ST. LOUIS COUNTY PLANNING COMMISSION STAFF REPORT

INSPECTION DATE: 5-18-21 **REPORT DATE: 5-25-21** **MEETING DATE: 6-10-21**

APPLICANT INFORMATION

APPLICANT NAME: Bayview Fireside LLC

APPLICANT ADDRESS: 2001A Bayview Dr. Tower, MN 55790

OWNER NAME: BAYVIEW FIRESIDE LLC and PETERSON ROY & DOROTHY DENISE

SITE ADDRESS: 2001B Bayview Drive, 2001A Bayview Drive, and 1999 Bayview Drive, Tower, MN 55790

LEGAL DESCRIPTION: Lots 23, 24, 25, 26, 27, & 28, Plat of Birchwood, S16, T62N, R16W (Greenwood)

PARCEL IDENTIFICATION NUMBER (PIN): 387-0080-00230, 387-0080-00240, 387-0080-00250, 387-0080-00260, 387-0080-00270, 387-0080-00280

NATURE OF REQUEST: A conditional use permit for multiple rental units and RV sites as a Planned Development Use-Class II.

PROPOSAL DETAILS: The applicant owns six contiguous platted lots on Lake Vermilion next to the Bayview RV Resort. The six lots contain three separate dwellings and three RV sites. Of the three dwellings, two of them are rented and the third one is used as a primary residency by the applicant. The RV sites are primarily used by family and friends, but they are required to be calculated in with the overall density of the parcel under the commercial planned development standards. Approval of a conditional use permit for the request does not require that the RV sites be rented.

PARCEL AND SITE INFORMATION

ROAD ACCESS NAME/NUMBER: Bayview Dr.

ROAD FUNCTIONAL CLASS: Private Rd.

LAKE NAME: Lake Vermilion

LAKE CLASSIFICATION: GD

RIVER NAME: N/A

RIVER CLASSIFICATION: N/A

DESCRIPTION OF DEVELOPMENT ON PARCEL: Development on the property consists of three residential dwellings (two of which are rentals), three RV sites, accessory structures and septic systems.

ZONE DISTRCT: LCO 9

PARCEL ACREAGE: 2.84 Acres

LOT WIDTH: 300 FEET

FEET OF ROAD FRONTAGE: 354 FEET

FEET OF SHORELINE FRONTAGE: 330 FEET

PARCEL AND SITE INFORMATION

VEGETATIVE COVER/SCREENING: The property has good screening from the shoreline with limited screening from adjacent properties.

TOPOGRAPHY: The area within approximately 40 feet of the shoreline on the property is steep with a slope of approximately 50 percent. The rest of the property is fairly flat.

FLOODPLAIN ISSUES: The existing development on the property is several feet above the base flood elevation.

WETLAND ISSUES: It does not appear there are wetland issues on the property.

ADDITIONAL COMMENTS ON PARCEL: The applicant's residence and the rental to the east share a septic system. The rental to the west has its own septic system and there is a holding tank for the RV sites.

FACTS AND FINDINGS

A. Plans and Official Controls:

1. St. Louis County Zoning Ordinance allows a Commercial Planned Development in a LCO zone district with a Conditional Use Permit.
2. The property is located within a Lakeshore Development Area of the Future Land Use map of the Comprehensive Land Use Plan.
    a. This category recognizes the ability of existing recreational or tourist facilities to grow and for new complimentary uses to be developed.
    b. Instrumental to Lakeshore Development Areas is the flexibility to allow for the evolving and eclectic nature of the rural economy.
    c. The St. Louis County Comprehensive Land Use Plan describes the lodging industry as foundational to county tourism.

B. Neighborhood Compatibility:

1. The property adjacent to the east is the remaining portion of Bayview Lodge.
    a. This property was approved a CUP for an RV park as a planned development in December 2018.
2. Much of this general area was part of the historic Bayview Lodge. The proposed planned development fits in with the historic seasonal and transient use in the immediate area.

C. Orderly Development:

1. The cabins have been located on the property for many years.
2. They were old resort cabins from Bayview Lodge.
    a. Each cabin is located on a property that is approximately one acre in size.
    b. Each of these properties, if owned separately, would be allowed one RV in addition to the residential dwelling on each.
3. The rental of these cabins would not impede the orderly development of the area.
4. The number of dwellings and RV sites currently on the property meets the density requirements of St. Louis County Zoning Ordinance 62.

D. Desired Pattern of Development:

1. The desired pattern of development would typically be considered residential in this zone district.

2. The lakeshore commercial overlay zoning allows existing reports to continue operation and expand in the lakeshore commercial overlay designated area.
    a. The lakeshore commercial overlay zone districts are intended to keep commercial uses in areas around Lake Vermilion that were historically commercial in nature.
    b. The lakeshore commercial overlay district in this area is because of Bayview Resort.

E. Other Factor(s):

1. Had these properties remained part of the Bayview Resort property (adjacent to the east), a conditional use permit would not be required for the rental units because of the prior approvals for Bayview Resort.

PLANNING COMMISSION CRITERIA FOR APPROVAL OF A CONDITIONAL USE PERMIT

1. **Does the use conform to the land use plan?**
2. **Is the use compatible with the existing neighborhood?**
3. **Will the use impede the normal and orderly development and improvement of the surrounding area?**
4. **Is the location and character of the proposed use considered consistent with a desirable pattern of development?**
5. **What, if any, other factors should be taken into consideration on this case?**

RECOMMENDED CONDITIONS, IF APPROVED

In the event that the Planning Commission determines that the proposal meets the criteria for granting a conditional use permit to allow multiple rental units and RV sites as a Planned Development Use-Class II, the following standards shall apply:

1. Additional RV sites or cabins may be added but shall not exceed the commercial planned development density standards on the parcel.
2. St. Louis County On-Site Wastewater SSTS standards shall be followed.
3. Recreational vehicles shall have a current motor vehicle license.
4. The applicant shall comply with all local, county, state, and federal regulations.

Conditional Use Permit (CUP) APPLICATION St. Louis County, Minnesota

Permit #

Permit #

About: This application is used to apply for a Land Use Permit. Applicants will need to attach the appropriate worksheet(s) in order to process. For more information, see our website at: www.stlouiscountymn.gov/land-use

PROPERTY IDENTIFICATION NUMBER (PIN) *PIN is found on your Property Tax Statement*

*Primary PIN	387-0080-00230	Associated PIN	387-0080-00270
Associated PIN	387-0080-00260	Associated PIN	

E.g. 123-1234-12345. Primary PIN: Parcel where Structure/SSTS are located. Associated PIN: Additional and/or adjacent property that you own or that is related to the project.
County Land Explorer: https://gis.stlouiscountymn.gov/landexplorer/ Property Lookup: http://apps.stlouiscountymn.gov/auditor/parcelInfo2005Iframe/

APPLICANT

*Applicant Name	I am a... ☐ Contractor ☑ Homeowner ☐ Other	*Daytime #	Date
Bayview Fireside LLC		218-277-9761	05-24-2021

*Applicant Address	*City	*State	*ZIP
2001A Bayview Dr	Tower	MN	55790

Applicant Email: roy.petersonl@Gmail.com

Contact Person *If applicable.*	Contact Person #

Mailing Address *If different than above.*	City	State	ZIP

Email Address *Where to email permit. Providing an email address will expedite the time in which a permit is received by an applicant.*

SITE INFORMATION

☑ Yes	☐ No	*Is there a site address for this property? (If no, the application will be forwarded to 911/Communications to assign one.)
If yes above, please list site address: 1199, 2001A, 2001B Bayview Dr		
☐ Yes	☑ No	*Is this leased property? If yes, leased from: ☐ MN Power ☐ MN DNR ☐ US Forest Service ☐ St Louis County ☐ Other
☐ Yes	☐ No	*Do you have written authorization from the leased property owner? If yes, you must attach written authorization form.

*How is the property accessed? ☐ Public Road ☑ Private Road ☐ Easement ☐ Water ☐ Other

PROJECT INFORMATION

☐ Yes	☑ No	*Is this project on a parcel less than 2.5 acres?
☑ Yes	☐ No	*Is this project within 300 feet of a stream/river or 1,000 feet of a lake?
☐ Yes	☑ No	*Is this project adding a bedroom? **Include home, garage, & accessory dwelling.**
# 11		*Total # of bedrooms on property after project completion. **Include home, garage, & accessory dwelling.**
☐ Yes	☑ No	*Does this project include plumbing or pressurized water in proposed structure? If yes, please explain:
☐ Yes	☑ No	*Is the property connected to a municipal or sanitary district system?

If you answered "Yes" to any of the project information questions above, it is required that you submit a copy of a septic permit to construct or certificate of compliance approval or municipal/sanitary district approval when applying for a land use permit.

AGREEMENT

By submitting this application, I certify and agree that I am the owner or the authorized agent of the owner of the above property, and that all uses will conform to the provisions of St. Louis County. I further certify and agree that I will comply with all conditions imposed in connection with the approval of the application. Applicants may be required to submit additional property descriptions, property surveys, site plans, building plans and other information before the application is accepted or approved. ***Intentional or unintentional falsification of this application or any attachments thereto will make the application, any approval of the application and any resulting permit invalid.*** I authorize St. Louis County staff to inspect the property to review the application and for compliance inspections. Furthermore, by submitting this application, I release St. Louis County and its employees from any and all liability and claims for damages to person or property in any manner or form that may arise from the approval of the application or any related plans, the issuance of any resulting permit or the subsequent location, construction, alteration, repair, extension, operation or maintenance of the subject matter of the application.

***Indicates required field. Incomplete applications will be returned.**

Conditional Use Permit (CUP)

WORKSHEET St. Louis County, Minnesota

[illegible] A CUP needs additional controls or [illegible]

[illegible]

WHAT ARE YOU APPLYING FOR? [illegible]

- ☐ New Business
- ☐ Expansion of existing business
- ☑ Replace existing business
- ☐ [illegible]
- ☐ Other

If Other, please explain

ABOUT THE BUSINESS

TYPE OF BUSINESS

How is the property currently being used? 3 cabins, we reside in one and rent the other 2. There are 3 RV sites w/ friends campers on them

What type of business/use is being applied for? (List all uses that will take place)
Planned Development w/ multiple Rentals and family use

HOURS OF OPERATION (Proposed) Monday through Friday	Saturday	Sunday	Comments
Start: End:	Start: End:	Start: End:	NA

TRAFFIC, PARKING, AND/OR DOCKAGE

☐ Yes ☑ No — Will the proposal generate an increase in traffic? (Boat, snowmobile, truck, bus, car, etc.)

If Yes, estimated increase: ☐ 10 vehicles or less ☐ 11-25 vehicles ☐ Greater than 25 vehicles

☐ Yes ☑ No — Does the proposal require parking? (Please include employees, visitors, and other parking)

If Yes, how many parking spaces are available on the property?

APPROVAL FROM LOCAL ROAD AUTHORITY REQUIRED

- ☐ Yes (Please attach approval letter)
- ☑ No

SIGNAGE AND LIGHTING

☐ Yes	☑ No	Does your proposal include signage? (Include any off-site signs)

If Yes, please list number of signs, size, location, and illumination of each sign:

☐ Yes	☑ No	Will there be lighting (including security lighting) that may be visible from roads, waterways, and adjacent properties?

If Yes, please explain:

TYPE OF PROPOSED STRUCTURES *Check all that apply to the project.*

☑ No New Structures

☐ New Structure(s)

Structure Type	Foundation Type (Basement, Slab, Pier, etc)	Maximum Length (Exterior Footprint Only)	Maximum Width (Exterior Footprint Only)	Maximum Sq. ft (Exterior footprint only)	Maximum Height (Ground Level to Roof Peak)
		Feet	Feet	Sq. ft.	Feet
		Feet	Feet	Sq. ft.	Feet
		Feet	Feet	Sq. ft.	Feet
		Feet	Feet	Sq. ft.	Feet
		Feet	Feet	Sq. ft.	Feet
		Feet	Feet	Sq. ft.	Feet

Other

☐ Structure Additions

Structure Type	Foundation Type (Basement, Slab, Pier, etc)	Maximum Length (Exterior Footprint Only)	Maximum Width (Exterior Footprint Only)	Maximum Sq. ft (Exterior footprint only)	Maximum Height (Ground Level to Roof Peak)
		Feet	Feet	Sq. ft.	Feet
		Feet	Feet	Sq. ft.	Feet
		Feet	Feet	Sq. ft.	Feet
		Feet	Feet		Feet

Other

OUTDOOR BUSINESS ACTIVITY *Check all that apply to the project.*

Will there be any outdoor work or storage areas such as: rock piles, assembly sites, tank storage, equipment parking, etc?

☐ Yes ☑ No

If Yes, please explain:

WASTEWATER TREATMENT

Will wastewater will be generated?

☑ Yes ☐ No

If Yes, what type of system will be used to handle wastewater treatment?

☑ Private Septic System

☐ Municipal

☐ Other, please explain:

Conditional Use Permit (CUP)
WORKSHEET St. Louis County, Minnesota

About: Land Use Permits are required for most building construction activities. They are also required for a variety of other uses. For more information, check out our website at: www.stlouiscountymn.gov/land-use

WHAT ARE YOU APPLYING FOR *Check all that apply to the project.* PLEASE MAKE CHECKS TO: ST. LOUIS COUNTY AUDITOR

#1 New Buildings Less than/equal to 1,200 square feet-$160
Greater than 1,200 square feet-$315

- ☐ Dwelling- *Home, Mobile Home, Hunting Shack, or Cabin. (Includes attached deck, if applicable.)*
- ☐ Replacement of Existing Dwelling- *Home, Mobile Home, Hunting Shack, or Cabin.*
  Will the old dwelling be removed from the property? ☐ Yes ☐ No
  If yes, an affidavit must be filled out stating when the old dwelling will be removed.
  If the dwelling is a mobile home, there is a separate mobile home affidavit to be filled out.
- ☐ Accessory Dwelling- *Guest cottage or bunkhouse. Must follow administrative standards.*
- ☐ Accessory Structure- *Garage, Pole Building, shed, sauna, screenhouse or gazebo that either meets lake or river setback or not located in a shoreland area.*
- ☐ Water-oriented Accessory Structure- *Boathouse, Sauna, Screenhouse/gazebo on a lake or river located at reduced shoreline setback. Must follow administrative standards.*
- ☐ Commercial Structure
- ☐ Other Principal Structure

#2 Other Construction/Change in Use-$80

- ☐ Addition(s) to Dwelling
  Is the dwelling location on a lake or river? ☐ Yes ☐ No
  If Yes above, does the structure meet the required shoreline setback? ☐ Yes ☐ No If No, structure does not meet the shoreline setback, a performance standard permit or variance may be required. See box #4 or #7.
- ☐ Addition(s) to Accessory Structure
- ☐ New Deck Only or Deck Replacement
- ☐ Combination Addition(s) & Deck on the same structure
- ☐ Moving a Structure
- ☐ Sign
- ☐ Structure Alteration or Component Replacement
- ☐ Change in Use (i.e. converting an old cabin to storage)
  What will the new use of the structure be?
  Explain the current and proposed use.
  Current: Proposed:

Other-$55
- ☐ Permit extension beyond 2 years

#3 Subdivisions/Parcel Reviews
Additional Worksheets Required
- ☐ Plat-Minor Subdivision-**$630**
- ☐ Conventional Plat-Less than or equal to 3 lots-**$630**
- ☐ Conventional Plat-Greater than 3 Lots-**$1,260**
- ☐ Conservation Plat-**$1,260**
- ☐ Lot Line Adjustment-**$80**
- ☐ Parcel Review-**$80**
- ☐ Performance Standard Subdivision-**$370**

#4 Performance Standard-$370
Additional Worksheets Required
- ☐ Borrow/Gravel Pit
- ☐ Home Business
- ☐ Land Alteration
- ☐ Nonconforming Structure Replacement
- ☐ Addition to a structure that does not meet shoreline setback
- ☐ Other

#5 Site Evaluation
- ☐ Site Visit/Evaluation-**$160**

#6 Wetland Reviews
Additional Worksheets Required
- ☐ No Loss/Exemption/Replacement Plan-**$150**
- ☐ Wetland Delineation Review-**$370**
- ☐ Wetland Banking Plan Review-**$1,100**

#7 Public Hearings
Additional Worksheets Required
- ☐ Administrative Appeal-**$1,100**
- ☐ Environmental Assessment-**$1,100**
- ☐ Conditional Use Permit-**$630**
- ☐ Conditional Use Permit Rehearing-**$200**
- ☐ Interim Use Permit-**$630**
- ☐ Interim Use Permit Rehearing-**$200**
- ☐ General Purpose Borrow Pit-**$630**
- ☐ Variance-**$630**
- ☐ Variance Rehearing-**$200**
- ☐ Multiple Hearing (Variance/conditional use)- **$950**

TYPE OF PROPOSED STRUCTURES *Check all that apply to the project.*

☐ New Structure(s)	*Structure Type (Same as box #1 or 2 above)	*Foundation Type (Basement, Slab, Pier, etc)	*Maximum Length (Exterior Footprint Only)	*Maximum Width (Exterior Footprint Only)	*Maximum Sq. ft (Exterior footprint only)	*Maximum Height (Ground Level to Roof Peak)
			Feet	Feet	Sq. ft.	Feet
			Feet	Feet	Sq. ft.	Feet
			Feet	Feet	Sq. ft.	Feet

☐ Structure Additions	*Structure Type (Same as box #2 above)	*Foundation Type (Basement, Slab, Pier, etc)	*Maximum Length (Exterior Footprint Only)	*Maximum Width (Exterior Footprint Only)	*Maximum Sq. ft (Exterior footprint only)	*Maximum Height (Ground Level to Roof Peak)
			Feet	Feet	Sq. ft.	Feet
			Feet	Feet	Sq. ft.	Feet
			Feet	Feet	Sq. ft.	Feet

***Indicates required field. Incomplete applications will be returned.**

CONTACT: Planning and Community Development Department

Technical Assistance
Toll Free: 1-800-450-9777
Land Use Information
www.stlouiscountymn.gov/land-use

Duluth
Government Services Center
320 West 2nd Street, Suite 301
Duluth, MN 55802
(218) 725-5000

Virginia
Government Services Center
201 South 3rd Avenue West
Virginia, MN 55792
(218) 749-7103

Office Use Only
Receipt # _____
Receipt Date _____
Payment Amount _____
Paid By _____

[redacted]

CONTACT: Planning and Community Development Department

[redacted]

Duluth
Government Services Center
320 West 2nd Street, Suite 301
Duluth, MN 55802
(218) 725-3000

Virginia
Government Services Center
201 South 3rd Avenue West
Virginia, MN 55792
(218) 749-7103

Office Use Only

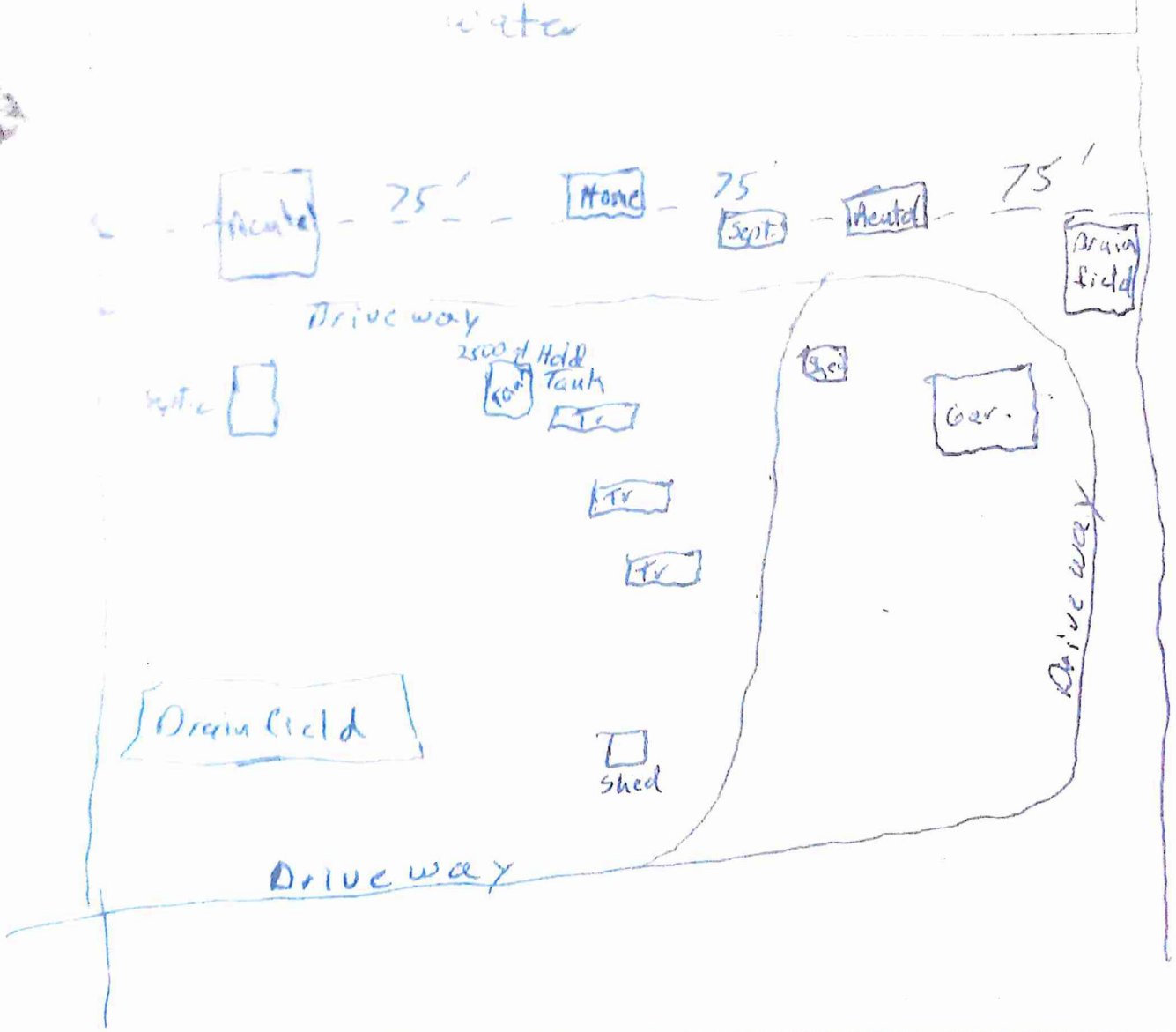
Receipt # _____

Receipt Date _____

Payment Amount _____

Paid By _____

Site Sketch Form



Sanitary Authority Use Only

Sanitary Review: (To be determined by appropriate sanitary authority.)

Will the proposal, as shown above, negatively impact the SSTS/sanitary line or replacement area? ☐ Yes ☐ No

Sign off:

Signature _____ Title _____

Incomplete Applications will be Returned

CERTIFICATE OF SURVEY

A PART OF BIRCHWOOD,
SECTION 16, TOWNSHIP 62 NORTH, RANGE 16 WEST,
ST. LOUIS COUNTY, MINNESOTA

PROPOSED DESCRIPTIONS:

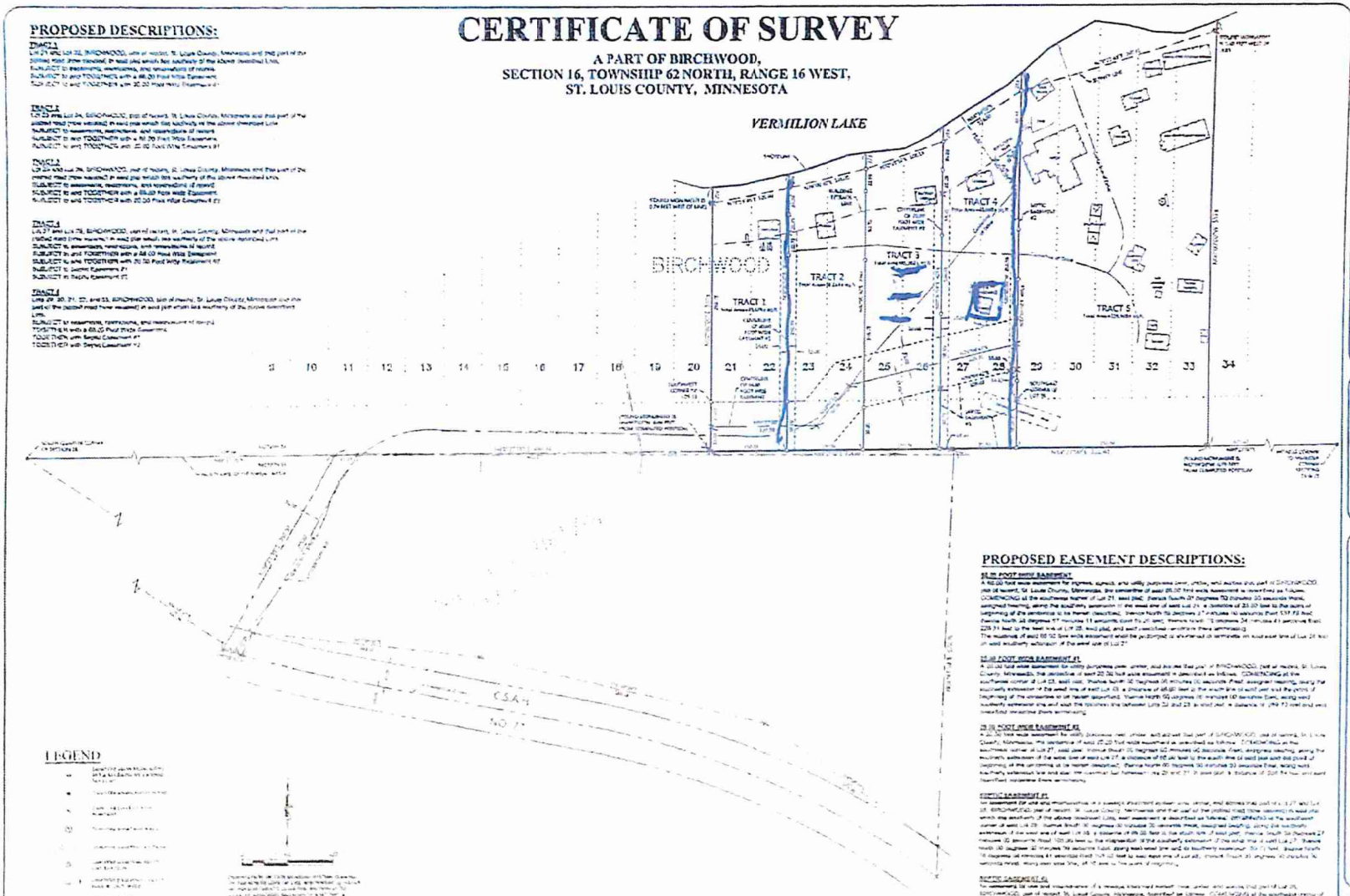
TRACT 1
Lot 21 and Lot 22, BIRCHWOOD, city of Hoyt Lakes, St. Louis County, Minnesota, and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots,
SUBJECT to easements, restrictions, and reservations of record.
SUBJECT to and TOGETHER with a 66.00 Foot Wide Easement.
SUBJECT to and TOGETHER with a 20.00 Foot Wide Easement #1.

TRACT 2
Lot 23 and Lot 24, BIRCHWOOD, city of Hoyt Lakes, St. Louis County, Minnesota, and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots,
SUBJECT to easements, restrictions, and reservations of record.
SUBJECT to and TOGETHER with a 66.00 Foot Wide Easement.
SUBJECT to and TOGETHER with a 20.00 Foot Wide Easement #1.

TRACT 3
Lot 25 and Lot 26, BIRCHWOOD, city of Hoyt Lakes, St. Louis County, Minnesota, and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots,
SUBJECT to easements, restrictions, and reservations of record.
SUBJECT to and TOGETHER with a 66.00 Foot Wide Easement.
SUBJECT to and TOGETHER with a 20.00 Foot Wide Easement #1.

TRACT 4
Lot 27 and Lot 28, BIRCHWOOD, city of Hoyt Lakes, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots,
SUBJECT to easements, restrictions, and reservations of record.
SUBJECT to and TOGETHER with a 66.00 Foot Wide Easement.
SUBJECT to and TOGETHER with a 20.00 Foot Wide Easement #1.
SUBJECT to Public Easement #1.
SUBJECT to Public Easement #2.

TRACT 5
Lots 29, 30, 31, 32, and 33, BIRCHWOOD, city of Hoyt Lakes, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots,
SUBJECT to easements, restrictions, and reservations of record.
TOGETHER with Public Easement #1.
TOGETHER with Public Easement #2.
TOGETHER with Public Easement #3.



LEGEND

PROPOSED EASEMENT DESCRIPTIONS:

66.00 FOOT WIDE EASEMENT
A 66.00 foot wide easement for ingress, egress, and utility purposes over, under, and across that part of BIRCHWOOD, plat of record, St. Louis County, Minnesota, the centerline of said 66.00 foot wide easement is more fully described as follows:
COMMENCING at the southwest corner of Lot 21, said plat; thence South 89 degrees 52 minutes 20 seconds West, assumed bearing, along the south line of said Lot 21, a distance of 33.00 feet to the point of beginning of the centerline to be herein described; thence North 00 degrees 07 minutes 40 seconds West 539.78 feet; thence North 48 degrees 57 minutes 11 seconds East 70.47 feet; thence North 13 degrees 24 minutes 49 seconds East 225.31 feet to the west line of Lot 28, said plat, and said centerline terminating.
The sidelines of said 66.00 foot wide easement shall be prolonged or shortened to terminate on said west line of Lot 28 and on said southerly extension of the west side of Lot 21.

20.00 FOOT WIDE EASEMENT #1
A 20.00 foot wide easement for utility purposes over, under, and across that part of BIRCHWOOD, plat of record, St. Louis County, Minnesota, the centerline of said 20.00 foot wide easement is described as follows: COMMENCING at the southwest corner of Lot 23, said plat; thence South 89 degrees 52 minutes 20 seconds West, assumed bearing, along the southerly extension of the west line of said Lot 23, a distance of 66.00 feet to the south line of said plat and the point of beginning of the centerline to be herein described; thence North 00 degrees 07 minutes 40 seconds East, along said southerly extension and west line of said Lot 23, a distance of 539.78 feet to the northwest corner of said Lot 23 and the terminus of the centerline, the sidelines of said Lots 23 and 25 to extend and/or shorten to meet said west line of Lot 23.

20.00 FOOT WIDE EASEMENT #2
A 20.00 foot wide easement for utility purposes over, under, and across that part of BIRCHWOOD, plat of record, St. Louis County, Minnesota, the centerline of said 20.00 foot wide easement is described as follows: COMMENCING at the southwest corner of Lot 27, said plat; thence South 89 degrees 52 minutes 20 seconds West, assumed bearing, along the southerly extension of the west line of said Lot 27, a distance of 66.00 feet to the south line of said plat and the point of beginning of the centerline to be herein described; thence North 00 degrees 07 minutes 40 seconds East, assumed bearing, along said southerly extension and west line of said Lot 27, a distance of 539.78 feet to the northwest corner of said Lot 27 and the terminus of the centerline, the sidelines of said Lots 27 and 29 to extend and/or shorten to meet said west line of Lot 27.

ACCESS EASEMENT #1
An easement for use and maintenance of a roadway over, under, and across that part of Lot 21, Lot 22, Lot 23, BIRCHWOOD, plat of record, St. Louis County, Minnesota, and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots, said easement is described as follows: COMMENCING at the southwest corner of said Lot 23; thence South 89 degrees 52 minutes 20 seconds West, assumed bearing, along the southerly extension of the west line of said Lot 23, a distance of 66.00 feet to the south line of said plat; thence South 00 degrees 07 minutes 40 seconds East, 100.00 feet to the intersection of the southerly extension of the west line of said Lot 21 and the southerly right of way line of County Road 7; thence North 89 degrees 52 minutes 20 seconds East, along said west line and said southerly right of way line, 33.00 feet to the point of beginning; thence North 00 degrees 07 minutes 40 seconds West, 100.00 feet to said south line of said plat; thence South 89 degrees 52 minutes 20 seconds West, along said south line, 66.00 feet to the point of beginning.

NOTICE EASEMENT #1
An easement for use and maintenance of a roadway over, under, and across that part of Lot 25, BIRCHWOOD, plat of record, St. Louis County, Minnesota, described as follows: COMMENCING at the southwest corner of said Lot 25; thence North 89 degrees 52 minutes 20 seconds East, assumed bearing, along the said south line of said Lot 25, a distance of 66.00 feet to the point of beginning of the easement to be herein described; thence continue North 89 degrees 52 minutes 20 seconds East, along said south line, 264.29 feet; thence South 16 degrees 11 minutes 21 seconds West 13.64 feet; thence South 41 degrees 58 minutes 23 seconds East 31.68 feet; thence South 89 degrees 52 minutes 20 seconds West 255.19 feet to the intersection with a line bearing South 16 degrees 24 minutes 49 seconds West from the point of beginning; thence North 16 degrees 24 minutes 49 seconds East 13.00 feet to the point of beginning.

CERTIFICATE OF SURVEY
DF & Company, Inc. Attn: James Entz
5481 St Croix Trail, Suite 200
North Branch, MN 55056

SHEET NO.
1 OF 1

CERTIFICATE OF SURVEY

A PART OF BIRCHWOOD, SECTION 16, TOWNSHIP 62 NORTH, RANGE 16 WEST, ST. LOUIS COUNTY, MINNESOTA

PROPOSED DESCRIPTIONS:

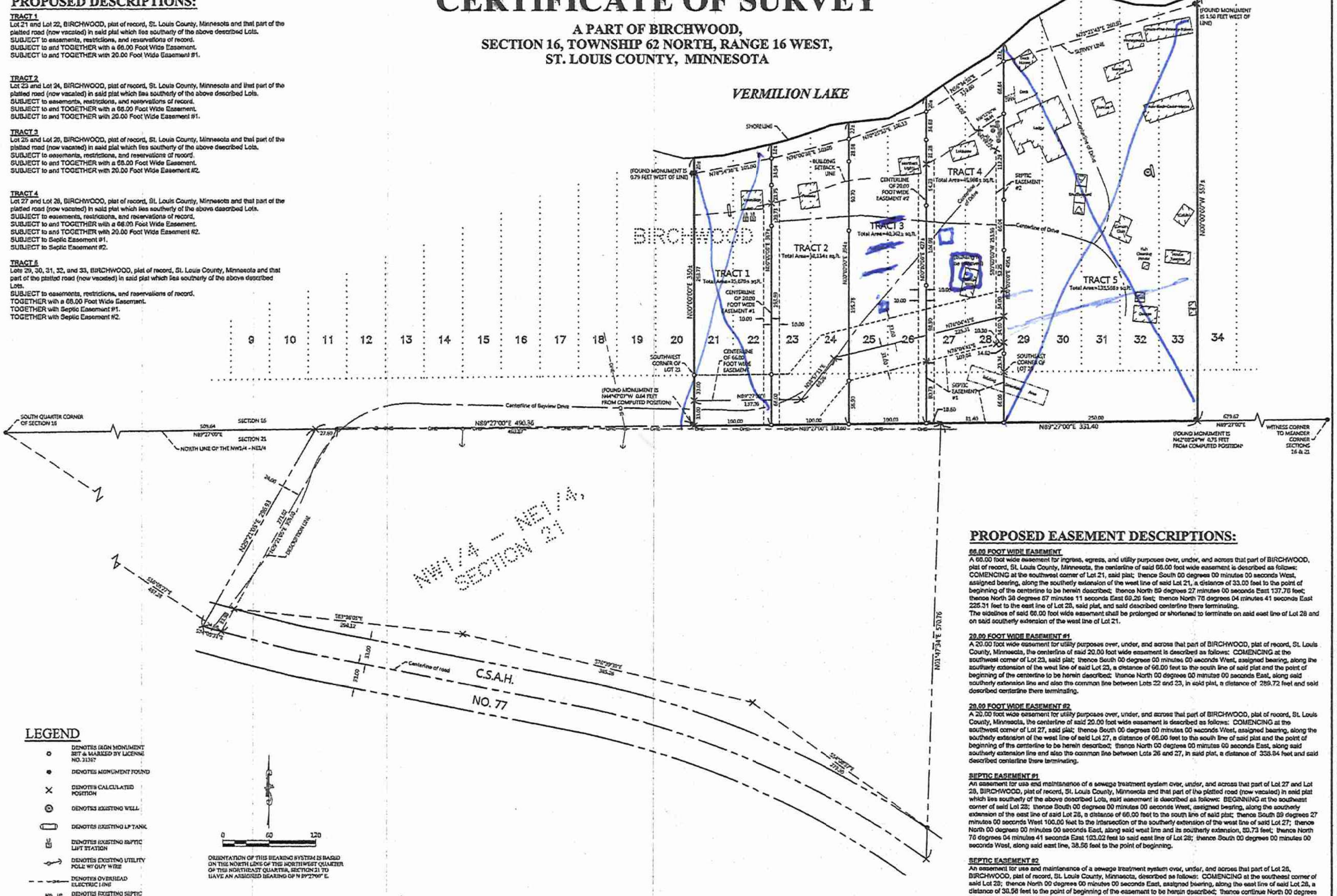
TRACT 1
Lot 21 and Lot 22, BIRCHWOOD, plat of record, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots.
SUBJECT to easements, restrictions, and reservations of record.
SUBJECT to and TOGETHER with a 66.00 Foot Wide Easement.
SUBJECT to and TOGETHER with 20.00 Foot Wide Easement #1.

TRACT 2
Lot 23 and Lot 24, BIRCHWOOD, plat of record, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots.
SUBJECT to easements, restrictions, and reservations of record.
SUBJECT to and TOGETHER with a 66.00 Foot Wide Easement.
SUBJECT to and TOGETHER with 20.00 Foot Wide Easement #1.

TRACT 3
Lot 25 and Lot 26, BIRCHWOOD, plat of record, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots.
SUBJECT to easements, restrictions, and reservations of record.
SUBJECT to and TOGETHER with a 66.00 Foot Wide Easement.
SUBJECT to and TOGETHER with 20.00 Foot Wide Easement #2.

TRACT 4
Lot 27 and Lot 28, BIRCHWOOD, plat of record, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots.
SUBJECT to easements, restrictions, and reservations of record.
SUBJECT to and TOGETHER with a 66.00 Foot Wide Easement.
SUBJECT to and TOGETHER with 20.00 Foot Wide Easement #2.
SUBJECT to Septic Easement #1.
SUBJECT to Septic Easement #2.

TRACT 5
Lots 29, 30, 31, 32, and 33, BIRCHWOOD, plat of record, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots.
SUBJECT to easements, restrictions, and reservations of record.
TOGETHER with a 66.00 Foot Wide Easement.
TOGETHER with Septic Easement #1.
TOGETHER with Septic Easement #2.



LEGEND

- ○ DENOTES IRON MONUMENT SET & MARKED BY LICENSE NO. 21367
- ● DENOTES MONUMENT FOUND
- × DENOTES CALCULATED POSITION
- DENOTES EXISTING WELL
- DENOTES EXISTING LP TANK
- DENOTES EXISTING SEPTIC LIFT STATION
- DENOTES EXISTING UTILITY POLE W/ GUY WIRE
- DENOTES OVERHEAD ELECTRIC LINE
- DENOTES EXISTING SEPTIC VENT, SEPTIC CLEANOUT, & SEPTIC TANK LID

0 60 120

ORIENTATION OF THIS BEARING SYSTEM IS BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER, SECTION 21 TO HAVE AN ASSIGNED BEARING OF N 89°27'00" E.

PROPOSED EASEMENT DESCRIPTIONS:

66.00 FOOT WIDE EASEMENT
A 66.00 foot wide easement for ingress, egress, and utility purposes over, under, and across that part of BIRCHWOOD, plat of record, St. Louis County, Minnesota, the centerline of said 66.00 foot wide easement is described as follows: COMENCING at the southwest corner of Lot 21, said plat; thence South 00 degrees 00 minutes 00 seconds West, assigned bearing, along the southerly extension of the west line of said Lot 21, a distance of 33.00 feet to the point of beginning of the centerline to be herein described; thence North 89 degrees 27 minutes 00 seconds East 137.78 feet; thence North 38 degrees 57 minutes 11 seconds East 69.20 feet; thence North 76 degrees 04 minutes 41 seconds East 225.31 feet to the east line of Lot 28, said plat, and said described centerline there terminating.
The sidelines of said 66.00 foot wide easement shall be prolonged or shortened to terminate on said east line of Lot 28 and on said southerly extension of the west line of Lot 21.

20.00 FOOT WIDE EASEMENT #1
A 20.00 foot wide easement for utility purposes over, under, and across that part of BIRCHWOOD, plat of record, St. Louis County, Minnesota, the centerline of said 20.00 foot wide easement is described as follows: COMENCING at the southwest corner of Lot 23, said plat; thence South 00 degrees 00 minutes 00 seconds West, assigned bearing, along the southerly extension of the west line of said Lot 23, a distance of 66.00 feet to the south line of said plat and the point of beginning of the centerline to be herein described; thence North 00 degrees 00 minutes 00 seconds East, along said southerly extension line and also the common line between Lots 22 and 23, in said plat, a distance of 289.72 feet and said described centerline there terminating.

20.00 FOOT WIDE EASEMENT #2
A 20.00 foot wide easement for utility purposes over, under, and across that part of BIRCHWOOD, plat of record, St. Louis County, Minnesota, the centerline of said 20.00 foot wide easement is described as follows: COMENCING at the southwest corner of Lot 27, said plat; thence South 00 degrees 00 minutes 00 seconds West, assigned bearing, along the southerly extension of the west line of said Lot 27, a distance of 66.00 feet to the south line of said plat and the point of beginning of the centerline to be herein described; thence North 00 degrees 00 minutes 00 seconds East, along said southerly extension line and also the common line between Lots 26 and 27, in said plat, a distance of 338.84 feet and said described centerline there terminating.

SEPTIC EASEMENT #1
An easement for use and maintenance of a sewage treatment system over, under, and across that part of Lot 27 and Lot 28, BIRCHWOOD, plat of record, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots, said easement is described as follows: BEGINNING at the southeast corner of said Lot 28; thence South 00 degrees 00 minutes 00 seconds West, assigned bearing, along the southerly extension of the east line of said Lot 28, a distance of 66.00 feet to the south line of said plat; thence South 89 degrees 27 minutes 00 seconds West 100.00 feet to the intersection of the southerly extension of the west line of said Lot 27; thence North 00 degrees 00 minutes 00 seconds East, along said west line and its southerly extension, 80.73 feet; thence North 76 degrees 04 minutes 41 seconds East 103.02 feet to said east line of Lot 28; thence South 00 degrees 00 minutes 00 seconds West, along said east line, 38.56 feet to the point of beginning.

SEPTIC EASEMENT #2
An easement for use and maintenance of a sewage treatment system over, under, and across that part of Lot 28, BIRCHWOOD, plat of record, St. Louis County, Minnesota, described as follows: COMENCING at the southeast corner of said Lot 28; thence North 00 degrees 00 minutes 00 seconds East, assigned bearing, along the east line of said Lot 28, a distance of 38.56 feet to the point of beginning of the easement to be herein described; thence continue North 00 degrees 00 minutes 00 seconds East, along said east line, 288.58 feet; thence South 56 degrees 11 minutes 31 seconds West 38.84 feet; thence South 41 degrees 08 minutes 22 seconds East 33.85 feet; thence South 00 degrees 00 minutes 00 seconds West 253.98 feet to the intersection with a line bearing South 76 degrees 04 minutes 41 seconds West from the point of beginning; thence North 76 degrees 04 minutes 41 seconds East 10.30 feet to the point of beginning.

REVISIONS			
NO	DATE	DESCRIPTION	BY

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.

TERRY L. BREMAN 21367
LIC. NO. 21367

NORTHERN ENGINEERING & CONSULTING, INC.
207 4th Street NW, Bemidji, MN 56601
Phone: 218-444-4800, Fax: 218-444-6042
web: www.ne-cinc.com

CERTIFICATE OF SURVEY
DF & Company, Inc. Attn: James Ertz
5481 St. Croix Trail, Suite 200
North Branch, MN 55056

JOB NO. 11-137
DATE: 10-22-2013

SHEET NO.
1 OF 1

CERTIFICATE OF SURVEY

A PART OF BIRCHWOOD,
SECTION 16, TOWNSHIP 62 NORTH, RANGE 16 WEST,
ST. LOUIS COUNTY, MINNESOTA

PROPOSED DESCRIPTIONS:

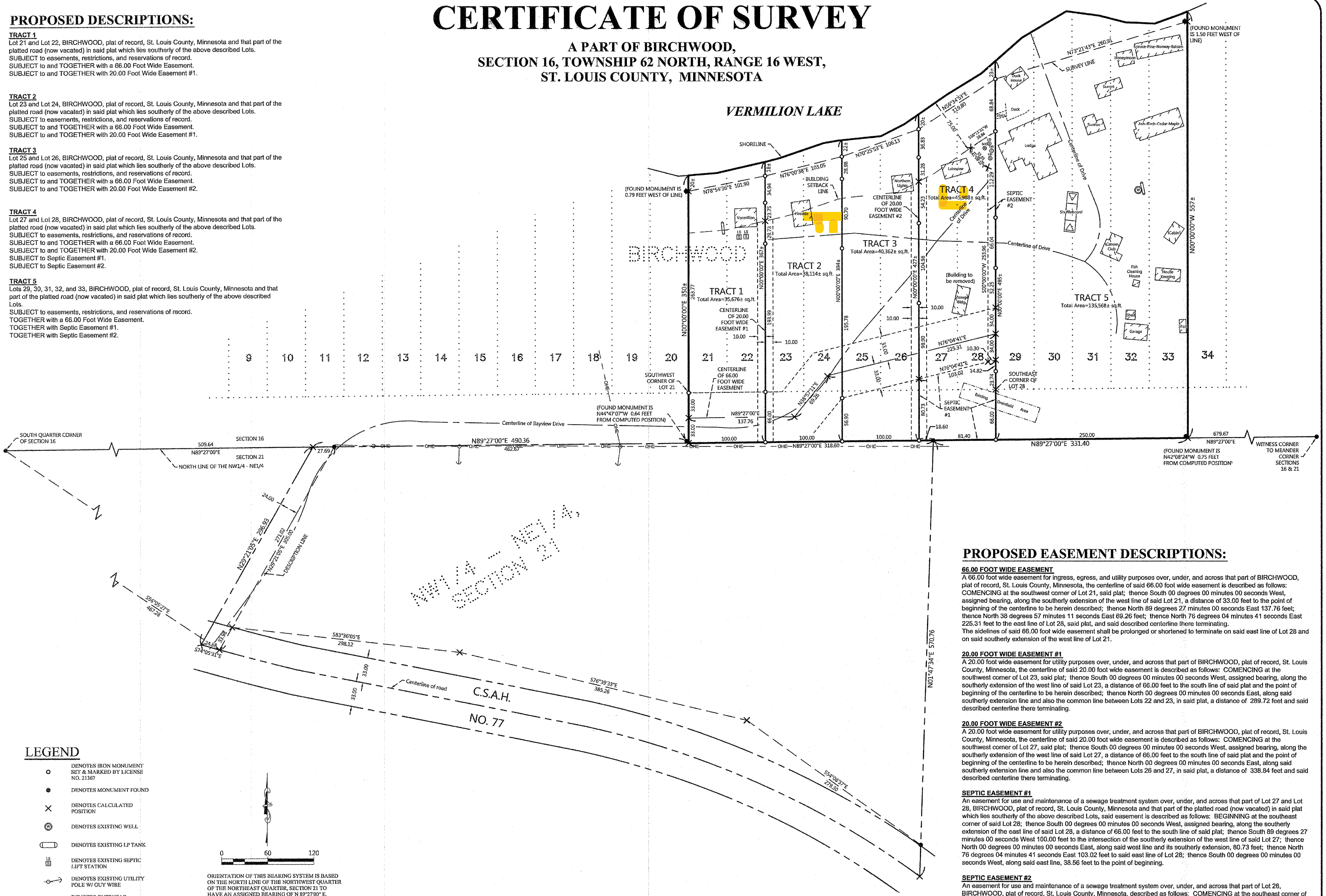
TRACT 1
Lot 21 and Lot 22, BIRCHWOOD, plat of record, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots.
SUBJECT to easements, restrictions, and reservations of record.
SUBJECT to and TOGETHER with a 66.00 Foot Wide Easement.
SUBJECT to and TOGETHER with 20.00 Foot Wide Easement #1.

TRACT 2
Lot 23 and Lot 24, BIRCHWOOD, plat of record, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots.
SUBJECT to easements, restrictions, and reservations of record.
SUBJECT to and TOGETHER with a 66.00 Foot Wide Easement.
SUBJECT to and TOGETHER with 20.00 Foot Wide Easement #1.

TRACT 3
Lot 25 and Lot 26, BIRCHWOOD, plat of record, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots.
SUBJECT to easements, restrictions, and reservations of record.
SUBJECT to and TOGETHER with a 66.00 Foot Wide Easement.
SUBJECT to and TOGETHER with 20.00 Foot Wide Easement #2.

TRACT 4
Lot 27 and Lot 28, BIRCHWOOD, plat of record, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots.
SUBJECT to easements, restrictions, and reservations of record.
SUBJECT to and TOGETHER with a 66.00 Foot Wide Easement.
SUBJECT to and TOGETHER with 20.00 Foot Wide Easement #2.
SUBJECT to Septic Easement #1.
SUBJECT to Septic Easement #2.

TRACT 5
Lots 29, 30, 31, 32, and 33, BIRCHWOOD, plat of record, St. Louis County, Minnesota and that part of the platted road (now vacated) in said plat which lies southerly of the above described Lots.
SUBJECT to easements, restrictions, and reservations of record.
TOGETHER with a 66.00 Foot Wide Easement.
TOGETHER with Septic Easement #1.
TOGETHER with Septic Easement #2.



LEGEND

Symbol	Description
○	DENOTES IRON MONUMENT SET & MARKED BY LICENSE NO. 21367
●	DENOTES MONUMENT FOUND
×	DENOTES CALCULATED POSITION
⊚	DENOTES EXISTING WELL
▭	DENOTES EXISTING LP TANK
LS	DENOTES EXISTING SEPTIC LIFT STATION
○→	DENOTES EXISTING UTILITY POLE W/ GUY WIRE
— — OHE —	DENOTES OVERHEAD ELECTRIC LINE
SCO LID	DENOTES EXISTING SEPTIC VENT, SEPTIC CLEANOUT, & SEPTIC TANK LID

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SEPTIC EASEMENT #2
An easement for use and maintenance of a sewage treatment system over, under, and across that part of Lot 28, BIRCHWOOD, plat of record, St. Louis County, Minnesota, described as follows: COMENCING at the southeast corner of said Lot 28; thence North 00 degrees 00 minutes 00 seconds East, assigned bearing, along the east line of said Lot 28, a distance of 38.56 feet to the point of beginning of the easement to be herein described; thence continue North 00 degrees 00 minutes 00 seconds East, along said east line, 298.58 feet; thence South 56 degrees 11 minutes 31 seconds West 38.84 feet; thence South 41 degrees 08 minutes 22 seconds East 33.85 feet; thence South 00 degrees 00 minutes 00 seconds West 253.96 feet to the intersection with a line bearing South 76 degrees 04 minutes 41 seconds West from the point of beginning; thence North 76 degrees 04 minutes 41 seconds East 10.30 feet to the point of beginning.

REVISIONS:			
NO.	DATE	DESCRIPTION	BY

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.

TERRY L. FREEMAN 2/13/6/7
LIC. NO. 21367

NORTHERN ENGINEERING & CONSULTING, INC.
207 4th Street NW, Bemidji, MN 56601
Phone: 218-444-4860, Fax: 218-444-6042
web: www.necusa.com

CERTIFICATE OF SURVEY
DF & Company, Inc. Attn: James Ertz
5481 St. Croix Trail, Suite 200
North Branch, MN 55056

JOB NO. 11-137
DATE: 10-22-2013
SHEET NO. 1 OF 1

St. Louis County

June PC Meeting

Prepared By:	**Planning & Community Development** (218) 725-5000 www.stlouiscountymn.gov
Source:	St. Louis County
Map Created:	5/14/2021

Disclaimer: This is a compilation of records as they appear in the St. Louis County Offices affecting the area shown. This drawing is to be used only for reference purposes and the County is not responsible for any inaccuracies herein contained.

Bayview Fireside LLC

Location Map

PIN:387-0080-00230 Through 387-0080-00280

N

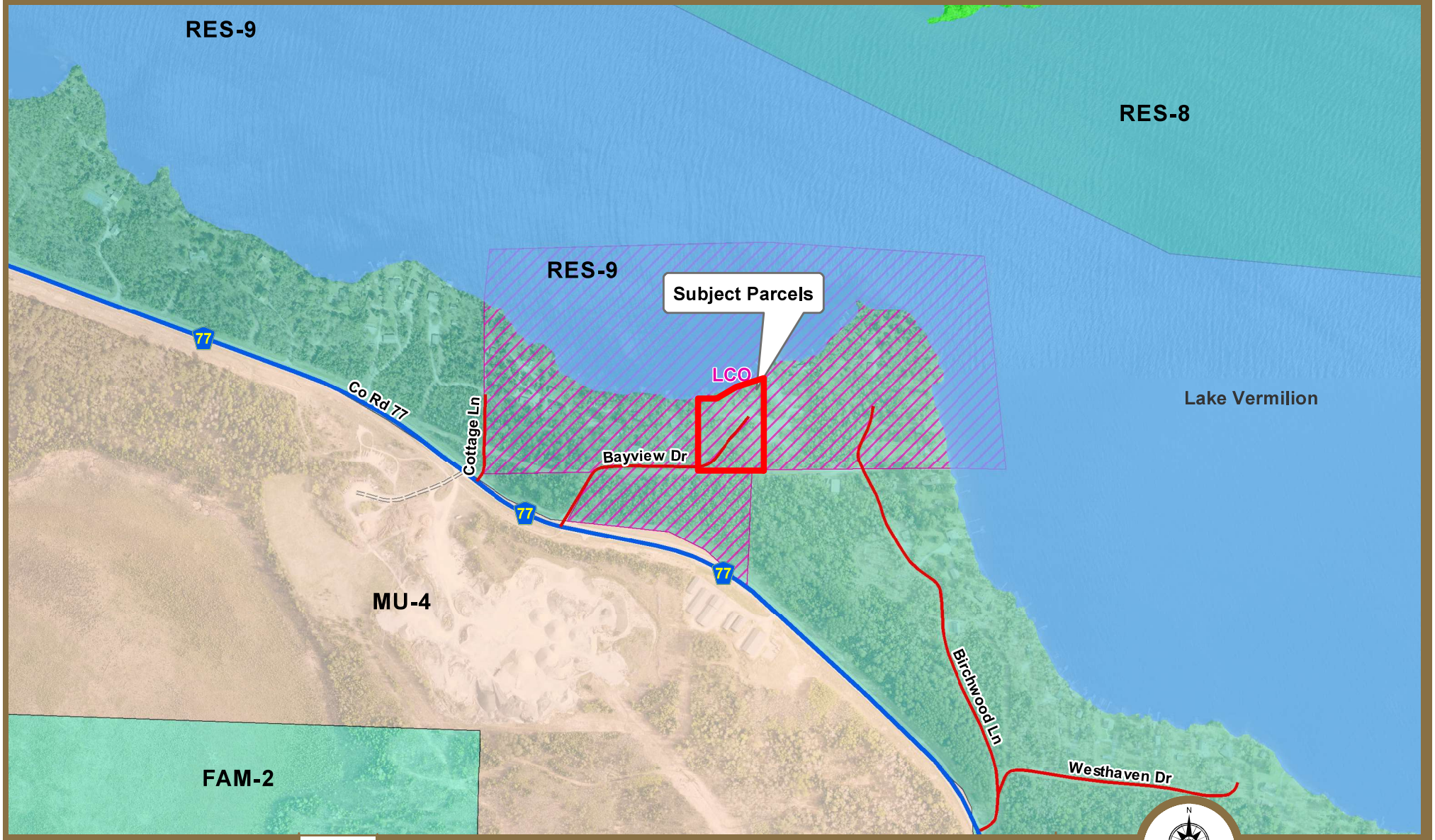
0 0.5 1

Miles

St. Louis County MN

St. Louis County

June PC Meeting



Prepared By: **Planning & Community Development**
(218) 725-5000
www.stlouiscountymn.gov

Source: St. Louis County

Map Created: 5/24/2021

Bayview Fireside LLC

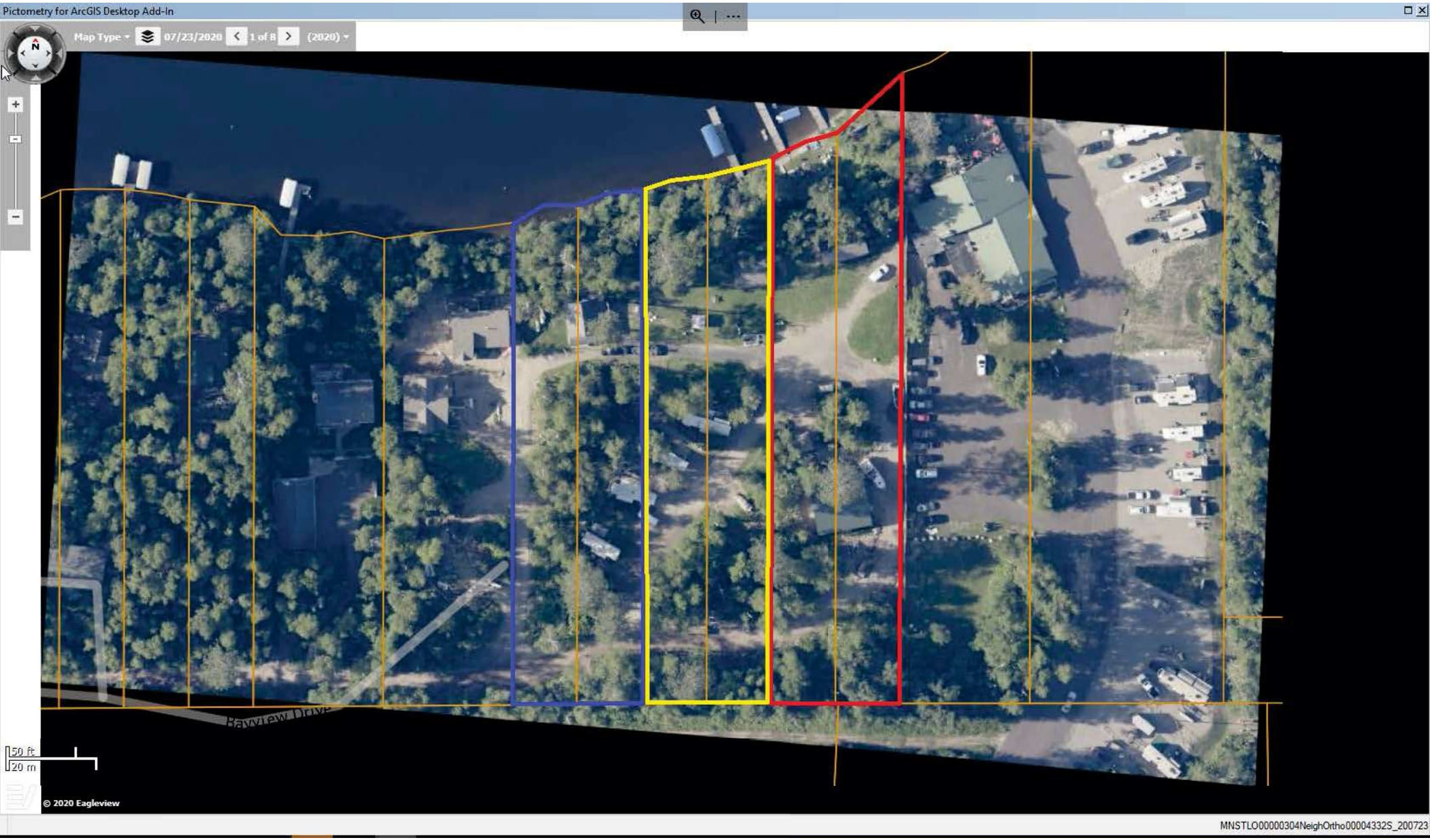
Zoning Map

PIN:387-0080-00230 Through 387-0080-00280

0 500 1,000

Feet

St. Louis County MN


Pictometry for ArcGIS Desktop Add-In
Map Type
07/23/2020
1 of 8
(2020)
Bayview Drive
50 ft
20 m
© 2020 Eagleview
MNSTLO00000304NeighOrtho00004332S_200723

Individual Sewage Treatment System

Certificate of Compliance

Authorization to Use System

Site: DF & COMPANY INC
Address: 2063 BAYVIEW DR
TOWER MN 55790

Permit Number: 29545
Date of Permit: 05/10/2017
Date of Inspection: 06/06/2017
Parcel Code: 387-80-230
Township: GREENWOOD (6216)

DF & COMPANY INC
5481 ST CROIX TRAIL
SUITE 200
NORTH BRANCH MN 55056

Designer:
Josh Antus Construction Co Inc

Installer:
Josh Antus Construction Co Inc

Legal Description:
INC VAC RD ADJ

The system was sized for a Single Family Dwelling with 4 Bedrooms.
The permit was granted for:

A New Standard System
ONE 1,500 Gallon Septic Tank(s) ONE 500 Gallon Pump Chamber(s)
System consists of 60 Feet of 10 Foot wide Seepagebed with a total of 12 Inches of Rock

AUTHORIZATION TO USE THIS SYSTEM IS:

- X — **Approved upon completion of the final cover.**
- _____ **Approved upon completion of the following items as noted in comments.**
- _____ **Denied**
- _____ **Allowed because of the following items as noted in comments.**

Comments:

DISCLAIMER: St. Louis County issues Certificates of Compliance as part of its discretionary activities on behalf of the public. St. Louis County disavows and assumes no liability for damages to person or property in any manner or form resulting from the issuance of this Certificate of Compliance. St. Louis County cannot and does not guarantee the successful operation of the system.

This Certificate of Compliance is *valid for five years* unless the system fails and becomes a public health hazard or nuisance.

By: Donna O'Connor/kg

DONNA J O'CONNOR 218-749-0630
Environmental Specialist Senior

St. Louis County Environmental Services
Northland Office Center - Suite 115
307 First Street South
Virginia, MN 55792

Form:H420317P

Individual Sewage Treatment System

Permit to Construct

Site: & COMPANY INC DF
Address: 2063 BAYVIEW DR
TOWER MN 55790

Permit Number: 29545
Date of Permit: 05/10/2017
Permit expires on: 05/10/2019
Parcel Code: 387 - 0080 - 00230
Township: GREENWOOD (6216)
Designer: Josh Antus Construction Co Inc

DF & COMPANY INC
5481 ST CROIX TRAIL
SUITE 200
NORTH BRANCH MN 55056

Legal Description:
INC VAC RD ADJ

Sewage Treatment System plans for the following system meet the minimum standards of St. Louis County Ordinance No: 61. All sewage treatment system construction must be done in accordance with St. Louis County Ordinance No: 61.

The system was sized for a Single Family Dwelling with 4 Bedrooms.

The permit was granted for:
A New Standard System
ONE 1,500 Gallon Septic Tank(s) ONE 500 Gallon Pump Chamber(s)
System consists of 60 Feet of 10 Foot wide Seepagebed with a total of 12 Inches of Rock

Comments: MAXIMIZE LENGTH OF BED BUT MAINTAIN 10' TO LOT LINES

IF YOU ENCOUNTER ANY UNFORSEEN PROBLEM SUCH AS HIGH WATER TABLE, LEDGE ROCK, CHANGE IN SOIL CONDITIONS, OR CHANGES TO THE SYSTEM OR ITS LOCATION, YOU MUST OBTAIN APPROVAL FROM THE DEPARTMENT BEFORE CONTINUING WITH THE CONSTRUCTION OF THE SYSTEM.

FINAL INSPECTION: A final inspection must be made prior to backfilling and must be scheduled a minimum of 48 hours in advance, excluding weekends and holidays. Office hours are 8 a.m. to 4:30 p.m.

DISCLAIMER: St. Louis County issues sewage treatment system permits as part of its discretionary activities on behalf of the public. St. Louis County disavows and assumes no liability for damages to person or property in any manner or form resulting from the issuance of this permit or subsequent authorization to use the system. St. Louis County cannot and does not guarantee successful operation of the system.

****THIS PERMIT IS NOT TRANSFERABLE****

By: Donna J O'Connor

DONNA J O'CONNOR 218-749-0630
Environmental Specialist Senior

St. Louis County Environmental Services
Northland Office Center - Suite 115
307 First Street South
Virginia, MN 55792

Form:H420318P

SSTS Construction Permit Application
Subsurface Sewage Treatment System
St. Louis County, MN

Find your Parcel ID#(s) on your Property Tax Statement in the upper right corner (Property ID). Or at **www.stlouiscountymn.gov** and click on County Land Explorer		
Parcel ID #(s): 387 - 0080 - 00230	#: 387 - 0080 - 00240	#: - -
Parcel ID #(s): - -	#: - -	#: - -

☐ Check here to request a 911 address number and sign for this site. See www.stlouiscountymn.gov/landproperty for addressing information.

Applicant Name (property owner)	**Applicant Name** (if other than owner)
DF & Company	**Josh Antus**

Site Address	**City**	**MN**	**Zip**
2063 7. Bay View Dr	**tower**		**55790**

Acreage: .8	Lot Size: 100x350	Township Name: Greenwood	Sec 16	Twn 62	Rge 16

Legal Description or Plat Name/Block #/Lot #: Birchwood NW 1/4 of NW 1/4 Lots 23 & 24

CONTACT INFORMATION:

Send the Permit by: ✓ Mail; or by ✓ Email address: **dolson@dfandcompany.com**	Other:

Name (if different than above):	Primary Phone:	Secondary Phone:
Denise Olson	**651-242-5813**	

Mailing Address (if different than above)	City	ST	Zip
5481 St.Croix Trail, Suite 200,	**North Branch**	**MN**	**55056**

PERMIT APPLICATION IS FOR:

✓ New SSTS	☐ Replacing the Existing SSTS. Why:		☐ Point of Sale Requirement
☐ Holding Tank	☐ Component Addition or Replacement	☐ Greywater without Pressure	☐ Greywater with Pressure
☐ Privy (Outhouse)	☐ Privy & Greywater without Pressure	☐ SSTS Variance	☐ Commercial SSTS

SITE INFORMATION: (*Check all that apply*)

☐ Yes	✓ No	Has this parcel been divided recently? Or in the process of being divided? When:
✓ Yes	☐ No	Is this project within 300 ft of a stream/river or 1,000 ft of a lake? **Lake/River/Stream Name: Vermilion**
☐ Yes	✓ No	Is the property connected to a CIC (Common Interest Community)? If yes, include the Associated PIN on this Application.
☐ Yes	✓ No	Is this serving multiple dwellings sharing a SSTS component? If yes, explain:
☐ Yes	✓ No	Is this leased property? If yes, you must obtain & attach the Lessor's written authorization for this project.

Leased From: ☐ MN Power ☐ SLC Land & Minerals Dept. ☐ MN DNR ☐ US Forest Service ☐ Other

COMPLETE PAGE 2 NEXT: (Be sure to sign and date, then submit this form with the permit fee and design paperwork).

✓ Office Use Only ✓ **Fees are payable to St. Louis County Auditor** **Permit #** 29545

Amt Paid 520.- Paid by Josh Antus Const. Date RIO MAY 0 5 2017

Rev Code Cash Check #: 5705

Recd By LG ☑ Mail ☐ IP

SSTS Construction Permit Application

Subsurface Sewage Treatment System
St. Louis County, MN

SSTS DESIGNER: (Permits for privies or graywater systems do not require the services of a licensed designer).

Licensed Business or Certified Individual Name: Josh Antus Construction Lic. # 2705 Cert. #

Designer's comments to Environmental Health Staff regarding this permit application:

Water Source ✓ Proposed Well ☐ Existing Well ☐ Hand Carried ☐ Surface/Lake Water ☐ Municipal

Well Type ☐ Sandpoint ✓ Drilled ☐ Dug Well Depth Ft: Cased Depth Ft: Unique Well #:

The number of people who will be using this system: 2-4 NO per Josh

Building Type and Water Uses Check all that apply	# of Bdrms	Seasonal Use Only	PLBG	Bsmt PLBG	Garb Disp	Clothes Wshr	Dish Wshr	Water Condr	Furnace w/Hum	Bathtub > 40 gal	GSP
✓ Single Family	4	✓	☐	☐	NO	☐	☐	☐	☐	☐	☐
☐ Multi-Family		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐ Cabin or RV		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐ Garage with ☐ Bedroom ☐ Sink ☐ Shower ☐ Toilet		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐ Guest House		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐ Bunk House		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐ Other:		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐ Sauna		☐	☐								

Bdrms = bedrooms PLBG = plumbing Bsmt PLBG = basement plumbing Garb Disp = garbage disposal Wshr – washing machine
Condr = water conditioner Furn w/Hum = self-cleaning humidifier in furnace GSP = sewage grinder pump OWD-onsite wastewater division

Other information to be considered for this application:

APPLICANT SIGNATURE: Josh Antus **FEE:** 520.00 **DATE:** 5-2-17

APPLICANT AGREEMENT: By submitting this application, I certify and agree that I am the owner or the authorized agent of the owner of the above property, and that all uses will conform to the provisions of St. Louis County. I further certify and agree that I will comply with all conditions imposed in connection with the approval of the application. Applicants may be required to submit additional property descriptions, property surveys, site plans, building plans and other information before the application is accepted or approved. ***Intentional or unintentional falsification of this application or any attachments thereto will make the application, any approval of the application and any resulting permit invalid.*** I authorize St. Louis County staff to inspect the property to review the application and for compliance inspections. Furthermore, by submitting this application, I release St. Louis County and its employees from any and all liability and claims for damages to person or property in any manner or form that may arise from the approval of the application or any related plans, the issuance of any resulting permit or the subsequent location, construction, alteration, repair, extension, operation or maintenance of the subject matter of the application.

Duluth Office:
Environmental Services OWD
Government Services Center
320 W 2nd Street, Suite 301
Duluth, MN 55802

218-725-5200
Onsite Wastewater Dept. Toll Free 1-800-450-9278
www.stlouiscountymn.gov/septic

Virginia Office:
Environmental Services OWD
Northland Office Center
307 First Street S, Suite 115
Virginia, MN 55792

218-749-0625

Saint Louis County

Environmental Services Department - Onsite Wastewater Division 1-800-450-9278
Duluth: 320 W 2nd St., Suite 301, Duluth, MN 55802 (218) 725-5200
Virginia: 307 First St. So., Suite 115, Virginia, MN 55792 (218) 749-0625

PHASE I SOILS WORKSHEET

Sheet 1 of 1

Applicant Name: DF and Company Parcel ID: 387-0080-00230-00240

Address of property: 2063 Bay View Dr Tower

Evaluator: Josh Antus Const Date: 5-2-17 Time: 10 AM

Excavation type: Pit Excavation number and location: See Map

Site conditions: Sunny

Vegetation: Birch, Balsam

Landscape position: Side Slope Slope: 6% %

Depth Inches Pit#1	Texture	Structure Unstructured Structured Platy	Consistence Loose Friable Firm	Color Munsell	Confining Layer Y/N	Mottles Y/N	Roots Y/N	Comments
0-2	top Soil	Struct.	Fri	10YR 3/1	N	N	Y	
2-9	Loamy SAND	Unstruct	Fr.	3/2	N	N	Y	
9-48	Course SAND	Unstruct.	Loose	3/4	N	N	Y	
Pit#2 0-2	top	Struct	Fri	10YR 3/1	N	N	Y	
2-10	Loamy SAND	Unstruct	Fri	3/2	N	N	Y	
10-48	Coarse SAND	Unstruct	Loose	3/4	N	N	Y	

Seasonal High Water Conditions: +48" Inches from surface

Soil Wastewater Loading Rate: 1 Gallons per square foot per day

Hydraulic Linear Loading Rate: 10 Gallons per linear foot

5-217

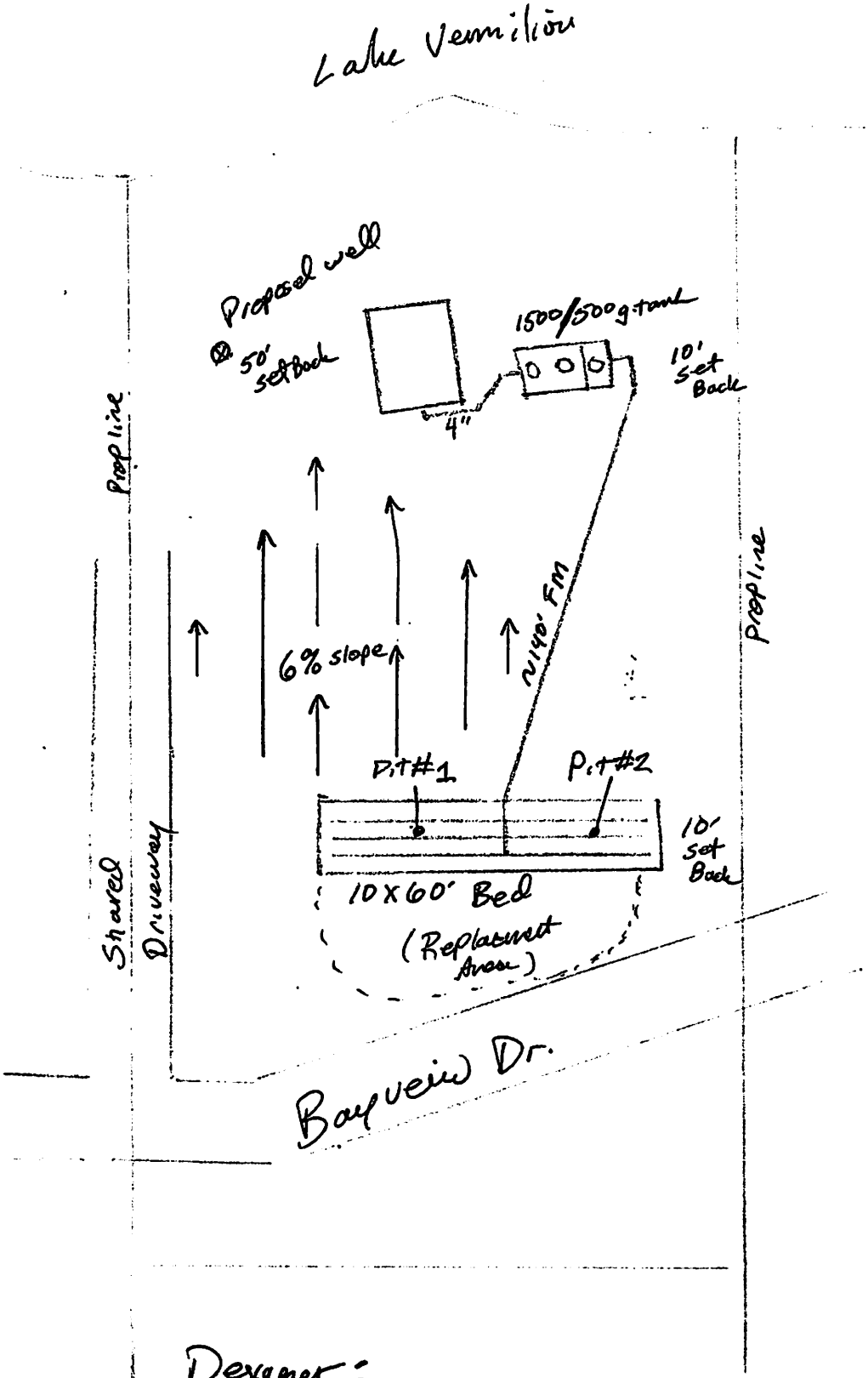
Sitemap for Septic Design

Lots 23&24, Tract 2

Bayview Drive, Tower

D.F. & Company

4 Bedroom septic



Designer:

Josh Antus Construction

L.# 2705

Minnesota Pollution Control Agency

OSTP Design Summary Worksheet

University of Minnesota

Property Owner/Client: DF & Company | Project ID: | v 04.06.2017

Site Address: Lot 23 &24 Bayview Dr Tower | Date: 5/2/17

Email Address: | Phone Number:

1. DESIGN FLOW, STRENGTH OF WASTE, AND TANKS

A. Residential Design Flow: 600 Gallons Per Day (GPD) Number of Bedrooms (Residential): 4

Type of Wastewater: Residential Treatment Level: C *Select Treatment Level C for residential septic tank effluent*

Other Est. flow (select method and provide data): ☐ Measured Flow: GPD ☐ Estimated Flow: GPD

Waste strength (attach data/estimate basis for Other Est.): BOD: mg/L TSS: mg/L Oil&Grease: mg/L

B. Septic Tank Sizing

1. Residential dwellings

Min Code Required Septic Tank Capacity: 1500 Gallons, in 1 Tanks or Compartments

Recommended Septic Tank Capacity: 1500 Gallons, in 1 Tanks or Compartments

2. Other Establishments

Waste received by:

Min Code Required Septic Tank Capacity: GPD X = Gallons, in Tanks or Compartments

Designer Recommended Septic Tank Capacity: Gallons, in Tanks or Compartments

3. Effluent Screen & Alarm (Y/N): Yes Manufacturer/Model:

C. Holding Tanks Only: Minimum Capacity: Residential =400 gal/bedroom, Other Establishment = Design Flow x 5.0, Minimum size 1000 gallons

Minimum Code Required Capacity: Gallons, in Tanks Type of High Level Alarm:

Designer Recommended Capacity: Gallons, in Tanks

D. Pump Tank 1 Capacity (Code Minimum): 500 Gallons Pump Tank 2 Capacity (Code Minimum): Gallons

Pump Tank 1 Capacity (Designer Rec): #REF! Gallons Pump Tank 2 Capacity (Designer Rec): Gallons

Pump 1 45.0 GPM Total Head 23.8 ft Pump 2 GPM Total Head ft

Supply Pipe Dia. 2.00 in Dose Volume: 150.0 gal Supply Pipe Dia. in Dose Volume: gal

2. SYSTEM AND DISTRIBUTION TYPE

Soil Treatment Area Type: Bed Distribution Type: Pressure Distribution-Level

Benchmark Reference Elevation: ft Benchmark Location:

MPCA System Type: Type I Type of Distribution Media: Rock

Type III/IV Details:

3. SITE EVALUATION SUMMARY:

A. Depth to Limiting Layer: 48 in 4.0 ft

B. Elevation of Limiting Layer:

C. Loc. of Restrictive Elevation:

D. Minimum Required Separation: 36 in 3.0 ft

E. Code Maximum Depth of System: 12 in

F. Measured Land Slope: 6.0 %

G. Soil Texture: Loamy Sand

H. Soil Hyd. Loading Rate: 10.00 GPD/ft²

I. Perc Rate: MPI

J. Soil with >35% Rock Fragments Present? 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.

Comments:

Minnesota Pollution Control Agency

OSTP Design Summary Worksheet

UNIVERSITY OF MINNESOTA

4. SOIL TREATMENT AREA DESIGN SUMMARY

Trench Design Summary

Dispersal Area	ft²	Sidewall Depth	in	Trench Width	ft
Total Lineal Feet	ft	Number of Trenches		Code Maximum Trench Depth	in
Contour Loading Rate	ft	Min Trench Length	ft	Designer's Max Trench Depth	in

Bed Design Summary

Absorption Area	600 ft²	Depth of sidewall	12.0 in	Code Maximum Bed Depth	12.0 in
Bed Width	10 ft	Bed Length	60.0 ft	Designer's Max Bed Depth	16.0 in

Mound Design Summary

Absorption Bed Area	ft²	Bed Length	ft	Bed Width	ft
Absorption Width	ft	Clean Sand Lift	ft	Berm Width (0-1%)	ft
Upslope Berm Width	ft	Downslope Berm Width	ft	Endslope Berm Width	ft
Total System Length	ft	Total System Width	ft	Contour Loading Rate	gal/ft

At-Grade Design Summary

Absorption Bed Width	ft	Absorption Bed Length	ft	System Finished Height	ft
Contour Loading Rate	gal/ft	Upslope Berm Width	ft	Downslope Berm Width	ft
Endslope Berm Width	ft	System Length	ft	System Width	ft

Level & Equal Pressure Distribution Summary

No. of Perforated Laterals	3	Perforation Spacing	3 ft	Perforation Diameter	1/4 in
Lateral Diameter	2.00 in	Min. Delivered Volume	118 gal	Maximum Delivered Volume	150 gal

Non-Level and Unequal Pressure Distribution Summary

	Elevation (ft)	Pipe Size (in)	Pipe Volume (gal/ft)	Pipe Length (ft)	Perforation Size (in)	Spacing (ft)	Spacing (in)
Lateral 1							
Lateral 2							
Lateral 3							
Lateral 4							
Lateral 5							
Lateral 6							

Minimum Delivered Volume ____ gal

Maximum Delivered Volume ____ gal

5. Additional Info for At-Risk, HSW or Type IV Design

A. *Calculate the organic loading*

1. *Organic Loading to Pretreatment Unit = Design Flow X Estimated BOD* in mg/L in the effluent X 8.35 ÷ 1,000,000

____ gpd X ____ mg/L X 8.35 ÷ 1,000,000 = ____ lbs. BOD/day

2. Type of Pretreatment Unit Being Installed: ____

3. Calculate *Soil Treatment System Organic Loading: BOD concentration after pretreatment ÷ Bottom Area* = lbs./day/ft²

____ mg/L X 8.35 ÷ 1,000,000 ÷ ____ ft² = ____ lbs./day/ft²

Comments/Special Design Considerations:

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

Josh Artus Const.		2705	5-2-17
(Designer)	(Signature)	(License #)	(Date)

Minnesota Pollution Control Agency

OSTP Bed Design Worksheet

University of Minnesota

1. SYSTEM SIZING: Project ID: v 04.06.2017

A. Design Flow (Design Sum.1A): 600 GPD

B. Code Maximum Depth*: 24 inches Designers Maximum Depth: 16 inches

C. Soil Loading Rate: 1.00 GPD/ft²

D. Required Bottom Area: Design Flow (1.A) ÷ Loading Rate (1.C) = Initial Required Bottom Area

600 GPD ÷ 1.00 GPD/ft² = 600 ft²

E. Select Distribution Method: ☑ Pressure ☐ Gravity

F. Select Dispersal Type: ☑ Rock ☐ Registered

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

2. BED CONFIGURATION: (for sites with less than 6% slope)

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

B. Req'd Bottom Area = Bottom Area (1.D) X Size Multiplier =

600.0 ft² X 1.0 ft = 600 ft²

C. Designed Bottom Area: 600 ft *Optional upsizing of bed area*

D. Select Bed Width: 10 ft

E. Calculate Bed Length: Designed Bottom Area ÷ Bed Width = Bed Length

600 ft² ÷ 10.0 ft = 60.0 ft

3. MATERIAL CALCULATION: ROCK

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

12 in 1.00 ft

B. Media Volume: (Media Depth + depth to cover pipe) X Designed Bottom Area = ft³

(1.00 ft + ft) X 600.0 ft² = 600 ft³

C. Calculate Volume in cubic yards: Media volume in cubic feet ÷ 27 = cubic yards

600 ft³ ÷ 27 = 22 yd³

4. MATERIAL CALCULATION: REGISTERED PRODUCTS - CHAMBERS AND EZFLOW

A. Registered Product:

B. Component Length: ft

C. Component Width: ft

D. Component depth (louver or depth of sidewall loading) in

E. Number of Components per Row = Bed Length divided by Component Length (Round up)

ft ÷ ft = components

F. Actual Bed Length = Number of Components X Component Length:

components X ft = ft

G. Number of Rows = Bed Width divided by Component Width

ft ÷ ft = rows *Adjust width so this is an whole number.*

H. Total Number of Components = Number of Components per Row X Number of Rows

X = components

OSTP Pressure Distribution Design Worksheet

Minnesota Pollution Control Agency

University of Minnesota

Project ID: v 04.06.2017

1. Media Bed Width: 10 ft

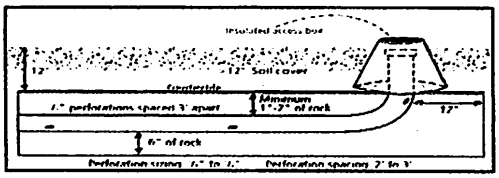
2. Minimum Number of Laterals in system/zone = Rounded up number of [(Media Bed Width - 4) ÷ 3] + 1.

[(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 (accept in at-grades)

4. Select *Perforation Spacing*: 3.0 ft

5. Select *Perforation Diameter Size:* 1/4 in



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

60 - 2ft = 58 ft *Perforation can not be closer then 1 foot from edge.*

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

Number of Perforation Spaces = 58 ft ÷ 3 ft = 19 Spaces

8. *Number of Perforations per Lateral* is equal to 1.0 plus the *Number of Perforation Spaces*. 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 = 19 Spaces + 1 = 20 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

9. *Total Number of Perforations* equals the *Number of Perforations per Lateral* multiplied by the *Number of Perforated Laterals.*

20 Perf. Per Lat. X 3 Number of Perf. Lat. = 60 Total Number of Perf.

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

11. *Select Lateral Diameter (See Table)*: 2.00 in

Minnesota Pollution Control Agency

OSTP Pressure Distribution Design Worksheet

University of Minnesota

12. 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	60	ft	=	600	ft²

b. *Square Foot per Perforation* = *Bed Area* divided by the *Total Number of Perforations*.

600	ft²	÷	60	perforations	=	10.0	ft²/perforations

13. Select *Minimum Average Head*: 1.0 ft

14. Select *Perforation Discharge* (GPM) based on Table: 0.74 GPM per Perforation

15. Determine required *Flow Rate* by multiplying the *Total Number of Perfs.* by the *Perforation Discharge.*

60	Perfs	X	0.74	GPM per Perforation	=	45	GPM

16. *Volume of Liquid Per Foot of Distribution Piping (Table II)*: 0.170 Gallons/ft

17. *Volume of Distribution Piping* =
= [*Number of Perforated Laterals* X *Length of Laterals* X (Volume of Liquid Per Foot of Distribution Piping]

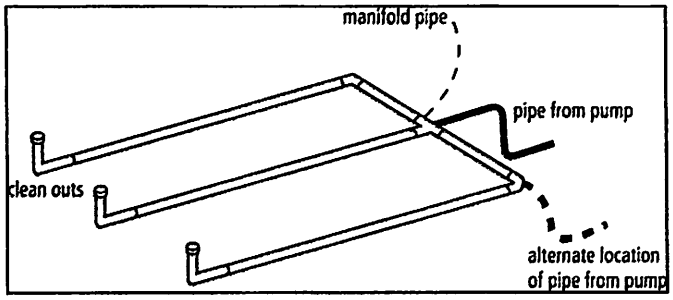
3	X	58	ft	X	0.170	gal/ft	=	29.6	Gallons

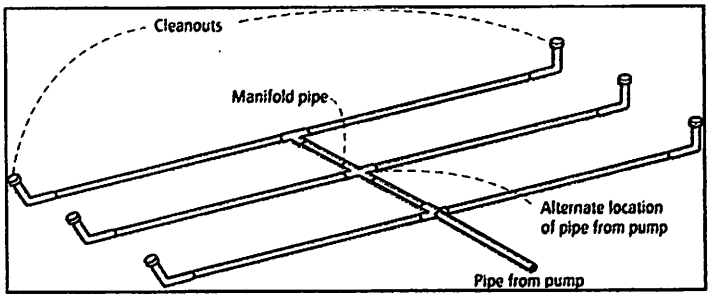
18. Minimum Delivered Volume = Volume of Distribution Piping X 4

29.6	gals	X	4	=	118.3	Gallons

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:

Minnesota Pollution Control Agency

OSTP Basic Pump Selection Design Worksheet

University of Minnesota

1. PUMP CAPACITY | Project ID: | v 04.06.2017

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

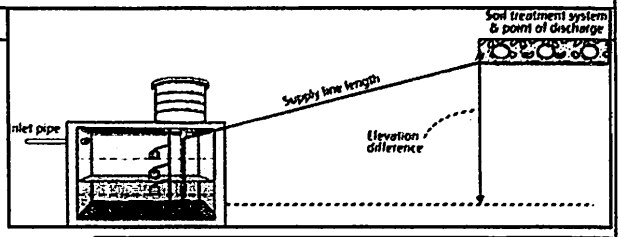
1. If pumping to gravity enter the gallon per minute of the pump: _____ GPM *(10 - 45 gpm)*
2. If pumping to a pressurized distribution system: **45.0** GPM
3. Enter pump description: **zoller 152**

2. HEAD REQUIREMENTS

A. Elevation Difference between pump and point of discharge: **10** ft

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

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



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: **140** ft

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

Friction Loss = **5.02** 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 (D.2)* X 1.25 = *Equivalent Pipe Length*

140 ft X 1.25 = **175.0** ft

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

Supply Friction Loss =

5.02 ft per 100ft X **175.0** ft + 100 = **8.8** ft

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

10.0 ft + **5.0** ft + _____ ft + **8.8** ft = **23.8** ft

3. PUMP SELECTION

A pump must be selected to deliver at least **45.0** GPM (Line 1 or Line 2) with at least **23.8** feet of total head.

Comments:

Minnesota Pollution Control Agency

OSTP Pump Tank Design Worksheet (Demand Dose)

University of Minnesota

DETERMINE TANK CAPACITY AND DIMENSIONS | Project ID: | v 04.06.2017

1. A. *Design Flow (Design Sum.1A)*: 600 GPD
   B. Min. required pump tank capacity: 500 Gal C. Recommended pump tank capacity: 500 Gal

2. A. Tank Manufacturer: _____ B. Tank Model: _____
   C. Capacity from manufacturer: 500 Gallons
   D. Gallons per inch from manufacturer: 12.5 Gallons per inch
   E. Liquid depth of tank from manufacturer: 47.0 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 Calculate *Volume to Cover Pump* (The inlet of the pump must be at least 4-inches from the bottom of the pump tank & 2 inches of water covering the pump is recommended)

(Pump and block height + 2 inches) X *Gallons Per Inch* (2C or 3E)

(10 in + 2 inches) X 12.5 Gallons Per Inch = 150 Gallons

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

- Line 17 of the Pressure Distribution or Line 11 of Non-level 118 Gallons (minimum dose)

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

Design Flow: 600 GPD X 0.25 = 150 Gallons (maximum dose)

6 *Select a pumpout volume that meets both Minimum and Maximum:* 150 Gallons

7 Calculate *Doses Per Day* = Design Flow ÷ *Delivered Volume*

600 gpd ÷ 150 gal = 4.0 Doses

8 Calculate Drainback:

A. *Diameter of Supply Pipe* = 2 inches

B. Length of Supply Pipe = 140 feet

C. *Volume of Liquid Per Lineal Foot of Pipe* = 0.170 Gallons/ft

D. *Drainback = Length of Supply Pipe X Volume of Liquid Per Lineal Foot of Pipe*

140 ft X 0.170 gal/ft = 23.8 Gallons

9. *Total Dosing Volume = Delivered Volume* plus *Drainback*

150 gal + 23.8 gal = 174 Gallons

10. Minimum Alarm Volume = Depth of alarm (2 or 3 inches) X gallons per inch of tank

3 in X 12.5 gal/in = 37.5 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

DEMAND DOSE FLOAT SETTINGS

11. Calculate *Float Separation Distance* using *Dosing Volume*.

Total Dosing Volume / Gallons Per Inch

174 gal ÷ 12.5 gal/in = 13.9 Inches

12. Measuring from bottom of tank:

A. *Distance to set Pump Off Float* = Pump + block height + 2 inches

10 in + 3 in = 13 Inches

B. *Distance to set Pump On Float=Distance to Set Pump-Off Float + Float Separation Distance*

13 in + 13.9 in = 27 Inches

C. *Distance to set Alarm Float = Distance to set Pump-On Float + Alarm Depth* (2-3 inches)

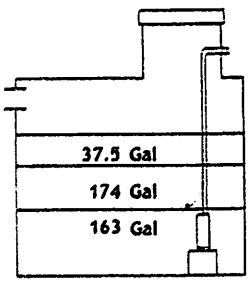
27 in + 3.0 in = 30 Inches

Inches for Dose: 13.9 in

Alarm Depth 29.9 in

Pump On 26.9 in

Pump Off 13.0 in



Tank Worksheet

Applicant name: DF & Company Address of site: 2063 Bayview Rd.

System designer: Josh Antus Date: 5-2-17

What type of use are these tanks servicing? 4 Bdrm seasonal cabin

Feed into septic tanks: Gravity X Pressure____ Both____

What is the design flow for the treatment system? 600 gallons per day

Describe flow train (order) of tanks: 1500g septic tank 500g Pump tank

Garbage disposal Y /(N) Bath > 75 gallons Y (N)

Septic tanks for project

Proposed number of septic tanks 1 Depth of cover 12" inches Septic tank alarm (Y) / N

Anchoring requirements Y /(N) If yes, specify____

Septic Tank # 1

Size of septic tank 1st compartment 1500 gals. 2nd compartment _____ gals.

Proposed tank material Concrete Existing____ or new tank X

Seam locations on tank Lid.

Elevation of seams above seasonal high water table +12" inches

Risers cast into lid ? (Y) / N If no method of attachment?____

Filter supplied ? (Y) / N Method of tank bedding SAND

Is tank to be insulated ? (Y) / N If yes, how 2" Dow Foam

Septic Tank # 2

Size of septic tank 1st compartment _____ gals. 2nd compartment _____ gals.

Proposed tank material_____ Existing_____ or new tank _____

Seam locations on tank_____

Elevation of seams above seasonal high water table _____ inches

Risers cast into lid ? Y / N If no method of attachment?_____

Filter supplied ? Y / N Method of tank bedding _____

Is tank to be insulated ? Y / N If yes, how_____

Pump vaults

Type and size of vault 500g concrete Manufacturer Delzotto

Pump tank or chambers

Size of tank or chamber 500g. gallons

Tank construction material concrete New X or existing _____

Are risers cast into lid? yes If no, method of attachment_____

Is riser lid insulated.? (Y) N Are there anchoring requirements for this tank? Y (N)

Method of tank bedding? SAND

Time dose control panel Y (N) Event counter (Y) N Elapsed time meter (Y) N

Recirculation tanks

Size of tank _____ gallons New_____ or existing _____

Tank construction material _____

Are risers cast into lid? _____ If no, method of attachment_____

Is riser lid insulated.? Y/ N

Are there anchoring requirements for this tank? Y / N

Method of tank bedding? _____

_____ _____

Time dose control panel Y / N Event counter Y / N Elapsed time meter Y / N

General:

Tank installation access: Good

Drainage details: Slope for surface water to Run Away from Manhole Lids

Pumping access route: Driveway

General Comments:

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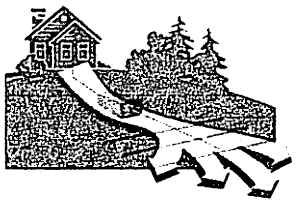


Septic System Management Plan for Below Grade Systems

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

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

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

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

Property Owner D.F & Co.	Email dolson@dfandcompany.com
Property Address 2063 Bayview Dr.	Property ID 387-0080-00230
System Designer Josh Antus Const.	Contact Info 218-410-0611
System Installer Josh Antus Const.	Contact Info 218-410-0611
Service Provider/Maintainer Goodtogo Pumping	Contact Info 218-750-0103
Permitting Authority St Louis Co.	Contact Info 218-749-0625
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.

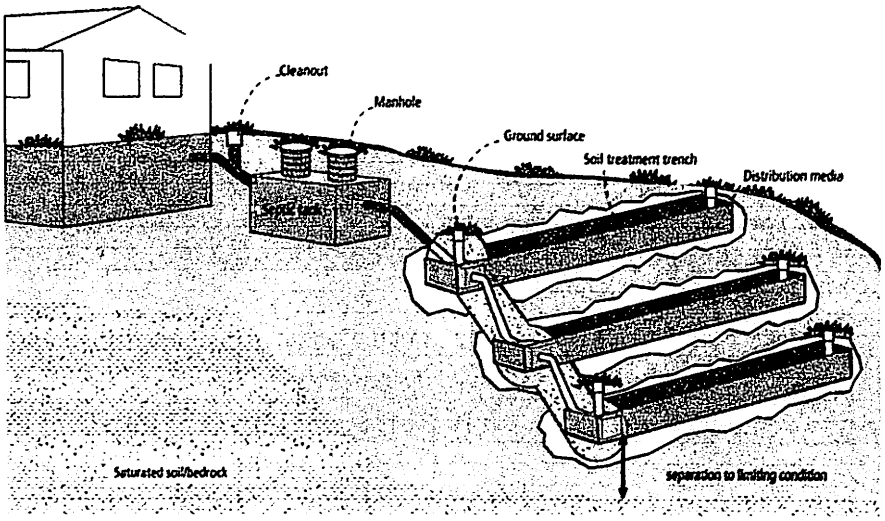
For more information see http://septic.umn.edu

Version: August 2015

UNIVERSITY OF MINNESOTA

Septic System Management Plan for Below 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: 4

System capacity/ design flow (gpd): 600

Average daily flow (gpd): 400

Comments _____

Business? Y (N) What type? _____

Well Construction

Well depth (ft): _____

- ☐ 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:* 1500 *gallons*

  Does tank have two compartments? Y N
- ☐ Second tank *Tank volume:* _____ *gallons*
- ☒ Tank is constructed of Concrete
- ☒ Effluent screen: (Y) N Alarm (Y) N

- ☒ Pump tank *(if one)* 500 *gallons*
- ☒ Effluent pump *make/model:* Zoller 140

  Pump capacity 45 GPM

  TDH 23.8 Feet of head
- ☒ Alarm (Y) N Location 3" Below l.d.

Soil Treatment Area (STA)

Trenches: _____ total lineal feet

Number of trenches: _____ at _____ feet each

STA size (width x length): 10 ft x 60 ft

Location of additional STA: South of Bed

Type of distribution media: Rock

- ☐ Gravity distribution
- ☒ Pressure distribution
- ☒ Inspection ports
- ☒ Cleanouts
- ☐ Additional STA not available
- ☒ Surface water diversions

Homeowner Maintenance Log

Track maintenance activities here for easy reference. See list of management tasks on pages 3and 4.

Activity	Date accomplished									
Check frequently:										
Leaks: check for plumbing leaks *										
Soil treatment area check for surfacing **										
Lint filter: check, clean if needed *										
Alarms **										
Check annually:										
Water usage rate (max gpd:_____)										
Caps: inspect, replace if needed										
Water use appliances – review use										
Other:										

*Monthly

** Quarterly

*** Bi-Annually

Notes: _____

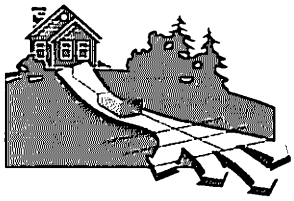
_____

"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: Josh Antus Const. Certification # 2705

Permitting Authority: _____



Homeowner Management Tasks

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

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

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

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

Seasonally or several times per year

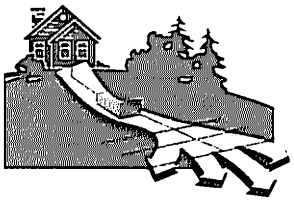
- *Leaks.* Check (listen, look) for leaks in toilets and dripping faucets. Repair leaks promptly.
- *Soil treatment area.* Regularly check for wet or spongy soil around your soil treatment area. If surfaced sewage or strong odors are not corrected by pumping the tank or fixing broken caps and leaks,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

Annually

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

During each visit by a service provider or pumper/maintainer

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



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: 150 gallons: Pump run time: _____ Minutes

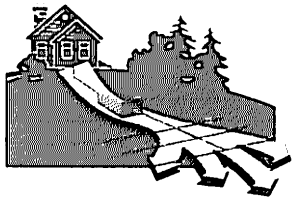
Soil Treatment Area

- *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.
- *Gravity trenches and beds.* Check the number of gravity trenches with effluent ponded in distribution media. Identify the percentage of the system in use. Determine if action is needed.
- *Pressure trenches and beds - 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 recharge to your septic system.
Water softener Iron filter Reverse osmosis	• Salt in recharge water may affect system performance. • Recharge water may hydraulically overload the system.	• These sources produce water that is not sewage and should not go into your septic system. • Reroute water from these sources to another outlet, such as a dry well, draintile or old drainfield. • When replacing, consider using a demand-based recharge vs. a time-based recharge. • Check valves to ensure proper operation; have unit serviced per manufacturer directions
Surface drainage Footing drains	• Water from these sources will overload the system and is prohibited from entering septic system.	

Saint Louis County

Environmental Services

**** Receipt ****

Current Date: 5/5/2017

CVT-Plat-Parcel: 387 - 80 - 230

& COMPANY INC DF
5481 ST CROIX TRAIL
SUITE 200
NORTH BRANCH, MN 55056

Type of Service	Units	Unit Amount	Discount %	Net	Paid	Balance
ISTS Permit Shoreland	1	520.00	0.00	520.00	520.00	0.00

Pd by Josh Antus Const.

Total Due: 0.00