



CITY OF NORTH OAKS

**Regular City Council Meeting
Thursday, February 10, 2022
7 PM, Community Meeting Room, 100 Village Center Drive
MEETING AGENDA**

Remote Access - City Council members will participate by telephone or other electronic means pursuant to Minn. Stat. §13D.021. 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: 876 0229 1447 or by joining the meeting via the following link: <https://us02web.zoom.us/j/87602291447>. Individuals wishing to monitor the meeting remotely may do so in real time by watching the livestream of the meeting on North Oaks Channel 16 and on the City's website. Due to the existing COVID-19 Health Pandemic, no more than five (5) members of the public may be in Council Chambers (Community Room, 100 Village Center Drive, MN) during the meeting. Once room capacity is met, anyone wishing to attend the meeting above the five (5) members of the public who may be present in the room during the meeting will be required to monitor the meeting remotely.

1. Call to Order

2. Roll Call

3. Pledge of Allegiance

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

5. Approval of Agenda

6. Consent Agenda - These are items that are considered routine and can be acted upon with one vote.

6a. Approval of Licenses:

General Contractor/Mechanical: 4Front Energy Solutions, Bonfe's Plumbing, Heating & Air Service; Centerpoint Energy Resource Group; The Fireplace Guys; Hero Home Services, Inc.;

Majestic Custom Heating & Air; Marsh Heating & Air; Pronto Heating & Air Conditioning; Tim's Quality Plumbing; Twin City Fireplace & Stone

Arborists: Arboreal Tree Service; Birch Tree Care; Central Minnesota Tree Service; Sorenson Tree Service

- 6b. Approval of Meeting Minutes of December 6, 2021 Special Council Meeting - Performance Review of City Administrator
[12.6.2021 Special City Council Meeting - City Administrator Performance Review.pdf](#)
- 6c. Approval of Meeting Minutes of the December 17, 2021 Special City Council Meeting - City Administrator Continued Performance Review
[12.17.2021 Special City Council Meeting - City Administrator Performance Review.pdf](#)
- 6d. Approval of January 8, 2022 Special City Council Strategy Session Meeting Minutes
[01.13.2022 City Council Minutes.pdf](#)
- 6e. Approval of January 13, 2022 Meeting Minutes
[01.13.2022 City Council Minutes.pdf](#)
- 6f. Approval of City Financials for January 2022

7. Petitions, Requests & Communications -
Deputy Mike Burrell Report

8. Unfinished Business

- 8a. Continued discussion and possible action on 2022 City Council meeting schedule

9. New Business

- 9a. Consider approval of application for final plan/plat (subdivision) approval for the Red Forest Way development site (Development Site K of the East Oaks PDA; Tracts C, E, and P, RLS 561) (Applications) Consideration of resolution deeming applications incomplete and denying approval for Applications
[RFW Final Plan Checklist.pdf](#)

[Combined Exhibits RFW.pdf](#)

[Red Forest Way South - Final Plan Memo.pdf](#)
- 9b. Consider resolutions of approval for Conditional Use Permits at properties located at 6, 10, 14, and 16 Sherwood Trail
[GH1258-Tract H RLS 634\(EAST PRESERVE\)-COS 010422 \(003\).pdf](#)

[6 Sherwood Trail - Guanzini - Elev for CUP - 1-3-22 Update.pdf](#)

[GH1335-Tract F, RLS 634\(EAST PRESERVE\)-10 SHERWOOD - COS 010422.pdf](#)

[GH1325 TRACT D, RLS 634\(EAST PRESERVE\)-14 SHERWOOD-COS 120321.pdf](#)

[GH1324-Tract C, EAST PRESERVE-16 SHERWOOD-COS PAGE 2 121621.pdf](#)

[Staff Report 6 Sherwood Trail height updated kkjwm1-5-22.pdf](#)

[Staff Report 10 Sherwood Trail height finalkk 2-7-22.pdf](#)

[Staff Report 14 Sherwood Trail heightkkfinal 2-7-22.pdf](#)

[Staff Report 16 Sherwood Trail heightkkfinal 2-7-22.pdf](#)

[Resolution Approving 6 sherwood trail home height CUP.pdf](#)

[Resolution Approving 10 sherwood trail home height CUP.pdf](#)

[Resolution Approving 14 sherwood trail home height CUP.pdf](#)

[Resolution Approving 16 sherwood trail home height CUP.pdf](#)

9c. Consider resolution approving a septic variance for property located at 9 Ridge Road
[SKM_C65921102814070.pdf](#)

[Resolution approving 9 ridge road septic variance.pdf](#)

9d. Consider resident request to extend sewer services to Sherwood Trail lots 15 and 17 from Rapp Farm subdivision

9e. Discussion and possible action on North Oaks office lease

9f. Discussion and possible action on climate emergency declaration

10. Council Member Reports

11. City Administrator Reports

12. City Attorney Reports

13. Miscellaneous

13a. City Forester January 2022 Report
[January 2022 in Review.pdf](#)

14. Adjournment - *The next meeting of the City Council is Thursday, March 10th, 2022.*

**North Oaks City Council
Special Meeting Minutes – City Administrator Performance Review
North Oaks City Council Chambers
December 6, 2021**

CALL TO ORDER

Mayor Ries called the Special meeting to order on December 6, 2021 at 6:00 p.m.

ROLL CALL

Present: Mayor Kara Ries. Councilmembers Rich Dujmovic, Jim Hara, Sara Shah, Tom Watson
Staff Present: Administrator Kevin Kress
A quorum was declared present.

CITY ADMINISTRATOR KEVIN KRESS PERFORMANCE REVIEW

Mayor Ries opened the special meeting at 6:00 p.m. for the purpose of conducting performance review of North Oaks City Manager Kevin Kress.

MOTION by Dujmovic, seconded by Watson, to approve the agenda.

MOTION by Watson, seconded by Dujmovic, to move to a closed session pursuant to Minnesota State Statute 13D.05 subd.3. Motion carried unanimously.

Mayor Ries closed the public hearing at 6:51 p.m.

ADJOURNMENT

**MOTION by Watson, seconded by Dujmovic, to adjourn the Council meeting at 7:29 p.m.
Motion carried unanimously.**

Kevin Kress, City Administrator

Kara Ries, Mayor

Date approved _____

**North Oaks City Council
Special Meeting Minutes – City Administrator Performance Review
North Oaks City Council Chambers
December 17, 2021**

CALL TO ORDER

Mayor Ries called the Special meeting to order on December 6, 2021 at 9:08 a.m.

ROLL CALL

Present: Mayor Kara Ries. Councilmembers Rich Dujmovic, Jim Hara, Sara Shah, Tom Watson
Staff Present: Administrator Kevin Kress
A quorum was declared present.

CITY ADMINISTRATOR KEVIN KRESS PERFORMANCE REVIEW

Mayor Ries opened the special meeting at 9:08 a.m.

MOTION by Watson, seconded by Dujmovic, to move to a closed session pursuant to Minnesota State Statute 13D.05 subd.3. Motion carried unanimously.

ADJOURNMENT

**MOTION by Watson, seconded by Dujmovic, to adjourn the Council meeting at 10:19 a.m.
Motion carried unanimously.**

Kevin Kress, City Administrator

Kara Ries, Mayor

Date approved _____

**North Oaks City Council
Meeting Minutes
North Oaks City Council Chambers
January 13, 2022**

1. CALL TO ORDER

Mayor Ries called the meeting to order on Thursday, January 13, 2022 at 7:05 p.m.. The meeting is being conducted via Zoom pursuant to Minn. Stat. §13D.021 and the City Resolution.

2. ROLL CALL

Present: Mayor Kara Ries. Councilmembers Rich Dujmovic, Jim Hara, Sara Shah, Tom Watson
Staff Present: Administrator Kevin Kress, Attorney Jim Thomson, Engineer Tim Korby,
Engineer John Morast, Forester Mark Rehder
Others Present: Videographer Kenny Ronnan
A quorum was declared present.

3. PLEDGE OF ALLEGIANCE

Mayor Ries led the Council in the Pledge of Allegiance.

4. CITIZEN COMMENTS

None.

5. APPROVAL OF AGENDA

MOTION by Watson, seconded by Hara, to approve the Agenda.

Member Shah raised concerns about the late arrival of the agenda packet for the Council and for residents.

Administrator Kress noted one item was removed from the agenda and all of the supporting documents were added this afternoon as they were compiling things from the other sub-committees.

Member Shah has a concern about the Conditional Use Permits (CUPs) happening at the Planning Commission level and dropping it from the agenda. She stated the Planning Commission is pursuing City business and those CUPs are stacking up; there are at least four scheduled in two weeks for the Planning Commission. She said what was removed from the Agenda, and what the Planning Commission has been waiting for, is direction from this Council on how to interpret the CUP language.

Member Watson agrees the packet was late and they strive to have it out sooner. He clarified they were interviewing candidates for the Planning Commission and it took until earlier that morning to complete all the work. There were only a few modifications to the packet.

Member Shah would like to discuss the removal of the CUP item from the Agenda.

Motion carried by roll call as Members Watson, Dujmovic, Hara, and Ries voted for; Member Shah voted against.

6. CONSENT AGENDA

6a. Approval of Licenses:

**General Contractor/Mechanical: Air Comfort Heating & A/C; Carter Custom Construction & Fireplace; CMS/NEXTech, LLC; Erickson Plumbing Heating Air; Genz Ryan Plumbing and Heating; Hearth & Home Technologies dba Fireside Hearth & Home; Heating & Cooling Two, Inc; Kraus-Anderson Construction Company; Krinkie Heating and Air Conditioning Co.; Owens Companies, Inc., Schulties Plumbing Inc.; Standard Heating and Air Conditioning
Arborists: Aaron Boyd's Tree Care; Alex's Lawn & Turf, LLC; Budget Tree Service; Clean Cut Outdoor Services; The Davey Tree Expert Company; Expert Tree; The FA Bartlett Tree Experts; Hugo's Tree Care Inc.; Langer's Tree LLC; Lawrence Tree & Stump Services Inc.; Morgan's Tree Service; Northern Arborists; North Woods Industries, LLC; Pioneer Tree Service; Precision Landscape and Tree, Inc.; Red Leaf Tree Care LLC; Renstrom Tree Service; Savatree LLC; Vineland Tree Care; Woodchuck Tree Care LLC; Woodland Restorations, LLC**

6b. City Financials for Approval:

Check #: 142228 - 14266, EFT # 000501E - 0005123

6c. Approval of December 9, 2021 Special City Council Truth in Taxation Meeting Minutes

6d. Approval of Regular City Council Meeting Minutes of December 13, 2021

6e. Resolution 1445 Approving CUP for excess height at 3 Eastview Lane

6f. Approval of 2022 City Hall Holiday Schedule

6g. Resolution 1446 approving 2040 Comprehensive Plan

6h. Approval of City Investment Policy

6i. Approval of Electronic Fund Transfer Policy

6j. Approval of Agreement for Recycling Processing

MOTION by Watson, seconded by Hara, to approve the Consent Agenda. Motion carried unanimously by roll call.

7. PETITIONS, REQUESTS & COMMUNICATIONS

a. Deputy Mike Burrell Report

Deputy Burrell stated North Oaks has had one car theft and a few mail package thefts over the past month. One was at Rapp Farm and the people were caught and another had suspects

identified who had gone on a long crime spree throughout the metro and criminal charges were filed in Forest Lake. He shared that there have also been numerous thefts from autos throughout contract cities. He noted residents should be aware that they are happening and that these things could move into North Oaks. Contract cities continue to report frauds and Deputy Burrell urged people to be careful who they are sending money to and call the company to be sure they are not sending money to fraudsters.

b. 2021 City Forester Annual Update

City Forester Mark Rehder gave a presentation, noting the full report is in the packet for the Council to review. He noted the biggest impact to the City's forests is Emerald Ash Borer (EAB) which was detected in North Oaks in 2019. EAB inspections are in full swing now during winter and he noted numbers are still relatively small but that number will climb. They will continue to be vigilant against EAB detection, notification, and compliance of diseased trees.

Mr. Rehder and the Council discussed tree removals within the shoreland ordinance and ribboning of trees for pruning and removal throughout the City.

8. UNFINISHED BUSINESS

None.

9. NEW BUSINESS

a. Discussion and possible action on filling Planning and Natural Resource Commission vacancies. Review and consideration of amendment to Natural Resource Commission Resolution 1447.

Member Watson stated on page 94 of the packet is a policy adopted in 2020 which laid out a process for recruitment and recommending board positions in North Oaks for Natural Resources Commission (NRC) and Planning Commission (PC). He spoke about vacancies on the NRC as well as candidates, stating both are recommended in the Resolution. Member Watson is proposing to change the amount of possible Commissioners from seven people to no more than nine due to the number of qualified candidates with a wide-range of expertise.

The Council and Attorney Thomson discussed the item.

MOTION by Watson, seconded by Dujmovic, to amend Resolution #1447 including the changes suggested by Attorney Thomson under Composition and Size of Commission, Line 2 which shall consist of not less than seven and not more than nine voting members. Motion carried unanimously by roll call.

MOTION by Watson, seconded by Hara, to reappoint Addie Motta to a three-year term, reappoint Andrew Hawkins to a three-year term, and appoint Paul Ellis to a two-year term on the Natural Resource Commission. Motion carried unanimously by roll call.

Member Watson noted there were seven applicants for three positions on the Planning Commission. The interview team met with each candidate and the questions are in the packet; he noted they were looking for people to add some balance within the Commission.

The Council discussed the candidates (noting they had seven very good people) and the process.

Member Shah asked about the reappointment of standing members as historically they have reappointed.

After discussing the issue of reappointing standing members, Administrator Kress shared that he understands Member Shah's point of view and asked what Members Hara and Dujmovic think about the issue.

Member Shah stated she would like to finish her point.

Mayor Ries called a point of order noting the floor belongs to Members Hara and Dujmovic.

Member Hara is encouraged by the candidates and would go along with the recommendations of those who were on the interview committee.

Member Dujmovic supports the candidates suggested and trusts their judgment.

MOTION by Watson, seconded by Hara, to reappoint Nick Sandell to a three-year term, appoint Scott Wiens to a three-year term, and appoint Robert Ostlund to a three-year term on the Planning Commission ending December 31, 2024. Motion carried by roll call as Members Watson, Dujmovic, Hara, and Ries voted for; Member Shah voted against.

b. Consideration of Resolution 1448 approving 2022 City Council Responsibilities/Appointments

Administrator Kress noted there were very few changes made in the document and walked the Council through those changes, noting they will incorporate tonight's appointments to the NRC and PC into the resolution.

The Council discussed the responsibilities and appointments before making adjustments and finalizing.

MOTION by Dujmovic, seconded by Watson, to approve the appointment list with amendments discussed.

Member Shah asked why the City Planner position is blank.

Mayor Ries replied she would like to seek out a new City Planner.

The Council discussed leaving it blank, noting Engineer Korby could recommend some City Planner candidates in the interim.

Administrator Kress stated he can also do some interviews and suggest a temporary City Planner.

Motion carried by roll call as Members Dujmovic, Hara, Ries, and Watson voted for; Member Shah voted against.

MOTION by Watson, seconded by Dujmovic, to provide notice to City Planner Bob Kirmis in accordance with the contract, to allow the City to work with interim City Planners, and to authorize Administrator Kress to guide the process of appointing a new City Planner.

Member Shah has concerns about the process and not discussing Bob Kirmis before this evening, as well as concerns about the upcoming Red Forest Way development as Mr. Kirmis has been working on that development.

Motion carried by roll call as Members Dujmovic, Hara, Ries, and Watson voted for; Member Shah voted against.

c. Approval of 2022 City Meeting Schedule

Administrator Kress would like to align some of the meetings so meetings are not every Thursday, which impacts members with Planning and Natural Resource Commission meetings. He noted they discussed Council workshops just before the regular meetings, as well as having two meetings per month for some of the Commissions.

The Council discussed adjustments to the meeting schedule, deciding to bring the item back in February after discussing with the Natural Resource and Planning Commissions.

MOTION by Dujmovic, seconded by Shah, to approve the 2022 City Meeting Schedule. Motion carried unanimously by roll call.

d. Public Hearing 2022 Fee Schedule Ordinance. Discussion and possible action on 2022 Fee Schedule Ordinance

MOTION by Watson, seconded by Hara, to open the public meeting on the Fee Schedule Ordinance at 9:08 p.m. Motion carried unanimously by roll call.

There were no public comments

MOTION by Hara, seconded by Watson, to close the public meeting on the Fee Schedule Ordinance at 9:09 p.m. Motion carried unanimously by roll call.

The Council discussed the Fee Schedule.

MOTION by Dujmovic, seconded by Watson, adopt Ordinance #138, 2022 Fee Schedule. Motion carried unanimously by roll call.

10. COUNCIL MEMBER REPORTS

Member Hara attended the very productive Planning Commission meeting and he spent some time with North Oaks Home Owners' Association looking at a better arrangement for NOHOA and City offices. He thanked Dr. Andrew Hawkins from the NRC and everyone on the Commissions for their hard work and time.

Member Dujmovic gave some tips for a safety and security perspective and said leaving notes out for a delivery driver is an invitation for crime, he encouraged people not to let post office items pile up, and said not to leave laptops or phones visible within a car. He also said not to post on social media when one is away or on vacation, as 65% of people are burglarized by someone they know. Member Dujmovic also suggested not leaving the garage door open, car keys on display, or garage door openers in cars that are outside. He had a meeting with Member Watson and the Undersheriff earlier in the day and worked through a memorandum of understanding which will bring more focus to the policing, they discussed re-introducing Community Service Officers, and continued looking at options for the best policing in North Oaks. Member Dujmovic would like to recognize a resident, saying George Brushaber passed away in December and he and wife Arlene have been residents in North Oaks for 46 years. Member Dujmovic stated that George was a remarkable individual who did so much for the community and shared that on February 27 at 1:00 p.m. at Bethel University Mr. Brushabor will be remembered.

Member Watson is worn out from interviews and conversation about the committee appointments. He appreciates the work that the interviewers did regarding the NRC and Planning Commission. He will complete phone calls to candidates the following day. Member Watson echoed Member Dujmovic and noted George Brushaber was a great guy and a treasure. He shared they are initiating a long-range planning assignment with the Fire Board and having some serious conversations and that VLAWMO (Vadnais Lakes Area Water Management Organization) is also initiating a multi-year plan and are looking at priorities in each of the communities.

Member Shah thanked all of the public servants on the NRC and Planning Commission. She said VLAWMO Tech will be out on the lake in airboats looking for carp and doing approved research. She would also like to express interest in doing a site visit at Red Forest Way.

Mayor Ries thanked Watson for all the time he has dedicated to the community, Administrator Kress for all the work in interviewing, Chair Azman, and Dr. Andrew Hawkins. She attended the mayors meeting noting popular subjects included public safety and development, specifically utilizing Environmental Assessment Worksheets (EAW's) even for smaller developments. Mayor Ries stated they also had their first goal-setting strategic meeting and only got through a couple items because of the depth of discussions, noting it was great to dive into the issues and discuss all different angles.

11. CITY ADMINISTRATOR REPORTS

Administrator Kress is working with some other administrators along with Senator Isaacson on the fire station build, they are looking at just over \$11,000,000 and he should hear feedback soon as they are working through it. He is working with White Bear Township and the Golf Course in getting the sewer system set up and the Joint Powers Agreement which he hopes to have in February for the City Council to look at. Administrator Kress would like to get working with the engineers on a Utility Master Plan.

MOTION by Dujmovic, seconded by Watson, to initiate work through Administrator Kress, Engineer Korby, and Engineer Morast on the Utility Master Plan update and Asset Management Plan implementation.

The Council discussed the motion.

Motion carried unanimously by roll call.

12. CITY ATTORNEY REPORTS

None.

13. MISCELLANEOUS

- a. City Forester December 2021 Updates**
- b. Annual Building Report**
- c. Engineer report**

Engineer Korby shared he has been working on punch lists for Anderson Woods and Nord. He will work through Administrator Kress to schedule a tour of Red Forest Way with any of those who want to attend. He noted they are about 95% done with review of Red Forest Way.

Engineer Morast shared he has been concentrating on Red Forest Way, Rapp Farms speed limits, a City-wide sign inventory, and a stop sign request.

The City Council discussed the Engineer report.

14. ADJOURNMENT

MOTION by Hara, seconded by Dujmovic, to adjourn the meeting at 9:47 p.m. Motion carried unanimously by roll call.

Kevin Kress, City Administrator

Kara Ries, Mayor

Date approved _____

**North Oaks City Council
Meeting Minutes
North Oaks City Council Chambers
January 13, 2022**

1. CALL TO ORDER

Mayor Ries called the meeting to order on Thursday, January 13, 2022 at 7:05 p.m.. The meeting is being conducted via Zoom pursuant to Minn. Stat. §13D.021 and the City Resolution.

2. ROLL CALL

Present: Mayor Kara Ries. Councilmembers Rich Dujmovic, Jim Hara, Sara Shah, Tom Watson
Staff Present: Administrator Kevin Kress, Attorney Jim Thomson, Engineer Tim Korby,
Engineer John Morast, Forester Mark Rehder
Others Present: Videographer Kenny Ronnan
A quorum was declared present.

3. PLEDGE OF ALLEGIANCE

Mayor Ries led the Council in the Pledge of Allegiance.

4. CITIZEN COMMENTS

None.

5. APPROVAL OF AGENDA

MOTION by Watson, seconded by Hara, to approve the Agenda.

Member Shah raised concerns about the late arrival of the agenda packet for the Council and for residents.

Administrator Kress noted one item was removed from the agenda and all of the supporting documents were added this afternoon as they were compiling things from the other sub-committees.

Member Shah has a concern about the Conditional Use Permits (CUPs) happening at the Planning Commission level and dropping it from the agenda. She stated the Planning Commission is pursuing City business and those CUPs are stacking up; there are at least four scheduled in two weeks for the Planning Commission. She said what was removed from the Agenda, and what the Planning Commission has been waiting for, is direction from this Council on how to interpret the CUP language.

Member Watson agrees the packet was late and they strive to have it out sooner. He clarified they were interviewing candidates for the Planning Commission and it took until earlier that morning to complete all the work. There were only a few modifications to the packet.

Member Shah would like to discuss the removal of the CUP item from the Agenda.

Motion carried by roll call as Members Watson, Dujmovic, Hara, and Ries voted for; Member Shah voted against.

6. CONSENT AGENDA

6a. Approval of Licenses:

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6f. Approval of 2022 City Hall Holiday Schedule

6g. Resolution 1446 approving 2040 Comprehensive Plan

6h. Approval of City Investment Policy

6i. Approval of Electronic Fund Transfer Policy

6j. Approval of Agreement for Recycling Processing

MOTION by Watson, seconded by Hara, to approve the Consent Agenda. Motion carried unanimously by roll call.

7. PETITIONS, REQUESTS & COMMUNICATIONS

a. Deputy Mike Burrell Report

Deputy Burrell stated North Oaks has had one car theft and a few mail package thefts over the past month. One was at Rapp Farm and the people were caught and another had suspects

identified who had gone on a long crime spree throughout the metro and criminal charges were filed in Forest Lake. He shared that there have also been numerous thefts from autos throughout contract cities. He noted residents should be aware that they are happening and that these things could move into North Oaks. Contract cities continue to report frauds and Deputy Burrell urged people to be careful who they are sending money to and call the company to be sure they are not sending money to fraudsters.

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The Council and Attorney Thomson discussed the item.

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Member Shah asked about the reappointment of standing members as historically they have reappointed.

After discussing the issue of reappointing standing members, Administrator Kress shared that he understands Member Shah's point of view and asked what Members Hara and Dujmovic think about the issue.

Member Shah stated she would like to finish her point.

Mayor Ries called a point of order noting the floor belongs to Members Hara and Dujmovic.

Member Hara is encouraged by the candidates and would go along with the recommendations of those who were on the interview committee.

Member Dujmovic supports the candidates suggested and trusts their judgment.

MOTION by Watson, seconded by Hara, to reappoint Nick Sandell to a three-year term, appoint Scott Wiens to a three-year term, and appoint Robert Ostlund to a three-year term on the Planning Commission ending December 31, 2024. Motion carried by roll call as Members Watson, Dujmovic, Hara, and Ries voted for; Member Shah voted against.

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Administrator Kress noted there were very few changes made in the document and walked the Council through those changes, noting they will incorporate tonight's appointments to the NRC and PC into the resolution.

The Council discussed the responsibilities and appointments before making adjustments and finalizing.

MOTION by Dujmovic, seconded by Watson, to approve the appointment list with amendments discussed.

Member Shah asked why the City Planner position is blank.

Mayor Ries replied she would like to seek out a new City Planner.

The Council discussed leaving it blank, noting Engineer Korby could recommend some City Planner candidates in the interim.

Administrator Kress stated he can also do some interviews and suggest a temporary City Planner.

Motion carried by roll call as Members Dujmovic, Hara, Ries, and Watson voted for; Member Shah voted against.

MOTION by Watson, seconded by Dujmovic, to provide notice to City Planner Bob Kirmis in accordance with the contract, to allow the City to work with interim City Planners, and to authorize Administrator Kress to guide the process of appointing a new City Planner.

Member Shah has concerns about the process and not discussing Bob Kirmis before this evening, as well as concerns about the upcoming Red Forest Way development as Mr. Kirmis has been working on that development.

Motion carried by roll call as Members Dujmovic, Hara, Ries, and Watson voted for; Member Shah voted against.

c. Approval of 2022 City Meeting Schedule

Administrator Kress would like to align some of the meetings so meetings are not every Thursday, which impacts members with Planning and Natural Resource Commission meetings. He noted they discussed Council workshops just before the regular meetings, as well as having two meetings per month for some of the Commissions.

The Council discussed adjustments to the meeting schedule, deciding to bring the item back in February after discussing with the Natural Resource and Planning Commissions.

MOTION by Dujmovic, seconded by Shah, to approve the 2022 City Meeting Schedule. Motion carried unanimously by roll call.

d. Public Hearing 2022 Fee Schedule Ordinance. Discussion and possible action on 2022 Fee Schedule Ordinance

MOTION by Watson, seconded by Hara, to open the public meeting on the Fee Schedule Ordinance at 9:08 p.m. Motion carried unanimously by roll call.

There were no public comments

MOTION by Hara, seconded by Watson, to close the public meeting on the Fee Schedule Ordinance at 9:09 p.m. Motion carried unanimously by roll call.

The Council discussed the Fee Schedule.

MOTION by Dujmovic, seconded by Watson, adopt Ordinance #138, 2022 Fee Schedule. Motion carried unanimously by roll call.

10. COUNCIL MEMBER REPORTS

Member Hara attended the very productive Planning Commission meeting and he spent some time with North Oaks Home Owners' Association looking at a better arrangement for NOHOA and City offices. He thanked Dr. Andrew Hawkins from the NRC and everyone on the Commissions for their hard work and time.

Member Dujmovic gave some tips for a safety and security perspective and said leaving notes out for a delivery driver is an invitation for crime, he encouraged people not to let post office items pile up, and said not to leave laptops or phones visible within a car. He also said not to post on social media when one is away or on vacation, as 65% of people are burglarized by someone they know. Member Dujmovic also suggested not leaving the garage door open, car keys on display, or garage door openers in cars that are outside. He had a meeting with Member Watson and the Undersheriff earlier in the day and worked through a memorandum of understanding which will bring more focus to the policing, they discussed re-introducing Community Service Officers, and continued looking at options for the best policing in North Oaks. Member Dujmovic would like to recognize a resident, saying George Brushabor passed away in December and he and wife Arlene have been residents in North Oaks for 46 years. Member Dujmovic stated that George was a remarkable individual who did so much for the community and shared that on February 27 at 1:00 p.m. at Bethel University Mr. Brushabor will be remembered.

Member Watson is worn out from interviews and conversation about the committee appointments. He appreciates the work that the interviewers did regarding the NRC and Planning Commission. He will complete phone calls to candidates the following day. Member Watson echoed Member Dujmovic and noted George Brushabor was a great guy and a treasure. He shared they are initiating a long-range planning assignment with the Fire Board and having some serious conversations and that VLAWMO (Vadnais Lakes Area Water Management Organization) is also initiating a multi-year plan and are looking at priorities in each of the communities.

Member Shah thanked all of the public servants on the NRC and Planning Commission. She said VLAWMO Tech will be out on the lake in airboats looking for carp and doing approved research. She would also like to express interest in doing a site visit at Red Forest Way.

Mayor Ries thanked Watson for all the time he has dedicated to the community, Administrator Kress for all the work in interviewing, Chair Azman, and Dr. Andrew Hawkins. She attended the mayors meeting noting popular subjects included public safety and development, specifically utilizing Environmental Assessment Worksheets (EAW's) even for smaller developments. Mayor Ries stated they also had their first goal-setting strategic meeting and only got through a couple items because of the depth of discussions, noting it was great to dive into the issues and discuss all different angles.

11. CITY ADMINISTRATOR REPORTS

Administrator Kress is working with some other administrators along with Senator Isaacson on the fire station build, they are looking at just over \$11,000,000 and he should hear feedback soon as they are working through it. He is working with White Bear Township and the Golf Course in getting the sewer system set up and the Joint Powers Agreement which he hopes to have in February for the City Council to look at. Administrator Kress would like to get working with the engineers on a Utility Master Plan.

MOTION by Dujmovic, seconded by Watson, to initiate work through Administrator Kress, Engineer Korby, and Engineer Morast on the Utility Master Plan update and Asset Management Plan implementation.

The Council discussed the motion.

Motion carried unanimously by roll call.

12. CITY ATTORNEY REPORTS

None.

13. MISCELLANEOUS

- a. City Forester December 2021 Updates**
- b. Annual Building Report**
- c. Engineer report**

Engineer Korby shared he has been working on punch lists for Anderson Woods and Nord. He will work through Administrator Kress to schedule a tour of Red Forest Way with any of those who want to attend. He noted they are about 95% done with review of Red Forest Way.

Engineer Morast shared he has been concentrating on Red Forest Way, Rapp Farms speed limits, a City-wide sign inventory, and a stop sign request.

The City Council discussed the Engineer report.

14. ADJOURNMENT

MOTION by Hara, seconded by Dujmovic, to adjourn the meeting at 9:47 p.m. Motion carried unanimously by roll call.

Kevin Kress, City Administrator

Kara Ries, Mayor

Date approved _____

**RED FOREST WAY FINAL PLAN/FINAL PLAT SUBMISSION REQUIREMENTS
AND PROCESS**

1999 EAST OAKS PDA (AS AMENDED)

The East Oaks PDA requires that final plans be submitted and approved for all development sites within the East Oaks Development.

Final Plan Definition: “Final Plan” means the:

- A. Registered Land Survey;
- B. Development Contract; **and**
- C. Detailed plans and drawings approved by the City pursuant to the zoning ordinance and the subdivision ordinance for each Development Site that shall address the following:

- Grading
- Wetlands
- Surface water quality
- Storm water controls, erosion controls and drainage
- Street and lot layout
- Utilities
- Landscaping
- Basement elevations
- Signage
- Easement for utilities

Prior to Final Plan Approval Developer Shall Comply with the Following Requirements:

PDA Final Plan Approval Requirement	Item Required to be Filed with City	Has Item Been Filed with City? (Y/N or N/A)	Notes/Specific Reference to Document and Page Number for Submission
	Model deed restrictions, covenants, and restrictions, and any proposed HOA documents, articles of incorporation or bylaws or other documents controlling the use and maintenance of land within the Development Site; proposed declarations (see Sections 2.4, 7.1, of the PDA; See Model Development Contract Sections 3.8 and 9.1)	Y	Received and forwarded to NOHOA.

	Final Plan must conform with the PDA unless otherwise approved by the Council	Y	As approved by PZ and City Council.
	Final Plan must conform with the East Oaks Project Master Development Plan unless otherwise approved by the Council	Y	As approved by PZ and City Council.
	Final Plan must conform with the preliminary plan for the development site unless otherwise approved by the Council	Y	As approved by PZ and City Council.
	Submit soil boring as required by the City Engineer	Y	Ensuring design compliance during plan review
	Submit final road designs as required by the City Engineer	Y	Comments provided for incorporation into final plans
	Submit typical pavement sections as required by the City Engineer	Y	Comments provided for incorporation into final plans
	Submit grading quantities for the roadways as required by the City Engineer	Y	Provided for entire site
	Submit overall detailed grading plans and a narrative which addresses how Development Site grading for utilities, street, and individual Development Site Development will occur; subject to Council and VLAWMO approval	Y	Comments provided for incorporation into final plans
	Review and recommendation from VLAWMO	Y	Comments provided for incorporation into final plans
	Submit overall detailed grading plans which include an overall erosion control plan which addresses erosion control and protection of surface water quality; subject to Council and VLAWMO approval	Y	Comments provided for incorporation into final plans
	Review and recommendation from VLAWMO	Y	
	Obtain all necessary approvals, permits, and licenses from the City	Y	Some City approvals will be conditions of

			final plan approval (e.g., execution of development agreement)
	Obtain all necessary approvals, permits, and licenses from other regulatory entities and agencies with jurisdiction over the Development Site	Y	Some agency approvals will be conditions of final plan approval (e.g., recording of the RLS with County)
	Major design requirements of the City shall be determined prior to construction and incorporated into the Final Plan	Y	Comments provided for incorporation into final plans
	Major design requirements of other regulatory entities and agencies with jurisdiction over the development site shall be determined prior to construction and incorporated into the Final Plan	Y	Comments provided, with additional meetings for incorporation into final plans
	City Engineer must approve Developer's Contract for installation of all utilities	N/A	No utilities proposed

CHAPTER 152: SUBDIVISION REGULATIONS

Section 152.022: Approval of Plat

City Code Section 152.022: Approval of Plat	Item Required to be Filed with City	Has Item Been Filed with City? (Y/N or N/A)	Notes/Specific Reference to Document and Page Number for Submission
	An original and 20 copies of the final drawing	Y	Per City Staff, received by City
	Certificate of surveyor	Y	Comments provided for incorporation into final plan
	Legal description of parcel to be subdivided	Y	Application; plans
	Owner's statement (if subdivider is not owner)	N/A	Subdivider is owner
	Notarized certificate of all mortgage holders acknowledging adoption of plat	N/A	No mortgage per Developer
	Proof of ownership (registered property certificate)	Y	
	Performance bond (unless Council determines subdivider is responsible and financially sound) in the amount equal to 1.5 x the City Engineer's estimated cost of the required improvements to guarantee completion of improvements and payment of city attorney fees	N/A	Not provided; will be provided as part of Development Agreement as is typical practice.
	Two (2) copies of the final plat (NOTE: Plat is defined as a Registered Land Survey) showing the location, width, and type of each easement and any other special provisions	Y	Comments provided for incorporation into final plans
	Detailed descriptions, similar to those contained in the individual warranty deeds, of each easement and special provision, including the legal description of location, restrictions as to use of land where	Y	Easements shown on plat; included in easement binder.

	easement is located or provision applies, and right of use of and access to easement		
	If easements are moved slightly during road construction process, a final record or as-built plat is to be submitted showing final easement locations	Y	Will be reviewed with NOHOA and during construction. Changes will be captured on as-builts

CONDITIONS INCLUDED IN PRELIMINARY PLAN APPROVAL
RESOLUTION NO. 1412

Resolution No. 1402	Requirement from Preliminary Plan Approval	Has Item Been Completed (Y/N or N/A)	Notes/Specific Reference to Document and Page Number for Submission
	Street and Trail Systems		
	Horizontal and vertical curves shall be designed to meet MnDOT standards for a 30-mph design speed, including the required horizontal stopping site distance for vehicles at the proposed cut-de-sac street intersection. If necessary, the street layout shall be revised on final plans to meet those design standards and/or plans shall indicate speed advisory signs on the final plans where required if the site and stopping distance does not meet the 30-mph design speed.	Y	
	The applicant's engineer shall also verify in the field the available site distance for the proposed intersection at Catbird Lane based on MnDOT guidelines. The minimum site distance shall meet the MnDOT guidelines for required stopping site distance for a 30- mph design speed	Y	
	Plans shall be revised such that final construction plans include the following: a) Proposed street names b) Proposed street light standard locations, if any	Y	Comments provided for incorporation into final plans.
	Edits of the Typical Street Sections, and Street Notes will be required as a part of the final construction plan development: a) MnDOT Class 5-100% crushed granite quarry rock shall be shown in the shoulder area to a depth of 3.5 inches (this requirement is consistent with previously approved and	Y	Comments provided for incorporation into final plans. Final design are being discussed

	<p>constructed Red Forest Way- Phase 2B project.)</p> <p>b) Details shall reference MnDOT Spec. 3138 for the aggregate material.</p> <p>c) The proposed bituminous mix type for the wear course is reflected in the street section detail. Base course mix type shall also be identified.</p> <p>d) Cross slope shall be revised to 2 percent.</p> <p>e) The width of the proposed B612 concrete curb shall be modified from 2 feet to 20 inches.</p>		<p>between the City, NOHOA and the NOC.</p>
	<p>The proposed street layout includes a section of proposed curb and gutter between stations 13+80 and 18+50. According to the North Oaks Comprehensive Plan, the City of North Oaks, through its ordinances, will maintain the present rural character of the road system. The applicant shall complete an alternate design concept for this section of roadway to demonstrate the feasibility of a rural section. Converting this section of roadway to rural section may eliminate the need for storm sewer in this area</p>	<p>Y</p>	<p>Final sections are being discussed between City, NOHOA and NOC to reduce tree removal and cut sections, and to address drainage</p>
	<p>Plan and profile information shall be provided for roadways and trail system as part of final construction plans</p>	<p>Y</p>	
	<p>The proposed site plan shall be submitted to the Lake Johanna fire department for review and comment. Proposed recommendations shall be incorporated into final plans</p>	<p>Y</p>	<p>Comments provided for incorporation into final plans.</p>
	<p>The applicant's engineer shall submit a pavement design with the final construction plans, in accordance with Geotechnical recommendations. The design shall be completed in accordance with the MnDOT Flexible Pavement Design as outlined in the Road Design Manual. The street section shall be designed for a minimum 7-ton design and a 20-year design life and plans updated to reflect this design.</p>	<p>Y</p>	<p>Geotechnical investigation underway for final roadway design</p>
	<p>Proposed bituminous shall be placed in two lifts. The final lift shall be placed one construction season after any utilities have been installed within the street limits</p>	<p>Y</p>	

	The applicant shall verify the proposed primary trail alignment and termination points with NOHOA and provide written documentation of verification along with accompanying exhibit delineating agreed upon trail alignment. Final plans shall illustrate any alignment revisions as agreed upon by NOHOA. Trail alignment shall be cleared and graded at a width of 12-feet. Details of any resurfacing for trail areas shall be included in final plans.		Trail easements are being discussed with NOC and NOHOA to be finalized during construction, with existing site conditions
	Surface Water Management and Site Grading Design		
	The proposed storm water management and drainage system and site grading design shall conform to the requirements of the current City of North Oaks Surface Water Management Plan and Chapter 156, the City Stormwater Management Ordinance. These requirements include but are not limited to volume control, rate control and water quality requirements to mitigate new impervious areas and sediment removal. A storm water management report, outlining the design analysis for the site, including exhibits and calculations, as required, shall be submitted for review and approval with the final construction plans which will contain details for all structures and proposed BMPs.	Y	Comments provided for incorporation into final plans
	Details of stormwater basin design, including typical cross sections and details for outlet structures shall be included in the final construction plans and shall adhere to recommendations found within the Geotechnical report based on soil borings and field verified ground water elevations.	Y	Comments provided for incorporation into final plans
	Provide skimmer structure details for storm water outlets and with the final construction plans.	Y	Comments provided for incorporation into final plans
	The proposed storm sewer and site grading final design and construction plans shall be reviewed and approved by the City Engineer, and VLAWMO.	Y	Comments provided for incorporation into final plans

	Identify the emergency overflow locations and elevations (EOF) on the final grading plan for all surface water features, including wetlands, ponds, swales or ditches, based on actual field topographic survey information. These EOF elevations should be reviewed as a part of the building permit review process for each adjoining lot.	Y	Comments provided for incorporation into final plans
	Label all EOF points and elevations for roadway and greenspace emergency overflow locations on the final grading plans.	Y	Comments provided for incorporation into final plans
	Provide earthwork volume calculations with the construction plan submittal to the City.	Y	
	Landlocked drainage basins are located within and adjacent to the site. If possible, exposed openings on buildings should be constructed a minimum of 1.5 feet above the overflow elevation of the landlocked basin. If the exposed building opening cannot be constructed 1.5 feet above the overflow, we recommend the exposed opening be constructed a minimum of 5 feet above the 100 year- 10-day snow melt highwater elevation of the landlocked basin. Minimum exposed building elevations shall be identified on the final grading construction plans where this condition exists.	N/A	Will be reviewed at building permit submittal
	A number of FES inverts appear to match the basin bottom elevations. Applicant's engineer shall review the final design of all pond outlet elevations with the final plan development and stormwater analysis to determine if the basin designs meet the stormwater management requirements.	Y	Comments provided for incorporation into final plans
	Proposed septic system drainfields and wells shall not encroach in the 30-foot building setback areas as noted in item F of Section 151.056 of the Zoning Code. It appears there are drainfields shown on the preliminary plan which encroach in the setback areas in multiple locations. The drainfield locations shall be modified on the final plans to strictly adhere to setback areas. Additionally, drainfields shall not encroach into the site grading limit areas.	Y	Actual drainfield locations to be reviewed at building permit submittal

	Drainfields currently shown encroaching into grading areas need to be modified as a part of final plan development.		
	Construction traffic shall be restricted from all septic system drainfield sites, including the future drainfield sites in Phase 2. Fencing shall be placed around the perimeter of the proposed drainfield sites if there is a risk of traffic traversing across those areas.	Y	No individual site grading is proposed. Will be addressed at building permit phase
	The preliminary grading plan indicates a proposed longitudinal slope of approximately 1 percent in the road ditch section in some areas. In areas where the ditch section will be maintained by the homeowner, we recommend a drain tile system be installed in a ditch section with a slope less than 2 percent if the existing subgrade soil is not free draining. This design must be reviewed by the applicants engineer as a part of the final plan development	Y	Comments provided for incorporation into final plans
	A drain tile system shall be provided on the street subgrade surface at the street low points if a clayey type subgrade exists. The drain tile shall extend to the ditch section to drain. A rodent screen shall be provided at the tile outlet	Y	Drain tiles provided at basins. Road geotech will determine subgrade soils. Added if required
	The "Street Notes" shown on Sheet 4A indicate the ditch bottom is to be a width of 5 feet. However, the plan is drawn at a width of 2 to 3 feet. It is suggested that a minimum width of 5 feet. The final plans shall reflect this change.	Y	Road sections are being discussed with NOHOA and NOC for final sections
	A "basin" is proposed near the street entrance at Catbird Lane. Final plans shall address the following comments: a) Clarification shall be provided, along with construction details for whether the basin is to be an infiltration or filtration basin and how sediment will be controlled. b) The proposed invert elevation of the street cross culvert outlet matches the basin bottom elevation. The proposed culvert will freeze in the winter and may cause flooding issues. Therefore, the grading design shall be revised	Y	

	as a part of the final plan development. The outlet elevation of the culvert shall be at, or above the basins outlet elevation		
	If curb and gutter section is constructed, it is recommended to consider the following in order to reduce the risk of erosion: consider adding two storm sewer extensions from the proposed catch basins on the south side of the street to the proposed ditch located on the north side of the street. The first flared end section would be located near street station 14+70, and the second flared end would be located near street station 16+40. A small berm could be constructed downstream of each proposed flared end section. The extension to station 16+40 would prevent drainage from crossing the proposed trail to be constructed approximately 40 feet downstream	Y	Road sections are being discussed with NOHOA and NOC for final sections and where to include curb and gutter
	It is recommended to consider reducing the ditch section depth from the proposed 2.5 foot depth as shown on the plan to a depth of 2 feet, while widening the ditch bottom to a minimum width of 8 feet from the following street sections to reduce velocity of flow in the ditch and reduce the risk of erosion: a) station 14+00 to station 16+40 b) station 20+50 to station 21+75	Y	Road sections are being discussed with NOHOA and NOC for final sections to reduce grading footprint
	The existing topography for the area located along the south side of the proposed Outlot as shown on the grading plan does not match the existing topography shown on the Existing Conditions plan. We recommend the applicants engineer review the topography and the proposed site grade design to determine if a storm sewer should be extended to drain the existing depression.	Y	Storm structure located at this location for future tie-in, if necessary
	It is recommended that the grading plan be revised to illustrate a “bench” for the proposed future trail with a maximum cross slope of 2 percent shown on the Phase 1 plan within the limits of the proposed trail easement of the Outlot parcel.	Y	Easements are being discussed with NOHOA and NOC for final locations
	Proposed trail routes shall be graded such that stormwater is not conveyed across the surface	Y	Comments provided for

	of the trail, but directed to a drainage swale and away from the trail surface.		incorporation into final plans
	Revise the grading plan to show a ditch along the easterly side of the street from Station 19+50 to Station 21+25.	Y	Road sections are being discussed with NOHOA and NOC for final sections
	Add a storm sewer extension from the proposed catch basin at station 14+05 to the south to drain the proposed street ditch. The flared end would be located on the easterly side of the road at approximately station 13+80.	Y	Storm system adjusted to accommodate drainage
	Revise/fix the proposed contours on the ditch backslope from station 20+50 to station 21+50.	Y	Comments provided for incorporation into final plans
	<p>It is recommended that storm sewer be extended from the proposed pond to the current proposed culvert at the cut-de-sac street intersection. A catch basin could be added in the the proposed ditch section- approximately 55 feet from the flared end section at the pond. Also, a storm sewer could be extended to the south to pick-up drainage in the ditch. The flared end section in the ditch would be located near station 17+00.</p> <p>a) This additional storm sewer will reduce the risk of erosion, and also provide a crossing for the proposed trail and maintenance drive to be located southwesterly of the proposed pond.</p> <p>b) Provide a minimum 10 wide bench at a cross slope of 2 percent along the south westerly side of the proposed pond for the proposed trail and also maintenance drive.</p> <p>c) Provide a 10:1 bench from the NWL of the pond to a depth of 1 foot.</p>	Y	Drainage comments provided for incorporation into final plans
	The applicants engineer shall review the velocity of stormwater for a 25 year storm in the proposed ditch along both sides of the road between station 24 +00 to station 13+00. Analysis shall be used in determination of necessary BMP's to be used along this corridor. Determine if ditch bottom needs to be widened to reduce the velocity.	Y	Road sections and drainage are being discussed with NOHOA and NOC for final sections to

			minimize impacts
	It is recommended the two septic drainfield sites for proposed lot 3 in Phase 2 be shown on the final construction plan for Phase 1. The proposed grading as shown in this lot may need to be modified to protect the drainfield site from construction traffic and embankment placement	N/A	No individual lot, or outlet grading is occurring within shown building footprint. Phase 2 grading will be reviewed upon submittal and drainfields restricted as needed with any grading
	Revise the proposed cut-de-sac radius in Phase 2 from 45 feet to 50 feet to the edge of the bituminous to allow a bus to maneuver.	Y	No cul-de-sacs are proposed
	The applicant's engineer shall determine if the proposed storm sewer to be located between lots 13 and 14 is necessary as a part of the stormwater management analysis, or if it is required to develop the proposed lot.	Y	
	An existing culvert is shown under the existing drive near station 0+60. This existing culvert should be addressed as part of the proposed design or removals. A berm should be constructed in the ditch near the property boundary to prevent water in the ditch from draining onto the existing residence property to avoid a change in the subwatershed boundary.	Y	Comments provided for incorporation into final plans
	It is recommended that a topographic survey of approximately 100 feet of the existing pavement surface be completed in order to establish the proposed centerline grade into the development to match the existing pavement surface elevation and to provide a smooth longitudinal grade transition on the pavement surface.	Y	Comments provided for incorporation into final plans
	Erosion control measures, including silt fence placement shall be reviewed as part of the final plan application. Double silt fence shall be	Y	

	installed adjacent to all wetlands or approved equivalent.		
	The proposed rock entrance at Catbird Lane shall be lengthened to 50 feet as shown on the detail.	Y	
	Add a rock entrance on Black Lake Road near station 0+60.	Y	
	Applicant's engineer to review the rock entrance detail to determine if a vehicle can cross the proposed berm shown at a depth of 2 feet. Detail shall be revised if needed.	Y	Comments provided for incorporation into final plans
	Applicant's engineer to review the required BMPs to control erosion from the proposed culvert (if installed) at station 0+65 to Wetland 1, to determine, for example, if rock check dams are warranted in this area. Also, review the following: a) The velocity and required BMPs in the proposed ditch from station 13+50 to station 16+50. b) The required BMPs for the ditch backslope between 13+75 to station 14+40. c) The velocity and required BMPs in the proposed ditch from station 20+50 to station 22+25 along the westerly side of the road.	Y	Comments provided for incorporation into final plans
	The applicant's engineer shall review and determine if Storm Sewer Note #9 applies to this project	Y	Comments provided for incorporation into final plans
	Add a storm sewer extension from the proposed catch basin at station 14+05 to the south to drain the proposed street ditch. The flared end would be located on the easterly side of the road at approximately station 13+80.	Y	Comments provided for incorporation into final plans
	The storm sewer from FES 10 to STMH 11 is shown at 0.00 percent. The slope shall be reviewed with the final plan development.	Y	
	Final plans shall indicate the removal of the following: a) The existing driveway culvert located near station 5+75.	Y	Comments provided for incorporation into final plans

	b) The existing culvert at approximate station 0+60. The applicant's engineer shall determine if the existing culvert is to be replaced with a new culvert.		
	To reduce the risk of erosion, we recommend the applicant consider adding two storm sewer extensions from the proposed catch basins on the south side of the street to the proposed ditch located on the north side of the street. The first flared end section would be located near street station 14+70, and the second flared end would be located near street station 16+40.	Y	Grading comments provided for incorporation into final plans
	Staff recommends the applicant review the location of existing trees with the final grading design to determine if any trees can be saved at, or near the proposed cut/fill limits and in proposed green space areas. Final construction plans shall identify existing trees to be saved and protected in accordance with City Forester recommendations.	Y	Road sections and drainage are being discussed with NOHOA and NOC for final sections to minimize impacts
	A Geotechnical report shall be submitted with the final construction plans. Report shall indicate soil boring locations which will be illustrated on final plans, including ground water conditions at locations which align with proposed road, stormwater management facilities and utilities. The applicant's Geotechnical Engineer shall provide a recommended separation from the basement floor to the estimated groundwater surface elevation for each proposed lot. It is recommended that lowest floor elevations for the development be located a minimum of 4 feet above the estimated ground water level, or as recommended by the Soils Engineer. Restrictive lowest floor building elevations shall be identified on the final grading construction plans. Report shall also include infiltration rates and design recommendations for the any proposed infiltration areas based on applicable borings.	Y	Geotechnical investigation underway to determine final soil conditions. Ground water and basement elevations will be determined building permit and/or CUP application, when applicable
	It is recommended that driveway longitudinal slopes be designed at a minimum of 3 percent, and a maximum of 10 percent. Where proposed	Y	Not designed, but locations are schematic.

	grading design ties into the roadway at slopes greater than 10%, a conceptual grading detail shall be provided illustrating how access can be constructed to the buildable area of the proposed lots. For example, Lot 7 illustrates a nearly 20-foot elevation differential between the proposed access point to the assumed home location.		Actual slopes and elevations will be determined building permit and/or CUP application.
	A grading plan for each “custom” lot shall be submitted with each building permit application. Proposed grades around the perimeter of the proposed homes shall meet the requirements of the state building code. It is recommended that a minimum driveway slope of 3 percent and a maximum slope of 10 percent if possible.	Y	Structural elevations will be determined building permit and/or CUP application, when applicable
	Proposed grades around the perimeter of the proposed homes shall meet the requirements of the State Building Code.	Y	Building elevations will be determined at building permit and/or CUP.
	The final plans shall identify and provide a graded access bench to and around all Ponds for future maintenance. The access surface to be a minimum width of 10 feet at a minimum cross slope of 3 percent and a maximum longitudinal slope of 10 percent.	Y	Comments provided for incorporation into final plans
	Staff recommends that the 100-year high water elevation for all site surface water features, including wetlands, be determined and shown on the final grading plan. These high-water elevations should be reviewed as a part of the building permit review process for the adjoining lots.	Y	
	Riprap will not be required at the inlet end of proposed culverts, unless the velocity of the flow at the inlet requires this type of erosion protection.	Y	
	A drain tile system shall be provided on the street subgrade surface at the street low points, per Geotechnical report, if poorly draining subgrade soil type exists.	Y	To be determined with final

			geotechnical report
	Final grading plan should include high point elevations, grade breaks, typical slopes and drainage arrows.	Y	
	Final construction plans shall include locations and details for all proposed site sedimentation and erosion control BMPs, including plans for temporary stormwater management BMPs and protection of permanent BMPs during construction.	Y	
	The proposed storm sewer and site grading final design and construction plans shall be reviewed and approved by the City Engineer with consideration of VLAWMO recommendations.	Y	Comments provided for incorporation into final plans
	ISTS soil suitability report shall be provided with final plan application which will reflect suitable soil areas for septic drainfields as illustrated on the final construction plans.	N/A	Drainfield locations will be reviewed at building permit application
	Small Utilities		
	All small utilities including, but not limited to gas, telephone, electric shall be placed underground in accordance with the provisions of all applicable City ordinances.	Y	
	All utilities to be located in the floodplain shall be flood proofed in accordance with the building code or elevated above the flood protection elevation.	Y	
	Shoreland Management Area		
	Any disturbance or planned construction work not shown on preliminary plans within the Shoreland Management Area (within 1,000 feet of the Ordinary High Water Level of Black Lake and/or the delineated edge of Wetland #1) shall be detailed on final construction plans. Comments from DNR regarding work and any necessary approvals shall be provided to the City with the Final Plan application.	Y	Any proposed home will be monitored during applications and required to meet DNR requirements.
	Wetlands		
	No wetland impacts are proposed as part of the preliminary plan design. However, Black Lake	Y	Comments provided for

	is a DNR Protected water and the DNR identified OHWL as it is identified generally on DNR maps appears to align with the limits of Wetland #1 as delineated in the Wetland Delineation Report, dated December 11, 2018, prepared by Kjolhaug Environmental Services Company, Inc.		incorporation into final plans
	Any potential wetland impacts, mitigation, and conformance to WCA requirements shall be reviewed by VLAWMO as the LGU.	Y	Comments provided for incorporation into final plans
	Final plans shall illustrate the required width of buffer strips along the perimeter of wetlands, and the proposed ponds in accordance with City-approved VLAWMO policies. The final construction plans shall identify the buffer limits and any buffer plantings or protection per VLAWMO Water Management Policy.	Y	Comments provided for incorporation into final plans
	EOF locations into wetlands shall be reinforced according to city approved VLAWMO recommendations.	Y	
	Final plans shall include details for restoration of wetland buffer areas per VLAWMO policies.	Y	Comments provided for incorporation into final plans
	Any additional wetland delineation requirements shall be confirmed with VLAWMO as the LGU and provided as part of final construction plans.	Y	Comments provided for incorporation into final plans
	Ensure consistent identification of wetland areas. It appears that wetland #9 is mislabeled. The wetland report identified this wetland as #8.	Y	Comments provided for incorporation into final plans
	Black Lake Road extension is shown within the setback area of Wetland #2 and potential buffer areas of Wetland #2 and #3. Variance may be required for road improvements and expansion of footprint for proposed alignment, as shown in the preliminary plans. The applicant shall provide confirmation from VLAWMO, as LGU, regarding the improvement of existing farm road within the wetland setback and potential buffer areas between Wetlands 2 and 3.	Y	Comments provided for incorporation into final plans

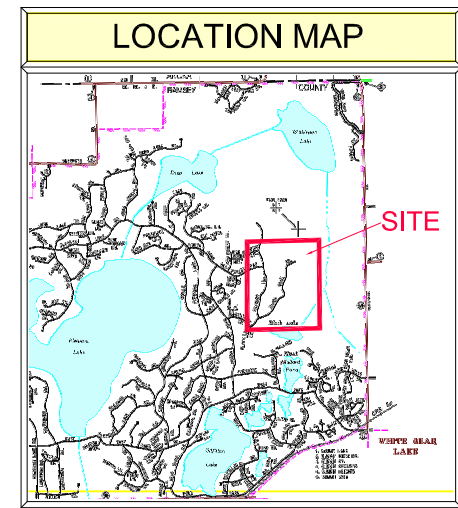
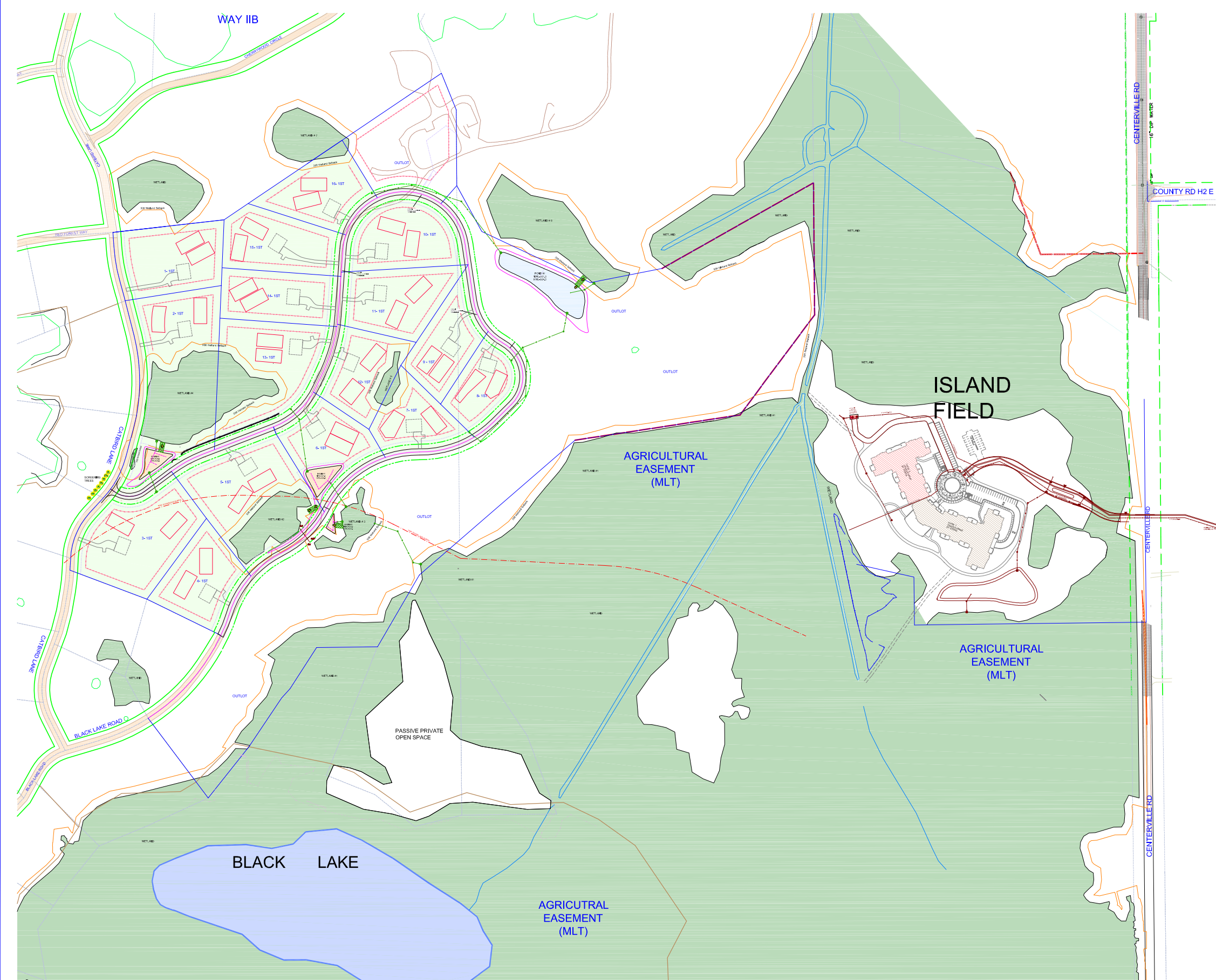
	Plans shall be revised such that final construction plans shall include, but are not limited to the following: a) The applicant’s engineer shall confirm and identify the DNR OHW elevation for Black Lake at 899.4 NGVD 29, per DNR documentation. The applicant’s surveyor shall locate this DNR OHWL in the field and plans shall be updated to reflect this OHWL. This includes final plans for phase 1 and all future development plans for phase 2. b) The 150-foot setback from the DNR OHWL, per PDA Appendix 1 shall be indicated on all plans.		
	A current wetland functional assessment (Minnesota Routine Assessment Method (MnRAM) report) for all wetlands identified in the Wetland Delineation Report, prepared by Kjolhaug Environmental Services, Dated December 11, 2018, shall be provided and plans shall be revised to illustrate applicable buffer widths per the MnRAM report	Y	
	Signage		
	Local street signage, including necessary stop condition signage, meeting City of North Oaks standards shall be included in final construction plans.	Y	Comments provided for incorporation into final plans
	Fire lane signage shall be provided in accordance with the requirements of the Lake Johanna Fire Department	Y	Comments provided for incorporation into final plans
	Easements		
	Proposed Drainage easements shall fully encompass all stormwater management facilities as well as emergency overflow routes for ponds, wetlands, swales and ditches and access routes for the entire site.	Y	Comments provided for incorporation into final plans
	All proposed storm sewer easements shall be modified to a width of 20 feet and shall be centered on the proposed utility. The width of 20 feet is required to provide maintenance of the utility in the future.	Y	Some adjusted for deeper utilities
	Easements for basins shall cover the 100-year HWL elevation as constructed.	Y	Comments provided for

			incorporation into final plans
	<p>The following items shall be added, or corrected for the Phase 1 parcels:</p> <p>a. Provide a drainage easement 20 feet in width and centered on the existing drainage swale from wet basin #5, easterly to the road easement.</p> <p>b. Revise the building setback limit at the northeast corner of lot 12 to be 30 feet from the wetland limit.</p> <p>c. Revise the proposed trail easement at the northeast portion of lot 12 to match the building set back limit.</p> <p>d. Provide a drainage easement 20 feet in width and centered on the existing drainage swale across lot 17 from the road easement to the existing wetland located north of the lot.</p> <p>e. Provide a storm pond easement on lot 17 to cover the 100-year HWL for the basin located north of the lot.</p>	Y	Comments provided for incorporation into final plans
	<p>The following items shall be added, or revised for the parcel identified as Outlot A on which no dwelling unit is proposed to be constructed:</p> <p>a. Provide a drainage easement 20 feet in width, centered on the proposed emergency overflow swale from wet basin # 7 across the lot at a location to be designed by the applicant's engineer with the final construction plans.</p> <p>b. Revise easement covering storm pond and associated storm sewer facilities located on and adjacent to the lot to cover the entire pond area, including required maintenance bench. Add access easement from roadway and/or trail.</p> <p>c. Provide an additional storm sewer easement if storm sewer is added to drain the existing depression located along the proposed roadway.</p> <p>d. Existing or proposed future Trail easement extending north to cover potential primary trail alignment connection to Cherrywood Circle shall be shown.</p>	Y	Comments provided for incorporation into final plans

	The applicant’s surveyor to verify all proposed easements are centered on the proposed utility as shown on the final plan as a part of the final easement development.	Y	Comments provided for incorporation into final plans
	Conservation easements shall be provided to cover buffer strip areas, if recommended by VLAWMO. The easement documents shall conform to the requirements of VLAWMO.	Y	Comments will be provided for in final plans
	Easements for roadways, drainage swales, utilities, ponds, wetlands, etc. shall be dedicated on the final RLS as shown in the preliminary plan/preliminary plat and shall be determined to be sufficient for all necessary site drainage, utility and roadway access and maintenance.	Y	Comments provided for incorporation into final plans
	The proposed trail easement plan illustrates a proposed primary trail alignment through Wetland #1/Open space and within its setback/potential buffer area to connect to the existing trail around Black Lake. This alignment and any proposed potential disturbance shall be reviewed and approved by VLAWMO as the LGU. Once approved, this trail shall be constructed with the development to provide primary trail connection.	Y	Comments provided for incorporation into final plans
	Approvals/Permits		
	The final design and construction plans shall be reviewed and approved by the City Engineer	Y	
	Copies of all approved permits shall be provided to the City Engineer upon receipt from each agency.	Y	Comments provided for incorporation into final plans
	VLAWMO review and comment of Final construction documents and accompanying analysis and recommendations shall be provided to the city prior to application for final approval.	Y	Comments provided for incorporation into final plans
	Other Engineering Comments		
	All final construction plans shall include applicable plan legends to facilitate comprehensive plan review.	Y	
	Plans shall be revised such that final construction plans include the following:	Y	Comments provided for

	<p>a. Clearly illustrate construction phase limits applicable on each plan sheet.</p> <p>b. Removal plan shall be added to illustrate details of the removal of existing culverts and other underground facilities, where necessary. Removals plan shall also address removals of any above ground structures, such as buildings within the "Outlot" area.</p>		incorporation into final plans
	Prior to final plan submittal, provide diligence in plan review to resolve any Preliminary plan typos, inconsistencies, and erroneous notes.	Y	
	4) Existing conditions plan shall include field verification dates for topographic survey. Topographic contours on Civil Plans appear to differ from the existing conditions plan. Please verify elevations in the field as part of final plan development as these discrepancies in design documents versus topographic survey may result in necessary field changes if not addressed during plan development.	Y	Comments provided for incorporation into final plans
	Please remove all gender specific pronoun references on the preliminary engineering plans.	Y	Comments provided for incorporation into final plans
	Existing conditions plan shall include field verification dates for topographic survey. Topographic contours on Civil Plans appear to differ from the existing conditions plan. Please verify elevations in the field as part of final plan development.	Y	
	Final construction plans shall incorporate redlined engineering plan review by City Engineer, as applicable.	Y	Comments provided for incorporation into final plans
	<p>8) Phase 2 was not reviewed in a comprehensive manner; however, there are a number of issues that were identified in a cursory review of Phase 2 plan areas. These issues must be resolved prior to any further Preliminary plan development or application for Phase 2. These issues include:</p> <p>a. Phase 2, Lot 14 appears to be inaccessible due to required driveway setbacks and existing/proposed drainage facilities.</p>	Y	Comments provided for incorporation into final plans. Phase 2 will be reviewed upon submittal

	<p>b. Trail easements shall not overlap with wetland edge.</p> <p>c. The proposed easement between phase 2, lots 13 and 14 should be extended to the roadway for access purposes.</p>			



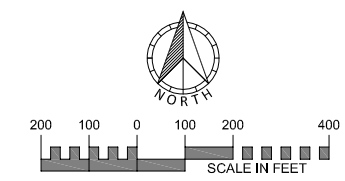
SHEET INDEX TABLE	
SHEET	Description
1	Title Sheet
1A & 1B	Existing Conditions
2	Final Plat Plan
3	Final Easement Plan
4	Final Grading Plan
5	Final Erosion Control Plan
6	Final Storm Sewer Plan
7	Final Street Plan

PREPARED BY
 ENGINEER
SATHRE-BERGQUIST, INC.
 150 SOUTH BROADWAY
 WAYZATA, MINNESOTA 55391
 PHONE: (952) 476-6000
 FAX: (952) 476-0104
 CONTACTS:
 BOB MOLSTAD, P.E.
 EMAIL: MOLSTAD@SATHRE.COM
 ERIC R JOHNSON, P.E.
 EMAIL: EJOHNSON@SATHRE.COM

PREPARED FOR
 DEVELOPER
NORTH OAKS COMPANY LLC
 5959 CENTERVILLE ROAD SUITE 200
 NORTH OAKS, MN 55127
 CONTACT:
 LAUREN GROUWS
 PHONE: (651) 484-3361
 EMAIL: LAUREN@NORTHOAKS.COM

NOTES:
 SETBACKS
 FRONT YARD - 30FT MEASURED FROM ROADWAY EASEMENT
 SIDE YARD - 30 FT
 REAR YARD - 30FT
 WETLAND EDGE - 30FT
 STREET
 30FT ROADWAY EASEMENT
 12FT UTILITY EASEMENT ADJACENT TO ROADWAY EASEMENT
 STREET 24FT EDGE OF BITUMINOUS TO EDGE OF BITUMINOUS
 WITH 2FT GRAVEL SHOULDERS

- DENOTES PROPOSED SEPTIC AREA
- DENOTES POTENTIAL HOME & DRIVEWAY LOCATION (SUBJECT TO CHANGE)

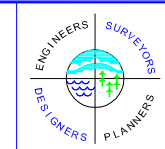


EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
FINAL SHEETS	01	ERJ	01/21/22	CITY ENGINEER COMMENT REVISIONS
DRAWN BY				
CHECKED BY				
DATE				
11/19/21				

USE (INCLUDING COPYING, DISTRIBUTION, AND/OR CONVEYANCE OF INFORMATION) OF THIS PRODUCT IS STRICTLY PROHIBITED WITHOUT SATHRE-BERGQUIST, INC.'S EXPRESS WRITTEN AUTHORIZATION. USE WITHOUT SAID AUTHORIZATION CONSTITUTES AN ILLEGITIMATE USE AND SHALL THEREBY INDEMNIFY SATHRE-BERGQUIST, INC. OF ALL RESPONSIBILITY. SATHRE-BERGQUIST, INC. RESERVES THE RIGHT TO HOLD ANY ILLEGITIMATE USER OR PARTY LEGALLY RESPONSIBLE FOR DAMAGES OR LOSSES RESULTING FROM ILLEGITIMATE USE.

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Eric R. Johnson
 ERIC R. JOHNSON, P.E.
 Date: 11/19/21 Lic. No. 56659



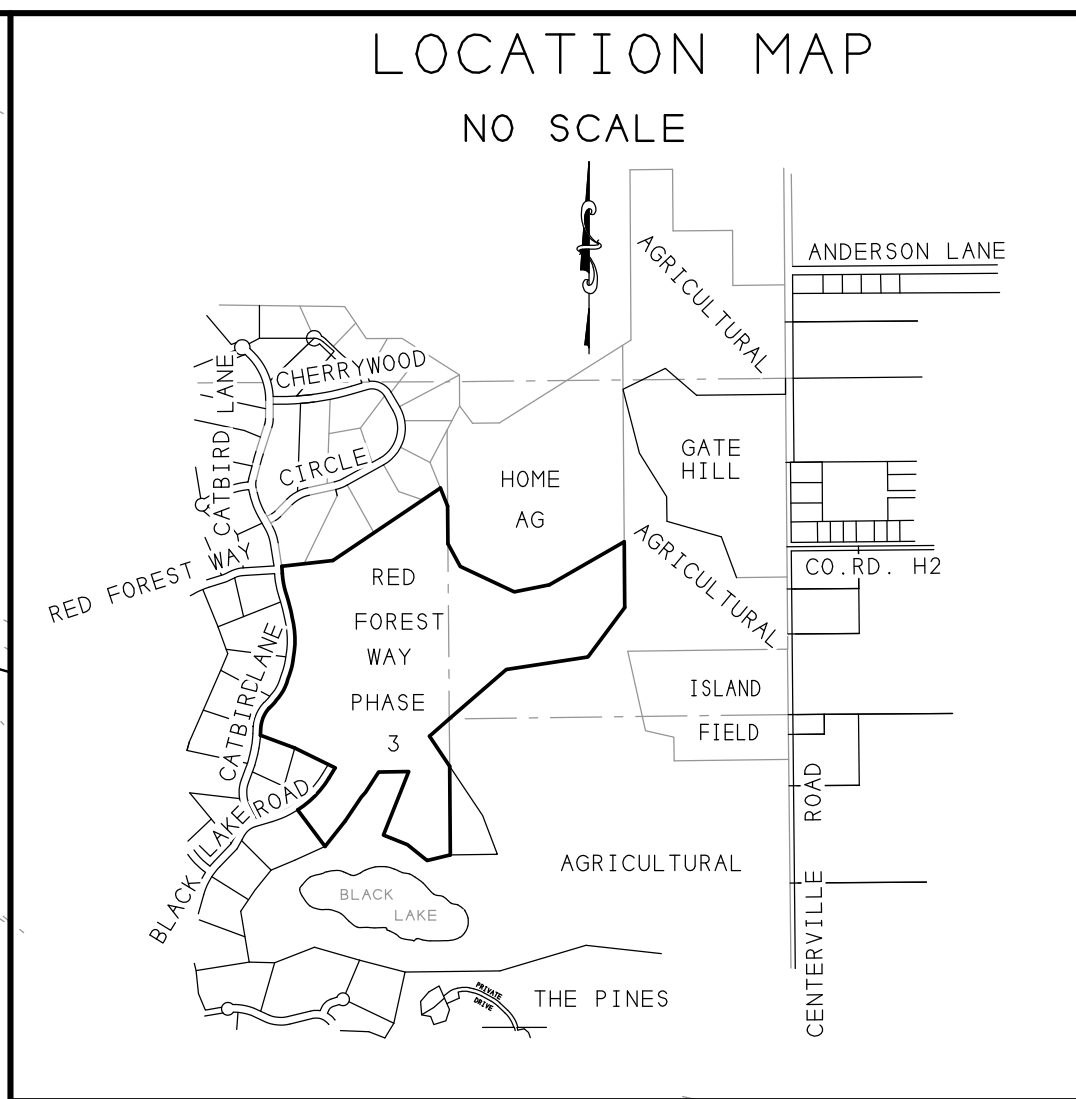
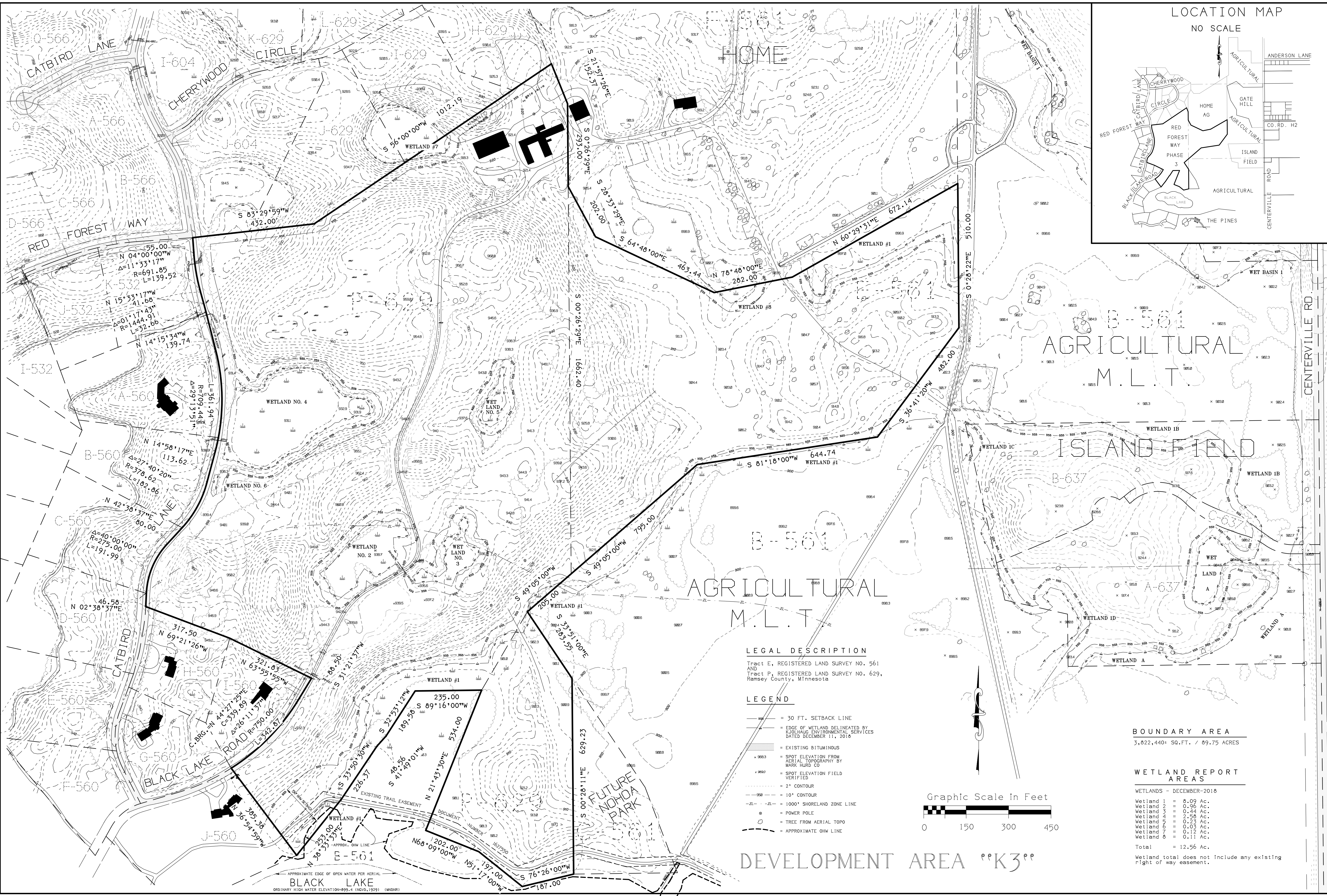
SATHRE-BERGQUIST, INC.
 150 SOUTH BROADWAY WAYZATA, MN. 55391 (952) 476-6000

CITY PROJECT NO.

NORTH OAKS, MINNESOTA

TITLE SHEET
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

FILE NO.
 64500-024
1
7 44



DATE: November 29, 2021
 rev. 1-21-22 (related re-3)
 rev. 2-02-22 (legal description)

SHEET 1A OF 7 SHEETS

PROJECT: RED FOREST WAY SOUTH

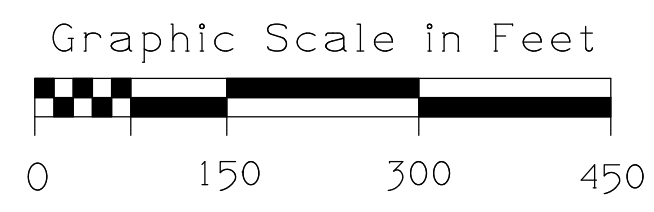
NORTH OAKS
 C O M P A N Y

I hereby certify that this plan 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, RLS, No. 20270
 Russell J. Kurth, RLS, No. 16113

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

LEGAL DESCRIPTION
 Tract E, REGISTERED LAND SURVEY NO. 561 AND
 Tract P, REGISTERED LAND SURVEY NO. 629,
 Ramsey County, Minnesota

- LEGEND**
- = 30 FT. SETBACK LINE
 - - - - - = EDGE OF WETLAND DELINEATED BY KJOLHAUG ENVIRONMENTAL SERVICES DATED DECEMBER 11, 2016
 - ▨ = EXISTING BITUMINOUS
 - x 989.3 = SPOT ELEVATION FROM AERIAL TOPOGRAPHY BY MARK HUBB CO
 - x 990.0 = SPOT ELEVATION FIELD VERIFIED
 - = 2' CONTOUR
 - - - - - = 10' CONTOUR
 - - - - - = 1000' SHORELAND ZONE LINE
 - ⊙ = POWER POLE
 - ⊙ = TREE FROM AERIAL TOPO
 - - - - - = APPROXIMATE OHW LINE



BOUNDARY AREA
 3,822,440 SQ. FT. / 89.75 ACRES

WETLAND REPORT AREAS

WETLANDS - DECEMBER-2018

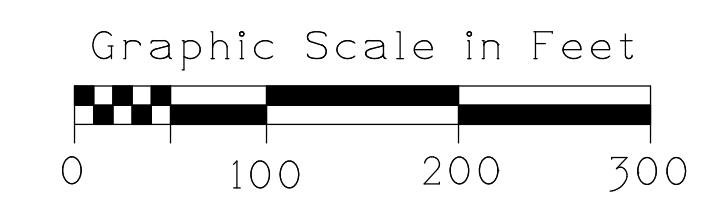
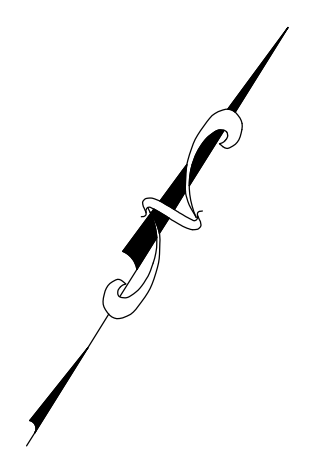
Wetland 1	= 8.09 AC.
Wetland 2	= 0.96 AC.
Wetland 3	= 0.44 AC.
Wetland 4	= 2.58 AC.
Wetland 5	= 0.23 AC.
Wetland 6	= 0.03 AC.
Wetland 7	= 0.12 AC.
Wetland 8	= 0.11 AC.
Total	= 12.56 AC.

Wetland total does not include any existing right of way easement.

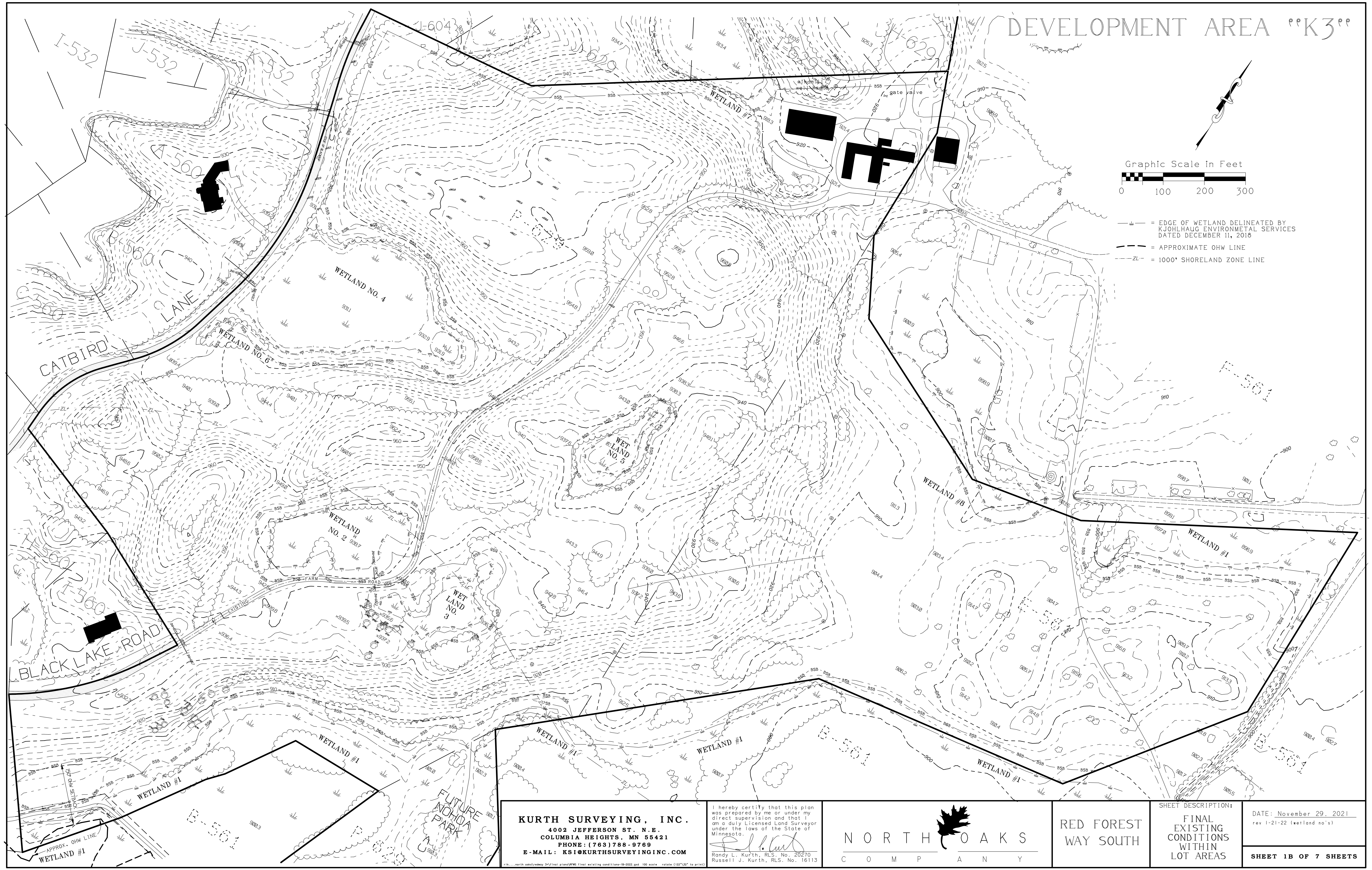
DEVELOPMENT AREA 33°K3°

BLACK LAKE
 ORDINARY HIGH WATER ELEVATION=899.4 (INDV,1929) (MNDNR)

DEVELOPMENT AREA "K3"



- = EDGE OF WETLAND DELINEATED BY KJOHLHAUG ENVIRONMENTAL SERVICES DATED DECEMBER 11, 2018
- - - = APPROXIMATE OHW LINE
- - - ZL - = 1000' SHORELAND ZONE LINE



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

NORTH OAKS
 COMPANY

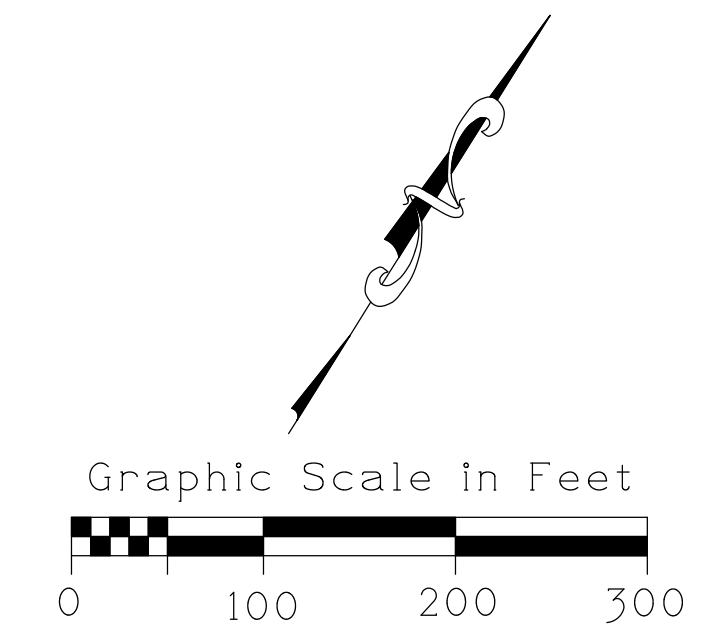
RED FOREST WAY SOUTH

SHEET DESCRIPTION:
FINAL EXISTING CONDITIONS WITHIN LOT AREAS

DATE: November 29, 2021
 rev 1-21-22 (wetland no's)
SHEET 1B OF 7 SHEETS

21k...north oak/wetway 3d/final plan/WFS final existing conditions-18-2022.gxd 100 scale rotate (122.52° to print)

DEVELOPMENT AREA "K3"



BUILDING SETBACKS & LOT REQUIREMENTS PER RSL ZONING

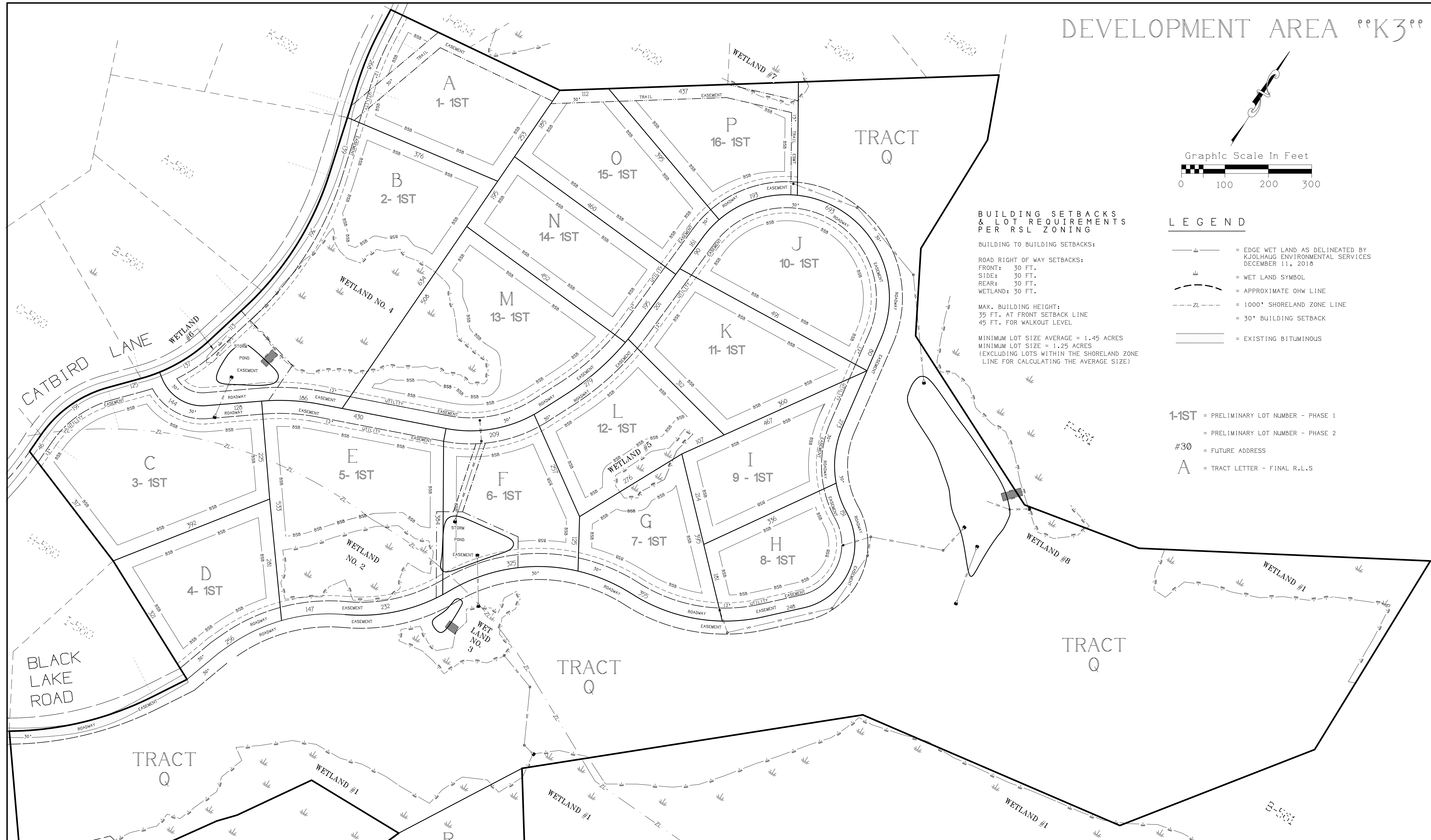
BUILDING TO BUILDING SETBACKS:
 FRONT: 30 FT.
 SIDE: 30 FT.
 REAR: 30 FT.
 WETLAND: 30 FT.

ROAD RIGHT OF WAY SETBACKS:
 FRONT: 30 FT.
 SIDE: 30 FT.
 REAR: 30 FT.
 WETLAND: 30 FT.

MAX. BUILDING HEIGHT:
 35 FT. AT FRONT SETBACK LINE
 45 FT. FOR WALKOUT LEVEL

**MINIMUM LOT SIZE AVERAGE = 1.45 ACRES
 MINIMUM LOT SIZE = 1.25 ACRES
 (EXCLUDING LOTS WITHIN THE SHORELAND ZONE LINE FOR CALCULATING THE AVERAGE SIZE)**

- LEGEND**
- = EDGE WET LAND AS DELINEATED BY KJOLHAUG ENVIRONMENTAL SERVICES DECEMBER 11, 2018
 - = WET LAND SYMBOL
 - = APPROXIMATE OHW LINE
 - = 1000' SHORELAND ZONE LINE
 - = 30' BUILDING SETBACK
 - = EXISTING BITUMINOUS
- 1-1ST** = PRELIMINARY LOT NUMBER - PHASE 1
2-1ST = PRELIMINARY LOT NUMBER - PHASE 2
#30 = FUTURE ADDRESS
A = TRACT LETTER - FINAL R.L.S.



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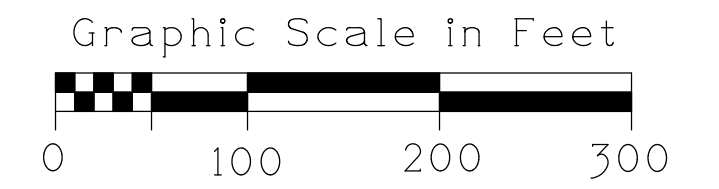
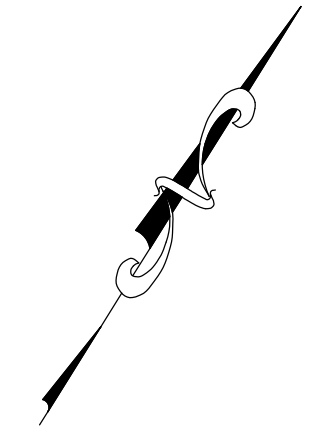
NORTH OAKS
 COMPANY

RED FOREST WAY SOUTH

SHEET DESCRIPTION:
FINAL PLAT PLAN

DATE: November 29, 2021
 rev. 1-21-22 (wetland no's)
 rev. 2-02-22 (30' esmt on 0)
SHEET 2 OF 7 SHEETS

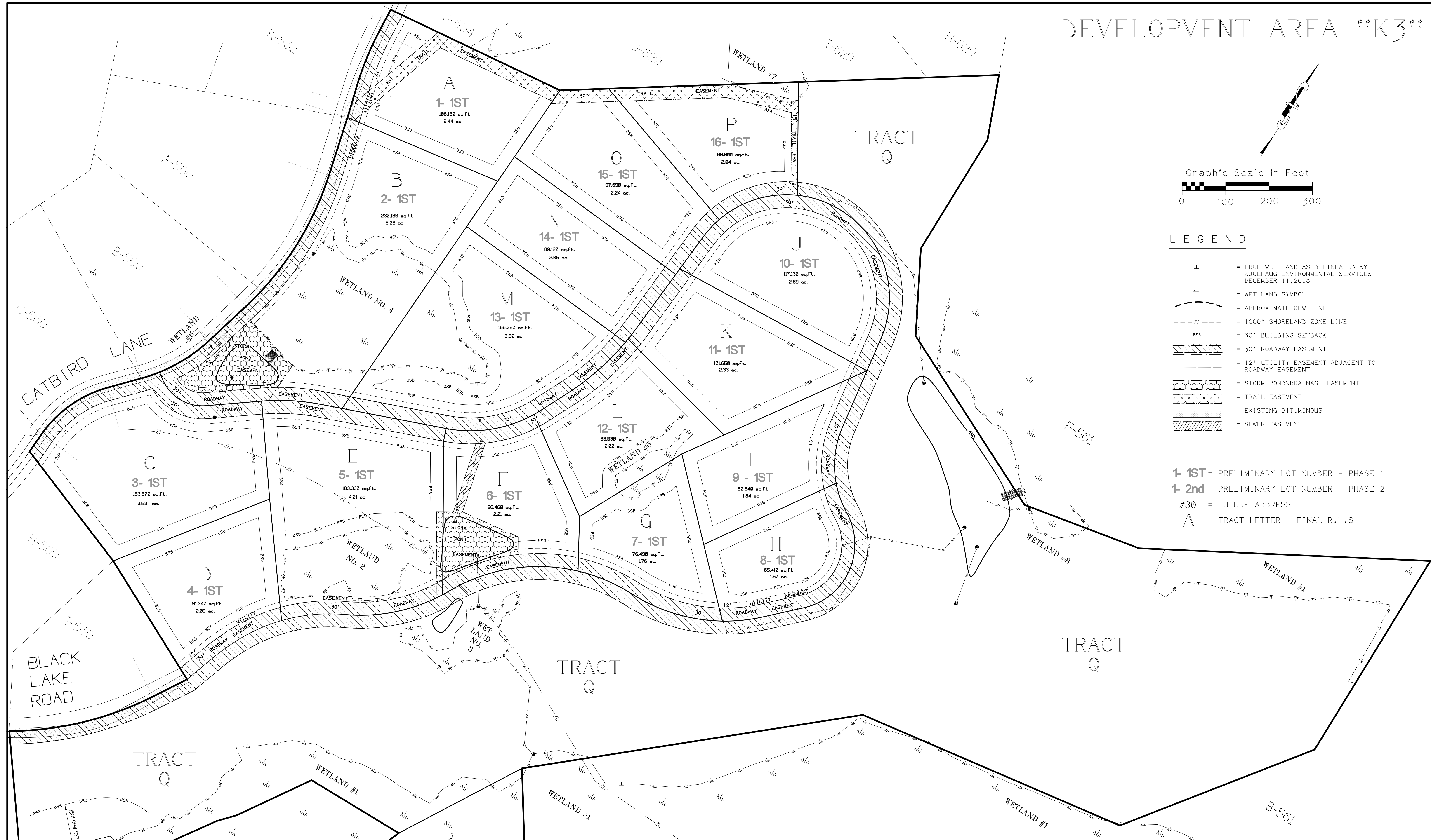
DEVELOPMENT AREA "K3"



LEGEND

- = EDGE WETLAND AS DELINEATED BY KJOLHAUG ENVIRONMENTAL SERVICES DECEMBER 11, 2018
- = WETLAND SYMBOL
- = APPROXIMATE OHW LINE
- = 1000' SHORELAND ZONE LINE
- = 30' BUILDING SETBACK
- = 30' ROADWAY EASEMENT
- = 12' UTILITY EASEMENT ADJACENT TO ROADWAY EASEMENT
- = STORM POND/DRAINAGE EASEMENT
- = TRAIL EASEMENT
- = EXISTING BITUMINOUS
- = SEWER EASEMENT

- 1- 1ST = PRELIMINARY LOT NUMBER - PHASE 1
- 1- 2nd = PRELIMINARY LOT NUMBER - PHASE 2
- #30 = FUTURE ADDRESS
- A = TRACT LETTER - FINAL R.L.S



KURTH SURVEYING, INC.
 4002 JEFFERSON ST. N.E.
 COLUMBIA HEIGHTS, MN 55421
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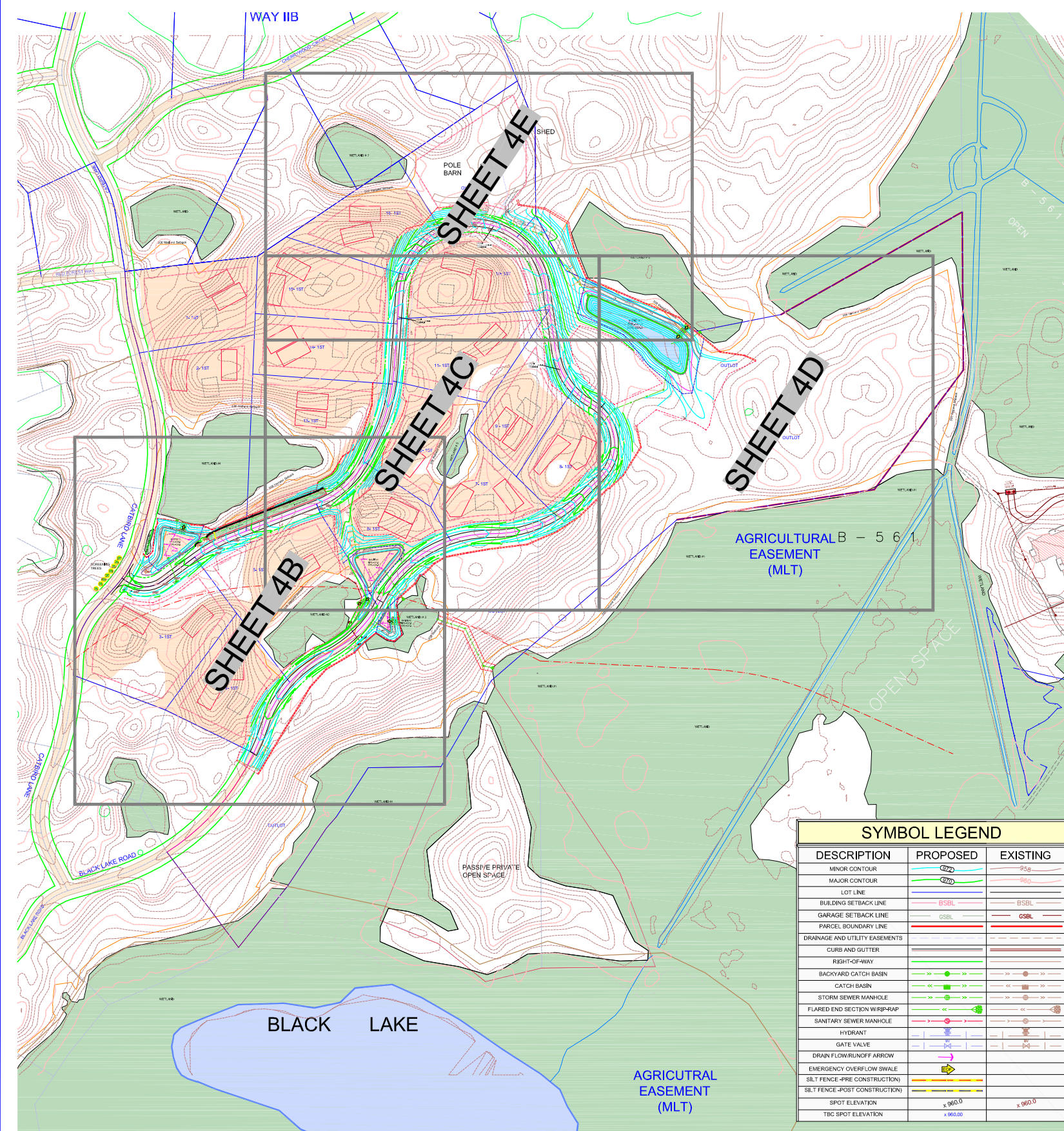
 Randy L. Kurth, RLS, No. 20270
 Russell J. Kurth, RLS, No. 16113

NORTH OAKS
 COMPANY

RED FOREST WAY SOUTH

SHEET DESCRIPTION:
FINAL PLAT EASEMENT PLAN

DATE: November 29, 2021
 rev 1-21-22 (wetland no's)
 rev 2-02-22 (30' esmt on 0)
SHEET 3 OF 7 SHEETS



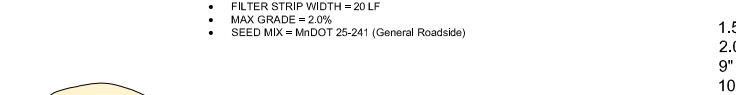
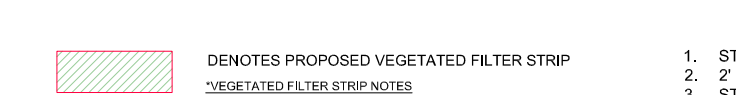
- CONSTRUCTION NOTES**
1. INSTALL SILT FENCE AS SHOWN ON PLAN. AS REQUIRED BY THE CITY OF NORTH OAKS OR DIRECTED BY THE ENGINEER.
 2. THE WATER QUALITY POND MUST BE EXCAVATED AT THE BEGINNING OF GRADING OPERATIONS TO PROVIDE TEMPORARY STORM WATER DETENTION DURING CONSTRUCTION. SAND AND SILT MUST BE REMOVED FROM THE POND AS NECESSARY DURING CONSTRUCTION AND AT THE COMPLETION OF THE PROJECT.
 3. BEGIN GRADING. INSTALL PERFORATED RISER PIPE IN PONDS WHEN POND GRADING IS COMPLETE. TEMPORARY DRAINAGE PIPE SHALL BE USED FOR INTERMEDIATE DRAINAGE DURING THE CONSTRUCTION PERIOD AS NECESSARY AND DIRECTED BY THE ENGINEER. INSTALL SILT FENCE AROUND EXCAVATED PONDS.
 4. INSPECT POND, SILT FENCE, AND ROCK ENTRANCE BERM AFTER ALL RAINFALL EVENTS AS REQUIRED BY THE NPDES PERMIT.
 5. LINE ALL PONDS WITH A MINIMUM 6" ORGANIC SOILS & SEED SLOPES BETWEEN NWL AND 100 YR HWL WITH A WATER TOLERANT MIX. (OR AS NOTED)
 6. REMOVE PERFORATED RISER PIPE WHEN STORM SEWER AND OUTLET STRUCTURE FOR PONDS ARE INSTALLED.
 7. POND - 10:1 BENCH (1 FOOT) THEN 3:1 MAX
 9. ALL OTHER SLOPES 4:1 MAX (UNLESS NOTED)
 10. RESTORATION - 8.0 ACRES
 - A. RESTORE ALL DISTURBED AREAS WITH 4" TO 6" OF TOPSOIL, OR EXISTING ON-SITE ORGANIC MTL.
 - B. SEED POND SLOPES AND DETENTION AREAS WITH MNDOT 33-251 OR BWSR P8 SEED MIX AT A RATE OF 100 LBS./ACRE AND FERTILIZE WITH 20-0-10 AT 100 LBS./ACRE. SEED WETLAND BUFFER AREAS WITH MNDOT 350-MESIC PRAIRIE (36.5 PLS LBS/AC) OR BWSR 35-241 SEED MIX AND FERTILIZE WITH 20-0-10 AT 100 LBS./ACRE. (REFER TO WETLAND CREATION/BANKING PLAN FOR WETLAND SEED MIX REQUIREMENTS).
 - C. SEED ALL OTHER DISTURBED AREAS WITH MNDOT 25-141 AT A RATE OF 100 LBS./ACRE AND FERTILIZE WITH 20-0-10 AT 100 LBS./ACRE. (UNLESS OTHERWISE NOTED)
 - D. ONLY PHOSPHOROUS FREE FERTILIZER IS TO BE USED ON SITE.
 - E. MULCH WITH TYPE 1 AT A RATE OF 2 TONS/ACRE AND DISC ANCHOR IMMEDIATELY AFTER PLACEMENT. USE WOODFIBER BLANKET ON ALL SLOPES 3:1 (FT) OR GREATER.
 - F. PLACE APPROVED STORM SEWER INLET PROTECTION IN OR AROUND ALL STORM SEWER INLETS AND MAINTAIN UNTIL ALL HOME CONSTRUCTION IS COMPLETED. REFER TO DETAILS FOR APPROVED DEVICES.
 - G. MAINTAIN ALL SILT FENCE UNTIL TURF HAS BEEN ESTABLISHED.
 - H. RESTORATION WORK WILL BE COMPLETED WITHIN 72 HOURS OF GRADING COMPLETION.
 11. SILT FENCE - BEFORE GRADING - 8.635 LF
AFTER GRADING - 1,500 LF
 12. EROSION BLANKET - 100 SF

CONSTRUCTION SEQUENCING

1. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL DEVICES TO PREVENT SEDIMENT FROM LEAVING OR ENTERING THE PRACTICE DURING CONSTRUCTION.
2. ALL DOWN-GRADIENT PERIMETER SEDIMENT CONTROL BMP'S MUST BE IN PLACE BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITY BEGINS.
3. PERFORM CONTINUOUS INSPECTIONS OF EROSION CONTROL PRACTICES, ESPECIALLY AFTER EACH RAINFALL EVENT. ALL REPAIRS TO BE COMPLETED WITHIN 24 HOURS OF 0.5" RAIN EVENT.
4. INSTALL ALL UTILITIES (ELECTRIC, NATURAL GAS, PHONE, FIBER OPTIC, ETC) PRIOR TO SETTING FINAL GRADE OF INFILTRATION BASIN.
5. INFILTRATION AREAS ARE NOT ALLOWED TO BE USED AS TEMPORARY SEDIMENT BASINS.
6. COMPLETE, STABILIZE, AND VEGETATE ALL OTHER SITE IMPROVEMENTS.
7. ONLY AFTER UPSTREAM CONSTRUCTION IS COMPLETED, CAN THE INFILTRATION BASIN BE CONSTRUCTED TO FINAL GRADE. ONCE GRADING IS COMPLETED, INSTALL FILTER TOPSOIL BORROW AND VEGETATE IN ACCORDANCE WITH THE RESTORATION PLAN.
9. MNDOT FILTER TOPSOIL BORROW SHALL BE TILLED AFTER INSTALLATION IN THE BASIN TO REDUCE COMPACTION DURING INSTALLATION.
10. REMOVE TEMPORARY EROSION CONTROL DEVICES AFTER THE CONTRIBUTING DRAINAGE AREA IS ADEQUATELY VEGETATED.

FILTRATION BASIN NOTES

1. Filter material in the sand shall be dug 2' below the bottom of the basin.
2. The basin shall be installed within the 100-year flood plain.
3. The basin shall be installed on suitable soils for septic areas.
4. The bottom of the basin shall be a minimum of 12" above the water table.
5. The basin shall be installed on suitable soils for septic areas.
6. The basin shall be installed on suitable soils for septic areas.
7. The basin shall be installed on suitable soils for septic areas.
8. The basin shall be installed on suitable soils for septic areas.
9. The basin shall be installed on suitable soils for septic areas.
10. The basin shall be installed on suitable soils for septic areas.
11. The basin shall be installed on suitable soils for septic areas.
12. The basin shall be installed on suitable soils for septic areas.



SYMBOL LEGEND

DESCRIPTION	PROPOSED	EXISTING
MINOR CONTOUR	2' Contour	5' Contour
MAJOR CONTOUR	5' Contour	10' Contour
LOT LINE	---	---
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE	---	---
DRAINAGE AND UTILITY EASEMENTS	---	---
CURBS AND GUTTER	---	---
RIGHT-OF-WAY	---	---
BACKYARD CATCH BASIN	---	---
CATCH BASIN	---	---
STORM SEWER MANHOLE	---	---
FLARED END SECTION WRIP-RAP	---	---
SANITARY SEWER MANHOLE	---	---
HYDRANT	---	---
GATE VALVE	---	---
DRAIN FLOW/RUNOFF ARROW	---	---
EMERGENCY OVERFLOW SWALE	---	---
SILT FENCE - PRE CONSTRUCTION	---	---
SILT FENCE - POST CONSTRUCTION	---	---
SPOT ELEVATION	x 960.0	x 960.0
TBC SPOT ELEVATION	x 960.0	x 960.0

STREET NOTES

1. STREETS TO BE 24' WIDE WITH A 2' GRAVEL SHOULDER
2. 2' GRAVEL SHOULDER TO BE 9.5" IN DEPTH
3. STREET SECTION:
 - 1.5" BITUMINOUS WEAR COURSE
 - 2.0" BITUMINOUS BASE COURSE
 - 9" CLASS 5 RECYCLED SAND SECTION TO BE DETERMINED BY SOILS ENGINEER
 - APPROVED SUBGRADE TO BE DETERMINED BY SOILS ENGINEER
 - RECYCLE MATERIAL (RAP AND RAS) ARE NOT ALLOWED IN BITUMINOUS WEAR COURSE
4. DITCHES TO BE SLOPED 3:1 WITH A 2' BOTTOM
5. MINIMUM DITCH DEPTH TO BE 2' FROM EDGE OF SHOULDER TO BOTTOM OF DITCH.

TREE REMOVAL NOTES

1. ALL TREES WITHIN GRADING LIMITS SHALL BE REMOVED AT TIME OF CONSTRUCTION.
2. TREES IN PROXIMITY TO DRIVEWAYS & SEPTIC SITES SHALL BE REMOVED AT TIME OF LOT GRADING / HOME BUILDING. - ADDITIONAL TREE REMOVAL WILL BE COMPLETED AT THIS TIME BASED ON HOME BUILDING SITE & SEPTIC SITES.

*NOTE - EXISTING TREES SHOWN ARE NOT ALL EXISTING TREES WITHIN SITE AREA - TREES WERE SHOT DURING ONSITE FIELD VISIT

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Eric R. Johnson
ERIC R. JOHNSON, P.E.
Date: 11/19/21 Lic. No. 56659

ENGINEERS SURVEYORS DESIGNERS PLANNERS

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

CITY PROJECT NO. ---

NORTH OAKS, MINNESOTA

FINAL PLAT / GRADING PLAN

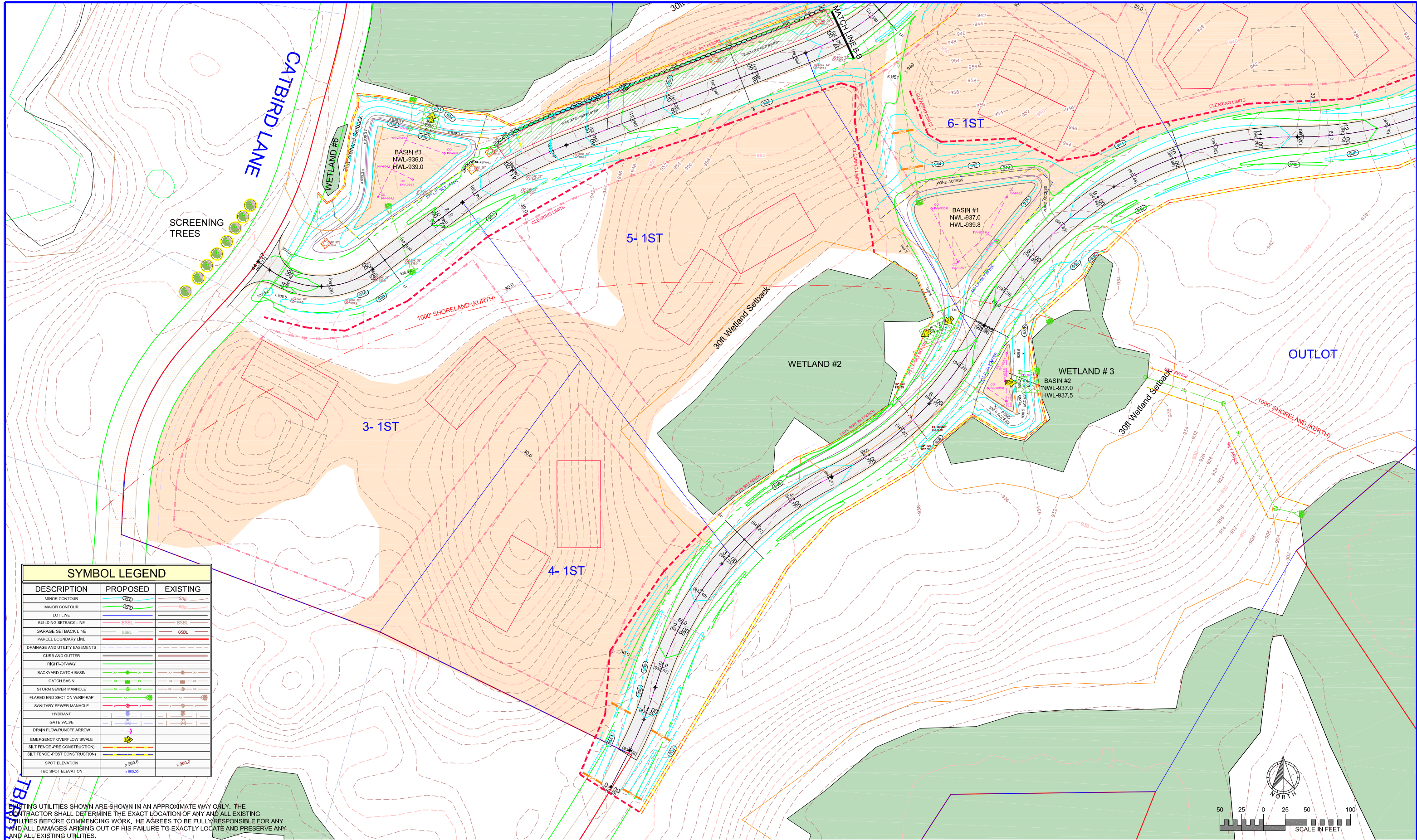
RED FOREST WAY SOUTH - PHASE 1

NORTH OAKS

FILE NO. 64500-024

4A

7 49



SYMBOL LEGEND		
DESCRIPTION	PROPOSED	EXISTING
MINOR CONTOUR		
MAJOR CONTOUR		
LOT LINE		
BUILDING SETBACK LINE		
GARAGE SETBACK LINE		
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION WRAPUP		
SANITARY SEWER MANHOLE		
HYDRANT		
GATE VALVE		
DRAIN FLOW/RUNOFF ARROW		
EMERGENCY OVERFLOW SWALE		
SILT FENCE (PRE CONSTRUCTION)		
SILT FENCE (POST CONSTRUCTION)		
SPOT ELEVATION		
TBC SPOT ELEVATION		

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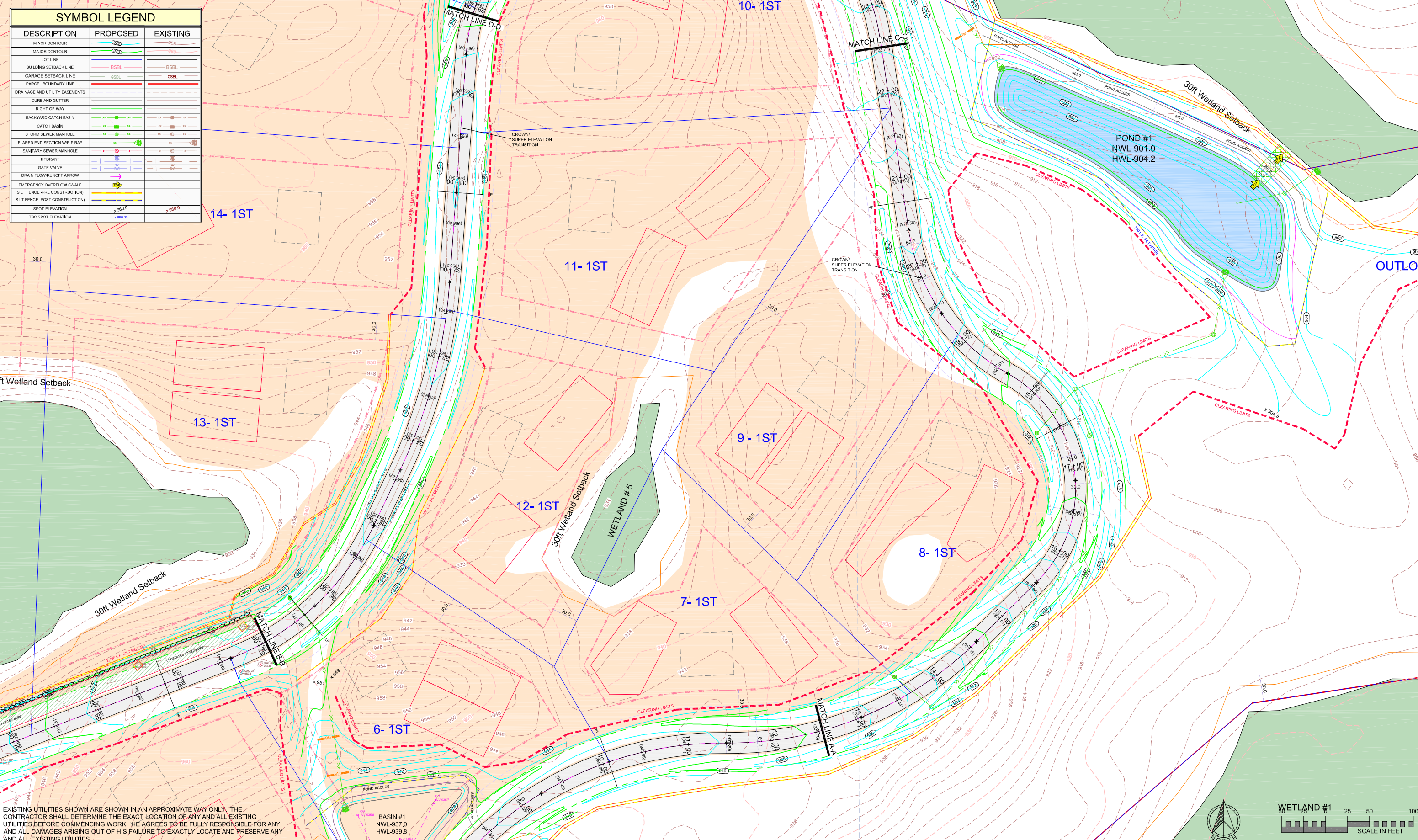
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CITY PROJECT NO. ---

FINAL GRADING PLAN
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

CITY OF NORTH OAKS, MINNESOTA

FILE NO. 64500-024
4B
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SYMBOL LEGEND		
DESCRIPTION	PROPOSED	EXISTING
MINOR CONTOUR		
MAJOR CONTOUR		
LOT LINE		
BUILDING SETBACK LINE		
GARAGE SETBACK LINE		
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION WRAP-AROUND		
SANITARY SEWER MANHOLE		
HYDRANT		
GATE VALVE		
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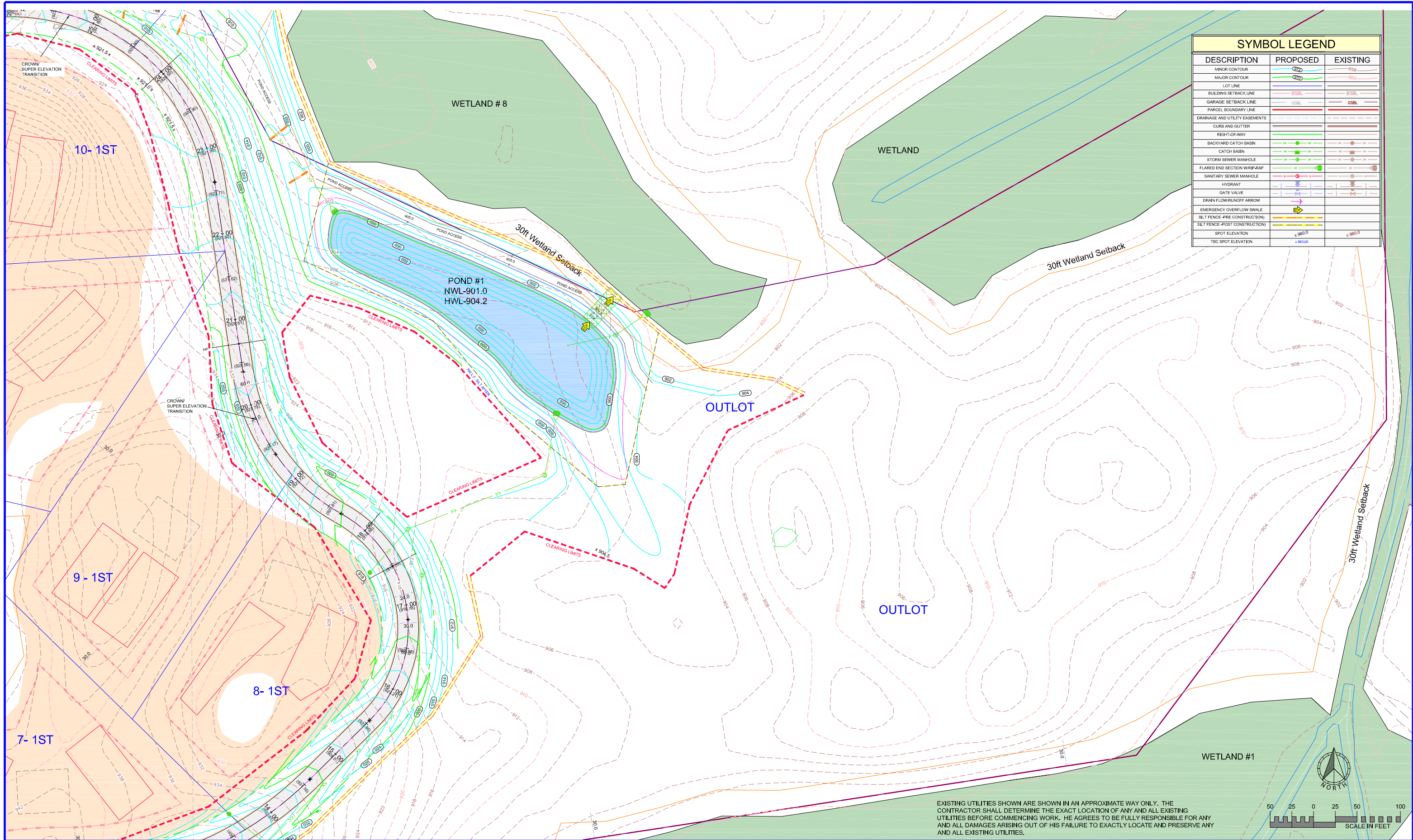
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NORTH OAKS, MINNESOTA

FINAL GRADING PLAN
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

FILE NO. 64500-024
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SYMBOL LEGEND		
DESCRIPTION	PROPOSED	EXISTING
MINOR CONTOUR		
MAJOR CONTOUR		
LOT LINE		
BUILDING SETBACK LINE		
GARAGE SETBACK LINE		
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
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SILT FENCE -PRE CONSTRUCTION		
SILT FENCE -POST CONSTRUCTION		
SPOT ELEVATION		
T&C SPOT ELEVATION		

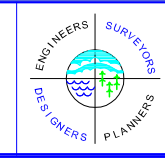
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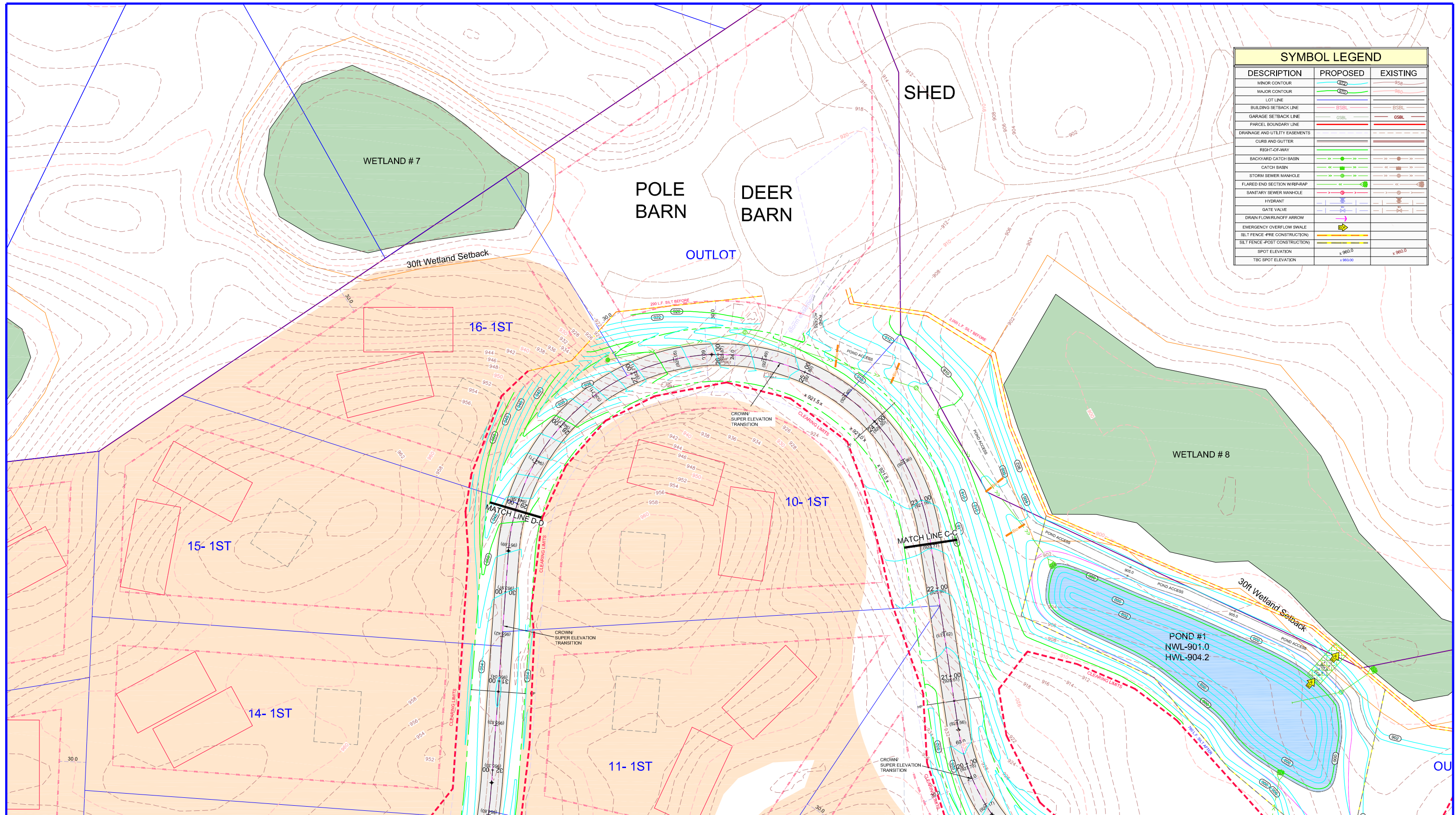
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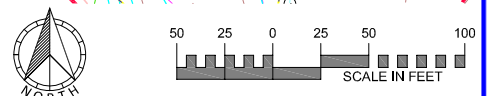
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RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

FILE NO.
 64500-024
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PARCEL BOUNDARY LINE		
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RIGHT-OF-WAY		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION WRAP-UP		
SANITARY SEWER MANHOLE		
HYDRANT		
GATE VALVE		
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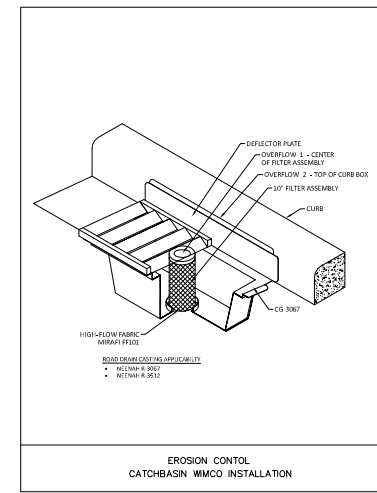
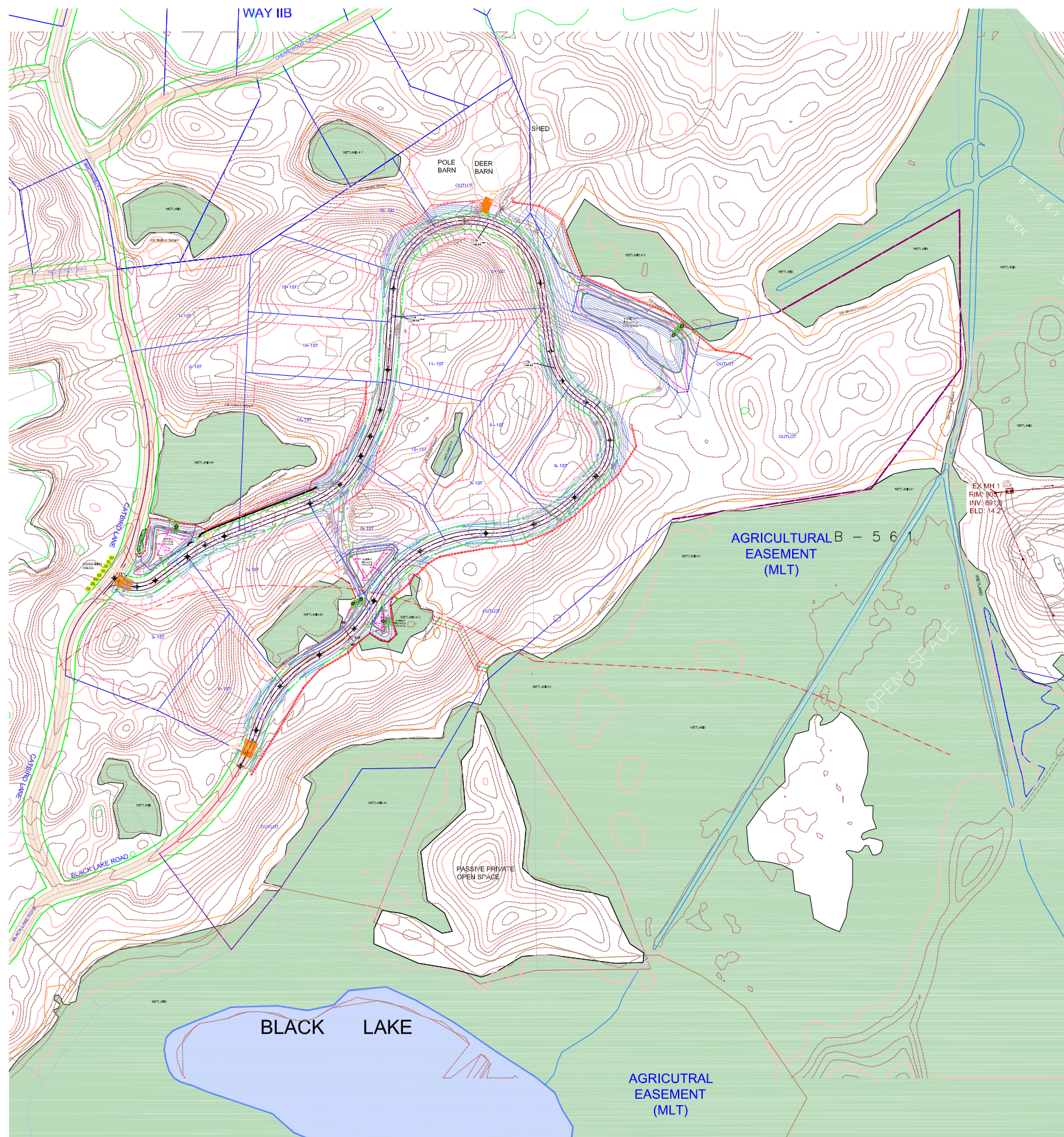
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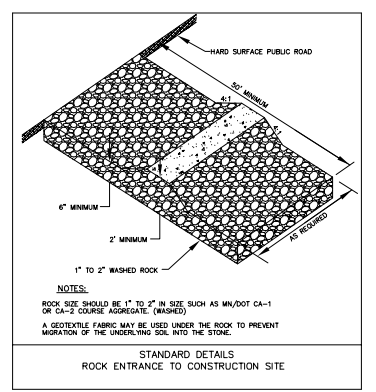
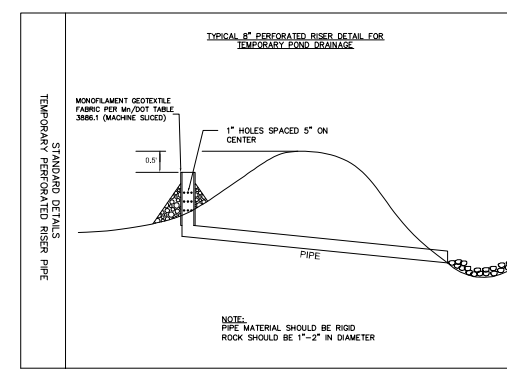
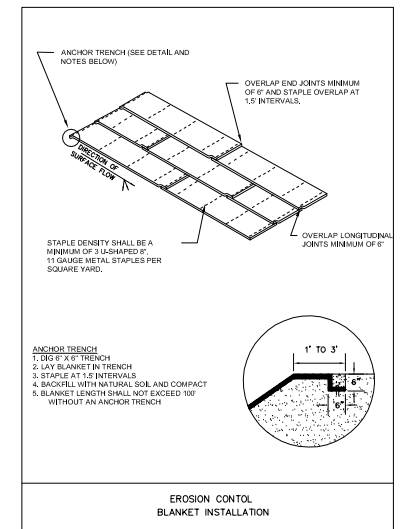
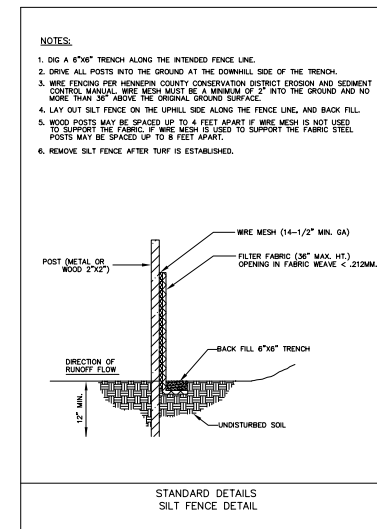
CITY PROJECT NO.
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NORTH OAKS, MINNESOTA

FINAL GRADING PLAN
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

FILE NO.
 64500-024
4E
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- ROCK ENTRANCE BERM
- SILT FENCE
- POST GRADING SILT FENCE
- BIO-ROLL
- CONCRETE WASHOUT
- INLET PROTECTION
- WOODFIBER BLANKET
- DENOTES PROPOSED CLEARING LIMITS



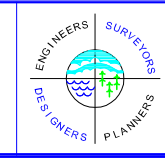
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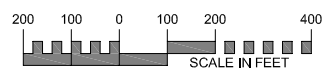


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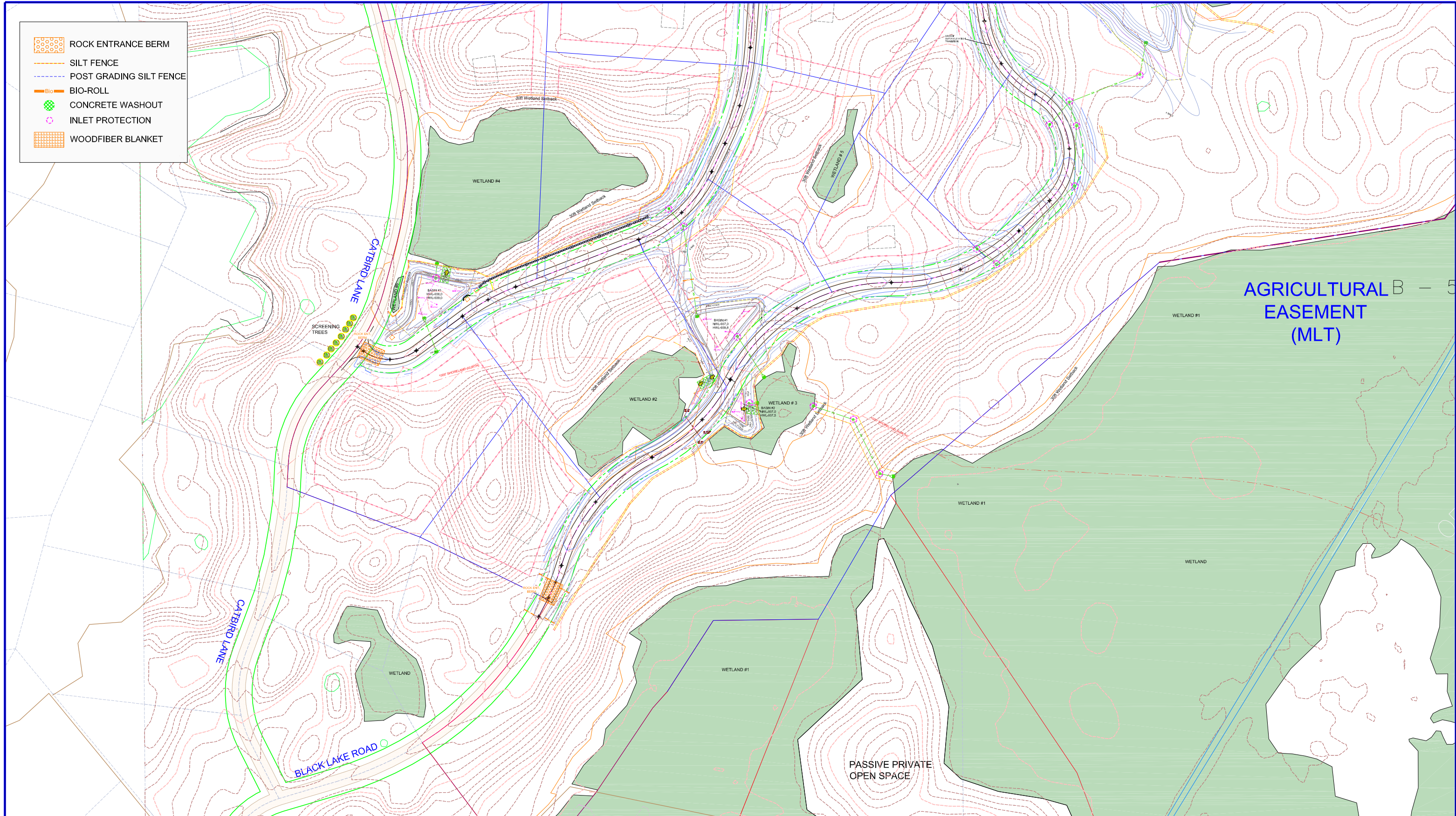
NORTH OAKS, MINNESOTA

FINAL EROSION CONTROL PLAN
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS



FILE NO.
64500-024
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7 54

-  ROCK ENTRANCE BERM
-  SILT FENCE
-  POST GRADING SILT FENCE
-  BIO-ROLL
-  CONCRETE WASHOUT
-  INLET PROTECTION
-  WOODFIBER BLANKET



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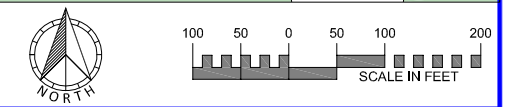


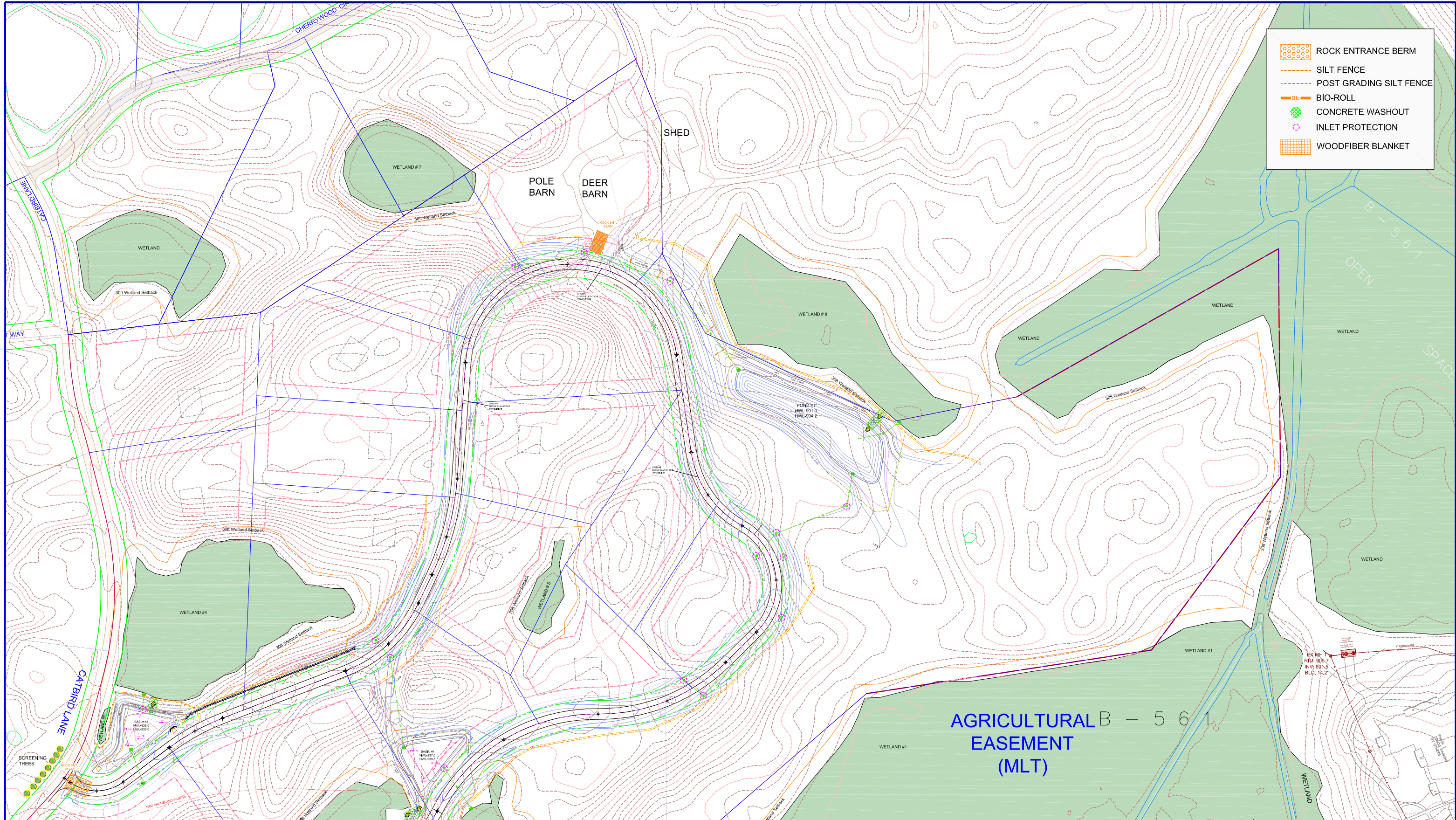
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CITY PROJECT NO.
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**NORTH OAKS,
 MINNESOTA**

FINAL EROSION CONTROL PLAN
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

FILE NO.
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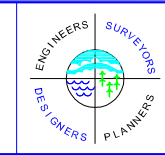
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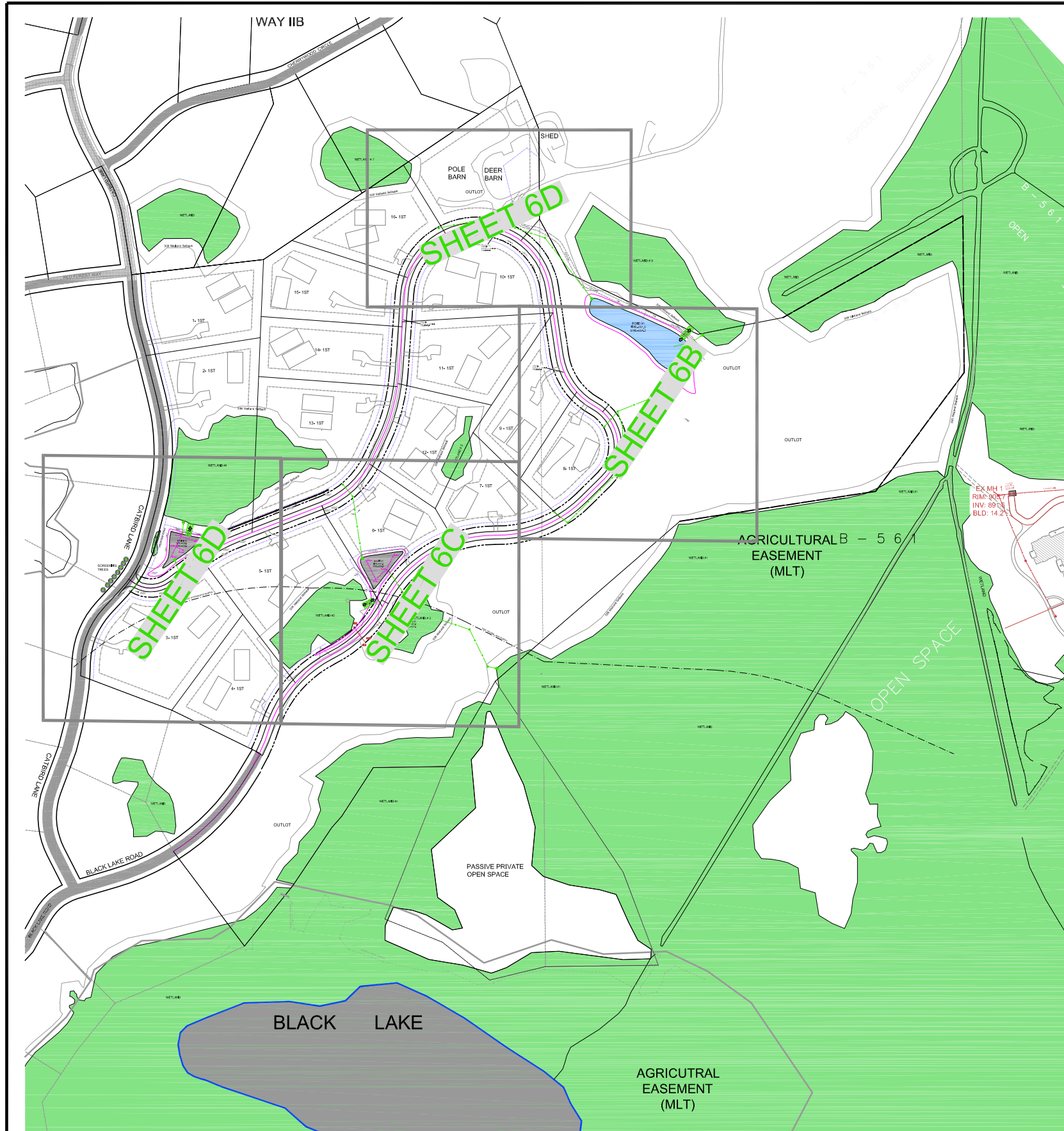


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NORTH OAKS, MINNESOTA

FINAL EROSION CONTROL PLAN
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

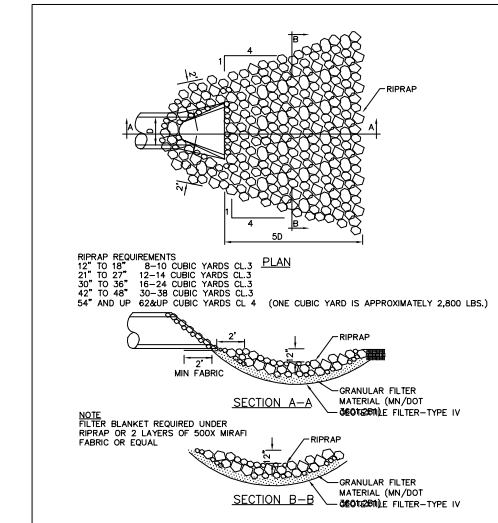
FILE NO. 64500-024
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LEGEND		
DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	B'SBL	B'SBL
GARAGE SETBACK LINE	G'SBL	G'SBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
ROADWAY EASEMENT		
SANW/M SERVICE		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION WRIP-RAP		
STORM STRUCTURE LABEL	CB H3	CB H3
SANITARY STRUCTURE LABEL		
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		

STORM SEWER NOTES:

- 4" DRAINTILE (W/SOCK) SHALL BE INSTALLED AT THE LOWPOINT CATCH BASINS 50' MIN. (STD) IN EACH DIRECTION & 100' IN THE UPHILL DIRECTION FOR ON SLOPE CATCH BASINS.
- TIE THE LAST 6 PIPE JOINTS TO FLARED END SECTIONS (TYPICAL).
- TRASH GUARDS SHALL BE PLACED ON ALL FLARED END SECTIONS 24" OR LARGER. THERE ARE NO TRASH GUARDS ON 12" THROUGH 21" F.E.S.'S.
- TIE ALL PIPE JOINTS IN AND OUT OF ALL OUTLET STRUCTURES.
- WIMCO'S OR APPROVED EQUAL TO BE INSTALLED AT ALL STORM INLETS.
- RIP-RAP FOR STORM SEWER SHALL BE CLASS 3 AND SHALL BE HAND PLACED.
- WET BASIN TO BE CLAY LINED. (2" MINIMUM CLAY LINER)
- ALL ADJUSTING RINGS TO BE HDPE.
- SAND FILTER AND DRAINTILE FOR THE FILTER BASIN SHALL BE INSTALLED AFTER FINAL STABILIZATION.
- OUTLET CONTROL STRUCTURE GRATE TO BE GALVANIZED GRATE (SPLIT) 4" X 4" OPENINGS.



STRUCTURE TABLE							
STRUCTURE NAME	TYPE	DIAMETER	RIM	BUILD	INV	CASTING	NOTES
2	CBMH	48.0"	911.3	3.8'	907.5	R-4342	
3	CBMH	48.0"	920.9	3.5'	917.4	R-4342	
4	CB	27.0"	930.5	3.0'	927.5	R-4342	
6	CBMH	48.0"	909.8	6.3'	903.5	R-4342	
7	CBMH	48.0"	912.7	5.2'	907.5	R-4342	
8	CBMH	48.0"	915.1	7.1'	908.0	R-4342	
9	CBMH	48.0"	919.5	4.4'	915.1	R-4342	
10	CBMH	48.0"	931.9	4.5'	927.4	R-4342	
11	CB	27.0"	933.1	3.5'	929.6	R-4342	
12	CBMH	48.0"	917.1	7.1'	910.0	R-4342	
16	CBMH	48.0"	947.9	8.9'	939.0	R-4342	
17	CB	27.0"	948.1	4.6'	943.5	R-4342	
23	STMH	48.0"	906.8	4.5'	902.3	R-1642	
24	CBMH	48.0"	930.2	7.3'	922.9	R-4342	
25	CBMH	48.0"	933.9	4.0'	929.9	R-4342	

FES TABLE					
Structure Name	TYPE	SIZE (IN.)	INV	C.Y.	RIP RAP
1	FES	18	900.5	8	
5	FES	18	900.5	8	
15	FES	18	937.0	8	
18	FES	18	935.0	8	
20	FES	15	936.0	8	
21	FES	15	936.5	8	
22	FES	15	902.0	8	
26	FES	18	899.5	8	
28	FES	18	933.0	8	
29	FES	18	935.0	8	

OUTLET STRUCTURE TABLE			
Structure Name	TYPE	INV	DETAIL
27	OCS	899.0 900.00	SEE STRUCTURE DETAIL
B1	OCS	935.50	SEE STRUCTURE DETAIL
B2	OCS	935.50	SEE STRUCTURE DETAIL
B3	OCS	934.00	SEE STRUCTURE DETAIL

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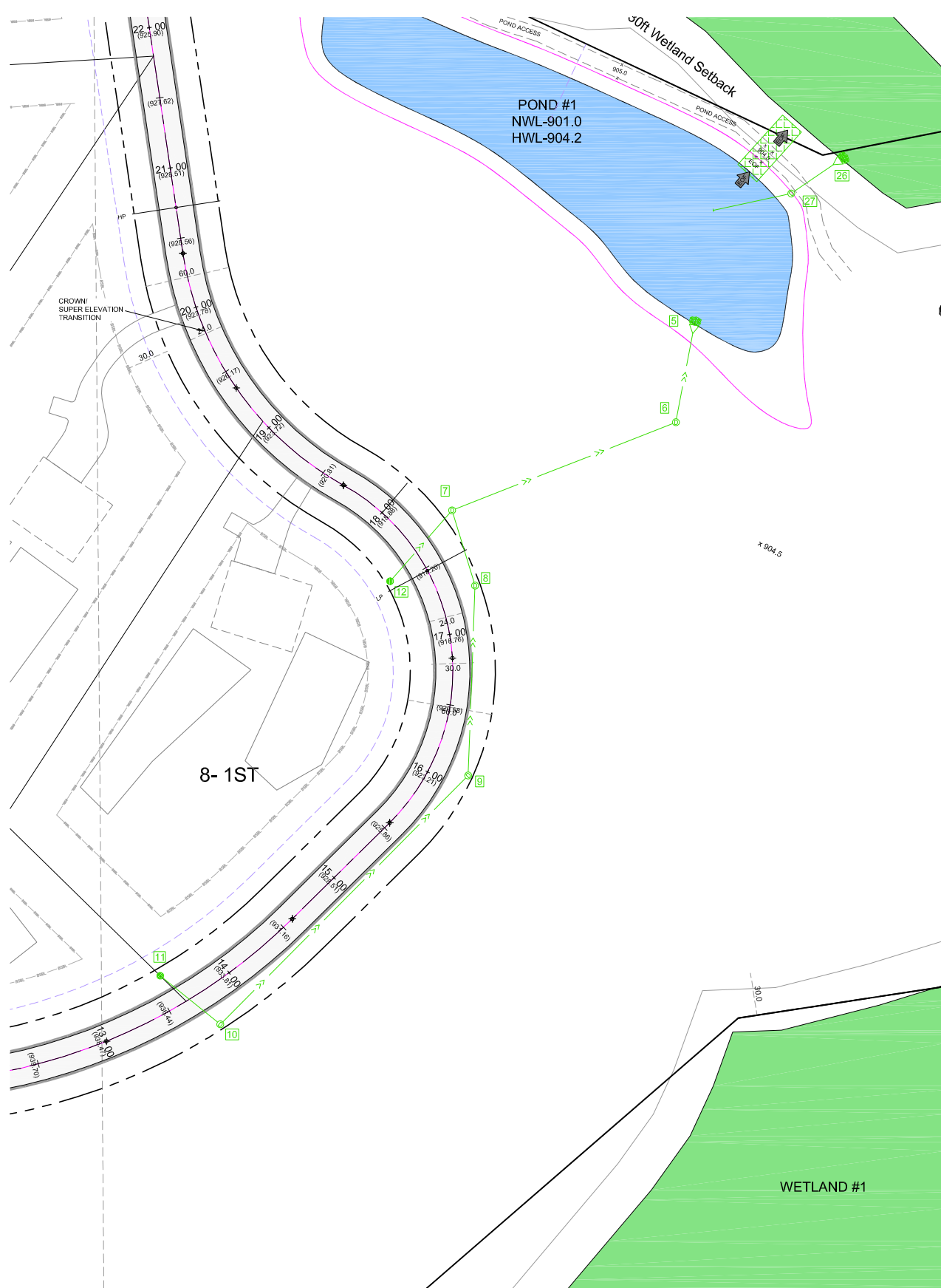
Eric R. Johnson
ERIC R. JOHNSON, P.E.
Date: 11/19/21 Lic. No. 56659

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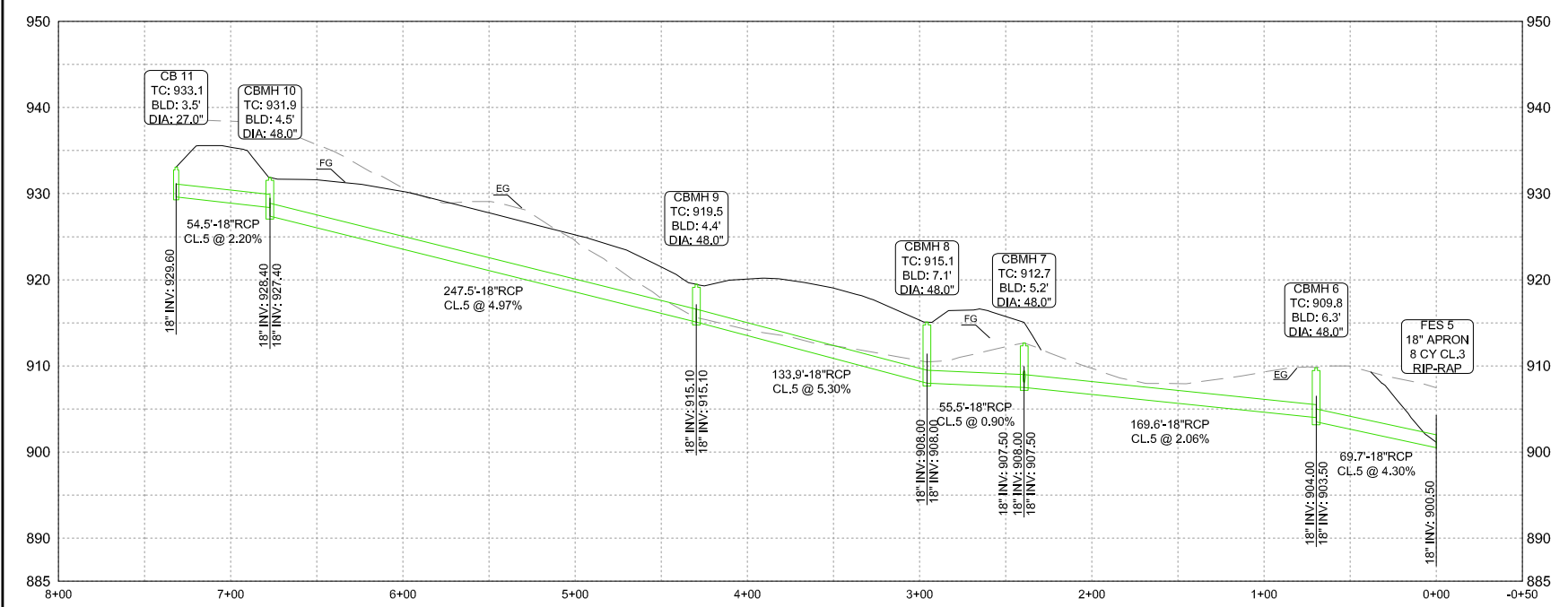
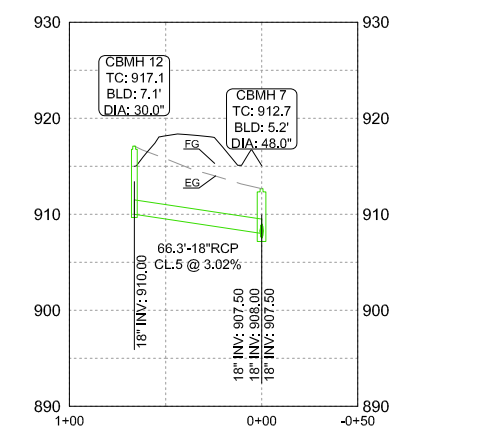
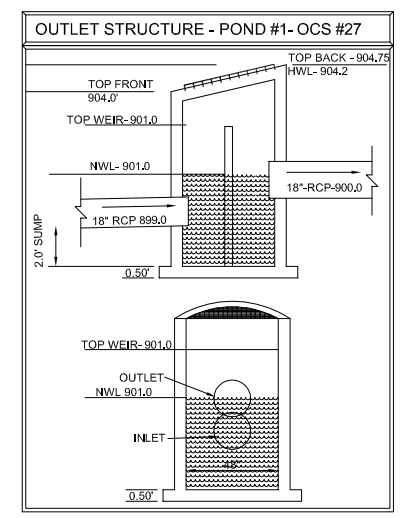
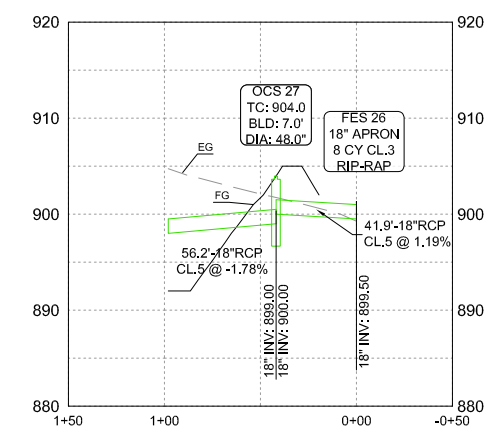
CITY PROJECT NO.
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NORTH OAKS, MINNESOTA

FINAL STORM SEWER PLAN
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

FILE NO.
64500-024
6A
7 57



LEGEND		
DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
ROADWAY EASEMENT		
SANITARY SERVICE		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION WRIP-RAP		
STORM STRUCTURE LABEL	CB H3	CB H3
SANITARY STRUCTURE LABEL		
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		



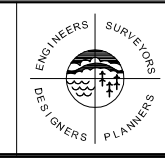
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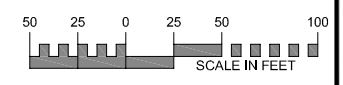


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CITY PROJECT NO.
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**NORTH OAKS,
MINNESOTA**

FINAL STORM SEWER PLAN
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

FILE NO.
64500-024
6B
7 58





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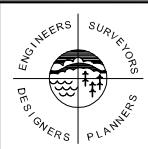
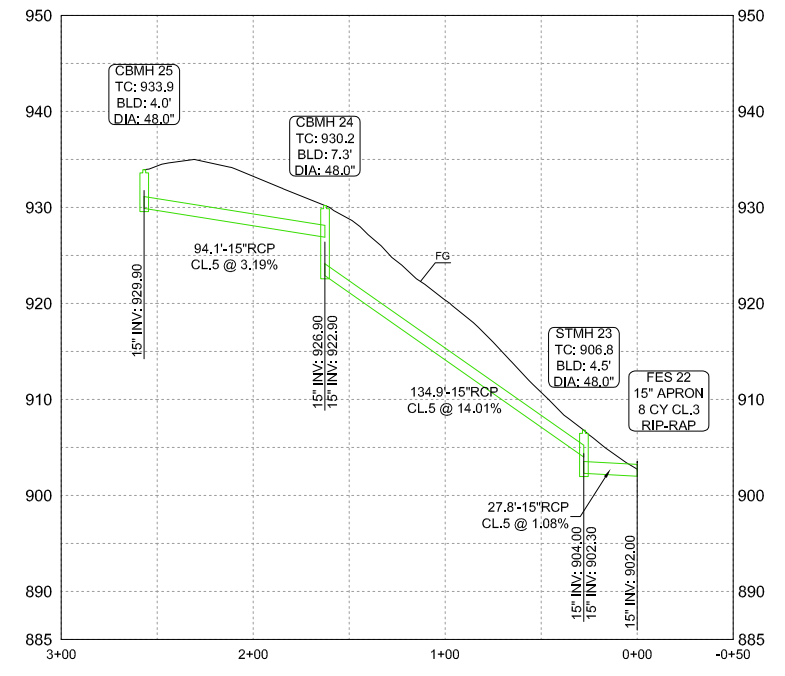
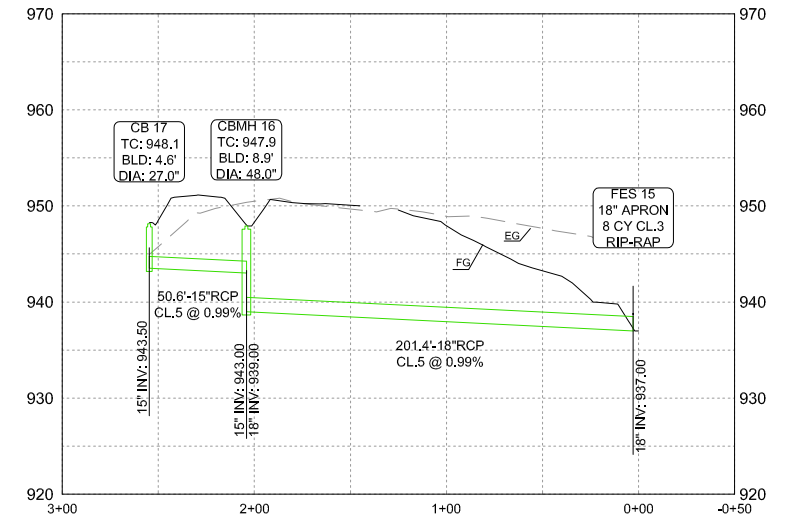
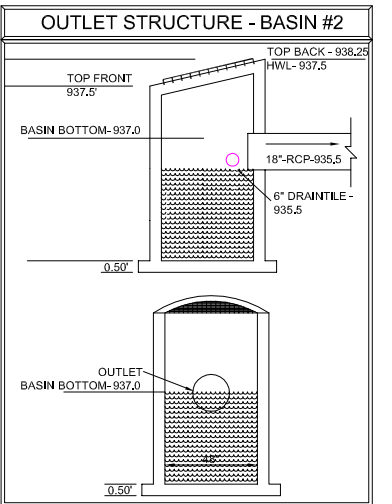
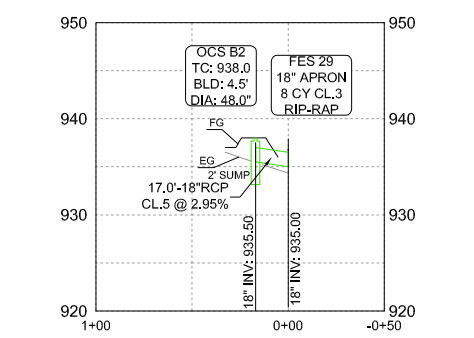
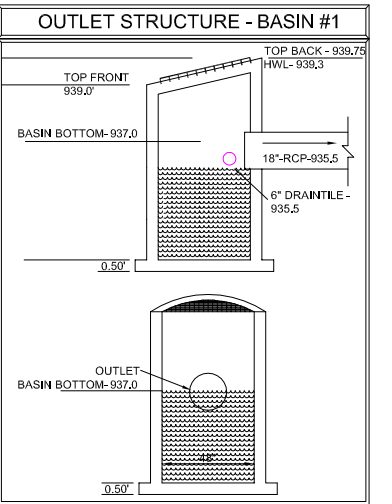
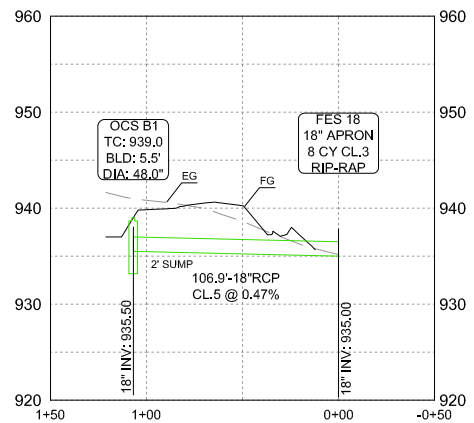
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FINAL SHEETS	01	ERJ	01/21/22	CITY ENGINEER COMMENT REVISIONS
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Eric R. Johnson
 ERIC R. JOHNSON, P.E.
 Date: 11/19/21 Lic. No. 56659

DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	B'SBL	B'SBL
GARAGE SETBACK LINE	G'SBL	G'SBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
ROADWAY EASEMENT		
SANITARY SERVICE		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION WRIP-RAP		
STORM STRUCTURE LABEL	CB H3	CB H3
SANITARY STRUCTURE LABEL		
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		

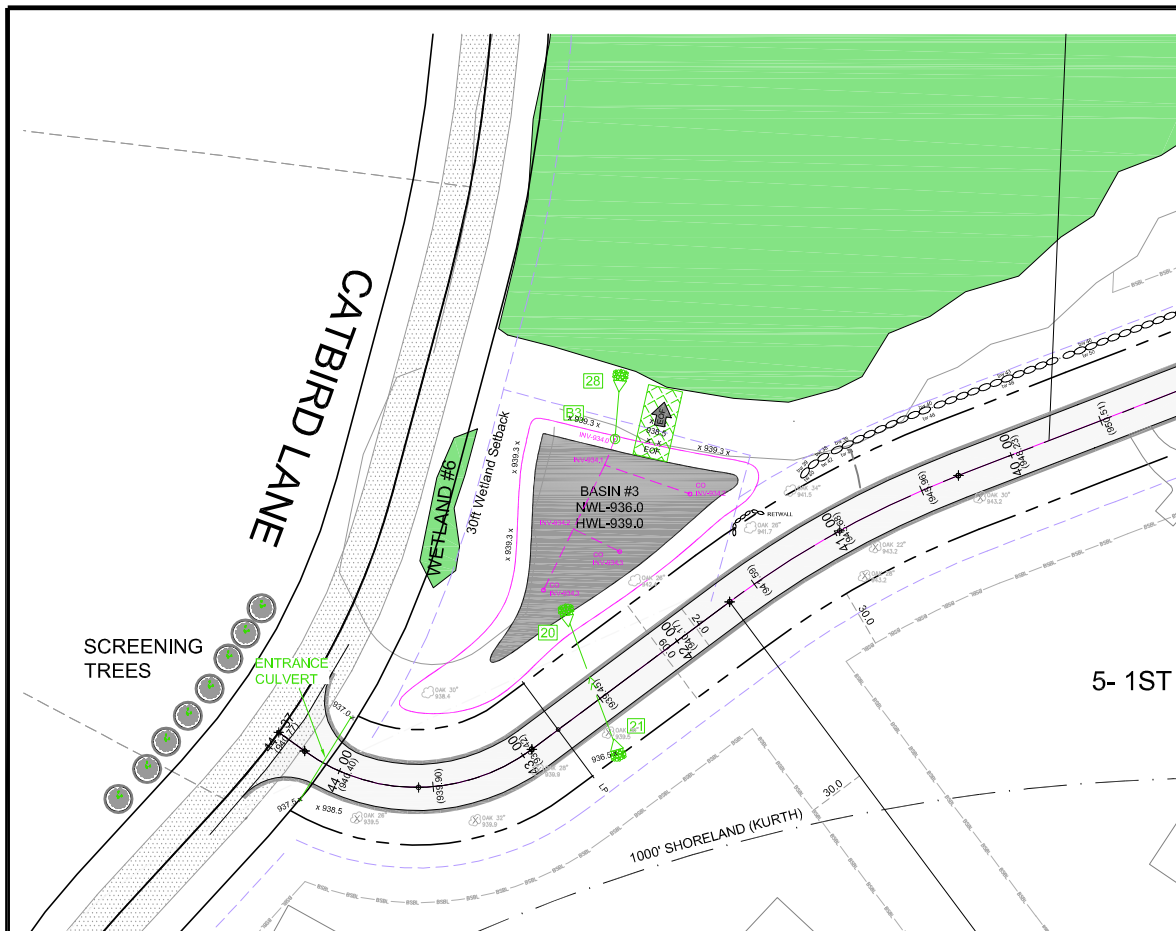


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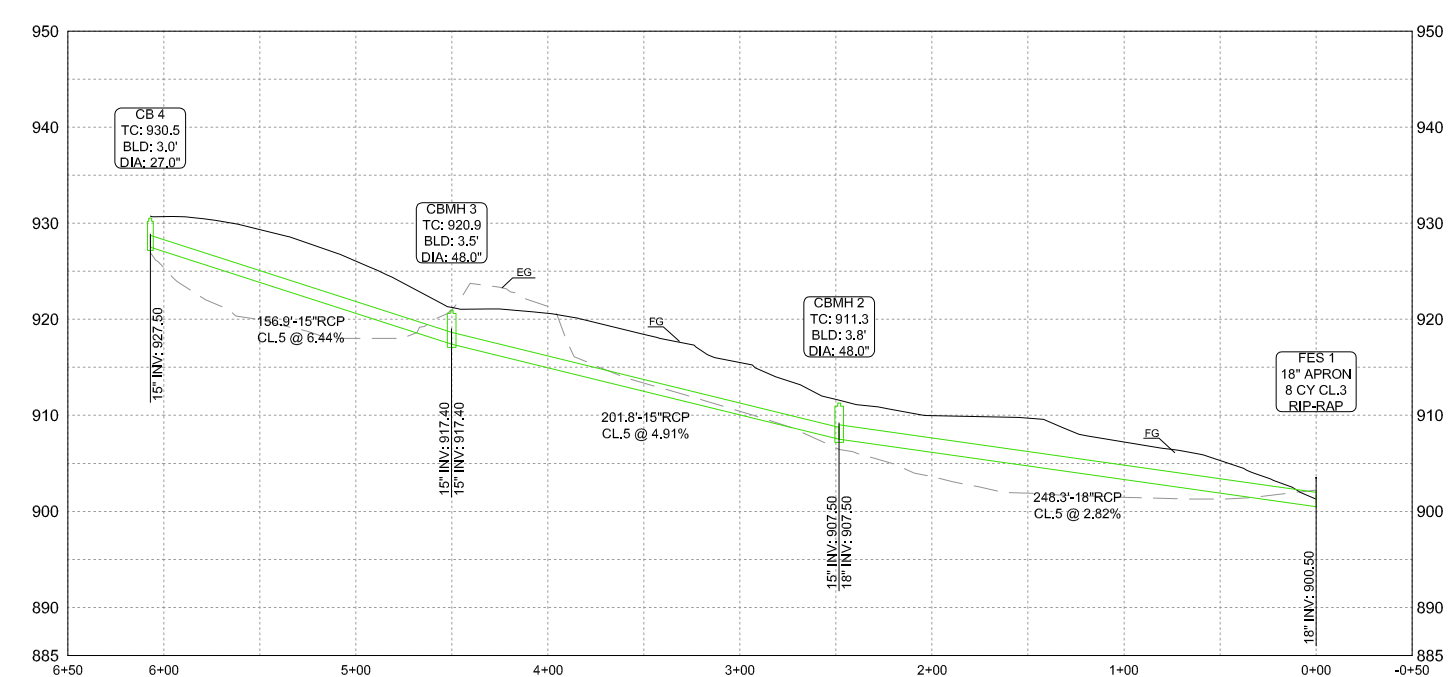
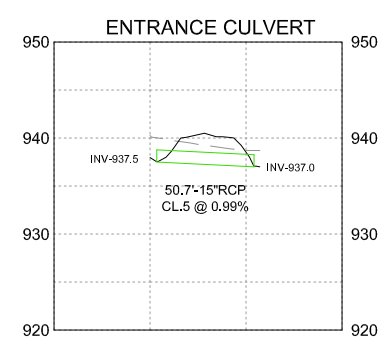
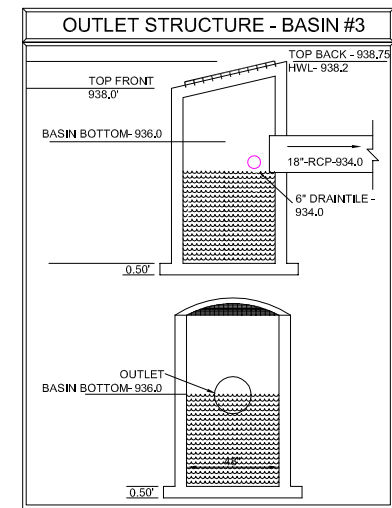
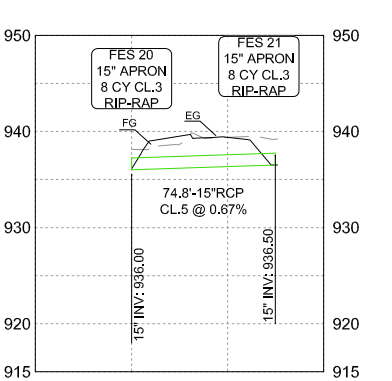
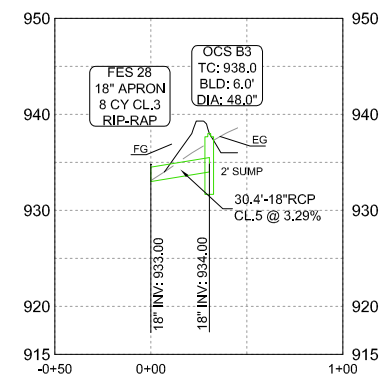
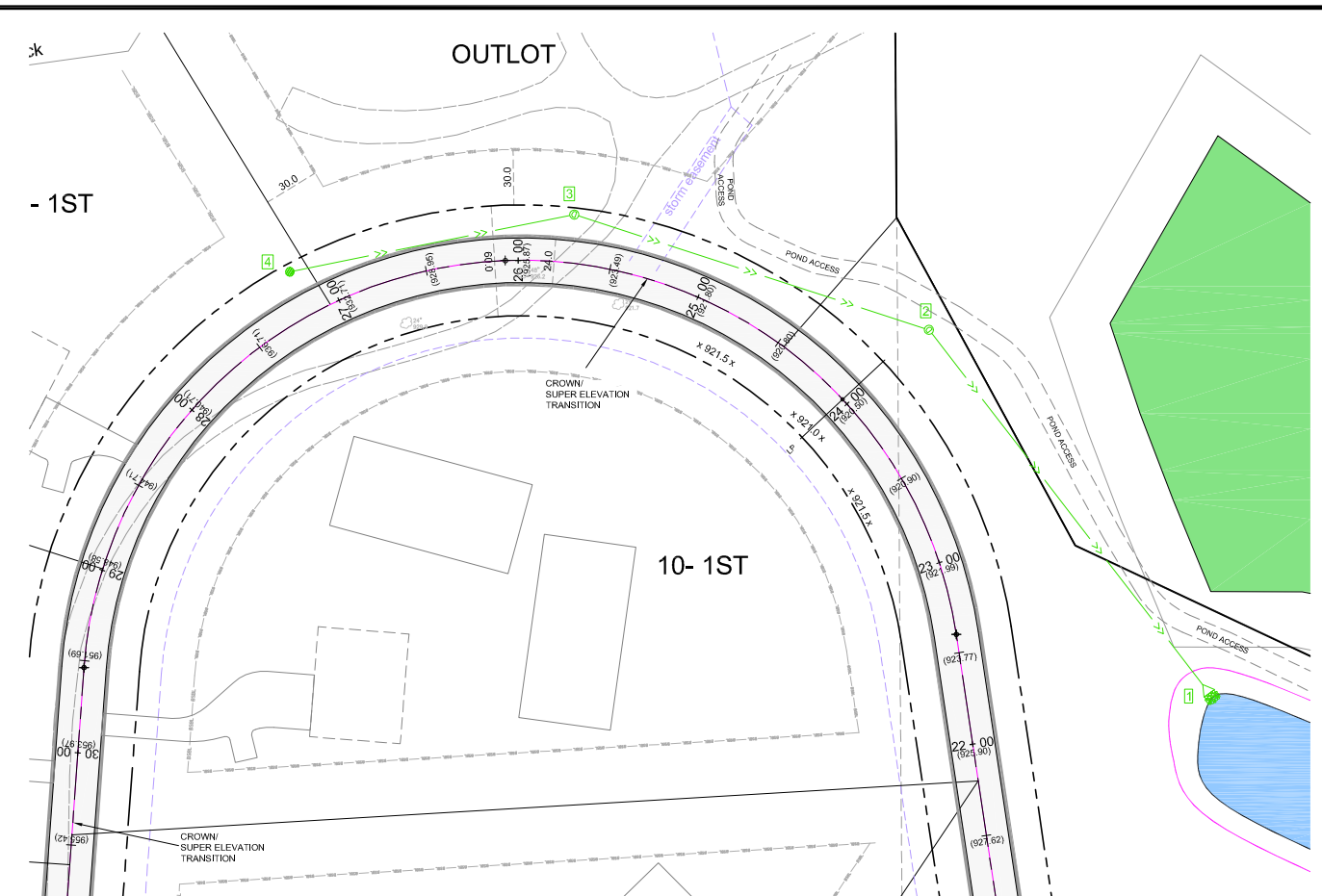
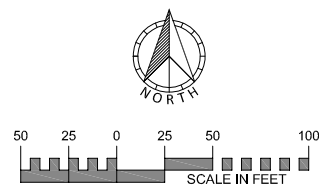
CITY PROJECT NO.
 --
NORTH OAKS, MINNESOTA

FINAL STORM SEWER PLAN
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

FILE NO.
 64500-024
6C
 7 59



LEGEND		
DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
ROADWAY EASEMENT		
SANITARY SERVICE		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION WRIP-RAP		
STORM STRUCTURE LABEL	CB H3	CB H3
SANITARY STRUCTURE LABEL		
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		



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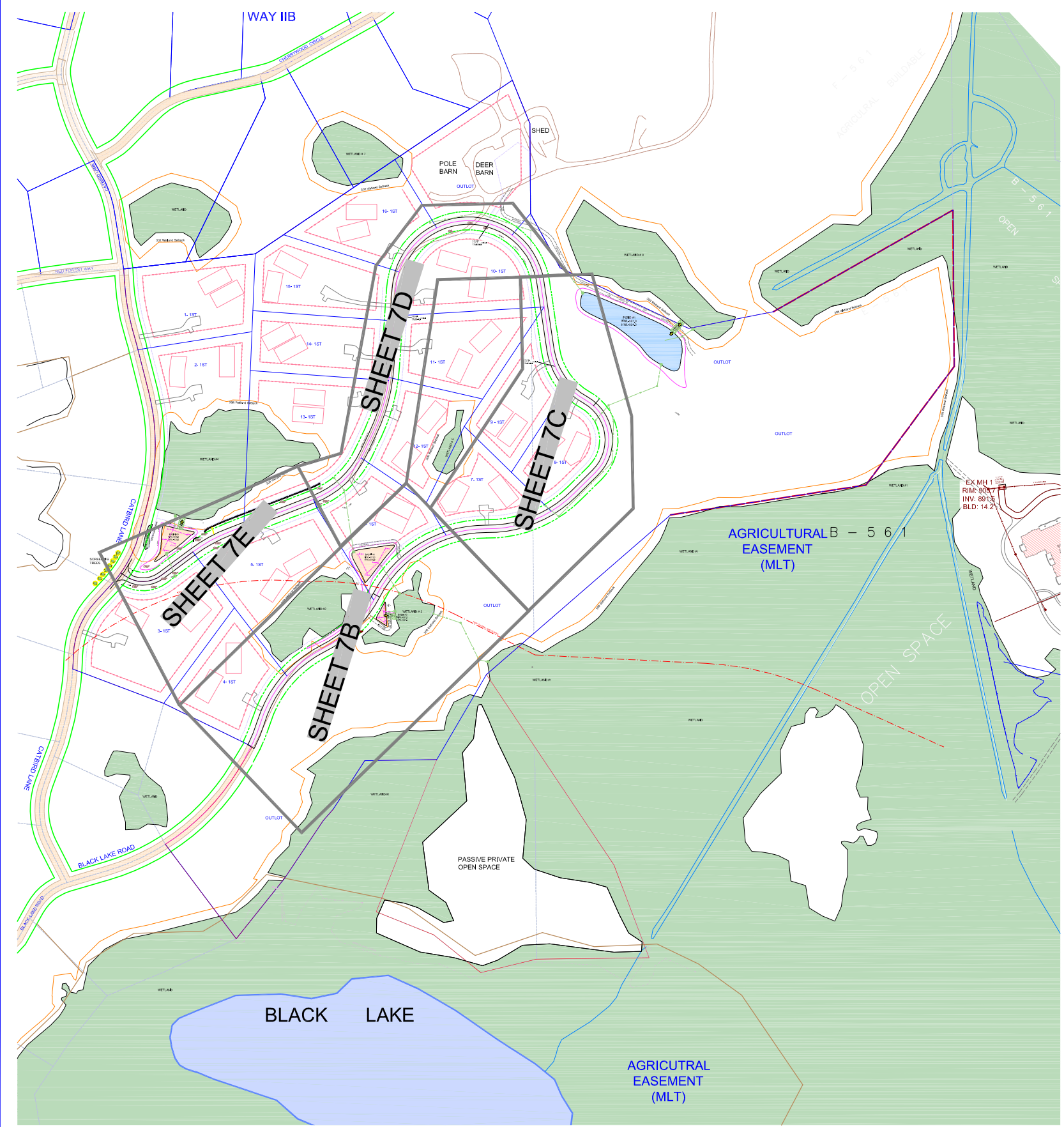
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 ERIC R. JOHNSON, P.E.
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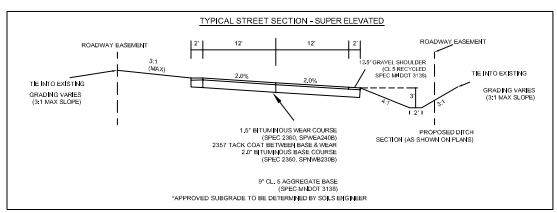
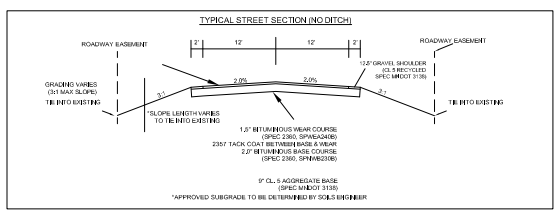
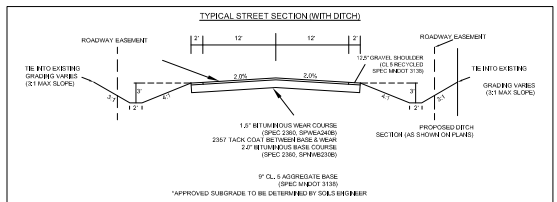
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 NORTH OAKS, MINNESOTA

FINAL STORM SEWER PLAN
 RED FOREST WAY SOUTH - PHASE 1
 NORTH OAKS

FILE NO.
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6D
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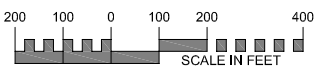
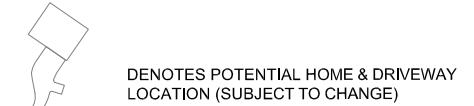


LEGEND		
DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
ROADWAY EASEMENT		
SANWM SERVICE		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION WRIP-RAP		
STORM STRUCTURE LABEL	CB H3	CB H3
SANITARY STRUCTURE LABEL		
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		



STREET NOTES

- STREETS TO BE 24' WIDE WITH A 2' GRAVEL SHOULDER
- 2' GRAVEL SHOULDER TO BE 9.5" IN DEPTH
- STREET SECTION:
 1.5" BITUMINOUS WEAR COURSE
 2.0" BITUMINOUS BASE COURSE
 9" CLASS 5 RECYCLED SAND SECTION TOBE DETERMINED BY SOILS ENGINEER
 APPROVED SUBGRADE TO BE DETERMINED BY SOILS ENGINEER
 RECYCLE MATERIAL (RAP AND RAS) ARE NOT ALLOWED IN BITUMINOUS WEAR COURSE
- DITCHES TO BE SLOPED 3:1 WITH A 2' BOTTOM
- MINIMUM DITCH DEPTH TO BE 2' FROM EDGE OF SHOULDER TO BOTTOM OF DITCH.



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NORTH OAKS, MINNESOTA

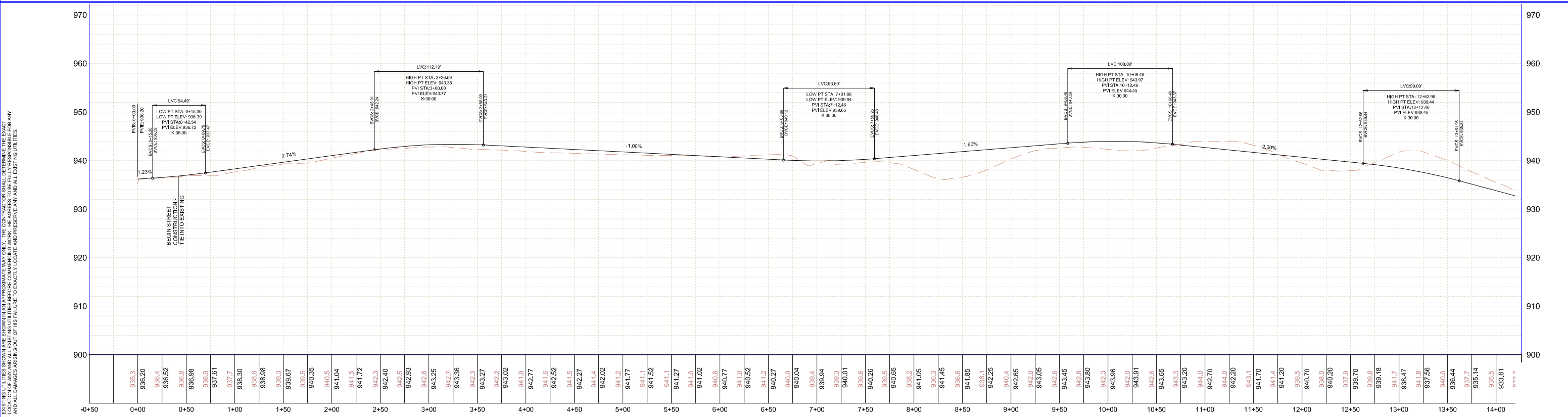
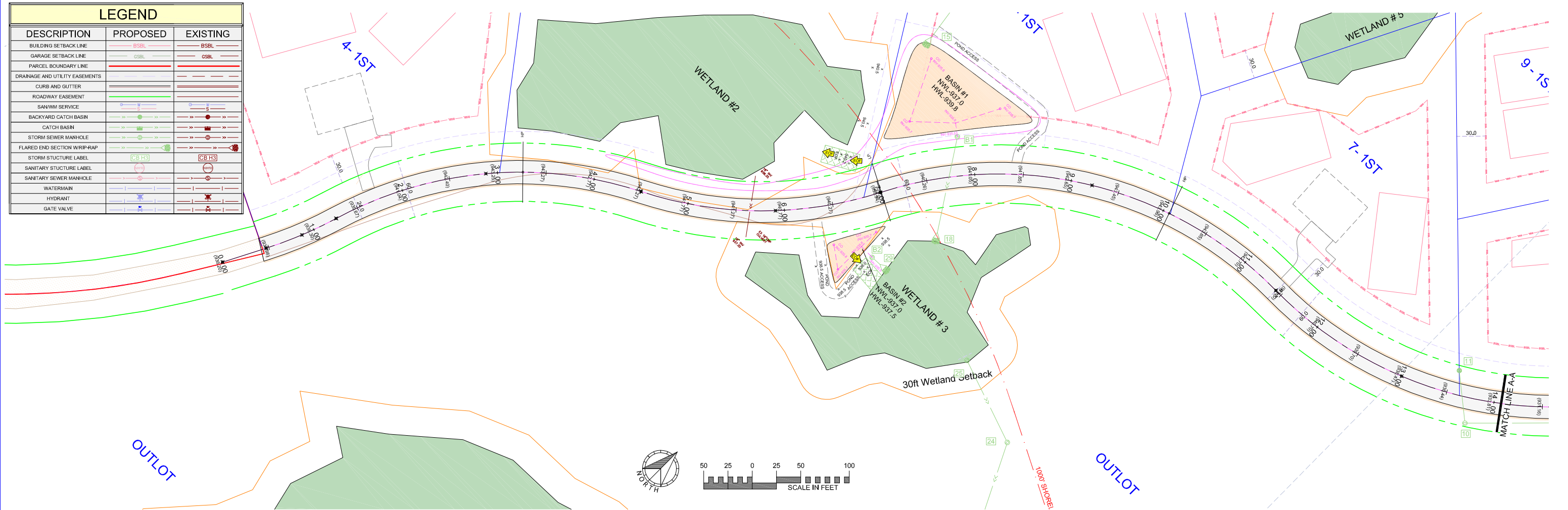
FINAL STREET PLAN
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

FILE NO. 64500-024

7A

7 61

LEGEND		
DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
ROADWAY EASEMENT		
SANITARY SERVICE		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION WRAP-UP		
STORM STRUCTURE LABEL	CS H3	CS H3
SANITARY STRUCTURE LABEL		
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		



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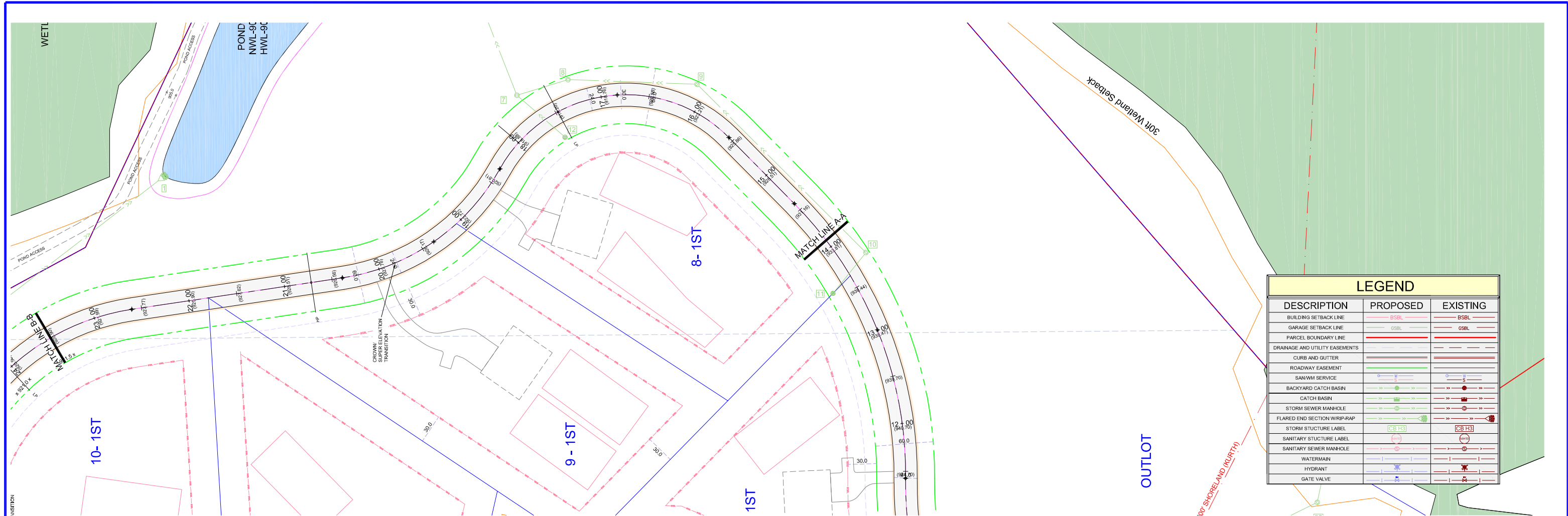
ENGINEERS SURVEYORS
 DESIGNERS PLANNERS

CITY PROJECT NO. ---

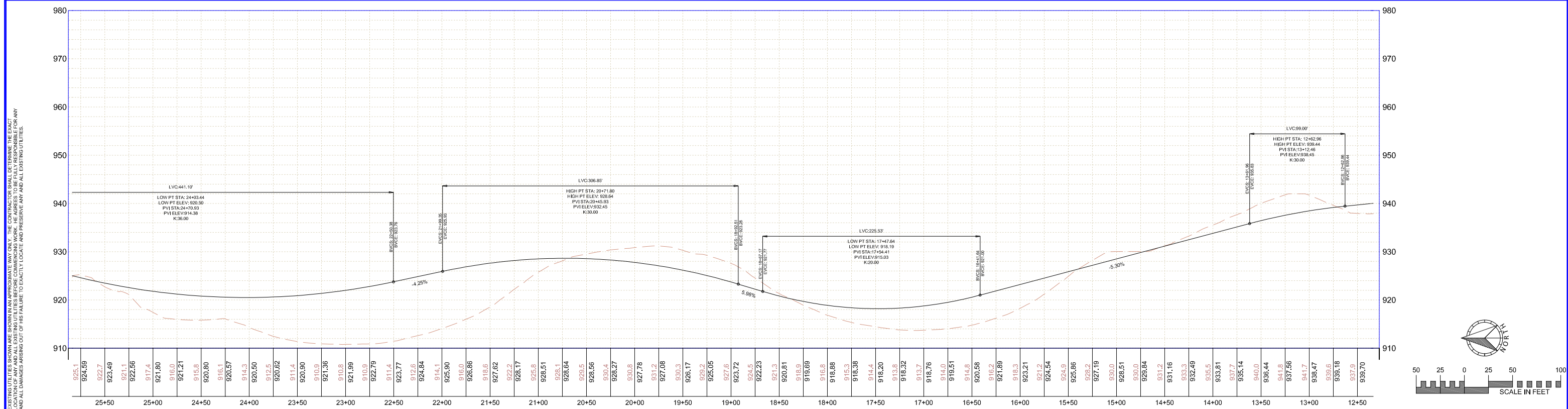
FINAL STREET PLAN
 RED FOREST WAY SOUTH - PHASE 1
 NORTH OAKS

FILE NO. 64500-024
7B
 7 62

DESIGNER'S OFFICE SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREON. THE DESIGNER SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL UTILITIES AND SHALL EXERCISE DUE CARE AND DILIGENCE IN THE FIELD TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES. AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.



LEGEND		
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GARAGE SETBACK LINE	CSBL	CSBL
PARCEL BOUNDARY LINE	CSBL	CSBL
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
ROADWAY EASEMENT		
SANWM SERVICE		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION WRIP-RAP		
STORM STRUCTURE LABEL	CB H3	CB H3
SANITARY STRUCTURE LABEL		
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		



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CHECKED BY				
DATE				

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I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Eric R. Johnson
 ERIC R. JOHNSON, P.E.
 Date: 1/19/21 Lic. No. 56659

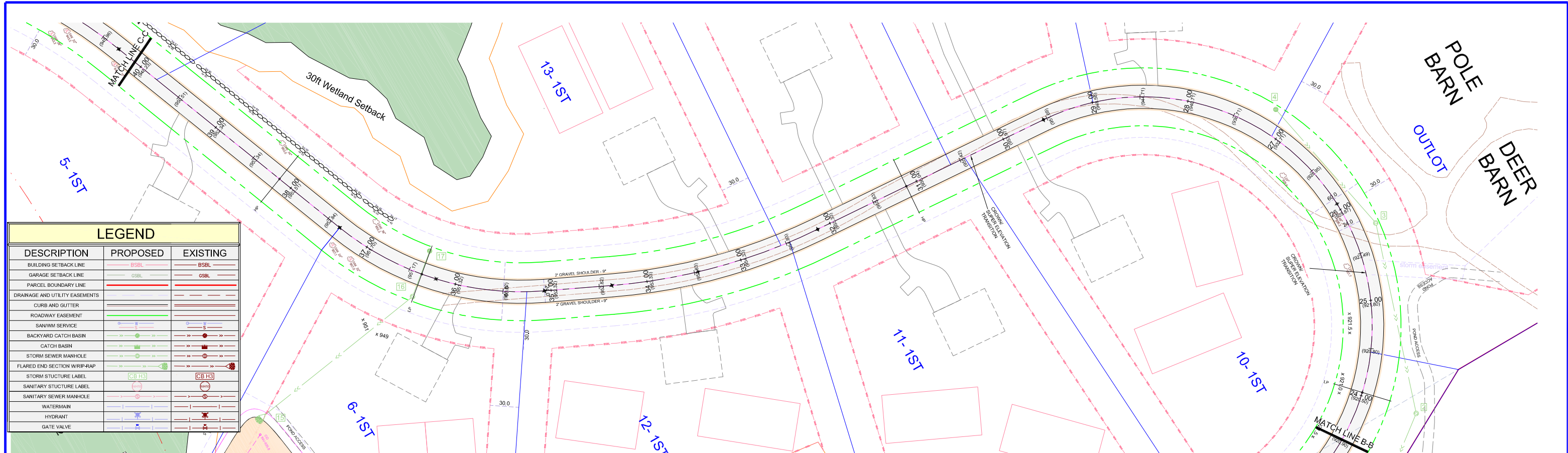
ENGINEERS SURVEYORS DESIGNERS PLANNERS

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

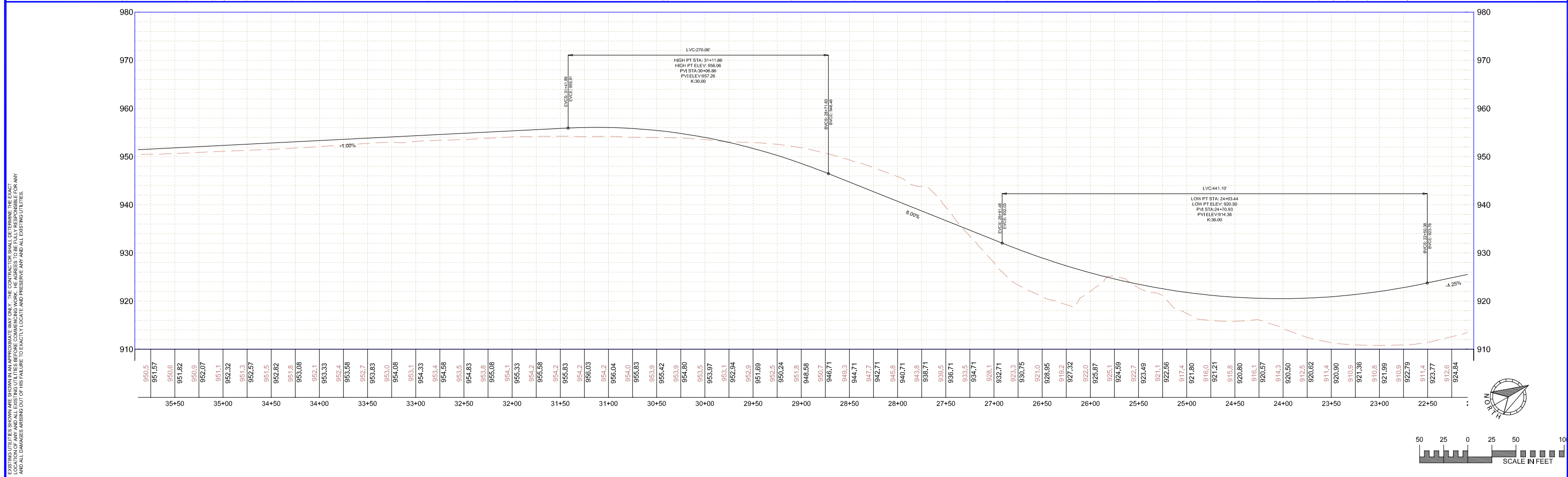
CITY PROJECT NO. ---

FINAL STREET PLAN
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

FILE NO. 64500-024
7C
 7 63



LEGEND		
DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE	CSBL	CSBL
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
ROADWAY EASEMENT		
SANWIM SERVICE		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION WRIP-RAP		
STORM STRUCTURE LABEL	CB H3	CB H3
SANITARY STRUCTURE LABEL		
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		



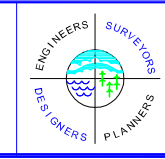
THE DESIGNER HAS CONDUCTED VISUAL INSPECTIONS OF THE EXISTING CONDITIONS AND HAS FOUND NO EVIDENCE OF ANY DAMAGE TO EXISTING UTILITIES. THE DESIGNER HAS CONDUCTED VISUAL INSPECTIONS OF THE EXISTING CONDITIONS AND HAS FOUND NO EVIDENCE OF ANY DAMAGE TO EXISTING UTILITIES. THE DESIGNER HAS CONDUCTED VISUAL INSPECTIONS OF THE EXISTING CONDITIONS AND HAS FOUND NO EVIDENCE OF ANY DAMAGE TO EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
FINAL SHEETS	01	ERJ	01/21/22	CITY ENGINEER COMMENT REVISIONS
DRAWN BY				
CHECKED BY				
DATE				

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Eric R. Johnson
 ERIC R. JOHNSON, P.E.
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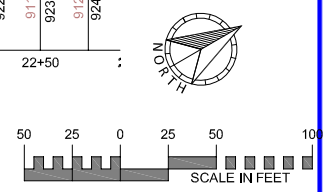


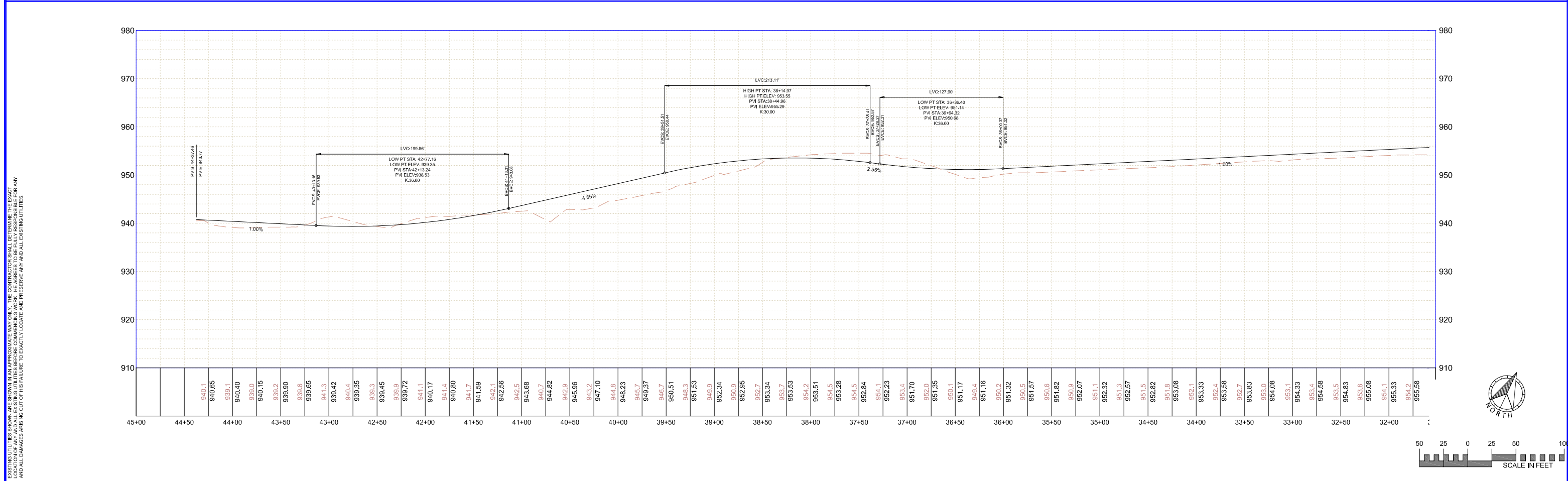
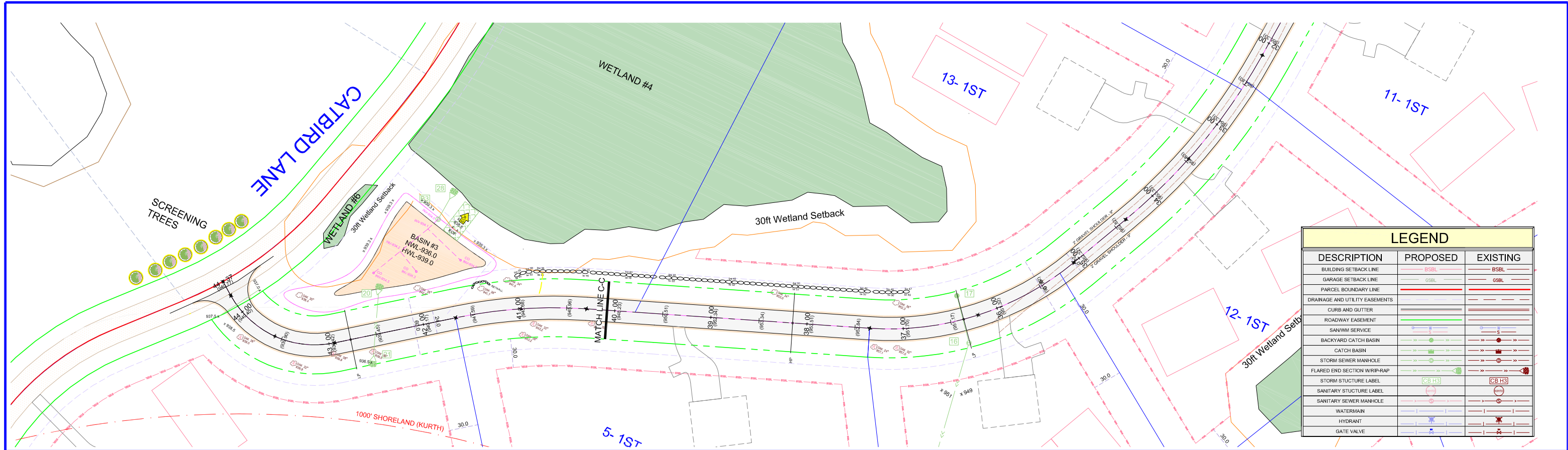
SATHRE-BERGQUIST, INC.
 150 SOUTH BROADWAY WAYZATA, MN, 55391 (952) 476-6000

CITY PROJECT NO.
 NORTH OAKS,
 MINNESOTA

FINAL STREET PLAN
RED FOREST WAY SOUTH - PHASE 1
NORTH OAKS

FILE NO.
 64500-024
7D
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DRAWING NAME FINAL SHEETS	NO. 01	BY ERJ	DATE 01/21/22	REVISIONS		USE (INCLUDING COPYING, DISTRIBUTION, AND/OR CONVEYANCE OF INFORMATION) OF THIS PRODUCT IS STRICTLY PROHIBITED WITHOUT SATHRE-BERGQUIST, INC.'S EXPRESS WRITTEN AUTHORIZATION. USE WITHOUT SAID AUTHORIZATION CONSTITUTES AN ILLEGITIMATE USE AND SHALL THEREBY INDEMNIFY SATHRE-BERGQUIST, INC. OF ALL RESPONSIBILITY. SATHRE-BERGQUIST, INC. RESERVES THE RIGHT TO HOLD ANY ILLEGITIMATE USER OR PARTY LEGALLY RESPONSIBLE FOR DAMAGES OR LOSSES RESULTING FROM ILLEGITIMATE USE.	I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. <i>Eric R. Johnson</i> ERIC R. JOHNSON, P.E. Date: 1/19/21 Lic. No. 56659	 SATHRE-BERGQUIST, INC. 150 SOUTH BROADWAY WAYZATA, MN, 55391 (952) 476-6000	CITY PROJECT NO. -	FINAL STREET PLAN		FILE NO. 64500-024			
				CITY ENGINEER COMMENT REVISIONS						NORTH OAKS, MINNESOTA	RED FOREST WAY SOUTH - PHASE 1		7E		
														NORTH OAKS	

MEMORANDUM

TO: North Oaks Mayor and City Council

FROM: Kevin Kress, City Administrator, Tim Korby and John Morast, City Engineers, Jim Thomson, City Attorney

DATE: February 7, 2022

RE: North Oaks - Red Forest Way South Final Plat/Plan

BACKGROUND

At a special meeting of the North Oaks City Council on December 17, 2020, the Council considered and approved (subject to conditions) the Preliminary Plat/Plan (subdivision) application of the North Oaks Company for the first phase of the two-phase, “Red Forest Way South” subdivision located south of County Road H2 and west of Centerville Road, just north of Black Lake.

At this time, the North Oaks Company is seeking formal Final Plat/Plan (subdivision) approval of Phase 1 of the subdivision which consists of 16 single family residential lots located in the northwest area of the site.

The subject property occupies the southern half of “Site K” in the East Oaks Planned Development Agreement (PDA). Site K makes a specific allowance for detached single family dwellings such as that which are proposed.

Presently, 41 lots containing residential dwelling units exist in the abutting Red Forest Way subdivision to the north. The 16 additional lots with dwelling units included in the Phase 1 Final Plat/Plan would result in a total 57 dwelling units within Site K. The East Oaks PDA provides for a total of 64 dwelling units within Site K, with a permitted density increase of up to 30 percent. This results in an allowed maximum of 83 dwelling units.

According to the PDA and the City’s zoning map, the City’s RSL - PUD, Residential Single-Family Low-Density zoning district provisions apply to the subject property.

Additionally, the southern one-third of the site lies within the Shoreland Management Area of Black Lake (shoreland district), a designated “natural environment” lake.

All Phase 1 lots are proposed to be served by on-site wells and septic systems.

Phase 2 of the development will be subject to future Preliminary and Final Plat/Plan processing as part of an application which is separate from that now under consideration by the City.

Attached for reference:

- Exhibit A: Site Location
- Exhibit B: Applicant Narrative
- Exhibit C: Project Summary
- Exhibit D: East Oaks Phasing Plan
- Exhibit E: Approved Preliminary Plat/Plan
- Exhibit F: Title Sheet (Site Context Map)
- Exhibit G: Existing Conditions
- Exhibit H: Final Plat/Plan
- Exhibit I: Final Plat/Easement Plan
- Exhibit J: Final Grading Plans
- Exhibit K: Final Erosion Control Plans
- Exhibit L: Final Storm Sewer Plans
- Exhibit M: Final Street Plans
- Exhibit N: Registered Land Survey
- Exhibit O: Easement Descriptions

ISSUES AND ANALYSIS

Consistency with Approved Preliminary Plan. The street and lot layouts illustrated on the Final Plat/Plan are similar with to that depicted upon the approved Preliminary Plat/Plan.

Since the City’s approval of the Preliminary Plat/Plan, a number of refinements have been made to the Phase 1 subdivision design. In this regard, the following modifications should be noted:

1. The street access location along Catbird Lane has been shifted slightly southward to reduce headlight glare upon an existing home to the west and the applicant agrees to install trees for screening west of Catbird Lane, opposite the proposed street and install landscape screening on the west side of stormwater Basin #3.

2. In the interest of saving significant trees, slight modifications have been made to the curvature of the loop street to follow significant portions of the existing “farm road” within the subdivision.
3. Ditches have been replaced with linear rain garden using a vegetation filter strip along the south side of northwest section of the proposed street (between station # 36+00 and station # 41+00) to retain existing trees.
4. The slight change to the street alignment and ditches requires the number of lots in Phase 1 to be 16 vs 17, and the 17th lot will be part of Phase 2.
5. The area of the existing pole building and deer barn located east of Lot P is to be combined with the Hill Farm Property, Tract F - RLS 561, and not be a part of the Red Forest Way South development area.

The preceding modifications are offered by the applicant in response to input by City staff, are minor in nature, and serve to improve the design of the subdivision.

Staging Plan. As previously indicated, only Phase 1 of the subdivision is under formal consideration at this time. To be understood is that Phase 2 of the development will be subject to future Preliminary Plat/Plan processing as part of an application which is separate from that now under consideration by the City.

Dwelling Unit Count.

Attached as Exhibit D is an updated Generalized Plan for Phasing Development of East Oaks provided by the applicant.

The PDA called for a total of 645 dwelling units and 21 acres of commercial development within the East Oaks Development area. Including an additional 28 dwelling units allowed via the conversion of 5.73 remaining commercial acres, a total of 673 total dwelling units are allowed to be constructed within the East Oaks Development Sites (645 units + 28 commercial conversion units = 673 total dwelling units). A total of 121 dwelling units remain for development. The following is a summary of dwelling units allotted to the remaining developments in the Subject Area of the East Oaks Development:

In Process:

Gate Hill (Site G):	73 dwelling units
Red Forest Way South Phase 1 (Site K)	16 dwelling units

Remaining Development Sites:

Red Forest Way South Phase 2 (Site K)	17 dwelling units
East Preserve	1 dwelling unit
E-2 East Wilkinson (Phase 4)	14 dwelling units

Total: 121 dwelling units

Site Access. Consistent with the approved Preliminary Plat/Plan, the subject site is proposed to be accessed from the south via a northerly extension of Black Lake Road and from the west via Catbird Lane.

As previously indicated, the Catbird Lane access point has been shifted southward to minimize headlight glare impacts upon the existing home to the west.

Issues related to site access should be subject to comment and recommendation by the City Engineer.

Lots

Number of Lots. The submitted Final Plat/Plan illustrates a total of 16 lots for single family dwelling units, which compares to 17 lots which were included in the approved Phase 1 Preliminary Plat/Plan. The proposed shift of 1 lot from Phase 1 to Phase 2 is to accommodate the proposed road alignment.

Lot Size. The RSL - PUD zoning district imposes a minimum lot area requirement of 1.45 acres. In addition, the Shoreland Ordinance imposes a minimum lot size requirement of 80,000 square feet (approx. 1.84 acres) for both sewered and unsewered lots. Proposed Lot D lies entirely within the Shoreland Management Overlay District while portions of Lots C, E and F lie within the District.

The 16 lots included in Phase 1 of the subdivision range in size from 1.50 acres (Lot H) to 4.21 acres (Lot E) and exceed the minimum area requirements imposed in the RSL - PUD and Shoreland Management Overlay District as applicable.

The Shoreland Management Overlay District is defined as land located within 1,000 feet from the ordinary high-water level (OHWL) of Black Lake. Appropriately, the Overlay District boundary is illustrated on the various Final Plat/Plan drawings.

Setbacks. Within RSL - PUD zoning districts, a minimum 30-foot structure setback from all property lines is imposed. In addition, a 150-foot setback is required for both structures and sewage treatment systems from the OHWL of Black Lake (the 150-foot setback applies to both sewered and un-sewered lots).

All Phase 1 lots demonstrate an ability to meet required structure and sewage treatment system setbacks.

Trails. As part of the City's consideration of the Preliminary Plat/Plan, an easterly trail connection was illustrated within the Phase 2 development area. Recognizing that Phase

2 development is not under consideration at this time, no trail easements are illustrated on the Final Plat/Plan submission.

As a condition of Preliminary Plat/Plan approval it was however, recommended that the applicant consider the construction of the trail connection (to the existing trail to the east) as part of Phase 1 development. Staff recommends that this condition be carried forward as a condition of Final Plat/Plan approval.

Details related to trail construction are considered a matter to be determined by the applicant and the North Oaks Home Owners Association (NOHOA).

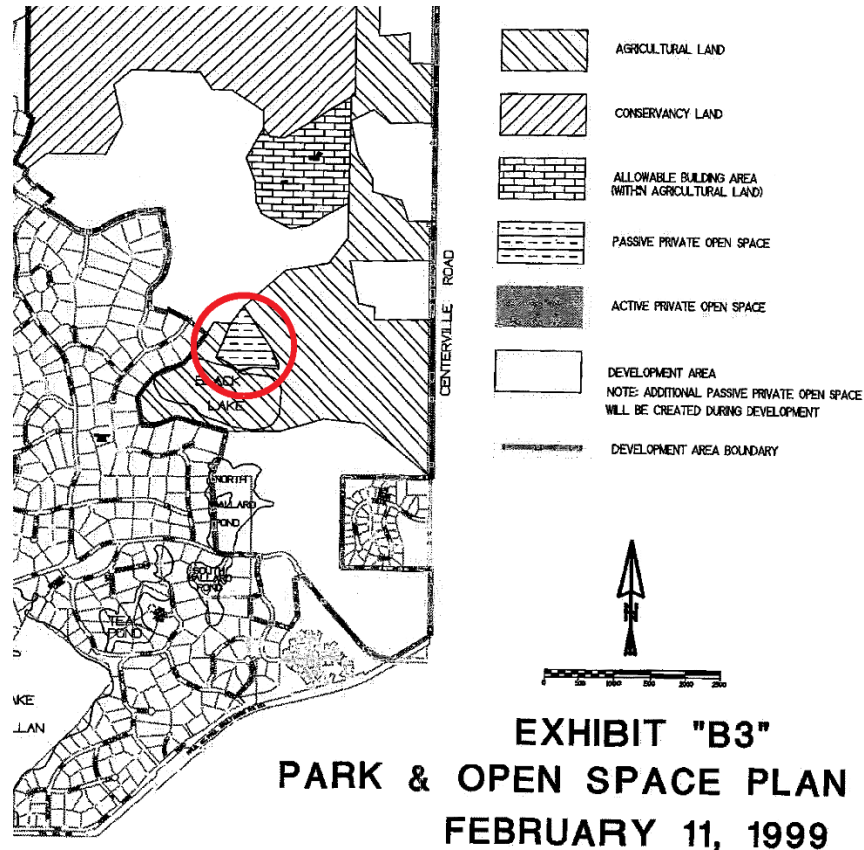
Easements. The submitted Final Plat/Easement Plan appropriately illustrates easements for utilities, stormwater, and the proposed roadway. The acceptability of the proposed easements should be subject to review and approval by the City Engineer.

Floor Area Ratio. Within RSL - PUD Districts, a maximum floor area ratio of 12 percent is imposed (ratio of floor area of buildings to gross lot area). Compliance with this floor area ratio requirement is recommended as a condition of Final Plat/Plan approval.

Park Dedication and Private Open Space. Like the approved Preliminary Plat/Plan, the Final Plat/Plan does not include any parkland dedication. Park dedication requirements for the development sites located within the East Oaks Development area were previously satisfied by the developer via the following:

1. Open space easements
2. Conservation easements to the Minnesota Land Trust
3. Rough grading of park and trail areas and the construction of trails as depicted on the trail plan
4. Primary trail easements to NOHOA
5. Conveyance of open space as depicted on the Park and Open Space Plan to NOHOA per the terms of the PDA

To be noted is that the PDA identifies a “passive private open space” area located within the boundaries of Site K. Such area is identified on Exhibit B-3 of the PDA, the Park and Open Space Plan as shown below.



Specifically, the area is located just north of Black Lake and is identified as "Future NOHOA Park" on the submitted "Existing Conditions" maps (attached Exhibit G). To be noted is that the open space area abuts land the southern boundary of the Phase 2 development area. Thus, the open space area is not contiguous to the Phase 1 development site. Conveyance of this space will occur in Phase 2.

Off-Site Screening. As a condition of Preliminary Plat/Plan approval, the applicant was required to provide off-site screen plantings which will minimize headlight intrusion onto properties located at 7 Catbird Lane and 9 Catbird Lane from Catbird Lane. Specifically, the planting of eight trees was required consisting of a combination of evergreens, hardwoods and cedar trees.

While the off-site screen planting locations are illustrated on various submitted plans (grading, erosion control, storm sewer, and street plans), it is recommended that specific tree varieties and sizes (height at time of planting) be specified by the applicant.

Tree Preservation. While both the City's Comprehensive Plan and the East Oaks PDA clearly highlight the preservation of natural resources as a primary community objective, City ordinances do not impose specific tree preservation requirements on new residential subdivisions.

Recognizing that the preservation of significant trees is a paramount issue in the City, it is recommended that, where practical, the applicant comply with the following recommendations of the City Forester in an effort to preserve/save trees upon the subject site:

- A. Fell all trees to be removed towards the centerline of the street to limit injury to saved trees.
- B. Install tree protection fence immediately after tree removals. Make sure fence is restored by contractors on site and immediately raise fence if it is compromised. Pre-construction meetings are an excellent time to implement the seriousness of tree preservation efforts and penalties for violations.
- C. If grade changes are excessive retaining walls may be a viable option.
- D. Do not place fill around save trees.
- E. If save trees are going to be preserved within the construction limits armor trees with 2X4's to reduce the chance of mechanical injury to the trunk.
- F. After harvesting, blow chipped tops of trees along tree protection fencing to help reduce soil compaction from construction equipment and moderate soil temperatures and moisture levels.
- G. Before preserving save trees on edges make sure they are healthy (good structure, no decay, etc.) and will not become a hazard tree within a few years. An arborist or City Forester assessment may be justified for individual trees.
- H. Root cutting and growth hormone regulator treatments for high-value trees are also options that could be implemented.
- I. Brushing of understory material outside of construction limits may be an option since it is 99 percent buckthorn. An inventory to look for any nonbuckthorn species could be incorporated to mark and avoid those shrubs during buckthorn removal. Care should be taken to minimize impacts to soil during this process. Scraping off of any topsoil should be prohibited as 90 percent of the tree's roots are within the top one foot of soil.
- J. Follow the oak wilt protocol as recommended by the City Forester.

Development Agreement. The East Oaks Planned Development requires the execution of a development agreement prior to the recording of the registered land surveys (RLS) for the Site. A condition of final plan approval, and requirement of Section 5.2 of the PDA,

the Developer must execute a development agreement in a form substantially similar to that found within the PDA, subject to future changes if any required by the City. The development agreement shall be executed prior to the recording of the RLS for the site.

Engineering Comments. As a condition of Final Plan/Plat approval, final plans must be revised to address the City Engineer's comments. Upon revision, final plans and any necessary associated documents must be provided to the City.

RECOMMENDATION

The Phase 1, Red Forest Way South Final Plat/Plan has been found to be consistent with the approved Preliminary Plan (subdivision). Based on the preceding review, Staff recommends approval of the Final Plat/Plan subject to the fulfillment of the following conditions:

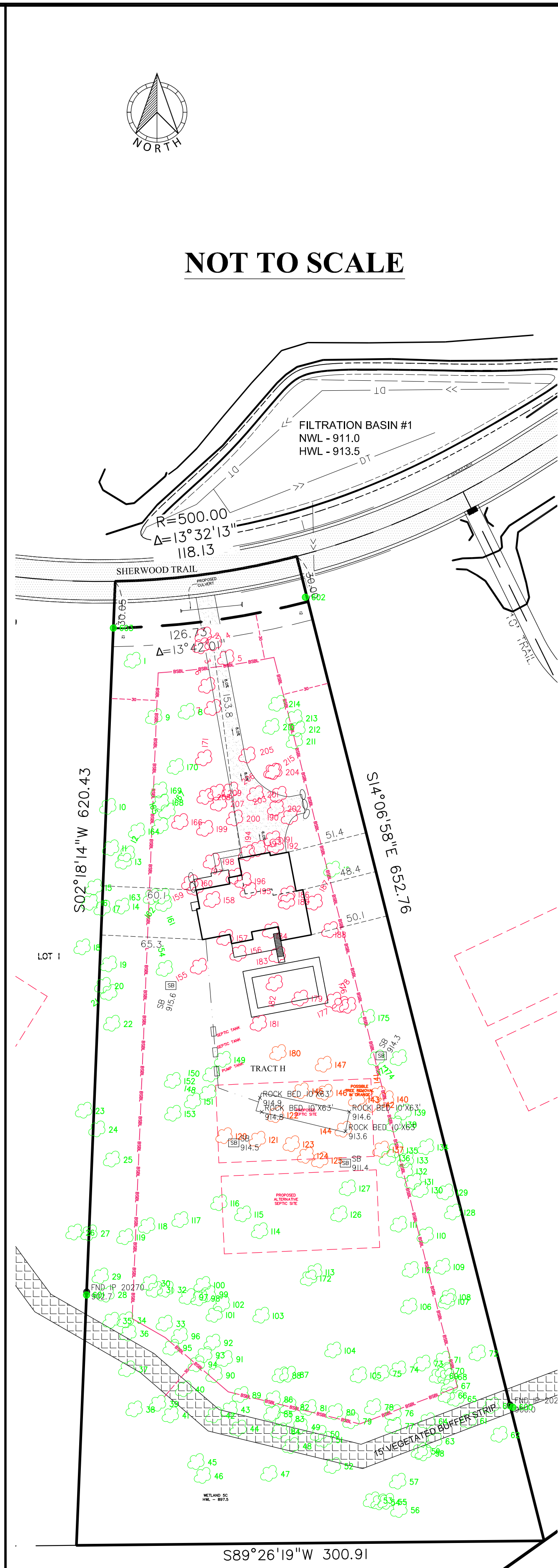
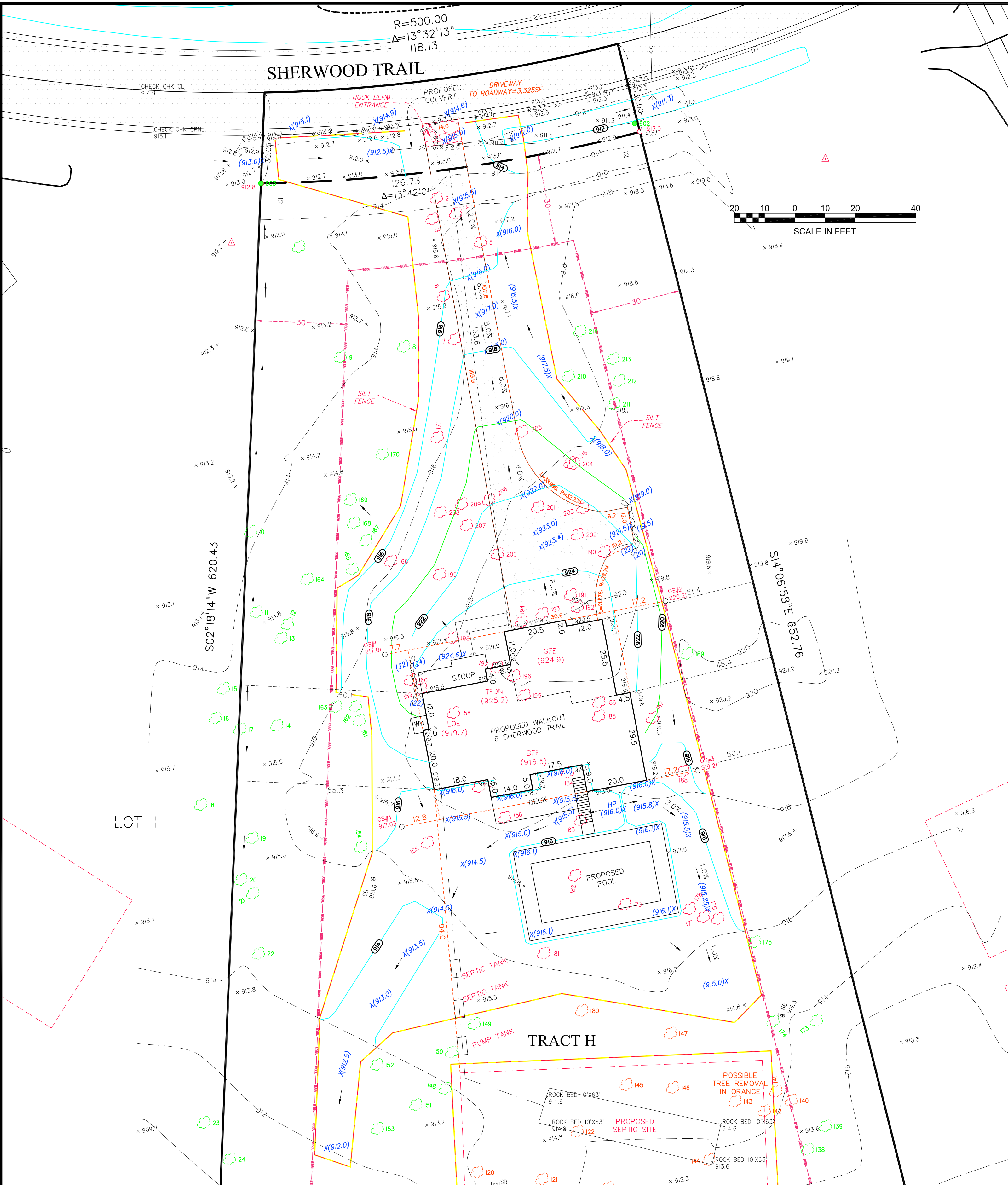
1. It is acknowledged that Phase 2 of the development will be subject to future Preliminary Plat/Plan processing as part of an application which is separate from that now under consideration by the City.
2. Final plans shall be revised to address the City Engineer's comments. Upon revision, final plans and any necessary associated documents shall be provided to the City.
3. Issues related to site access shall be subject to comment and recommendation by the City Engineer.
4. The applicant shall consider the construction of the trail connection (to the existing trail to the east) as part of Phase 1 development.
5. The acceptability of the proposed easements shall be subject to review and approval by the City Engineer.
6. A maximum floor area ratio of 12 percent shall be satisfied (the ratio of floor area of buildings to gross lot area).
7. The passive private open space tract included in Site K shall be platted as a separate lot or tract as part of Phase 2 of the subdivision and title to the tract shall be conveyed to NOHOA.
8. The applicant shall specify the varieties and sizes (height at time of planting) of the various off-site screen plantings to be located on the west side of Catbird Lane.
9. Where practical, the applicant shall comply with the following recommendations of the City Forester in an effort to preserve/save trees upon the subject site:
 - A. Fell all trees to be removed towards the centerline of the street to limit injury

to saved trees.

- B. Install tree protection fence immediately after tree removals. Make sure fence is respected by contractors on site and immediately raise fence if it is compromised. Pre-construction meetings are an excellent time to implement the seriousness of tree preservation efforts and penalties for violations.
 - C. If grade changes are excessive retaining walls may be a viable option.
 - D. Do not place fill around save trees.
 - E. If save trees are going to be preserved within the construction limits armor trees with 2X4's to reduce the chance of mechanical injury to the trunk.
 - F. After harvesting, blow chipped tops of trees along tree protection fencing to help reduce soil compaction from construction equipment and moderate soil temperatures and moisture levels.
 - G. Before preserving save trees on edges make sure they are healthy (good structure, no decay, etc.) and will not become a hazard tree within a few years. An arborist or City Forester assessment may be justified for individual trees.
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 - I. Brushing of understory material outside of construction limits may be an option since it is 99 percent buckthorn. An inventory to look for any nonbuckthorn species could be incorporated to mark and avoid those shrubs during buckthorn removal. Care should be taken to minimize impacts to soil during this process. Scraping off of any topsoil should be prohibited as 90 percent of the tree's roots are within the top one foot of soil.
 - J. Follow the oak wilt protocol as recommended by the City Forester.
10. The applicant shall work with the City Forester and lot purchasers and explore options to preserve trees located upon all lots within the subdivision.
11. The developer shall enter into a development agreement with the City (the form of which shall be acceptable to the City) and post all necessary securities required by it and pay all required fees and costs including all City planning, engineering, and legal fees. The development agreement shall specifically require execution of a stormwater facilities maintenance agreement and other necessary conditions and shall be recorded against the subject property.

cc:

_____, NOHOA Executive Director North Oaks Company
Jack Gleason, Department of Natural Resources
Phil Belfiori, Vadnais Lake Area Water Management Organization
Mark Houge, Gary Eagles and Lauren Grouws, North Oaks Company



DESCRIPTION OF PROPERTY SURVEYED

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

GENERAL NOTES

- Site Address: 6 Sherwood Trail, North Oaks, Minnesota 55127
- 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.
- Parcel Area Information: Gross Area: 131,193 s.f. ~ 3.012 acres
Roadway Easement Area: 3,673 s.f. ~ 0.084 acres
Lot Area To Roadway Easement: 127,520 s.f. ~ 2.927 acres
- 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.

- 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.

Proposed Elevations - WO

Proposed Garage Floor Elevation = 923.9
 Proposed Top of Foundation Elevation = 924.2
 Proposed Top of Lookout Opening Elevation = 918.7
 Proposed Basement Floor Elevation = 915.5

Hardcover

Lot Area To Roadway Easement = 127,520 S.F.
 Roadway Easement Area = 3,673 S.F.
 Gross Lot Area = 131,193 S.F.
 House Area = 2,943 S.F.
 Roadway Area = 3,325 S.F.
 Driveway Area = 1,682 S.F.
 Front Walk Area = 103 S.F.
 Pool Area = 700 S.F.
 Stoop Area = 180 S.F.
 Deck Area = 406 S.F.
 Total Area = 9,339 S.F.
 Coverage = 7.1%

Offset Irons
 (elevation are to the top of pipe)
 OS #1=917.01 OS #2=920.21
 OS #4=917.03 OS #3=919.21

Tree #	Species	DBH	Condition	Stems
185	Ash, green	9.5	Healthy	2
186	Oak, pin	22.0	Healthy	1
187	Ash, green	16.0	Healthy	1
188	Ash, green	8.0	Healthy	1
189	Oak, white	20.0	Healthy	1
190	Ash, green	6.0	Healthy	1
191	Hickory	9.0	Healthy	1
192	Hickory	9.0	Healthy	1
193	Ash, green	9.0	Healthy	1
194	Ash, green	17.0	Healthy	1
195	Ash, green	10.0	Healthy	1
196	Ash, green	10.0	Healthy	1
197	Ash, green	10.0	Healthy	1
198	Oak, white	15.0	Healthy	1
199	Ash, green	10.0	Healthy	1
200	Ash, green	14.0	Healthy	1
201	Ash, green	13.0	Healthy	1
202	Ash, green	15.0	Healthy	1
203	Ash, green	11.0	Healthy	1
204	Ash, green	14.0	Healthy	1
205	Ash, green	15.0	Healthy	1
206	Ash, green	7.5	Healthy	1
207	Ash, green	6.0	Healthy	1
208	Ash, green	7.5	Healthy	1
209	Elm, American	8.5	Healthy	1
210	Ash, green	15.0	Healthy	1
211	Ash, green	12.0	Healthy	1
212	Ash, green	4.0	Healthy	1
213	Ash, green	12.5	Healthy	1
214	Ash, green	13.5	Healthy	1
215	Ash, green	7.0	Healthy	1

SURVEY LEGEND

● CAST IRON MONUMENT	⊙ PIEZOMETER	⊙ WOE WALKOUT ELEVATION
● IRON PIPE MONUMENT SET	⊙ POWER POLE	⊙ FFE FIRST FLOOR ELEVATION
● IRON PIPE MONUMENT FOUND	⊙ GUY WIRE	⊙ GFE GARAGE FLOOR ELEVATION
● DRILL HOLE FOUND	⊙ ROOF DRAIN	⊙ TFE TOP OF FOUNDATION ELEV.
● CHISELED "X" MONUMENT SET	⊙ CHISELED "X" MONUMENT FOUND	⊙ LOE LOWEST OPENING ELEV.
● REBAR MONUMENT FOUND	⊙ SANITARY MANHOLE	⊙ CONCRETE
● PK NAIL MONUMENT SET	⊙ SANITARY CLEANOUT	⊙ BITUMINOUS
● PK NAIL MONUMENT FOUND	⊙ STORM MANHOLE	⊙ BUILDING SETBACK LINE
● PK NAIL W/ ALUMINUM DISC	⊙ STORM DRAIN	⊙ CABLE TV
● SURVEY CONTROL POINT	⊙ CATCH BASIN	⊙ CONCRETE CURB
⊙ CABLE TV PEDESTAL	⊙ FLARED END SECTION	⊙ CONTOUR EXISTING
⊙ ELECTRIC TRANSFORMER	⊙ A/C UNIT	⊙ CONTOUR PROPOSED
⊙ ELECTRIC MANHOLE	⊙ TREE CONIFEROUS	⊙ GUARD RAIL
⊙ TELEPHONE MANHOLE	⊙ TREE DECIDUOUS	⊙ DRAIN TILE
⊙ TELEPHONE PEDESTAL	⊙ TREE TO BE REMOVED	⊙ ELC ELECTRIC UNDERGROUND
⊙ UTILITY MANHOLE	⊙ TELEPHONE MANHOLE	⊙ FENCE
⊙ OVERHEAD UTILITY	⊙ TELEPHONE PEDESTAL	⊙ FO FIBER OPTIC UNDERGROUND
⊙ TREE LINE	⊙ UTILITY VALVE	⊙ GAS UNDERGROUND
⊙ SANITARY SEWER	⊙ WATERMAIN MANHOLE	⊙ OVERHEAD UTILITY
⊙ STORM SEWER	⊙ WATER METER	⊙ SANITARY SEWER
⊙ TELEPHONE UNDERGROUND	⊙ FUEL PUMP	⊙ STORM SEWER
⊙ RETAINING WALL	⊙ FLAG POLE	⊙ TELEPHONE UNDERGROUND
⊙ UTILITY UNDERGROUND	⊙ FUEL TANK	⊙ WATER MAIN
⊙ WATERMAIN	⊙ PROPANE TANK	⊙ TRAFFIC SIGNAL
⊙ WATERMAIN	⊙ GAS METER	⊙ RAILROAD TRACKS
⊙ RAILROAD SIGNAL	⊙ GAS VALVE	⊙ RAILROAD SIGNAL
⊙ RAILROAD SWITCH	⊙ GENERATOR	⊙ RAILROAD SWITCH
⊙ WETLAND BUFFER SIGN	⊙ GUARD POST	⊙ SIGN
	⊙ HAND HOLE	⊙ SOIL BORING
	⊙ MAIL BOX	

FIELD CREW	NO.	BY	DATE	REVISION
AT	1	BRV	11/12/2021	REVISED SURVEY
DRAWN	2	BRV	1/4/2022	REVISED HOUSE LOCATION
CHECKED				
DLS				
DATE				
05/28/21				

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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 7th day of July, 2021.

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

ENGINEERS SURVEYORS DESIGNERS PLANNERS

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

TWP:xxx-RGE-xx-SEC-xx
 Ramsey County

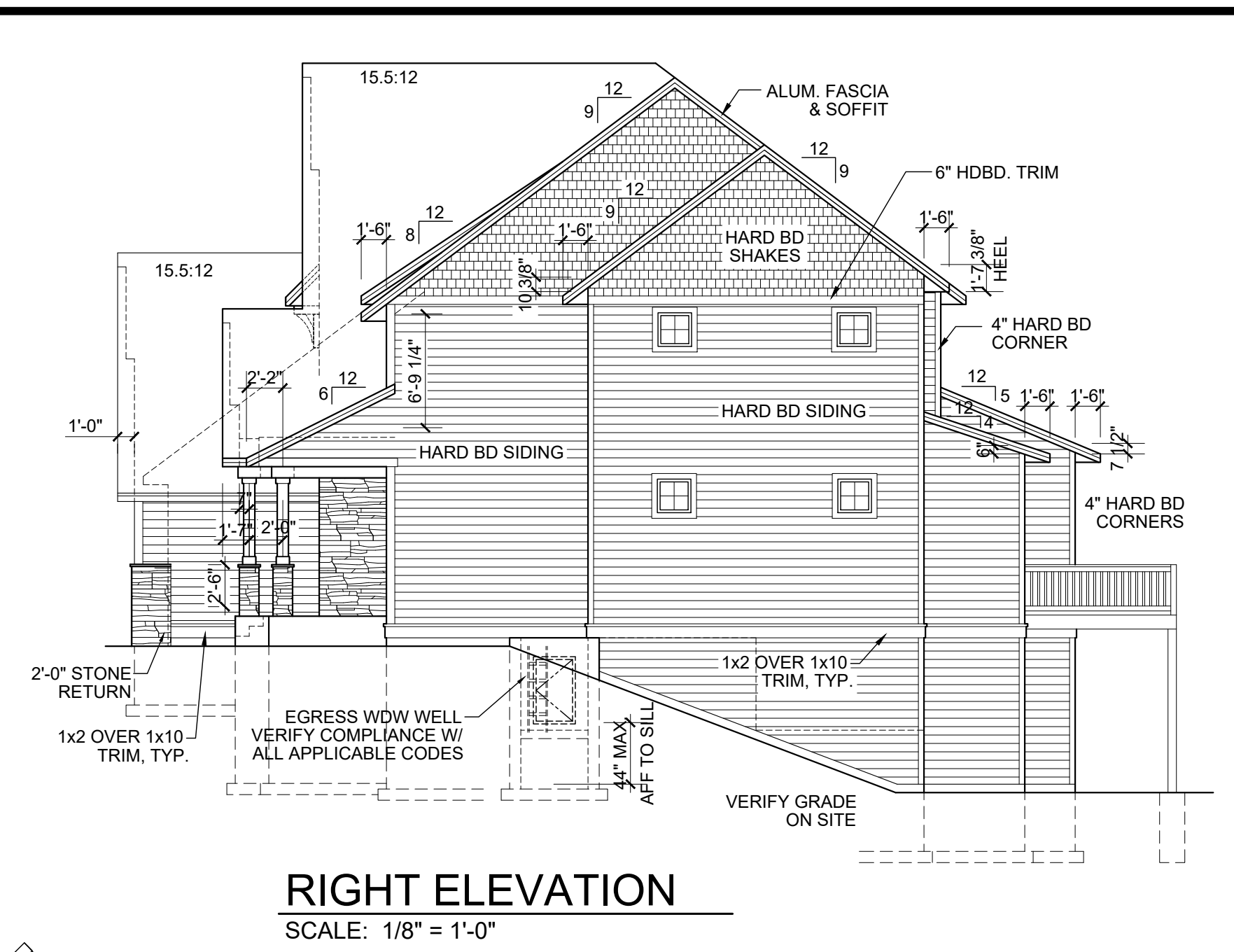
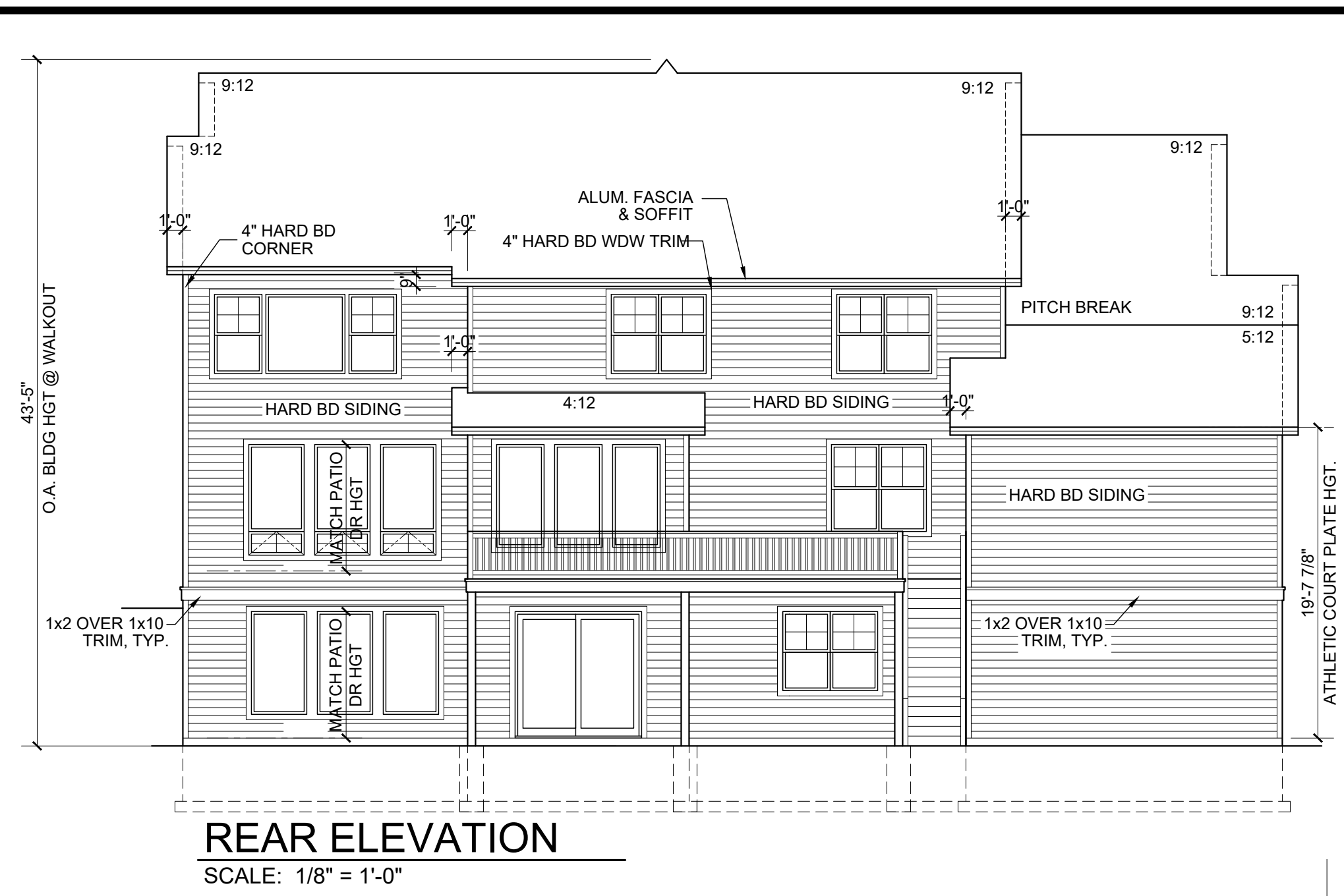
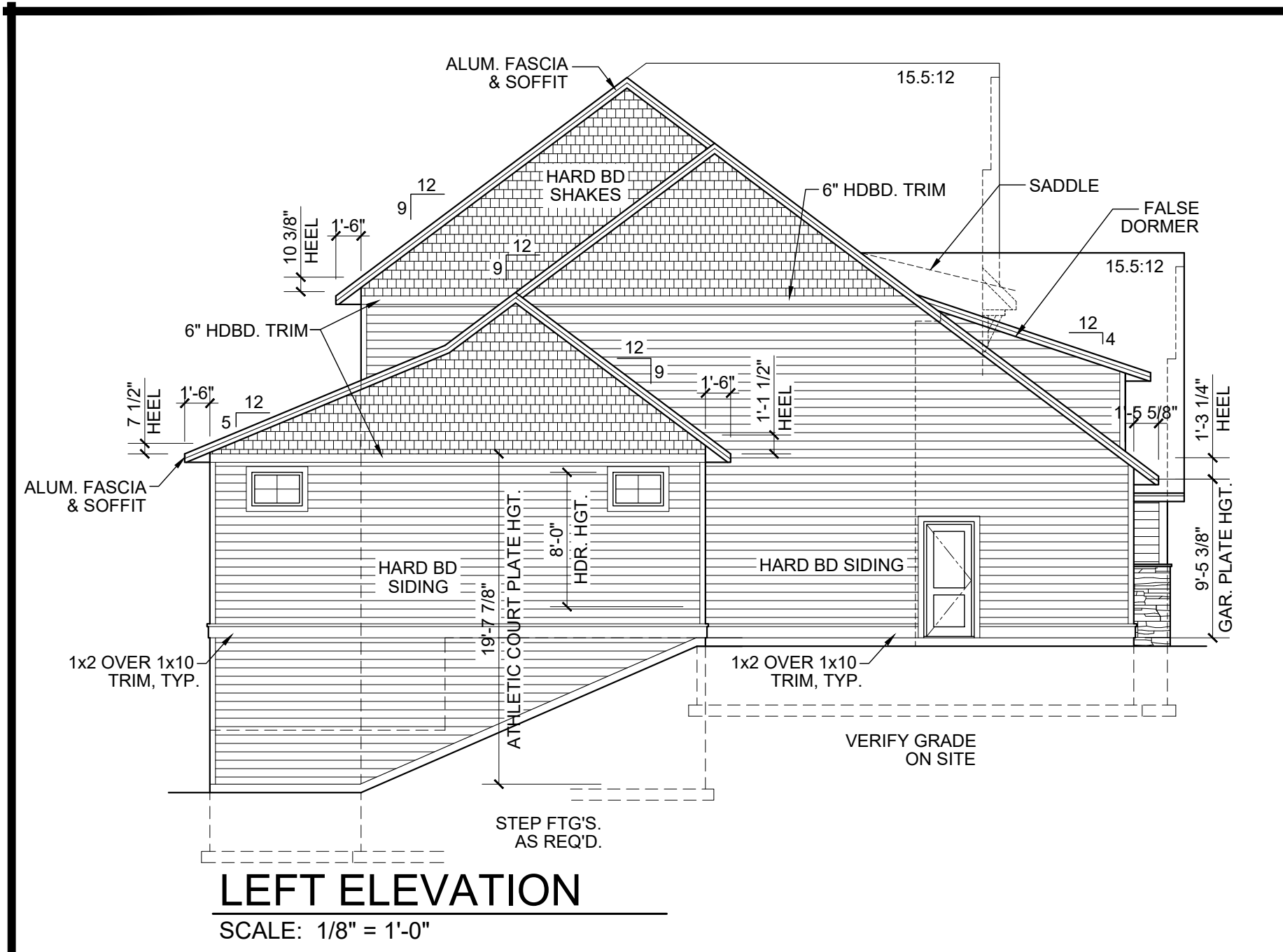
NORTH OAKS, MINNESOTA

CERTIFICATE OF SURVEY

PREPARED FOR:
GONYEA HOMES

FILE NO.
 31202-754

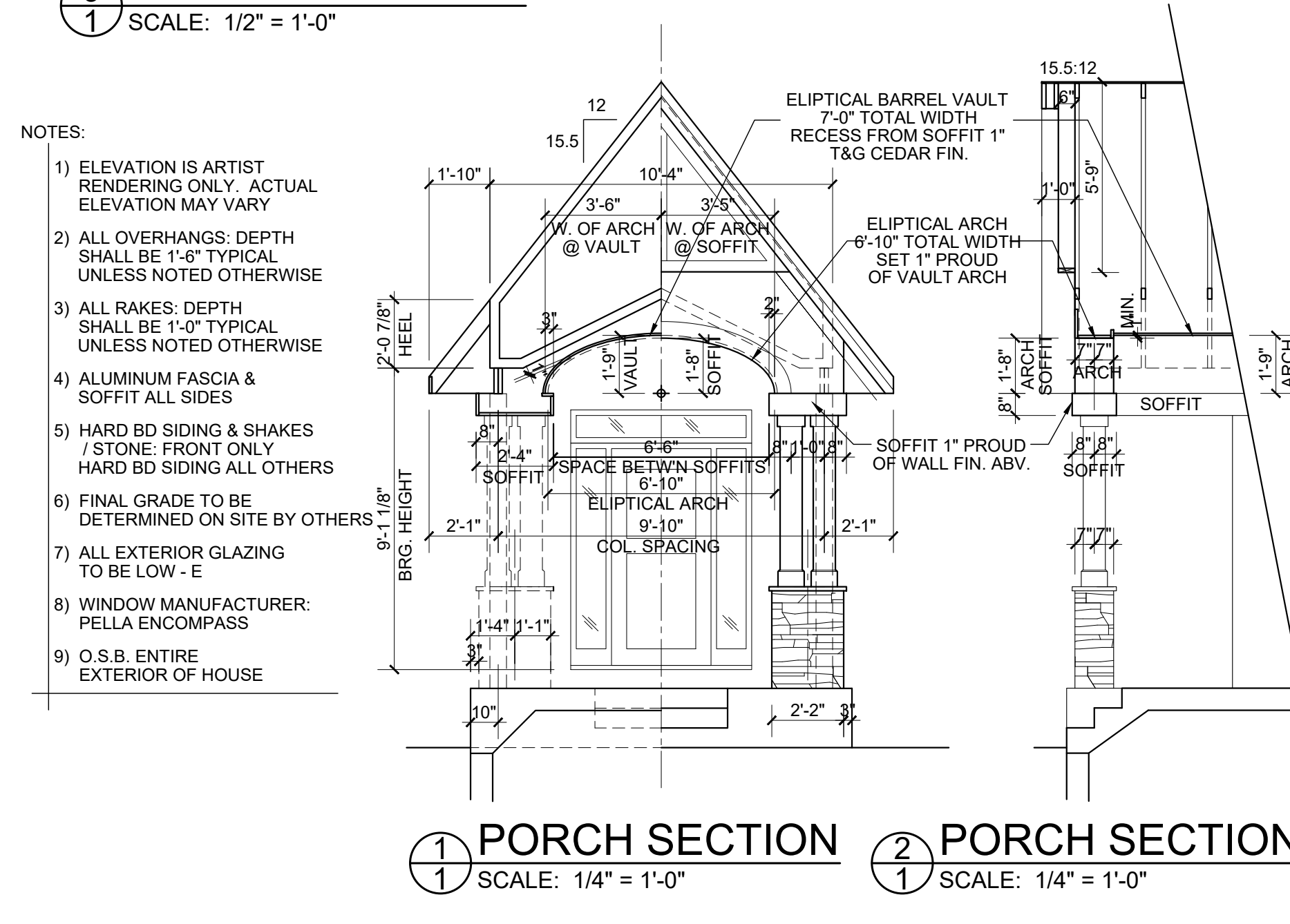
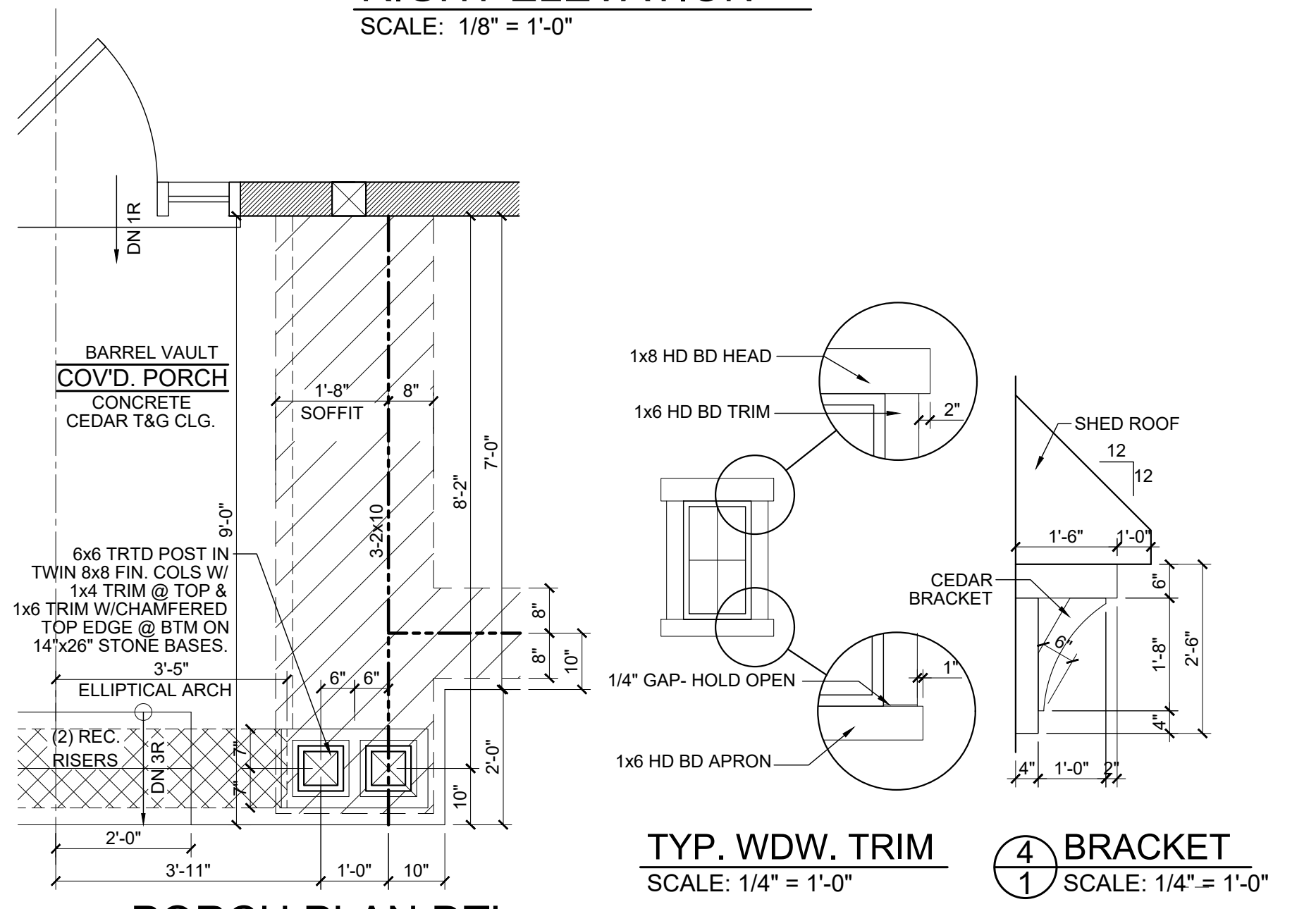
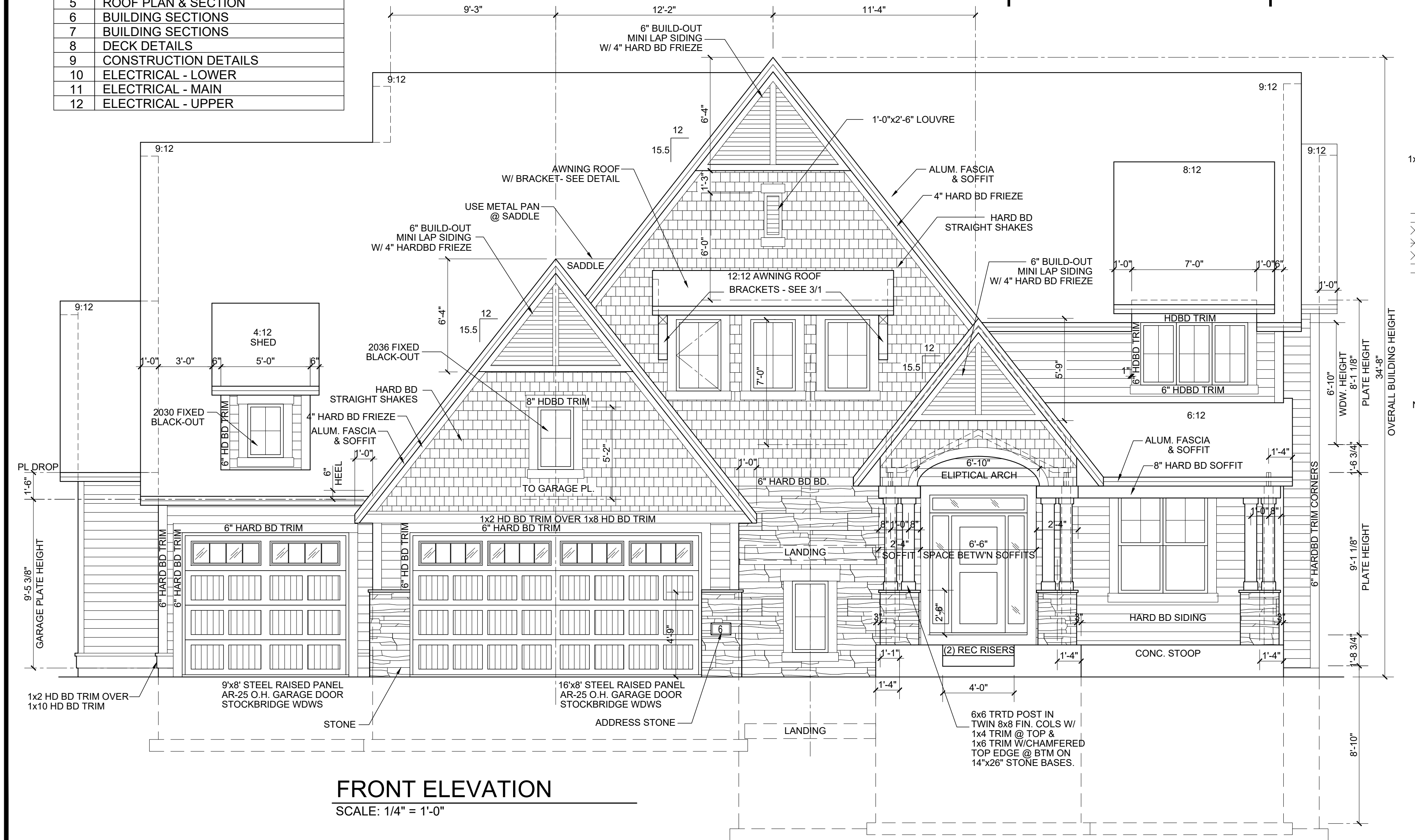
1



INDEX OF SHEETS

NO.	DESCRIPTION
1	ELEVATIONS
2	LOWER FLOOR PLAN
3	MAIN FLOOR PLAN
4	UPPER FLOOR PLAN
5	ROOF PLAN & SECTION
6	BUILDING SECTIONS
7	BUILDING SECTIONS
8	DECK DETAILS
9	CONSTRUCTION DETAILS
10	ELECTRICAL - LOWER
11	ELECTRICAL - MAIN
12	ELECTRICAL - UPPER

- NOTE:** INSTALL KICK-OUT FLASHING FOR STONE EXTERIOR
- NOTE:** BUILDING WRAP & TAR PAPER EXTERIOR IN PROPER FORM
- NOTE:** INSTALL TWO - MEMBRANE TAR PAPER BACKING UNDER ALL ROCK, STONE, AND STUCCO PRODUCTS



- NOTES:**
- ELEVATION IS ARTIST RENDERING ONLY. ACTUAL ELEVATION MAY VARY
 - ALL OVERHANGS: DEPTH SHALL BE 1'-6" TYPICAL UNLESS NOTED OTHERWISE
 - ALL RAKES: DEPTH SHALL BE 1'-0" TYPICAL UNLESS NOTED OTHERWISE
 - ALUMINUM FASCIA & SOFFIT ALL SIDES
 - HARD BD SIDING & SHAKES / STONE: FRONT ONLY HARD BD SIDING ALL OTHERS
 - FINAL GRADE TO BE DETERMINED ON SITE BY OTHERS
 - ALL EXTERIOR GLAZING TO BE LOW - E
 - WINDOW MANUFACTURER: PELLA ENCOMPASS
 - O.S.B. ENTIRE EXTERIOR OF HOUSE

ITASCA - ELEV. B

G
GONYEA COMPANIES
1000 BOONE AVENUE N. SUITE 400
GOLDEN VALLEY, MN 55427
OFFICE: 763-432-4500
FAX: 763-432-4501
BUILDER LICENSE #2459

S
STONEGATE BUILDERS
A DIVISION OF GONYEA COMPANIES

REVISION RECORD

1	5-14-21 jo
2	6-6-21 PERMIT
3	7-6-21 jo
4	7-22-21 yz
5	8-09-21 yz
6	8-12-21 FINAL STRUCT.
7	8-31-21 yz
8	9-13-21 yz
9	12-21-21 jb
10	1-3-22 jo

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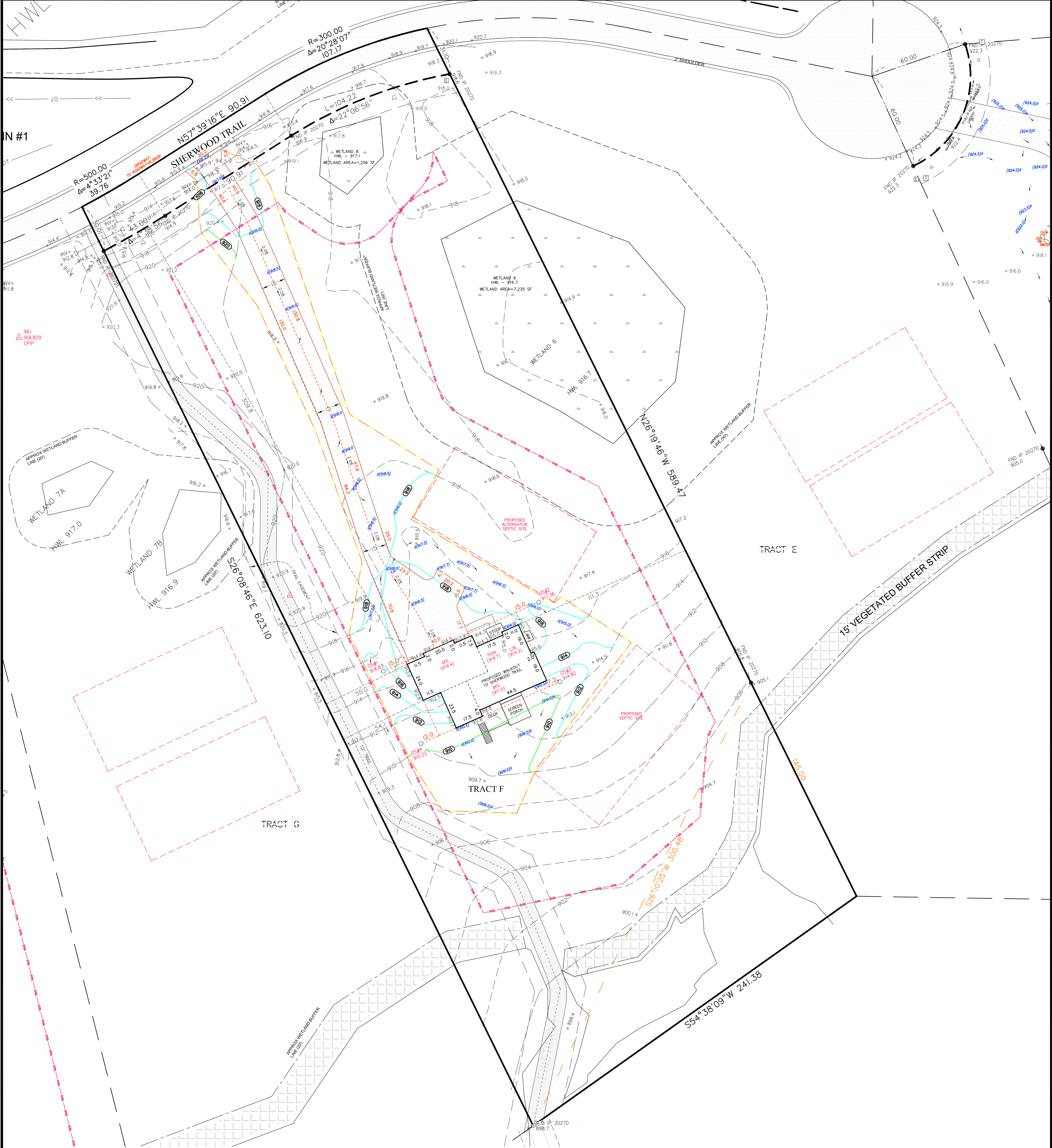
GUANZINI RESIDENCE
LOT 8 - BLOCK 1 - EAST PRESERVE
6 SHERWOOD TRAIL
NORTH OAKS, MN 55127

PROJECT

FOUNDATION	1561
FINISHED SQUARE FEET	
BASEMENT	1289
FIRST	1561
SECOND	1703
ATHLETIC CT	580
TOTAL	5133

PROJECT NO.
GH1258

SHEET
1 OF 12



DESCRIPTION OF PROPERTY SURVEYED

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

GENERAL NOTES

- Site Address:** 10 Sherwood Trail, North Oaks, Minnesota 55127
 - 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.
 - Parcel Area Information:** Gross Area: 145,315 s.f. ~ 3.33 acres
Roadway Easement Area: 7,240 s.f. ~ 0.17 acres
Lot Area To Roadway Easement: 138,075 s.f. ~ 3.17 acres
 - 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.
- 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, location 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.

Proposed Elevations - WO
 Proposed Garage Floor Elevation = 919.4
 Proposed Top of Foundation Elevation = 919.7
 Proposed Top of Lookout Opening Elevation = 914.2
 Proposed Basement Floor Elevation = 911.0

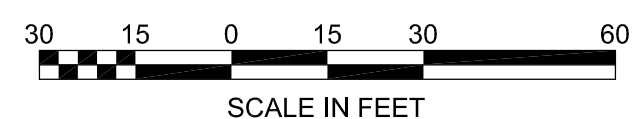
Hardcover
 Lot Area To Roadway Easement = 138,075 S.F.
 Roadway Easement Area = 7,240 S.F.
 Gross Lot Area = 145,315 S.F.
 House Area = 2,842 S.F.
 Driveway Area = 6,280 S.F.
 Roadway Area = 3,331 S.F.
 Front Walk Area = 83 S.F.
 Screen Porch Area = 224 S.F.
 Stoop Area = 72 S.F.
 Deck Area = 253 S.F.
 Total Area = 13,085 S.F.
 Coverage = 9.0%

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 21st day of December, 2021.

Donald L. Schmidt

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

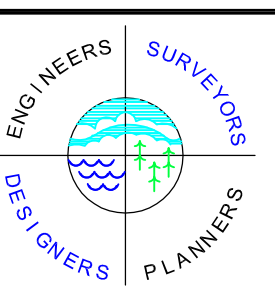


SURVEY LEGEND

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> ○ 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 | <ul style="list-style-type: none"> ○ PIEZOMETER ○ POWER POLE ○ GUY WIRE ○ ROOF DRAIN ○ LIFT STATION ○ SANITARY MANHOLE ○ SANITARY CLEANOUT ○ STORM MANHOLE ○ STORM DRAIN ○ GATCH 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 | <ul style="list-style-type: none"> ○ 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 — ELEC 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
XXX				
DRAWN		BRV		
CHECKED		DLS		
DATE			12/02/21	

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

TWP:30-RGE.22-SEC.06
 Ramsey County
NORTH OAKS, MINNESOTA

CERTIFICATE OF SURVEY
 PREPARED FOR:
GONYEA HOMES

FILE NO.
 31202-809
1
1

DESCRIPTION OF PROPERTY SURVEYED

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

GENERAL NOTES

- 1) **Site Address:** 14 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: 127,798 s.f. ~ 2.93 acres
Roadway Easement Area: 2,656 s.f. ~ 0.061 acres
Lot Area To Roadway Easement: 125,142 s.f. ~ 2.87 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 visually observe all the utilities located on the subject property.

Proposed Elevations -WO
 Proposed Garage Floor Elevation = 924.8
 Proposed Top of Foundation Elevation = 925.1
 Proposed Top of Lookout Opening Elevation = 919.6
 Proposed Basement Floor Elevation = 916.4

Hardover
 Lot Area To Roadway Easement = 125,142 S.F.
 Roadway Easement Area = 2,656 S.F.
 Gross Lot Area = 127,798 S.F.
 House Area = 3,096 S.F.
 Driveway Area = 2,542 S.F.
 Roadway Area = 1,995 S.F.
 Front Walk Area = 120 S.F.
 Screen Porch Area = 194 S.F.
 Sloop Area = 161 S.F.
 Deck Area = 265 S.F.
 Total Area = 8,373 S.F.
 Coverage = 6.6%

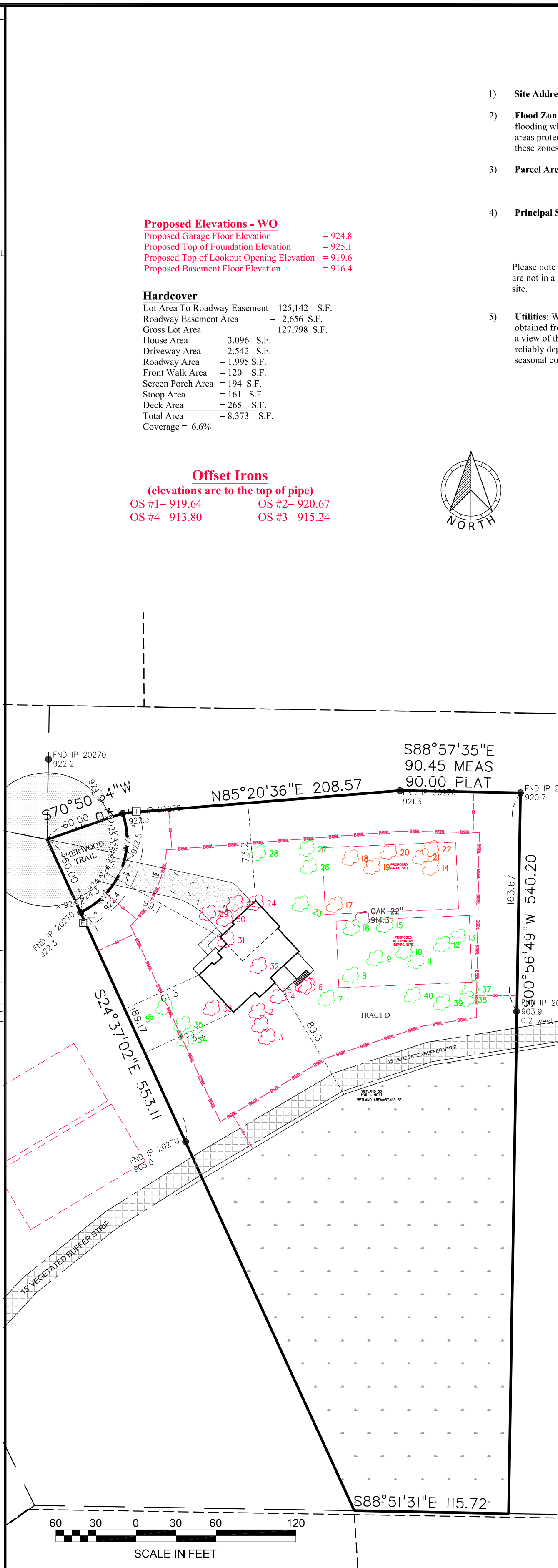
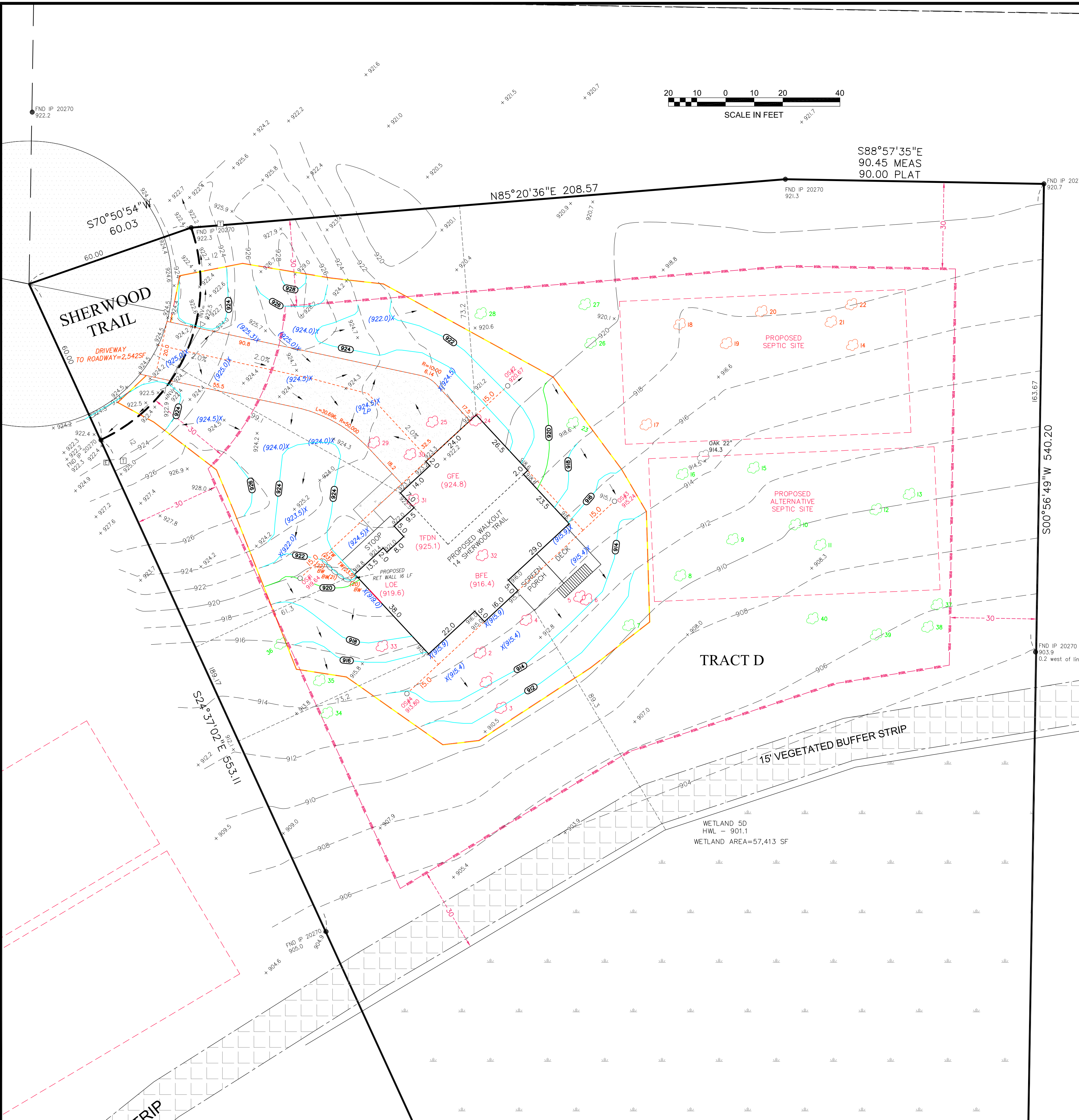
Offset Irons
 (elevations are to the top of pipe)
 OS #1= 919.64 OS #2= 920.67
 OS #4= 913.80 OS #3= 915.24



Tree #	Species	DBH	Condition	Stems	Heritage
1	Cherry, black	8.0	Good	1	No
2	Oak, pin	32.0	Fair	1	Yes
3	Oak, bur	20.0	Good	1	No
4	Oak, pin	31.0	Fair	1	Yes
5	Cherry, black	10.0	Good	1	No
6	Cherry, black	11.0	Good	1	No
7	Oak, bur	10.0	Good	1	No
8	Oak, bur	12.0	Good	1	No
9	Oak, pin	23.5	Good	1	No
10	Oak, bur	9.5	Good	1	No
11	Ash, green	11.0	Good	1	No
12	Oak, bur	23.5	Good	1	No
13	Oak, bur	18.5	Good	1	No
14	Oak, bur	17.5	Good	1	No
15	Oak, bur	23.0	Good	1	No
16	Oak, bur	9.0	Good	1	No
17	Oak, bur	25.5	Good	1	Yes
18	Ash, green	10.0	Good	1	No
19	Cherry, black	15.5	Fair	1	No
20	Oak, bur	9.5	Good	1	No
21	Ash, green	10.0	Good	1	No
22	Ash, green	7.5	Good	1	No
23	Cherry, black	17.0	Good	1	No
24	Oak, white	17.0	Fair	1	No
25	Oak, white	27.0	Good	1	Yes
26	Oak, white	21.5	Good	1	No
27	Oak, white	23.5	Good	1	No
28	Oak, bur	11.0	Good	1	No
29	Oak, bur	14.5	Good	1	No
30	Oak, white	20.5	Fair	1	No
31	Cherry, black	12.5	Good	1	No
32	Cherry, black	12.5	Good	1	No
33	Cherry, black	12.0	Good	1	No
34	Oak, bur	20.0	Good	1	No
35	Oak, bur	11.0	Fair	1	No
36	Oak, bur	7.5	Good	1	No
37	Oak, bur	17.5	Good	1	No
38	Oak, bur	11.5	Good	1	No
39	Oak, bur	8.0	Fair	1	No
40	Oak, bur	13.0	Good	1	No

SURVEY LEGEND

● CAST IRON MONUMENT	⊕ PIEZOMETER	⊖ WOE WALKOUT ELEVATION
● IRON PIPE MONUMENT SET	⊖ POWER POLE	⊖ FFE FIRST FLOOR ELEVATION
● DRILL HOLE FOUND	⊖ GUY WIRE	⊖ GFE GARAGE FLOOR ELEVATION
⊖ CHISELED "X" MONUMENT SET	⊖ ROOF DRAIN	⊖ TOP TOP OF FOUNDATION ELEV.
⊖ CHISELED "X" MONUMENT FOUND	⊖ LIFT STATION	⊖ LOE LOWEST OPENING ELEV.
⊖ REBAR MONUMENT FOUND	⊖ SANITARY MANHOLE	⊖ CONCRETE
⊖ PK NAIL MONUMENT SET	⊖ SANITARY CLEANOUT	⊖ BITUMINOUS
⊖ PK NAIL MONUMENT FOUND	⊖ STORM MANHOLE	⊖ BUILDING SETBACK LINE
⊖ SURVEY CONTROL POINT	⊖ CATCH BASIN	⊖ CABLE TV
⊖ A/C UNIT	⊖ FLARED END SECTION	⊖ CONCRETE CURB
⊖ CABLE TV PEDESTAL	⊖ TREE CONIFEROUS	⊖ CONTOUR EXISTING
⊖ ELECTRIC TRANSFORMER	⊖ TREE DECIDUOUS	⊖ CONTOUR PROPOSED
⊖ ELECTRIC MANHOLE	⊖ TREE TO BE REMOVED	⊖ GUARD RAIL
⊖ ELECTRIC METER	⊖ TELEPHONE MANHOLE	⊖ DRAIN TILE
⊖ YARD LIGHT	⊖ UTILITY MANHOLE	⊖ ELECTRIC UNDERGROUND
⊖ LIGHT POLE	⊖ UTILITY PEDESTAL	⊖ FENCE
⊖ FIBER OPTIC MANHOLE	⊖ UTILITY VAULT	⊖ GAS UNDERGROUND
⊖ FIRE DEPT. HOOK UP	⊖ WATER MAIN MANHOLE	⊖ OHU OVERHEAD UTILITY
⊖ FLAG POLE	⊖ WATER METER	⊖ TREE LINE
⊖ FUEL PUMP	⊖ WELL	⊖ TELEPHONE UNDERGROUND
⊖ PROPANE TANK	⊖ MONITORING WELL	⊖ GAS UNDERGROUND
⊖ GAS METER	⊖ GATE VALVE	⊖ OHU OVERHEAD UTILITY
⊖ GAS VALVE	⊖ HYDRANT	⊖ TREE LINE
⊖ GAS MANHOLE	⊖ IRRIGATION VALVE	⊖ SANITARY SEWER
⊖ GENERATOR	⊖ POST INDICATOR VALVE	⊖ STORM SEWER
⊖ GUARD POST	⊖ SIGN	⊖ TELEPHONE UNDERGROUND
⊖ MAIL BOX	⊖ SOIL BORING	⊖ 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	12/3/2021	TREE SURVEY
DRAWN				
CHECKED				
DATE				
11/17/21				

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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 30th day of November, 2021.
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

ENGINEERS SURVEYORS DESIGNERS PLANNERS

TWP:30-RGE.22-SEC.06
 Ramsey County
NORTH OAKS, MINNESOTA

CERTIFICATE OF SURVEY
 PREPARED FOR:
GONYEA HOMES

FILE NO.
 31202-800
1
1

DESCRIPTION OF PROPERTY SURVEYED

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

GENERAL NOTES

- 1) Site Address: 16 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: 217,905 s.f. ~ 5.00 acres
Roadway Easement Area: 2,196 s.f. ~ 0.050 acres
Lot Area To Roadway Easement: 215,709 s.f. ~ 4.95 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.

Proposed Elevations - WO
Proposed Garage Floor Elevation = 919.4
Proposed Top of Foundation Elevation = 919.7
Proposed Top of Lookout Opening Elevation = 913.7
Proposed Basement Floor Elevation = 911.0

Hardcover
Lot Area To Roadway Easement = 215,709 S.F.
Roadway Easement Area = 2,196 S.F.
Gross Lot Area = 217,905 S.F.
House Area = 2,685 S.F.
Driveway Area = 7,897 S.F.
Roadway Area = 1,525 S.F.
Front Walk Area = 85 S.F.
Stoop Area = 123 S.F.
SunRoom Area = 196 S.F.
Total Area = 12,511 S.F.
Coverage = 5.7%



Table with 7 columns: Tree #, Species, DBH, Condition, Stems, Heritage, Notes. Lists trees 1-46 with details like '1 Oak, white 30.0 Good 1 No'.

Table with 7 columns: Tree #, Species, DBH, Condition, Stems, Heritage, Notes. Lists trees 47-139 with details like '47 Cherry, black 9.5 Good 1 No'.

SURVEY LEGEND

Legend symbols and descriptions for various survey markers including 'CAST IRON MONUMENT', 'PIEZOMETER', 'WOE WALKOUT ELEVATION', 'CONCRETE', 'BITUMINOUS', etc.

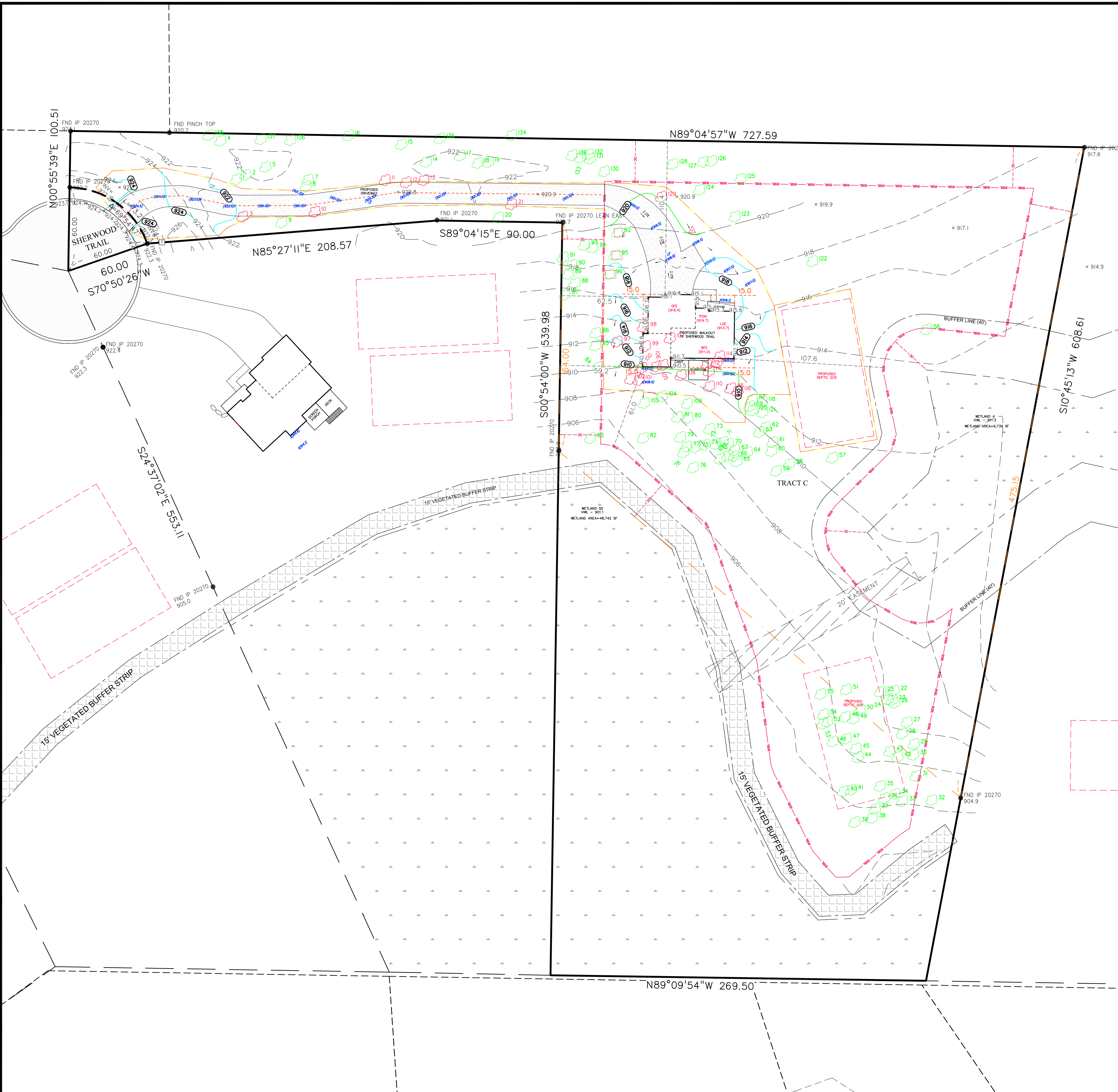
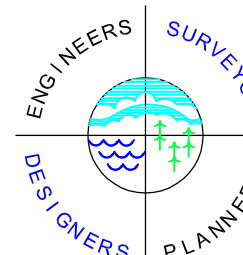


Table with columns: FIELD CREW, NO., BY, DATE, REVISION. Lists crew members like 'xx', 'DRAWN BRV', 'CHECKED DLS', 'DATE 11/17/21'.

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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 15th day of December, 2021.
Daniel L. Schmidt, PLS
schmidt@sathre.com



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

TWP:30-RGE.22-SEC.06
Ramsey County
NORTH OAKS, MINNESOTA

CERTIFICATE OF SURVEY
PREPARED FOR:
GONYEA HOMES
FILE NO. 31202-801
2

PLANNING REPORT

TO: North Oaks Planning Commission
FROM: Kevin Kress, City Administrator, Jim Thomson, City Attorney, Tim Korby,
City Engineer, Bob Kirmis, City Planner
DATE: January 4, 2022
RE: 6 Sherwood Trail - Conditional Use Permit
Home in excess of 35 feet in height

Date Application Submitted	November 23, 2021
Date Application Determined Complete:	November 23, 2021
Planning Commission Meeting Date:	December 30, 2021
City Council Meeting Date:	January 13, 2022
60-day review Date:	January 22, 2022
120-day Review Date:	March 23, 2022

BACKGROUND

Ms. Otto has requested the approval of a conditional use permit to allow the construction of a new home at 6 Sherwood Trail which is in excess of 35 feet.

The subject 3.01-acre site is zoned RSL-PUD, Residential Single-Family Low Density. Within RSL Districts, homes in excess of 35 feet are subject to conditional use permit processing.

The applicant wishes to construct a home with side and rear elevations in excess of 35 feet at a total of 43 feet and 5 inches at the highest elevation.

Attached for reference:

Exhibit A: Site Location
Exhibit B: Applicant Narrative
Exhibit C: Grading, Drainage and Erosion Control Plan

Exhibit D: Site Plan

Exhibit E: Building Elevation

ISSUES AND ANALYSIS

Property Description. As shown on the submitted survey, one individual parcel of land is illustrated which is presently unoccupied shown as Tract H RLS 634.

City Zoning Ordinance defines building height as “BUILDING HEIGHT. The vertical distance from grade as defined herein to the top ridge of the highest roof surface.” City Zoning Ordinance defines building elevation as “BUILDING ELEVATION. A side view of the building representing the structure as projected geometrically on a vertical plane parallel to its chief dimension.”

Evaluation Criteria. In consideration of conditional use permit applications to allow for a home greater than 35 feet in height, Section 151.050(D)(7) of the Zoning Ordinance states that certain criteria must be considered. Such criteria, as well as a Staff response, is provided below:

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

Staff Comment. The proposed front elevation is 34 feet and 8 inches from grade. This condition has been satisfied.

- b. The building height at any other elevation does not exceed 45 feet.***

Staff Comment. The proposed side and rear elevation maximum is 43 feet 5 inches. This condition has been satisfied

- 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***

Staff Comment. Based on our engineering review of the plans, topography, site and the Ramsey County interactive property maps and contours, the site generally slopes towards the south from the 920-elevation high point on the property (approximately where the house is situated) at approximately 3.5% - 4%. Based on these reviews, the proposed home appears conducive to the site’s natural layout. Based on the site’s location of wetlands, the ground water elevation in the proximity of the house needs to



be established to confirm a three-foot separation to the basement elevation in compliance with the City's Surface Water Management Plan. In addition, 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.

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

Staff Comment. The proposed home is 2 full stories with a basement. This condition has been satisfied.

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

Staff Comment. The proposed side and rear elevation maximum is 43 feet 5 inches. The current home setbacks on the east side are 51.1, 48.4, and 50.1 feet. The proposed building height of 43' 5" is 8.42' above the 35' threshold, requiring a minimum setback of 46.8'. Therefore, the setbacks are within the requirement, including two that exceed 50'. The current rear setback is well over 100 feet. This condition has been satisfied

f. Section 151.083 related to cost responsibility is complied with.

Staff Comment. This condition has been satisfied.

STAFF RECOMMENDATION

Based on the preceding review, Staff recommends approval of the requested conditional use permit to allow for a home located at 6 Sherwood Trail in excess of 35 feet subject to the following conditions:

1. The home shall be constructed in accordance to plan sets received 1-4-22.
2. The proposed home shall meet all required setbacks and other zoning standards prior to the issuance of a building permit.
3. Soil borings need to be performed to determine ground water elevation for basement elevation.

4. Plans shall be approved by the Building Official prior to the beginning of construction.
5. Any outstanding fees shall be paid prior to the issuance of a building permit.
6. Comments of other City Staff.

PLANNING COMMISSION OPTIONS

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

- A) Recommend approval**, 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.
 - Approval at this time means that, upon City Council approval, the applicant can construct the home, as proposed, subject to the satisfaction of all imposed conditions.
- B) Recommend denial** based on the applicant's submission, the contents of City Staff report, received public testimony and other evidence available to the Planning Commission.
- This option should only be utilized if the Planning Commission can specifically identify one or more provisions of City Code that are not being met by the conditional use permit proposal.
- C) Table** the request for further study.
- This option should be utilized if the Planning Commission feels the proposal is appropriate and should move forward, but that certain design aspects need to be amended and brought back before a recommendation for approval can be given.

cc: Jennifer Otto, Builder
Gretchen Needham, NOHOA



p 651-792-7750
f 651-792-7751



northoaks@northoaksmn.gov
www.northoaksmn.gov



100 Village Center Drive, Suite 230
North Oaks, MN 55127

PLANNING REPORT

TO: North Oaks Planning Commission
FROM: Kevin Kress, City Administrator, Jim Thomson, City Attorney, Tim Korby,
and John Morast City Engineers
DATE: January 4, 2022
RE: 10 Sherwood Trail - Conditional Use Permit
Home in excess of 35 feet in height

Date Application Submitted	December 22, 2021
Date Application Determined Complete:	December 22, 2021
Planning Commission Meeting Date:	January 27, 2022
City Council Meeting Date:	February 10, 2022
60-day review Date:	February 20, 2022
120-day Review Date:	April 21, 2022

BACKGROUND

Ms. Otto has requested the approval of a conditional use permit to allow the construction of a new home at 10 Sherwood Trail which is in excess of 35 feet.

The subject 3.34-acre site is zoned RSL-PUD, Residential Single-Family Low Density. Within RSL Districts, homes in excess of 35 feet are subject to conditional use permit processing.

The applicant wishes to construct a home with side and rear elevations in excess of 35 feet at a total of 43 feet and 1 3/4 inches at the highest elevation.

Attached for reference:

Exhibit A: Site Location
Exhibit B: Applicant Narrative
Exhibit C: Grading, Drainage and Erosion Control Plan



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100 Village Center Drive, Suite 230
North Oaks, MN 55127

Exhibit D: Site Plan

Exhibit E: Building Elevation

ISSUES AND ANALYSIS

Property Description. As shown on the submitted survey, one individual parcel of land is illustrated which is presently unoccupied shown as Tract F RLS 634.

City Zoning Ordinance defines building height as “BUILDING HEIGHT. The vertical distance from grade as defined herein to the top ridge of the highest roof surface.” City Zoning Ordinance defines building elevation as “BUILDING ELEVATION. A side view of the building representing the structure as projected geometrically on a vertical plane parallel to its chief dimension.”

Evaluation Criteria. In consideration of conditional use permit applications to allow for a home greater than 35 feet in height, Section 151.050(D)(7) of the Zoning Ordinance states that certain criteria must be considered. Such criteria, as well as a Staff response, is provided below:

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

Staff Comment. The proposed front elevation is 34 feet and 5 1/4 inches from grade. This condition has been satisfied.

- b. The building height at any other elevation does not exceed 45 feet.***

Staff Comment. The proposed side and rear elevation maximum is 43 feet 1 3/4 inches. This condition has been satisfied

- 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***

Staff Comment. Based on our engineering review of the plans, topography, site and the Ramsey County interactive property maps and contours, the site generally slopes towards the south from the 920-elevation high point on the property at approximately 8% - 9%. The Basement Floor Elevation is 911.0, located between the 912 and 914 existing contours. The Garage Floor Elevation is 919.0 and is located around the 914 existing contour. Some grading and filling is occurring. Based on these reviews, the proposed

home appears conducive to the site's natural layout. Based on the site's location of wetlands, the ground water elevation in the proximity of the house needs to be established to confirm a three-foot separation to the basement elevation in compliance with the City's Surface Water Management Plan. In addition, 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.

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

Staff Comment. The proposed home is 2 full stories with a basement. This condition has been satisfied.

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

Staff Comment. The proposed side and rear elevation maximum is 43 feet 1 3/4 inches. The current home setbacks on all sides are not within 50 feet. This condition has been satisfied.

f. Section 151.083 related to cost responsibility is complied with.

Staff Comment. This condition has been satisfied.

STAFF RECOMMENDATION

Based on the preceding review, Staff recommends approval of the requested conditional use permit to allow for a home located at 10 Sherwood Trail in excess of 35 feet subject to the following conditions:

1. The home shall be constructed in accordance to plan sets received 12-22-2021.
2. The proposed home shall meet all required setbacks and other zoning standards prior to the issuance of a building permit.
3. Soil borings need to be performed to determine ground water elevation for basement elevation.



4. Plans shall be approved by the Building Official prior to the beginning of construction.
5. Any outstanding fees shall be paid prior to the issuance of a building permit.
6. Comments of other City Staff.

PLANNING COMMISSION OPTIONS

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

- A) Recommend approval**, 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.
 - Approval at this time means that, upon City Council approval, the applicant can construct the home, as proposed, subject to the satisfaction of all imposed conditions.
- B) Recommend denial** based on the applicant's submission, the contents of City Staff report, received public testimony and other evidence available to the Planning Commission.
- This option should only be utilized if the Planning Commission can specifically identify one or more provisions of City Code that are not being met by the conditional use permit proposal.
- C) Table** the request for further study.
- This option should be utilized if the Planning Commission feels the proposal is appropriate and should move forward, but that certain design aspects need to be amended and brought back before a recommendation for approval can be given.

cc: Jennifer Otto, Builder
Gretchen Needham, NOHOA



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100 Village Center Drive, Suite 230
North Oaks, MN 55127

PLANNING REPORT

TO: North Oaks Planning Commission
FROM: Kevin Kress, City Administrator, Jim Thomson, City Attorney, Tim Korby,
and John Morast City Engineers
DATE: January 4, 2022
RE: 14 Sherwood Trail - Conditional Use Permit
Home in excess of 35 feet in height

Date Application Submitted	December 22, 2021
Date Application Determined Complete:	December 22, 2021
Planning Commission Meeting Date:	January 27, 2022
City Council Meeting Date:	February 10, 2022
60-day review Date:	February 20, 2022
120-day Review Date:	April 21, 2022

BACKGROUND

Ms. Otto has requested the approval of a conditional use permit to allow the construction of a new home at 14 Sherwood Trail which is in excess of 35 feet.

The subject 2.88-acre site is zoned RSL-PUD, Residential Single-Family Low Density. Within RSL Districts, homes in excess of 35 feet are subject to conditional use permit processing.

The applicant wishes to construct a home with side and rear elevations in excess of 35 feet at a total of 43 feet and 8 1/4 inches at the highest elevation.

Attached for reference:

Exhibit A: Site Location
Exhibit B: Applicant Narrative
Exhibit C: Grading, Drainage and Erosion Control Plan



p 651-792-7750
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100 Village Center Drive, Suite 230
North Oaks, MN 55127

Exhibit D: Site Plan

Exhibit E: Building Elevation

ISSUES AND ANALYSIS

Property Description. As shown on the submitted survey, one individual parcel of land is illustrated which is presently unoccupied shown as Tract D RLS 634.

City Zoning Ordinance defines building height as “BUILDING HEIGHT. The vertical distance from grade as defined herein to the top ridge of the highest roof surface.” City Zoning Ordinance defines building elevation as “BUILDING ELEVATION. A side view of the building representing the structure as projected geometrically on a vertical plane parallel to its chief dimension.”

Evaluation Criteria. In consideration of conditional use permit applications to allow for a home greater than 35 feet in height, Section 151.050(D)(7) of the Zoning Ordinance states that certain criteria must be considered. Such criteria, as well as a Staff response, is provided below:

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

Staff Comment. The proposed front elevation is 34 feet and 5 1/4 inches from grade. This condition has been satisfied.

- b. *The building height at any other elevation does not exceed 45 feet.***

Staff Comment. The proposed side and rear elevation maximum is 43 feet 8 1/4 inches. This condition has been satisfied

- 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***

Staff Comment. Based on our engineering review of the plans, topography, site and the Ramsey County interactive property maps and contours, the site generally slopes towards the south from the 922-elevation high point on the property (approximately where the house is situated) at approximately 13%. The Garage Floor Elevation is shown as 924.8 and is located between the existing 922 and 924 contours. The Basement Floor Elevation is listed as 916.4 and is locate at close to the existing 916

countour. Based on these reviews, the proposed home appears conducive to the site's natural layout. Based on the site's location of wetlands, the ground water elevation in the proximity of the house needs to be established to confirm a three-foot separation to the basement elevation in compliance with the City's Surface Water Management Plan. In addition, 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.

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

Staff Comment. The proposed home is 2 full stories with a basement. This condition has been satisfied.

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

Staff Comment. The proposed side and rear elevation maximum is 43 feet 8 1/4 inches. The current home setbacks on all sides are not within 50 feet. This condition has been satisfied.

f. Section 151.083 related to cost responsibility is complied with.

Staff Comment. This condition has been satisfied.

STAFF RECOMMENDATION

Based on the preceding review, Staff recommends approval of the requested conditional use permit to allow for a home located at 14 Sherwood Trail in excess of 35 feet subject to the following conditions:

1. The home shall be constructed in accordance to plan sets received 12-22-2021.
2. The proposed home shall meet all required setbacks and other zoning standards prior to the issuance of a building permit.
3. Soil borings need to be performed to determine ground water elevation for basement elevation.



4. Plans shall be approved by the Building Official prior to the beginning of construction.
5. Any outstanding fees shall be paid prior to the issuance of a building permit.
6. Comments of other City Staff.

PLANNING COMMISSION OPTIONS

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

- A) Recommend approval**, 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.
 - Approval at this time means that, upon City Council approval, the applicant can construct the home, as proposed, subject to the satisfaction of all imposed conditions.
- B) Recommend denial** based on the applicant's submission, the contents of City Staff report, received public testimony and other evidence available to the Planning Commission.
- This option should only be utilized if the Planning Commission can specifically identify one or more provisions of City Code that are not being met by the conditional use permit proposal.
- C) Table** the request for further study.
- This option should be utilized if the Planning Commission feels the proposal is appropriate and should move forward, but that certain design aspects need to be amended and brought back before a recommendation for approval can be given.

cc: Jennifer Otto, Builder
Gretchen Needham, NOHOA



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100 Village Center Drive, Suite 230
North Oaks, MN 55127

PLANNING REPORT

TO: North Oaks Planning Commission
FROM: Kevin Kress, City Administrator, Jim Thomson, City Attorney, Tim Korby,
and John Morast City Engineers
DATE: January 4, 2022
RE: 16 Sherwood Trail - Conditional Use Permit
Home in excess of 35 feet in height

Date Application Submitted	December 22, 2021
Date Application Determined Complete:	December 22, 2021
Planning Commission Meeting Date:	January 27, 2022
City Council Meeting Date:	February 10, 2022
60-day review Date:	February 20, 2022
120-day Review Date:	April 21, 2022

BACKGROUND

Ms. Otto has requested the approval of a conditional use permit to allow the construction of a new home at 16 Sherwood Trail which is in excess of 35 feet.

The subject 5.05-acre site is zoned RSL-PUD, Residential Single-Family Low Density. Within RSL Districts, homes in excess of 35 feet are subject to conditional use permit processing.

The applicant wishes to construct a home with side and rear elevations in excess of 35 feet at a total of 43 feet and 1/8 inches at the highest elevation.

Attached for reference:

Exhibit A: Site Location
Exhibit B: Applicant Narrative
Exhibit C: Grading, Drainage and Erosion Control Plan



p 651-792-7750
f 651-792-7751



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www.northoaksmn.gov



100 Village Center Drive, Suite 230
North Oaks, MN 55127

Exhibit D: Site Plan

Exhibit E: Building Elevation

ISSUES AND ANALYSIS

Property Description. As shown on the submitted survey, one individual parcel of land is illustrated which is presently unoccupied shown as Tract C RLS 634.

City Zoning Ordinance defines building height as “BUILDING HEIGHT. The vertical distance from grade as defined herein to the top ridge of the highest roof surface.” City Zoning Ordinance defines building elevation as “BUILDING ELEVATION. A side view of the building representing the structure as projected geometrically on a vertical plane parallel to its chief dimension.”

Evaluation Criteria. In consideration of conditional use permit applications to allow for a home greater than 35 feet in height, Section 151.050(D)(7) of the Zoning Ordinance states that certain criteria must be considered. Such criteria, as well as a Staff response, is provided below:

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

Staff Comment. The proposed front elevation is 34 feet and 3 1/2 inches from grade. This condition has been satisfied.

- b. The building height at any other elevation does not exceed 45 feet.***

Staff Comment. The proposed side and rear elevation maximum is 43 feet and 1/8 inches. This condition has been satisfied

- 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***

Staff Comment. Based on our engineering review of the plans, topography, site and the Ramsey County interactive property maps and contours, the site generally slopes towards the south from the 920-elevation high point on the property at approximately 10%. The Garage Floor Elevation is shown as 919.4 and situated at the existing 916 contour. The Basement Floor Elevation is shown as 911.0 and is located at the existing 910 existing contour. Based on these reviews, the proposed home appears conducive

to the site's natural layout. Based on the site's location of wetlands, the ground water elevation in the proximity of the house needs to be established to confirm a three-foot separation to the basement elevation in compliance with the City's Surface Water Management Plan. In addition, 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.

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

Staff Comment. The proposed home is 2 full stories with a basement. This condition has been satisfied.

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

Staff Comment. The proposed side and rear elevation maximum is 43 feet and 1/8 inches. The current home setbacks on all sides are not within 50 feet. This condition has been satisfied.

f. Section 151.083 related to cost responsibility is complied with.

Staff Comment. This condition has been satisfied.

STAFF RECOMMENDATION

Based on the preceding review, Staff recommends approval of the requested conditional use permit to allow for a home located at 16 Sherwood Trail in excess of 35 feet subject to the following conditions:

1. The home shall be constructed in accordance to plan sets received 12-22-2021.
2. The proposed home shall meet all required setbacks and other zoning standards prior to the issuance of a building permit.
3. Soil borings need to be performed to determine ground water elevation for basement elevation.

4. Plans shall be approved by the Building Official prior to the beginning of construction.
5. Any outstanding fees shall be paid prior to the issuance of a building permit.
6. Comments of other City Staff.

PLANNING COMMISSION OPTIONS

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

- A) Recommend approval**, 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.
 - Approval at this time means that, upon City Council approval, the applicant can construct the home, as proposed, subject to the satisfaction of all imposed conditions.
- B) Recommend denial** based on the applicant's submission, the contents of City Staff report, received public testimony and other evidence available to the Planning Commission.
- This option should only be utilized if the Planning Commission can specifically identify one or more provisions of City Code that are not being met by the conditional use permit proposal.
- C) Table** the request for further study.
- This option should be utilized if the Planning Commission feels the proposal is appropriate and should move forward, but that certain design aspects need to be amended and brought back before a recommendation for approval can be given.

cc: Jennifer Otto, Builder
Gretchen Needham, NOHOA



p 651-792-7750
f 651-792-7751



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www.northoaksmn.gov



100 Village Center Drive, Suite 230
North Oaks, MN 55127

**CITY OF NORTH OAKS
RAMSEY COUNTY, MINNESOTA
RESOLUTION NO. xxxx**

**RESOLUTION APPROVING A CONDITIONAL USE PERMIT TO
CONSTRUCT A HOME IN EXCESS OF 35 FEET IN HEIGHT FOR PROPERTY
ADDRESS 6 SHERWOOD TRAIL**

WHEREAS, an application for a Conditional Use Permit has been submitted by the Jennifer Otto, the applicant of the real property described below, to allow for the construction of a home in excess of 35 feet in height on real property located at 6 Sherwood Trail, North Oaks, Ramsey County, Minnesota, legal described on the attached **EXHIBIT A**; and

WHEREAS, a Conditional Use Permit is required for a home in excess of 35 feet in height; and

WHEREAS, the request has been reviewed against the relevant requirements of North Oaks Zoning Ordinance Sections 151.050 and 151.076, regarding the criteria for issuance of a Conditional Use Permit, and meets the minimum standards, is consistent with the Comprehensive Plan, is in conformance with the Zoning Ordinance, and does not have a negative impact on public health, safety, or welfare; and

WHEREAS, a public hearing concerning the Conditional Use Permit was held before the North Oaks Planning Commission in accordance with Minnesota Statutes, Section 462.357, subd. 3, on December 13, 2021, and continued the hearing to January 6, 2022 and acted on the application on January 27, 2022, at which the Planning Commission voted unanimously to recommend approval of the Conditional Use Permit application, subject to certain conditions.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTH OAKS, that a Conditional Use Permit to allow for a home in excess of 35 feet in height, is approved subject to the following conditions:

1. The home shall be constructed in accordance to plan sets received 1-4-21.
2. The proposed home shall meet all required setbacks and other zoning standards prior to the issuance of a building permit.
3. Plans shall be approved by the Building Official prior to the beginning of construction.
4. Any outstanding fees shall be paid prior to the issuance of a building permit.

BE IT FURTHER RESOLVED that the City Clerk, Deputy City Clerk, or City Attorney are hereby authorized and directed to record a certified copy of this Resolution with the Ramsey County Registrar of Titles.

Adopted by the City Council of the City of North Oaks this 10th day of February, 2022.

By: _____
Kara Ries
Its: Mayor

Attested:

By: _____
Kevin Kress
Its: City Administrator

EXHIBIT A
LEGAL DESCRIPTION OF PROPERTY

Real property located in Ramsey County, Minnesota legally described as follows:

Tract H, Registered Land Survey No. 634, Ramsey County, Minnesota.

PID: 063022130012

Torrens Property

**CITY OF NORTH OAKS
RAMSEY COUNTY, MINNESOTA
RESOLUTION NO. xxxx**

**RESOLUTION APPROVING A CONDITIONAL USE PERMIT TO
CONSTRUCT A HOME IN EXCESS OF 35 FEET IN HEIGHT FOR PROPERTY
ADDRESS 10 SHERWOOD TRAIL**

WHEREAS, an application for a Conditional Use Permit has been submitted by the Jennifer Otto, the applicant of the real property described below, to allow for the construction of a home in excess of 35 feet in height on real property located at 10 Sherwood Trail, North Oaks, Ramsey County, Minnesota, legal described on the attached **EXHIBIT A**; and

WHEREAS, a Conditional Use Permit is required for a home in excess of 35 feet in height; and

WHEREAS, the request has been reviewed against the relevant requirements of North Oaks Zoning Ordinance Sections 151.050 and 151.076, regarding the criteria for issuance of a Conditional Use Permit, and meets the minimum standards, is consistent with the Comprehensive Plan, is in conformance with the Zoning Ordinance, and does not have a negative impact on public health, safety, or welfare; and

WHEREAS, a public hearing concerning the Conditional Use Permit was held before the North Oaks Planning Commission in accordance with Minnesota Statutes, Section 462.357, subd. 3, on January 27, 2022, at which hearing the Planning Commission voted unanimously to recommend approval of the Conditional Use Permit application, subject to certain conditions.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTH OAKS, that a Conditional Use Permit to allow for a home in excess of 35 feet in height, is approved subject to the following conditions:

1. The home shall be constructed in accordance to plan sets received 12-22-21.
2. The proposed home shall meet all required setbacks and other zoning standards prior to the issuance of a building permit.
3. Plans shall be approved by the Building Official prior to the beginning of construction.
4. Any outstanding fees shall be paid prior to the issuance of a building permit.

BE IT FURTHER RESOLVED that the City Clerk, Deputy City Clerk, or City Attorney are hereby authorized and directed to record a certified copy of this Resolution with the Ramsey County Registrar of Titles.

Adopted by the City Council of the City of North Oaks this 10th day of February, 2022.

By: _____

Kara Ries

Its: Mayor

Attested:

By: _____

Kevin Kress

Its: City Administrator

EXHIBIT A
LEGAL DESCRIPTION OF PROPERTY

Real property located in Ramsey County, Minnesota legally described as follows:

Tract F, Registered Land Survey No. 634, Ramsey County, Minnesota.

PID: 063022130010

Torrens Property

**CITY OF NORTH OAKS
RAMSEY COUNTY, MINNESOTA
RESOLUTION NO. xxxx**

**RESOLUTION APPROVING A CONDITIONAL USE PERMIT TO
CONSTRUCT A HOME IN EXCESS OF 35 FEET IN HEIGHT FOR PROPERTY
ADDRESS 14 SHERWOOD TRAIL**

WHEREAS, an application for a Conditional Use Permit has been submitted by the Jennifer Otto, the applicant of the real property described below, to allow for the construction of a home in excess of 35 feet in height on real property located at 14 Sherwood Trail, North Oaks, Ramsey County, Minnesota, legal described on the attached **EXHIBIT A**; and

WHEREAS, a Conditional Use Permit is required for a home in excess of 35 feet in height; and

WHEREAS, the request has been reviewed against the relevant requirements of North Oaks Zoning Ordinance Sections 151.050 and 151.076, regarding the criteria for issuance of a Conditional Use Permit, and meets the minimum standards, is consistent with the Comprehensive Plan, is in conformance with the Zoning Ordinance, and does not have a negative impact on public health, safety, or welfare; and

WHEREAS, a public hearing concerning the Conditional Use Permit was held before the North Oaks Planning Commission in accordance with Minnesota Statutes, Section 462.357, subd. 3, on January 27, 2022, at which hearing the Planning Commission voted unanimously to recommend approval of the Conditional Use Permit application, subject to certain conditions.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTH OAKS, that a Conditional Use Permit to allow for a home in excess of 35 feet in height, is approved subject to the following conditions:

1. The home shall be constructed in accordance to plan sets received 12-22-21.
2. The proposed home shall meet all required setbacks and other zoning standards prior to the issuance of a building permit.
3. Plans shall be approved by the Building Official prior to the beginning of construction.
4. Any outstanding fees shall be paid prior to the issuance of a building permit.

BE IT FURTHER RESOLVED that the City Clerk, Deputy City Clerk, or City Attorney are hereby authorized and directed to record a certified copy of this Resolution with the Ramsey County Registrar of Titles.

Adopted by the City Council of the City of North Oaks this 10th day of February, 2022.

By: _____

Kara Ries

Its: Mayor

Attested:

By: _____

Kevin Kress

Its: City Administrator

EXHIBIT A
LEGAL DESCRIPTION OF PROPERTY

Real property located in Ramsey County, Minnesota legally described as follows:

Tract D, Registered Land Survey No. 634, Ramsey County, Minnesota.

PID: 063022140021

Torrens Property

**CITY OF NORTH OAKS
RAMSEY COUNTY, MINNESOTA
RESOLUTION NO. xxxx**

**RESOLUTION APPROVING A CONDITIONAL USE PERMIT TO
CONSTRUCT A HOME IN EXCESS OF 35 FEET IN HEIGHT FOR PROPERTY
ADDRESS 16 SHERWOOD TRAIL**

WHEREAS, an application for a Conditional Use Permit has been submitted by the Jennifer Otto, the applicant of the real property described below, to allow for the construction of a home in excess of 35 feet in height on real property located at 16 Sherwood Trail, North Oaks, Ramsey County, Minnesota, legal described on the attached **EXHIBIT A**; and

WHEREAS, a Conditional Use Permit is required for a home in excess of 35 feet in height; and

WHEREAS, the request has been reviewed against the relevant requirements of North Oaks Zoning Ordinance Sections 151.050 and 151.076, regarding the criteria for issuance of a Conditional Use Permit, and meets the minimum standards, is consistent with the Comprehensive Plan, is in conformance with the Zoning Ordinance, and does not have a negative impact on public health, safety, or welfare; and

WHEREAS, a public hearing concerning the Conditional Use Permit was held before the North Oaks Planning Commission in accordance with Minnesota Statutes, Section 462.357, subd. 3, on January 27, 2022, at which hearing the Planning Commission voted unanimously to recommend approval of the Conditional Use Permit application, subject to certain conditions.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTH OAKS, that a Conditional Use Permit to allow for a home in excess of 35 feet in height, is approved subject to the following conditions:

1. The home shall be constructed in accordance to plan sets received 12-22-21.
2. The proposed home shall meet all required setbacks and other zoning standards prior to the issuance of a building permit.
3. Plans shall be approved by the Building Official prior to the beginning of construction.
4. Any outstanding fees shall be paid prior to the issuance of a building permit.

BE IT FURTHER RESOLVED that the City Clerk, Deputy City Clerk, or City Attorney are hereby authorized and directed to record a certified copy of this Resolution with the Ramsey County Registrar of Titles.

Adopted by the City Council of the City of North Oaks this 10th day of February, 2022.

By: _____

Kara Ries

Its: Mayor

Attested:

By: _____

Kevin Kress

Its: City Administrator

EXHIBIT A
LEGAL DESCRIPTION OF PROPERTY

Real property located in Ramsey County, Minnesota legally described as follows:

Tract C, Registered Land Survey No. 634, Ramsey County, Minnesota.

PID: 063022140020

Torrens Property

CITY OF NORTH OAKS

100 Village Center Dr., Suite 230, North Oaks, MN 55127
(651) 792-7750 Fax: (651) 792-7751 northoaks@northoaksmn.gov

INDIVIDUAL SEWAGE TREATMENT SYSTEM
APPLICATION/PERMIT

Application Date 10-27-2021

Job Address 9 Ridge Road, North Oaks 55127 Permit No. 2021-763

Owner Mareni Hougham & Craig Hara Fee Type I, II, III \$450
Type IV \$795

Installer Bill Wolfe Excavating

Address P.O. Box 775 Stillwater MN 55082

Phone No. 651 430-2256 MPCA Certificate No. _____

Legal Description: RLS _____ Tract _____

Proposed Work

Description New System
(New System, Alteration, Repair)

Type of System MOUND No. of Bedrooms 3

Variance No. (if applicable) _____ No. of TANKS 3

Mareni Hougham
Signature of Applicant

MARENI S. HOUGHAM
Print Name

Date PD 10/28/21 Amt 450.00 Ck # 2907
(For Office Use Only)

This permit is granted upon the express condition that the person, partnership, firm or corporation to whom it is granted, together with the agents, employees, workers, and sub-contractors agree to abide by and conform to all Ordinances of the City of North Oaks regarding the construction, alteration, and repair of sewage treatment systems within the City; and that this permit may be revoked at any time upon evidence of violations of any of the provisions of said ordinances.

PERMITS ARE VALID FOR 180 DAYS

Approval Date _____

Sanitary Inspector _____

No. 21-14

**CITY OF NORTH OAKS, MINNESOTA
APPLICATION FOR CUP, VARIANCE, APPEAL, AMENDMENT, PLAN REVIEW**

Location of Property: (address) 9 Ridge Road North Oaks 55127 MN

Legal Description of Property: Tract E RLS _____

Fee Owner: Marni Hougham 9 Ridge Road, N.OAKS MN 55127
Name Address

N OAKS MN 55127 huffume concept net.
City State Zip Contact Number/s

Signature of Fee Owner: [Signature] cell 651-402-9393
Date 10-28-2021

Applicant: _____
(if different from owner) Name Address

City State Zip Contact Numbers/s Email Address

Signature of Applicant: _____ Date _____

Type of Request: (Please circle correct request)

CONDITIONAL USE PERMIT (as provided for in Chapter 151.076 of Code of Ordinances)

VARIANCE

APPEAL

AMENDMENT

BUILDING / SITE PLAN REVIEW

OTHER

Please attach **fifteen (10)** copies of detailed written and graphic material fully explaining the proposed request and include the reason for the request, present zoning classification and existing use of the property.

(For office use)

Application received with \$450 application fee (or per fee schedule) on 10/28/2021 Check # 2907 Amt # \$900
Escrow (per fee schedule) received on _____ Check # _____ Amt # ↑

Date for review of completeness fifteen (15) business days from initial receipt _____
* If application is deemed incomplete, written notice must be sent to the applicant by above date stating the items that need to be submitted for the application to be deemed complete. (For variance & Sept 14 Application)

Deadline for action sixty (60) days from initial receipt _____

Extended deadline _____

**** City may extend the review period by up to sixty days from the end of deadline for action only if applicant is notified in writing prior to the end of the initial sixty (60) day review period. The deadline may be extended beyond sixty days with applicant's approval.**

Conditional Use or Amendment request - Public Hearing date _____

Planning Commission action:

Approval or disapproval on _____ with conditions _____

City Council Action:

Approval or disapproval on _____ with conditions _____

Variance, Appeal, Building/Site Plan Review, Other

Action of Board of Adjustment and Appeals:

Approval or disapproval on _____

Bond Required _____

Bond Received on _____

APPLICANT RESPONSIBILITY FOR PAYMENT

As authorized in Chapter 151.083 of the Ordinance Code, an applicant will be responsible for full reimbursement of incurred costs to the City of North Oaks. (A copy of this section of the Ordinance is available upon request**)

A typical process for reviewing a zoning action may include the following: City employee help in explaining the application process, City employee receipt of completed application and proper scheduling on appropriate agenda, one legal notice for a public hearing (if applicable), written notice to abutting property owners (if applicable), generation of a staff report, presentation of the staff report to the Planning Commission and presentation of the staff report and Planning Commission recommendation to the City Council.

City reimbursement policy: An applicant can withdraw their request at any time during the review process, however the application fee is non-refundable. Any remaining escrow deposit that is not needed to pay incurred costs to the date of application removal will be refunded to the applicant within sixty days.

I acknowledge that I have read and fully understand the above statements.



Applicant's Signature

Date 10-29-2021

**** § 151.083 FEES. (A) To defray the administrative costs of processing applications for conditional uses, amendments, variances, or appeals, a nonrefundable base fee, as established by the city from time-to time, per application shall be paid by all applicants when the application is filed. (B) (1) In order to defray any additional cost over and above the normal processing of an application for a conditional use, an amendment, a variance, an appeal, or in determining the adequacy of off-street parking, loading, unloading, and service entrances, or when an amended plan must be reviewed by the city, the applicant shall reimburse the city for the costs the city may incur in employing the services of engineers, attorneys, and/or other professional consultants in connection with the application. (2) An initial deposit, as established by the city from time to time, may be requested by the Zoning Administrator for these services. (3) If this amount does not cover all the costs, the applicant will be so advised and full reimbursement hereunder shall be made whether the application is approved or denied. (C) A nonrefundable fee, as established by the city from time to time, for each certificate of occupancy shall be paid when the application is filed. (Ord. 94, § 8.9, passed 2-11-1999; Am. Ord. passed 11-24-1999; Am. Ord. passed 7-24-2001; Am. Ord. passed 10-22-2002; Am. Ord. passed 4-1-2003; Am. Ord. passed 12-23-2003)**



NorthOaks
Building on a tradition
of innovation

NORTH OAKS
CITY OF NORTH OAKS
NORTH OAKS, MN 55127-
(651) 792-7750



* 2 0 2 1 - 0 0 7 6 3 *
ISSUED: 10/28/2021
EXPIRES: 04/26/2022

Permit #: 2021-00763

COPY

ADDRESS : 9 RIDGE RD
PIN : 183022430017
LEGAL DESC : REGISTERED LAND SURVEY 27
: LOT E BLOCK 0
PERMIT TYPE : SEPTIC INSTALL - TYPE 1-3
PROPERTY TYPE : RESIDENTIAL
CONSTRUCTION TYPE : NEW SEPTIC

NOTE: THIS PERMIT IS A RECEIPT OF PAYMENT ONLY – NOT APPROVAL TO BEGIN WORK. YOU WILL BE NOTIFIED BY CITY STAFF ONCE THE SEPTIC DESIGN APPLICATION HAS BEEN APPROVED TO BEGIN WORK. ONCE WORK COMMENCES, CONTACT SEPTIC INSPECTOR BRIAN HUMPAL AT 651-492-7550 TO SCHEDULE ALL INSPECTIONS.

APPLICANT

BILL WOLFE EXCAVATING
(651) 439-6375

SEPTIC INSTALL FEE - TYPE 1-3	450.00
TOTAL	450.00
Payment(s)	
CHECK 2907	450.00

OWNER

HARA / HOUGHAM, CRAIG & MARNI
9 RIDGE RD
ST. PAUL, MN 55127

AGREEMENT AND SWORN STATEMENT

The work for which this permit is issued shall be performed according to: (1) the conditions of this permit; (2) the approval plans and specifications; (3) the applicable City approvals, Ordinances and Codes; and (4) the State Building Code. This permit is for only the work described and does not grant permission for additional or related work which requires separate permits.

This permit may expire and become null and void if construction authorized is not commenced within 60 days, or if construction is suspended for a period of 180 days at any time after work has commenced. The applicant is responsible for assuring all required inspections are requested in conformance with the State Building Code.



CITY OF
NorthOaks
Building on a tradition of innovation

North Oaks, MN 551276
Tel: 651-792-7750
noaks@cityofnorthoaks.com

Date:	10-28-2021		
Received from:	Marni Hougham - 9 Ridge Road		
Amount:	900.00	Check #:	2907

	Animal License
	Arborist/Mechanical License Application
	ISTS
	Recycling
	Water bill
	Variance/CUP
	Reimbursement
X	Other: Septic Variance #21-14 Septic application 2021-763

NOTES:

Signed: OGS Green

Ed Eklin Septic System Design

2303 County Road F East • White Bear Lake, MN 55110

651-485-2300

zeklins@gmail.com

August 22, 2021

Craig Hara
9 Ridge Road
North Oaks, MN 55127

Dear Craig:

At your request, a site evaluation was performed at the property located at 9 Ridge Road, North Oaks, MN, for a subsurface sewage treatment system.

No data was found for your well. For this design to be valid, the well casing must be found to be at least 50 feet deep. The well at 7 Ridge Road has a 188' deep casing. No data was found for the well at 2 Martin Lane.

My drawing is not a survey and is only approximate.

Currently, there is an old septic tank and a drain field. The existing drain field is directly downhill of the proposed new sewage treatment system rock bed and within the proposed absorption area.

Since there is limited area available, I am proposing a mound system with the uphill berm being placed up to the property line towards 7 Ridge Road. The downhill berm is to be placed up to the property line towards 2 Martin Lane. Since there is a 30 feet setback, permission will be needed from the City of North Oaks, MN.

The proposed area is to be raised up significantly and will look very different than it is now. I suggest blending the uphill part into the yard to create a mostly level area. Some trees will need to be removed.

Because of disturbed soils with redox. features directly below, I have designed a Type 3 sewage treatment system.

I am recommending a pressurized mound system.

For a 3-bedroom home, I recommend that the mound rock bed be 10 feet wide and 38 feet long, which is 380 square feet. There must be at least 36 inches of clean sand below the upslope edge of the rock bed.

MPCA License #3321

Certification #C3268

SEPTIC SYSTEM DESIGNS • PERCOLATION TESTS
SOIL BORINGS • SUB-DIVISION PLANNING

I forbid the use of anything other than rock as the distribution media.

The following materials will be needed for construction of the mound system:

The installer should calculate the sand, sandy berm material and top soil needed. A materials worksheet is included.

- Approximately 17 yards of drain field rock.
- Two-1,000-gallon Septic Tanks.
- An effluent filter with alarm. I recommend a high capacity filter such as a Polylok 525.
- A 1,000 gallon pump tank.
- A pump that will handle at least 29 gallons per minute with 22 feet of total dynamic head.
- An alarm for the pump.
- A flow measurement device, such as an event counter or water meter.
- There are to be three, 1.5 inch laterals, 36 feet long, spaced 36 inches apart, with 1/4 inch perforations spaced 36 inches apart. The manifold can be placed at the end or center of the laterals.

The sewage treatment area must remain totally undisturbed to prevent compaction of the soils.

Access for maintaining/pumping the septic tanks can be from the driveway.

A vegetative cover must be established over the treatment system as soon as possible and the area must be protected from erosion if needed, until the vegetation is established.

Pressurized laterals must have clean outs installed at the ends.

If the septic tanks are 24 inches deep or less to the top from finished grade, they must be insulated to an R-value of at least 10.

In winter, it is best to leave the snow on the treatment system and over the septic tanks uncompacted for better insulation to prevent freezing.

Footing or roof drains, chemically-treated hot tubs, pool water, paint, and other products containing hazardous chemicals must not discharge into the sewage treatment system. Water softeners and mineral filters should not discharge into the sewage treatment system.

Low-flow shower heads and toilets can cut down on water usage. Leaky faucets and toilets can add too much water to the treatment system and should be fixed promptly.

It is the homeowner's responsibility to get the septic tanks pumped in accordance with your local government's ordinances. A licensed maintainer (pumper) will be required to do this. The City of North Oaks requires pumping no less than once every 2 years.

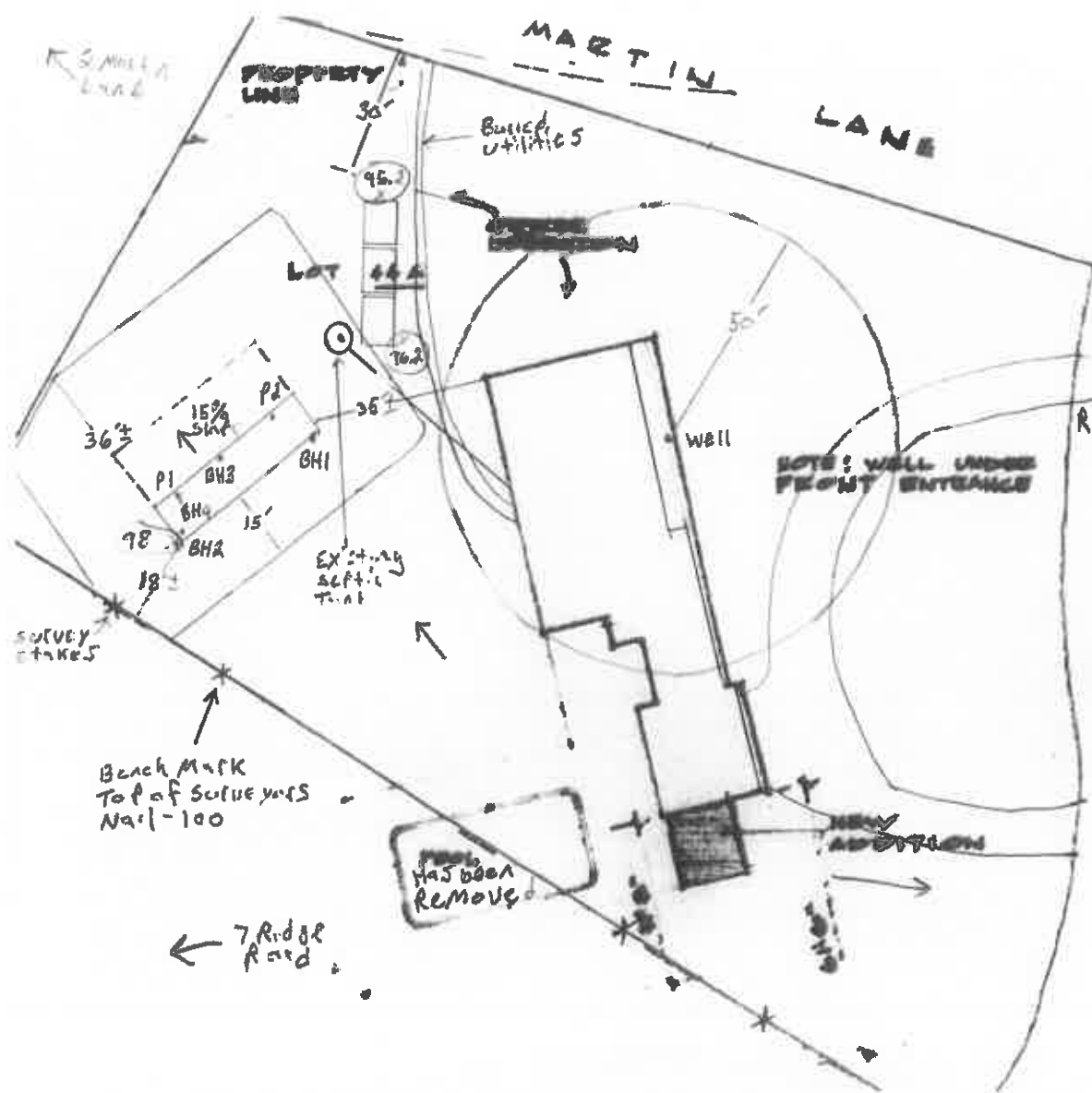
This design must be reviewed by the City of North Oaks and a permit must be obtained before the installation of any part the subsurface sewage treatment system. Your chosen septic installer should apply for the permit.

If you have any questions or concerns, please feel free to call me. I would be glad to help.

Sincerely,

A handwritten signature in black ink, appearing to read "Ed Ekin". The signature is fluid and cursive, with the first name "Ed" and the last name "Ekin" clearly distinguishable.

Ed Ekin



9 Ridge Rd.
North Oaks, MA
↑
North
Not a Survey
1" = 28' ±

Ridge Road

Benchmark - 100
see map
At South corner of
Rock Bed - 98
Limiting Layer - 98
Bottom Rock Bed - 101
1st Tank in - 92
2nd Tank out - 91.5
Pump - 88
Manifold - 102
15' Lift
Pump 270 gpm / 28 TDV

← 7 Ridge Road





Preliminary Evaluation Worksheet



v 04.01.2021

1. Contact Information

Property Owner/Client: Date Completed:

Site Address: Project ID:

Email: Phone:

Mailing Address: Alt Phone:

Legal Description:

Parcel ID: SEC: TWP: RNG:

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: Dwelling Sq.ft.: Unfinished Sq. Ft.:

Adults: # Children: # Teenagers:

In-home business (Y/N): If yes, describe:

Water-using devices: (check all that apply)

<input checked="" type="checkbox"/> Garbage Disposal/Grinder	<input checked="" type="checkbox"/> Dishwasher	<input type="checkbox"/> Hot Tub*
<input type="checkbox"/> Sewage pump in basement	<input checked="" type="checkbox"/> Water Softener*	<input type="checkbox"/> Sump Pump*
<input type="checkbox"/> Large Bathtub >40 gallons	<input type="checkbox"/> Iron Filter*	<input type="checkbox"/> Self-Cleaning Humidifier*
<input checked="" type="checkbox"/> Clothes Washing Machine	<input type="checkbox"/> High Eff. Furnace*	<input type="checkbox"/> Other: <input type="text"/>

* Clear water source - should not go into system

Additional current or future uses:

Anticipated non-domestic waste:

The above is complete & accurate:

Client signature & date

B. Designer-determined flow Information *Attach additional information as necessary.*

Design Flow: GPD Anticipated Waste Type:

BOD: mg/L TSS mg/L Oil & Grease 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	No data found						
2							
3							
4							

Additional Well Information:



Preliminary Evaluation Worksheet



Site within 200' of noncommunity transient well (Y/N)	<input type="checkbox"/> No	Yes, source: <input style="width: 100%;" type="text"/>
Site within a drinking water supply management area (Y/N)	<input type="checkbox"/> Yes	Yes, source: <input style="width: 100%;" type="text"/>
Site in Well Head Protection Inner wellhead management zone (Y/N)	<input type="checkbox"/> No	Yes, source: <input style="width: 100%;" type="text"/>
Buried water supply pipes within 50 ft of proposed system (Y/N)	<input type="checkbox"/> No	
B. Site located in a shoreland district/area?	<input type="checkbox"/> No	Yes, name: <input style="width: 100%;" type="text"/>
Elevation of ordinary high water level:	<input style="width: 50%;" type="text"/> ft	Source: <input style="width: 100%;" type="text"/>
Classification: <input style="width: 150%;" type="text"/>	Tank Setback: <input style="width: 50%;" type="text"/> ft.	STA Setbk: <input style="width: 50%;" type="text"/> ft.
C. Site located in a floodplain?	<input type="checkbox"/> No	Yes, Type(s): <input style="width: 100%;" type="text"/> N/A
Floodplain designation/elevation (10 Year):	<input style="width: 50%;" type="text"/> N/A ft	Source: <input style="width: 100%;" type="text"/> N/A
Floodplain designation/elevation (100 Year):	<input style="width: 50%;" type="text"/> N/A ft	Source: <input style="width: 100%;" type="text"/> N/A
D. Property Line Id / Source:	<input type="checkbox"/> Owner <input type="checkbox"/> Survey <input checked="" type="checkbox"/> County GIS <input type="checkbox"/> Plat Map <input type="checkbox"/> Other: <input style="width: 100%;" type="text"/>	
E. ID distance of relevant setbacks on map:	<input type="checkbox"/> Water <input type="checkbox"/> Easements <input type="checkbox"/> Well(s) <input type="checkbox"/> Building(s) <input type="checkbox"/> Property Lines <input type="checkbox"/> OHWL <input type="checkbox"/> Other: <input style="width: 100%;" type="text"/>	

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

Map Units:	<input style="width: 95%;" type="text"/> 453B-DeMontreville loamy fine sand	Slope Range:	<input style="width: 95%;" type="text"/> 2-6 %
List landforms:	<input style="width: 95%;" type="text"/> Moraines		
Landform position(s):	<input style="width: 95%;" type="text"/> Back/ Side Slope		
Parent materials:	<input style="width: 95%;" type="text"/> Outwash over till		
	Depth to Bedrock/Restrictive Feature: <input style="width: 50%;" type="text"/> in	Depth to Watertable: <input style="width: 50%;" type="text"/> in	
Map Unit Ratings	Septic Tank Absorption Field- At-grade: <input style="width: 95%;" type="text"/>		
	Septic Tank Absorption Field- Mound: <input style="width: 95%;" type="text"/>		
	Septic Tank Absorption Field- Trench: <input style="width: 95%;" type="text"/>		

5. Local Government Unit Information

Name of LGU:	<input style="width: 80%;" type="text"/> City of North Oaks, MN
LGU Contact:	<input style="width: 95%;" type="text"/>
LGU-specific setbacks:	<input style="width: 95%;" type="text"/>
LGU-specific design requirements:	<input style="width: 95%;" type="text"/>
LGU-specific installation requirements:	<input style="width: 95%;" type="text"/>
Notes:	<input style="width: 95%; height: 40px;" type="text"/>



Field Evaluation Worksheet



v 04.01.2021

1. Project Information

Property Owner/Client: Project ID:

Site Address: Date Completed:

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): Landscape position:

Percent slope: % Slope shape: Slope direction:

Describe the flooding or run-on potential of site:

Describe the need for Type III or Type IV system:

Note:

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

4. General Soils Information

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

If yes, describe:

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

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

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

Percolation tests performed & attached (Y/N):

5. Phase I. Reporting Information

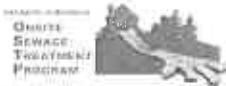
	Depth	Elevation	
Limiting Condition*:	<input type="text"/>	<input type="text" value="98.0"/>	*Most Restrictive Depth Identified from List Below
Periodically saturated soil:	<input type="text"/>	<input type="text"/>	Soil Texture: <input type="text" value="Fine Sandy Loam"/>
Standing water:	<input type="text"/>	<input type="text"/>	Percolation Rate: <input type="text" value="40.00"/> min/inch
Bedrock:	<input type="text"/>	<input type="text"/>	Soil Hyd Loading Rate: <input type="text" value="0.5"/> gpd/ft ²
Benchmark Elevation:	<input type="text" value="100.0"/>	<input type="text"/>	Elevations and Benchmark on map? (Y/N): <input type="text" value="Yes"/>

Benchmark Elevation Location:

Differences between soil survey and field evaluation:

Site evaluation issues / comments:

Anticipated construction issues:



Soil Observation Log

Project ID:

v 04.01.2021

Client: Craig Hara				Location / Address: 9 Ridge Road, North Oaks, MN							
Soil parent material(s): (Check all that apply) <input checked="" type="checkbox"/> Outwash <input type="checkbox"/> Lacustrine <input type="checkbox"/> Loess <input checked="" type="checkbox"/> Till <input type="checkbox"/> Alluvium <input type="checkbox"/> Bedrock <input type="checkbox"/> Organic Matter											
Landscape Position: (select one)		Back/Side Slope	Slope %: 15.0	Slope shape		Linear, Convex		Elevation relative to benchmark: 97.8			
Vegetation: Lawn		Soil survey map units: 453B				Limiting Layer Elevation: 97.8					
Weather Conditions/Time of Day:		sunny 9:22 AM				Date		08/11/21			
Observation #/Location:		1		Observation Type: Auger							
Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure				
							Shape	Grade	Consistence		
0-13	Medium Sandy Loam	<35%					Blocky				
13-34	Loamy Coarse Sand	<35%	10YR 5/3	10YR 5/2	Depletions		Single grain				
34-48	Sandy Clay Loam	<35%	10YR 4/3	10YR 5/2	Depletions		Massive				
Comments: 0-13" mixed--redox. 13"---Seasonal water table 0" to 13".											
I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.											
Ed Eklin						3321		8/22/2021			
(Designer/Inspector)		(Signature)				(License #)		(Date)			



Soil Observation Log

Project ID:

v 04.01.2021

Client: Craig Hara				Location / Address: 9 Ridge Road, North Oaks, MN					
Soil parent material(s): (Check all that apply) <input checked="" type="checkbox"/> Outwash <input type="checkbox"/> Lacustrine <input type="checkbox"/> Loess <input checked="" type="checkbox"/> Till <input type="checkbox"/> Alluvium <input type="checkbox"/> Bedrock <input type="checkbox"/> Organic Matter									
Landscape Position: (select one)		Back/Side Slope	Slope %: 15.0	Slope shape		Linear, Convex		Elevation relative to benchmark: 97.8	
Vegetation: Lawn		Soil survey map units: 453B				Limiting Layer Elevation: 97.8			
Weather Conditions/Time of Day:		sunny 10:06 AM				Date: 08/11/21			
Observation #/Location:		2		Observation Type: Auger					
Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure		
							Shape	Grade	Consistence
0-34	Medium Sandy Loam	<35%					Blocky		
34-48	Sandy Clay Loam	<35%	10YR 5/3	10YR 5/2			Massive		
Comments: Mixed soils to 34"---redox. 34"---seasonal water table 0" to 34"									
I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.									
Ed Eklín		<i>Ed Eklín</i>				3321		8/22/2021	
(Designer/Inspector)		(Signature)				(License #)		(Date)	



Soil Observation Log

Project ID:

v 04.01.2021

Client: Craig Hara				Location / Address: 9 Ridge Road, North Oaks, MN					
Soil parent material(s): (Check all that apply) <input checked="" type="checkbox"/> Outwash <input type="checkbox"/> Lacustrine <input type="checkbox"/> Loess <input checked="" type="checkbox"/> Till <input type="checkbox"/> Alluvium <input type="checkbox"/> Bedrock <input type="checkbox"/> Organic Matter									
Landscape Position: (select one)		Back/Side Slope	Slope %: 15.0	Slope shape		Linear, Convex	Elevation relative to benchmark: 96.5		
Vegetation: Lawn		Soil survey map units: 453B			Limiting Layer Elevation: 96.5				
Weather Conditions/Time of Day:		sunny 11:00 AM			Date: 08/11/21				
Observation #/Location:		3			Observation Type: Auger				
Depth (In)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure		
							Shape	Grade	Consistence
0-24	Medium Sandy Loam	<35%					Blocky		
Comments: Mixed soils to 24"									
I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.									
Ed Eklín		<i>Ed Eklín</i>			3321		8/22/2021		
(Designer/Inspector)		(Signature)			(License #)		(Date)		



Soil Observation Log

Project ID:

v 04.01.2021

Client: Craig Hara			Location / Address: 9 Ridge Road, North Oaks, MN						
Soil parent material(s): (Check all that apply)			<input checked="" type="checkbox"/> Outwash	<input type="checkbox"/> Lacustrine	<input type="checkbox"/> Loess	<input checked="" type="checkbox"/> Till	<input type="checkbox"/> Alluvium	<input type="checkbox"/> Bedrock	<input type="checkbox"/> Organic Matter
Landscape Position: (select one)		Back/Side Slope	Slope %: 15.0	Slope shape		Linear, Convex		Elevation relative to benchmark:	96.6
Vegetation: Lawn		Soil survey map units: 453B			Limiting Layer Elevation:		96.6		
Weather Conditions/Time of Day:		sunny 9:15 AM			Date		08/17/21		
Observation #/Location:		4			Observation Type:		Auger		
Depth (In)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure		
							Shape	Grade	Consistence
0-18	Medium Sandy Loam	<35%					Blocky		
Comments Mixed soils---obstruction 18"									
I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.									
Ed Eklm					3321		8/22/2021		
(Designer/Inspector)		(Signature)			(License #)		(Date)		



Percolation Test Data



1. Contact Information Project ID: v 04.01.2021

Property Owner/Client: Craig Hara

2. General Percolation Information

Diameter in Date prepared and/or soaked:

Method of scratching sidewall:

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

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

Method to maintain 12 in of water during soak

** Not required in fast perc soils*

3. Summary of Percolation Test Data

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

Map of Perc Test Locations



Percolation Test Data

Project ID:

Date Completed:

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

Soil texture description:

Elevation: feet

Depth (in)	Soil Texture
0-12	Medium Sandy Loam

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

Reading	Start Time	End Time	Start Reading (in)	End Reading (in)	Perc rate (mpi)	% Difference Last 3 Rates	Pass
1	9:08 AM	9:38 AM	8.0	7.3	42.9	NA	NA
2	9:38 AM	10:08 AM	8.0	7.3	40.0	NA	NA
3	10:08 AM	10:38 AM	8.0	7.3	40.0	6.7	Yes
4							

Chosen Percolation Rate for Test Hole #1 mpi

Date Completed:

Test hole: #2 Location: Depth**: inches

Soil texture description:

Elevation: feet

Depth (in)	Soil Texture
0-12	Medium Sandy Loam

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

Reading	Start Time	End Time	Start Reading (in)	End Reading (in)	Perc rate (mpi)	% Difference Last 3 Rates	Pass
1	9:08 AM	9:38 AM	8.0	6.4	18.8	NA	NA
2	9:38 AM	10:08 AM	8.0	6.4	18.8	NA	NA
3	10:08 AM	10:38 AM	8.0	6.4	18.8	0.0	Yes
4							

Chosen Percolation Rate for Test Hole #2 mpi

1. PROJECT INFORMATION		v 04.01.2021
Property Owner/Client:	<input type="text" value="Craig Hara"/>	Project ID: <input type="text"/>
Site Address:	<input type="text" value="9 Ridge Road, North Oaks. MN"/>	Date: <input type="text" value="08/17/21"/>
Email Address:	<input type="text"/>	Phone: <input type="text"/>
2. DESIGN FLOW & WASTE STRENGTH <i>Attach data / estimate basis for Other Establishments</i>		
Design Flow:	<input type="text" value="450"/> GPD	Anticipated Waste Type: <input type="text" value="Residential"/>
BOD:	<input type="text" value="<170"/> mg/L	TSS: <input type="text" value="<60"/> mg/L
		Oil & Grease: <input type="text" value="<25"/> mg/L
Treatment Level:	<input type="text" value="C"/> <i>Select Treatment Level C for residential septic tank effluent</i>	
3. HOLDING TANK SIZING		
Minimum Capacity: Residential =400 gal/bedroom, Other Establishment = Design Flow x 5.0, Minimum size 1000 gallons		
Code Minimum Holding Tank Capacity:	<input type="text"/> Gallons	in <input type="text"/> Tanks or Compartments
Recommended Holding Tank Capacity:	<input type="text"/> Gallons	in <input type="text"/> Tanks or Compartments
Type of High Level Alarm:	<input type="text"/> (Set @ 75% tank capacity)	
Comments:	<input type="text"/>	
4. SEPTIC TANK SIZING		
A. Residential dwellings:		
Number of Bedrooms (Residential):	<input type="text" value="3"/>	
Code Minimum Septic Tank Capacity:	<input type="text" value="2000"/> Gallons	in <input type="text" value="2"/> Tanks or Compartments
Recommended Septic Tank Capacity:	<input type="text" value="2000"/> Gallons	in <input type="text" value="2"/> Tanks or Compartments
Effluent Screen & Alarm (Y/N):	<input type="text" value="Yes"/>	Model/Type: <input type="text" value="polylok 525"/>
B. Other Establishments:		
Waste received by:	<input type="text"/>	<input type="text"/> GPD x <input type="text"/> Days Hyd. Retention Time
Code Minimum Septic Tank Capacity:	<input type="text"/> Gallons	in <input type="text"/> Tanks or Compartments
Recommended Septic Tank Capacity:	<input type="text"/> Gallons	in <input type="text"/> Tanks or Compartments
Effluent Screen & Alarm (Y/N):	<input type="text"/>	Model/Type: <input type="text"/>
5. PUMP TANK SIZING		
Pump Tank 1 Capacity (Minimum):	<input type="text" value="1000"/> Gal	Pump Tank 2 Capacity (Minimum): <input type="text"/> Gal
Pump Tank 1 Capacity (Recommended):	<input type="text" value="1000"/> Gal	Pump Tank 2 Capacity (Recommended): <input type="text"/> Gal
Pump 1 <input type="text" value="29.0"/> GPM	Total Head <input type="text" value="21.3"/> ft	Pump 2 <input type="text"/> GPM
		Total Head <input type="text"/> ft
Supply Pipe Dia. <input type="text" value="2.00"/> in	Dose Vol: <input type="text" value="100.0"/> gal	Supply Pipe Dia. <input type="text"/>
		Dose Vol: <input type="text"/> Gal

6. SYSTEM AND DISTRIBUTION TYPE		Project ID: _____	
Soil Treatment Type:	<input type="text" value="Mound"/>	Distribution Type:	<input type="text" value="Pressure Distribution-Level"/>
Elevation Benchmark:	<input type="text" value="100"/> ft	Benchmark Location:	<input type="text" value="see drawing"/>
MPCA System Type:	<input type="text" value="Type III"/>	Distribution Media:	<input type="text" value="Rock"/>
Type III/IV/V Details:	<input type="text" value="Disturbed soils"/>		

7. SITE EVALUATION SUMMARY:			
Describe Limiting Condition: <input type="text" value="Redoximorphic Features/Saturated Soils"/>			
Layers with >35% Rock Fragments? (yes/no) <input type="text" value="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: <input style="width: 100%;" type="text"/>			
	Depth	Depth	Elevation of Limiting Condition
Limiting Condition:	<input type="text" value="0"/> inches	<input type="text" value="0.0"/> ft	<input type="text" value="98.00"/> ft
Minimum Req'd Separation:	<input type="text" value="36"/> inches	<input type="text" value="3.0"/> ft	<i>Critical for system compliance</i>
Code Max System Depth:	<input type="text" value="Mound"/> inches	<input type="text" value="-3.0"/> ft	<input type="text" value="101.00"/> ft
<small>This is the maximum depth to the bottom of the distribution media for required separation. Negative Depth (ft) means it must be a mound.</small>			
Soil Texture:	<input type="text" value="Medium Sandy Loam"/>		
Soil Hyd. Loading Rate:	<input type="text" value="0.50"/> GPD/ft ²	Percolation Rate:	<input type="text" value="40.00"/> MPI
Contour Loading Rate:	<input type="text" value="12"/>	Note:	<input type="text" value="Disturbed soils over till"/>
Measured Land Slope:	<input type="text" value="15"/> %	Note:	<input style="width: 100%;" type="text"/>
Comments:	<input style="width: 100%;" type="text"/>		

8. SOIL TREATMENT AREA DESIGN SUMMARY			
Trench:			
Dispersal Area	<input type="text"/>	Sidewall Depth	<input type="text"/> in
Total Lineal Feet	<input type="text"/> ft	No. of Trenches	<input type="text"/>
Contour Loading Rate	<input type="text"/> ft	Minimum Length	<input type="text"/> ft
		Trench Width	<input type="text"/> ft
		Code Max. Trench Depth	<input type="text"/> in
		Designed Trench Depth	<input type="text"/> in
Bed:			
Dispersal Area	<input type="text"/> ft ²	Sidewall Depth	<input type="text"/> in
Bed Width	<input type="text"/> ft	Bed Length	<input type="text"/> ft
		Maximum Bed Depth	<input type="text"/> in
		Designed Bed Depth	<input type="text"/> in
Mound:			
Dispersal Area	<input type="text" value="380.0"/> ft ²	Bed Length	<input type="text" value="38.0"/> ft
Absorption Width	<input type="text" value="24.0"/> ft	Clean Sand Lift	<input type="text" value="3.0"/> ft
Upslope Berm Width	<input type="text" value="15.0"/> ft	Downslope Berm	<input type="text" value="36.1"/> ft
Total System Length	<input type="text" value="77.0"/> ft	System Width	<input type="text" value="61.0"/> ft
		Bed Width	<input type="text" value="10.0"/> ft
		Berm Width (0-1%)	<input type="text" value="0.0"/> ft
		Endslope Berm Width	<input type="text" value="19.5"/> ft
		Contour Loading Rate	<input type="text" value="12.0"/> gal/ft



Design Summary Page

Project ID: _____

At-Grade:

Bed Width <input type="text"/> ft	Bed Length <input type="text"/> ft	Finished Height <input type="text"/> ft
Contour Loading Rate <input type="text"/> gal/ft	Upslope Berm <input type="text"/> ft	Downslope Berm <input type="text"/> ft
Endslope Berm <input type="text"/> ft	System Length <input type="text"/> ft	System Width <input type="text"/> ft

Level & Equal Pressure Distribution

No. of Laterals <input type="text" value="3"/>	Perforation Spacing <input type="text" value="3"/> ft	Perforation Diameter <input type="text" value="1/4"/> in
Lateral Diameter <input type="text" value="1.50"/> in	Min Dose Volume <input type="text" value="48"/> gal	Max Dose Volume <input type="text" value="113"/> gal

Non-Level and Unequal Pressure Distribution

	Elevation (ft)	Pipe Size (in)	Pipe Volume (gal/ft)	Pipe Length (ft)	Perf Size (in)	Spacing (ft)	Spacing (in)	
Lateral 1								Minimum Dose Volume <input type="text"/> gal
Lateral 2								
Lateral 3								Maximum Dose Volume <input type="text"/> gal
Lateral 4								
Lateral 5								
Lateral 6								

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

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 = lbs. BOD/day

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

Lbs. BOD To Be Removed:

PreTreatment Technology: *Must Meet or Exceed Target

Disinfection Technology: *Required for Levels A & B

C. Organic Loading to Soil Treatment Area:

mg/L X gpd x 8.35 + 1,000,000 ÷ ft² = lbs./day/ft²

10. Comments/Special Design Considerations:

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

Ed Eklín	 (Signature)	3321	8/22/2021
(Designer)		(License #)	(Date)



Mound Design Worksheet ≥1% Slope



1. **SYSTEM SIZING:** Project ID: v 04.01.2021

- A. Design Flow: GPD
- B. Soil Loading Rate: GPD/ft²
- C. Depth to Limiting Condition: ft
- D. Percent Land Slope: %
- E. Design Media Loading Rate: GPD/ft²
- F. Mound Absorption Ratio:

TABLE IXa				
LOADING RATES FOR DETERMINING BOTTOM ABSORPTION AREA AND ABSORPTION RATIOS USING PERCOLATION TESTS				
Percolation Rate (MPI)	Treatment Level C		Treatment Level A, A-2, B	
	Absorption Area Loading Rate (gpd/ft ²)	Mound Absorption Ratio	Absorption Area Loading Rate (gpd/ft ²)	Mound Absorption Ratio
<0.1	-	1	-	1
0.1 to 5	1.2	1	1.6	1
0.1 to 5 (fine sand and sandy fine sand)	0.8	2	1	1.6
6 to 15	0.75	1.5	1	1.6
16 to 30	0.6	2	0.75	2
31 to 45	0.5	2.4	0.75	2
46 to 60	0.45	2.8	0.6	2.8
61 to 120	-	5	0.3	5.3
>120	-	-	-	-

Table 1
MOUND CONTOUR LOADING RATES:

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

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

2. **DISPERSAL MEDIA SIZING**

A. Calculate Dispersal Bed Area: Design Flow ÷ Design Media Loading Rate

$$\frac{450 \text{ GPD}}{1.2 \text{ GPD/ft}^2} = 375 \text{ ft}^2$$

If a larger dispersal media area is desired, enter size: ft²

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

C. Calculate Contour Loading Rate: Bed Width X Design Media Loading Rate

$$10 \text{ ft} \times 1.2 \text{ GPD/ft}^2 = 12.0 \text{ gal/ft} \quad \text{Can not exceed Table 1}$$

D. Calculate Minimum Dispersal Bed Length: Dispersal Bed Area ÷ Bed Width

$$\frac{380 \text{ ft}^2}{10.0 \text{ ft}} = 38.0 \text{ ft}$$

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

3. **ABSORPTION AREA SIZING**

A. Calculate Absorption Width: Bed Width X Mound Absorption Ratio

$$10.0 \text{ ft} \times 2.4 = 24.0 \text{ ft}$$

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

Calculate Downslope Absorption Width: Absorption Width - Bed Width

$$24.0 \text{ ft} - 10.0 \text{ ft} = 14.0 \text{ ft}$$

4. **DISTRIBUTION MEDIA:** Project ID:

Select Dispersal Media: Enter Either A. or B.

A. Rock Depth Below Distribution Pipe

in

B. Registered Media

Registered Media Depth in

Check registered product information for specific application details and design

Specific Media Comments:

6. MOUND SIZING

Project ID:

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

ft - ft = ft Design Sand Lift (optional): ft

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

ft + ft + ft + ft = 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):

D. Calculate Upslope Berm Width: Multiplier X Upslope Mound Height

ft X ft = ft

E. Calculate Drop in Elevation Under Bed: Bed Width X Land Slope + 100 = Drop (ft)

ft X % + 100 = ft

F. Calculate Downslope Mound Height: Upslope Height + Drop in Elevation

ft + ft = 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):

H. Calculate Downslope Berm Width: Downslope Multiplier X Downslope Height

x ft = ft

I. Calculate Minimum Berm to Cover Absorption Area: Downslope Absorption Width + 4 feet

ft + ft = ft

J. Design Downslope Berm = greater of 4H and 4I: ft

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

L. Calculate Endslope Berm X Downslope Mound Height = Endslope Berm Width

ft X ft = ft

M. Calculate Mound Width: Upslope Berm Width + Bed Width + Downslope Berm Width

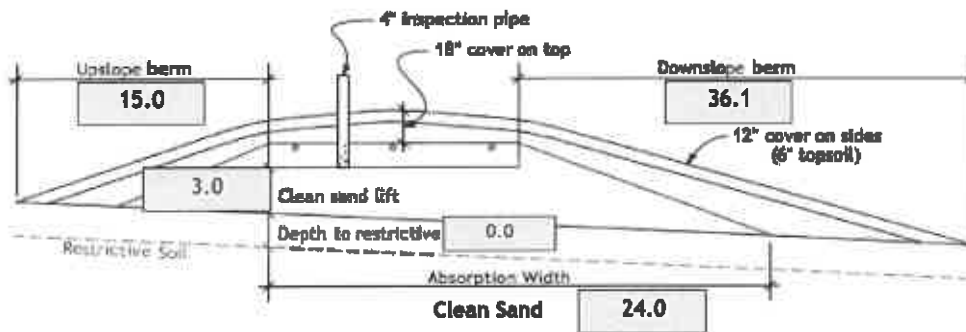
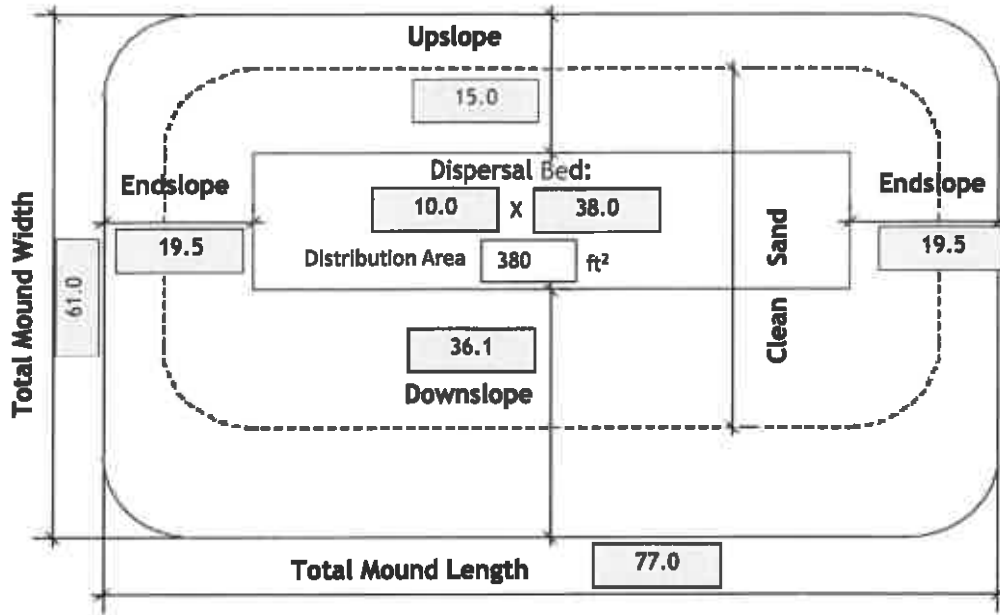
ft + ft + ft = ft

N. Calculate Mound Length: Endslope Berm Width + Bed Length + Endslope Berm Width

ft + ft + ft = ft

7. MOUND DIMENSIONS (Feet)

Project ID:



Required Separation:	<input type="text" value="36"/> (in)	Distribution Media:	<input type="text" value="Rock"/>
Manifold Connection:	<input type="text" value="End"/>	Media Depth:	<input type="text" value="8.0"/> (in)
Perforation Size:	<input type="text" value="1/4"/> (in)	Perforation Spacing:	<input type="text" value="36.0"/> (in)

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

Comments:

Rock only



Mound Materials Worksheet



Project ID:

v 04.01.2021

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

$$(\boxed{8} \text{ in} + \boxed{4.0} \text{ in}) + 12 \text{ X } \boxed{45.0} \text{ ft X } \boxed{10.0} \text{ ft} = \boxed{450.0} \text{ ft}^3$$

Divide ft³ by 27 ft³/yd³ to calculate cubic yards: $\boxed{450.0} \text{ ft}^3 \div 27 = \boxed{16.7} \text{ yd}^3$

Add 30% for constructability: $\boxed{16.7} \text{ yd}^3 \text{ X } 1.3 = \boxed{21.7} \text{ yd}^3$

B. Calculate Clean Sand Volume:

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

$$\boxed{3.7} \text{ ft X } \boxed{10.0} \text{ ft X } \boxed{45} \text{ ft} = \boxed{1686} \text{ ft}^3$$

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)

$$\boxed{4.67} \text{ ft} - 1) \text{ X } \boxed{-5.00} \text{ X } \boxed{45} \text{ ft} = \boxed{6.0}$$

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

$$\boxed{4.67} \text{ ft} - 1) \text{ X } \boxed{-5.00} \text{ X } \boxed{10} \text{ ft} = \boxed{6.0}$$

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

$$\boxed{6.0} \text{ ft}^3 + \boxed{6.0} \text{ ft}^3 + \boxed{1686.0} \text{ ft}^3 = \boxed{1698.0} \text{ ft}^3$$

For a Mound on a slope greater than 1%

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

$$((\boxed{5.0} \text{ ft} - 1) \text{ X } 3.0 \text{ ft X } \boxed{38.0}) + 2 = \boxed{227.8} \text{ ft}^3$$

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

$$((\boxed{6.5} \text{ ft} - 1) \text{ X } \boxed{14.0} \text{ ft X } \boxed{38.0}) + 2 = \boxed{1462.1} \text{ ft}^3$$

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

$$(\boxed{6.5} \text{ ft} - 1) \text{ X } 3.0 \text{ ft X } \boxed{10.0} \text{ ft} = \boxed{164.9} \text{ ft}^3$$

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

$$\boxed{227.8} \text{ ft}^3 + \boxed{1462.1} \text{ ft}^3 + \boxed{164.9} \text{ ft}^3 + \boxed{1686.0} \text{ ft}^3 = \boxed{3540.8} \text{ ft}^3$$

Divide ft³ by 27 ft³/yd³ to calculate cubic yards: $\boxed{3540.8} \text{ ft}^3 \div 27 = \boxed{131.1} \text{ yd}^3$

Add 30% for constructability: $\boxed{131.1} \text{ yd}^3 \text{ X } 1.3 = \boxed{170.5} \text{ yd}^3$

C. Calculate Sandy Berm Volume:

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

$$(\boxed{5.7} - 0.5) \text{ ft X } \boxed{61.0} \text{ ft X } \boxed{77.0} + 2 = \boxed{12328.0} \text{ ft}^3$$

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

$$\boxed{12328.0} \text{ ft}^3 - \boxed{3540.8} \text{ ft}^3 - \boxed{450.0} \text{ ft}^3 = \boxed{8337.2} \text{ ft}^3$$

Divide ft³ by 27 ft³/yd³ to calculate cubic yards: $\boxed{8337.2} \text{ ft}^3 \div 27 = \boxed{308.8} \text{ yd}^3$

Add 30% for constructability: $\boxed{308.8} \text{ yd}^3 \text{ X } 1.3 = \boxed{401.4} \text{ yd}^3$

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

$$\boxed{61.0} \text{ ft X } \boxed{77.0} \text{ ft X } 0.5 \text{ ft} = \boxed{2349.7} \text{ ft}^3$$

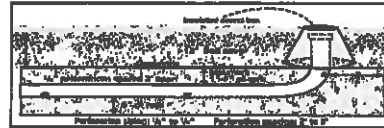
Divide ft³ by 27 ft³/yd³ to calculate cubic yards: $\boxed{2349.7} \text{ ft}^3 \div 27 = \boxed{87.0} \text{ yd}^3$

Add 30% for constructability: $\boxed{87.0} \text{ yd}^3 \text{ X } 1.3 = \boxed{113.1} \text{ yd}^3$

Project ID:

v 04.01.2021

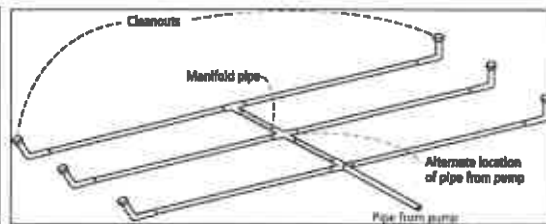
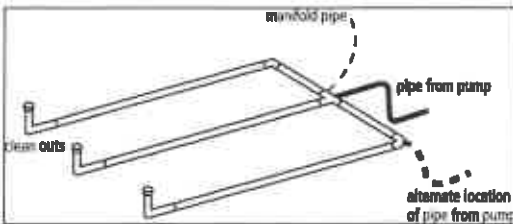
- Media Bed Width: ft
- Minimum Number of Laterals in system/zone = Rounded up number of $[(\text{Media Bed Width} - 4) + 3] + 1$.
 $[(\text{10} - 4) + 3] + 1 = \text{3}$ laterals *Does not apply to at-grades*
- Designer Selected Number of Laterals: laterals
Cannot be less than line 2 (Except in at-grades)
- Select Perforation Spacing: ft
- Select Perforation Diameter Size: in
- Length of Laterals = Media Bed Length - 2 Feet.
 - 2ft = ft *Perforation can not be closer then 1 foot from edge.*
- 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 = ft ÷ ft = Spaces
- 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 = Spaces + 1 = Perfs. Per Lateral



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

Perforation Spacing (Feet)	1/4 Inch Perforations					7/32 Inch Perforations					
	Pipe Diameter (Inches)					Perforation Spacing (Feet)	Pipe Diameter (Inches)				
	1	1 1/4	1 1/2	2	3			1	1 1/4	1 1/2	2
2	10	13	18	30	60	2	11	16	21	34	68
2 1/2	8	12	16	28	54	2 1/2	10	14	20	32	64
3	8	12	16	25	52	3	9	14	19	30	60

Perforation Spacing (Feet)	3/16 Inch Perforations					1/8 Inch Perforations					
	Pipe Diameter (Inches)					Perforation Spacing (Feet)	Pipe Diameter (Inches)				
	1	1 1/4	1 1/2	2	3			1	1 1/4	1 1/2	2
2	12	18	26	46	87	2	21	33	44	74	149
2 1/2	12	17	24	40	80	2 1/2	20	30	41	69	135
3	12	16	22	37	75	3	20	29	38	64	128



- Total Number of Perforations equals the Number of Perforations per Lateral multiplied by the Number of Perforated Laterals.
 Perf. Per Lat. X Number of Perf. Lat. = Total Number of Perf.
- Spacing of laterals; Must be greater than 1 foot and no more than 3 feet: ft
- Select Type of Manifold Connection (End or Center):
- Select Lateral Diameter (See Table): in

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)

ft X ft = ft²

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

ft² ÷ perf = ft²/perf

14. Select Minimum Average Head :

ft

15. Select Perforation Discharge based on Table:

GPM per Perf

16. Flow Rate = Total Number of Perfs X Perforation Discharge.

Perfs X GPM per Perforation = GPM

17. Volume of Liquid Per Foot of Distribution Piping (Table II) :

Gallons/ft

18. Volume of Distribution Piping =

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

X ft X gal/ft = Gallons

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

gals X 4 = Gallons

Perforation Discharge (GPM)				
Head (ft)	Perforation Diameter			
	1/4	3/16	1/2	3/4
1.0'	0.98	0.41	0.34	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 NSTS with 3/16 inch to 1/4 inch perforations			
5 feet	Other establishments and NSTS 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:

1. PUMP CAPACITY Project ID: _____ v 04.01.2021

Pumping to Gravity or Pressure Distribution:

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: GPM

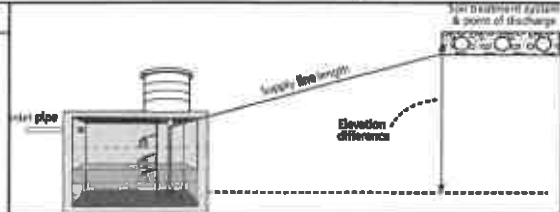
C. Enter pump description:

2. HEAD REQUIREMENTS

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

B. Distribution Head Loss: 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: in

2. Supply Pipe Length: ft

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

Friction Loss = 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

ft X 1.25 = ft

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

Supply Friction Loss = ft per 100ft X ft + 100 = ft

H. *Total Head* requirement is the sum of the *Elevation Difference* + *Distribution Head Loss*, + *Additional Head Loss* + *Supply Friction Loss*

ft + ft + ft + ft = ft

3. PUMP SELECTION

A pump must be selected to deliver at least **29.0** GPM with at least **21.3** feet of total head.

Comments:



Pump Tank Design Worksheet (Demand Dose)

DETERMINE TANK CAPACITY AND DIMENSIONS Project ID: _____ v 04.01.2021

1.	A. Design Flow (Design Sum.1A):	450	GPD	C. Tank Use:	Dosing
	B. Min. required pump tank capacity:	1000	Gal	D. Recommended pump tank capacity:	1000 Gal

2.	A. Tank Manufacturer:	MN precast	B. Tank Model:	1000 pump
	C. Capacity from manufacturer:	1000	Gallons	<i>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.</i>
	D. Gallons per inch from manufacturer:	25.0	Gallons per inch	
	E. Liquid depth of tank from manufacturer:	42.0	inches	

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

(14 in + 2 inches) X 25.0 Gallons Per Inch = 400 Gallons

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

-Item 18 of the Pressure Distribution or Item 11 of Non-level

48 Gallons (Minimum dose) 1.9 inches/dose

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

Design Flow: 450 GPD X 0.25 = 113 Gallons (Maximum dose) 4.5 inches/dose

6 Select a pumpout volume that meets both Minimum and Maximum: 100 Gallons

7 Calculate Doses Per Day = Design Flow + Delivered Volume

450 gpd + 100 gal = 4.50 Doses

8 Calculate Drainback:

A. Diameter of Supply Pipe = 2 inches

B. Length of Supply Pipe = 45 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

45 ft X 0.170 gal/ft = 7.7 Gallons

9. Total Dosing Volume = Delivered Volume plus Drainback

100 gal + 7.7 gal = 108 Gallons

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

2 in X 25.0 gal/in = 50.0 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

108 gal + 25.0 gal/in = 4.3 inches

12. Measuring from bottom of tank:

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

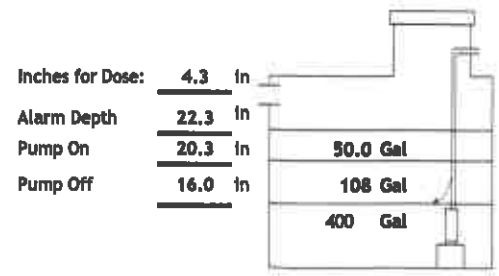
14 in + 2 in = 16 inches

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

16 in + 4.3 in = 20 inches

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

20 in + 2.0 in = 22 inches





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	Craig Hara	Email
Property Address	9 Ridge Road, North Oaks, MN 55127	Property ID 183022430017
System Designer	Ed Eklin	Contact Info 651-485-2300
System Installer		Contact Info
Service Provider/Maintainer		Contact Info
Permitting Authority	City of North Oaks, MN	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.

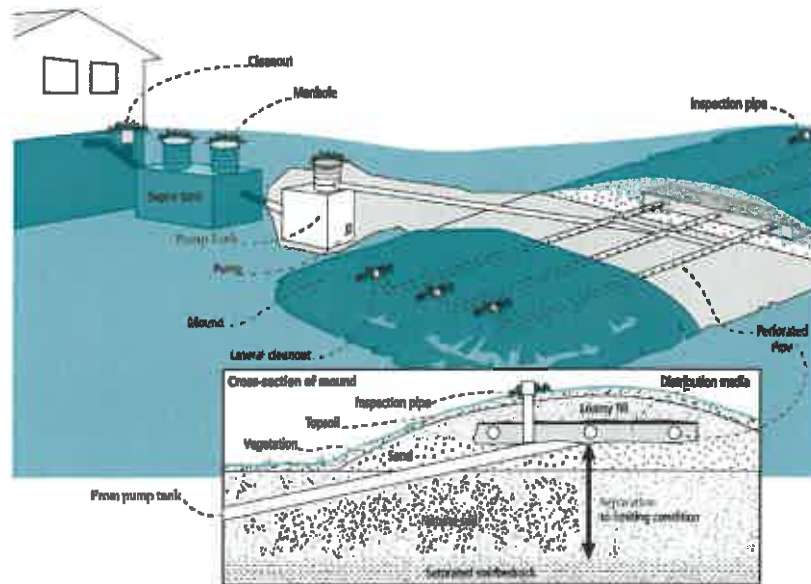
For a copy of the *Septic System Owner's Guide*, visit www.bookstores.umn.edu and search for the word "septic" or call 800-322-8642.

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

Version: August 2015



Your Septic System



Septic System Specifics	
<p>System Type: <input type="radio"/> I <input type="radio"/> II <input checked="" type="radio"/> III <input type="radio"/> IV* <input type="radio"/> V*</p> <p><i>(Based on MN Rules Chapter 7080.2200 – 2400)</i></p> <p>*Additional Management Plan required</p>	<p><input type="checkbox"/> System is subject to operating permit*</p> <p><input type="checkbox"/> System uses UV disinfection unit*</p> <p>Type of advanced treatment unit _____</p>
Dwelling Type	Well Construction
<p>Number of bedrooms: <u>3</u></p> <p>System capacity/ design flow (gpd): <u>450</u></p> <p>Anticipated average daily flow (gpd): _____</p> <p>Comments _____</p> <p>Business? : <input type="radio"/> Y <input checked="" type="radio"/> N What type? _____</p>	<p>Well depth (ft): <u>no data found</u></p> <p><input type="checkbox"/> Cased well Casing depth: _____</p> <p><input type="checkbox"/> Other (specify): _____</p> <p>Distance from septic (ft): <u>74</u></p> <p>Is the well on the design drawing? <input checked="" type="radio"/> Y <input type="radio"/> N</p>
Septic Tank	
<p><input type="checkbox"/> First tank Tank volume: _____ gallons</p> <p>Does tank have two compartments? <input type="radio"/> Y <input type="radio"/> N</p> <p><input type="checkbox"/> Second tank Tank volume: _____ gallons</p> <p><input type="checkbox"/> Tank is constructed of _____</p> <p><input type="checkbox"/> Effluent screen: <input type="radio"/> Y <input type="radio"/> N Alarm <input type="radio"/> Y <input type="radio"/> N</p>	<p><input type="checkbox"/> Pump Tank _____ gallons</p> <p><input type="checkbox"/> Effluent Pump make/model: _____</p> <p>Pump capacity _____ GPM</p> <p>TDH _____ Feet of head</p> <p><input type="checkbox"/> Alarm location _____</p>
Soil Treatment Area (STA)	
<p>Mound/At-Grade area (width x length): <u>61</u> ft x <u>78</u> ft</p> <p>Rock bed size (width x length): <u>10</u> ft x <u>38</u> ft</p> <p>Location of additional STA: _____</p> <p>Type of distribution media: <u>Rock only</u></p>	<p><input type="checkbox"/> Inspection ports <input type="checkbox"/> Cleanouts</p> <p><input type="checkbox"/> Surface water diversions</p> <p><input checked="" type="checkbox"/> Additional STA not available</p>



Homeowner Management Tasks

These *operation and maintenance* activities 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 through 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: _____ 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.
- *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	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Finely-ground solids may not settle. Unsettled solids can exit the tank and enter the soil treatment area. 	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Drip may result in frozen pipes during cold weather. 	<ul style="list-style-type: none"> • Re-route water directly out of the house. Do not route furnace discharge to your septic system.
Water softener Iron filter Reverse osmosis	<ul style="list-style-type: none"> • Salt in recharge water may affect system performance. • Recharge water may hydraulically overload the system. 	<ul style="list-style-type: none"> • 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, draitile or old drainfield.
Surface drainage Footing drains	<ul style="list-style-type: none"> • Water from these sources will overload the system and is prohibited from entering septic system. 	<ul style="list-style-type: none"> • 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



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: If problems occur with the sewage treatment system, a septic pumper/maintainer should be called promptly.

"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: **Ed Eklun**

Certification # **3268**

Permitting Authority: **City of North Oaks, MN**

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.



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.

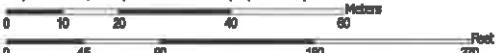
1. Locate the outlet of the septic tank.
2. Remove tank cover and pump tank if necessary.
3. Do not use plumbing when filter is removed.
4. Pull PL-525 cartridge out of the housing.
5. Hose off filter over the septic tank. Make sure all solids fall back into septic tank.
6. Insert the filter cartridge back into the housing making sure the filter is properly aligned and completely inserted.
7. Replace and secure septic tank cover.



Soil Map—Ramsey County, Minnesota



Map Scale: 1:1,000 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge (s): UTM Zone 15N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

8/5/2021
Page 1 of 3

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
453B	DeMontreville loamy fine sand, 2 to 6 percent slopes	3.5	86.2%
453D	DeMontreville loamy fine sand, 12 to 25 percent slopes	0.6	13.8%
Totals for Area of Interest		4.1	100.0%

Ramsey County, Minnesota

453B—DeMontreville loamy fine sand, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 1t99s

Elevation: 670 to 1,450 feet

Mean annual precipitation: 27 to 33 inches

Mean annual air temperature: 39 to 46 degrees F

Frost-free period: 135 to 180 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Demontreville and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Demontreville

Setting

Landform: Moraines

Landform position (two-dimensional): Backslope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Outwash over till

Typical profile

Ap - 0 to 7 inches: loamy fine sand

E, BE - 7 to 24 inches: loamy sand

2Bt - 24 to 41 inches: sandy loam

2C - 41 to 60 inches: sandy loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.14 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (Irrigated): None specified

Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: C

Forage suitability group: Sloping Upland, Low AWC, Acid
(G090XN008MN)

Other vegetative classification: Sloping Upland, Low AWC, Acid
(G090XN008MN)

Hydric soil rating: No

Minor Components

Mahtomedl

Percent of map unit: 4 percent

Hydric soil rating: No

Ronneby

Percent of map unit: 3 percent

Hydric soil rating: No

Rifle

Percent of map unit: 3 percent

Landform: Depressions

Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Ramsey County, Minnesota

Survey Area Data: Version 15, Jun 5, 2020



Subsurface Sewage Treatment Systems

Disposal of non-sewage wastes from single-family dwellings served by subsurface sewage treatment systems

Introduction

Most of the liquid waste generated by rural households is considered to be sewage. Sewage, as described in the Subsurface Sewage Treatment Systems (SSTS) rules (Minn. R. ch. 7080), is defined as follows:

Sewage is a waste generated by toilets, bathing, laundry, or culinary operations or the floor drains associated with these sources, and includes household cleaners, medications, and other constituents restricted to amounts normally used for domestic purposes.

In accordance with state rules, all sewage generated by households must be discharged into the subsurface sewage treatment system (also known as a septic system) when a municipal sewer is not available.

However, in addition to sewage, there are other liquid wastes which are not classified as sewage by M.R. Chapter 7080 that need to be disposed. This factsheet describes the options for disposal of non-sewage liquid wastes for **single-family dwellings** which are served by SSTS. In the document, we will identify wastes that may not need to be discharged into a SSTS.

This factsheet does not apply to the disposal of non-sewage wastes:

- From multi-family dwellings, dwellings which also serve as a home business, or dwellings connected to municipal sewer. For those situations, please contact the Minnesota Pollution Control Agency's (MPCA) SSTS program (800-657-3864) for assistance.
- From either commercial or industrial establishments. For these situations, please contact the MPCA's Industrial Permits Section (800-657-3864) for assistance.

The proper disposal of non-sewage wastes from single-family dwellings served by SSTS is described below. Please contact the MPCA for assistance on any waste not listed in this factsheet. Furthermore, please check with appropriate local authorities to determine if more restrictive standards apply.

Chemical wastes

- Possible constituents of concern – *Hazardous chemicals, hazardous waste, solvents, pesticides, flammables, photo finishing chemicals, paint, dry-cleaning chemicals, unused products or substances, and unused medicines*
- Can the waste be discharged to a SSTS? *No*
- Is waste detrimental to SSTS? *Yes*
- Can waste be discharged into separate trench? *No*
- Can wastes be discharged to the ground surface? *No*
- Disposal Options – See MPCA website at: <http://www.pca.state.mn.us/8cc9uuu>.

Footing and roof drainage

- Possible constituents of concern – *None*
- Can the waste be discharged to a SSTS? *No*
- Is waste detrimental to SSTS? *Yes, volume of water*
- Can waste be discharged into separate trench? *Yes*
- Can wastes be discharged to the ground surface? *Yes*

Floor drains from single-family garages

- Possible constituents of concern – *Oil, antifreeze and stored materials in garage (spills)*
- Can the waste be discharged to a SSTS? *No*
- Is waste detrimental to SSTS? *Yes*
- Can waste be discharged into separate trench? *No*
- Can wastes be discharged to the ground surface? *Yes. Daylight pipe must be visible to the owner, the discharge must stay on the property, the discharge must not enter surface water or conveyance to surface water, the discharge point must meet the water supply well setback. See MPCA factsheet regarding floor drains from garages at: <http://www.pca.state.mn.us/publications/wq-wwists4-05.pdf>.*

Water conditioner waste – ion exchange units (water softener units)

- Possible constituents of concern – *Hardness, iron, arsenic, radium, chlorides*
- Can the waste be discharged to a SSTS? *Yes*
- Is waste detrimental to SSTS? *Unknown. Limited research on the affects to SSTS range from mildly beneficial to adverse. Limited anecdotal observations indicate scum production may be impacted. Backwash from newer salt efficient units will likely cause less adverse impacts on septic tank performance. Older inefficient softeners may be a problem with both volume and salt concentrations of the backwash. Performance of older units may improve if the operational settings are correct and the system is properly functioning. Some manufacturers of advanced treatment devices prohibit water softener backwash from being discharge to the treatment device. Some designers and installers prefer not to discharge the backwash into the SSTS. Chlorides are not treated in the soil.*
- Can waste be discharged into separate trench? *Yes. Trench bottom must be above the periodically saturated soil or bedrock and the trench must meet water supply well setbacks.*
- Can wastes be discharged to the ground surface? *Yes. But the waste cannot be directly discharged to a surface water, wetland or intermittent stream (dry run). Waste must soak into the ground where it has been discharged. Discharge must stay on the property and not cause erosion or nuisance conditions.*
- Do plumbing requirements apply? *Yes. The discharge must be through a code complying plumbing receptor and building sewer in accordance with the MN Plumbing Code.*

Water conditioner waste – precipitate forming units (example – iron filters)

- Possible constituents of concern – *Iron*
- Can the waste be discharged to a SSTS? *Yes*
- Is waste detrimental to SSTS? *Yes. Discharge to a SSTS is not recommended due to the nature of the solids.*

- Can waste be discharged into separate trench? *Yes. The trench bottom must be above the periodically saturated soil or bedrock and trench must meet water supply well setbacks. Trench should be preceded by a septic tank.*
- Can wastes be discharged to the ground surface? *Yes. The waste cannot be directly discharged to a surface water, wetland or intermittent stream (dry run). Waste must soak into the ground where it has been discharged. Discharge must stay on the property and not cause erosion or nuisance conditions.*
- Do plumbing requirements apply? *Yes. The discharge must be through a code complying plumbing receptor and building sewer in accordance with the MN Plumbing Code.*

Membrane treatment units (example – reverse osmosis)

- Possible constituents of concern – *Hardness, Iron, other cations, anions (nitrate), and pathogens. The degree of removal is dependent on membrane type.*
- Can the waste be discharged to a SSTS? *Yes*
- Is waste detrimental to SSTS? *Single fixture membrane units should pose little problems. Whole house membrane units can greatly increase the volume of discharge from the dwelling. If whole house unit is discharged to SSTS, the SSTS must be adequately sized and flow equalization is recommended.*
- Can waste be discharged into separate trench? *Yes. The trench bottom must be above the periodically saturated soil and bedrock and trench must meet water supply well setbacks.*
- Can wastes be discharged to the ground surface? *Yes. The waste cannot be directly discharged to a surface water, wetland or intermittent stream (dry run). Waste must soak into the ground where it has been discharged. Discharge must stay on the property and not cause erosion or nuisance conditions.*
- Do plumbing requirements apply? *Yes. The discharge must be through a code complying plumbing receptor and building sewer in accordance with the MN Plumbing Code.*

Furnace condensate drainage

- Possible constituents of concern – *Low pH*
- Can the waste be discharged to a SSTS? *Yes*
- Is waste detrimental to SSTS? *Unknown. The slow release and low volumes of liquid may freeze in the building sewer.*
- Can waste be discharged into a separate trench? *Yes. The trench bottom must be above the periodically saturated soil and bedrock and the trench must meet water supply well setbacks.*
- Can wastes be discharged to the ground surface? *Yes. The waste cannot be directly discharged to a surface water, wetland or intermittent stream (dry run). Waste must soak into the ground where it has been discharged. Discharge must stay on the property and not cause erosion or nuisance conditions.*
- Do plumbing requirements apply? *Yes. The discharge must be through a code complying plumbing receptor and building sewer in accordance with the MN Plumbing Code.*

Pool water, treated hot tub water and pool filter backwash

- Possible constituents of concern – *Chlorine*
- Can the waste be discharged to a SSTS? *No*
- Is waste detrimental to SSTS? *Yes*
- Can waste be discharged into separate trench? *No*
- Can wastes be discharged to the ground surface? *See the factsheet ‘Swimming Pool and Hot Tub Water Discharges Best Management Practices’ at: <http://www.pca.state.mn.us/publications/wq-wwprm2-03.pdf>*

Sauna floor drain (a free standing structure with no plumbing)

- Possible constituents of concern – *Perspiration, condensation, and cleaning agents*
- Can the waste be discharged to a SSTS? *Not applicable*
- Is waste detrimental to SSTS? *Not applicable*
- Can waste be discharged into separate trench? *The drain can be deadheaded into the soil.*
- Can wastes be discharged to the ground surface? *Yes. However, the waste cannot be directly discharged to a surface water, wetland or Intermittent stream (dry run). Waste must soak into the ground where it has been discharged. Discharge must stay on the property and not cause erosion or nuisance conditions.*

Open-loop geothermal discharge

- Possible constituents of concern – *None*
- Can the waste be discharged to a SSTS? *No*
- Is waste detrimental to SSTS? *Yes, volume of water*
- Can waste be discharged into separate trench? *Yes. The trench bottom must be above the periodically saturated soil and bedrock and trench must meet water supply well setbacks.*
- Can wastes be discharged to the ground surface? *Yes. The waste cannot be directly discharged to a surface water, wetland or intermittent stream (dry run). Waste must soak into the ground where it has been discharged. Discharge must stay on the property and not cause erosion or nuisance conditions. Please see the Minnesota Department of Health's website at: <http://www.health.state.mn.us/divs/eh/wells/geothermal.html>.*

**CITY OF NORTH OAKS
RAMSEY COUNTY, MINNESOTA
RESOLUTION NO. XXXX**

**RESOLUTION ADOPTING FINDINGS OF FACT AND APPROVING
VARIANCES TO THE SETBACK REQUIREMENTS FOR A SUB-SURFACE SEWAGE
TREATMENT SYSTEM (SSTS) FOR THE PROPERTY LOCATED AT 9 Ridge Road**

WHEREAS, the North Oaks Zoning Ordinance Section 151.050(F) prohibits an individual sewage treatment system from being located within thirty (30) feet of the lot lines on any individual lot; and

WHEREAS, an application for a variance has been submitted by Marni Hougham and Craig Hara, the owners of the real property located at 9 Ridge Road, Ramsey County, MN (Property) legally described on the attached **EXHIBIT A** for the following variances:

1. A variance for a sub-surface sewage treatment system (SSTS) which would encroach 12 feet into the required 30-foot south property line setback and 6 feet into the required 30-foot west property line setback.

WHEREAS, City Staff have determined that the proposed location of the SSTS, as shown on the site plan provided to the City of North Oaks (City) in conjunction with the variance application and attached hereto as **EXHIBIT B**, is the most viable location for the SSTS based on the site constraints identified in the Technical Memo prepared by Ed Eklin, dated August 22, 2021 and on file with the City; and

WHEREAS, the request has been reviewed against the relevant requirements of North Oaks Zoning Ordinance Section 151.078, North Oaks City Code Chapter 51 and Section 153.022, and Minnesota Statutes, Section 462.357, subd. 6, and the requisite practical difficulties were found to support a grant of the requested variances, and the Council further makes the following findings of fact with respect to the variance application:

- The property owner proposes to use the property in a reasonable manner not permitted by the zoning ordinance.
- The plight of the landowner is due to circumstances unique to the property not created by the landowner.
- The variance, if granted, will not alter the essential character of the locality.
- The variance is in harmony with the general purposes and intent of the zoning ordinance.
- The terms of the variance are consistent with the comprehensive plan.

- Granting the requested variance will not confer on the applicant any special privilege that is denied by Chapter 151 of the City Code to other lands, structures, or buildings in the same district.
- The variance requested is the minimum variance which would alleviate the practical difficulties.
- 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.
- 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.

WHEREAS, the variance application was considered by the North Oaks Planning Commission at its January 27, 2022 meeting, at which time a discussion concerning the variance application was held, following which the Planning Commission voted unanimously in favor to recommend approval of the Variance application subject to the Septic Inspector’s report and several conditions.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTH OAKS, that the findings of fact related to the requested variance listed above are hereby adopted as the Council’s findings of fact to support the grant of the requested variances, and the following two variances are approved:

1. A variance for a sub-surface sewage treatment system (SSTS) which would encroach 12 feet into the required 30-foot south property line setback and 6 feet into the required 30-foot west property line setback.

subject to the following conditions:

1. Completion date 365 days after approval.
2. Verification that the system is located a minimum of 50 feet away from any wells.
3. System to be located and constructed per the Ed Eklin design dated August 22, 2021 on file with the City.

BE IT FURTHER RESOLVED that the City Clerk, Deputy City Clerk, or City Attorney are hereby authorized to record a certified copy of this Resolution with the Ramsey County Registrar of Titles.

Adopted by the City Council of the City of North Oaks this 10th day of February, 2022.

By: _____
Kara Ries
Its: Mayor

Attested:

By: _____
Kevin Kress
Its: City Administrator

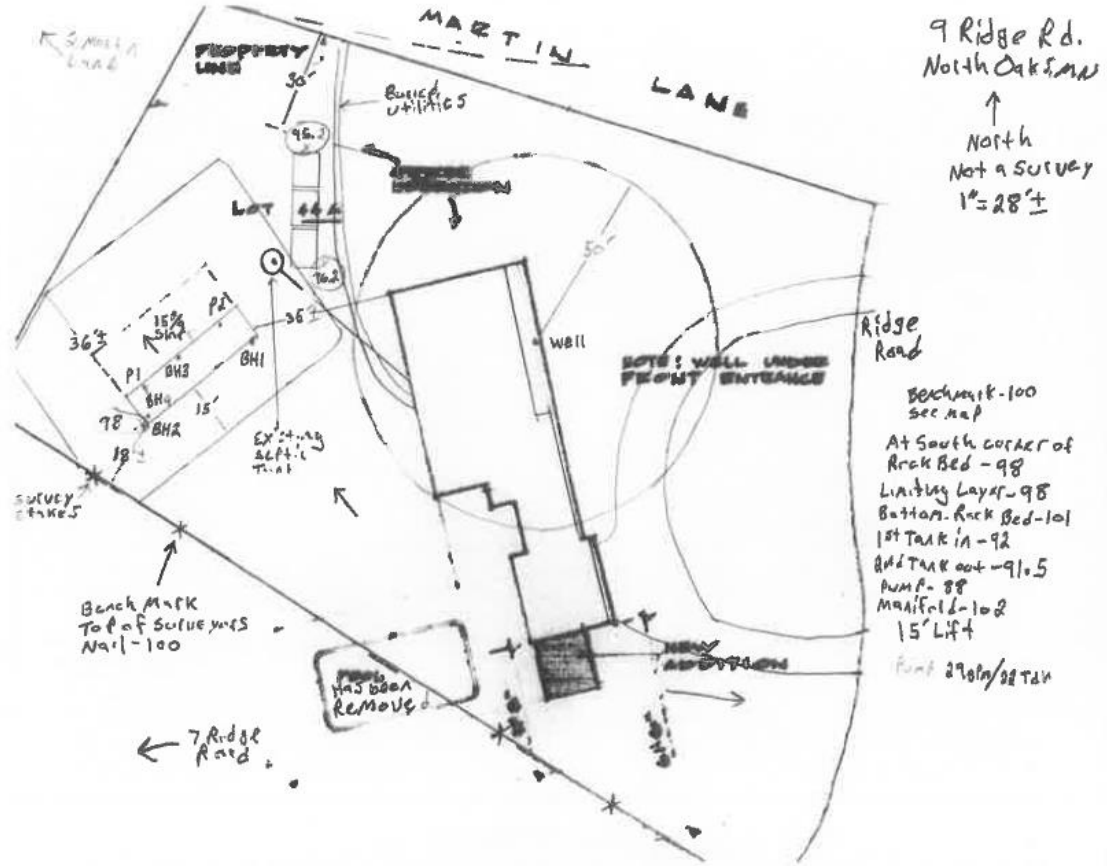
EXHIBIT A
LEGAL DESCRIPTION OF PROPERTY

Real property located in Ramsey County, Minnesota and legally described as follows:

Tract E, Registered Land Survey No. 27, Ramsey County, Minnesota.
PIN: **183022430017**

Torrens Property

**EXHIBIT B
DEPICTION OF SSTS SITE**



January Month in Review

January 2022



Rehder Forestry Consulting

- Homeowner calls at @ 93 Red Fox Rd
- We have provided copies to City Hall and NOHOA of the spreadsheets we use to document diseased trees so that they are available to staff as needed.
- Ash tree inspections are in full effect, and we are working with residents to educate and inform on their options as Emerald Ash Borer continues to impact the community.
- Compliance checks for timely removal of diseased oaks continues. Deadline for removal is February 1st, 2022.