based on the Hennepin County Coordinate System (NAD 83 - 1986 adj.)

SURVEY LEGEND

- CAST IRON MONUMENT
- IRON PIPE MONUMENT SET
- IRON PIPE MONUMENT FOUND
- DRILL HOLE FOUND
- CHISELED "X" MONUMENT SET
- CHISELED "X" MONUMENT FOUND
- REBAR MONUMENT FOUND
- PK NAIL MONUMENT SET
- PK NAIL MONUMENT FOUND
- PK NAIL W/ ALUMINUM DISC
- SURVEY CONTROL POINT
- A/C UNIT
- CABLE TV PEDESTAL
- ELECTRIC TRANSFORMER
- ELECTRIC MANHOLE
- ELECTRIC METER
- ELECTRIC OUTLET
- YARD LIGHT
- LIGHT POLE
- FIBER OPTIC MANHOLE
- FIRE DEPT. HOOK UP
- FLAG POLE
- FUEL PUMP
- FUEL TANK
- PROPANE TANK
- GAS METER
- GAS VALVE
- GAS MANHOLE
- GENERATOR
- GUARD POST
- HAND HOLE
- MAIL BOX
- PIEZOMETER
- POWER POLE
- GUY WIRE
- ROOF DRAIN
- LIFT STATION
- SANITARY MANHOLE
- SANITARY CLEANOUT
- STORM MANHOLE
- STORM DRAIN
- CATCH BASIN
- FLARED END SECTION
- TREE CONIFEROUS
- TREE DECIDUOUS
- TREE CONIFEROUS REMOVED
- TREE DECIDUOUS REMOVED
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- UTILITY MANHOLE
- UTILITY PEDESTAL
- UTILITY VAULT
- WATERMAIN MANHOLE
- WATER METER
- WATER SPIGOT
- WELL
- MONITORING WELL
- CURB STOP
- GATE VALVE
- HYDRANT
- IRRIGATION VALVE
- POST INDICATOR VALVE
- SIGN
- SOIL BORING
- WOE WALKOUT ELEVATION
- FFE FIRST FLOOR ELEVATION
- GFE GARAGE FLOOR ELEVATION
- TOF TOP OF FOUNDATION ELEV.
- LOE LOWEST OPENING ELEV.
- CONCRETE
- BITUMINOUS
- BUILDING SETBACK LINE
- CABLE TV
- CONCRETE CURB
- CONTOUR EXISTING
- CONTOUR PROPOSED
- GUARD RAIL
- DRAIN TILE
- ELECTRIC UNDERGROUND
- FENCE
- FIBER OPTIC UNDERGROUND
- GAS UNDERGROUND
- OVERHEAD UTILITY
- TREE LINE
- SANITARY SEWER
- STORM SEWER
- TELEPHONE UNDERGROUND
- RETAINING WALL
- UTILITY UNDERGROUND
- WATERMAIN
- TRAFFIC SIGNAL
- RAILROAD TRACKS
- RAILROAD SIGNAL
- RAILROAD SWITCH
- SATELLITE DISH
- WETLAND BUFFER SIGN

FIELD CREW	NO.	BY	DATE	REVISION
JD	1	ML	1/24/2024	HOUSE STAKE IN FIELD
DRAWN				
ML				
CHECKED				
DLS				
DATE				
01-12-2024				

ENGINEERS SURVEYORS DESIGNERS PLANNERS
SATHRE BERGQUIST INC.
14000 25TH AVENUE NORTH, SUITE 120
PLYMOUTH MN 55447
(952) 476-6000 WW.SATHRE.COM

TWP:030-RGE.22-SEC.06
Ramsey County

NORTH OAKS, MINNESOTA

CERTIFICATE OF SURVEY

PREPARED FOR:
HANSON BUILDERS

FILE NO. 3279-1538

1/2

Proposed Conditional Use Permit

For Height Variance for Walkout Basement Foundation

8 Sherwood Trail, East Preserve Subdivision, North Oaks, MN

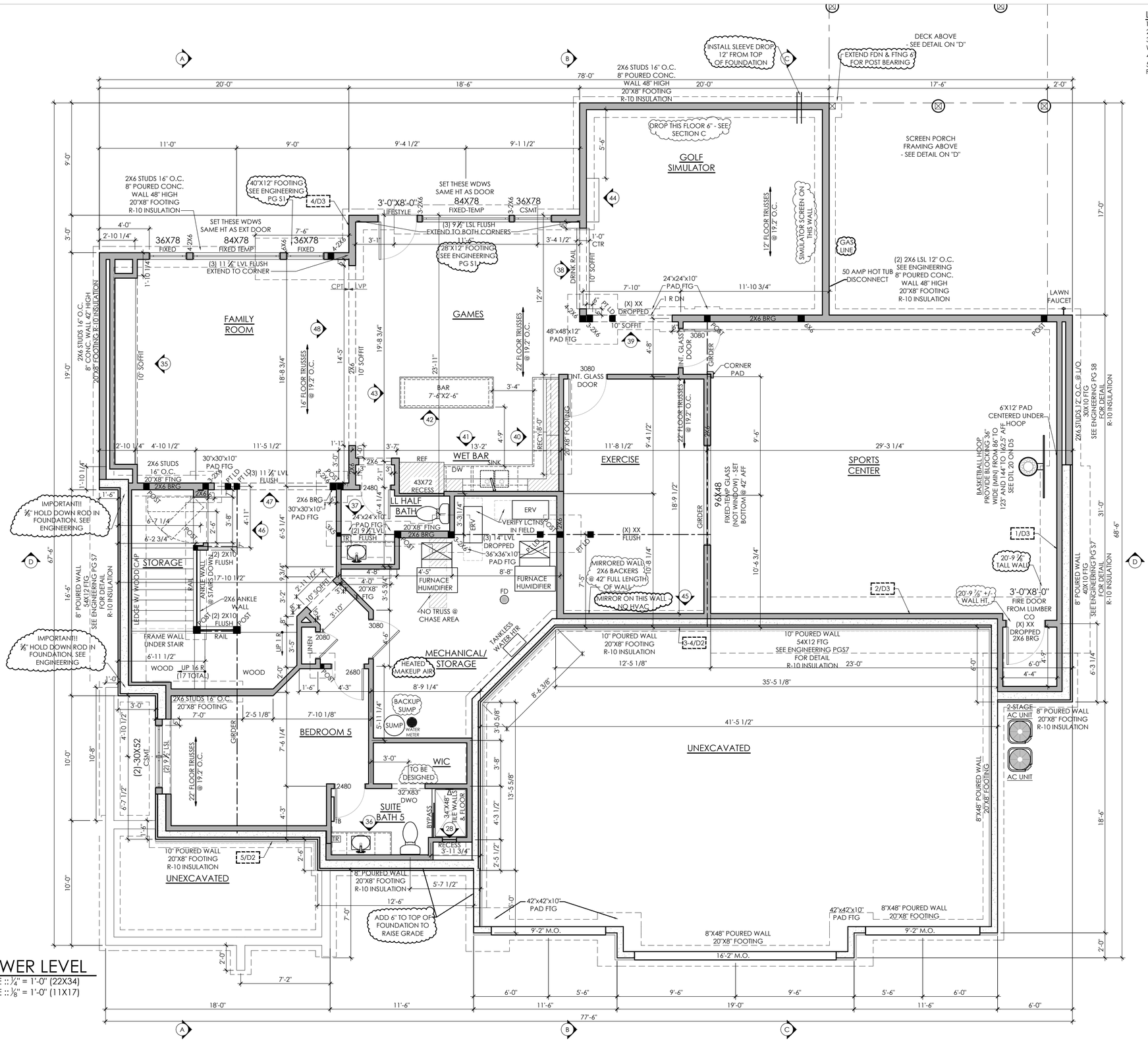
Our purpose in applying for a Conditional Use Permit for our proposed home at 8 Sherwood Trail in East Preserve, North Oaks is to request a height variance to make the basement a rear walkout where the natural grade drops about 9.5 feet from the garage elevation to proposed walkout elevation.

We would like to add windows and a door to the lower floor on the rear of the home to take advantage of the natural grade drop and thereby allow light and views of the woods and access to the existing rear grade. The resulting exposed building height would remain 35-feet at the front elevation and about 44.5-feet on the rear elevation from grade to ridge.

Our engineer, Sathre Bergquist, who did the overall engineering for the East Preserve subdivision, has calculated the Grading Quantities involved with this project to be +/- 30 Cubic Yards of fill.

Thank you for your consideration of this requested rear wall height variance of 9.5 feet.

Hanson Builders, Inc.



HANSON BUILDERS

BUILDERS LICENCE #BC004568
13432 HANSON BLVD. NW
ANDOVER, MINNESOTA 55304
763-421-5435

BECKER RESIDENCE
8 SHERWOOD TRAIL
TRACT G
EAST PRESERVE
NORTH OAKS, MN

OAKMONT
CUSTOM

WORKFLOW	DATE	BY
MATCH CONTRACT	01/26/24	KW
AMENDMENTS	XX/XX/XX	XX
FILE CHECK	XX/XX/XX	XX
PERMIT PLAN	XX/XX/XX	XX
FINAL PLANS	03/21/23	KW
PLOT DATE: 1/31/2024		

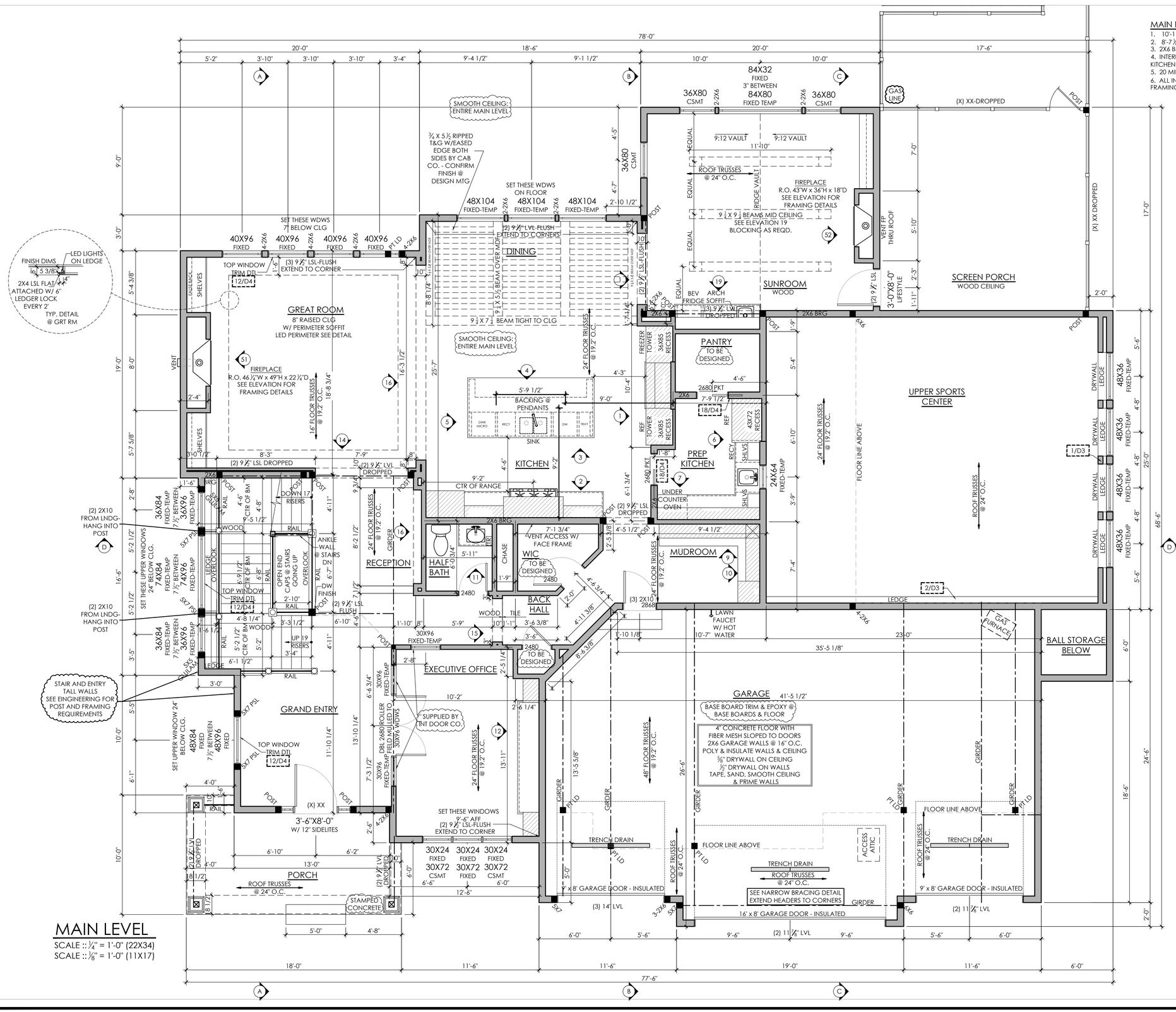
REVISIONS	DATE	BY
REVISION 1	XX/XX/XX	XX

SHEET TITLE
LOWER FLOOR

SHEET NUMBER
A1

MAIN FLOOR PLAN NOTES

1. 10'-1 ⅛" CEILING HEIGHT UNO
2. 8'-7 ⅛" WINDOW HEADER HEIGHT UNO
3. 2X6 BEARING WALLS UNO
4. INTERIOR WALLS @ 24" OC EXCEPT AT BEARING & KITCHEN WALLS
5. 20 MINUTE FIRE DOOR @ GARAGE TO HOUSE
6. ALL INT DOORS PLACED 4 ½" FROM CORNER FRAMING (4" FROM CORNER ON PLAN)



MAIN LEVEL

SCALE :: ¼" = 1'-0" (22X34)
SCALE :: ⅛" = 1'-0" (11X17)

HANSON BUILDERS

BUILDERS LICENCE #BC004568

13432 HANSON BLVD. NW
ANDOVER, MINNESOTA 55304
763-421-5435

BECKER RESIDENCE
8 SHERWOOD TRAIL

TRACT G
EAST PRESERVE
NORTH OAKS, MN

OAKMONT
CUSTOM

WORKFLOW	DATE	BY
MATCH CONTRACT	01/26/24	KW
AMENDMENTS	XX/XX/XX	XX
FILE CHECK	XX/XX/XX	XX
PERMIT PLAN	XX/XX/XX	XX
FINAL PLANS	03/21/23	KW

PLOT DATE: 1/31/2024

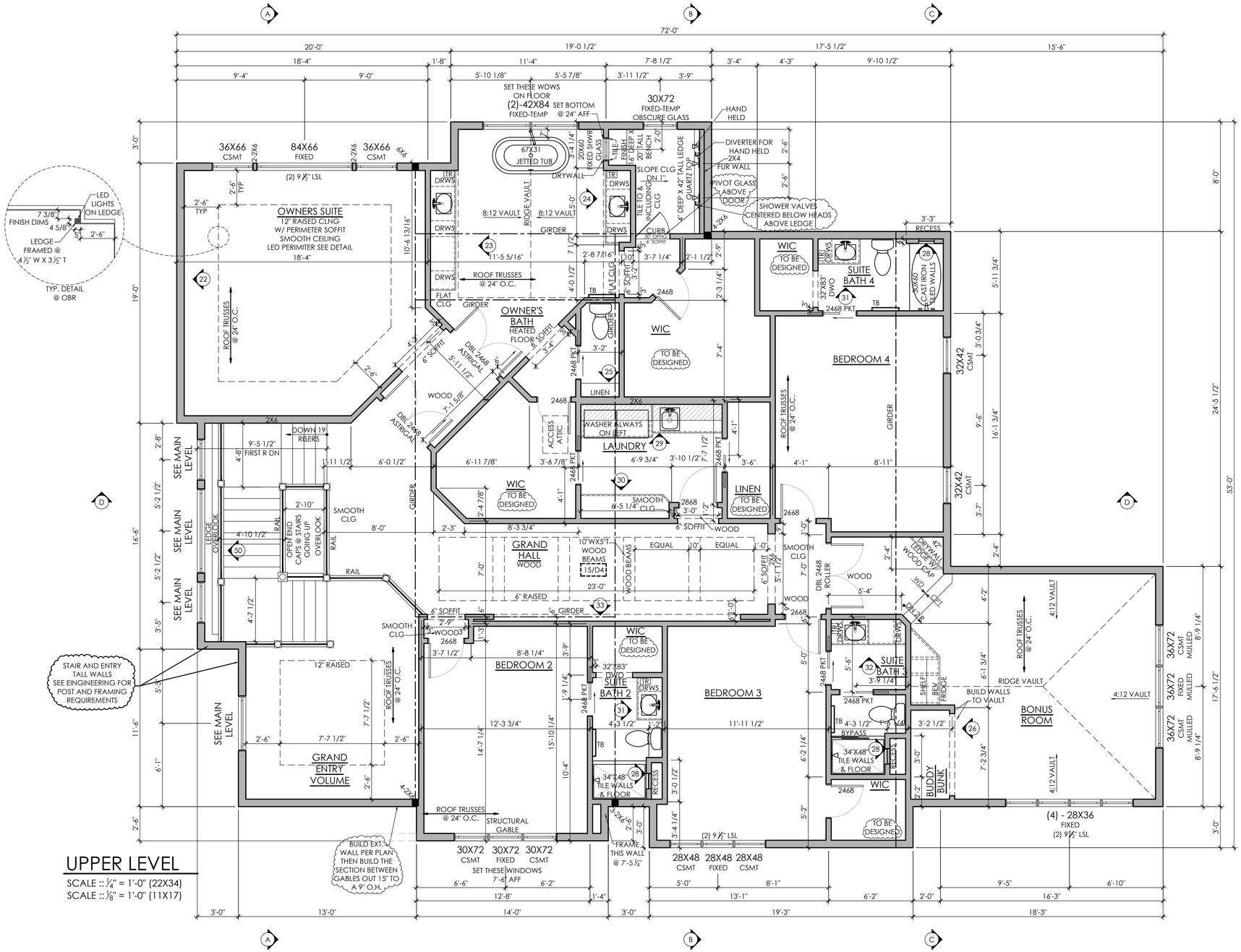
REVISIONS	DATE	BY
REVISION 1	XX/XX/XX	XX

SHEET TITLE
MAIN FLOOR

SHEET NUMBER
A2

UPPER FLOOR PLAN NOTES

1. 8'-1⅛" CEILING HEIGHT UNO
2. 6'-11⅝" WINDOW HEADER HEIGHT UNO
3. INTERIOR WALLS @ 24" OC EXCEPT AT BEARING WALLS
4. ALL INT DOORS PLACED 4½" FROM CORNER FRAMING (4" FROM CORNER ON PLAN)



UPPER LEVEL

SCALE :: ¼" = 1'-0" (22X34)
SCALE :: ⅛" = 1'-0" (11X17)

HANSON BUILDERS

BUILDERS LICENCE #BC004568

13432 HANSON BLVD. NW
ANDOVER, MINNESOTA 55304
763-421-5435

BECKER RESIDENCE
8 SHERWOOD TRAIL
TRACT G
EAST PRESERVE
NORTH OAKS, MN

OAKMONT
CUSTOM

WORKFLOW	DATE	BY
MATCH CONTRACT	01/26/24	KW
AMENDMENTS	XX/XX/XX	XX
FILE CHECK	XX/XX/XX	XX
PERMIT PLAN	XX/XX/XX	XX
FINAL PLANS	03/21/23	KW

PLOT DATE: 1/31/2024

REVISIONS	DATE	BY
REVISION 1	XX/XX/XX	XX

SHEET TITLE
UPPER FLOOR

SHEET NUMBER
A3

REAR ELEVATION

SCALE :: 1/4" = 1'-0" (22X34)
SCALE :: 1/8" = 1'-0" (11X17)

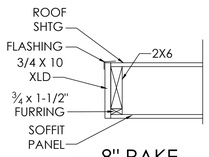
SIDE ELEVATION

SCALE :: 1/4" = 1'-0" (22X34)
SCALE :: 1/8" = 1'-0" (11X17)

ELEVATION NOTES

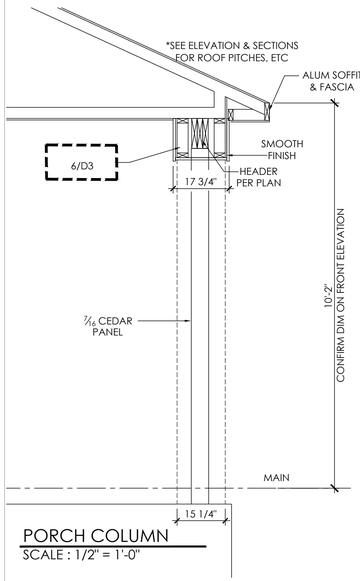
FRONT:
1. 8 1/4" CEMENT BOARD SIDING (7" REVEAL)
2. 3/4"X6" TRIM BOARDS @ OPENINGS U.N.O.
3. SEE DETAIL 10/D4 FOR CORNERS U.N.O.
4. NOTE: FILL IN OPENINGS OVER ALL BRACKETS
5. SHIP FRONT DOOR W/ NO BRICK MOULD
6. BOARD & BATTEN @ 24" OC SPACING U.N.O.

SIDES AND REAR (PER NEIGHBORHOOD):
1. 8 1/4" CEMENT BOARD SIDING (7" REVEAL)
2. 3/4"X4" TRIM BOARDS @ OPENINGS U.N.O.
3. METAL CORNERS @ BACK U.N.O.



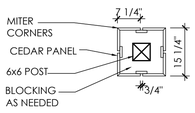
8" RAKE

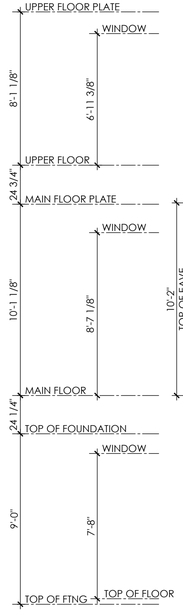
SCALE :: 1" = 1'-0" (22X34)
SCALE :: 1/2" = 1'-0" (11X17)



PORCH COLUMN

SCALE : 1/2" = 1'-0"





FRONT ELEVATION

SCALE :: 1/4" = 1'-0" (22X34)
SCALE :: 1/8" = 1'-0" (11X17)

HANSON
BUILDERS

BUILDERS LICENCE #BC004568

13432 HANSON BLVD. NW
ANDOVER, MINNESOTA 55304
763-421-5435

BECKER RESIDENCE

8 SHERWOOD TRAIL

TRACT G
EAST PRESERVE
NORTH OAKS, MN

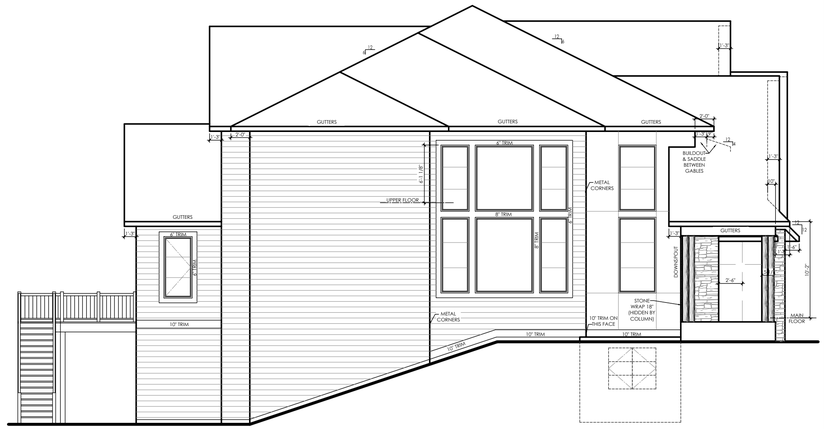
OAKMONT
CUSTOM

WORKFLOW	DATE	BY
MATCH CONTRACT	01/26/24	KW
AMENDMENTS	XX/XX/XX	XX
FILE CHECK	XX/XX/XX	XX
PERMIT PLAN	XX/XX/XX	XX
FINAL PLANS	03/21/23	KW
PLOT DATE: 1/31/2024		

REVISIONS	DATE	BY
REVISION 1	XX/XX/XX	XX

SHEET TITLE
ELEVATIONS

SHEET NUMBER
A4



SIDE ELEVATION

SCALE - 1/4" = 1'-0" (22X34)
SCALE - 1/8" = 1'-0" (11X17)

ELEVATION NOTES

FRONT:
1. 8 ¼" CEMENT BOARD SIDING (7" REVEAL)
2. ¾"X6" TRIM BOARDS @ OPENINGS U.N.O.
3. SEE DETAIL 10/D4 FOR CORNERS U.N.O.
4. NOTE: FILL IN OPENINGS OVER ALL BRACKETS
5. SHIP FRONT DOOR W/ NO BRICK MOULD
6. BOARD & BATTEN @ 24" OC SPACING U.N.O.

SIDES AND REAR (PER NEIGHBORHOOD):
1. 8 ¼" CEMENT BOARD SIDING (7" REVEAL)
2. ¾"X4" TRIM BOARDS @ OPENINGS U.N.O.
3. METAL CORNERS @ BACK U.N.O.

HANSON
BUILDERS

BUILDERS LICENCE #BC004568

13432 HANSON BLVD. NW
ANDOVER, MINNESOTA 55304
763-421-5435

BECKER RESIDENCE
8 SHERWOOD TRAIL
TRACT G
EAST PRESERVE
NORTH OAKS, MN

OAKMONT
CUSTOM

WORKFLOW	DATE	BY
MATCH CONTRACT	01/26/24	KW
AMENDMENTS	XX/XX/XX	XX
FILE CHECK	XX/XX/XX	XX
PERMIT PLAN	XX/XX/XX	XX
FINAL PLANS	03/21/23	KW

PLOT DATE: 1/31/2024

REVISIONS	DATE	BY
REVISION 1	XX/XX/XX	XX

SHEET TITLE
ELEVATIONS

SHEET NUMBER
A4.1

800 County Road E East, Vadnais Heights, MN 55127
www.vlawmo.org

TO: Kevin Kress

FROM: Brian Corcoran Vadnais Lake Area WMO (VLAWMO)

DATE: March 9, 2023

SUBJECT: Comments – 8 Sherwood Trail - Driveway

Please find below, per your request, the VLAWMO "advisory" comments for 8 Sherwood Trail – Driveway, received 3-8-2023. These comments are advisory only given that VLAWMO does not operate a regulatory program for development review with exception of the Wetland Conservation Act (WCA). Our Water Management policy and standards have been adopted and are enforced by our respective City's and Township.

- A MN Routine Assessment Method (MNRAM) worksheet was completed on 4/6/2020, which identifies management classes for each wetland on site. 8 Sherwood Trail wetlands (W9 & W7) are Manage 2 wetlands. Base buffer width of 30ft, Applied buffer with of 24ft. See below table:

Management Class	Base Buffer Width (ft)	Minimum Applied Buffer Width (ft)
Manage 3: Storm Ponds	20	16
Manage 2	30	24
Manage 1	40	34
Preserve	75	67

- Per the Buffer section in the Water Management Policy (chapter 11 "Buffers" starting on pg 26) The buffer width may vary based on demonstrated site constraints, provided that a width of at least 50 percent of the applied buffer width is maintained (in this case that would be 12ft). See section 5 in chapter 11 Buffers.

Brian Corcoran

February 14, 2024

Kendra Lindahl, AICP
City Planner

Via E-mail: KLindahl@landform.net

RE: **8 Sherwood Trail**
Sambatek Project No. 51986

Dear Kendra:

I have reviewed the Conditional Use Permit request for the overall building height for this parcel.

The proposed home location requires the driveway to be located between 2 existing wetlands. City Ordinance requires a 30-foot setback from all wetlands. This condition cannot be met and I am recommending denial of this request.

Sincerely,
Sambatek, LLC

Michael J. Nielson, PE
City Engineer

CC: Kevin Kress, Administrator

CITY OF
NorthOaks
Building on a tradition of innovation

PLANNING REPORT

TO: North Oaks Planning Commission

FROM: Nicholas Ouellette through Kendra Lindahl, City Planner
Kevin Kress, City Administrator
Bridget McCauley Nason, City Attorney
Michael Nielson, City Engineer

DATE: February 29, 2024

RE: **PUBLIC HEARING.** Conditional Use Permit for Building Height in Excess of 35 feet at 1 Sherwood Trail

Date Application Submitted	December 26, 2023
Date Application Determined Complete:	January 4, 2024
Planning Commission Meeting Date:	February 29, 2024
City Council Meeting Date:	March 14, 2024
120-day Review Date:	April 24, 2024

REQUEST

Mark Englund of Hansen Homes has requested approval of a conditional use permit to allow the construction of a new home at 1 Sherwood Trail to be 40 feet and 7 inches in height, greater than 35 feet in height permitted in the City Code. The applicant's narrative is attached, as well as building elevations, a survey and a site plan for the proposed structure.

BACKGROUND

The site is currently undeveloped. The property is in the East Preserve development.

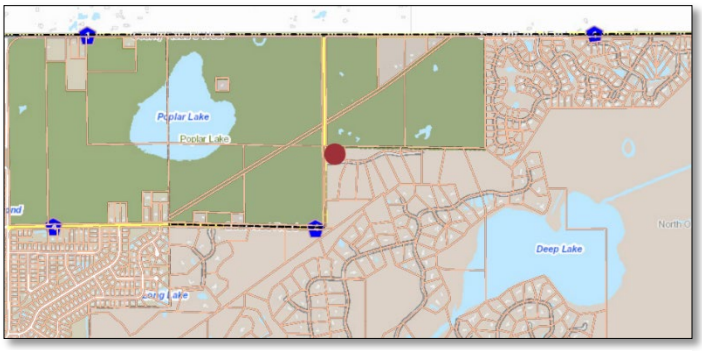


Figure 1 - Subject Parcel

Zoning and Land Use

The property is guided Low Density residential and is zoned Residential Single Family – Low Density (RSL). Homes greater than 35 feet in height are subject to the conditional use permit (CUP) standards and process in Section 151.050(D.7) (conditional uses), Section 151.076 (CUP review criteria) and Section 151.079 (CUP procedure) of the Zoning Code.

The 1.96-acre property is located at the northeast corner of Sherwood Trail and Sherwood Road (County Road 4).

PLANNING ANALYSIS

Setbacks

The proposed single-family home exceeds the 30-foot minimum setback requirements at all property lines and street easements. The front elevation is set back 60.7 feet from the roadway easement and the side and rear elevations are setback more than 100 feet from the adjacent property lines.

Height

The applicant is requesting a CUP to allow the eastside elevation of the proposed home to exceed 35 feet in height. Elevations provided by the applicant show the proposed home to be 40 feet and 7 inches in height along the eastern-side facade. The front, western-side and rear facades of the home are 35 feet in height. Building height is defined as the vertical distance from grade as defined herein to the top ridge of the highest roof surface in Section 151.005 of the Zoning Code.

Size

The footprint of the house is 3,208 square feet. A FAR worksheet has not been provided with the application. Plans must be in compliance with the maximum 12% FAR requirement at the time of review by the Building Official.

Building Height CUP

To allow a conditional use permit for a home greater than 35 feet in height, Section 151.05(D.7) of the Zoning Code requires that the following criteria be considered:

1. *The front elevation of the building does not exceed 35 feet in height at any point;*

   The proposed front elevation does not exceed 35 feet at any point.

2. *The building height at any other elevation does not exceed 45 feet;*

   The environmental and topographical conditions of the lot prior to building the single-family home are naturally suited to the design of a building with an egress or walkout level along the eastern-side facade.

3. *The environmental and topographical conditions of the lot prior to building development are naturally suited to the design of a building with an egress or walkout level;*

   Based on review of the plans, topography of the site and Ramsey County GIS, the proposed home and walkout level appear conducive to the site's natural layout. Prior to construction, the City will review all erosion control measures to ensure that the construction project does not adversely affect the surrounding environment. The City Engineer will make periodic site visits during construction to ensure all erosion control measures are fully complied with.

4. *Buildings shall be limited to a basement and 2 full stories. Finished areas within the roof structure will be considered a full story;*

   The proposed home is two full stories with a basement.

5. *Any time the side or rear elevations of a building exceeds 35 feet in height within 50 feet of adjacent lot lines, the building line shall be setback an additional 2 feet from the adjacent setback line for each foot in height above 35 feet; and*

   The proposed western-side and rear elevations are a maximum of 35 feet tall. The eastern-side elevation is 40 feet and 7 inches in height and is setback approximately 123 feet from the east property line where a 40 foot side yard setback would be required due to the increased height.

6. *Section 151.083 is complied with.*

   The applicant has complied with the fees associated with Section 151.083.

In addition to the standards identified for the specific CUP request, the City must also review the conditional use permit request against the standards in Section 151.076 of the City Code. Staff has reviewed the request against those standards:

1. *Relationship of the proposed conditional use to the Comprehensive Plan;*

   The proposed use is consistent with the uses anticipated in the Comprehensive Plan and the permitted uses in the single family zoning district.

2. *The nature of the land and adjacent land or building where the use is to be located;*

   The use is consistent with the surrounding land uses.

3. *Whether the use will in any way depreciate the area in which it is proposed;*

   The proposed single-family should not negatively impact adjacent property values.

4. *The effect upon traffic into and from the land and on adjoining roads, streets, and highways;*

   The proposed use will not create a traffic impact.

5. *Whether the use would disrupt the reasonable use and enjoyment of other land in the neighborhood;*

   The proposed single-family home use will not cause a negative impact to the use and enjoyment of other land in the neighborhood.

6. *Whether adequate utilities, roads, streets, and other facilities exist or will be available in the near future;*

   There are adequate utilities, roads, streets, and other facilities available to the property.

7. *Whether the proposed conditional use conforms to all of the provisions of this chapter;*

   The proposed request is compliant with the City's zoning code.

8. *The effect up natural drainage patterns onto and from the site;*

   Finished grading will work with existing drainage patterns.

7. *Whether the proposed use will be detrimental to or endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the city;*

   The use as proposed will not be detrimental to or endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the city;

9. *Whether the proposed use would create additional requirements at public cost for public facilities and services and whether or not the use will be detrimental to the economic welfare of the neighborhood or city; and*

   As proposed, the use will not create additional requirements at public cost for public facilities and services and will not be detrimental to the economic welfare of the neighborhood or city.

10. *Whether the proposed use is environmentally sound and will not involve uses, activities, processes, materials, equipment, and conditions of operation that will be detrimental to any persons, land, or the general welfare because of excessive production of traffic, noise, smoke, fumes, wastes, toxins, glare, or orders.*

    Beyond initial construction activity, and based on erosion control requirements, the proposed residential use and grading activity will not be detrimental to the environment or surrounding area.

Attached for reference:

Exhibit A:	Site Survey dated December 26, 2023
Exhibit B:	Applicant Narrative dated December 26, 2023
Exhibit C:	Building elevations dated December 26, 2023

STAFF RECOMMENDATION

Based on the preceding review, Staff recommends approval of the request for a Conditional Use Permit to allow construction of a single family home exceeding 35 feet in height at 1 Sherwood Trail, subject to the following conditions:

1. The home shall be constructed in accordance with the plans sets received on December 26, 2023.

2. The conditions of Title 151.027(D)2 (land reclamation) shall be satisfied before the issuance of a building permit. The building plan application shall contain an erosion and sediment control plan.

3. Tree disturbance should be strategically completed and remaining trees abutting construction disturbance areas shall have tree protection barriers installed at the dripline.

4. Erosion control shall be in place prior to the beginning of construction.
    a. Erosion control measures such as silt fence must be installed downstream of all proposed grading, in order to ensure proper containment of sedimentation on site. Extra care shall be taken to maintain all existing erosion control measures to ensure sedimentation due to grading activities is not tracked off site.
    b. Applicant shall ensure that grading and filling work does not result in the deposit of additional stormwater runoff onto adjacent properties.

5. Plans shall be approved by the Building Official prior to the commencement of construction.
    a. Plans must be in compliance with the maximum 12% FAR requirement at the time of review by the Building Official. If plans exceed the 12% FAR requirement, the applicant shall:
        i. Revise plans to comply with the 12% FAR requirement; or
        ii. Request a variance from the 12% FAR requirement.

6. All lighting on the single-family home shall be downcast and shielded in accordance with Section 151.031 of the City Code.

7. Any outstanding fees shall be paid prior to the issuance of a building permit.

8. The applicant shall comply with all applicable local, state and watershed district rules and regulations.

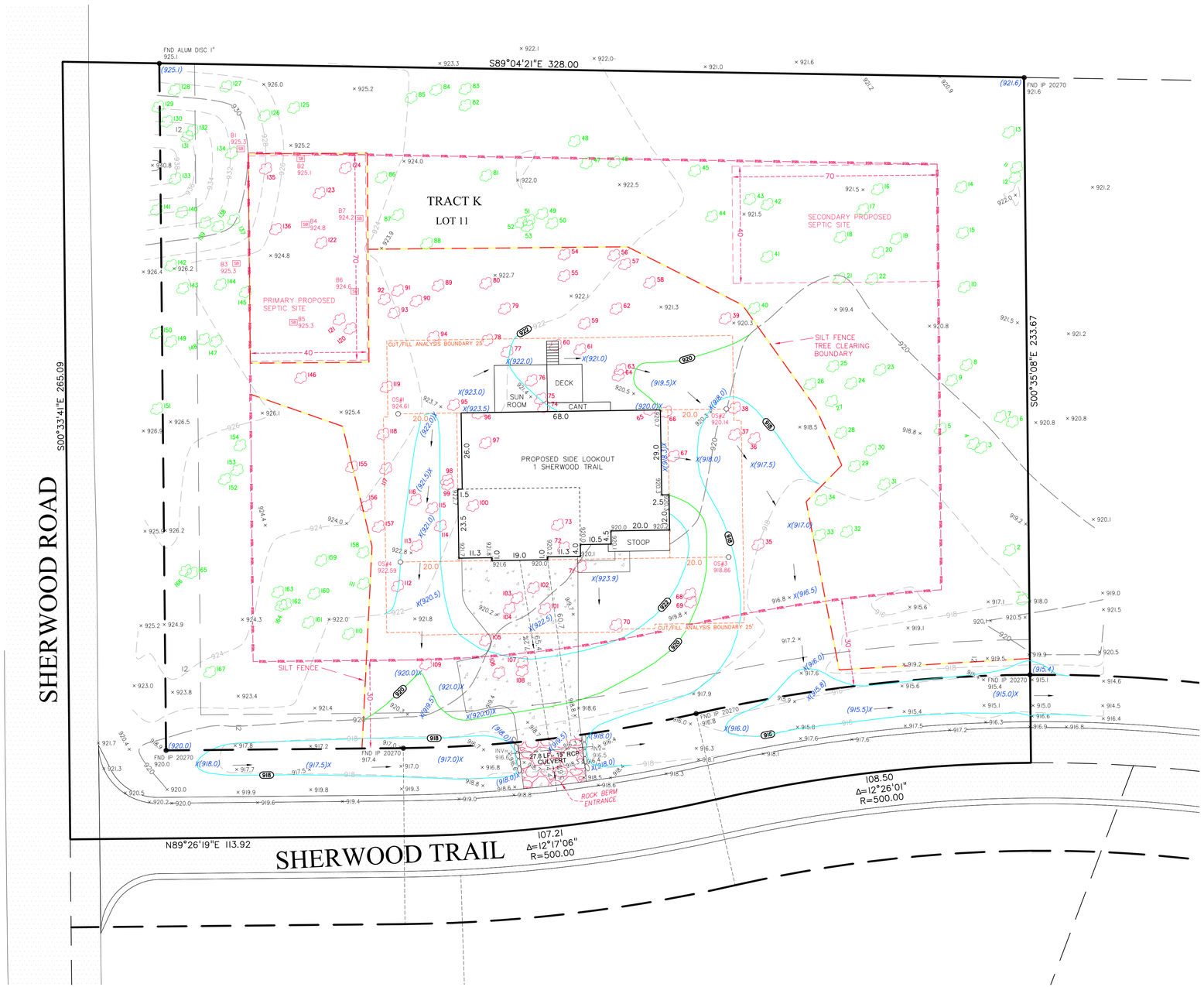
PLANNING COMMISSION OPTIONS
In consideration of the conditional use permit application, the Planning Commission has the following options:

A) Recommend approval of the application with conditions, based on the applicant's submission, the contents of this report, public testimony and other evidence available to the Planning Commission.

- This option should be utilized if the Planning Commission finds the proposal adheres to all City Code requirements or will do so with conditions.

B) Recommend denial of the application with findings for denial clearly articulated.

C) Recommend continuance of the application review based on the need for more information in which to process the request.



DESCRIPTION OF PROPERTY SURVEYED

Tract K, REGISTERED LAND SURVEY NO. 634, according to the recorded plat thereof, Ramsey County, Minnesota.

GENERAL NOTES

1) **Site Address**: 1 Sherwood Trail, North Oaks, Minnesota 55127

2) **Flood Zone Information**: This property appears to lie in Zone X (Areas outside the 1-percent annual chance floodplain, areas of 1% annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1% annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.) per Flood Insurance Rate Map, Community Panel No. 27123C0030G, effective date of June 4th, 2010.

3) **Parcel Area Information**:
Gross Area: 83,071 s.f. ~ 1.91 acres
Roadway Easement Area: 17,631 s.f. ~ 0.40 acres
Lot Area To Roadway Easement: 65,440 s.f. ~ 1.50 acres

4) **Principal Structure Setbacks** - Front: 30 feet from roadway easement
Side: 30 feet
Rear: 30 feet

Please note that the general restrictions for the subject property may have been amended through a city process. We could be unaware of such amendments if they are not in a recorded document provided to us. We recommend that a zoning letter be obtained from the Zoning Administrator for the current restrictions for this site.

5) **Utilities**: We have shown the location of utilities to the best of our ability based on observed evidence together with evidence from the following sources: plans obtained from utility companies, plans provided by client, markings by utility companies and other appropriate sources. We have used this information to develop a view of the underground utilities for this site. However, lacking excavation, the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary. Also, please note that seasonal conditions may inhibit our ability to visibly observe all the utilities located on the subject property.

Tract K, #1 Sherwood Trail

An easement, for purposes of a roadway for ingress and egress, over the southerly 30.00 feet thereof and being adjacent to Tract J, REGISTERED LAND SURVEY NO. 634.
An easement for utility purposes over the northerly 12.00 feet of the southerly 42.00 feet and over the east 12.00 feet of the west 45 feet thereof.
Subject to Sherwood Road (County State Aid Highway 4) on the west.

Proposed Elevations - LO

Proposed Garage Floor Elevation	= 924.2
Proposed Top of Foundation Elevation	= 924.5
Proposed Lookout Elevation	= 919.0
Proposed Basement Floor Elevation	= 915.8

Hardcover

Lot Area	= 83,071	S.F.
House Area	= 3,208	S.F.
Driveway Area	= 2,477	S.F.
Front Walk Area	= 86	S.F.
Roadway Area	= 6,440	S.F.
Stoop Area	= 237	S.F.
Deck Area	= 227	S.F.
Total Area	= 12,675	S.F.

Coverage = 15.3%

Grading Quantities (CY)	
Fill	-26.48
Cut	0
House Footing	0
Garage Footing	0
Porch Footing	0
Driveway	0
Egress Pit	0
Total Fill	-26.48
Total Cut	0
Total (+/-)	-26.48

NORTH

Bearings are based on the Hennepin County Coordinate System (NAD 83 - 1986 adj.)

20 10 0 10 20 40
SCALE IN FEET

SURVEY LEGEND

- CAST IRON MONUMENT
- IRON PIPE MONUMENT SET
- IRON PIPE MONUMENT FOUND
- DRILL HOLE FOUND
- CHISELED "X" MONUMENT SET
- CHISELED "X" MONUMENT FOUND
- REBAR MONUMENT FOUND
- PK NAIL MONUMENT SET
- PK NAIL MONUMENT FOUND
- PK NAIL W/ ALUMINUM DISC
- SURVEY CONTROL POINT
- A/C UNIT
- CABLE TV PEDESTAL
- ELECTRIC TRANSFORMER
- ELECTRIC MANHOLE
- ELECTRIC METER
- ELECTRIC OUTLET
- YARD LIGHT
- LIGHT POLE
- FIBER OPTIC MANHOLE
- FIRE DEPT. HOOK UP
- FLAG POLE
- FUEL PUMP
- FUEL TANK
- PROPANE TANK
- GAS METER
- GAS VALVE
- GAS MANHOLE
- GENERATOR
- GUARD POST
- HAND HOLE
- MAIL BOX
- PIEZOMETER
- POWER POLE
- GUY WIRE
- ROOF DRAIN
- LIFT STATION
- SANITARY MANHOLE
- SANITARY CLEANOUT
- STORM MANHOLE
- STORM DRAIN
- CATCH BASIN
- FLARED END SECTION
- TREE CONIFEROUS
- TREE DECIDUOUS
- TREE CONIFEROUS REMOVED
- TREE DECIDUOUS REMOVED
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- UTILITY MANHOLE
- UTILITY PEDESTAL
- UTILITY VAULT
- WATERMAIN MANHOLE
- WATER METER
- WATER SPIGOT
- WELL
- MONITORING WELL
- CURB STOP
- GATE VALVE
- HYDRANT
- IRRIGATION VALVE
- POST INDICATOR VALVE
- SIGN
- SOIL BORING
- WOE WALKOUT ELEVATION
- FFE FIRST FLOOR ELEVATION
- GFE GARAGE FLOOR ELEVATION
- TOF TOP OF FOUNDATION ELEV.
- LOE LOWEST OPENING ELEV.
- CONCRETE
- BITUMINOUS
- BUILDING SETBACK LINE
- CABLE TV
- CONCRETE CURB
- CONTOUR EXISTING
- CONTOUR PROPOSED
- GUARD RAIL
- DRAIN TILE
- ELECTRIC UNDERGROUND
- FENCE
- FIBER OPTIC UNDERGROUND
- GAS UNDERGROUND
- OVERHEAD UTILITY
- TREE LINE
- SANITARY SEWER
- STORM SEWER
- TELEPHONE UNDERGROUND
- RETAINING WALL
- UTILITY UNDERGROUND
- WATERMAIN
- TRAFFIC SIGNAL
- RAILROAD TRACKS
- RAILROAD SIGNAL
- RAILROAD SWITCH
- SATELLITE DISH
- WETLAND BUFFER SIGN

FIELD CREW	NO.	BY	DATE	REVISION
AK	1	ML	10/18/2023	HOUSE STAKED IN FIELD
DRAWN	2	ML	10/25/2023	HOUSE PLANS - PROPOSED ELEVATIONS
ML	3	ML	10/30/2023	DECK - RETWALL - EGRESS
CHECKED	4	ML	11/13/2023	SILT FENCE
DLS	5	ML	11/22/2023	REMOVE TREES IN SEPTIC AREA
DATE	6	ML	11/30/2023	TREES TO BE REMOVED
10/10/2023	9	ML	12/22/2023	PROPOSED ELEVATIONS

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 18th day of October, 2023.

Daniel L. Schmidt

Daniel L. Schmidt, PLS Minnesota License No. 26147
schmidt@sathre.com

SATHRE-BERGQUIST, INC.
14000 25TH AVENUE NORTH, SUITE 120
PLYMOUTH MN 55447 (952) 476-6000
WWW.SATHRE.COM

TWP:30-RGE:20-SEC.06
Ramsey County

NORTH OAKS, MINNESOTA

CERTIFICATE OF SURVEY

PREPARED FOR:

HANSON BUILDERS

FILE NO. 3279-1512

1 / 2

Proposed Conditional Use Permit

For Height Variance for Partial Lookout Basement Foundation

1 Sherwood Trail, East Preserve Subdivision, North Oaks, MN

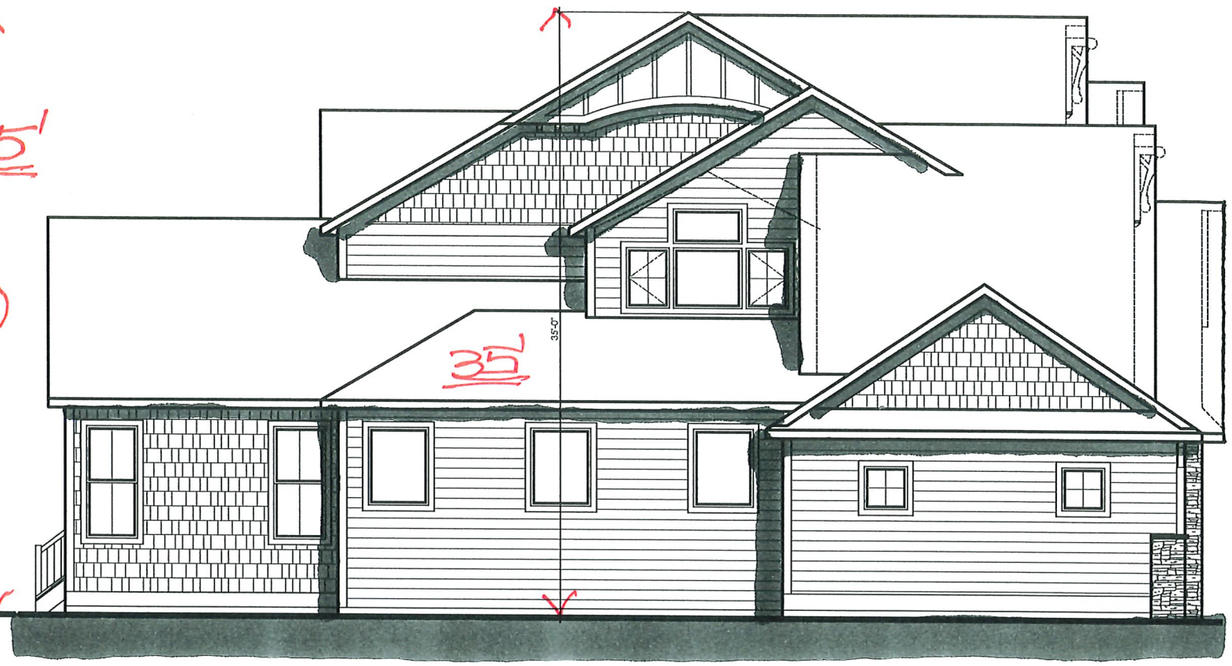
Our purpose in applying for a Conditional Use Permit for our proposed home at 1 Sherwood Trail in East Preserve, North Oaks is to request a height variance to make the basement a partial lookout at the east wall where the natural grade drops about 5.5 feet from the garage elevation to proposed lookout elevation.

We would like to add windows to the lower floor on the east side of the home to take advantage of the natural grade drop and thereby allow light and views of the woods rather than bring in additional fill to turn it into a full basement foundation. The resulting exposed building height would remain 35-feet in the front, left and rear elevations and about 40.5-feet on the right lookout side elevation from grade to ridge.

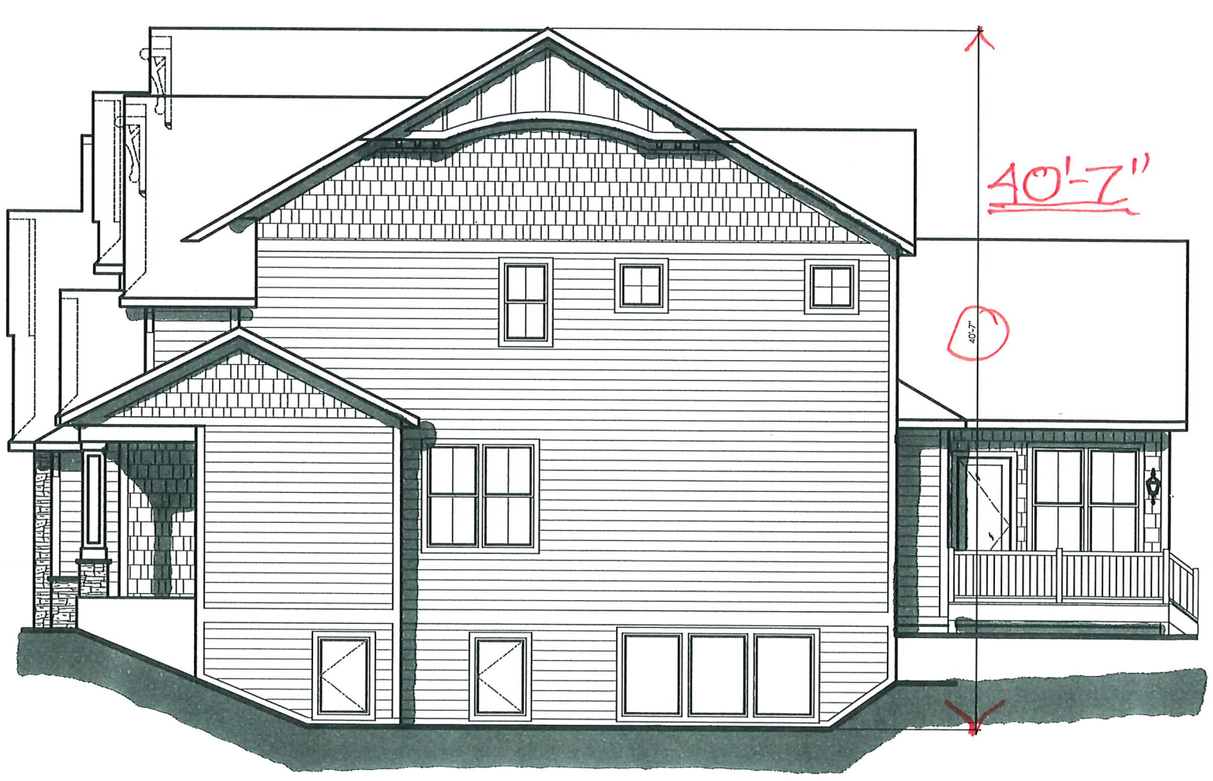
Our engineer, Sathre Bergquist, who did the overall engineering for the East Preserve subdivision, has calculated the Grading Quantities involved with this project to be +/- 26.48 Cubic Yards of fill.

Thank you for your consideration of this requested height variance of 5.5 feet.

Hanson Builders, Inc.



1 SHERWOOD TRAIL



CITY OF NorthOaks
Building on a tradition of innovation

PLANNING REPORT

TO: North Oaks Planning Commission

FROM: Nicholas Ouellette through Kendra Lindahl, City Planner
Kevin Kress, City Administrator
Bridget McCauley Nason, City Attorney
Michael Nielson, City Engineer

DATE: February 29, 2024

RE: **PUBLIC HEARING.** Conditional Use Permit for Building Height in Excess of 35 feet at 2 Sherwood Trail

Date Application Submitted	January 25, 2024
Date Application Determined Complete:	February 2, 2024
Planning Commission Meeting Date:	February 29, 2024
City Council Meeting Date:	March 14, 2024
60-day Review Date:	March 25, 2024

REQUEST

Mark Englund of Hansen Homes has requested approval of a conditional use permit to allow the construction of a new home at 2 Sherwood Trail to be 39.63 feet in height where 35 feet is the maximum height permitted in the City Code. The applicant's narrative is attached, as well as building elevations, a survey and a site plan for the proposed structure.

BACKGROUND

The site is currently undeveloped. The property is in the East Preserve development.

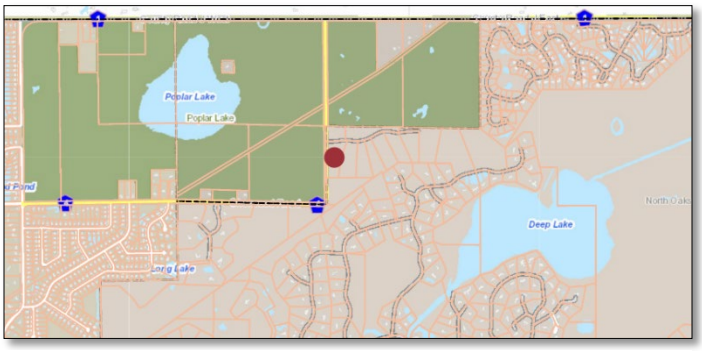


Figure 1 - Subject Parcel

Zoning and Land Use

The property is guided Low Density residential and is zoned Residential Single Family – Low Density (RSL). Homes greater than 35 feet in height are subject to the conditional use permit (CUP) standards and process in Section 151.050(D.7) (conditional uses), Section 151.076 (CUP review criteria) and Section 151.079 (CUP procedure) of the Zoning Code.

The 3.75-acre property is located at the southeast corner of Sherwood Trail and Sherwood Road (County Road 4).

PLANNING ANALYSIS

Setbacks

The proposed single-family home exceeds the 30-foot minimum setback requirements at all property lines and street easements. The front elevation is setback 33.5 feet from the roadway easement and the side and rear elevations are setback more than 80 feet from the adjacent property lines.

Height

The applicant is requesting a CUP to allow the southern (rear) elevation of the proposed home to exceed 35 feet in height. Elevations provided by the applicant show the proposed home to be 39.63 inches in height along the rear facade. The front and side facades of the home are 34.8 feet in height. Building height is defined as the vertical distance from grade as defined herein to the top ridge of the highest roof surface in Section 151.005 of the Zoning Code.

Size

The footprint of the house is 2,808 square feet. A FAR worksheet has not been provided with the application. Plans must be in compliance with the maximum 12% FAR requirement at the time of review by the Building Official.

Building Height CUP

To allow a conditional use permit for a home greater than 35 feet in height, Section 151.05(D.7) of the Zoning Code requires that the following criteria be considered:

1. *The front elevation of the building does not exceed 35 feet in height at any point;*

   The proposed front elevation does not exceed 35 feet at any point.

2. *The building height at any other elevation does not exceed 45 feet;*

   The building height at the rear and side elevations does not exceed 45 feet.

3. *The environmental and topographical conditions of the lot prior to building development are naturally suited to the design of a building with an egress or walkout level;*

   Based on review of the plans, topography of the site and Ramsey County GIS, the proposed home and lookout level appear conducive to the site's natural layout. Prior to construction, the City will review all erosion control measures to ensure that the construction project does not adversely affect the surrounding environment. The City Engineer will make periodic site visits during construction to ensure all erosion control measures are fully complied with.

4. *Buildings shall be limited to a basement and 2 full stories. Finished areas within the roof structure will be considered a full story;*

   The proposed home is two full stories with a basement.

5. *Any time the side or rear elevations of a building exceeds 35 feet in height within 50 feet of adjacent lot lines, the building line shall be setback an additional 2 feet from the adjacent setback line for each foot in height above 35 feet; and*

   The proposed front and side elevations are a maximum of 35 feet tall. The rear elevation is 39.63 in height and is setback more than 100 feet from the south and east property line where a 40 foot side yard setback would be required due to the increased height.

6. *Section 151.083 is complied with.*

   The applicant has complied with the fees associated with Section 151.083.

In addition to the standards identified for the specific CUP request, the City must also review the conditional use permit request against the standards in Section 151.076 of the City Code. Staff has reviewed the request against those standards:

1. *Relationship of the proposed conditional use to the Comprehensive Plan;*

   The proposed use is consistent with the uses anticipated in the Comprehensive Plan and the permitted uses in the single family zoning district.

2. *The nature of the land and adjacent land or building where the use is to be located;*

   The use is consistent with the surrounding land uses.

3. *Whether the use will in any way depreciate the area in which it is proposed;*

   The proposed single-family should not negatively impact adjacent property values.

4. *The effect upon traffic into and from the land and on adjoining roads, streets, and highways;*

   The proposed use will not create a traffic impact.

5. *Whether the use would disrupt the reasonable use and enjoyment of other land in the neighborhood;*

   The proposed single-family home use will not cause a negative impact to the use and enjoyment of other land in the neighborhood.

6. *Whether adequate utilities, roads, streets, and other facilities exist or will be available in the near future;*

   There are adequate utilities, roads, streets, and other facilities available to the property.

7. *Whether the proposed conditional use conforms to all of the provisions of this chapter;*

   The proposed request is compliant with the City's zoning code.

8. *The effect up natural drainage patterns onto and from the site;*

   Finished grading will work with existing drainage patterns.

7. *Whether the proposed use will be detrimental to or endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the city;*

   The use as proposed will not be detrimental to or endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the city;

9. *Whether the proposed use would create additional requirements at public cost for public facilities and services and whether or not the use will be detrimental to the economic welfare of the neighborhood or city; and*

   As proposed, the use will not create additional requirements at public cost for public facilities and services and will not be detrimental to the economic welfare of the neighborhood or city.

10. *Whether the proposed use is environmentally sound and will not involve uses, activities, processes, materials, equipment, and conditions of operation that will be detrimental to any persons, land, or the general welfare because of excessive production of traffic, noise, smoke, fumes, wastes, toxins, glare, or orders.*

    Beyond initial construction activity, and based on erosion control requirements, the proposed residential use and grading activity will not be detrimental to the environment or surrounding area.

Attached for reference:

Exhibit A:	Location Map
Exhibit B:	Site Survey dated January 25, 2024
Exhibit C:	Applicant Narrative dated January 25, 2024
Exhibit D:	Building elevations dated January 25, 2024

STAFF RECOMMENDATION

Based on the preceding review, Staff recommends approval of the request for a Conditional Use Permit to allow construction of a single family home exceeding 35 feet in height at 2 Sherwood Trail, subject to the following conditions:

1. The home shall be constructed in accordance with the plans sets received on January 25, 2024.

2. The conditions of Title 151.027(D)2 (land reclamation) shall be satisfied before the issuance of a building permit. The building plan application shall contain an erosion and sediment control plan.

3. Tree disturbance should be strategically completed and remaining trees abutting construction disturbance areas shall have tree protection barriers installed at the dripline.

4. Erosion control shall be in place prior to the beginning of construction.
    a. Erosion control measures such as silt fence must be installed downstream of all proposed grading, in order to ensure proper containment of sedimentation on site. Extra care shall be taken to maintain all existing erosion control measures to ensure sedimentation due to grading activities is not tracked off site.
    b. Applicant shall ensure that grading and filling work does not result in the deposit of additional stormwater runoff onto adjacent properties.

5. Plans shall be approved by the Building Official prior to the commencement of construction.
    a. Plans must be in compliance with the maximum 12% FAR requirement at the time of review by the Building Official. If plans exceed the 12% FAR requirement, the applicant shall:
        i. Revise plans to comply with the 12% FAR requirement; or
        ii. Request a variance from the 12% FAR requirement.

6. All lighting on the single-family home shall be downcast and shielded in accordance with Section 151.031 of the City Code.

7. Any outstanding fees shall be paid prior to the issuance of a building permit.

8. The applicant shall comply with all applicable local, state and watershed district rules and regulations.

PLANNING COMMISSION OPTIONS
In consideration of the conditional use permit application, the Planning Commission has the following options:

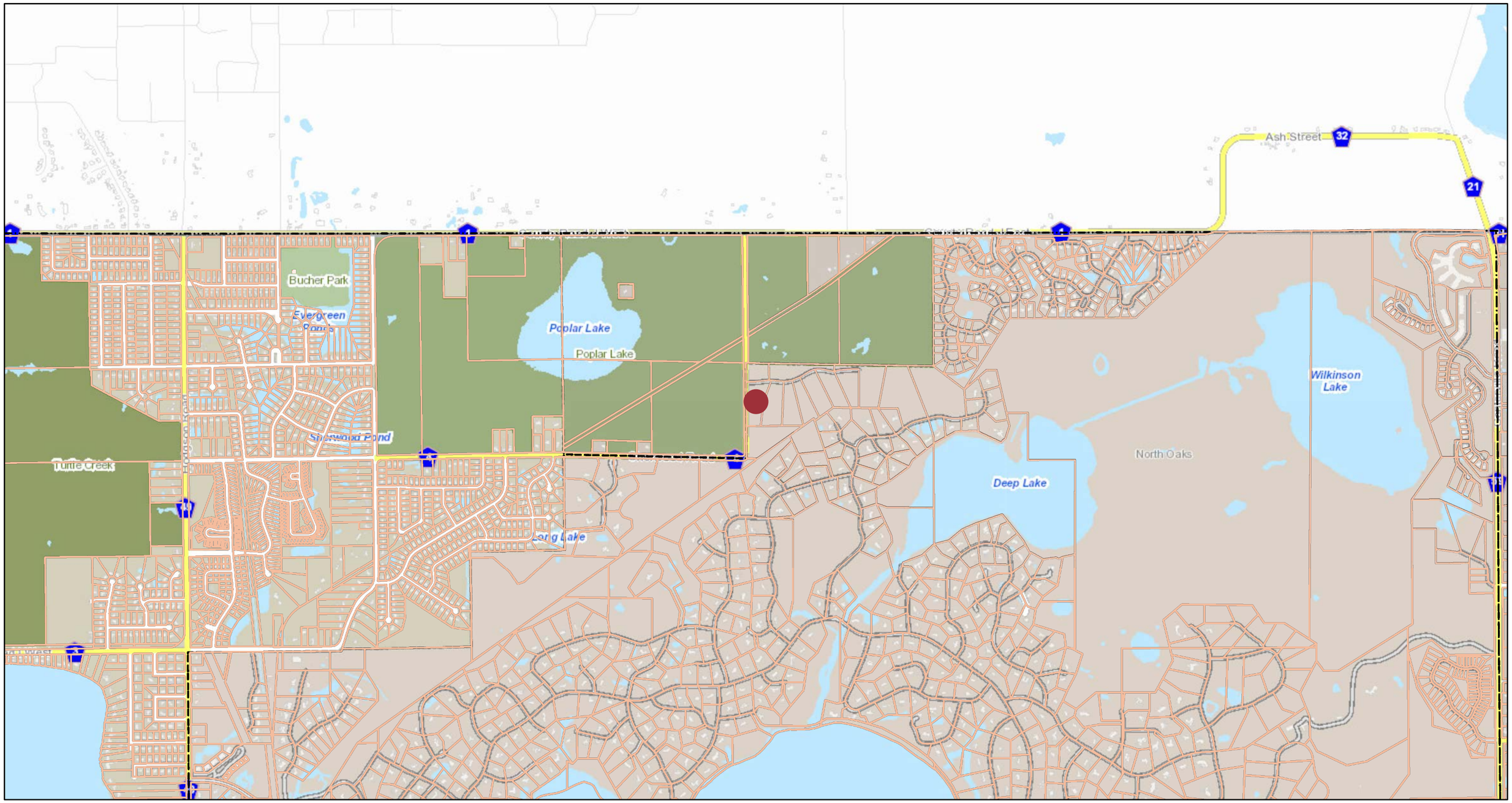
A) Recommend approval of the application with conditions, based on the applicant's submission, the contents of this report, public testimony and other evidence available to the Planning Commission.

- This option should be utilized if the Planning Commission finds the proposal adheres to all City Code requirements or will do so with conditions.

B) Recommend denial of the application with findings for denial clearly articulated.

C) Recommend continuance of the application review based on the need for more information in which to process the request.

Map Ramsey



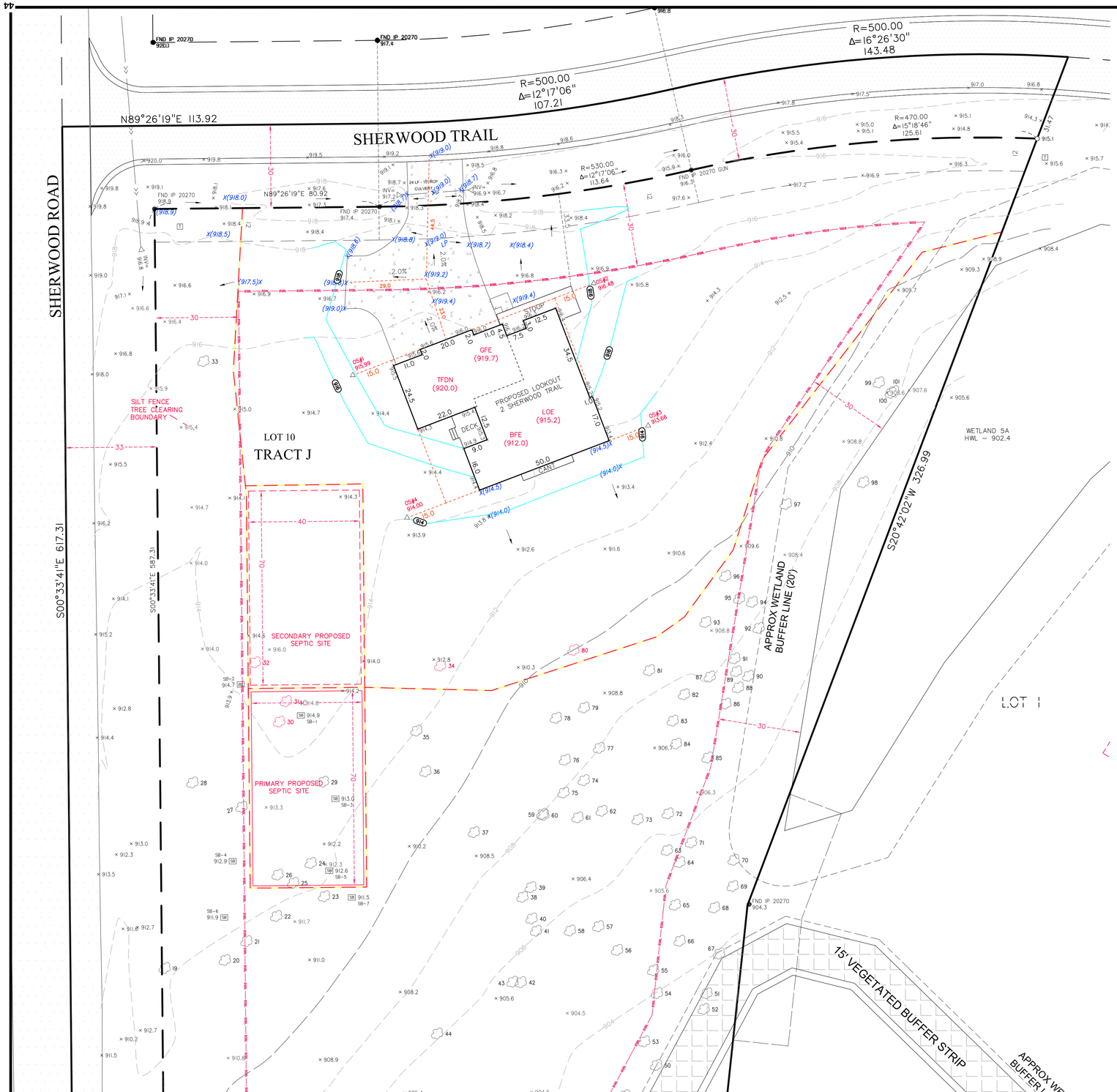
2/6/2024, 10:44:13 AM

1:16,000

0 0.2 0.4 0.8 mi

0 0.3 0.6 1.2 km

- Personal Property
- Tax Parcels
- Cities
- County Offices



DESCRIPTION OF PROPERTY SURVEYED

Tract J, REGISTERED LAND SURVEY NO. 634, according to the recorded plat thereof, Ramsey County, Minnesota.

GENERAL NOTES

1) **Site Address**: 2 Sherwood Trail, North Oaks, Minnesota 55127

2) **Flood Zone Information**: This property appears to lie in Zone X (Areas outside the 1-percent annual chance floodplain, areas of 1% annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1% annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.) per Flood Insurance Rate Map, Community Panel No. 27123C0030G, effective date of June 4th, 2010.

3) **Parcel Area Information**:
Gross Area: 163,064 s.f. ~ 3.74 acres
Roadway Easement Area: 30,148 s.f. ~ 0.69 acres
Lot Area To Roadway Easement: 132,916 s.f. ~ 3.05 acres
Wetland Area: 30,150 s.f. ~ 0.69 acres

4) **Principal Structure Setbacks** - Front: 30 feet from roadway easement
Side: 30 feet
Rear: 30 feet

Please note that the general restrictions for the subject property may have been amended through a city process. We could be unaware of such amendments if they are not in a recorded document provided to us. We recommend that a zoning letter be obtained from the Zoning Administrator for the current restrictions for this site.

5) **Utilities**: We have shown the location of utilities to the best of our ability based on observed evidence together with evidence from the following sources: plans obtained from utility companies, plans provided by client, markings by utility companies and other appropriate sources. We have used this information to develop a view of the underground utilities for this site. However, lacking excavation, the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary. Also, please note that seasonal conditions may inhibit our ability to visibly observe all the utilities located on the subject property.

Tract J, #2 Sherwood Trail

An easement, for purposes of a roadway for ingress and egress, over the northerly 30.00 feet thereof and being adjacent to Tracts K and L, REGISTERED LAND SURVEY NO. 634.
An easement for utility purposes over the southerly 12.00 feet of the northerly 42.00 feet and over the east 12.00 feet of the west 45 feet thereof. Subject to Sherwood Road (County State Aid Highway 4) on the west.

Proposed Elevations - LO

Proposed Garage Floor Elevation	= 919.7
Proposed Top of Foundation Elevation	= 920.0
Proposed Lookout Elevation	= 915.2
Proposed Basement Floor Elevation	= 912.0

Offset Irons
(elevations are to the top of pipe)

OS #1= 915.99	OS #2= 916.48
OS #4= 914.00	OS #3= 913.66

Hardcover

Lot Area To Roadway Easement	= 132,916 S.F.
Roadway Easement Area	= 30,148 S.F.
Gross Lot Area	= 163,064 S.F.
House Area	= 2,808 S.F.
Driveway Area	= 2,262 S.F.
Roadway Area	= 11,004 S.F.
Front Walk Area	= 35 S.F.
Stoop Area	= 215 S.F.
Deck Area	= 123 S.F.
Total Area	= 16,447 S.F.
Coverage =	10.1%

Tract J, TLS 634

AREA=3154 SF

FILL	38
CUT	3
	35

Amount of earth deposited, moved or removed in areas outside of the driveway and at a distance greater than 25' from the side of the building = 35 CUBIC YARDS OF DIRT

NORTH

20 10 0 10 20 40
SCALE IN FEET

SURVEY LEGEND

- CAST IRON MONUMENT
- IRON PIPE MONUMENT SET
- IRON PIPE MONUMENT FOUND
- DRILL HOLE FOUND
- CHISELED "X" MONUMENT SET
- CHISELED "X" MONUMENT FOUND
- REBAR MONUMENT FOUND
- PK NAIL MONUMENT SET
- PK NAIL MONUMENT FOUND
- PK NAIL W/ ALUMINUM DISC
- SURVEY CONTROL POINT
- A/C UNIT
- CABLE TV PEDESTAL
- ELECTRIC TRANSFORMER
- ELECTRIC MANHOLE
- ELECTRIC METER
- ELECTRIC OUTLET
- YARD LIGHT
- LIGHT POLE
- FIBER OPTIC MANHOLE
- FIRE DEPT. HOOK UP
- FLAG POLE
- FUEL PUMP
- FUEL TANK
- PROPANE TANK
- GAS METER
- GAS VALVE
- GAS MANHOLE
- GENERATOR
- GUARD POST
- HAND HOLE
- MAIL BOX
- PIEZOMETER
- POWER POLE
- GUY WIRE
- ROOF DRAIN
- LIFT STATION
- SANITARY MANHOLE
- SANITARY CLEANOUT
- STORM MANHOLE
- STORM DRAIN
- CATCH BASIN
- FLARED END SECTION
- TREE CONIFEROUS
- TREE DECIDUOUS
- TREE CONIFEROUS REMOVED
- TREE DECIDUOUS REMOVED
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- UTILITY MANHOLE
- UTILITY PEDESTAL
- UTILITY VAULT
- WATERMAIN MANHOLE
- WATER METER
- WATER SPIGOT
- WELL
- MONITORING WELL
- CURB STOP
- GATE VALVE
- HYDRANT
- IRRIGATION VALVE
- POST INDICATOR VALVE
- SIGN
- SOIL BORING
- WOE WALKOUT ELEVATION
- FFE FIRST FLOOR ELEVATION
- GFE GARAGE FLOOR ELEVATION
- TOF TOP OF FOUNDATION ELEV.
- LOE LOWEST OPENING ELEV.
- CONCRETE
- BITUMINOUS
- BUILDING SETBACK LINE
- CABLE TV
- CONCRETE CURB
- CONTOUR EXISTING
- CONTOUR PROPOSED
- GUARD RAIL
- DRAIN TILE
- ELECTRIC UNDERGROUND
- FENCE
- FIBER OPTIC UNDERGROUND
- GAS UNDERGROUND
- OVERHEAD UTILITY
- TREE LINE
- SANITARY SEWER
- STORM SEWER
- TELEPHONE UNDERGROUND
- RETAINING WALL
- UTILITY UNDERGROUND
- WATERMAIN
- TRAFFIC SIGNAL
- RAILROAD TRACKS
- RAILROAD SIGNAL
- RAILROAD SWITCH
- SATELLITE DISH
- WETLAND BUFFER SIGN

FIELD CREW	NO.	BY	DATE	REVISION
JD	1	BRV	12/28/2023	STAKED HOUSE IN FIELD
DRAWN				
BRV/ML				
CHECKED				
DLS				
DATE				
03/18/21				

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 29th day of December, 2023.

Daniel L. Schmidt

Daniel L. Schmidt, PLS Minnesota License No. 26147
schmidt@sathre.com

SATHRE-BERGQUIST, INC.
150 SOUTH BROADWAY WAYZATA, MN. 55391 (952) 476-6000
WWW.SATHRE.COM

TWP:30-RGE.20-SEC.06
Ramsey County
NORTH OAKS, MINNESOTA

CERTIFICATE OF SURVEY

PREPARED FOR:

HANSON BUILDERS

FILE NO. 3279-1531

1/2

Proposed Conditional Use Permit

For Height Variance for Partial Lookout Basement Foundation

2 Sherwood Trail, East Preserve Subdivision, North Oaks, MN

Our purpose in applying for a Conditional Use Permit for our proposed home at 2 Sherwood Trail in East Preserve, North Oaks is to request a height variance to make the basement a partial lookout at the south rear wall where the natural grade drops 6 feet from the garage elevation to proposed lookout elevation.

We would like to add windows to the lower floor on the rear of the home to take advantage of the natural grade drop and thereby allow light and views of the woods rather than bring in additional fill to turn it into a full basement foundation. The resulting exposed building height would remain 35-feet in the front, left and rear elevations and about 41-feet on the rear lookout side elevation from grade to ridge.

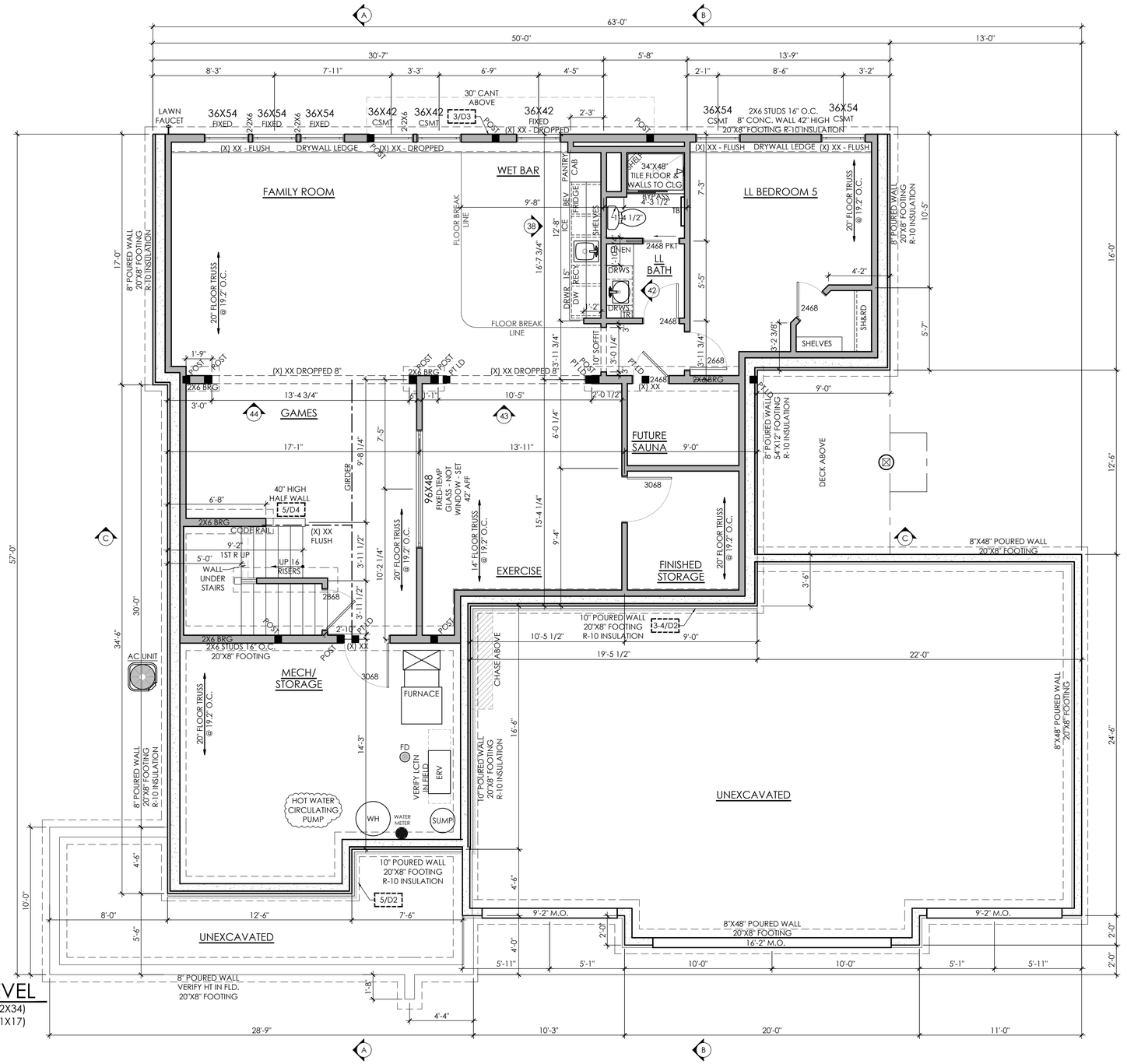
Our engineer, Sathre Bergquist, who did the overall engineering for the East Preserve subdivision, has calculated the Grading Quantities involved with this project to be +/- 35 Cubic Yards of net fill.

Thank you for your consideration of this requested height variance of 6 feet.

Hanson Builders, Inc.

LOWER FLOOR PLAN NOTES

1. 8'-2" CEILING HEIGHT UNO
2. 7'-0" WINDOW HEADER HEIGHT @ WALKOUT UNO
3. INTERIOR WALLS @ 24" OC EXCEPT AT BEARING WALLS
4. 2X6 BEARING WALLS UNO
5. ALL INT DOORS PLACED 4½" FROM CORNER FRAMING (4" FROM CORNER ON PLAN)



LOWER LEVEL

SCALE :: ¼" = 1'-0" (22X34)
SCALE :: ⅛" = 1'-0" (11X17)

HANSON BUILDERS

BUILDERS LICENCE #BC004568

13432 HANSON BLVD. NW
ANDOVER, MINNESOTA 55304
763-421-5435

SCHWIETERS-ELKIN RESIDENCE
2 SHERWOOD TRAIL
TRACT J
EAST PRESERVE
NORTH OAKS, MN

CUSTOM SUTTON
CUSTOM ELEVATION

JOB SETS	DATE	BY
MATCH CONTRACT	12/20/23	ZP
AMENDMENTS	XX/XX/XX	XX
FILE CHECK	XX/XX/XX	XX
PERMIT PLAN	XX/XX/XX	XX
FINAL PLAN	XX/XX/XX	XX

PLOT DATE: 1/31/2024

MASTER PLAN RELEASES

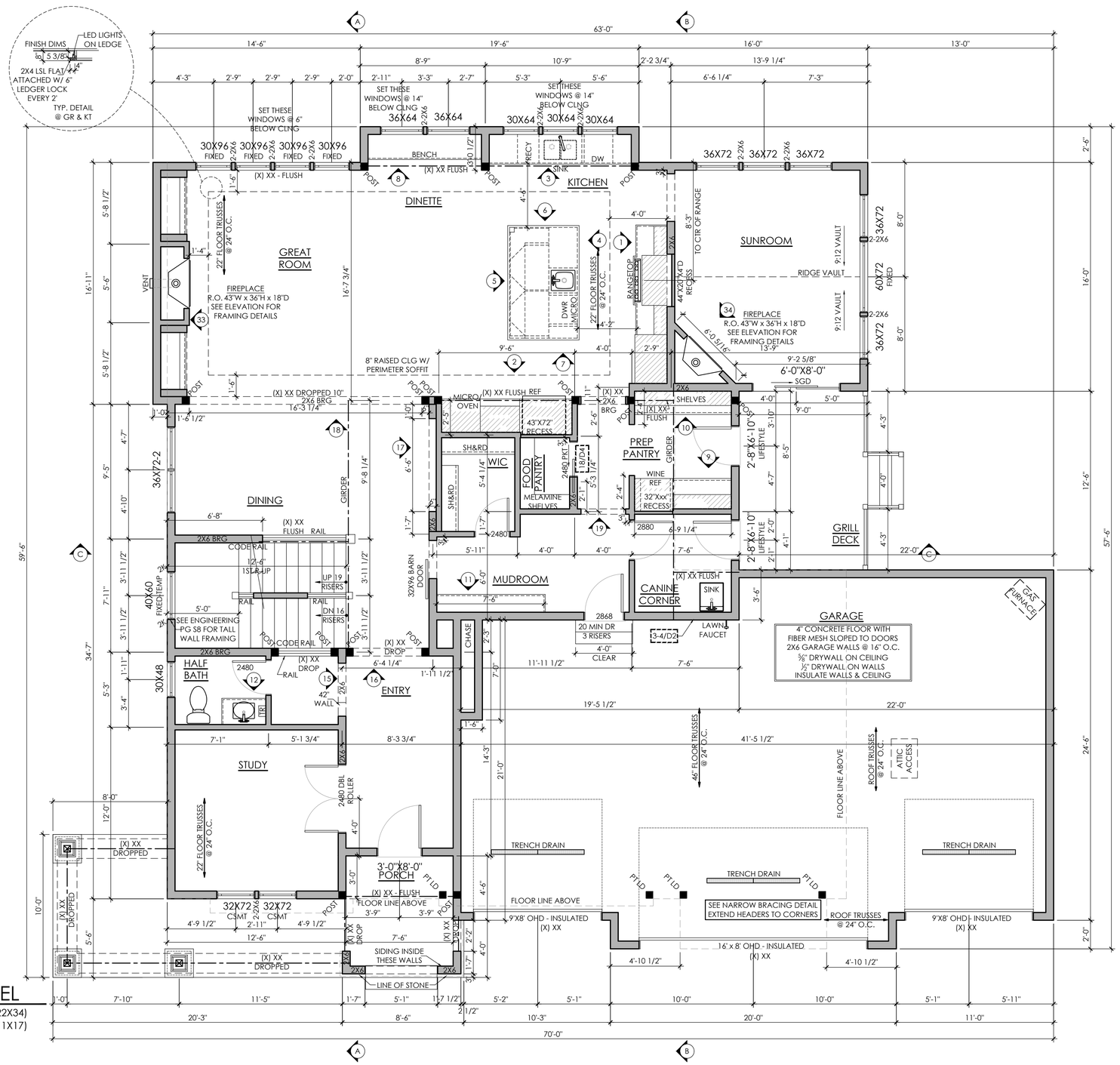
REVISIONS	DATE	BY

SHEET TITLE
LOWER FLOOR

SHEET NUMBER
A1

MAIN FLOOR PLAN NOTES

1. 10'-1 ⅛" CEILING HEIGHT UNO
2. 8'-7 ⅛" WINDOW HEADER HEIGHT UNO
3. 2X6 BEARING WALLS UNO
4. INTERIOR WALLS @ 24" OC EXCEPT AT BEARING & KITCHEN WALLS
5. 20 MINUTE FIRE DOOR @ GARAGE TO HOUSE
6. ALL INT DOORS PLACED 4½" FROM CORNER FRAMING (4" FROM CORNER ON PLAN)



MAIN LEVEL

SCALE :: ¼" = 1'-0" (22X34)
SCALE :: ⅛" = 1'-0" (11X17)

HANSON BUILDERS

BUILDERS LICENCE #BC004568

13432 HANSON BLVD. NW
ANDOVER, MINNESOTA 55304
763-421-5435

SCHWIETERS-ELKIN RESIDENCE
2 SHERWOOD TRAIL
TRACT J
EAST PRESERVE
NORTH OAKS, MN

CUSTOM SUTTON
CUSTOM ELEVATION

JOB SETS	DATE	BY
MATCH CONTRACT	12/20/23	ZP
AMENDMENTS	XX/XX/XX	XX
FILE CHECK	XX/XX/XX	XX
PERMIT PLAN	XX/XX/XX	XX
FINAL PLAN	XX/XX/XX	XX

PLOT DATE: 1/31/2024

MASTER PLAN RELEASES

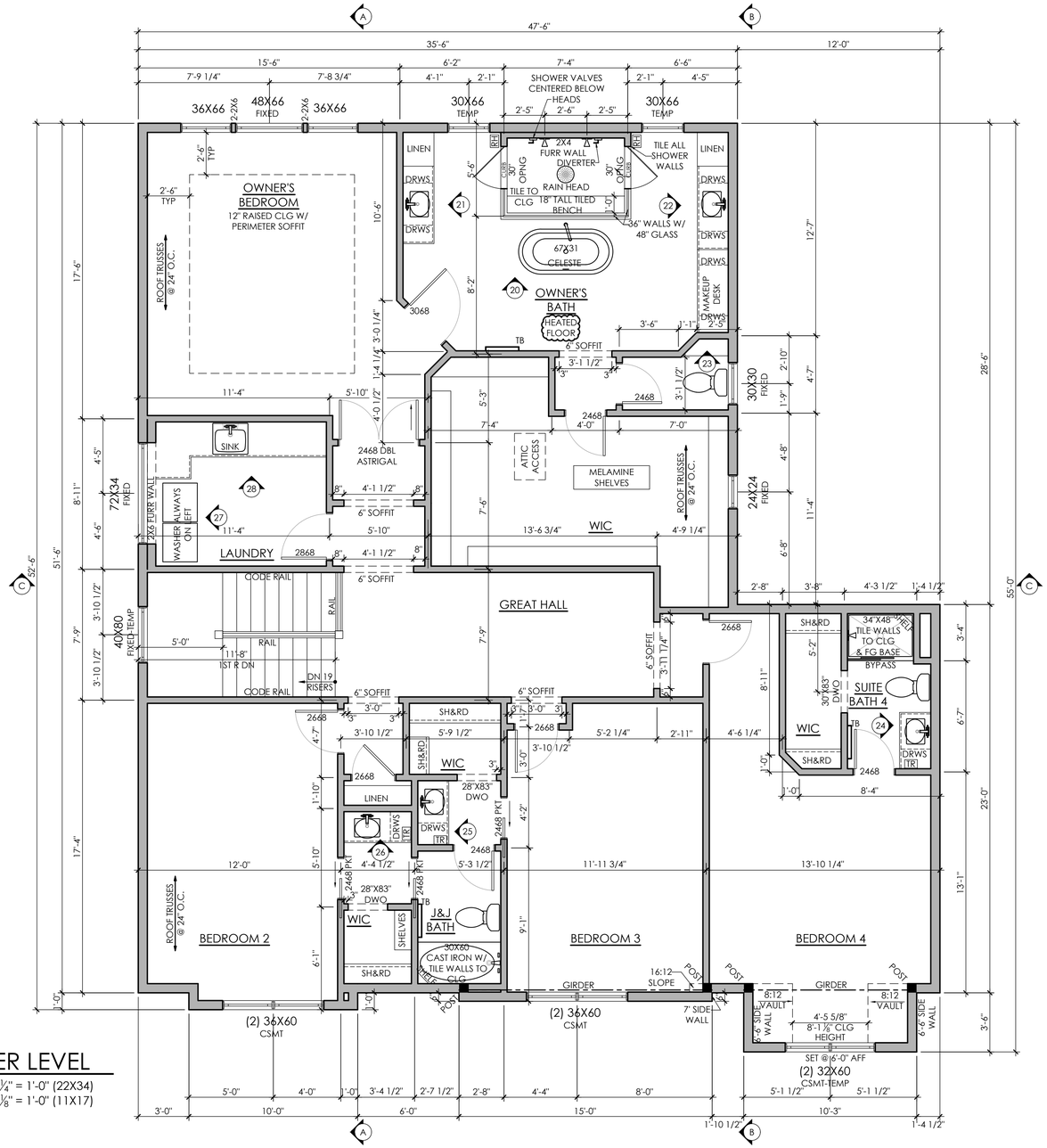
REVISIONS	DATE	BY

SHEET TITLE
MAIN FLOOR

SHEET NUMBER
A2

UPPER FLOOR PLAN NOTES

1. 8'-1 ⅛" CEILING HEIGHT UNO
2. 6'-11 ⅝" WINDOW HEADER HEIGHT UNO
3. INTERIOR WALLS @ 24" OC EXCEPT AT BEARING WALLS
4. ALL INT DOORS PLACED 4½" FROM CORNER FRAMING (4" FROM CORNER ON PLAN)



UPPER LEVEL

SCALE :: ¼" = 1'-0" (22X34)
SCALE :: ⅛" = 1'-0" (11X17)

HANSON BUILDERS

BUILDERS LICENCE #BC004568

13432 HANSON BLVD. NW
ANDOVER, MINNESOTA 55304
763-421-5435

SCHWIETERS-ELKIN RESIDENCE

2 SHERWOOD TRAIL

TRACT J
EAST PRESERVE
NORTH OAKS, MN

CUSTOM SUTTON

CUSTOM ELEVATION

JOB SETS	DATE	BY
MATCH CONTRACT	12/20/23	ZP
AMENDMENTS	XX/XX/XX	XX
FILE CHECK	XX/XX/XX	XX
PERMIT PLAN	XX/XX/XX	XX
FINAL PLAN	XX/XX/XX	XX

PLOT DATE: 1/31/2024

MASTER PLAN RELEASES

REVISIONS	DATE	BY

SHEET TITLE
UPPER FLOOR

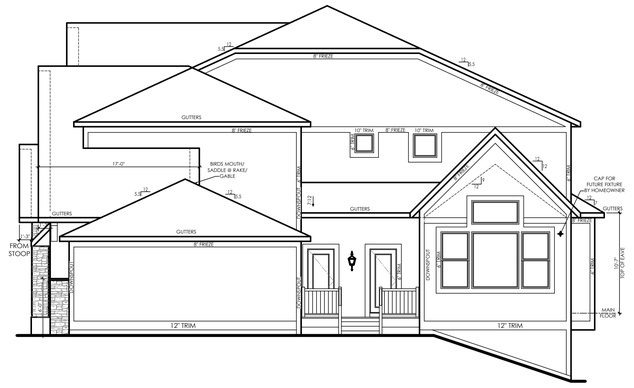
SHEET NUMBER
A3

SIDE ELEVATION

SCALE :: 1/4" = 1'-0" (22X34)
SCALE :: 1/8" = 1'-0" (11X17)

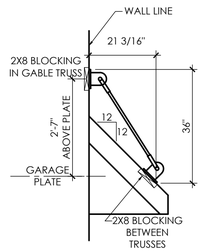
REAR ELEVATION

SCALE :: 1/4" = 1'-0" (22X34)
SCALE :: 1/8" = 1'-0" (11X17)



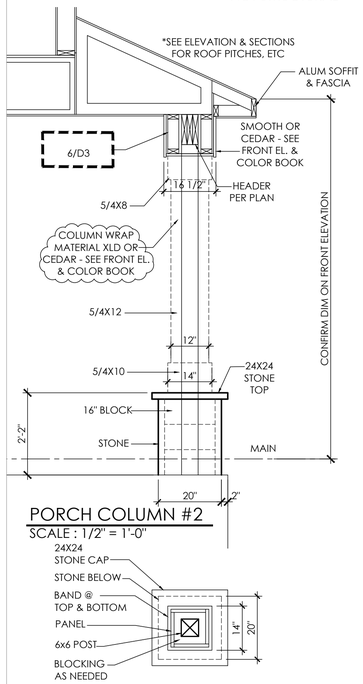
SIDE ELEVATION

SCALE :: 1/4" = 1'-0" (22X34)
SCALE :: 1/8" = 1'-0" (11X17)



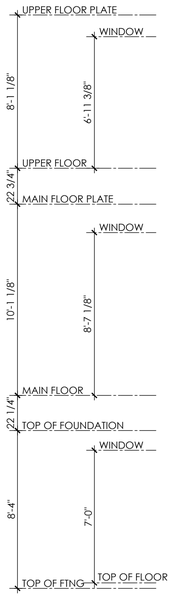
BILTFAB TIE-ROD

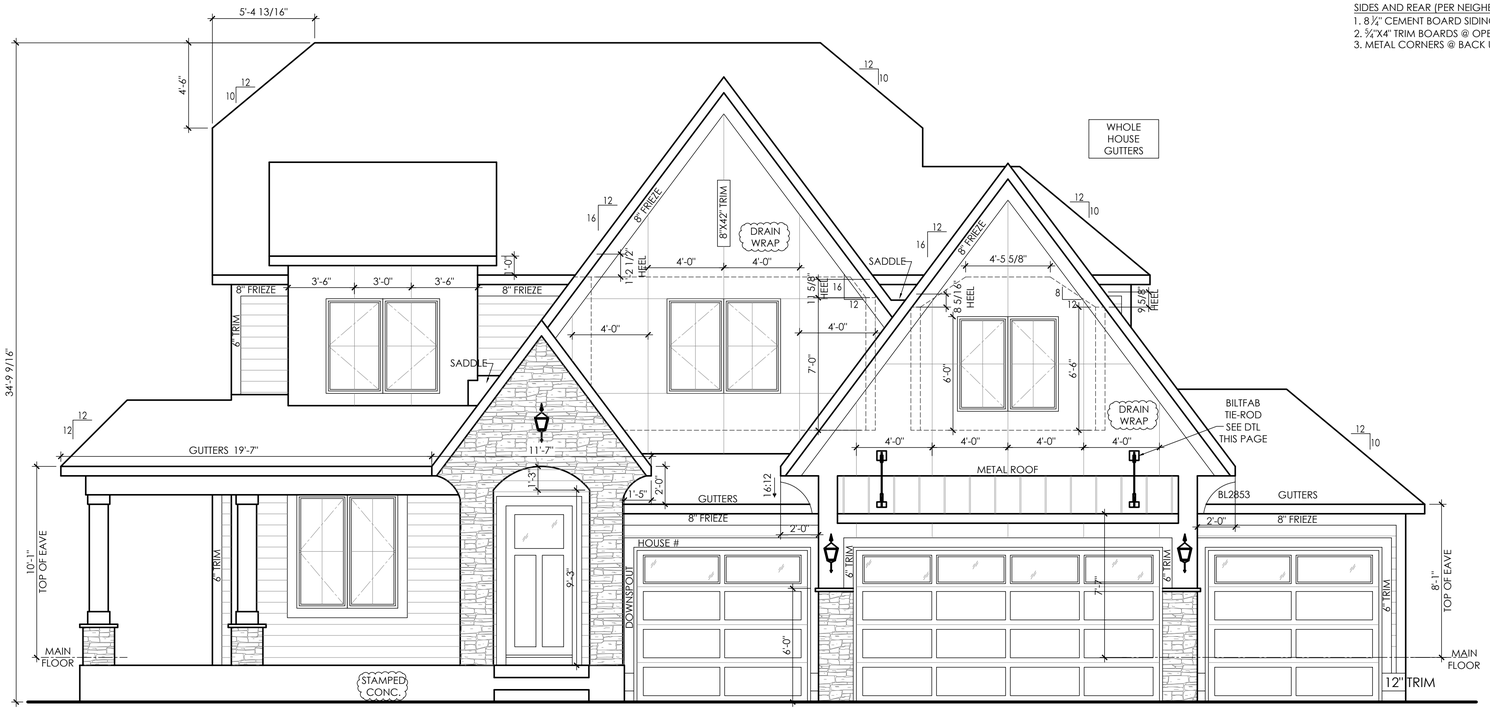
NOT STRUCTURAL



PORCH COLUMN #2

SCALE : 1/2" = 1'-0"





FRONT ELEVATION

SCALE :: 1/4" = 1'-0" (22X34)
SCALE :: 1/8" = 1'-0" (11X17)

ELEVATION NOTES

FRONT:
1. 8 1/4" CEMENT BOARD SIDING (7" REVEAL)
2. 5/4"X6" TRIM BOARDS @ OPENINGS U.N.O.
3. SEE DETAIL 10/D4 FOR CORNERS U.N.O.
4. NOTE: FILL IN OPENINGS OVER ALL BRACKETS
5. SHIP FRONT DOOR W/ NO BRICK MOULD
6. BOARD & BATTEN @ 24" OC SPACING U.N.O.

SIDES AND REAR (PER NEIGHBORHOOD):
1. 8 1/4" CEMENT BOARD SIDING (7" REVEAL)
2. 5/4"X4" TRIM BOARDS @ OPENINGS U.N.O.
3. METAL CORNERS @ BACK U.N.O.

HANSON BUILDERS

BUILDERS LICENCE #BC004568

13432 HANSON BLVD. NW
ANDOVER, MINNESOTA 55304
763-421-5435

SCHWIETERS-ELKIN RESIDENCE
2 SHERWOOD TRAIL
TRACT J
EAST PRESERVE
NORTH OAKS, MN

CUSTOM SUTTON
CUSTOM ELEVATION

JOB SETS	DATE	BY
MATCH CONTRACT	12/20/23	ZP
AMENDMENTS	XX/XX/XX	XX
FILE CHECK	XX/XX/XX	XX
PERMIT PLAN	XX/XX/XX	XX
FINAL PLAN	XX/XX/XX	XX

PLOT DATE: 1/31/2024

MASTER PLAN RELEASES

REVISIONS	DATE	BY

SHEET TITLE
ELEVATIONS

SHEET NUMBER
A4

CITY OF NorthOaks
Building on a tradition of innovation

PLANNING REPORT

TO: North Oaks Planning Commission

FROM: Nicholas Ouellette through Kendra Lindahl, City Planner
Kevin Kress, City Administrator
Bridget McCauley Nason, City Attorney
Michael Nielson, City Engineer

DATE: February 29, 2024

RE: Conditional Use Permit for Garage Size in Excess of 1,500 Square Feet and Building Addition at 70 West Pleasant Lake Road

Date Application Submitted	January 16, 2024
Date Application Determined Complete:	January 22, 2024
Planning Commission Meeting Date:	February 29, 2024
City Council Meeting Date:	March 14, 2024
60-day Review Date:	March 16, 2024

REQUEST

Mark and Anita Udager have applied for a Conditional Use Permit (CUP) to construct a detached accessory garage structure on the west side of their property and a 306-square foot sunroom addition to the home. The detached accessory structure has a partially exposed lower floor constructed into a hill on the property. The proposed detached accessory garage is designed to accommodate the storage of a 22-foot boat and trailer. The total square footage of the proposed structure is 1,296 with 648 square feet on each floor. The existing garage on the site is 1,150 square feet, bringing the total garage space on the property to 2,302 square feet when 1,500 square feet is the maximum permitted by the code. The applicant's narrative is attached, as well as the building elevations of the proposed structure.

BACKGROUND

The applicants previously applied for a Conditional Use Permit (CUP) to exceed the maximum combined garage size of 1,500 square feet on the property located at 70 West Pleasant Lake Road North. The CUP was approved March 9, 2023, but the improvements were not initiated. The current request is a new CUP to accommodate a larger garage size.

Figure 1 - Subject Parcel

Zoning and Land Use

The property is guided Low Density residential and is zoned Residential Single Family – Low Density (RSL). Private garages in this zoning district are not allowed to exceed 1,500 square feet without a CUP.

The 1.41-acre property is located along the northwest edge of Pleasant Lake. A site survey is attached to this report. The property is located entirely in the Shoreland Management Area.

PLANNING ANALYSIS

Shoreland

The property is separated from Pleasant Lake by a public trail and open space parcel. Pleasant Lake is categorized as a Recreational Development lake. All structures and septic systems must be a minimum of 75 feet from the ordinary high water level (OHWL) of the lake. Chapter 153 (Shoreland Management Area) defines a structure as “anything which is built, constructed, or erected, whether temporary or permanent, in or above ground.”

The plans show the sunroom addition to the existing home is 103 feet from the OHWL and the existing home is 102 feet. The plans comply with the minimum setback requirements. The proposed detached accessory garage is located on the opposite side of the home from the OHWL.

A certificate of zoning compliance is required from the City Clerk prior to initiating any work in the shoreland management area.

Setbacks

The proposed detached accessory structure and sunroom addition exceed the 30-foot minimum setback requirements at all property lines and street easements.

Height

The detached accessory garage is 34 feet and 11.5 inches in height and unchanged from the previous CUP approval. The detached accessory garage does not exceed the height of the principal structure in compliance with the City Code.

Size

The garage is similar to the previously approved project except that the building dimensions have been expanded. *Total Floor Area* is defined as the area of all stories, as determined using exterior dimensions, including garages that are not part of the basement, clerestory area and cover porches and decks. The floor area provided on plans has not been updated to reflect the increase in building dimensions. The new detached garage size proposed by the applicant results in a total detached garage floor area of 1,296 square feet.

Garage CUP

A garage which exceeds 1,500 square feet may be permitted after securing a conditional use permit. The applicant is requesting approval for a 1,296 square foot detached garage. The garage addition will result in a combined garage square footage of 2,446 square feet.

The following specific CUP criteria must be met:

1. *The garage shall not exceed 3,000 square feet;*

   The plans comply. The garage addition will result in a combined garage square footage of 2,446.

2. *The garage shall be constructed in the same architectural style as the principal building or structure;*

   The garage will have the same exterior materials and design elements as the principal building.

3. *The floor area ratio shall not exceed 0.12;*

   The applicant has provided a FAR worksheet that shows a FAR of 11.76%. The FAR calculation must be submitted to the building official with the building permit to ensure compliance with the 12% FAR limit.

4. *No use of the garage shall be permitted other than for private residential noncommercial use;*

   The garage will be used by the residents of the home for typical residential uses. The applicant's narrative indicates that main level of the garage will primarily be used for storage of lawn and recreational equipment as well as boat and trailer storage.

In addition to the standards identified for the specific CUP request, the City must also review the garage request against the standards in Section 151.076 of the City Code. Staff has reviewed the request against those standards:

1. *Relationship of the proposed conditional use to the Comprehensive Plan;*

   The proposed use is consistent with the uses anticipated in the Comprehensive Plan and the permitted uses in the single family zoning district.

2. *The nature of the land and adjacent land or building where the use is to be located;*

   The use is consistent with the surrounding land uses. The attached garage will have the same exterior materials and design elements as the main portion of the home.

3. *Whether the use will in any way depreciate the area in which it is proposed;*

   The garage addition, which has been designed to blend in with the rest of the existing home, will not negatively impact adjacent property values.

4. *The effect upon traffic into and from the land and on adjoining roads, streets, and highways;*

   The proposed use will not create a traffic impact.

5. *Whether the use would disrupt the reasonable use and enjoyment of other land in the neighborhood;*

   The described use of the structure will not cause a negative impact to the use and enjoyment of other land in the neighborhood.

6. *Whether adequate utilities, roads, streets, and other facilities exist or will be available in the near future;*

   There are adequate utilities, roads, streets, and other facilities available to the property.

7. *Whether the proposed conditional use conforms to all of the provisions of this chapter;*

   The proposed request is compliant with the City's zoning code.

8. *The effect up natural drainage patterns onto and from the site;*

   Finished grading will work with existing drainage patterns. The City engineer has reviewed the plans and has recommended conditions to ensure that impacts to drainage patterns are mitigated.

9. *Whether the proposed use will be detrimental to or endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the city;*

   The use as proposed will not be detrimental to or endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the city;

10. *Whether the proposed use would create additional requirements at public cost for public facilities and services and whether or not the use will be detrimental to the economic welfare of the neighborhood or city; and*

    The proposed use will not create additional requirements at public cost for public facilities and services and will not be detrimental to the economic welfare of the neighborhood or city.

11. *Whether the proposed use is environmentally sound and will not involve uses, activities, processes, materials, equipment, and conditions of operation that will be detrimental to any persons, land, or the general welfare because of excessive production of traffic, noise, smoke, fumes, wastes, toxins, glare, or orders.*

    Beyond initial construction activity, and based on erosion control requirements, the proposed residential use and grading activity will not be detrimental to the environment or surrounding area.

Attached for reference:

Exhibit A:	Site Survey dated January 16, 2024
Exhibit B:	Applicant Narrative dated January 12, 2024
Exhibit C:	Building elevations and floor plans dated January 16, 2024
Exhibit D:	FAR Calculation Spreadsheet dated January 12, 2024
Exhibit E:	Engineer Review Memo dated February 5, 2024

STAFF RECOMMENDATION

Based on the preceding review, Staff recommends approval of the request for a Conditional Use Permit to allow construction of 1,296 square foot detached garage and 306 square foot sunroom addition at 70 West Pleasant Lake Road, subject to the following conditions:

1. The request to allow a total of 2,446 square feet of garage area is approved in accordance with the application submitted on December 15, 2023 and additional information received on January 3, 2024, except as amended by this approval.

2. The conditions of Title 151.027(D)2 (land reclamation) shall be satisfied before the issuance of a building permit. The building plan application shall contain an erosion and sediment control plan.

3. Tree disturbance should be strategically completed and remaining trees abutting construction disturbance areas shall have tree protection barriers installed at the dripline.

4. Erosion control shall be in place prior to the beginning of construction.
    a. Erosion control measures such as silt fence must be installed downstream of all proposed grading, in order to ensure proper containment of sedimentation on site. Extra care shall be taken to maintain all existing erosion control measures to ensure sedimentation due to grading activities is not tracked off site.
    b. Applicant shall ensure that grading and filling work does not result in the deposit of additional stormwater runoff onto adjacent properties.

5. Plans shall be approved by the Building Official prior to the commencement of construction.
    a. Plans must be in compliance with the maximum 12% FAR requirement at the time of review by the Building Official. If plans exceed the 12% FAR requirement, the applicant shall:
        i. Revise plans to comply with the 12% FAR requirement; or
        ii. Request a variance from the 12% FAR requirement.

6. All lighting on the accessory structure shall be downcast and shielded in accordance with Section 151.031 of the City Code.

7. Any outstanding fees shall be paid prior to the issuance of a building permit.

8. A certificate of zoning compliance is required from the City Clerk prior to initiating any work in the shoreland management area.

9. Applicant shall comply with all applicable local, state and watershed district rules and regulations.

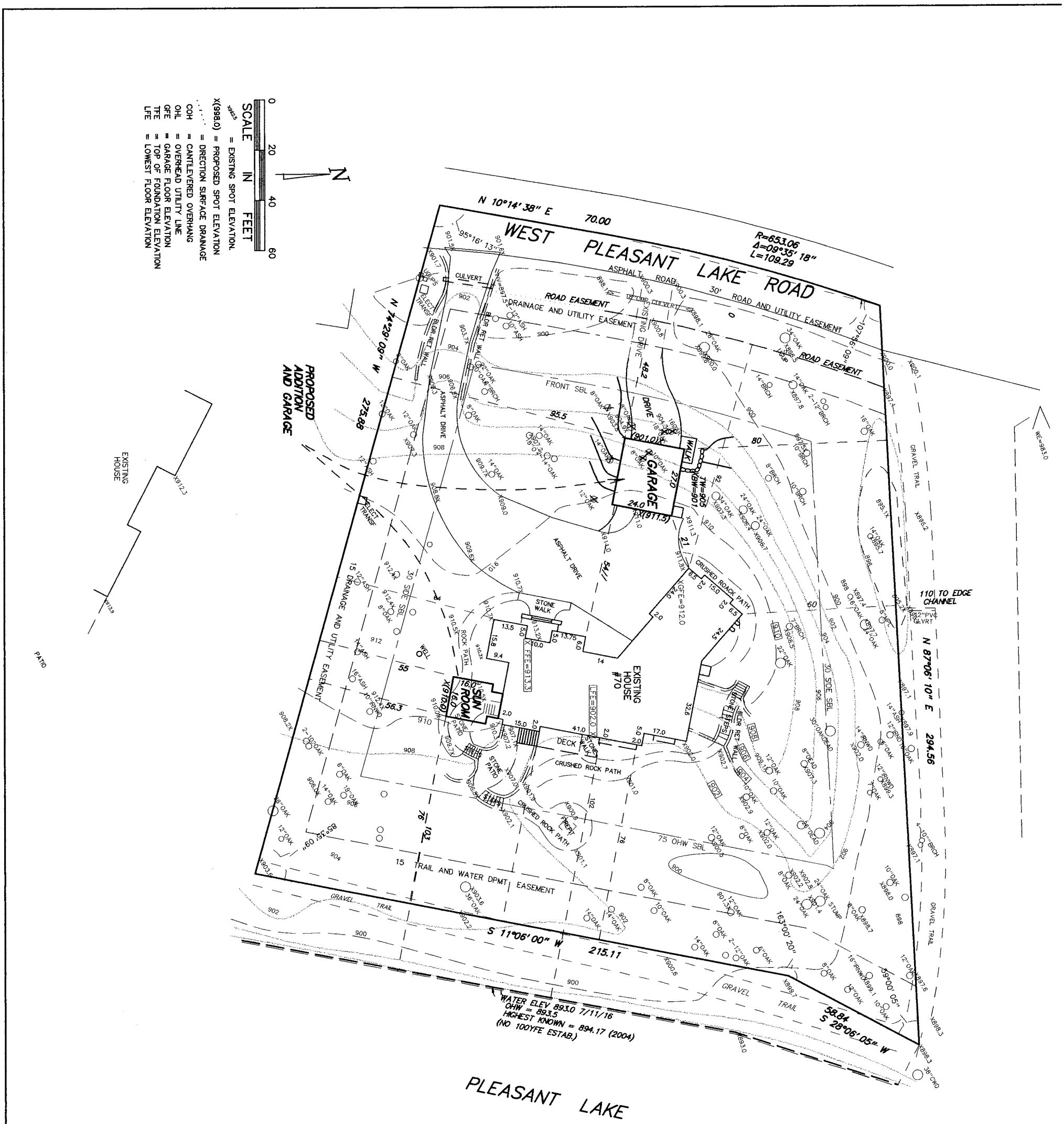
PLANNING COMMISSION OPTIONS
In consideration of the conditional use permit application, the Planning Commission has the following options:

A) Recommend approval of the application with conditions, based on the applicant's submission, the contents of this report, public testimony and other evidence available to the Planning Commission.

- This option should be utilized if the Planning Commission finds the proposal adheres to all City Code requirements or will do so with conditions.

B) Recommend denial of the application with findings for denial clearly articulated.

C) Recommend continuance of the application review based on the need for more information in which to process the request.



SCALE IN FEET
0 20 40 60

N

x902.5 = EXISTING SPOT ELEVATION.
X(998.0) = PROPOSED SPOT ELEVATION
= DIRECTION SURFACE DRAINAGE
COH = CANTILEVERED OVERHANG
OHL = OVERHEAD UTILITY LINE
GFE = GARAGE FLOOR ELEVATION
TFE = TOP OF FOUNDATION ELEVATION
LFE = LOWEST FLOOR ELEVATION

HARDCOVER
EXISTING
HOUSE = 3720 SF 6.6%
DECK = 120 SF
FWALK = 125 SF
PATIOS = 530 SF
DRIVE = 4675 SF
TOTAL = 8665 SF /16.2% LOT AREA TO R/W

PROPOSED
GARAGE = 648 SF
SUNRM = 300 SF
DRIVES = 885 SF
WALKS = 75 SF
TOTAL = 1908 SF/3.4%

TOTAL EXISTING TO REMAIN AND PROPOSED = 10573 SF/18.9%
1/12/24

ELEVATIONS
GARAGE FLOOR = 912.0
MAINFLOOR = 913.3
TOP OF FOUNDATION = 912.8
LOWEST FLOOR= 902.0

LEGAL DESCRIPTION:
TRACT P, R.L.S. NO. 506,
RAMSEY COUNTY, MN.

ADDRESS
70 WEST PLEASANT LAKE ROAD
PID#19-028-24-24-0130

LOT AREA = 61476 SF/ 1.41 AC
- 5534 SF IN ROAD ESMT
= 55942 SF / 1.28 AC

SURVEY IS SUBJECT TO CHANGE PER TITLE OR EASEMENT INFORMATION

VERIFY ALL DIMENSIONS AND ELEVATIONS WITH PROPOSED PLANS

VERIFY ALL SETBACKS WITH CITY

1/12/24 REV PROP, HC
12/28/23 REV PROP, HC
10/5/22 REV PROP, HC
9/26/22 REV PROP, HC
9/13/22 PROPOSED CAR,SNRM
XXX 12/7/17 ASBUILT

PROJECT NO.	BOOK
DATE JULY 11, 2016	PAGE
REVISIONS 12/28/16 ADDRESS, GFE	

I HEREBY CERTIFY THAT THIS SURVEY WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.

FRANK R. CARDARELLE REG. NO. 6508

BUILDING PERMIT SURVEY
ALEXANDER DESIGN
for UDAGER RESIDENCE
70 WEST PLEASANT RD

Land Surveyor
Frank R. Cardarelle
6440 FLYING CLOUD DRIVE
EDEN PRAIRIE,MN 55344
952-941-3031

CUP RESOLUTION #1478 DATED 03/09/2023
REV#1 - 01/12/2024

December 12, 2022

Subject: Written Explanation of Application for CUP @ North Oaks Residence 70 West Pleasant Lake Road

To Whom It May Concern:

Reason for CUP Application:
Mark and Anita Udager, the homeowners of this residence, are submitting an application for a Conditional Use Permit as a proposed detached garage on our property would exceed the city ordinance of 1500 square feet for total garage space.

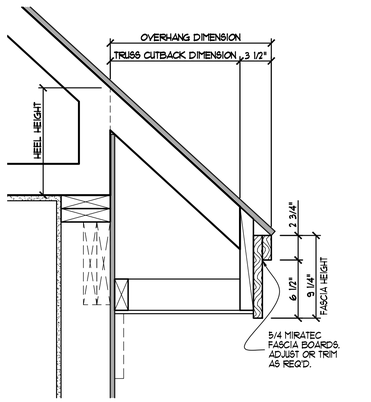
Residence Garage Square Footage:
Our current attached 3-car garage is 1150 sq. ft. and a proposed detached garage would add an additional 1152 sq. ft (576 sq. ft. on each level) bringing the total square footage of all garage space on our property to 2302 sq. ft. or 802 sq. ft. over the sq footage allowed per city ordinance.

Reason for the Additional Garage Space:
In the future, when we sell our northern Minnesota lake home, we will have possessions that are used at both residences - but currently store then at the lake. The larger pieces of equipment include 14-foot dump trailer and a 22 ft. classic wood boat. In addition we have other items such as a small lawn tractor and other watercraft that could be enjoyed with our Pleasant Lake access such as a canoe, kayak and paddleboard. In designing this detached space we has a strong desire to maintain the aesthetics of our custom designed modern farmhouse for storage of these items on our property and also store them within an enclosed, temperature controlled and secured building.

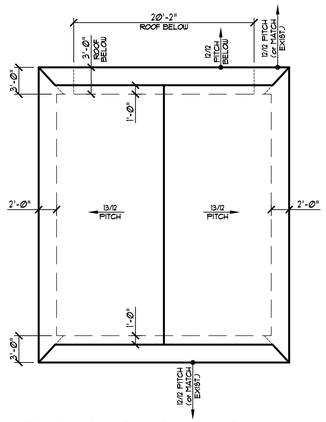
Materials Provided for the CUP Application:
Please note that in the required sets of drawings for the CUP application, the plans include the proposed detached garage project and a proposed sunroom addition. Therefore, we have also included a FAR worksheet that reflects both proposed project areas - the detached garage and sunroom.

CUP MODIFICATION REQUEST DATED 12/12/2023
REV#1 - 01/12/2024

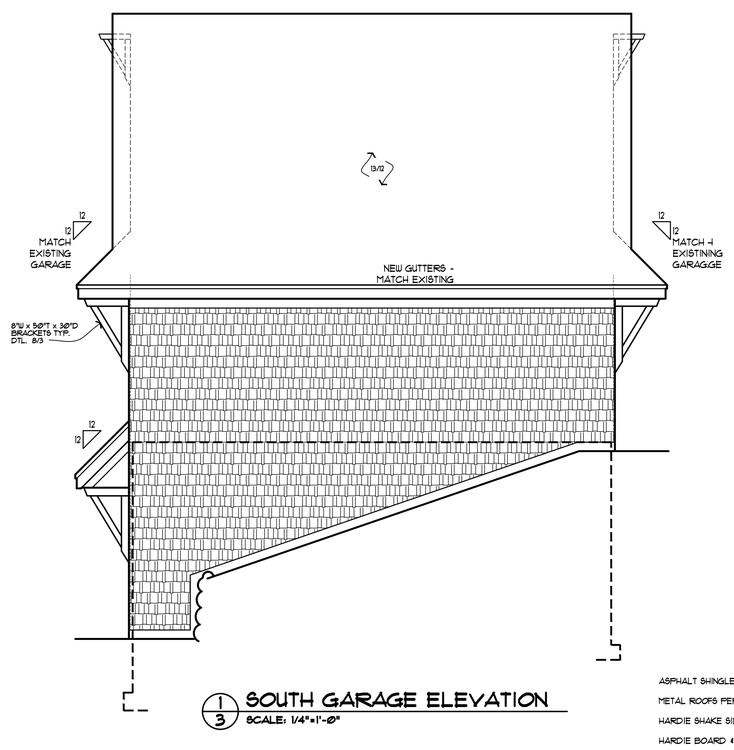
THE OWNER IS MAKING THIS REQUEST TO CORRECT AN ERROR HE MADE IN DETERMINING THE LENGTH REQUIRED TO STORE THE ABOVE MENTIONED 22' CLASSIC BOAT & TRAILER.
TO PROVIDE 25'4" INSIDE CLEAR AREA IN LOWER LEVEL FROM CONCRETE WALL TO THE BACK OF GARAGE DOOR (NOT COUNTING HINGES OR BRACES) OVERALL GARAGE MUST BE 24'x27' REV#1



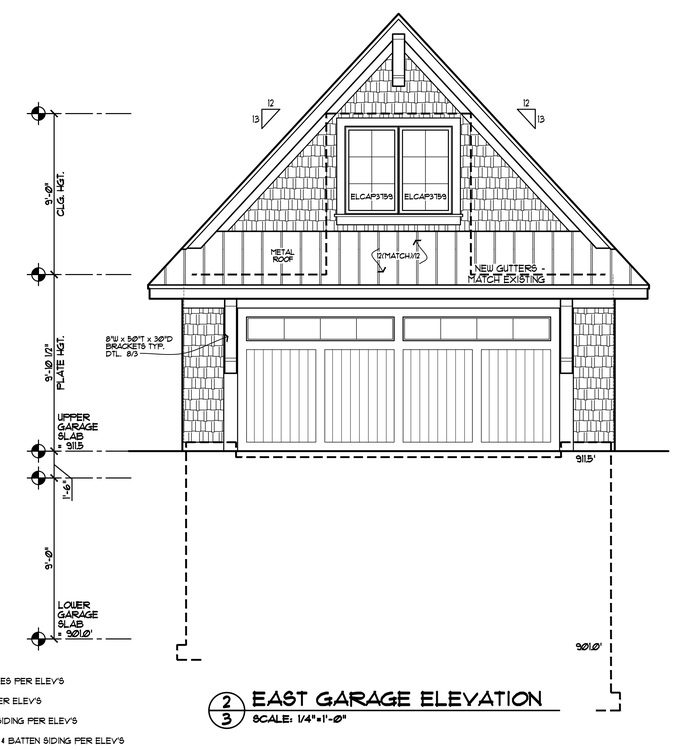
6/3 TYPICAL FASCIA / DIM DIAGRAM
SCALE: 1 1/2"=1'-Ø"



5/3 GARAGE ROOF PLAN
SCALE: 1/8"=1'-Ø"

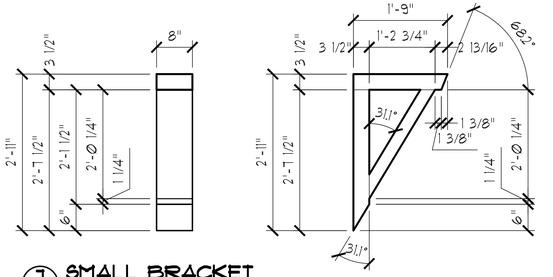


1/3 SOUTH GARAGE ELEVATION
SCALE: 1/4"=1'-Ø"

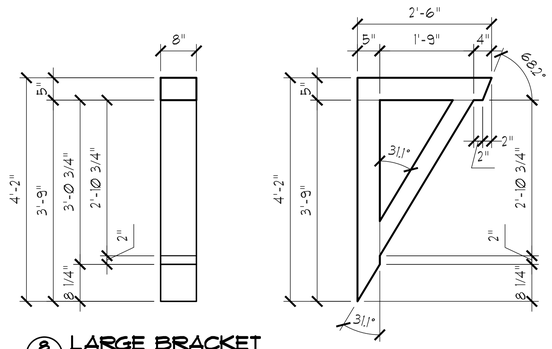


2/3 EAST GARAGE ELEVATION
SCALE: 1/4"=1'-Ø"

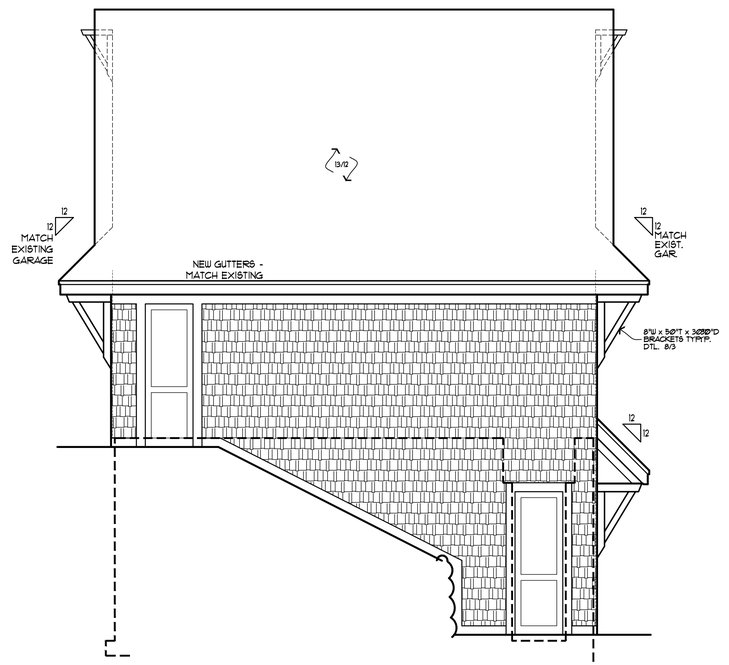
ASPHALT SHINGLES PER ELEV'S
METAL ROOFS PER ELEV'S
HARDIE SHAKE SIDING PER ELEV'S
HARDIE BOARD & BATTEN SIDING PER ELEV'S
6" WNDW & DR TRIM BDS. PER ELEV'S
6" FRIEZE BDS. PER ELEV'S
MIRATEC BANDING PER ELEV'S
RAILINGS TO MATCH EXIST.



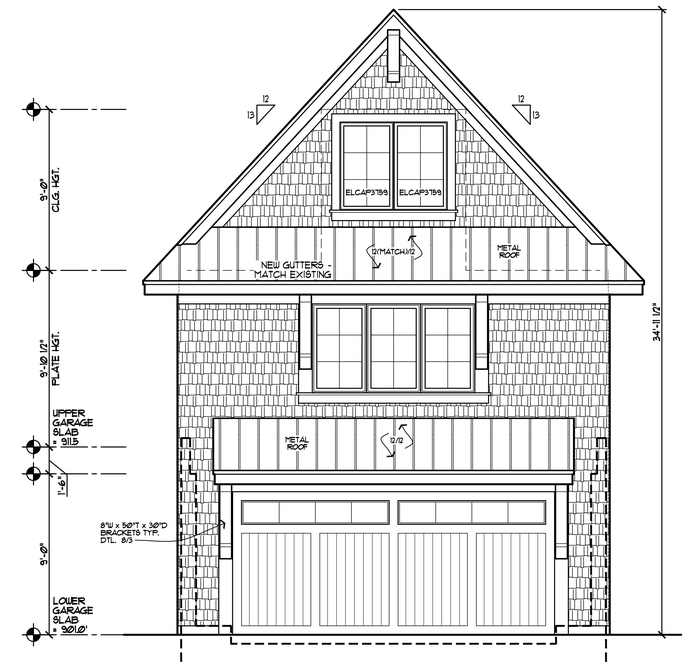
7/3 SMALL BRACKET
SCALE: 3/4"=1'-Ø"



8/3 LARGE BRACKET
SCALE: 3/4"=1'-Ø"



3/3 NORTH GARGE ELEVATION
SCALE: 1/4"=1'-Ø"



4/3 WEST GARAGE ELEVATION
SCALE: 1/4"=1'-Ø"

ALEXANDER DESIGN GROUP INCORPORATED
275 EAST LAKE STREET
SUITE 102
WAYZATA, MN 55391
Phone: 952.473.8777
FAX: 952.473.8222

ISSUE DATE:
12 JANUARY 2024
PREVIOUS ISSUE DATES:

DRAWING DESCRIPTION:
ACCESSORY GARAGE
ELEVATIONS & ROOF PLAN

ADG

CONSTRUCTION SET

UDAGER RESIDENCE
WEST PLEASANT LAKE RD
NORTH OAKS, MN

3
3 OF 4

NOTE - SEE 'HANSON GROUP' STRUCTURAL PAGES FOR ALL ENGINEERING. THESE PAGES TO SUPERSEDE ANY CALLOUTS OR SIZING SHOWN THAT MAY DIFFER.

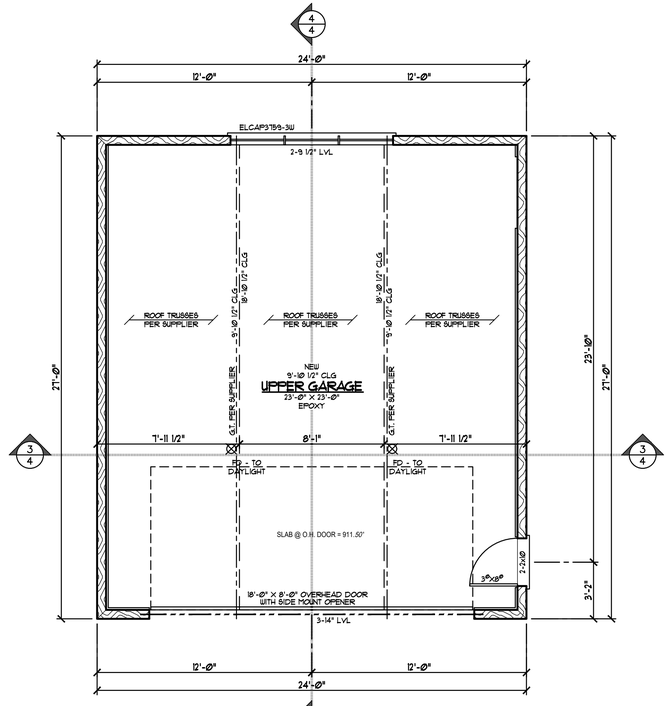
NOTE - OFFSET EXTERIOR STUDS 1-1/2" TO THE OUTSIDE FACE OF FOUNDATION WHERE EXT. FND. INSUL. IS APPLIED, EXCEPT WHERE NOTED.

NOTE - ALL WINDOW & DR. HEAD HGTS. TO BE SET AT 8'-Ø" UNLESS NOTED OTHERWISE

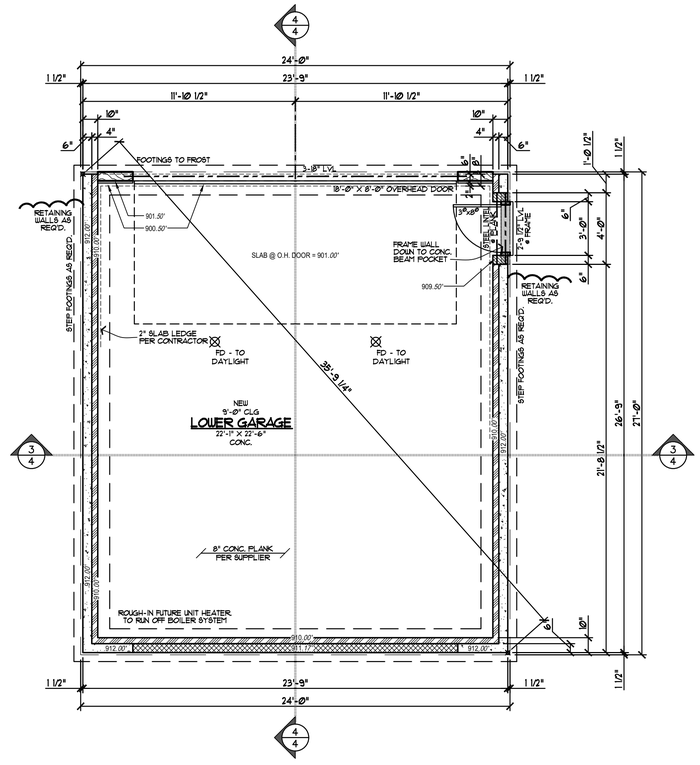
MARVIN INTEGRITY WND. CODES

SQUARE FOOTAGE:	
ADDITION -	306#
UPPER GARAGE -	576#
LOWER GARAGE -	576#

LEGEND
- EXISTING WALL =
- DEMO WALL =
- PROPOSED NEW =



1/4 UPPER GARAGE PLAN
SCALE: 1/4"=1'-Ø"



2/4 LOWER GARAGE PLAN
SCALE: 1/4"=1'-Ø"

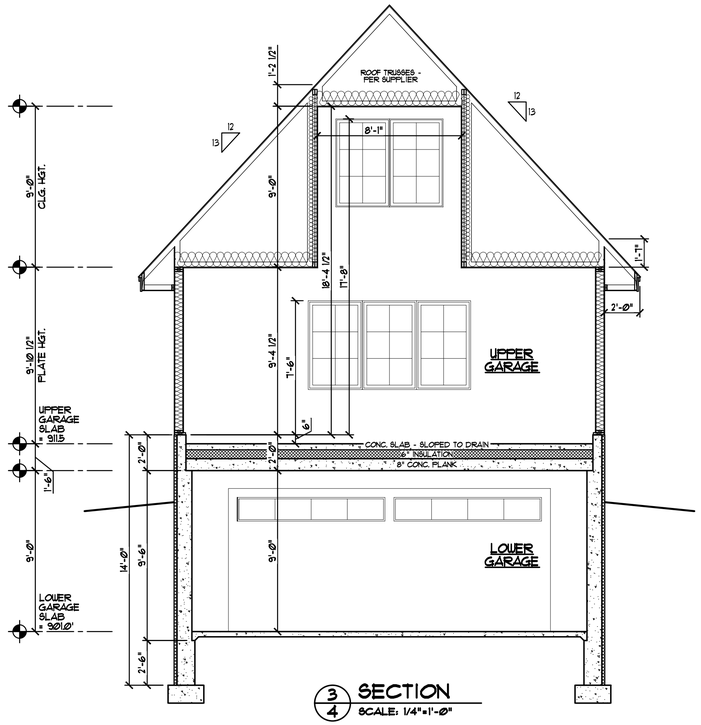
ROOF CONSTRUCTION:
ROOF VENTS AS REQ'D. - I/300.
ASPHALT SHINGLES
METAL ROOF - PER MANUF. INSTALL REQUIREMENTS.
FELT PAPER w/ ICE & WATER SHIELD.
FULL ICE & WATER @ ROOFS UNDER 4:12
5/8" OSB ROOF SHEATHING.
WOOD TRUSSES @ 24" O.C. - ENGINEERED BY SUPPLIER.
BAFFLE @ EACH TRUSS SPACE.
R-49 BLOWN-IN INSULATION.
POLY VAPOR BARRIER - 6 MIL.
5/8" GYP. BD. CEILING.

SOFFIT/FASCIA CONSTRUCTION:
MATCH EXISTING SOFFIT AND FASCIA
GUTTERS - MATCH EXISTING

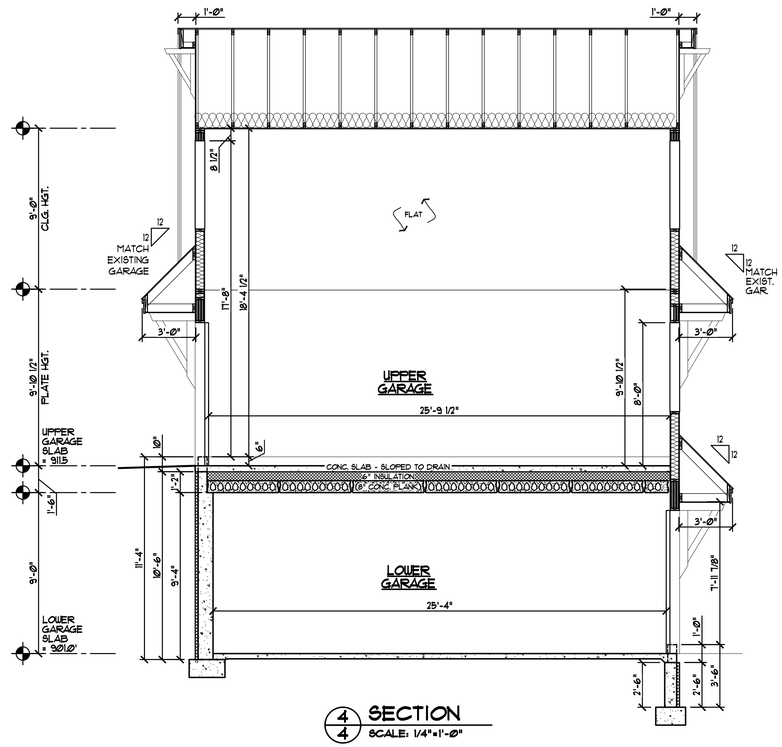
WALL CONSTRUCTION:
SIDING PER ELEVATIONS.
2 LAYERS GRADE "D" BUILDING PAPER.
1/2" PLYWOODD SHEATHING.
2x6 STUDS @ 16" O.C.
1" SPRAY "U" FOAM INSUL & SEALER W/ FIBER GLASS BATTS.
CONTINUOUS POLY VAPOR BARRIER - 6 MIL. - SEAL ALL SEAMS & PENETRATIONS
1/2" GYP. BD. - TAPED, SANDED, PAINTED

FLOOR CONSTRUCTION:
FINISHED FLOOR.
3/4" T. & G. PLYWOOD SUBFLOOR.
FLOOR TRUSSES (PER PLAN) @ 16" O.C. UNLESS OTHERWISE NOTED.
SPRAYED U-FOAM INSUL. @ RIM R-21.
R-49 BLOWN-IN INSULATION.
POLY VAPOR BARRIER - 6 MIL.
5/8" PLYWOOD

FOUNDATION:
CONC. PIERS OR HELICAL PILES - PER ENGINEERING



3/4 SECTION
SCALE: 1/4"=1'-Ø"



4/4 SECTION
SCALE: 1/4"=1'-Ø"

ALEXANDER DESIGN GROUP INCORPORATED
275 EAST LAKE STREET
SUITE 102
WAYZATA, MN 55391
Phone: 952.473.8777
FAX: 952.473.8222

ISSUE DATE:
12 JANUARY 2024
PREVIOUS ISSUE DATES:

DRAWING DESCRIPTION:
ACCESSORY GARAGE
FLOOR PLANS & SECTIONS

ADG

CONSTRUCTION SET

UDAGER RESIDENCE
WEST PLEASANT LAKE RD
NORTH OAKS, MN

4
4 OF 4

MODIFIED FAR - CUP RESOLUTION # 1478 DATED 03/09/2023 REVISION #1 - 01/12/2024

FLOOR AREA RATIO (FAR) WORKSHEET **JOB ADDRESS:** 70 West Pleasant Lake Rd.

1) Total Lot Area 61,476 Sq. Ft.

2) Total Area of Road Easement(s) 5,534 Sq. Ft.

3) **Adjusted Total Lot Area** 55,942 **Sq. Ft.**
(Subtract Line 2 from Line 1)

4) DNR-Designated Wetland 0 Sq. Ft. X .66 = 0 Sq. Ft.

5) **Gross Lot Area** 55,942 **Sq. Ft.**
(Subtract Line 4 from Line 3)

6) Floor Area of Existing or Proposed House

A) First Floor 2,652 Sq. Ft.

B) Second Floor 626 Sq. Ft.

C) Basement 2,575 Sq. Ft.
Exposed Basement Walls 34 %
1)Adjusted Basement Area 876 Sq. Ft.
(Multiply Line 6C by 6C1)

D) Garage 1,150 Sq. Ft.

E) Add Lines A, B, C2, D **Sub-Total:** 5,303 **Sq. Ft.**

7) Additional Floor Area

A) Additions - Sun Room 306 Sq. Ft.

B) Detached Accessory Buildings ~~972~~ ~~936~~ Sq. Ft. Rev #1

C) Add Lines A and B **Sub-Total:** ~~1,278~~ ~~1,242~~ **Sq. Ft.** Rev #1

ORIGINAL CUP NUMBERS
864 SF
1,170 SF
6,473 SF
11.57%

GARAGE MODIFIED FROM 24' x 24' TO 24' x ~~24~~ 27' Rev #1

8) **Total Floor Area TOTAL:** ~~6,581~~ ~~6,545~~ **Sq. Ft.** Rev #1
(Add Lines 6E and 7C)

9) **FLOOR AREA RATIO** ~~11.76%~~ ~~11.70%~~ Rev #1
(Divide Line 8 by Line 5)

Note: For Lots where the combined square footage of all Buildings thereon exceeds 4,000 square feet, then the combined total Floor Area Ratio (FAR) of all Buildings on such Lots shall not exceed 0.12

Date: 12/12/2023 Phone: 651-271-8802 Signature:

Print Name: MARK WEAVER 12/10

01/12/2024 - Rev #1

Z:\North Oaks\FORMS Permit-Lic Application\Building\F.A.R. worksheet.rtf

February 5, 2024

Kendra Lindahl, AICP
City Planner

Via E-mail: KLindahl@landform.net

RE: **70 West Pleasant Lake Road**
Sambatek Project No. 51986

Dear Kendra:

I have reviewed the proposed garage and other proposed improvements for this parcel and am recommending that the applicant provide us with an erosion control plan in conformance with the Best Practices Manual to control erosion in all disturbed areas.

In addition, the driveway installation shall be coordinated with the City Engineer and NOHOA.

Sincerely,
Sambatek, LLC

Michael J. Nielson, PE
Township Engineer

CC: Kevin Kress, Administrator

CITY OF NorthOaks
Building on a tradition of innovation

PLANNING REPORT

TO: North Oaks Planning Commission

FROM: Kendra Lindahl, City Planner
Kevin Kress, City Administrator
Bridget McCauley Nason, City Attorney
Michael Nielson, City Engineer

DATE: February 29, 2024

RE: Septic Variance at 4 Dove Lane

Date Application Submitted	November 13, 2023
Date Application Determined Complete:	February 5, 2024
Planning Commission Meeting Date:	February 29, 2024
City Council Meeting Date:	March 14, 2024
60-day Review Date:	April 5, 2024

REQUEST

James Christiansen has requested approval of a subsurface sewage treatment system (SSTS) variance to allow a zero-foot setback from the road easement where a minimum of 30 feet is required. The variance would allow a replacement of the SSTS at 4 Dove Lane, which is classified as non-compliant under MPCA Rule 7080.1500, Subp.4(B).

BACKGROUND

The site is currently developed with a single family home and a small shed. The property is located in the shoreland district for Gilfillan Lake.

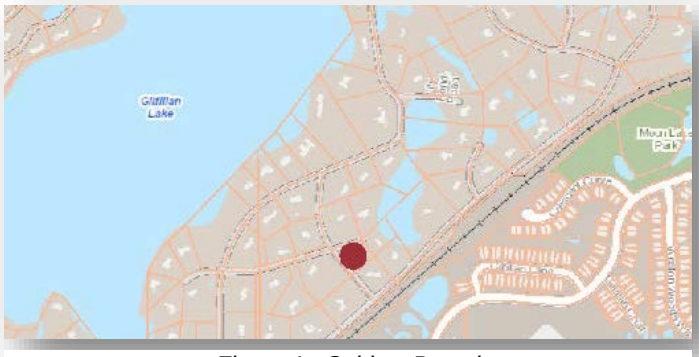


Figure 1 - Subject Parcel

Zoning and Land Use

The property is guided Low Density residential and is zoned Residential Single Family – Low Density (RSL). The 0.57-acre property is located at the southeast corner of Dove Lane and Edgewater Lane.

PLANNING ANALYSIS

Chapter 51 of the City Code establishes standards for SSTS. Section 51.03(3) requires a minimum setback of 30 feet from all property lines, wetlands and the nearest edge of any roadway easement. The applicant's plan shows a zero foot setback from both Dove lane and Edgewater Lane.

Variance Standards

Section 51.02(11) of the Code says "Where conditions prevent the construction, alteration, and/or repair of a sewage treatment system in strict compliance with the requirements of this chapter, the property owner may apply for a variance following the procedures outlined in North Oaks City Code Sections 151.078 & 151.079."

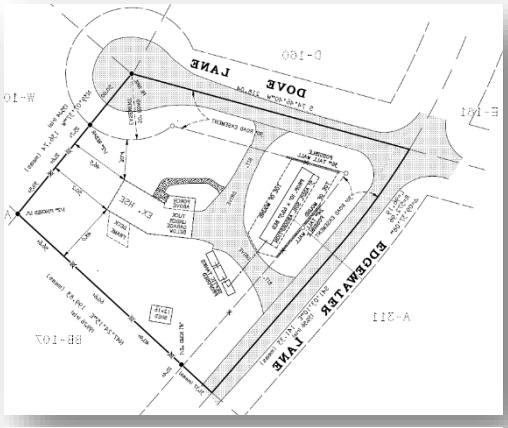


Figure 2-Site Plan

Section 151.078 of the Zoning Code requires that the following criteria be considered and a variance only be granted when it is demonstrated that following standards have all been me:

(1)(a) Their strict enforcement would cause practical difficulties because of circumstances unique to the individual land under consideration, and the variances shall be granted only

when it is demonstrated that the actions will be in keeping with the spirit and intent of this chapter.

The size and shape of the existing lot of record does not have another location for a new septic on this site and creates a practical difficulty. The location of water supply lines, structures, and the existing cesspools leave only this location for a new septic system.

b) PRACTICAL DIFFICULTIES means the land in question cannot be put to a reasonable use if used under conditions allowed by the official controls, the plight of the land owner is due to circumstances unique to the land in question which were not created by the land owner, and the variance, if granted, will not alter the essential character of the locality.

The size and shape of the existing lot of record does not have another location for a new septic on this site and creates a practical difficulty. The location of water supply lines, structures, the existing cesspools leave only this location for a new septic system. Approving the variance will construction of a new septic system and abandonment of the non-compliant system. It would not alter the essential character of the locality.

(c) Economic considerations alone shall not constitute an undue hardship if reasonable use for the land exists under the terms of this chapter.

The variance requested is to replace a failing system. The variance is not based on economic considerations alone.

(d) A variance may not be granted for any use that is not permitted under this chapter for land in the zone where the affected person's land is located.

The variance would allow a new septic system. It would not allow a use that is not permitted by City Code.

(2) Subject to the above, a variance may be granted only in the event that all of the following circumstances exist:

(a) Unique circumstances apply to the which do not generally apply to other land in the same zone or vicinity, and result from lot size or shape, topography, or other circumstances over which the owners of the land have no control;

The circumstances of this site do not apply to other properties in same zone and are the result of the small lot size, topography and existing conditions on this lot.

(b) The proposed uses is reasonable;

The proposed use is reasonable. It will allow replacement of the failing system with a new septic system.

(c) That the unique circumstances do not result from the actions of the applicant;

The circumstances do not result from the action of the applicant. The existing septic system has failed and must be replaced.

(d) That granting the variance requested will not confer on the applicant any special privilege that is denied by this chapter to other lands, structures, or buildings in the same district;

Granting the variance will not confer upon the applicant any special privilege. It will simply allow them to replace their failing system.

(e) That the Variance requested is the minimum variance which would alleviate the practical difficulties;

The variance is the minimum action needed to alleviate the practical difficulties on site.

(f) The proposed variance will not impair an adequate supply of light and air to adjacent land, or substantially increase the congestion of the roads and streets, or increase the danger of fire, or endanger the public safety, or substantially diminish or impair property values within the neighborhood; and

The proposed variance will not impair an adequate supply of light and air to adjacent land, or substantially increase the congestion of the roads and streets, or increase the danger of fire, or endanger the public safety, or substantially diminish or impair property values within the neighborhood.

(g) At no time after the land became nonconforming was the property under common ownership with contiguous land, the combination of which could have been used to reduce or avoid the nonconformity of the land.

At no time after the land became nonconforming was the property under common ownership with contiguous land, the combination of which could have been used to reduce or avoid the nonconformity of the land.

Attached for reference:

Exhibit A: Location Map

Exhibit b: Site Survey dated February 5, 2024

Exhibit C: KSD SSTS Design dated November 1, 2023

STAFF RECOMMENDATION

Based on the preceding review, Staff finds that the variance standards are met and that the new system will result in improvement to the local ground and surface waters by eliminating a non-compliant cesspool.

PLANNING COMMISSION OPTIONS

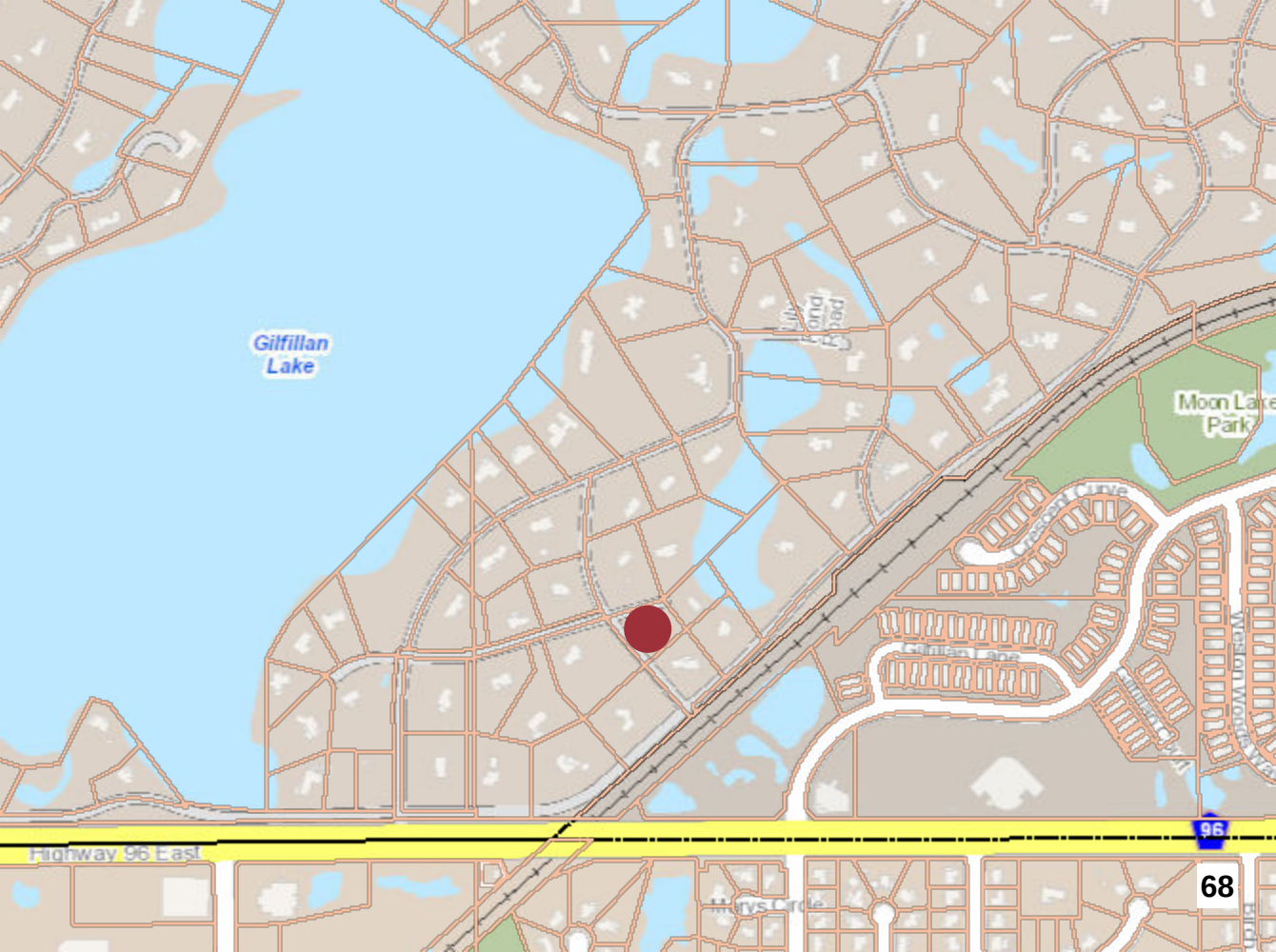
In consideration of the variance application, the Planning Commission has the following options:

A) Recommend approval of the application with conditions, based on the applicant's submission, the contents of this report, public testimony and other evidence available to the Planning Commission.

- This option should be utilized if the Planning Commission finds the proposal adheres to all City Code requirements or will do so with conditions.

B) Recommend denial of the application with findings for denial clearly articulated.

C) Recommend continuance of the application review based on the need for more information in which to process the request.


Gilfillan Lake
Moon Lake Park
Highway 96 East
96
68

CERTIFICATE OF SURVEY

FOR Jim Christianson

(MEASUREMENTS SHOWN IN FEET AND DECIMALS OF A FOOT)

DATE MAY 16, 2023

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.

Randy L. Kurth, L.L.S. No. 20270
Russell J. Kurth, L.L.S. No. 16113

KURTH SURVEYING, INC.
4002 JEFFERSON ST. N.E.
COLUMBIA HEIGHTS, MN 55421
PHONE (763) 788-9769
E-MAIL: ksi@kurthsurveyinginc.com.

0 40
SCALE IN FEET

○ = IRON PIPE MONUMENT SET
● = IRON PIPE FOUND
⊠ = 60d SPIKE SET ON LINE
× = WOOD LATH SET ON LINE

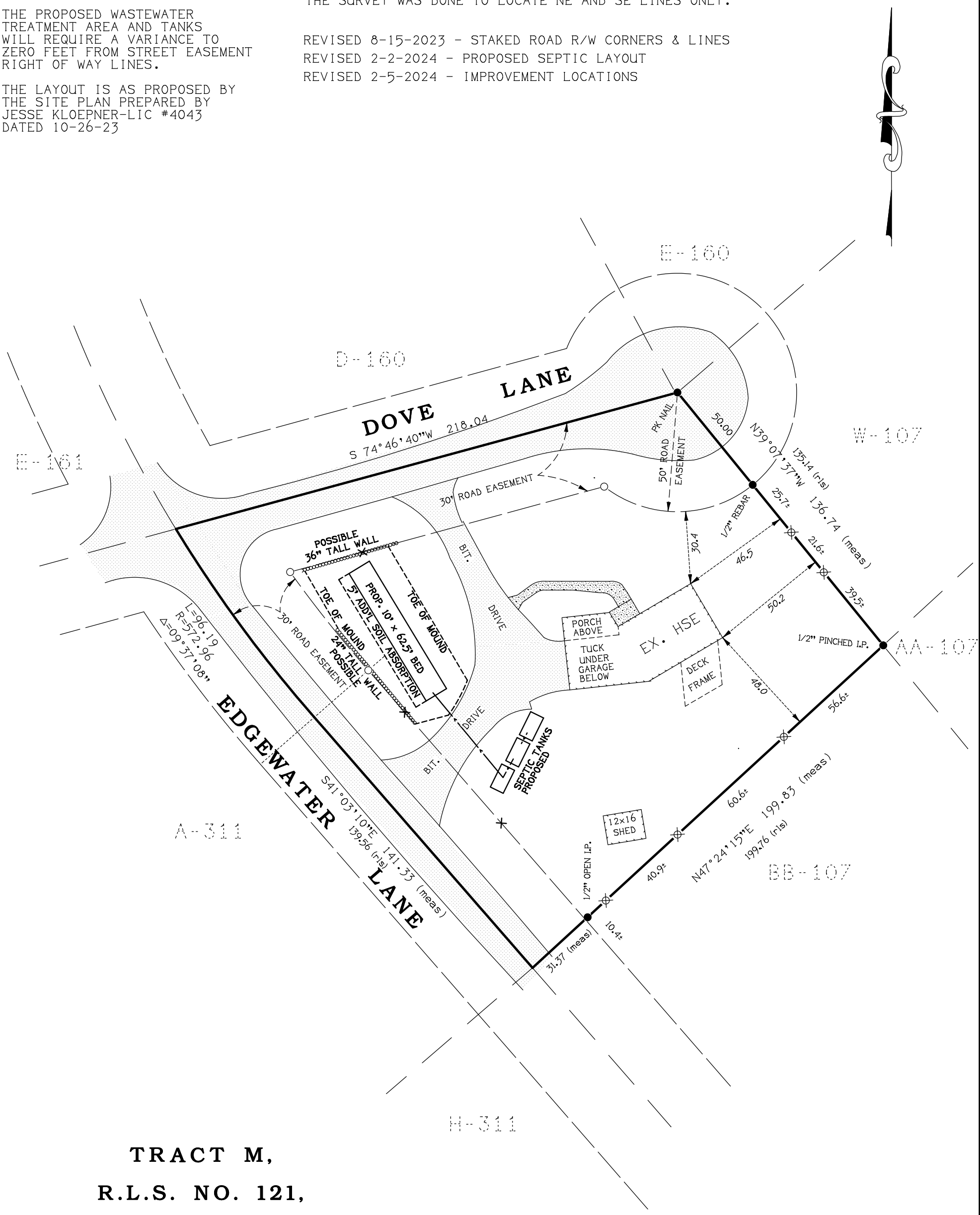
FEBRUARY 5, 2024

THE PROPOSED WASTEWATER TREATMENT AREA AND TANKS WILL REQUIRE A VARIANCE TO ZERO FEET FROM STREET EASEMENT RIGHT OF WAY LINES.

THE LAYOUT IS AS PROPOSED BY THE SITE PLAN PREPARED BY JESSE KLOEPNER-LIC #4043 DATED 10-26-23

THIS IS NOT A FULL BOUNDARY SURVEY
THE SURVEY WAS DONE TO LOCATE NE AND SE LINES ONLY.

REVISED 8-15-2023 - STAKED ROAD R/W CORNERS & LINES
REVISED 2-2-2024 - PROPOSED SEPTIC LAYOUT
REVISED 2-5-2024 - IMPROVEMENT LOCATIONS



TRACT M,
R.L.S. NO. 121,
RAMSEY COUNTY, MN.

11/1/2023

KSD

Your water. Our neighbors.

SSTS Design

4 Dove Lane

North Oaks, MN 55127

PID # 173022430006

Version 1.2

Kloeppner Services & Designs, LLC
MPCA LICENSE # 4043

763.843.4114
CONNECT@KSD-MN.COM

SSTS Design Summary Report

11/1/23

Updated 11/1/23 – Report includes need for Variances from the Road Right of Way (ROW) 30' setback requirement. Site plan illustrates need for a variance throughout the property for a new SSTS.

Updated 10/25/23 – The mound sand depth was increased to 24" deep to create 36" of separation from the Bottom of Distribution Media to the limiting depth in the soil.

On August 15th, 2023, a site evaluation was conducted at 4 Dove Lane, North Oaks, MN 55127 to design a replacement Soil Absorption Area for the Subsurface Sewage Treatment System (SSTS) for the existing 6-bedroom house. The PID number is 173022430006.

Prior to submitting a permit from the City of North Oaks please review and sign all pages which require a signature.

Variance Request

The new SSTS will require the following variances to install the sewage tanks and soil treatment area.

- Distance from ROW along Dove Lane:
  - 30' to Soil Treatment Area
- Distance from ROW along Edgewater Lane:
  - 30' to Soil Treatment Area
  - 30' to Sewage and Pump Tanks

Wastewater Sources & Peak Flow Rate

The expected waste strength is Residential Wastewater with a Peak Flow of 900 gallons per day (GPD) for a 6-bedroom house. The Expected Daily Flow should be less than 70% of the Peak Flow (630 GPD).

Type III Mound

The dispersal area will be a Type III Mound. The Mound Soil Absorption Area required is 937.5-sqft (15' x 62.5'). The soil must be removed to expose the sandy soil 30" or deeper prior to construction of the mound. The excavated area must be back filled with washed mound sand.

The minimum required materials for the sewer line, distribution network, pumps, supply line, sand, rock, fill and cover are detailed in the design worksheets included with this design. Actual values may change slightly and will need to be field verified for correctness.

Design Notes

1. The design is a Type III that will reduce the total flow of the system to use a maximum of 5-bedrooms of peak flow to the soil treatment area (750 GPD). A time dosed controller will be used to restrict the flow from the pump tank to allow for a maximum of 625 gallons of water usage in a 24-hour period. An alarm will be activated if water usage exceeds this flow.
2. Minimum Volumes for New Tanks: 1st Tank 1,500-gallons; 2nd Tank 1,500-gallons; Pump Tank 1,500-gallons.
3. The location for the sewage tanks is only proposed. Discuss options with Licensed Installer.
4. The berms will extend into ROW to make the system aesthetically pleasing from the view of the road.
5. The pump supply line will cross under the driveway. Frost protection measures must be considered to avoid the line freezing.

Construction Notes

Building Permit requirements

No construction shall be allowed by any local unit of government until the permit required for the subsurface sewage treatment system has been issued.

Site Protection

Prior to and during construction or lot improvements, the proposed initial and replacement soil treatment and dispersal areas shall be protected from disturbance, compaction, or other damage by use of stakes and silt fence or snow fence.

MR 7080.2100, Subpart 1. F

Electrical installations must comply with applicable laws and ordinances including the most current codes, rules, and regulations of public authorities having jurisdiction and with part 1315.0200, which incorporates the National Electrical Code.

As-Built Drawing

The Licensed Installer must provide an As-Built of the final location of all components. The attached Site Plan is only for reference and should not be considered as a final survey or location of system components.

Protection from Freezing for Supply Line

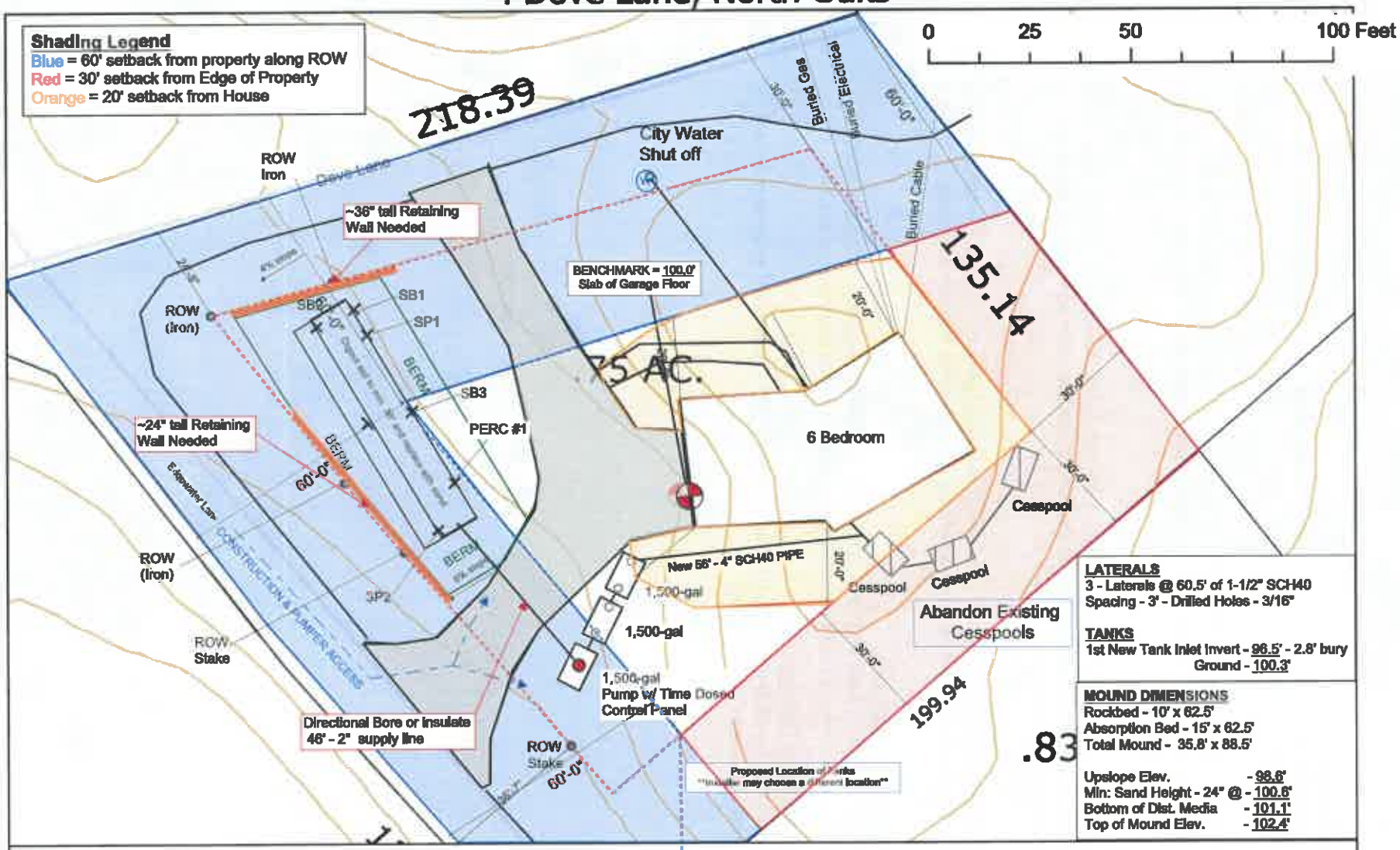
The Mound supply line must drain back and empty pipe after each dose. To avoid potential freezing, additional depth or insulation may be necessary to keep line from freezing if buried too shallow.

Soil Erosion & Protection from Freezing

The dispersal area must have seed and grass established throughout the excavated areas to maintain proper protection from soil erosion and freezing.

4 Dove Lane, North Oaks

version 1.2



NOTES:

1. The design is a Type III that will reduce the total flow of the system to use a maximum of 5-bedrooms of peak flow to the soil treatment area (750 GPD). A time dosed controller will be used to restrict the flow from the pump tank to allow for a maximum of 625 gallons of water usage in a 24-hour period. An alarm will be activated if water usage exceeds this flow.
2. Minimum Volumes for New Tanks: 1st Tank 1,500-gallons; 2nd Tank 1,500-gallons; Pump Tank 1,500-gallons.
3. The location for the sewage tanks is only proposed. If tanks are placed more than 15' from proposed location, contact KSD to discuss options.
4. Remove top layer of soil to expose sandy soil to a minimum depth of 30" and replace with washed mound sand before construction of the mound.
5. The berms will not extend into the ROW. Retaining walls must be built on the North and West ends of the mound berms to keep off the ROW.
6. The pump supply line will cross under the driveway. Frost protection measures must be considered to avoid the line freezing.

- THIS IS ONLY A SITE PLAN
- ALL SEPTIC LOCATIONS AND MEASUREMENTS ARE ONLY ESTIMATES
- AS-BUILT WILL NEED TO BE PROVIDED BY INSTALLER AFTER CONSTRUCTION

KSD

Kloeppner Services & Designs, LLC
Lic # 4043

LEGEND:
W = Well
SB = Soil Boring
SP = Soil Pit
= Benchmark

NORTH

Approved by: Jesse Kloeppner

Date - 10/26/23

ONSITE SEWAGE TREATMENT PROGRAM

Preliminary Evaluation Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

1. Contact Information

v 03.15.2023

Property Owner/Client:	Jim Christiansen	Date Completed:	8/8/2023
Site Address:	4 Dove Lane, North Oaks, MN 55127	Project ID:	
Legal Description:	REGISTERED LAND SURVEY 121 SUBJ TO AND WITH PVT RD ESMTS TRACT M		
Parcel ID:	173022430006	SEC: 17 TWP: 30 RNG: 22	

2. Flow and General System Information

A. Client-Provided Information

Project Type: ☐ New Construction ☑ Replacement ☐ Expansion ☐ Repair

Project Use: ☑ Residential ☐ Other Establishment:

Residential use: # Bedrooms: 6 Dwelling sq.ft.: Unfinished sq.ft.:

Adults: # Children: # Teenagers:

In-home business (Y/N): No If yes, describe:

Water-using devices (check all that apply):

☐ Garbage Disposal/Grinder	☑ Dishwasher	☐ Hot Tub*
☐ Sewage pump in basement	☐ Water Softener*	☐ Sump Pump*
☐ Large Bathtub >40 gallons	☐ Iron Filter*	☐ Self-Cleaning Humidifier*
☑ Clothes Washing Machine	☐ High Eff. Furnace*	☐ Other:

* Clear water source - should not go into system

Additional current or future uses: 4-bedroom house to be remodeled to 6-bedroom house.

Anticipated non-domestic waste: N/A

The above is complete & accurate: *Client signature & date*

B. Designer-determined Flow and Anticipated Waste Strength Information

Attach additional information as necessary.

Design Flow: 900 GPD Anticipated Waste Type: Residential

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

3. Preliminary Site Information

A. Water Supply Wells

#	Description	Mn. ID#	Well Depth (ft.)	Casing Depth (ft.)	Confining Layer	STA Setback	Source
1	4 DOVE LA	105302	171	null		unknown	MN Well Index
2	19 ROBB FARM RD	130937	200	170		50'	MN Well Index
3	2 EDGEWATER LA	138921	207	165		50'	MN Well Index
4							

Additional Well Information: SSTS components must be > 50 from Non-Sensitive Wells

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

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

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

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

Map Units: 225; Nessel fine sandy loam 1-4 %

List landforms: Moraines

Landform position(s): Plain

Parent materials: Till

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

Map Unit Ratings

Septic Tank Absorption Field- At-grade:	Moderately limited
Septic Tank Absorption Field- Mound:	Slightly limited
Septic Tank Absorption Field- Trench:	Extremely limited

5. Local Government Unit Information

Name of LGU:	City of North Oaks
LGU Contact:	Septic Inspections
LGU-specific setbacks:	30' to wetlands
LGU-specific design requirements:	Septic Tanks: 6-bedroom = 3,000-gal
LGU-specific installation requirements:	
Notes:	

ONSITE SEWAGE TREATMENT PROGRAM

Proposed Design Map

MINNESOTA POLLUTION CONTROL AGENCY

Project ID:

Property Address: 4 Dove Lane, North Oaks, MN 55127

Date Completed: 8/15/2023

Elevations in feet Benchmark: 100.0 ft BM Location - Slab of Garage Floor

Primary Mound STA

NW:	98.0	ft
NE:	98.6	ft
SW:	97.7	ft
SE:	98.6	ft
Rockbed	N - 98.1	ft
Rockbed -	S - 98.0	ft

Soil Observation:

SB1:	98.6	ft
SB2:	98.1	ft
SB3:	98.6	ft
SP1:	98.4	ft
SP2:	98.0	ft
Perc #1	98.1	ft
Perc #2	98.6	ft

Existing Tanks

		Bury Depth	
1st Tank - Ground	105.0	ft	
1st Tank - Inlet Invert	103.0		1.0 ft

New Tanks

			Bury Depth	
1st Tank - Ground	100.3	ft		
- Inlet Invert	96.5	ft	2.8	ft
2nd Tank - Ground	99.1	ft		
- Inlet Invert	95.8	ft	2.8	ft
Pump Tank - Ground	97.9	ft		
- Inlet Invert	93.9	ft	3.0	ft

Mound

Upslope Elevation		98.6	ft
Sand	24 in @	100.6	ft
Bottom of Laterals (+0.5)		101.1	ft
Top of Media (+0.3)		101.4	ft
Top of System (+1.0)		102.4	ft

Mound Dimensions

Width		Length	
10.0 ft x		62.5	ft Rockbed
15.0 ft x		62.5	ft Absorption Area
35.8 ft x		88.5	ft Berm

Pump Intake (-3.5' from I.I.): 90.4 ft

Elevation Difference (for pump system)

For Mound: - +0.5' above Sand Height - Pump Intake: 10.7 ft

For Trenches: - Min. Elev. Trench #1 - Pump Intake: ft

For Pressure Bed: ft

Supply Pipe Length: 46.0 ft

Trenches # @ ft long

	3 feet wide Ground	Min. Depth in	Max. Depth in
#1	ft	ft	ft
#2	ft	ft	ft
#3	ft	ft	ft
#4	ft	ft	ft
#5	ft	ft	ft
#6	ft	ft	ft
#7	ft	ft	ft

Pressure Bed

Width		Length	
ft x			ft Rockbed
ft x			ft Absorption Area

Pressure Bed

NW	ft
NE	ft
SW	ft
SE	ft

Alternate STA

NW:	ft	SB4:	ft
NE:	ft	SB5:	ft
SW:	ft	SB6:	ft
SE:	ft	SP2:	ft

Comments:

Elevation Difference: Pump Intake - 90.4' to 101.1' = 10.7'

Mapping Checklist

Locate

- ☑ Lot Dimensions/Property Lines
- ☑ Dwellings and Other Improvements
- ☑ Existing or Proposed System(s)
- ☑ Replacement Area
- ☑ Unsuitable Area(s)
- ☐ Public Water Supply Wells
- ☑ Pumping Access
- ☐ Inner Wellhead Zone
- ☐ Other:
- ☐ Other:

Easements

- ☑ Phone
- ☑ Electric
- ☑ Gas
- ☐ Other:
- ☐ Other:

Elevations

- ☑ Benchmark
- ☑ Borings
- ☐ Perc Tests
- ☐ Horizontal and Vertical Reference Points

Setbacks

- ☑ Building
- ☑ All water wells within 100 feet
- ☐ Pressure Pipe
- ☐ Water Suction
- ☐ Streams, Lakes
- ☑ Floodway and Fringe
- ☐ Other:
- ☐ Other:
- ☐ Other:

ONSITE SEWAGE TREATMENT PROGRAM

Field Evaluation Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

1. Project Information

v 03.15.2023

Property Owner/Client: Jim Christiansen | Project ID:

Site Address: 4 Dove Lane, North Oaks, MN 55127 | Date Completed: 8/15/2023

2. Utility and Structure Information

Utility Locations Identified ☑ Gopher State One Call # | ☐ Any Private Utilities:

Locate and Verify (*see Site Evaluation map*) ☑ Existing Buildings ☑ Improvements ☑ Easements ☑ Setbacks

3. Site Information

Vegetation type(s): Lawn | Landscape position: Foot Slope

Percent slope: 5 % | Slope shape: Linear, Linear | Slope direction: west

Describe the flooding or run-on potential of site: Direct rain run-on around upslope of soil treatment area.

Describe the need for Type III or Type IV system: Disturbed and fill soil throughout STA. The lot is too small

Note: to support a Type I system to meet setbacks.

Proposed soil treatment area protected? (Y/N): Yes | If yes, describe: Stakes

4. General Soils Information

Filled, Compacted, Disturbed areas (Y/N): Yes

If yes, describe: The upper 22" appear to be either fill or gravel driveway throughout STA. The soil must be removed to expose the natural and sandy soil.

Soil observations were conducted in the proposed system location (Y/N): Yes

A soil observation in the most limiting area of the proposed system (Y/N): Yes

Number of soil observations: 5 | Soil observation logs attached (Y/N): Yes

Percolation tests performed & attached (Y/N): Yes

5. Phase I. Reporting Information

	Depth		Elevation		
Limiting Condition*:	12	in	97.6	ft	*Most Restrictive Depth Identified from List Below
Periodically saturated soil:	12	in	97.6	ft	Soil Texture: Medium Sand
Standing water:		in		ft	Percolation Rate: 3.50 min/inch
Bedrock:		in		ft	Soil Hyd Loading Rate: 1.2 gpd/sq.ft
Benchmark Elevation:	100.0	ft			Elevations and Benchmark on map? (Y/N): Yes

Benchmark Elevation Location: Slab of Garage Floor

Differences between soil survey and field evaluation: Soil has medium & coarse sand @ 20" to 30".

Site evaluation issues / comments: The ROW was marked out by surveyor.

Anticipated construction issues: The berms will extend into ROW to make the system aesthetically pleasing from the view of the road.

ONSITE SEWAGE TREATMENT PROGRAM

Soil Observation Log

Project ID:

v 03.15.2023

Client:	Jim Christiansen	Location / Address:	4 Dove Lane, North Oaks, MN 55127

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

Landscape Position:	Foot Slope	Slope %:	4.0	Slope shape:	Linear, Linear	Flooding/Run-On potential:	No
Vegetation:	Lawn	Soil survey map units:	225; Nessel fine sandy loam			Surface Elevation-Relative to benchmark:	98.6
Date/Time of Day/Weather Conditions:		8/11/2023	1:15PM	Sunny		Limiting Layer Elevation:	97.3
Observation #/Location:	SB1	NE Corner of Mound Upslope				Observation Type:	Auger

Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure: Shape	Structure: Grade	Structure: Consistence
0-4	Medium Loamy Sand	10%	10YR 3/2	None	None	None	Granular	Weak	Friable
4-15	Medium Loamy Sand	30%	7.5YR 5/4 10YR 3/2	Disturbed Soil	None	None	Granular	Weak	Friable
15-22	Sandy Clay Loam	15%	10YR 3/2	None	None	None	Blocky	Moderate	Friable
22-30	Medium Sandy Loam	20%	10YR 3/3	7.5YR 5/6 10YR 4/2	Concentrations Depletions	S1 S2	Granular	Moderate	Friable
30-36	Medium Sand	15%	10YR 4/3	10YR 5/2	Depletions	S2	Single grain	Structureless	Loose

Comments: Limiting Layer = 22" - Filled and disturbed soil observed to 15" deep. Soil must be removed to 36" deep to expose medium sand.

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

Jesse Kloeppner		L4043	8/11/2023
(Designer/Inspector)	(Signature)	(License #)	(Date)

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

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

ONSITE SEWAGE TREATMENT PROGRAM

Soil Observation Log

Project ID:

v 03.15.2023

Client:	Jim Christiansen			Location / Address:	4 Dove Lane, North Oaks, MN 55127
Soil parent material(s): (Check all that apply)	☐ Outwash ☐ Lacustrine ☐ Loess ☑ Till ☐ Alluvium ☐ Bedrock ☐ Organic Matter ☐ Disturbed/Fill				
Landscape Position:	Toe Slope	Slope %: 4.0	Slope shape:	Linear, Linear	Flooding/Run-On potential: No
Vegetation:	Lawn	Soil survey map units:	225; Nessel fine sandy loam		Surface Elevation-Relative to benchmark: 98.1
Date/Time of Day/Weather Conditions:		8/15/2023	2:45PM	Sunny	Limiting Layer Elevation: 96.5
Observation #/Location:	SB2	NW Corner of Rockbed			Observation Type: Auger

Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure: Shape	Structure: Grade	Structure: Consistence
0-5	Medium Loamy Sand	10%	10YR 3/1	None	None	None	Granular	Weak	Friable
5-16	Medium Loamy Sand	40%	7.5YR 5/4	None	None	None	Granular	Structureless	Loose
16-21	Medium Sandy Loam	25%	10YR 4/3	None	None	None	Granular	Weak	Friable
21-25	Sandy Clay Loam	30%	10YR 3/3	10YR 4/2	Depletions	S2	Blocky	Moderate	Firm
25-28	Medium Sand	>50	7.5YR 3/3	None	None	None	Single grain	Structureless	Loose

Comments: Limiting Layer = 21"

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

Jesse Kloeppner		L4043	8/15/2023
(Designer/Inspector)	(Signature)	(License #)	(Date)

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

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

ONSITE SEWAGE TREATMENT PROGRAM

Soil Observation Log

Project ID:

v 03.15.2023

Client:	Jim Christiansen			Location / Address:	4 Dove Lane, North Oaks, MN 55127
Soil parent material(s): (Check all that apply)	☐ Outwash ☐ Lacustrine ☐ Loess ☑ Till ☐ Alluvium ☐ Bedrock ☐ Organic Matter ☐ Disturbed/Fill				
Landscape Position:	Toe Slope	Slope %:	Slope shape:	Linear, Linear	Flooding/Run-On potential: No
Vegetation:	Lawn	Soil survey map units:	225; Nessel fine sandy loam		Surface Elevation-Relative to benchmark: 98.6
Date/Time of Day/Weather Conditions:	8/15/2023	2:05PM	Sunny		Limiting Layer Elevation: 97.0
Observation #/Location:	SB3	Center of Mound Upslope			Observation Type: Auger

Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure		
							Shape	Grade	Consistence
0-7	Medium Sandy Loam	10%	10YR 3/1	None	None	None	Granular	Weak	Friable
7-16	Medium Sandy Loam	35%	7.5YR 5/4 10YR 4/6	Mixed/fill soil	None	None	Granular	Weak	Friable
16-20	Medium Sandy Loam	30%	10YR 3/3 10YR 4/3	None	None	None	Granular	Weak	Friable
20-26	Sandy Clay Loam	20%	10YR 5/4	10YR 5/2 7.5YR 5/4	Depletions Concentrations		Blocky	Moderate	Friable
26-34	Medium Loamy Sand	10%	10YR 3/3	10YR 4/2	Depletions	S2	Granular	Weak	Friable
34-40	Loamy Coarse Sand	5%	7.5YR 3/3	None	None	None	Granular	Structureless	Loose

Comments: Limiting Layer = 20" - Mixed/Fill soil for 0-16" must be removed and replaced with washed mound sand. Remove all soil to depth necessary to expose loamy medium sand.

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

Jesse Kloeppner		L4043	8/15/2023
(Designer/Inspector)	(Signature)	(License #)	(Date)

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

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

Soil Observation Log

Project ID: v 03.15.2023

Client:	Jim Christiansen	Location / Address:	4 Dove Lane, North Oaks, MN 55127

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

Landscape Position:	Toe Slope	Slope %:	4.0	Slope shape:	Linear, Linear	Flooding/Run-On potential:	No
Vegetation:	Lawn	Soil survey map units:	225; Nessel fine sandy loam			Surface Elevation-Relative to benchmark:	93.4
Date/Time of Day/Weather Conditions:		8/11/2023	3:05PM	Sunny		Limiting Layer Elevation:	97.4
Observation #/Location:	SP1	NE Corner of Mound Upslope				Observation Type:	Pit

Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure: Shape	Structure: Grade	Structure: Consistence
0-10	Medium Sandy Loam	10%	10YR 3/1	None	None	None	Granular	Weak	Friable
10-22	Medium Loamy Sand	10%	10YR 3/2	None	None	None	Granular	Weak	Friable
22-32	Medium Loamy Sand	30%	10YR 3/3	10YR 5/6	Concentrations	S1	Granular	Weak	Loose
32-40	Medium Sand	20%	7.5YR 3/2	10YR 6/1	Depletions	S2	Single grain	Structureless	Loose
40-46	Medium Sand	5%	7.5YR 4/4	5YR 4/6	Concentrations	S1	Single grain	Structureless	Loose

Comments: Limiting Layer = 22" - 12" Soil Credit

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

Jesse Kloeppner		L4043	8/11/2023
(Designer/Inspector)	(Signature)	(License #)	(Date)

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

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

ONSITE SEWAGE TREATMENT PROGRAM

Soil Observation Log

Project ID:

v 03.15.2023

Client:	Jim Christiansen	Location / Address:	4 Dove Lane, North Oaks, MN 55127

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

Landscape Position:	Foot Slope	Slope %:	6.0	Slope shape:	Linear, Linear	Flooding/Run-On potential:	No
Vegetation:	Lawn	Soil survey map units:	225; Nessel fine sandy loam			Surface Elevation-Relative to benchmark:	98.0
Date/Time of Day/Weather Conditions:		8/15/2023	2:20PM	Sunny		Limiting Layer Elevation:	95.9
Observation #/Location:	SP2	South Edge of Mound Rockbed Downslope				Observation Type:	Pit

Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure: Shape	Structure: Grade	Structure: Consistence
0-4	Medium Loamy Sand	5%	10YR 3/1	None	None	None	Granular	Weak	Friable
4-19	Medium Sandy Loam	30%	10YR 5/6	Disturbed Soil	None	None	Granular	Weak	Friable
19-25	Medium Loamy Sand	15%	10YR 5/4 10YR 4/4	None	None	None	Granular	Structureless	Loose
25-36	Medium Sand	5%	10YR 3/4	10YR 6/2 10YR 3/2	Depletions Concentrations	S2 S1	Single grain	Structureless	Loose

Comments: Limiting Layer = 25" - Disturbed soil must be removed and replaced with washed mound sand. Soil from 0"- 19" looks like an old driveway.

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

Jesse Kloeppner		L4043	8/15/2023
(Designer/Inspector)	(Signature)	(License #)	(Date)

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

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

Textures:	
C	Clay
SIC	Silty Clay
SC	Sandy Clay
CL	Clay Loam
SiCL	Silty Clay Loam
SCL	Sandy Clay Loam
Si	Silt
SiL	Silt Loam
L	Loam
SL	Sandy Loam*
LS	Loamy Sand*
S	Sand*

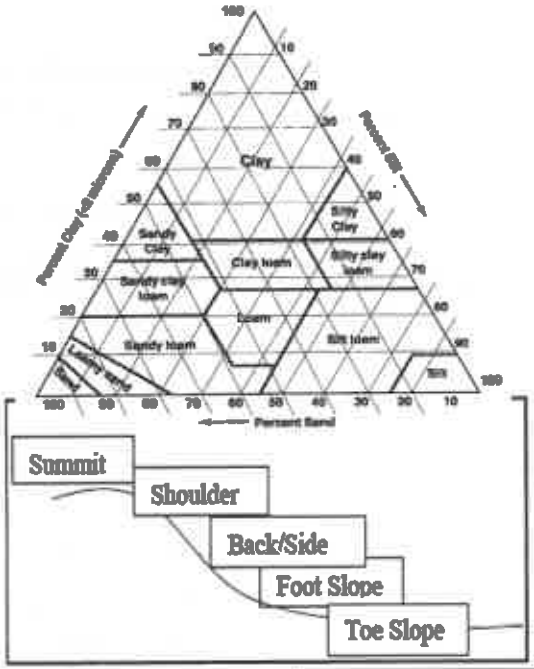
*Sand Modifiers:	
Co	Coarse
M	Medium
F	Fine
VF	Very Fine

Topsoil Indicator(s) of Saturation:

T1. Wetland Vegetation
T2. Depressional Landscape
T3. Organic texture or organic modifiers
T4. N 2.5/ 0 color
T5. Redox features in topsoil
T6. Hydraulic indicators

Subsoil Indicator(s) of Saturation:

S1. Depleted matrix (value >/=4 and chroma </=2)
S2. Distinct gray or red redox features (any Matrix Hue)
S3. Matrix Hue of 5Y with a chroma </= 3
S4. Matrix Hue of 7.5 YR or redder with faint redox concentrations or redox depletions



Shape:

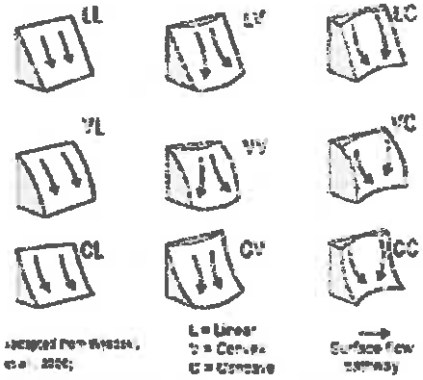
Granular	The peds are approximately spherical or polyhedral and are commonly found in topsoil. These are the small, rounded peds that hang onto roots when soil is turned over.
Platy	The peds are flat and plate like. They are oriented horizontally and are usually overlapping. Platy structure is commonly found in forested areas just below the leaf litter or shallow topsoil.
Blocky	The peds are block-like or polyhedral, and are bounded by flat or slightly rounded surface that are castings of the faces of surrounding peds. Blocky structure is commonly found in the lower topsoil and subsoil.
Prismatic	Flat or slightly rounded vertical faces bound the individual peds. Peds are distinctly longer vertically, and faces are typically casts or molds of adjoining peds. Prismatic structure is commonly found in the lower subsoil.
Single Grain	The structure found in a sandy soil. The individual particles are not held together.

Slope Shape:

Slope shape is described in two directions:
up and down slope (perpendicular to the contour),
and across slope (along the horizontal contour);
e.g. Linear, Convex or LV.

Grade:

Loose	No peds, sandy soil
Weak	Poorly formed, indistinct peds, barely observable in place
Moderate	Well formed, distinct peds, moderately durable and evident, but not distinct in undisturbed soil
Strong	Durable peds that are quite evident in un-displaced soil, adhere weakly to one another, withstand displacement, and become separated when soil is disturbed
Massive	No observable aggregates, or no orderly arrangement of natural lines of weakness



Consistence:

Loose	Intact specimen not available
Friable	Slight force between fingers
Firm	Moderate force between fingers
Extremely Firm	Moderate force between hands or slight foot pressure
Rigid	Foot pressure

ONSITE SEWAGE TREATMENT PROGRAM

Percolation Test Data

MINNESOTA POLLUTION CONTROL AGENCY

1. Contact Information Project ID: v 03.15.2023

Property Owner/Client: Jim Christiansen

2. General Percolation Information

Diameter: 8 in Date prepared and/or soaked: 8/15/2023

Method of scratching sidewall: Rake

Is pre-soak required*? No If No, how long for 12" to soak away: 7.00 min

Soak* start time: Soak* end time: hrs. of soak

Method to maintain 12 in of water during soak: n/a

** Not required in fast perc soils*

3. Summary of Percolation Test Data

Design Percolation Rate (maximum of all tests attached) = 3.50 mpi

ONSITE SEWAGE TREATMENT PROGRAM

Percolation Test Data

MINNESOTA POLLUTION CONTROL AGENCY

Project ID:

Date Completed: 8/15/2023

Test hole: #1 Location: Perc #1 Depth**: 28 inches

Soil texture description: Elevation: 98.6 feet

Depth (in)	Soil Texture
0-17	Medium Loamy Sand
17-25	Sandy Clay Loam
25-28	Medium Loamy Sand

*** 12 in. for mounds & at-grades, depth of absorption area for trenches and beds*

Measurement readings to be completed to the closest 0.05 inch (1/16") to be considered a correct perc test.

Fractions to decimal = Top ÷ Bottom 1/16" = 0.06"

Reading	Start Time	End Time	Start Reading (in)	End Reading (in)	Perc rate (mpi)	% Difference Last 3 Rates	Pass
1	1:05 PM	1:15 PM	8.00	1.00	1.4	NA	NA
2	1:15 PM	1:25 PM	8.00	2.00	1.7	NA	NA
3	1:25 PM	1:35 PM	8.00	3.25	2.1	50.0	No
4	1:36 PM	1:46 PM	8.00	3.33	2.1	23.5	No
5	1:52 PM	2:02 PM	8.00	3.50	2.2	4.8	Yes

Chosen Percolation Rate for Test Hole #1: 3.5 mpi

Design Summary Page

1. PROJECT INFORMATION

v 03.15.2023

Property Owner/Client:	Jim Christiansen	Project ID:	
Site Address:	4 Dove Lane, North Oaks, MN 55127	Date:	10/25/23
Email Address:		Phone:	

2. DESIGN FLOW & WASTE STRENGTH

Attach waste strength data/estimated strength for Other Establishments

Design Flow: 900 GPD — Anticipated Waste Type: Residential

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

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

3. HOLDING TANK SIZING

Minimum Capacity: Residential =1000 gal or 400 gal/bedroom, Other Establishment = Design Flow x 5.0, Minimum size 1000 gallons

Code Minimum Holding Tank Capacity: ____ Gallons with ____ Tanks or Compartments

Recommended Holding Tank Capacity: ____ Gallons with ____ Tanks or Compartments

Type of High Level Alarm: ____ (Set @ 75% tank capacity)

Comments: ____

4. SEPTIC TANK SIZING

A. Residential dwellings:

Number of Bedrooms (Residential): 6

Code Minimum Septic Tank Capacity: 3000 Gallons with 2 Tanks or Compartments

Recommended Septic Tank Capacity: 3000 Gallons with 2 Tanks or Compartments

Effluent Screen & Alarm (Y/N): Yes — Model/Type: PolyLok 525

B. Other Establishments:

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

Code Minimum Septic Tank Capacity: ____ Gallons with ____ Tanks or Compartments

Recommended Septic Tank Capacity: ____ Gallons with ____ Tanks or Compartments

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

5. PUMP TANK SIZING

Soil Treatment Dosing Tank		Other Component Dosing Tank:	
Pump Tank Capacity (Minimum):	1000 Gal	Pump Tank Capacity (Minimum):	Gal
Pump Tank Capacity (Recommended):	1500 Gal	Pump Tank Capacity (Recommended):	Gal
Pump Req:	27.0 GPM	Pump Req:	GPM
Total Head	16.8 ft	Total Head	ft
Supply Pipe Dia.	2.00 in	Supply Pipe Dia.	in
Dose Vol:	120.0 gal	Dose Vol:	Gal

* Flow measurement device must be incorporated for any system with a pump: Elapsed Time Meter and/or Event Counter *

Design Summary Page

6. SYSTEM AND DISTRIBUTION TYPE

Project ID:

Soil Treatment Type:	Mound	Distribution Type:	Pressure Distribution-Level
Elevation Benchmark:	100.0 ft	Benchmark Location:	Slab of Garage Floor
MPCA System Type:	Type III	Distribution Media:	Rock
Type III/IV/V Details:	The soil will be corrected & STA reduced.		

7. SITE EVALUATION SUMMARY:

Describe Limiting Condition: Redoximorphic Features/Saturated Soils

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

Note: See Soil Boring Logs

	Depth		Depth		Elevation of Limiting Condition		
Limiting Condition:	12	inches	1.0	ft	97.60	ft	***Critical for system compliance***
Minimum Req'd Separation:	36	inches	3.0	ft			*Distribution Elevation >Code Max Depth*
					Elevation		
Code Max System Depth*:	Mound	inches	-2.0	ft	100.60	ft	Elevation OK

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

Designed Distribution Elevation: 100.6 ft Minimum Sand Depth: 24.0 inches

A. Soil Texture:	Medium Sand	B. Organic Loading Rate (optional):		lbs/sq.ft/day 0
C. Soil Hyd. Loading Rate:	1.20 GPD/ft^2	D: Percolation Rate:	3.50 MPI	
E. Contour Loading Rate:	12	Note:		
F. Measured Land Slope:	5.0 %	Note:		
Comments:				

8. SOIL TREATMENT AREA DESIGN SUMMARY

Trench:

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

Bed:

Dispersal Area	sq.ft	Sidewall Depth	in	Maximum Bed Depth	in
Bed Width	ft	Bed Length	ft	Designed Bed Depth	in

Mound:

Dispersal Area	625.0 sq.ft	Bed Length	62.5 ft	Bed Width	10.0 ft
Absorption Width	15.0 ft	Clean Sand Lift	2.0 ft	Berm Width (0-1%)	ft
Upslope Berm Width	10.0 ft	Downslope Berm	15.8 ft	Endslope Berm Width	13.0 ft
Total System Length	88.5 ft	System Width	35.8 ft	Contour Loading Rate	12.0 gal/ft

Project ID:

At-Grade:

Dispersal Area	sq.ft	Bed Length	ft	Bed Width	ft
Upslope Berm	ft	Downslope Berm	ft	Finished Height	ft
System Length	ft	Endslope Berm	ft	System Width	ft

Level & Equal Pressure Distribution Soil Treatment Area

No. of Laterals	3	Lateral Diameter	1.50	in	Lateral Spacing	3	ft
Perforation Spacing	3	ft	Perforation Diameter	3/16	in	Drainback Volume	8	gal
Min Dose Volume	80	gal	Max Dose Volume	225	gal	Total Dosing Volume	128	gal

9. Organic Loading and Additional Info for At-Risk, HSW or Type IV Design

Organic Loading to Soil Treatment

A. Starting BOD Concentration = Design Flow X 0.7 X Starting BOD (mg/L) X 8.35 ÷ 1,000,000

_____ gpd X _____ mg/L X 8.35 ÷ 1,000,000 = _____ lbs. BOD/day (Organic Loading Design)

B. Organic Loading to Soil Treatment Area: (enter loading value in 7B)

_____ mg/L X _____ gpd X 0.7 X 8.35 ÷ 1,000,000 ÷ _____ sq.ft = _____ lbs./day/sqft

HSW Technology Strength Reduction

A. Starting BOD Concentration = Design Flow X Starting BOD (mg/L) X 8.35 ÷ 1,000,000

_____ gpd X _____ mg/L X 8.35 ÷ 1,000,000 = 0.00000 lbs. BOD/day (HSW Technology Design)

B. Target BOD Concentration = Design Flow X Target BOD (mg/L) X 8.35 ÷ 1,000,000

_____ gpd X _____ mg/L X 8.35 ÷ 1,000,000 = _____ lbs. BOD/day (HSW Technology Design)

Lbs. BOD To Be Removed: _____ lbs. BOD/day (HSW Technology Design)

Pretreatment Technology: _____ *Must Meet or Exceed Target

Disinfection Technology: _____ *Required for Levels A & B

10. Comments/Special Design Considerations:

1. The design is a Type III that will reduce the total flow of the system to use a maximum of 5-bedrooms of peak flow to the soil treatment area (750 GPD). A time dosed controller will be used to restrict the flow from the pump tank to allow for a maximum of 625 gallons of water usage in a 24-hour period. An alarm will be activated if water usage exceeds this flow.
2. Minimum Volumes for New Tanks: 1st Tank 1,500-gallons; 2nd Tank 1,500-gallons; Pump Tank 1,500-gallons.
3. The location for the sewage tanks is only proposed. If tanks are placed more than 15' from proposed location, contact KSD to discuss options.
4. Remove top layer of soil to expose sandy soil to a minimum depth of 30" and replace with washed mound sand before construction of the mound.
5. The berms will extend into the ROW to make the system aesthetically pleasing from the view of the road.
6. The pump supply line will cross under the driveway. Frost protection measures must be considered to avoid the line freezing.

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

Jesse Kloeppner		L4043	10/25/23
(Designer)	(Signature)	(License #)	(Date)

ONSITE SEWAGE TREATMENT PROGRAM

Mound Design Worksheet
≥1% Slope

MINNESOTA POLLUTION CONTROL AGENCY

1. SYSTEM SIZING: Project ID: v 03.15.2023

A. Design Flow Reduced to 750 GPD	750	GPD
B. Soil Loading Rate:	1.20	GPD/sqft
C. Depth to Limiting Condition	1.0	ft
D. Percent Land Slope:	5.0	%
E. Media (Sand) Loading Rate:	1.2	GPD/sqft
F. Mound Absorption Ratio:	1.50	

Table I
MOUND CONTOUR LOADING RATES:

Measured Perc Rate	← OR →	Texture - derived mound absorption ratio		Contour Loading Rate:
≤ 60mpi		1.0, 1.3, 2.0, 2.4, 2.6	→	≤12
61-120 mpi	← OR →	5.0	→	≤12
≥ 120 mpi*		>5.0*	→	≤6*

TABLE IXa
LOADING RATES FOR DETERMINING BOTTOM ABSORPTION AREA AND ABSORPTION RATIOS USING PERCOLATION TESTS

Percolation Rate (MPI)	Treatment Level C: Absorption Area Loading Rate (gpd/ft²)	Treatment Level C: Mound Absorption Ratio	Treatment Level A, A-2, B: Absorption Area Loading Rate (gpd/ft²)	Treatment Level A, A-2, B: Mound Absorption Ratio
<0.1	-	1	-	1
0.1 to 5	1.2	1	1.6	1
0.1 to 5 (fine sand and loamy fine sand)	0.8	2	1	1.6
6 to 15	0.78	1.6	1	1.6
16 to 30	0.6	2	0.78	2
31 to 45	0.6	2.4	0.78	2
46 to 60	0.45	2.6	0.6	2.6
61 to 120	-	5	0.3	5.3
>120	-	-	-	-

*Systems with these values are not Type I systems. Contour Loading Rate (linear loading rate) is a recommended value.

2. DISPERSAL MEDIA SIZING

A. Hydraulic Absorption Required Bottom Area: Design Flow (1A) ÷ Design Media Loading Rate(1E)

750 GPD ÷ 1.2 GPD/sqft = 625 sq.ft

Organic Sizing (OPTIONAL)

B. Organic Absorption Bed Area = Organic Loading (Summary 9A) ÷ Organic Soil Loading Rate (Summary 7B)

_____ lbs BOD ÷ _____ lbs BOD/sq.ft = _____ sq.ft

C. Required Bed Area = Greater of Hydraulic (1D) or Organic Bed Area (1E) 625 sq.ft

D. Designed Dispersal Media Area: 625 sq.ft *Optional upsizing of area to be larger than 2C*

B. Enter Dispersal Bed Width: 10.0 ft *Can not exceed 10 feet*

C. Calculate Contour Loading Rate: Bed Width(2B) X Design Media Loading Rate(1E)

10 ft X 1.2 GPD/sqft = 12.0 gal/ft *Can not exceed Table 1*

D. Calculate Minimum Dispersal Bed Length: Dispersal Bed Area(2A) ÷ Bed Width(2B)

625 sqft ÷ 10.0 ft = 62.5 ft

If a larger dispersal media Length is desired, enter size: _____ ft

3. ABSORPTION AREA SIZING

A. Calculate Absorption Width: Bed Width(2B) X Mound Absorption Ratio(1F)

10.0 ft X 1.5 = 15.0 ft

B. For slopes >1%, the Absorption Width is measured downhill from the upslope edge of the Bed.

Calculate Downslope Absorption Width: Absorption Width(1F) - Bed Width(2B)

15.0 ft - 10.0 ft = 5.0 ft

4. DISTRIBUTION MEDIA: Project ID:

Select Dispersal Media: Rock — Enter Either 4A or 4B

A. Rock Depth Below Distribution Pipe

6 in

B. Registered Media

Registered Media Depth in

Check registered product information for specific application details and design

Specific Media Comments:

5. MOUND SIZING Project ID:

A. Clean Sand Lift: Required Separation - Depth to Limiting Condition = Clean Sand Lift (1 ft minimum)

3.0 ft - 1.0 ft = 2.0 ft Design Sand Lift (optional): ft

B. Upslope Height: Clean Sand Lift(6A) + Depth of Media(4AorB) +Depth to Cover Pipe+ Depth of Cover (1 ft)

2.0 ft + 0.50 ft + 0.33 ft + 1.0 ft = 3.8 ft

Land Slope %		0	1	2	3	4	5	6	7	8	9	10	11	12
Upslope Berm Ratio	3:1	3.00	2.91	2.83	2.75	2.68	2.61	2.54	2.48	2.42	2.36	2.31	2.26	2.21
	4:1	4.00	3.85	3.70	3.57	3.45	3.33	3.23	3.12	3.03	2.94	2.86	2.78	2.70

C. Select Upslope Berm Multiplier (based on land slope): 2.61

D. Calculate Upslope Berm Width: Multiplier (5C) X Upslope Mound Height (5B)

2.61 X 3.8 ft = 10.0 ft

E. Calculate Drop in Elevation Under Bed: Bed Width(2B) X Land Slope(1D) ÷ 100 = Drop (ft)

10.0 ft X 5.0 % ÷ 100 = 0.50 ft

F. Calculate Downslope Mound Height: Upslope Height(5B) + Drop in Elevation(5E)

3.8 ft + 0.50 ft = 4.3 ft

Land Slope %		0	1	2	3	4	5	6	7	8	9	10	11	12
Downslope Berm Ratio	3:1	3.00	3.09	3.19	3.30	3.41	3.53	3.66	3.80	3.95	4.11	4.29	4.48	4.69
	4:1	4.00	4.17	4.35	4.54	4.76	5.00	5.26	5.56	5.88	6.25	6.67	7.14	7.69

G. Select Downslope Berm Multiplier (based on land slope): 3.66

H. Calculate Downslope Berm Width: Downslope Multiplier(5G) X Downslope Height (5F)

3.66 x 4.3 ft = 15.8 ft

I. Calculate Minimum Berm to Cover Absorption Area: Downslope Absorption Width(3A) + 4 feet

5.0 ft + 4 ft = 9.0 ft

J. Design Downslope Berm = greater of 5H and 5I: 15.8 ft

K. Select Endslope Berm Multiplier: 3.00 *(usually 3.0 or 4.0)*

L. Calculate Endslope Berm Width = Endslope Berm Multiplier(5K) X Downslope Mound Height(5F)

3.00 X 4.3 ft = 13.0 ft

M. Calculate Mound Width: Upslope Berm Width(5D) + Bed Width(2B) + Downslope Berm Width(5J)

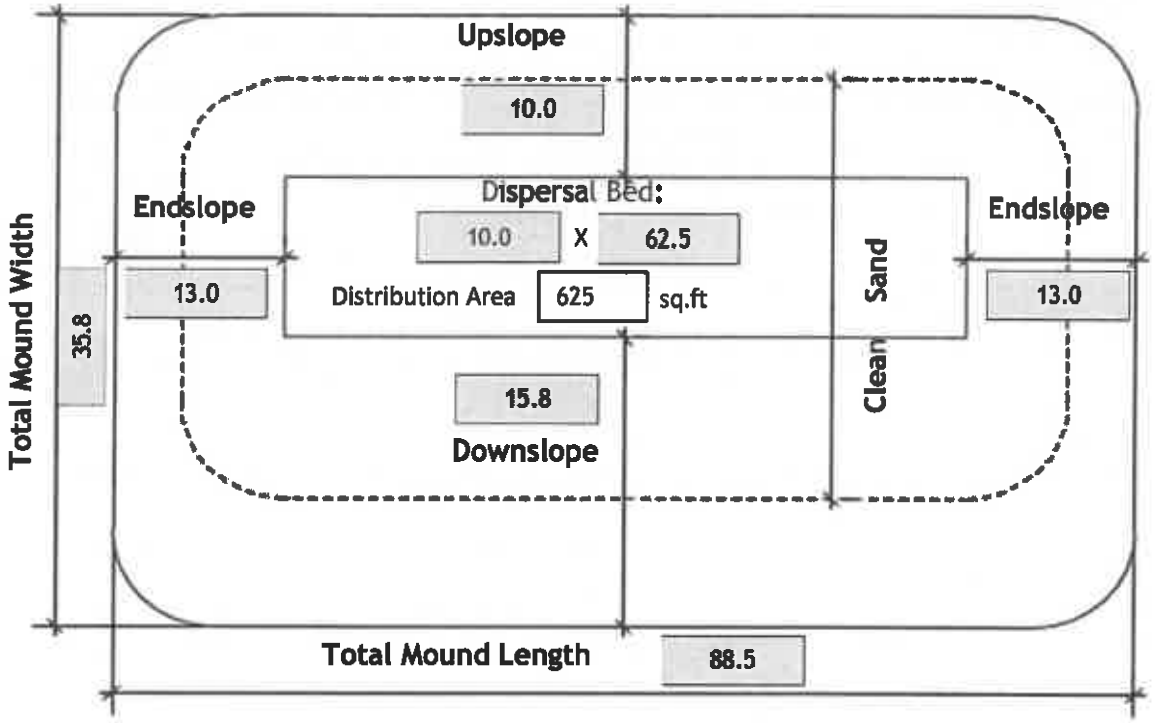
10.0 ft + 10.0 ft + 15.8 ft = 35.8 ft

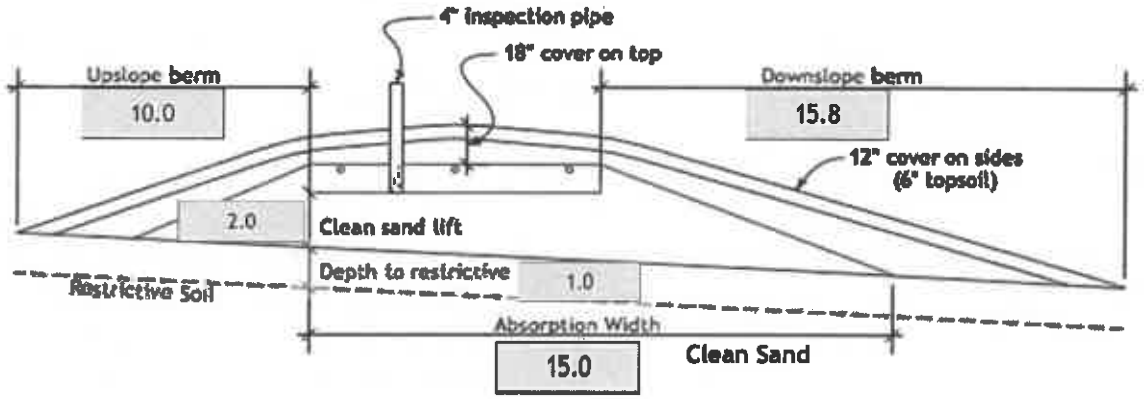
N. Calculate Mound Length: Endslope Berm Width (5L) + Bed Length(2D) + Endslope Berm Width(5L)

13.0 ft + 62.5 ft + 13.0 ft = 88.5 ft

6. MOUND DIMENSIONS (Feet)

Project ID:





			Elevation to Benchmark		
Required Separation:	36	(in)	Elevation Limiting Layer:	97.6	ft
Distribution Media:	Rock		Elevation required Separation:	100.6	ft
Media Depth:	6.0	(in)	Elevation Distribution Media Bottom:	100.6	ft
Manifold Connection:	End		Elevation Top of Media(min):	101.4	ft
Lateral Pipe Diameter:	1.50	(in)	Elevation Top of System(min):	102.4	ft
Perforation Size:	3/16	(in)	Perforation Spacing:	36.0	(in)

If Split and Non-Level Pressure Distribution Used: See Non-Level Pressure Distribution Form

Comments:

All berm slopes calculated using 3:1 slope ratio. The Mound Absorption Ratio was increased to add more absorption.

University of Minnesota Onsite Sewage Treatment Program

Mound Materials Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

Project ID: v 03.15.2023

A. Rock *Volume*: (Rock Below Pipe + Rock to cover pipe (*pipe outside dia + ~2 inch*)) X *Bed Length* X *Bed Width* = *Volume*

(6 in + 2.0 in) ÷ 12 X 62.5 ft X 10.0 ft = 416.7 cu.ft

Divide cu.ft by 27 cu.ft/cu.yd to calculate cubic yards: 416.7 cu.ft ÷ 27 = 15.4 cu.yd

Add 30% for constructability: 15.4 cu.yd X 1.3 = 20.1 cu.yd

B. Calculate *Clean Sand Volume*:

Volume Under Rock bed: *Average Sand Depth* x *Media Width* x *Media Length* = cubic feet

2.3 ft X 10.0 ft X 62.5 ft = 1406 cu.ft

For a Mound on a slope from 0-1%

Volume from Length = ((Upslope Mound Height - 1) X Absorption Width Beyond Bed X Media Bed Length)

ft - 1) X X ft =

Volume from Width = ((Upslope Mound Height - 1) X Absorption Width Beyond Bed X Media Bed Width)

ft - 1) X X ft =

Total Clean Sand Volume: *Volume from Length* + *Volume from Width* + *Volume Under Media*

cu.ft + cu.ft + cu.ft = cu.ft

For a Mound on a slope greater than 1%

Upslope Volume: ((*Upslope Mound Height - 1*) x 3 x *Bed Length*) ÷ 2 = cubic feet

((5.8 ft - 1) X 3.0 ft X 62.5) ÷ 2 = 452.8 cu.ft

Downslope Volume: ((*Downslope Height - 1*) x Downslope Absorption Width x *Media Length*) ÷ 2 = cubic feet

((6.3 ft - 1) X 5.0 ft X 62.5) ÷ 2 = 832.8 cu.ft

Endslope Volume: (*Downslope Mound Height - 1*) x 3 x *Media Width* = cubic feet

(6.3 ft - 1) X 3.0 ft X 10.0 ft = 159.9 cu.ft

Total Clean Sand Volume: *Upslope Volume* + *Downslope Volume* + *Endslope Volume* + *Volume Under Media*

452.8 cu.ft + 832.8 cu.ft + 159.9 cu.ft + 1406.3 cu.ft = 2851.8 cu.ft

Divide cu.ft by 27 cu.ft/cu.yd to calculate cubic yards: 2851.8 cu.ft ÷ 27 = 105.6 cu.yd

Add 30% for constructability: 105.6 cu.yd X 1.3 = 137.3 cu.yd

C. Calculate *Sandy Berm Volume*:

Total Berm Volume (approx.): ((Avg. Mound Height - 0.5 ft topsoil) x Mound Width x Mound Length) ÷ 2

(6.1 - 0.5)ft X 35.8 ft X 88.5) ÷ 2 = 8848.4 cu.ft

Total Mound Volume - Clean Sand volume -Rock Volume = cubic feet

8848.4 cu.ft - 2851.8 cu.ft - 416.7 cu.ft = 5580.0 cu.ft

Divide cu.ft by 27 cu.ft/cu.yd to calculate cubic yards: 5580.0 cu.ft ÷ 27 = 206.7 cu.yd

Add 30% for constructability: 206.7 yd^3 x 1.3 = 268.7 cu.yd

D. Calculate *Topsoil Material Volume: Total Mound Width X Total Mound Length X .5 ft*

35.8 ft X 88.5 ft X 0.5 ft = 1585.7 cu.ft

Divide cu.ft by 27 cu.ft/cu.yd to calculate cubic yards: 1585.7 cu.ft ÷ 27 = 58.7 cu.yd

Add 30% for constructability: 58.7 cu.yd X 1.3 = 76.4 cu.yd

ONSITE SEWAGE TREATMENT PROGRAM

Pressure Distribution Design Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

Project ID: v 03.15.2023

1. Media Bed Width: 10 ft

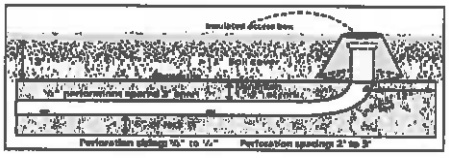
2. Minimum Number of Laterals in system/zone = Rounded up number of [(Media Bed Width - 4) ÷ 3] + 1.

[(10 - 4) ÷ 3] + 1 = 3 laterals *Does not apply to at-grades*

3. Designer Selected *Number of Laterals*: 3 laterals
Cannot be less than line 2 (Except in at-grades)

4. Select *Perforation Spacing*: 3.00 ft

5. Select *Perforation Diameter Size:* 3/16 in



6. *Length of Laterals* = Media Bed Length(1.) - 2 Feet.

62.5 - 2ft = 60.5 ft *Perforation can not be closer then 1 foot from edge.*

7. Determine the *Number of Perforation Spaces*. Divide the *Length of Laterals(6.)* by the *Perforation Spacing* (4.) and round down to the nearest whole number.

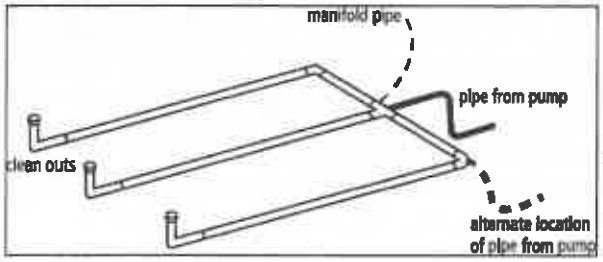
Number of Perforation Spaces = 60.5 ft ÷ 3.0 ft = 20 Spaces

8. *Number of Perforations per Lateral* is equal to 1.0 plus the *Number of Perforation Spaces(7.)*. Check table below to verify the number of perforations per lateral guarantees less than a 10% discharge variation. The value is double with a center manifold.

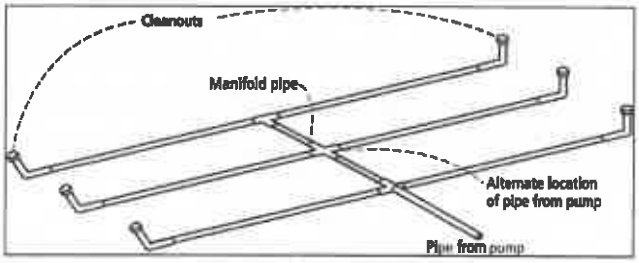
Perforations Per Lateral = 20 Spaces + 1 = 21 Perfs. Per Lateral

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

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



END Connection



CENTER Connection

Perf Per Lateral: 21

Perf Per Lateral Equal Split: 11 | 10

OPTIONAL Perf Per Lateral Non-Equal Split*: ____ | ____

* must not exceed maximum number perfs per lateral in table

ONSITE SEWAGE TREATMENT PROGRAM

Pressure Distribution Design Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

9. *Total Number of Perforations* equals the *Number of Perforations per Lateral (8.)* multiplied by the *Number of Perforated Laterals.(3.)*

21	Perf. Per Lat. X	3	Number of Perf. Lat. =	63	Total Number of Perf.

10. Spacing of laterals; Must be greater than 1 foot and no more than 3 feet: 3.0 ft

11. Select *Type of Manifold Connection* (End or Center): End

12. *Select Lateral Diameter (See Table)*: 1.50 in

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

13. Calculate the *Square Feet per Perforation.*

Recommended value is 4-11 ft2 per perforation, Does not apply to At-Grades

a. *Bed Area* = Bed Width (ft) X Bed Length (ft)

10	ft X	63	ft =	625	sq.ft

b. *Square Foot per Perforation* = *Bed Area* ÷ by the *Total Number of Perfs*

625	sqft ÷	63	perf =	9.9	sq.ft/perf

14. Select *Minimum Average Head*: 1.0 ft

15. Select *Perforation Discharge* based on Table: 0.41 GPM per Perf

16. *Flow Rate = Total Number of Perfs(9.) X Perforation Discharge(15.)*

63	Perfs X	0.41	GPM per Perforation =	27	GPM

17. *Volume of Liquid Per Foot of Distribution Piping (Table II)*: 0.110 Gallons/ft

18. *Volume of Distribution Piping = Number of Perforated Laterals(3.) X Length of Laterals(6.) X Volume of Liquid Per Foot of Distribution Piping (17.)*

3	X	61	ft X	0.110	gal/ft =	20.0	Gallons

19. Minimum Delivered Volume = Volume of Distribution Piping X 4

20.0	gals X 4 =	79.9	Gallons

20. Maximum Delivered Volume = Design flow x 25%

900.0	gpd X 25% =	225.0	Gallons

21. Minimum Delivered vs Maximum Delivered evaluation: Volume ratio correct

Perforation Discharge (GPH)				
	Perforation Diameter			
Head (ft)	1/8	1/11	7/32	1/4
1.0	0.18	0.41	0.56	0.74
1.5	0.22	0.51	0.69	0.9
2.0	0.26	0.59	0.80	1.04
2.5	0.29	0.65	0.89	1.17
3.0	0.32	0.72	0.98	1.28
4.0	0.37	0.83	1.13	1.47
5.0	0.41	0.93	1.26	1.65

1 foot	Dwellings with 3/16 inch to 1/4 inch perforations
2 feet	Dwellings with 1/8 inch perforations Other establishments and MSTS with 3/16 inch to 1/4 inch perforations
5 feet	Other establishments and MSTS with 1/8 inch perforations

Table II Volume of Liquid in Pipe

Pipe Diameter (inches)	Liquid Per Foot (Gallons)
1	0.045
1.25	0.078
1.5	0.110
2	0.170
3	0.380
4	0.661

Comments/Special Design Considerations:

Onsite Sewage Treatment Program

Basic STA Pump Selection Design Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

1. PUMP CAPACITY — Project ID: — v 03.15.2023

Pumping to Gravity or Pressure Distribution: **Pressure**

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

B. If pumping to a pressurized distribution system: **27.0** GPM

C. Enter pump description: **Demand Dosing**

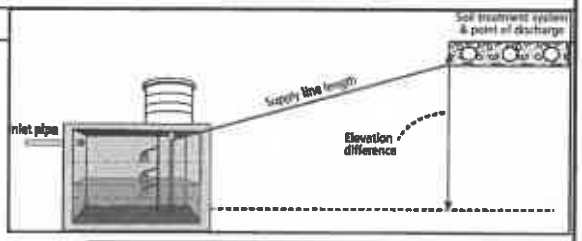
2. HEAD REQUIREMENTS

A. Elevation Difference between pump and point of discharge: **10.7** ft

B. Distribution Head Loss: **5** ft

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

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



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

Table I. Friction Loss in Plastic Pipe per 100ft

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

D. 1. Supply Pipe Diameter: **2.0** in

2. Supply Pipe Length: **46** ft

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

Friction Loss = **1.95** ft per 100ft of pipe

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

46 ft X 1.25 = **57.5** ft

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

Supply Friction Loss =

1.95 ft per 100ft X **57.5** ft ÷ 100 = **1.1** ft

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

10.7 ft + **5.0** ft + _____ ft + **1.1** ft = **16.8** ft

3. PUMP SELECTION

A pump must be selected to deliver at least **27.0** GPM with at least **16.8** feet of total head.

Comments:

Goulds Pump PE41 Pump Curve: 42 GPM @ 16.8 TDH

Elevation Difference: Pump Intake - 90.4' to 101.1' = 10.7'

STA Dosing Pump Tank Design Worksheet (Time Dose)

Onsite Sewage Treatment Program

MINNESOTA POLLUTION CONTROL AGENCY

Project ID: v 03.15.2023

DETERMINE TANK CAPACITY AND DIMENSIONS

1. A. *Design Flow (Design Sum. 1A)*: 900 GPD B. Tank Use: Dosing
   C. Percentage of Design Flow 69.4 % 625 Gal Up to 75% design flow is normal for Design percentage
   D. Min. required pump tank capacity: 1000 Gal E. Recommended capacity: 1500 Gal

2. A. Tank Manufacturer: Wieser Concrete B. Tank Model: W1500-R CENTER
   C. Capacity from manufacturer: 1687 Gallons
   D. Gallons per inch: 31.0 Gallons per inch
   E. Liquid depth of tank from manufacturer: 51.0 inches

Note: Design calculations are based on this specific tank. Substituting a different tank model will change the pump float or timer settings. Contact designer if changes are necessary.

DETERMINE DOSING VOLUME

3. *Volume to Cover Pump* (The inlet of pump should be 4 inches from the bottom of the tank & 2 inches covering the pump recommended)

   (Pump and block height + 2 inches) X *Gallons Per Inch* (2D)

   (14 in + 2 inches) X 31.0 Gallons Per Inch = 496 Gallons

4. *Minimum Delivered Volume* = 4 X Volume of Distribution Piping:

   -Item 19 of the Pressure Distribution or Item 11 of Non-level 80 Gallons (minimum dose) 2.6 inches/dose

5. Calculate *Maximum Pumpout Volume* (25% of Design Flow)

   Design Flow: 900 GPD X 0.25 = 225 Gallons (maximum dose) 7.3 inches/dose

6. *Select a pumpout volume that meets both Minimum and Maximum:* 120 Gallons

7. Calculate *Doses Per Day* = Percentage Design Flow(1C) ÷ *Delivered Volume(6.)*

   624.6 gpd ÷ 120 gal = 5.2 *Doses*

8. Calculate Drainback:

   A. *Diameter of Supply Pipe* = 2 inches
   B. Length of Supply Pipe = 46 feet
   C. *Volume of Liquid Per Lineal Foot of Pipe* = 0.170 Gallons/ft
   D. *Drainback = Length of Supply Pipe(2B) X Volume of Liquid Per Lineal Foot of Pipe(2C)*

   46 ft X 0.170 gal/ft = 7.8 Gallons

9. *Total Dosing Volume = Delivered Volume(6.) + Drainback(8D)*

   120 gal + 7.8 gal = 128 Gallons

10. Working Storage Volume = Tank Volume (2C) - Volume to Cover Pump(3.) - Reserve Capacity (22.)

    1687 gal - 496 gal - 696 = 495 Gallons

Volume of Liquid in Pipe

Pipe Diameter (inches)	Liquid Per Foot (Gallons)
1	0.045
1.25	0.078
1.5	0.110
2	0.170
3	0.380
4	0.661

11. Required *Flow Rate*:

    A. From Pump Curve - Must verify after install: 42 GPM*

    B. Calculated GPM = Change in Depth (in) x Gallons Per Inch(2D) / Time Interval in Minutes

    in X 31.0 gal/in ÷ min = GPM

12. Select Flow Rate from 11 A or B: 42.0 GPM*

**Note: This value must be adjusted after installation based on pump calibration.*

STA Dosing Pump Tank Design Worksheet (Time Dose)

NORMAL OPERATION TIMER SETTINGS*

13. Calculate **TIMER ON** setting*:

Total Dosing Volume(9.) ÷ GPM(12.)

128	gal	÷	42.0	gpm	=	3.0	Minutes ON*	HR 0	MIN 3.0	SEC 2

14. Calculated **TIMER OFF** setting*:

Minutes Per Day (1440)/*Doses Per Day(7.)* - Minutes On(13.)

1440 min ÷	5	doses/day -	3.0	min	=	273.6	Minutes OFF*	HR 4	MIN 33.0	SEC 37

OPTIONAL PEAK ENABLE DOSING* - *Designers option for peak flow operation*

15. Peak Percentage of Design Flow: 69.4 %

16. Peak Pump Volume that meets both Minimum and Maximum Volume: 120 gal + Drainback 7.8 gal

17. Peak Dose Volume: 128 gal

18. Peak TIMER ON: 128 gal ÷ 42 gpm = 3.0 min ON — HR 0 | MIN 3.0 | SEC 2

**Note: This value must be adjusted after installation based on pump calibration.*

19. Peak TIMER OFF: 1440 min ÷ 5 doses/day - 3.0 min On 273.6 min Off — HR 4 | MIN 33.0 | SEC 37

FLOAT SETTINGS **Alarm and Pump are to be wired on separate circuits and inspected by the electrical inspector**

20. Pump Off Float - Measuring from bottom of tank:

Distance to set Pump Off Float=Gallons to Cover Pump(3.) ÷ Gallons Per Inch(2D):

496	gal	÷	31.0	gal/in	=	16.0	inches

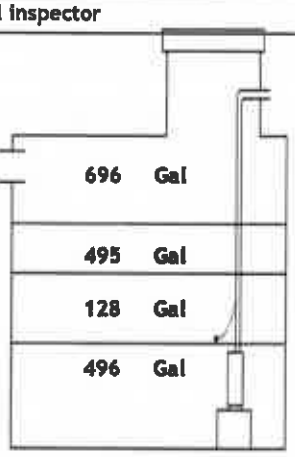
21. Alarm Float - Measuring from bottom of tank (90% recommended):

Distance to set Alarm Float = Tank Depth(2E) X % of Tank Depth (90% recommended)

51.0	in	X	56	%	=	28.56	inches

22. Reserve Capacity in gallons = Tank Depth(2E) - Alarm Depth(21.) X GPI(2D)

(51.0	in	-	28.6	in)	X	31.0	=	695.6	gallons



Tank Buoyancy Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

1. Tank Specifications Project ID: v 03.15.2023

A. Tank Manufacturer: Wieser Concrete Tank Model: W1500-R END RISER

B. Outside Tank Dimensions and Specifications: Tank Use: Septic

Length: 129 in Width: 73 in Height: 68.5 in Diameter: in

Length: 10.8 ft Width: 6.1 ft Height: 5.7 ft Radius of Tank: in

2. Outside Volume of Tank

Rectangular Tank	Circular Tank
A. Area of Tank = Length (ft) X Width (ft)	A. Area of Tank = πr^2 = (3.14 X (Radius of Tank)^2)
10.8 ft X 6.1 ft = 65.4 sq.ft	3.14 X (ft)^2 = sq.ft
B. Volume of Tank = Area of Tank (2.A) X Height (ft)	B. Volume of Tank = Area of Tank X Height (ft)
65.4 sq.ft X 5.7 ft = 373.3 cu.ft	sq.ft X ft = cu.ft

3. Force of Tank Weight (F_{TW})

Weight of Tank (provided by manufacturer) 11500 lbs

4. Force of Soil Weight Over Tank (F_{SW})

A. Depth of Cover Over Tank: 34 in 2.8 ft

B. Weight of Soil Per Cubic Foot: 120 lbs/cu.ft

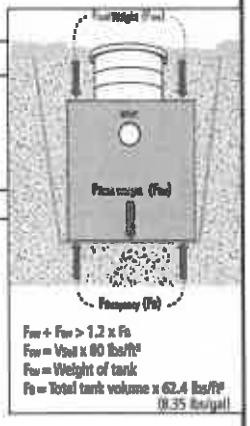
C. Volume of Soil Over Tank = Depth of Cover(4A) (ft) X Area of Tank(2A) (ft^2)

2.8 ft X 65.4 sq.ft = 185.3 cu.ft

D. Weight of Soil Over Tank = Volume of Soil Over Tank(4C) X Weight of Soil Per Cubic Foot

185.3 cu.ft X 120 lbs/cu.ft = 22,234.6 lbs *Note: Assumes saturation does not get over the lid of the tank*

Soil Type	Weight of Soil (lbs/ft^3)
Sandy	120
Loamy	100
Clay	90



5.Buoyant Force (F_B)

Buoyant Force (F_B) = Outside Volume of Tank(2B) X Weight of Water Per Cubic Foot (62.4 lbs/ft^3) X 1.2 (Safety Factor)

373 X 62.4 lbs/cu.ft X 1.2 = 27,952.8 lbs

6. Evaluation of Net Forces

A. Downward Force = Force of Tank Weight (F_{TW})(3.) + Force of Soil Weight of Soil (F_{SW})(4.)

11500 lbs + 22235 lbs = 33,734.6 lbs

B. Net Difference = Downward Force(6A) - Buoyant Force Including Safety Factor (5.)

33735 lbs - 27953 lbs = 5,781.8 lbs

If the Net Difference is negative, counter measures will need to be taken to prevent the tank from floating out of the ground.

Comments/Solution:

All soil types can be used to bury tanks 34" or deeper.

Tank Buoyancy Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

1. Tank Specifications Project ID: v 03.15.2023

A. Tank Manufacturer: Wieser Concrete — Tank Model: W1500-R END RISER

B. Outside Tank Dimensions and Specifications: — Tank Use: Septic

Length: 129 in — Width: 73 in — Height: 68.5 in — Diameter: in

Length: 10.8 ft — Width: 6.1 ft — Height: 5.7 ft — Radius of Tank: in

2. Outside Volume of Tank

Rectangular Tank	Circular Tank
A. Area of Tank = Length (ft) X Width (ft)	A. Area of Tank = πr^2 = (3.14 X (Radius of Tank)^2)
10.8 ft X 6.1 ft = 65.4 sq.ft	3.14 X (ft)^2 = sq.ft
B. Volume of Tank = Area of Tank (2.A) X Height (ft)	B. Volume of Tank = Area of Tank X Height (ft)
65.4 sq.ft X 5.7 ft = 373.3 cu.ft	sq.ft X ft = cu.ft

3. Force of Tank Weight (F_{TW})

Weight of Tank (provided by manufacturer) 11500 lbs

4. Force of Soil Weight Over Tank (F_{SW})

A. Depth of Cover Over Tank: 36 in 3.0 ft

B. Weight of Soil Per Cubic Foot: 120 lbs/cu.ft

C. Volume of Soil Over Tank = Depth of Cover(4A) (ft) X Area of Tank(2A) (ft^2)

3.0 ft X 65.4 sq.ft = 196.2 cu.ft

D. Weight of Soil Over Tank = Volume of Soil Over Tank(4C) X Weight of Soil Per Cubic Foot

196.2 cu.ft X 120 lbs/cu.ft = 23,542.5 lbs *Note: Assumes saturation does not get over the lid of the tank*

Soil Type	Weight of Soil (lbs/ft^3)
Sandy	120
Loamy	100
Clay	90

5.Buoyant Force (F_B)

Buoyant Force (F_B) = Outside Volume of Tank(2B) X Weight of Water Per Cubic Foot (62.4 lbs/ft^3) X 1.2 (Safety Factor)

373 X 62.4 lbs/cu.ft X 1.2 = 27,952.8 lbs

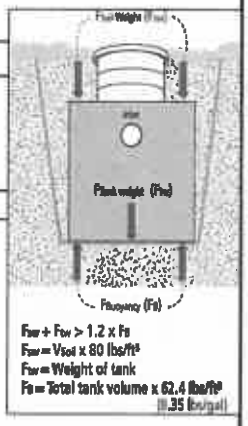
6. Evaluation of Net Forces

A. Downward Force = Force of Tank Weight (F_{TW})(3.) + Force of Soil Weight of Soil (F_{SW})(4.)

11500 lbs + 23543 lbs = 35,042.5 lbs

B. Net Difference = Downward Force(6A) - Buoyant Force Including Safety Factor (5.)

35043 lbs - 27953 lbs = 7,089.7 lbs



If the Net Difference is negative, counter measures will need to be taken to prevent the tank from floating out of the ground.

Comments/Solution:

All soil types can be used to bury tanks 34" or deeper.

UNIVERSITY
OF MINNESOTA

Septic System Management Plan for Above Grade Systems

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

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

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

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

Property Owner Jim Christiansen	Email
Property Address 4 Dove Lane, North Oaks, MN 55127	Property ID 17322430006
System Designer Kloeppner Services & Designs, LLC	Contact Info 763-843-4114
System Installer	Contact Info
Service Provider/Maintainer	Contact Info
Permitting Authority City of North Oaks	Contact Info
Permit #	Date Inspected

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

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

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

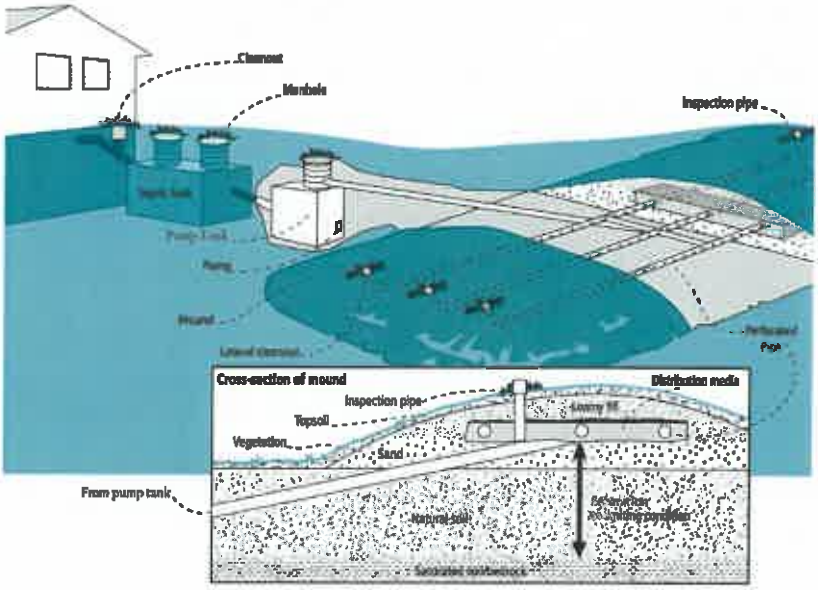
For more information see http://septic.umn.edu

Version: August 2015

UNIVERSITY OF MINNESOTA

Septic System Management Plan for Above Grade Systems

Your Septic System



Septic System Specifics

System Type: ○ I ○ II ◉ III ○ IV* ○ V*

(Based on MN Rules Chapter 7080.2200 – 2400)

**Additional Management Plan required*

☑ System is subject to operating permit*

☑ System uses UV disinfection unit*

Type of advanced treatment unit _____

Dwelling Type

Number of bedrooms: 6

System capacity/ design flow (gpd): 900

Anticipated average daily flow (gpd): 630

Comments _____

Business? : ○ Y ◉ N What type? _____

Well Construction

Well depth (ft): City Water connection

- ☐ Cased well Casing depth: _____
- ☐ Other (specify): _____

Distance from septic (ft): _____

Is the well on the design drawing? ○ Y ◉ N

Septic Tank

- ☐ First tank *Tank volume:* 1,500 *gallons*

  Does tank have two compartments? ○ Y ◉ N
- ☐ Second tank *Tank volume:* 1,500 *gallons*
- ☐ Tank is constructed of Concrete
- ☐ Effluent screen: ◉ Y ○ N Alarm ◉ Y ○ N

- ☐ Pump Tank 1,500 *gallons*
- ☐ Effluent Pump *make/model:* PE41 or equal

  Pump capacity 27.0 GPM

  TDH 16.8 Feet of head
- ☐ Alarm location TBD

Soil Treatment Area (STA)

Mound/At-Grade area (width x length): 31.7 ft x 84.5 ft

Rock bed size (width x length): 10 ft x 62.5 ft

Location of additional STA: _____

Type of distribution media: Rock

☑ Inspection ports ☑ Cleanouts

☑ Surface water diversions

☐ Additional STA not available

Homeowner Management Tasks

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

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

The system and septic tanks needs to be checked every 24 months

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

Seasonally or several times per year

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

Annually

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

During each visit by a service provider or pumper/maintainer

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

Professional Management Tasks

These are the operation and maintenance activities that a pumper/maintainer performs to help ensure long-term performance of your system. At each visit a written report/record must be provided to homeowner.

Plumbing/Source of Wastewater

- Review the Water Use Appliance Chart on Page 5 with homeowner. Discuss any changes in water use and the impact those changes may have on the septic system.
- Review water usage rates (if available) with homeowner.

Septic Tank/Pump Tanks

- *Manhole lid.* A riser is recommended if the lid is not accessible from the ground surface. Insulate the riser cover for frost protection.
- *Liquid level.* Check to make sure the tank is not leaking. The liquid level should be level with the bottom of the outlet pipe. (If the water level is below the bottom of the outlet pipe, the tank may not be watertight. If the water level is higher than the bottom of the outlet pipe of the tank, the effluent screen may need cleaning, or there may be ponding in the soil treatment area.)
- *Inspection pipes.* Replace damaged or missing pipes and caps.
- *Baffles.* Check to make sure they are in place and attached, and that inlet/outlet baffles are clear of buildup or obstructions.
- *Effluent screen.* Check to make sure it is in place; clean per manufacturer recommendation. Recommend retrofitted installation if one is not present.
- *Alarm.* Verify that the alarm works.
- *Scum and sludge.* Measure scum and sludge in each compartment of each septic and pump tank, pump if needed.

Pump

- *Pump and controls.* Check to make sure the pump and controls are operating correctly.
- *Pump vault.* Check to make sure it is in place; clean per manufacturer recommendations.
- *Alarm.* Verify that the alarm works.
- *Drainback.* Check to make sure it is draining properly.
- *Event counter or elapsed time meter.* Check to see if there is an event counter or elapsed time meter for the pump. If there is one or both, calculate the water usage rate and compare to the anticipated use listed on Design and Page 2. Dose Volume: 120 gallons: Pump run time: 2.85 Minutes

Soil Treatment Area

- *Inspection pipes.* Check to make sure they are properly capped. Replace caps and pipes that are damaged.
- *Surfacing of effluent.* Check for surfacing effluent or other signs of problems.
- *Lateral flushing.* Check lateral distribution; if cleanouts exist, flush and clean at recommended frequency.
- *Vegetation* - Check to see that a good growth of vegetation is covering the system.

All other components – evaluate as listed here:

Water-Use Appliances and Equipment in the Home

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

UNIVERSITY OF MINNESOTA

Septic System Management Plan for Above Grade Systems

Homeowner Maintenance Log

Track maintenance activities here for easy reference. See list of management tasks on pages 3 and 4.

Activity	Date accomplished									
Check frequently:										
Leaks: check for plumbing leaks*										
Soil treatment area check for surfacing**										
Lint filter: check, clean if needed*										
Effluent screen (if owner-maintained)***										
Alarm**										
Check annually:										
Water usage rate (maximum gpd _____)										
Caps: inspect, replace if needed										
Water use appliances – review use										
Other:										

*Monthly

**Quarterly

***Bi-Annually

Notes:

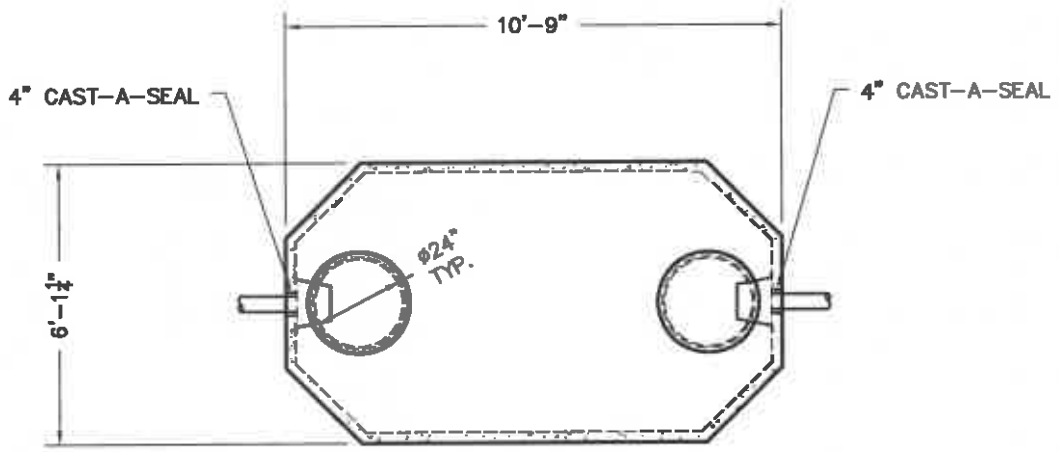
"As the owner of this SSTS, I understand it is my responsibility to properly operate and maintain the sewage treatment system on this property, utilizing the Management Plan. If requirements in this Management Plan are not met, I will promptly notify the permitting authority and take necessary corrective actions. If I have a new system, I agree to adequately protect the reserve area for future use as a soil treatment system."

Property Owner Signature: _____ Date _____

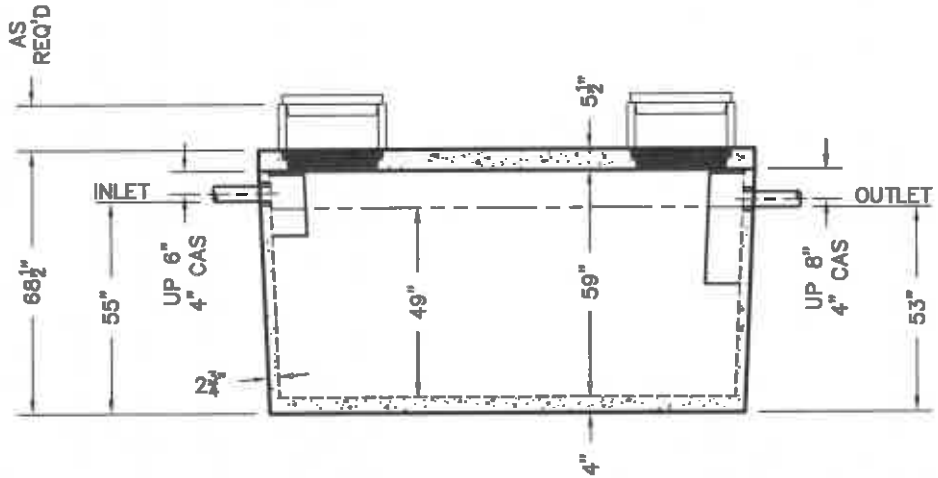
Management Plan Prepared By: Jesse Kloeppner Certification # C8188

Permitting Authority: City of North Oaks

W1500–R END RISER
TANK SPECIFICATIONS



TOP VIEW



SIDE VIEW

DIMENSIONS:
- WALL: 2 3/4"
- BOTTOM: 4"
- COVER: 5 1/2"
- MANHOLE: 24" I.D. PRECAST CONCRETE RISER
- HEIGHT: 68 1/2"
- LENGTH: 10'–9"
- WIDTH: 6'–1 1/4"
- BELOW INLET: 55"
- LIQUID LEVEL: 49"
- WEIGHT: 11,500 LBS.

INLET AND OUTLET:
- 4" CAST–A–SEAL BOOT OR EQUAL GASKET

LIQUID CAPACITY: 31.00 GAL/IN

HOLDING TANK:
- OUTLET HOLE PLUGGED
- ACTUAL CAPACITY: 1,687 GALLONS

LOADING DESIGN: 8'–0" UNSATURATED SOIL

TANK CAN BE USED AS:
- SEPTIC / HOLDING / PUMP OR SIPHON

COVER: MIX DESIGN #8 (NO FIBER)
TANK: MIX DESIGN #10 (STRUCTURAL FIBER)

CUSTOMIZED TANKS:
- FOR CUSTOM TANKS CONTACT WIESER CONCRETE

PRE–POUR:
POST–POUR:
DATE:
REV.
SCALE: 1/4" = 1'–0"
DRAWN BY: WCP
DATE: 00/00/00
FILE: w1500–r single lid

WIESER CONCRETE
W3716 US HWY 10, MAIDEN ROCK, WI 54750
800–325–8456

W1500–R SINGLE LID
SEPTIC MANUAL

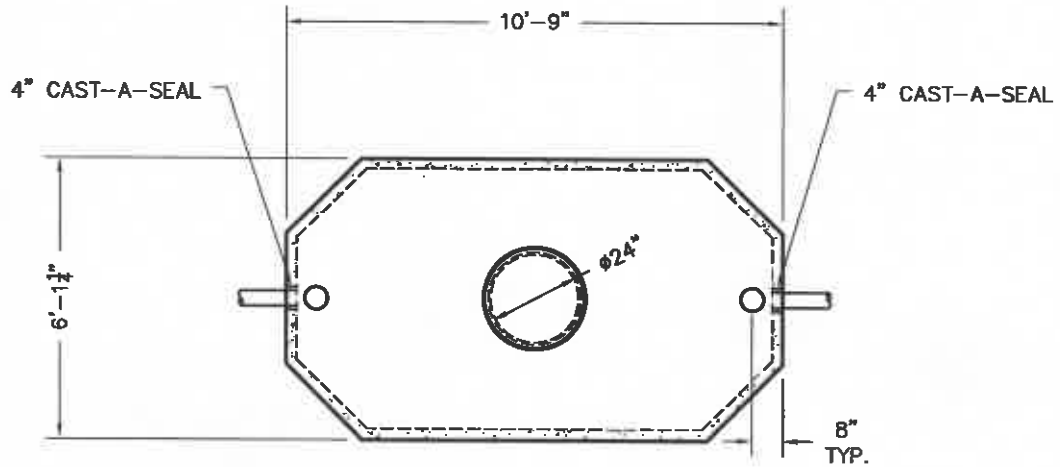
SHEET NO. 1 OF 1

REVIEWED BY _____
REVIEW DATE _____

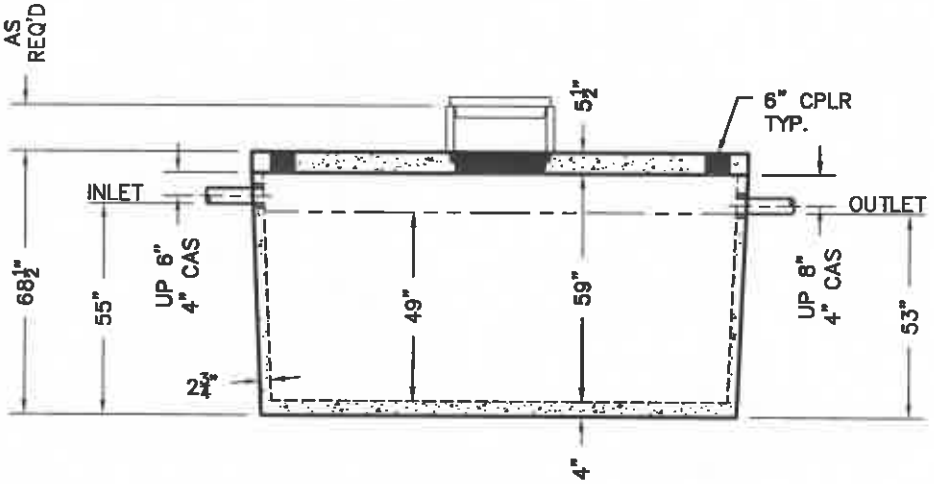
DRAWINGS SUBMITTED FOR APPROVAL
APPROVED BY: _____
APPROVAL DATE: _____
PRODUCTS NEEDED BY: _____

TANKS ARE MANUFACTURED TO MEET OR EXCEED ASTM C–1227 REQUIREMENTS

W1500-R CENTER RISER
TANK SPECIFICATIONS



TOP VIEW



SIDE VIEW

DIMENSIONS:
- WALL: 2 3/4"
- BOTTOM: 4"
- COVER: 5 1/2"
- MANHOLE: 24" I.D. PRECAST CONCRETE RISER
- HEIGHT: 68 1/2"
- LENGTH: 10'-9"
- WIDTH: 6'-1 1/4"
- BELOW INLET: 55"
- LIQUID LEVEL: 49"
- WEIGHT: 11,500 LBS.

INLET AND OUTLET:
- 4" CAST-A-SEAL BOOT OR EQUAL GASKET

LIQUID CAPACITY: 31.00 GAL/IN

HOLDING TANK:
- OUTLET HOLE PLUGGED
- ACTUAL CAPACITY: 1,687 GALLONS

LOADING DESIGN: 8'-0" UNSATURATED SOIL

TANK CAN BE USED AS:
- SEPTIC / HOLDING / PUMP OR SIPHON

COVER: MIX DESIGN #8 (NO FIBER)
TANK: MIX DESIGN #10 (STRUCTURAL FIBER)

CUSTOMIZED TANKS:
- FOR CUSTOM TANKS CONTACT WIESER CONCRETE

PRE-POUR:
POST-POUR:
DATE:
REV.
SCALE: 1/4" = 1'-0"
DRAWN BY: WCP
DATE: 00/00/00
FILE: w1500-r single lid

WIESER CONCRETE
W3716 US HWY 10, MAIDEN ROCK, WI 54750
800-325-8456

W1500-R SINGLE LID
SEPTIC MANUAL

REVIEWED BY _____
REVIEW DATE _____

DRAWINGS SUBMITTED FOR APPROVAL
APPROVED BY: _____
APPROVAL DATE: _____
PRODUCTS NEEDED BY: _____

SHEET NO. 1 OF 1

TANKS ARE MANUFACTURED TO MEET OR EXCEED ASTM C-1227 REQUIREMENTS

PL-525 Filter

The PL-525 Filter is rated for 10,000 GPD (gallons per day) making it one of the largest filters in its class. It has 525 linear feet of 1/16" filtration slots. Like the Polylok PL-122, the Polylok PL-525 has an automatic shut-off ball installed with every filter. When the filter is removed for cleaning, the ball will float up and temporarily shut off the system so the effluent won't leave the tank.

Features:

- Rated for 10,000 GPD (gallons per day).
- 525 linear feet of 1/16" filtration.
- Accepts 4" and 6" SCHD 40 pipe.
- Built in gas deflector.
- Automatic shut-off ball when filter is removed.
- Alarm accessibility.
- Accepts PVC extension handle.

PL-525 Installation:

Ideal for residential and commercial waste flows up to 10,000 gallons per day (GPD).

1. Locate the outlet of the septic tank.
2. Remove the tank cover and pump tank if necessary.
3. Glue the filter housing to the 4" or 6" outlet pipe. If the filter is not centered under the access opening use a Polylok Extend & Lok or piece of pipe to center filter.
4. Insert the PL-525 filter into its housing.
5. Replace and secure the septic tank cover.

PL-525 Maintenance:

The PL-525 Effluent Filters will operate efficiently for several years under normal conditions before requiring cleaning. It is recommended that the filter be cleaned every time the tank is pumped, or at least every three years. If the installed filter contains an optional alarm, the owner will be notified by an alarm when the filter needs servicing. Servicing should be done by a certified septic tank pumper or installer.

1. Locate the outlet of the septic tank.
2. Remove tank cover and pump tank if necessary.
3. Do not use plumbing when filter is removed.
4. Pull PL-525 cartridge out of the housing.
5. Hose off filter over the septic tank. Make sure all solids fall back into septic tank.
6. Insert the filter cartridge back into the housing making sure the filter is properly aligned and completely inserted.
7. Replace and secure septic tank cover.

Outdoor SmartFilter® Alarm
Polylok, Zabel & Best filters accept the SmartFilter® switch and alarm.

Extend & Lok™
Easily installs into existing tanks.

xylem
Let's Solve Water

TECHNICAL BROCHURE
BPE R2

PE

SUBMERSIBLE EFFLUENT PUMP

BUILT IN THE USA
ENGINEERED, ASSEMBLED & TESTED

GOULDS WATER TECHNOLOGY
a xylem brand

FEATURES

- Corrosion resistant construction
- Cast iron body
- Thermoplastic impeller and cover
- Upper sleeve and lower heavy duty ball bearing construction
- Motor is permanently lubricated for extended service life
- Powered for continuous operation
- All ratings are within the working limits of the motor
- Quick disconnect power cord, 20' standard length, heavy duty 16/3 SJTW with 115 or 230 volt grounding plug
- Complete unit is heavy duty, portable and compact
- Mechanical seal is carbon, ceramic, BUNA and stainless steel
- Stainless steel fasteners

APPLICATIONS

Specially designed for the following uses:

- Mound Systems
- Effluent/Dosing Systems
- Low Pressure Pipe Systems
- Basement Draining
- Heavy Duty Sump/Dewatering

SPECIFICATIONS

Pump - General:

- Discharge: 1½" NPT
- Temperature: 104°F (40°C) maximum, continuous when fully submerged.
- Solids handling: ½" maximum sphere.
- Automatic models include a float switch.
- Manual models available.
- Pumping range: see performance chart or curve.

PE31 Pump:

- Maximum capacity: 53 GPM
- Maximum head: 25' TDH

PE41 Pump:

- Maximum capacity: 61 GPM
- Maximum head: 29' TDH

PE51 Pump:

- Maximum capacity: 70 GPM
- Maximum head: 37' TDH

MOTOR

General:

- Single phase, 60 Hz, 115 and 230 volts
- Built-in thermal overload protection with automatic reset
- Class B insulation
- Oil-filled design
- High strength carbon steel shaft

PE31 Motor:

- .33 HP, 3000 RPM
- 115 volts
- Shaded pole design

PE41 Motor:

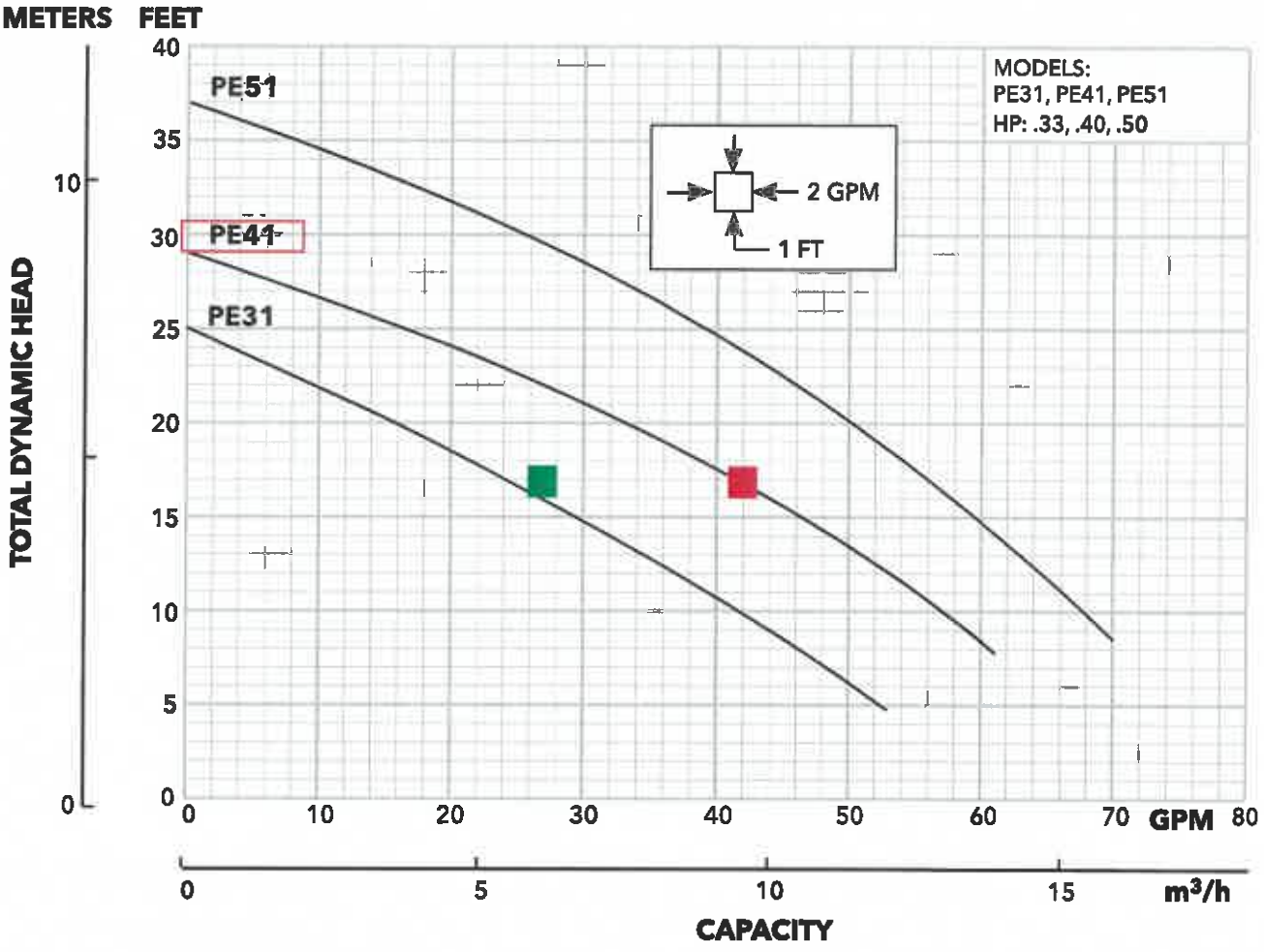
- .40 HP, 3400 RPM
- 115 and 230 volts
- PSC design

PE51 Motor:

- .50 HP, 3400 RPM
- 115 and 230 volts
- PSC design

AGENCY LISTINGS

Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association
File #LR38549



PUMP INFORMATION

Order No.	HP	Volts	Amps	Minimum Circuit Breaker	Phase	Float Switch Style	Cord Length	Discharge Connection	Minimum Basin Diameter	Maximum Solids Size	Shipping Weight lbs/kg
PE31M	0.33	115	12	20	1	Manual / No Switch	20'	1.5"	18"	.5"	31 / 14.1
PE31P1						Piggyback Float Switch					
PE41M	0.4		7.5	15		Manual / No Switch					
PE41P1						Piggyback Float Switch					
PE42P1		230	3.7	10		Piggyback Float Switch					
PE51M	0.5	115	9.5	20		Manual / No Switch					
PE51P1						Piggyback Float Switch					
PE52M		230	4.7	10		Manual / No Switch					
PE52P1						Piggyback Float Switch					

PERFORMANCE RATINGS

PE31

Total Head (feet of water)	GPM
5	52
10	42
15	29
20	16
25	0

PE41

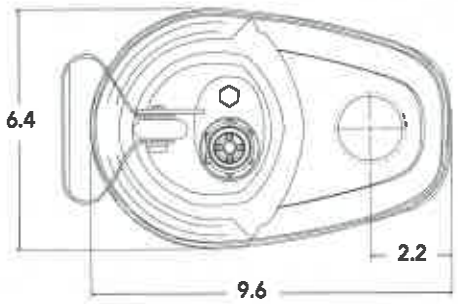
Total Head (feet of water)	GPM
8	61
10	57
15	46
20	33
25	16

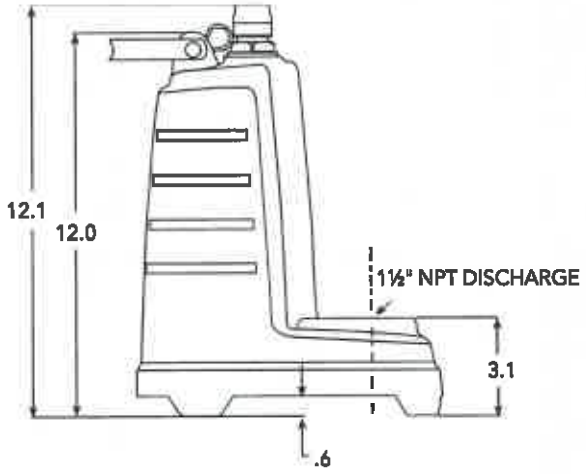
PE51

Total Head (feet of water)	GPM
10	67
15	59
20	50
25	39
30	26
35	8

DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)





xylem
Let's Solve Water

Xylem Inc.
2881 East Bayard Street Ext., Suite A
Seneca Falls, NY 13148
Phone: (866) 325-4210
Fax: (888) 322-5877
www.xylem.com/goulds

SITE RESEARCH

Pay Property Tax

Pay Property Taxes

Online payment service is provided by CORE Business Technologies.
You can pay by check, credit card or debit card.
CORE Business Technologies charges a service fee which is applied directly to your payment.
- E-check: $1 per transaction
- Credit card or debit card: 2.49% per transaction

For payment history, please see Tax Transaction History

Summary View

Parcel ID	173022430006
Parcel Status	Active
Property Address	4 DOVE LN NORTH OAKS MN 55127-2507
Sec/Twp/Rng	17/30/22
Brief Tax Description	REGISTERED LAND SURVEY 121 SUBJ TO AND WITH PVT RD ESMTS TRACT M (Note: Not to be used on legal documents)
Parcel Area	0.5739
Parcel Width	0 Feet
Parcel Depth	0 Feet (Note: Width and Depth represent buildable area of lot in the case of irregularly shaped lots)
Tax Classification	1A/1B/4BB RESIDENTIAL SINGLE UNIT;
Homestead Status	Non homestead
Roll Type	Real Property
Municipality	NORTH OAKS
District Code	6740 For homestead vs non-homestead tax calc - use District code above - click here
School District	ISD #624
Watershed	N/A
TIF District	
Land Use Code	510 SINGLE FAMILY DWELLING, PLATTED LOT * The Tax Classification is the Assessor Office's determination of the use of the property and is not the same as the property's zoning. * Please contact the zoning authority for information regarding zoning. * To determine whether your property is Abstract or Torrens, call 651-266-2050

Taxpayers

Please refer to disclaimer at bottom of this page

Type	Name	Address
Owner	James W. Christiansen	4 Dove Ln North Oaks MN 55127-2507

Current Tax Year

*Information listed is as of yesterday. For specific payoff information contact Property Tax Info at 651-266-2000
See Tax Transaction History for payment and/or adjustment information.

First Half Due 05-15-2023		Second Half Due 10-16-2023	
Amount Due	$0.00	Amount Due	$2,304.00
Penalty & Fees Due (thru current month)	$0.00	Penalty & Fees Due (thru current month)	$0.00
Balance Due	$0.00	Balance Due	$2,304.00

Total Due $2,304.00

Tax Summary

For payment history, please see Tax Transaction History

		2023 Payable	2022 Payable	2021 Payable	2020 Payable	2019 Payable
	Estimated Market Value	$382,900	$336,900	$326,000	$325,500	$261,800
	Taxable Market Value	$382,900	$336,900	$326,000	$317,600	$248,100
	Net Tax Amount	$4,371.20	$4,126.76	$3,933.69	$4,129.85	$3,005.21
+	Special Assessments	$236.80	$2,411.24	$1,344.31	$520.15	$568.79
=	**Total Taxes**	$4,608.00	$6,538.00	$5,278.00	$4,650.00	$3,574.00
+	Penalty	$0.00	$0.00	$0.00	$0.00	$0.00
+	Interest	$0.00	$0.00	$0.00	$0.00	$0.00
+	Fees	$0.00	$0.00	$0.00	$0.00	$0.00
-	Amount Paid	$2,304.00	$6,538.00	$5,278.00	$4,650.00	$3,574.00
=	**Outstanding Balance**	$2,304.00	$0.00	$0.00	**$0.00**	**$0.00**

Special Assessments

Note: + sign indicates a multiple year assessment. Click on the + to view additional years.

Assess #	Year	Description	Initial Amount	Principal	Interest	Installment Amount	Remaining Balance	Deferred
R672399960	2023	RECYCLING	$175.00	$0.00	$0.00	$175.00	$0.00	No
S032023100	2023	Storm Water Utility	$61.80	$0.00	$0.00	$61.80	$0.00	No

Note: Installment amount is the amount that will be included in the property tax total for the referenced payable year.
Remaining Balance is the amount eligible for prepayment. Prepayment must be paid in full by November 15th of the current year.
Please call the City of Saint Paul General Assessment line for payoff amounts or additional information concerning any Saint Paul assessment. You can reach them at 651-266-8858 or go to Assessment Lookup.

Suburban property owners should call 651-266-2000 for detailed assessment information.

Tax Transaction History

Tax Year	Business Date	Effective Date	Transaction Type	Tax Amount	Special Assessment	Penalty	Interest	Fees	Overpayment	Total
2023	5/15/2023	5/15/2023	Payment	($2,185.60)	($118.40)	$0.00	$0.00	$0.00	$0.00	($2,304.00)
2023	3/1/2023	3/1/2023	Original	$4,371.20	$236.80	$0.00	$0.00	$0.00	$0.00	$4,608.00
2022	10/18/2022	10/17/2022	Payment	($2,063.38)	($1,205.62)	$0.00	$0.00	$0.00	$0.00	($3,269.00)
2022	5/12/2022	5/3/2022	Payment	($2,063.38)	($1,205.62)	$0.00	$0.00	$0.00	$0.00	($3,269.00)
2022	3/2/2022	3/2/2022	Original	$4,126.76	$2,411.24	$0.00	$0.00	$0.00	$0.00	$6,538.00
2021	10/9/2021	10/9/2021	Payment	($1,966.84)	($672.16)	$0.00	$0.00	$0.00	$0.00	($2,639.00)
2021	5/7/2021	5/7/2021	Payment	($1,966.85)	($672.15)	$0.00	$0.00	$0.00	$0.00	($2,639.00)
2021	2/22/2021	2/22/2021	Original	$3,933.69	$1,344.31	$0.00	$0.00	$0.00	$0.00	$5,278.00

Sales

Date	eCRV #	Sale Price	State Study Recommendation	State Study Reject Reason	Cnty Stdy Rec
1/14/2005		$367,000	Y		Y
2/11/2022		$0			
10/28/2022	1484672	$400,000	N	15-DISTRESSED OR FORCED SALE	N

Statements and Notices

2023
Value Notice
Tax Statement
Payment Stubs
Proposed Tax Statement

2022
Value Notice
Tax Statement
Payment Stubs
Proposed Tax Statement

2021
Value Notice
Tax Statement
Payment Stubs
Proposed Tax Statement

2020
Value Notice
Tax Statement
Payment Stubs
Proposed Tax Statement

2019
Value Notice
Tax Statement
Payment Stubs
Proposed Tax Statement

State of Minnesota

The Property Tax Refund Program is administered by the State of Minnesota. For information regarding the program, please call 651-296-3781.

Form M1PR(Property Tax Refund)

4 Dove Lane, North Oaks

Custom Soil Resource Report
Soil Map

Ramsey County, Minnesota

123—Dundas fine sandy loam

Map Unit Setting

National map unit symbol: 1t97z
Elevation: 700 to 1,600 feet
Mean annual precipitation: 28 to 36 inches
Mean annual air temperature: 39 to 48 degrees F
Frost-free period: 120 to 170 days
Farmland classification: Prime farmland if drained

Map Unit Composition

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

Description of Dundas

Setting

Landform: Drainageways on moraines, flats
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Till

Typical profile

Ap - 0 to 9 inches: fine sandy loam
E - 9 to 13 inches: sandy clay loam
Btg - 13 to 45 inches: sandy clay loam
Cg - 45 to 60 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: About 6 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Available water supply, 0 to 60 inches: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F090AY006WI - Wet Loamy Lowland
Forage suitability group: Level Swale, Acid (G090XN005MN)
Other vegetative classification: Level Swale, Acid (G090XN005MN)
Hydric soil rating: Yes

Minor Components

Cathro

Percent of map unit: 5 percent

Landform: Depressions
Hydric soil rating: Yes

Bluffton

Percent of map unit: 5 percent
Landform: Depressions on moraines
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Hayden

Percent of map unit: 5 percent
Hydric soil rating: No

132C—Hayden fine sandy loam, 6 to 12 percent slopes

Map Unit Setting

National map unit symbol: 1t981
Elevation: 700 to 1,600 feet
Mean annual precipitation: 28 to 36 inches
Mean annual air temperature: 39 to 48 degrees F
Frost-free period: 120 to 170 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hayden and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hayden

Setting

Landform: Moraines
Landform position (two-dimensional): Shoulder
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Till

Typical profile

Ap - 0 to 4 inches: fine sandy loam
E - 4 to 12 inches: fine sandy loam
Bt - 12 to 42 inches: clay loam
C - 42 to 60 inches: loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F090AY015WI - Loamy Upland with Carbonates
Forage suitability group: Sloping Upland, Acid (G090XN006MN)
Other vegetative classification: Sloping Upland, Acid (G090XN006MN)
Hydric soil rating: No

Minor Components

Braham

Percent of map unit: 3 percent
Hydric soil rating: No

Bluffton

Percent of map unit: 3 percent
Landform: Depressions on moraines
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Rifle

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

Nessel

Percent of map unit: 2 percent
Hydric soil rating: No

225—Nessel fine sandy loam, 1 to 4 percent slopes

Map Unit Setting

National map unit symbol: 1t98w
Elevation: 1,000 to 1,300 feet
Mean annual precipitation: 28 to 36 inches
Mean annual air temperature: 39 to 48 degrees F
Frost-free period: 120 to 170 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Nessel and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nessel

Setting

Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Till

Typical profile

A - 0 to 4 inches: fine sandy loam
E - 4 to 13 inches: fine sandy loam
Bt - 13 to 41 inches: loam
C - 41 to 60 inches: fine sandy loam

Properties and qualities

Slope: 1 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Available water supply, 0 to 60 inches: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C
Ecological site: F090AY015WI - Loamy Upland with Carbonates
Forage suitability group: Sloping Upland, Acid (G090XN006MN)
Other vegetative classification: Sloping Upland, Acid (G090XN006MN)
Hydric soil rating: No

Minor Components

Braham

Percent of map unit: 4 percent
Hydric soil rating: No

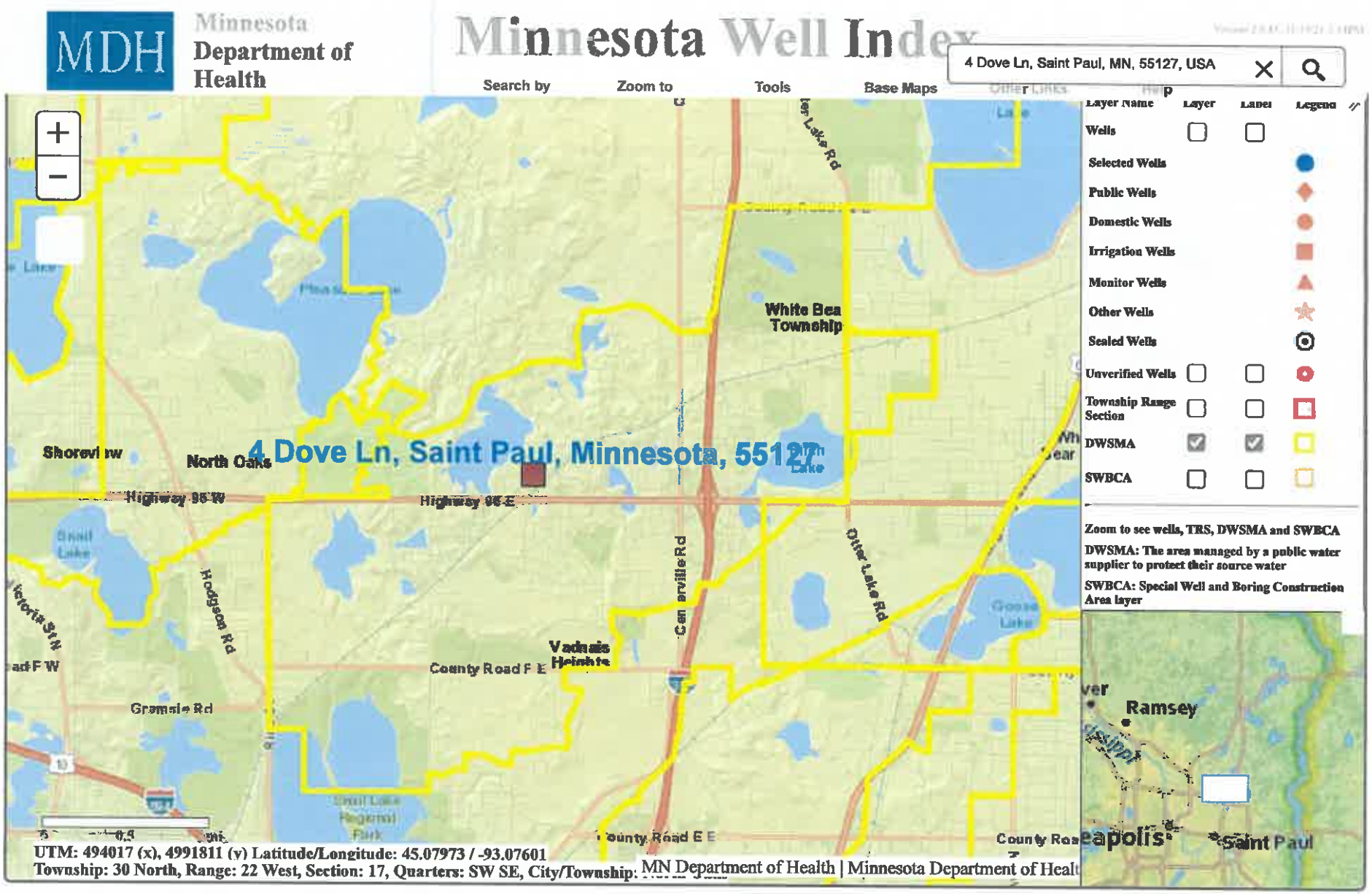
Hayden

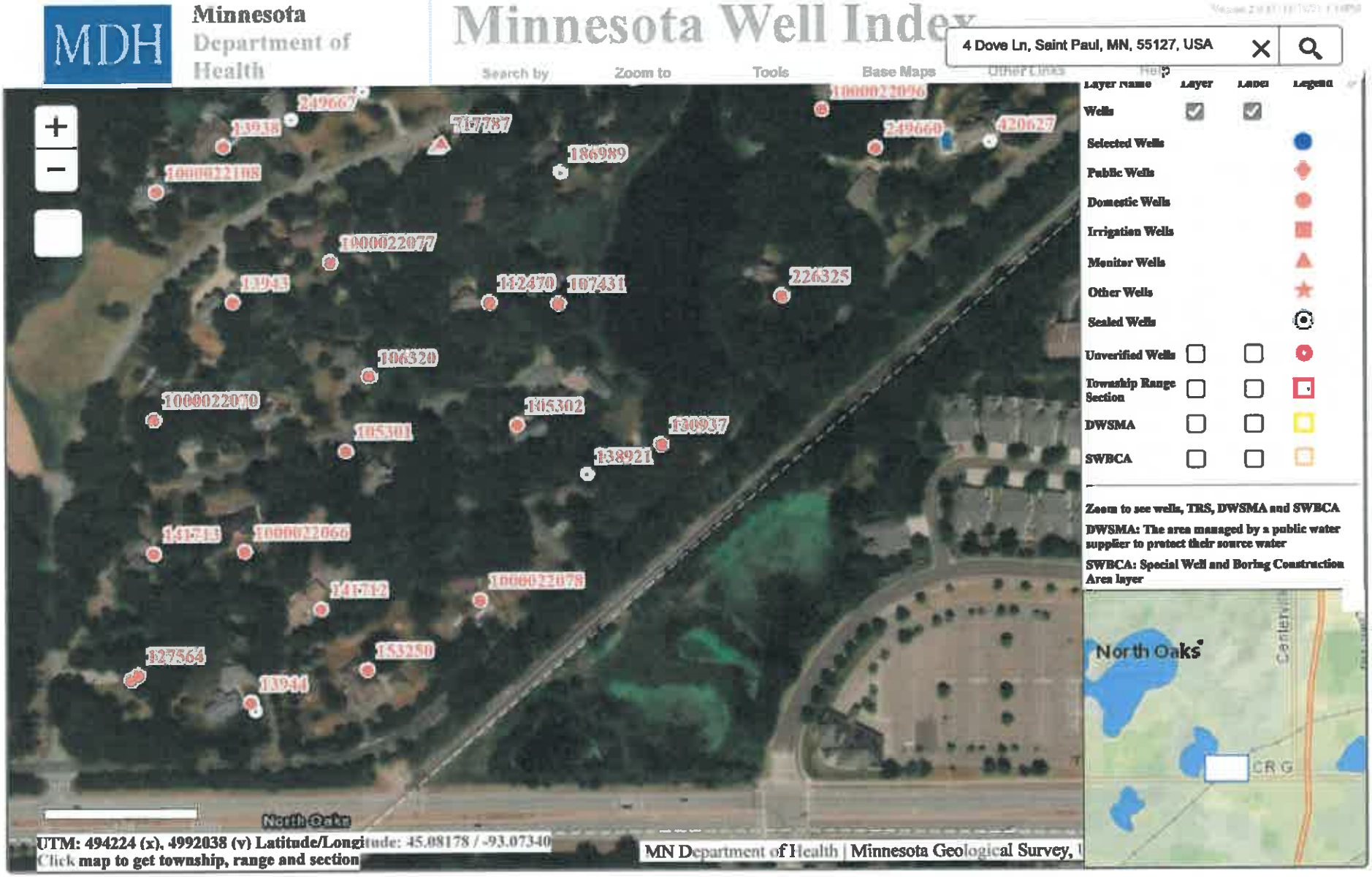
Percent of map unit: 3 percent
Hydric soil rating: No

Dundas

Percent of map unit: 3 percent
Landform: Drainageways on moraines, flats
Hydric soil rating: Yes

Septic Tank Absorption Fields (MN)–Ramsey County, Minnesota							
Map symbol and soil name	Pct. of map unit	Septic Tank Absorption Fields - At-Grade		Septic Tank Absorption Fields - Mound		Septic Tank Absorption Fields - Trench	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
123—Dundas fine sandy loam							
Dundas	85	Extremely limited		Very limited		Extremely limited	
		Soil saturation	0.99	Soil saturation	0.88	Soil saturation	1.00
						Restricted percolation	0.07
132C—Hayden fine sandy loam, 6 to 12 percent slopes							
Hayden	90	Slightly limited		Very limited		Slightly limited	
		Slope	0.05	Slope	0.85	Slope	0.05
225—Nessel fine sandy loam, 1 to 4 percent slopes							
Nessel	90	Moderately limited		Slightly limited		Extremely limited	
		Soil saturation	0.72	Slope	0.02	Soil saturation	1.00


MDH
Minnesota Department of Health
Minnesota Well Index
4 Dove Ln, Saint Paul, MN, 55127, USA
Search by
Zoom to
Tools
Base Maps
Other Links
Help
4 Dove Ln, Saint Paul, Minnesota, 55127
White Bea Township
Shoreview
North Oaks
Highway 96 W
Highway 96 E
Hodgson Rd
Victoria St N
Gramsie Rd
County Road F E
Vadnais Heights
Centerville Rd
Otter Lake Rd
Bear Lake Rd
Goose Lake
Ramsey
Saint Paul
Layer Name
Layer
Label
Legend
Wells
Selected Wells
Public Wells
Domestic Wells
Irrigation Wells
Monitor Wells
Other Wells
Sealed Wells
Unverified Wells
Township Range Section
DWSMA
SWBCA
Zoom to see wells, TRS, DWSMA and SWBCA
DWSMA: The area managed by a public water supplier to protect their source water
SWBCA: Special Well and Boring Construction Area layer
UTM: 494017 (x), 4991811 (y) Latitude/Longitude: 45.07973 / -93.07601
Township: 30 North, Range: 22 West, Section: 17, Quarters: SW SE, City/Township:
MN Department of Health | Minnesota Department of Healt


MDH
Minnesota Department of Health
Minnesota Well Index
Search by
Zoom to
Tools
Base Maps
Other Links
Help
4 Dove Ln, Saint Paul, MN, 55127, USA
Layer Name
Layer
Label
Legend
Wells
Selected Wells
Public Wells
Domestic Wells
Irrigation Wells
Monitor Wells
Other Wells
Sealed Wells
Unverified Wells
Township Range Section
DWSMA
SWBCA
Zoom to see wells, TRS, DWSMA and SWBCA
DWSMA: The area managed by a public water supplier to protect their source water
SWBCA: Special Well and Boring Construction Area layer
249667
13938
717787
186989
1000022096
249660
420627
1000022108
1000022077
13943
142470
107431
226325
106320
1000022070
105302
105301
130937
138921
141715
1000022066
141712
1000022078
127564
153250
13944
North Oaks
North Oaks
CR G
UTM: 494224 (x), 4992038 (y) Latitude/Longitude: 45.08178 / -93.07340
Click map to get township, range and section
MN Department of Health | Minnesota Geological Survey,

Septic systems 101

Facts about subsurface sewage treatment systems

Subsurface sewage treatment systems (SSTS), commonly known as septic systems, are soil-based treatment systems used by homes and businesses that are not connected to municipal sewers. The systems treat and dispose of wastewater generated on-site. More than 500,000 septic systems are in use in Minnesota, which includes 30% of the state's households. Septic systems treat approximately 25% of wastewater generated in the state.

Wastewater contains sewage, which includes bacteria, viruses, parasites, nutrients, and some chemicals. Correctly treating and disposing of wastewater is critical to protecting public health and the environment. More than two-thirds of Minnesotans get their drinking water from groundwater, and poorly built or ill-functioning septic systems can contaminate groundwater and other water resources. When constructed and maintained properly, septic systems are highly effective at treating sewage and keeping Minnesota's groundwater, lakes, and rivers safe and clean.

How septic systems work

SSTS treat sewage with a combination of biological, physical, and chemical processes. A system's design must account for several factors:

- The amount of daily wastewater generated on site
- Using gravity or a pump for distribution
- The site's soil conditions
- The need for developing a biological layer (biomat)

A typical SSTS includes a septic tank and a soil-based treatment system where liquid waste can come in contact with soils.

The septic tank

Sewage is piped from a home or business into a buried, watertight septic tank, which is sized to retain wastewater for 24 to 36 hours. The time allows the wastewater to separate into three layers in the tank:

- Solids sink to the bottom
- Greases, fats, and soaps float to the top
- The remaining liquid (effluent) flows out to the drainfield for final treatment

Baffles in the tank at the inlet and outlet help prevent the top and bottom layers from moving to the drainfield, where they can clog distribution pipes and cause premature drainfield failure. Over time, these layers will accumulate, and must be pumped out of the tank at regular intervals.

Anaerobic bacteria (bacteria that doesn't need oxygen) in the tank begin the process of breaking down organic matter in the sewage. But microorganisms and pathogens remain. Research shows that effluent leaving the septic tank contains high counts of bacteria (about 1,000,000 colonies per 100 ml) that must be further treated in the soil.

The drainfield/soil treatment system

The effluent from the septic tank moves to the soil treatment system, such as a mound, trench, or at-grade drainfield. A trained SSTS professional must take soil types and other factors into account when designing the correct type of septic system for a specific site.

The effluent moves either by gravity or using a pump, through distribution pipes in the soil treatment system, and down through the distribution medium to its base where the distribution medium meets the underlying soil. That's where a sticky biological layer (biomat) forms. The biomat slows the infiltration of effluent into the underlying unsaturated soil, and further filters out pathogens and solids. The biomat can slow effluent movement to as much as 100 times less than its normal flow rate; this helps maximize the contact time between the effluent and the surrounding soil particles.

Soil particles are negatively charged. Through a process called adsorption, they attract and hold the positively charged pathogens in the effluent. Once held, the pathogens are easily available to the aerobic bacteria in the air pockets between the soil particles. The aerobic bacteria, which are much more efficient than the anaerobic bacteria in the septic tank, continue treatment. Other forms of bacteria also begin to grow, producing slimy films over the soil particles, which act as additional filters to "grab" pathogens.

It is important to properly site the SSTS with the existing soil conditions to ensure maximum treatment occurs. If the site is not optimal for treatment (e.g., it has a high seasonal water table), it won't offer effective soil treatment and the risk of contamination increases.

SSTS regulations in Minnesota

The 1968 Minnesota Shoreland Act required septic systems to be evaluated and managed properly within shoreland areas to better control their impact on water quality. But the first state law specifically addressing septic systems wasn't enacted until 1994: the Individual Sewage Treatment Systems (ISTS) Act (Minn. Stat. §§ 115.55 and 115.56). It requires all new construction and replacement septic systems to meet minimum standards. It also enacted a system to upgrade failing existing SSTS before construction of an additional bedroom, and methods to replace failing SSTS within certain timeframes. The 1994 act has been amended in recent years, with major changes in 1996 and 2008. Regulations will continue to be amended as the SSTS industry advances.

More information

Visit the Minnesota Pollution Control Agency website at http://www.pca.state.mn.us.

Septic system DO's and DON'Ts

A quick reference guide to extend the life of your septic system

A properly constructed and maintained system can last a long time if you follow some common septic system DO's and DON'Ts:

- ✓ **DO** conserve water and fix leaks quickly. Installing high efficiency appliances, such as washers and low-flow toilets, can extend the life of your system while leaky faucets can limit your system's capacity. If you have periods of high water use, talk to a septic professional about helping your system manage the spikes.
- ✓ **DO** have your septic tank routinely serviced as specified by a licensed professional.
- ✓ **DO** regularly check the condition of your septic system and any access covers. Unsecured or unsafe lids can be dangerous to children or pets; falling into a septic tank can be fatal.
- ✓ **DO** keep your septic tank cover accessible for inspections and pumping. You may wish to install septic tank risers to avoid having to disturb your lawn for every maintenance event.
- ✓ **DO** keep records of repairs, pumping, inspections, permits issued, and other SSTS maintenance activities.
- ✓ **DO** identify the location of your septic tank and drainfield. A sketch or map allows easier navigation to septic system components.
- ✓ **DO** divert water sources such as roof drains, house footing drains, and sump pumps away from the septic system— they shouldn't flow into the system or onto the ground over your system. Excessive water can cause back-ups and premature system failure.
- ✓ **DO** call a licensed professional if you experience problems with your system, or if there are any signs of system failure.

- ✗ **DON'T flush the following items:**
  - Lint or clothing fibers
  - Diapers
  - Cigarette butts
  - Facial tissue
  - Condoms
  - Feminine hygiene products
  - Unused medications
  - Paint or solvents
  - Flammable material
  - Coffee grounds
  - Cat litter
  - Cooking oils and grease
  - "Flushable" wipes or paper towels

  These items will shorten the life of your system and may cause component failures or sewage backups. ONLY human waste and toilet paper should ever be flushed. Minimize use of harsh cleaners, bleach, and antibacterial soaps.
- ✗ **DON'T** drive over or park anything above the septic tank or drainfield. This can limit system life and cause damage.
- ✗ **DON'T** plant deep rooted plants over or near the drainfield. Roots from trees or shrubs may clog and damage drain lines. Plant grass or flowers instead (no vegetables), but don't fertilize, water, or burn them.
- ✗ **DON'T** dig in or build anything on top of your drainfield, particularly playgrounds.
- ✗ **DON'T** make or allow repairs to your septic system without obtaining the required local permits and professional assistance.
- ✗ **DON'T** enter your septic tank. Working in and around a septic tank is dangerous, and gases generated in the tank could be fatal.

Subsurface Sewage Treatment Systems

Non-transferable

Business License

Kloeppner Services & Designs LLC

License # L4043 License Expires: 4/1/2024 Issued: 4/7/2023

Specialty Area(s):

Service Provider
Advanced Designer
Advanced Inspector

Designated Certified Individual(s):

Cert #	Name	Certification Expires:
C8188	Jesse J Kloeppner	11/15/2026

Service Provider, Advanced Designer, Advanced Inspector

MINNESOTA POLLUTION CONTROL AGENCY

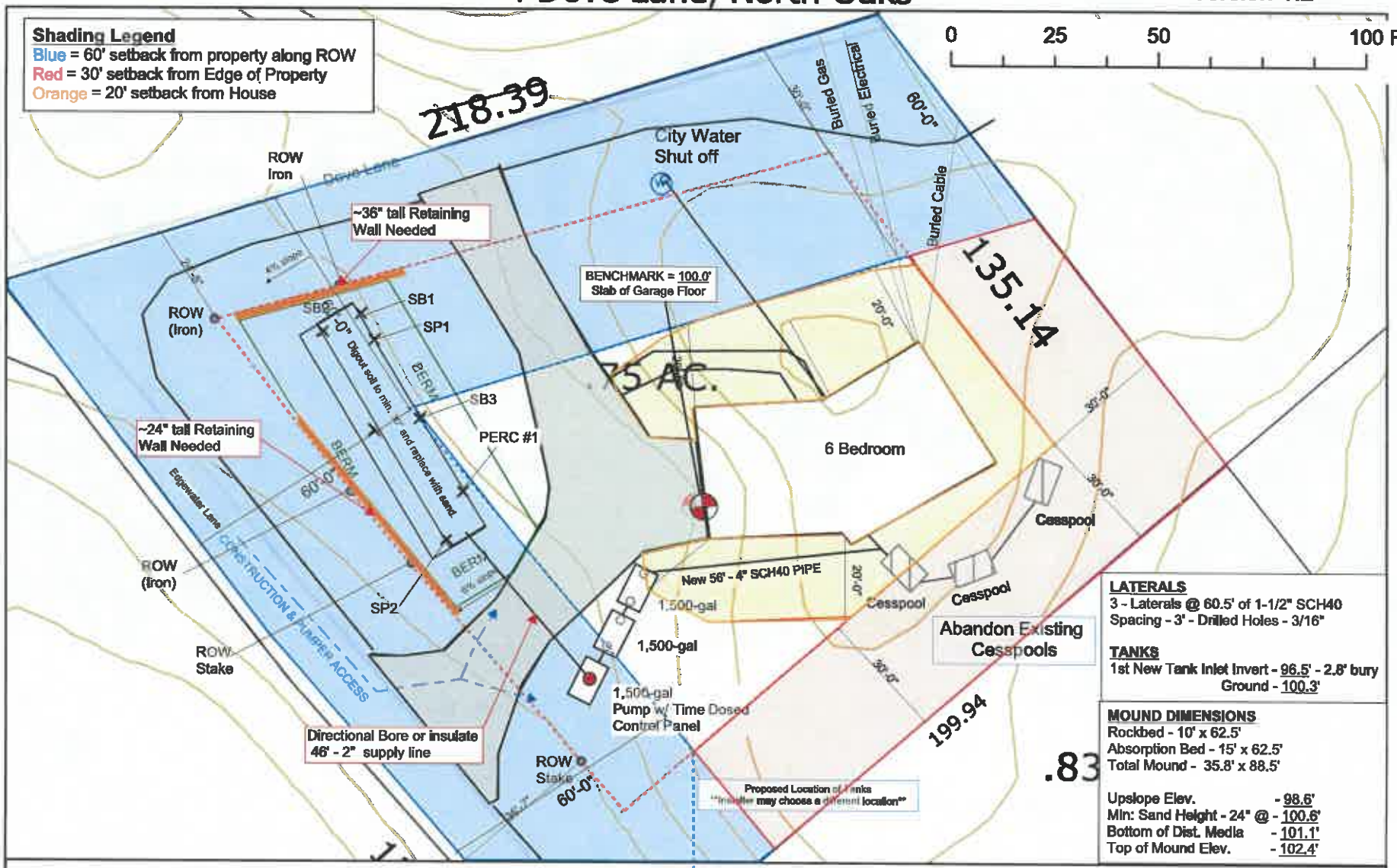
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Nick Haig

Nick Haig, Supervisor
Certification and Training Unit

4 Dove Lane, North Oaks

version 1.2



NOTES:

1. The design is a Type III that will reduce the total flow of the system to use a maximum of 5-bedrooms of peak flow to the soil treatment area (750 GPD). A time dosed controller will be used to restrict the flow from the pump tank to allow for a maximum of 625 gallons of water usage in a 24-hour period. An alarm will be activated if water usage exceeds this flow.
2. Minimum Volumes for New Tanks: 1st Tank 1,500-gallons; 2nd Tank 1,500-gallons; Pump Tank 1,500-gallons.
3. The location for the sewage tanks is only proposed. If tanks are placed more than 15' from proposed location, contact KSD to discuss options.
4. Remove top layer of soil to expose sandy soil to a minimum depth of 30" and replace with washed mound sand before construction of the mound.
5. The berms will not extend into the ROW. Retaining walls must be built on the North and West ends of the mound berms to keep off the ROW.
6. The pump supply line will cross under the driveway. Frost protection measures must be considered to avoid the line freezing.

- THIS IS ONLY A SITE PLAN
- ALL SEPTIC LOCATIONS AND MEASUREMENTS ARE ONLY ESTIMATES
- AS-BUILT WILL NEED TO BE PROVIDED BY INSTALLER AFTER CONSTRUCTION

KSD

Kloeppner Services & Designs, LLC
Lic # 4043

LEGEND:
W = Well
SB = Soil Boring
SP = Soil Pit
= Benchmark

NORTH

Approved by: Jesse Kloeppner

Date - 10/26/23

CITY OF
NorthOaks
Building on a tradition of innovation

PLANNING REPORT

TO: North Oaks Planning Commission

FROM: Kendra Lindahl, City Planner
Kevin Kress, City Administrator
Bridget Nason, City Attorney

DATE: February 29, 2024

RE: **Public Hearing.** Amending City Code Title XV, Chapter 151, Regarding Garage Definitions And Garage Size Standards

BACKGROUND

A working group made up of Chair Cremons, Council member Azman and staff is meeting monthly to address a number of zoning ordinance sections that have been identified by staff, the Planning Commission and City Council as in need of review and potential amendment. Staff will bring individual items to the Planning Commission on a regular basis to present amendments for consideration. This month we are bringing garage size back for discussion.

The Planning Commission reviewed this item at the September 28th meeting, the October 26th meeting and the November 30th meeting. The draft ordinance was developed by the working group based on Planning Commission feedback.

ISSUES AND ANALYSIS

The City requires a conditional use permit for garages exceeding 1,500 sq. ft.

City Code Section 151.005 defines a garage as “An accessory building or accessory portion of the main building which shall not exceed 1,500 square feet.”

Since 2015, the City has received 15 applications for a conditional use permit to exceed this limit. Only one of those applications has been denied. If the City is comfortable with larger garages (as the history suggests), it is time to consider modifying the standards to reflect the current market and the City’s comfort with larger garages.

It is important to ensure that garages are in scale with the home to avoid the appearance of a garage with an attached house. There are a number of tools available to manage garage size including limits to the square footage or front elevation.

Definitions

The current City Code definitions should not include performance standards. Staff recommends the following changes with underlined text for the proposed additions to the City Code and ~~struck through~~ text for the deletions:

> ACCESSORY BUILDING, STRUCTURE, OR USE. A subordinate building, structure, or use which is located on the same lot on which the main building or principal use is situated and which is reasonably necessary and incidental to the conduct of the primary use of the main building or principal use.
>
> CARPORT. An area serving the same purpose as a garage as defined herein, but not entirely enclosed with walls.
>
> GARAGE, PRIVATE. An accessory building (attached or detached) or accessory portion of the main building.
>
> PRINCIPAL BUILDING OR USE. The main use of land or buildings as distinguished from subordinate or accessory uses. A PRINCIPAL USE may be either permitted or conditional.

Garage Size Discussion

The following language is recommended by the working group for approval. The draft language shows underlined text for the proposed additions to the City Code and ~~struck through~~ text for the deletions.

Section 151.050(C) of the City Code (permitted accessory uses):

(C) Permitted accessory uses. The following accessory uses shall be permitted:
(1) Attached or detached private garage and private carport facilities, provided the buildings are constructed in the same architectural style as the principal building or structure and provided that the combined facilities shall not exceed 2,000 square feet;
(2) Private tennis courts and swimming pools, which are maintained for the enjoyment and convenience of the resident of the principal use and their guests;
(3) Buildings and uses accessory to the principal use, small tool houses, sheds for storage of domestic supplies, and noncommercial recreation equipment, provided the buildings are constructed in the same architectural style as the principal building or structure, but accessory dwelling units shall not be permitted;
(4) Noncommercial greenhouses; and
(5) Signs showing residents' name and/or address identification not to exceed 2 square feet and 1 real estate sale sign not to exceed 8 square feet.

Section 151.050 (D)9 of the City Code (conditional uses) would be revised as follows:

(9) Garage which exceeds 2,000 square feet, provided that:

(a) The garage shall not exceed 3,000 square feet;

(b) The garage shall be constructed in the same architectural style as the principal building or structure;

(c) The square footage of floor area of the garage will be included in the calculation of the floor area ratio for the property. The floor area ratio shall not exceed 0.12 or the maximum floor area ratio permitted by the subdivision approval;

(d) No use of the garage shall be permitted other than for private residential noncommercial use; and

(e) The factors set forth in § 151.076(C) shall be considered.

Attached for reference:

Exhibit A: Draft Ordinance amending Chapter 151

Exhibit B: Zoning Map

PLANNING COMMISSION OPTIONS

The Planning Commission has the following options:

1. **Move to recommend approval** of the ordinance amendment as drafted.
2. **Move to recommend approval** of the ordinance amendment with modifications.
3. **Move to recommend denial** of the amendment with findings for denial.
4. **Recommend continuance** of the application based on the need for more information.

CITY OF NORTH OAKS
RAMSEY COUNTY, MINNESOTA

ORDINANCE NO. ____

AN ORDINANCE AMENDING CITY CODE TITLE XV, CHAPTER 151, REGARDING BUILDING HEIGHT

THE CITY COUNCIL OF THE CITY OF NORTH OAKS ORDAINS AS FOLLOWS:

Section One. Title XV, Chapter 151 Amendment: Title XV, Chapter 151, Section 151.050(D)(7) of the North Oaks City Code is hereby amended as follows. The underlined text shows the proposed additions to the City Code and the ~~struck through~~ text shows the deletions:

(7) Buildings with a height greater than 35 feet, provided that:

(a) The front elevation of the building does not exceed 35 feet in height at any point;

(b) The building height at any other elevation does not exceed 45 feet. Chimneys, weather vanes and the like shall not be counted as an element of building height;

(c) The environmental and topographical conditions of the lot prior to building development or grading are naturally suited to the design of a building with an egress or walkout level. "Naturally suited" shall be defined as applying to lots that meet at least the following criteria:~~;~~

i. A lot shall meet all current stormwater regulations;

ii. A house should have a 3-foot minimum elevation difference from the basement finished floor elevation to the groundwater elevation, as determined by a geotechnical engineer by a soils investigation;

iii. A natural slope in the topography exists prior to any construction, grading or improvements that organically accommodates a home design with an egress or walkout level and no artificial topographical grade change in excess of 6 feet in total is required or created; and

~~i.~~iv. Any other factors exist that demonstrate the proposed building is compatible with the natural condition of the land prior to any construction, grading or improvements;

~~(c)~~(d) Buildings shall be limited to a basement and 2 full stories. Finished areas within the roof structure will be considered a full story;

~~(d)~~(e) Any time any portion of a building exceeds 35 feet in height and that portion is within 50 feet of an adjacent side or rear lot line, the setback requirement applicable to that portion of the building relative to that lot line shall be increased by 2 feet for each foot in height (or portion thereof) above 35 feet. For example, if a portion of a planned building is 44 feet in height and that portion is less than 50 feet from a side or rear lot line, the typical 30 foot setback requirement for that portion of the building would be increased by 18 feet to a minimum 48 foot setback~~Any time the side or rear elevations of a building exceeds 35 feet in height within 50 feet of adjacent lot lines, the building~~

~~line shall be setback an additional 2 feet from the adjacent setback line for each foot in height above 35 feet~~; and

~~(e)~~(f) Section 151.083 is complied with.

Section Two. Effective Date. This Ordinance shall be in full force and effect upon its adoption and publication as provided by law.

Passed in regular session of the City Council on the ____day of _____, 2024.

CITY OF NORTH OAKS

By: _____

Krista Wolter, Mayor

Attested:

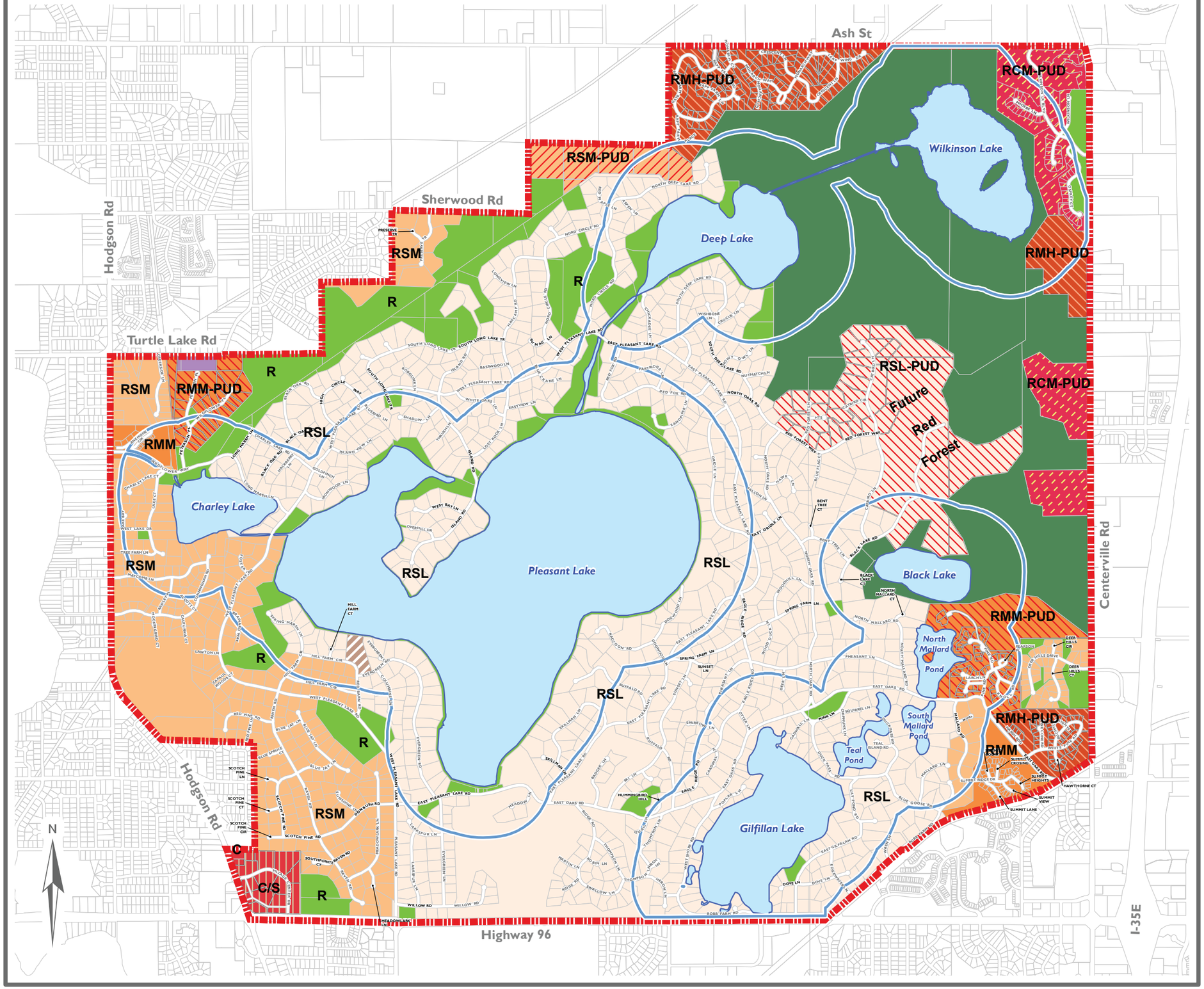
By: _____

Kevin Kress
City Administrator/City Clerk

(Published in the Shoreview Press on February 13, 2024)

MAP 8

Existing Zoning Districts Map



- **OS** (Open Space)
- **RSL** (Residential Single Family - Low Density)
- **RSL-PUD** (Residential Single Family - PUD)
- **RSM** (Residential Single Family - Medium Density)
- **RSM-PUD** (Res. Single Fam. - Med. Density - PUD)
- **RMM** (Residential Multiple Family Medium Density)
- **RMM-PUD** (Residential Multiple Family Medium Density - PUD)
- **RMH-PUD** (Residential Multiple Family High Density - PUD)
- **RCM-PUD** (Residential-Commercial Mixed-PUD)
- **C** (Commercial)
- **C/S** (Commercial/Service)
- **LI** (Limited Industrial)
- **R** (Recreation)
- **HP** (Historic Preservation)
- Shoreland District Boundaries

North Oaks Boundary

Source: City Zoning Map as of 5 - 10 - 21

CITY OF
NorthOaks
Building on a tradition of innovation

PLANNING REPORT

TO: North Oaks Planning Commission

FROM: Kendra Lindahl, City Planner
Kevin Kress, City Administrator
Bridget Nason, City Attorney

DATE: February 29, 2024

RE: **Public Hearing.** Amending City Code Title XV, Chapter 151, Regarding Building Height and Setback Standards In The RSL- Residential Single-Family Low Density District

BACKGROUND

A working group made up of Chair Cremons, Council member Azman and staff is meeting monthly to address a number of provisions in the City's existing zoning ordinance that have been identified by staff, the Planning Commission and City Council as areas where revisions to the existing language may be beneficial. Staff will bring individual items to the Planning Commission on a regular basis to present amendments for consideration. This item relates to building height, setbacks and topographical conditions.

The City has been challenged on the existing language related to these items and how to interpret the existing code language. One of the areas the working group has been reviewing is the current requirement for houses with a height greater than 35 feet to obtain a conditional use permit (CUP). Staff believes that this is something that could be moved into development standards rather than requiring a conditional use permit. If the application meets the standards, staff would approve the building permit. However, the Planning Commission directed staff to keep the CUP requirement but modify the standards to raise the threshold for a CUP.

Deb Breen gathered the CUPs for building height and found 59 CUPs for building height were submitted since 2000. Many of these CUPs were tied to new developments where streets and grading were done prior to home construction. In 2006, an application from 8 Mink Lane was submitted and denied. The application was then revised, resubmitted and approved. Also, it appears that some blanket approvals for greater permitted building heights (45-47 feet) were granted for Rapp Farm and Red Forest Way as part of the East Oaks PDA, eliminating the need for a CUP for houses over 35 feet in height in those developments.

The Planning Commission discussed this issue at length at the October 26th meeting and at the November 30th meeting. This language was developed by the working group based on those discussions.

ISSUES AND ANALYSIS

Section 151.050 (D)(7) of the City Code requires a conditional use permit for buildings with a height greater than 35 feet and establishes the following standards:

(a) The front elevation of the building does not exceed 35 feet in height at any point;
(b) The building height at any other elevation does not exceed 45 feet;
(c) The environmental and topographical conditions of the lot prior to building development are naturally suited to the design of a building with an egress or walkout level;
(d) Buildings shall be limited to a basement and 2 full stories. Finished areas within the roof structure will be considered a full story;
(e) Any time the side or rear elevations of a building exceeds 35 feet in height within 50 feet of adjacent lot lines, the building line shall be setback an additional 2 feet from the adjacent setback line for each foot in height above 35 feet; and
(f) Section 151.083 is complied with.

There has been debate about both items c and e in the standards.

The Commission noted that item (c) was adopted based on the historic North Oaks vision that homes be designed to be part of the land rather than grading a lot to fit a desired home. Staff researched other cities to review how they deal with this issue and found that most cities have general language similar to North Oaks, but the working group did recommend including some language from the City of Gem Lake.

The issue of setbacks has become a source of concern in recent years. Administrator Kress noted that when he speaks with landowners with home taller than 35 feet, most simply design the home to meet the 50-foot setback regardless of which portion of the home exceeds 35 feet. However, in 2022 a landowner challenged the City ordinance interpretation that when any portion of the home exceeds 35 feet, the home must comply with the 50-foot setback on the side and rear. The working group felt that the more liberal interpretation was reasonable and directed staff to prepare language that would clarify the intent to only require the larger setback for those portions of the structure that exceed 35 feet in height.

The working group recommended that the language be modified as follows:

(7) Buildings with a height greater than 35 feet, provided that:
  (a) The front elevation of the building does not exceed 35 feet in height at any point;
  (b) The building height at any other elevation does not exceed 45 feet. Chimneys, weather vanes and the like shall not be counted as an element of building height;
  (c) The environmental and topographical conditions of the lot prior to building development or grading are naturally suited to the design of a building with an egress or walkout level. "Naturally suited" shall be defined as applying to lots that meet at least the following criteria:
    i. A lot shall meet all current stormwater regulations;

ii. A house should have a 3-foot minimum elevation difference from the basement finished floor elevation to the groundwater elevation, as determined by a geotechnical engineer by a soils investigation;
iii. A natural slope in the topography exists prior to any construction, grading or improvements that organically accommodates a home design with an egress or walkout level and no artificial topographical grade change in excess of 6 feet in total is required or created; and
iv. Any other factors exist that demonstrate the proposed building is compatible with the natural condition of the land prior to any construction, grading or improvements;

(d) Buildings shall be limited to a basement and 2 full stories. Finished areas within the roof structure will be considered a full story;

(e) Any time any portion of a building exceeds 35 feet in height and that portion is within 50 feet of an adjacent side or rear lot line, the setback requirement applicable to that portion of the building relative to that lot line shall be increased by 2 feet for each foot in height (or portion thereof) above 35 feet. For example, if a portion of a planned building is 44 feet in height and that portion is less than 50 feet from a side or rear lot line, the typical 30 foot setback requirement for that portion of the building would be increased by 18 feet to a minimum 48 foot setback; and

(f) Section 151.083 is complied with.

Attached for reference:

Exhibit A: Draft Ordinance amending Chapter 151

Exhibit B: Zoning Map

Exhibit C: Setback Exhibits

PLANNING COMMISSION OPTIONS

The Planning Commission has the following options:

1. **Move to recommend approval** of the ordinance amendment as drafted.
2. **Move to recommend approval** of the ordinance amendment with modifications.
3. **Move to recommend denial** of the ordinance amendment with findings for denial.
4. **Recommend continuance** of consideration of the ordinance amendment based on the need for more information.

CITY OF NORTH OAKS
RAMSEY COUNTY, MINNESOTA

ORDINANCE NO. ____

AN ORDINANCE AMENDING CITY CODE TITLE XV, CHAPTER 151, REGARDING BUILDING HEIGHT

THE CITY COUNCIL OF THE CITY OF NORTH OAKS ORDAINS AS FOLLOWS:

Section One. Title XV, Chapter 151 Amendment: Title XV, Chapter 151, Section 151.050(D)(7) of the North Oaks City Code is hereby amended as follows. The underlined text shows the proposed additions to the City Code and the ~~struck through~~ text shows the deletions:

(7) Buildings with a height greater than 35 feet, provided that:

(a) The front elevation of the building does not exceed 35 feet in height at any point;

(b) The building height at any other elevation does not exceed 45 feet. Chimneys, weather vanes and the like shall not be counted as an element of building height;

(c) The environmental and topographical conditions of the lot prior to building development or grading are naturally suited to the design of a building with an egress or walkout level. "Naturally suited" shall be defined as applying to lots that meet at least the following criteria:~~;~~

i. A lot shall meet all current stormwater regulations;

ii. A house should have a 3-foot minimum elevation difference from the basement finished floor elevation to the groundwater elevation, as determined by a geotechnical engineer by a soils investigation;

iii. A natural slope in the topography exists prior to any construction, grading or improvements that organically accommodates a home design with an egress or walkout level and no artificial topographical grade change in excess of 6 feet in total is required or created; and

~~i.~~iv. Any other factors exist that demonstrate the proposed building is compatible with the natural condition of the land prior to any construction, grading or improvements;

~~(c)~~(d) Buildings shall be limited to a basement and 2 full stories. Finished areas within the roof structure will be considered a full story;

~~(d)~~(e) Any time any portion of a building exceeds 35 feet in height and that portion is within 50 feet of an adjacent side or rear lot line, the setback requirement applicable to that portion of the building relative to that lot line shall be increased by 2 feet for each foot in height (or portion thereof) above 35 feet. For example, if a portion of a planned building is 44 feet in height and that portion is less than 50 feet from a side or rear lot line, the typical 30 foot setback requirement for that portion of the building would be increased by 18 feet to a minimum 48 foot setback~~Any time the side or rear elevations of a building exceeds 35 feet in height within 50 feet of adjacent lot lines, the building~~

~~line shall be setback an additional 2 feet from the adjacent setback line for each foot in height above 35 feet~~; and

~~(e)~~(f) Section 151.083 is complied with.

Section Two. Effective Date. This Ordinance shall be in full force and effect upon its adoption and publication as provided by law.

Passed in regular session of the City Council on the ____day of _____, 2024.

CITY OF NORTH OAKS

By: _____

Krista Wolter, Mayor

Attested:

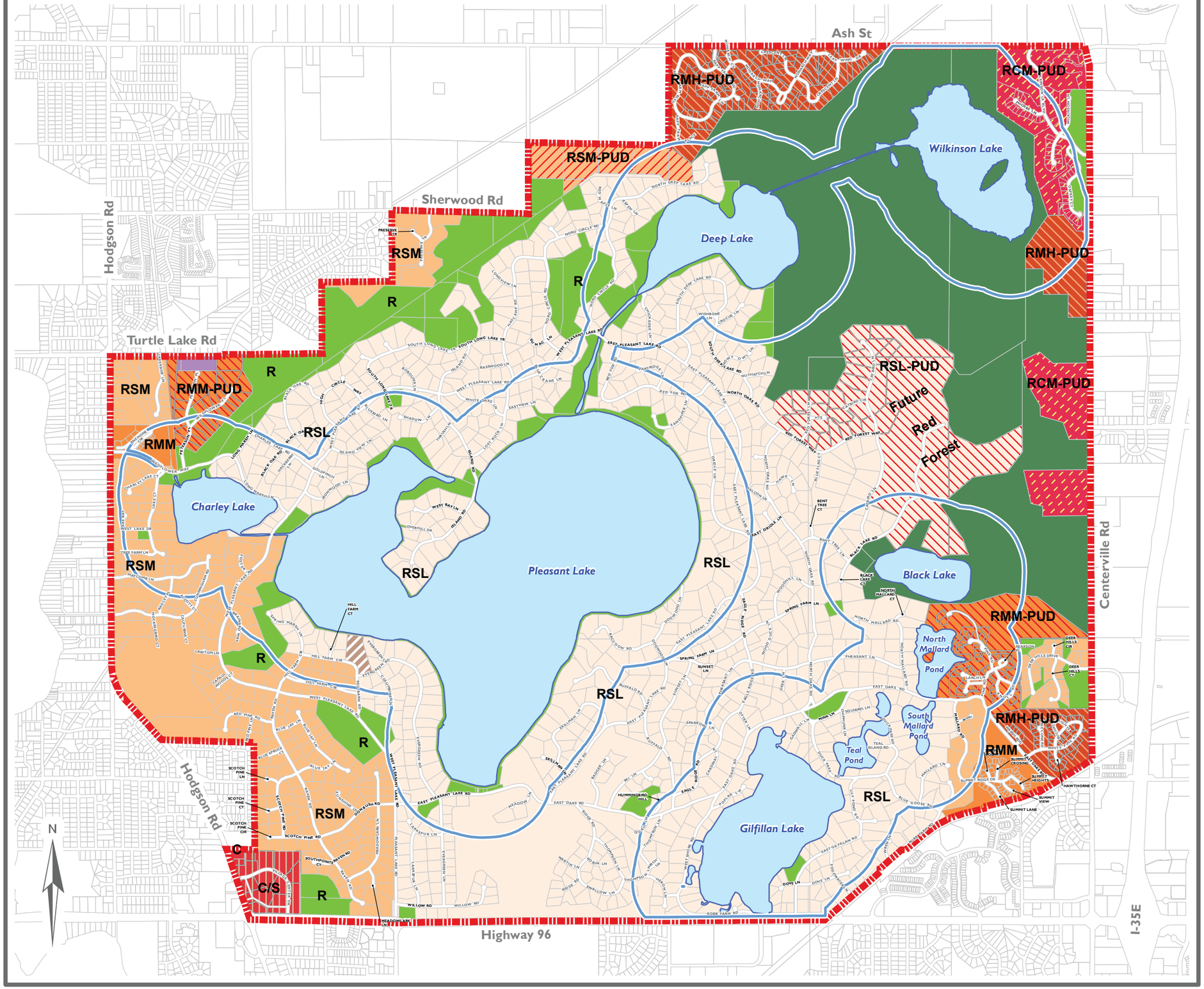
By: _____

Kevin Kress
City Administrator/City Clerk

(Published in the Shoreview Press on February 13, 2024)

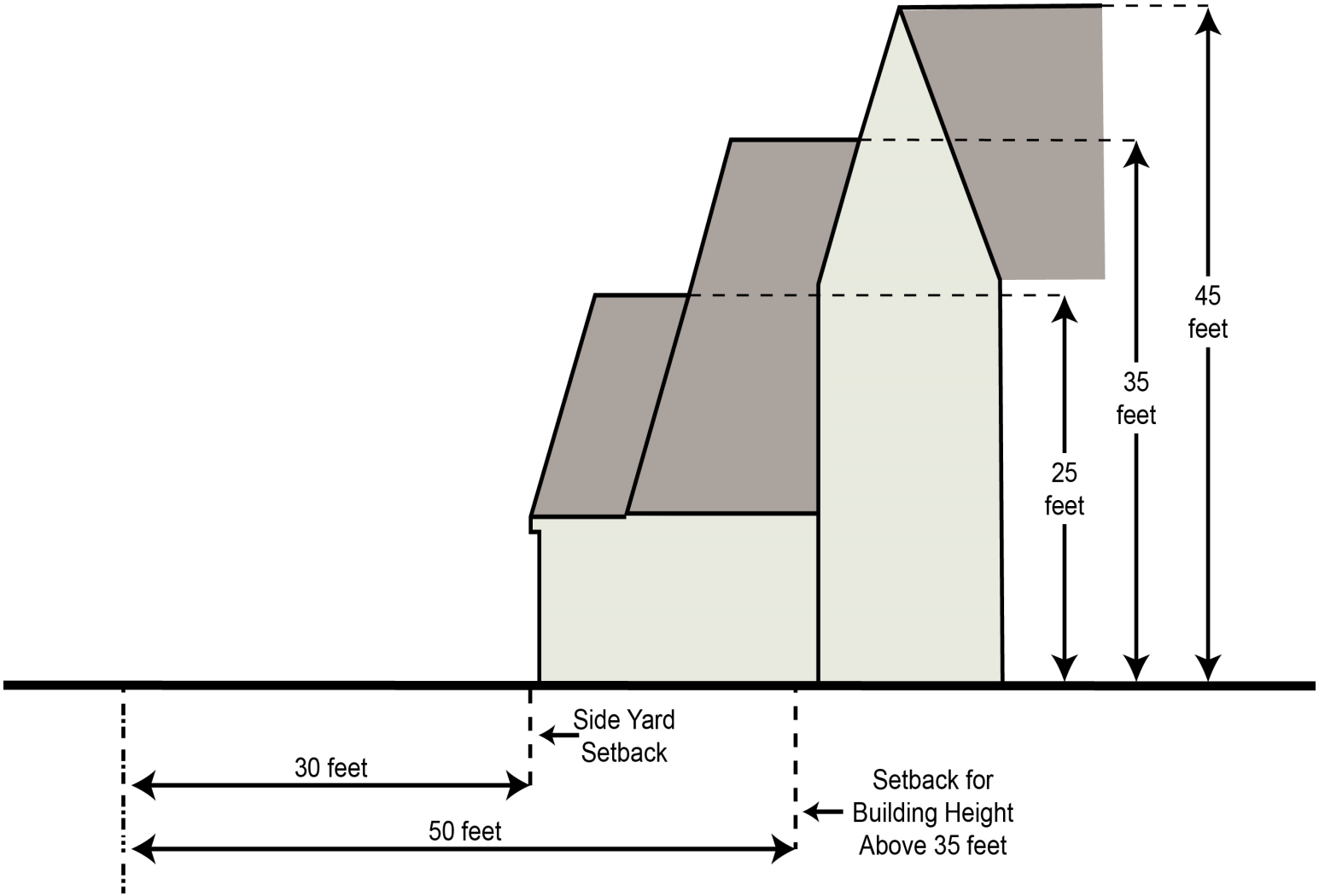
MAP 8

Existing Zoning Districts Map



- **OS** (Open Space)
- **RSL** (Residential Single Family - Low Density)
- **RSL-PUD** (Residential Single Family - PUD)
- **RSM** (Residential Single Family - Medium Density)
- **RSM-PUD** (Res. Single Fam. - Med. Density - PUD)
- **RMM** (Residential Multiple Family Medium Density)
- **RMM-PUD** (Residential Multiple Family Medium Density - PUD)
- **RMH-PUD** (Residential Multiple Family High Density - PUD)
- **RCM-PUD** (Residential-Commercial Mixed-PUD)
- **C** (Commercial)
- **C/S** (Commercial/Service)
- **LI** (Limited Industrial)
- **R** (Recreation)
- **HP** (Historic Preservation)
- Shoreland District Boundaries
- North Oaks Boundary

Source: City Zoning Map as of 5 - 10 - 21



LANDFORM
From Site to Finish

Building Height and Setbacks Exhibit

Ordinance Amendments • North Oaks, MN

11.30.2020

Kennedy & Graven
Fifth Street Towers
150 South Fifth Street, Suite 700
Minneapolis, MN 55402

(612) 337-9245 direct
bnason@kennedy-graven.com

MEMORANDUM

TO: North Oaks Planning Commission Chair and Members

FROM: Bridget Nason, City Attorney

DATE: February 23, 2024

RE: Excessive Noise Ordinance

---

1. Background

State statutes and the City Code prohibit certain excessively loud muffler noises. In addition to loud vehicle noise, concerns have been raised related to other types of loud noise that can disturb the peace within the community. The ordinance working group recently reviewed and discussed options for the City to strengthen its noise regulations to address other types of loud noises that are not currently addressed in the existing City Code. The working group reviewed other cities' ordinances prohibiting excessive noise and has prepared a draft ordinance for Planning Commission review and discussion that would address many of the more common types of nuisance noise. Among other things, the ordinance establishes hours for construction, yard work, and lawn maintenance activities that generate loud noises audible by other residents and carves out exceptions for snow removal and other necessary activities. The Planning Commission is asked to provide direction regarding the proposed prohibitions, acceptable hours for various activities, and related provisions of the ordinance.

2. Requested Planning Commission Action

The Planning Commission is asked to review the attached draft excessive noise ordinance, and make a recommendation to the City Council regarding adoption of the same.

CITY OF NORTH OAKS
RAMSEY COUNTY, MINNESOTA

ORDINANCE NO. ____

AN ORDINANCE AMENDING CITY CODE TITLE XIII, CHAPTER 130, REGARDING UNNECESSARY NOISE

THE CITY COUNCIL OF THE CITY OF NORTH OAKS ORDAINS AS FOLLOWS:

Section One. Title XIII, Chapter 130, Section 130.05 Amendment: Title XIII, Chapter 130, Section 130.05 of the North Oaks City Code is hereby added as follows:

§ 130.05 UNNECESSARY NOISE.

(A) *General Rule:* No person shall make, continue, permit or cause to be made or continued any loud, unusual, or unnecessary noise or any noise within the City that would be likely to annoy, disturb, injure or endanger the comfort, repose, health, peace or safety of a reasonable person of ordinary sensibilities.

(B) *Definition:* For the purposes of this Section, an Unnecessary Noise is defined as follows:

UNNECESSARY NOISE:

(1) Creation of an amplified sound that is audible above the level of conversational speech at a distance of fifty feet (50') or more from the point of origin of the amplified sound. This includes but is not limited to, large assemblies, live music, music from electronic devices, music from motor vehicles, radio, speakers/loudspeakers, horns, and similar devices.

(2) Noises that exceed the standards of the Minnesota Pollution Control Agency.

(3) Discharging the exhaust or permitting the discharge of the exhaust from any motor vehicle except through a muffler that effectively prevents abnormal or excessive noise and complies with all state laws and regulations, or any violation of the provisions of Minnesota Statutes, Section 169.69

(4) The use of domestic power equipment, power tools, landscaping equipment, lawn mowers, and leaf blowers.

(5) Construction-related activity involving:

a. The operation of domestic power equipment, commercial tools, power tools, motorized equipment, landscaping equipment, or demolition equipment; or

b. The construction, remodeling, repair or maintenance of structures, except for work done entirely inside a structure that is not audible on adjacent properties; or

c. The delivery or unloading of equipment and machinery or building, construction, or landscaping materials weighing more than 50 lbs.

The activities described in sections B(4) and B(5) shall not constitute unnecessary noise when conducted between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday, 8:00 a.m. and 6:00 p.m. Saturday, and 9:00 a.m. and 6:00 p.m. on Sundays and legal holidays.

(C) *Exemptions:* The following noise events are exempt from the prohibitions in this section and shall not be considered unnecessary noise:

(1) Fire, police, civil defense, or other emergency signaling devices or vehicles

(2) Garbage, refuse hauling and recycling trucks operating as permitted under the City Code.

(3) Noise created exclusively in the performance of emergency work to preserve the public health, safety or welfare, or in the performance of emergency work necessary to restore a public service, make emergency repairs, or eliminate a hazard.

(4) Snow plowing vehicles.

(5) Domestic snow removal or the use of lawnmowers.

(6) Anti-theft devices, security alarms, and similar systems, when functioning properly.

(7) Church bells, chimes, or other bells, when used for their intended purposes.

(8) The construction of public or private streets, sidewalks, utilities, or other infrastructure is allowed from 7:00 a.m. until 9:00 p.m., Monday through Friday, and at such other times as approved by the City Administrator or their designee.

(9) Construction or repair work conducted in response to a significant storm or other natural disaster, when approved in advance by the Chief Building Official.

(10) All activities and land uses with specific hours of operation that are regulated and approved by the City through a licensing, permitting or zoning process, as long as the activity or use is operating within the designated parameters.

(D) *Responsible Party:* In addition to any person causing unnecessary noise, any owner, tenant, resident, occupant or manager of a building, property location, site or vehicle, who has the legal authority to control the activities constituting unnecessary noise, and who knows or has reason to know of the disturbance or unnecessary noise and fails to immediately take reasonable steps to abate the disturbance or unnecessary noise is guilty of violating this section.

Section Two. Effective Date. This Ordinance shall be in full force and effect upon its adoption and publication as provided by law.

Passed in regular session of the City Council on the _____ day of _____ 2024.

CITY OF NORTH OAKS

By: _____

Krista Wolter, Mayor

Attested:

By: _____

Kevin Kress
City Administrator/City Clerk

(Published in the *Shoreview Press* on _____, 2024)