From: Jennifer Labadie
To: Marc Nevinski; Jake Griffiths
Subject: Fwd: Watten Pond 2nd Addition
Date: Monday, January 5, 2026 11:08:56 AM

FYI

Sent from my iPhone

Begin forwarded message:

> **From:** Cheryl Vierthaler <cavierthaler@gmail.com>
> **Date:** January 5, 2026 at 8:25:59 AM CST
> **Subject: Watten Pond 2nd Addition**
>
> The Watten Pond 2nd Addition development and any further discussion or decision making should be postponed due to insufficient information and planning. The drawings aren't to scale, setbacks, easements, utilities & exact house locations aren't overlayed on the map I've received. As a Shorewood resident and Maple View Court neighbor - I can't possibly voice my concerns without an accurate proposal.
>
> Cheryl Vierthaler
> 25755 Maple View Court
> Shorewood
> 920-707-4614

From: Janene Murtha
To: Jake Griffiths
Cc: Marc Nevinski; Aaron Osowski; Sandie Thone
Subject: Re: Public Comment and Public Data Request -Proposed Residential Development Affecting Maple View Court Residents
Date: Monday, January 5, 2026 5:22:41 PM

Dear Mr. Griffiths,

Thank you for your prompt attention to my January 3, 2026 request for documents. This confirms my in-person payment of $58.43 for the receipt of an electronic version of the documents, which I understand will be forwarded to me via link this evening. I look forward to their receipt. Per our conversation, I understand the document response contains all public data, documents, records, and communications in the City's possession related to this project, including all documents in the City's possession in view of items 1–14 in my document request. I also confirmed with you that the City's response includes documents found in the bullet-pointed items on page one of the November 1, 2025 memorandum to you from City Engineer Andrew Budde, and all documents received to date for items numbered 1–20 in that same memorandum. I also confirmed with you that you have included all emails, correspondence, and other non-privileged communications related to this matter.

I also want to thank you for providing the City's position on notice in your email. Again, the residents of Maple View Court respectfully do not agree that the notice was proper. The notice and attachments, including the not-to-scale survey and conflicting or incomplete documents, do not provide sufficient information for affected residents to meaningfully assess or comment on the proposed development. As outlined in Minn. Stat. § 462.357, notice must allow residents to understand the nature, location, and potential impact of a proposed project in order to participate effectively.

Given these concerns, the residents of Maple View Court plan to attend the Planning Commission meeting tomorrow evening and provide individual public comment regarding the application. We hope the Planning Commission will take our comments into account as part of the public hearing process. From our conversation this evening, I understand there is no time limit for individual public comment at the meeting. You also informed me that the owner and applicant of the Watten Ponds 2nd Addition will be in attendance.

We remain committed to engaging constructively and look forward to sharing our concerns at the meeting.

Sincerely,

Janene Murtha

> On Jan 5, 2026, at 3:34 PM, Jake Griffiths <jgriffiths@ci.shorewood.mn.us> wrote:
>
> Good afternoon Ms. Murtha,
>
> Thank you for taking the time to reach out and for sharing your concerns regarding this application. I appreciate your engagement in the process and your comments will be shared with the Planning Commission as part of the public hearing scheduled for tomorrow evening.
>
> Following up on our meeting earlier today, I consulted with the City Attorney and they confirmed that the not-to-scale survey does not invalidate the public hearing notice. The requirements for notice of public hearing are found in Minn. Stat. 462.358, subd. 3(b) and states that *"the hearing shall be held following publication of notice of the time and place thereof in the official newspaper at least ten days before the day of the hearing. At the hearing, all persons interested shall be given an opportunity to make presentations."* The notice provides the appropriate time and place of the public hearing, and a general description of the proposal. The fact the City provided additional information not required by the State Statute, including a not-to-scale representation of the proposed development, does not invalidate the public hearing notice. The notice also directs interested individuals to the City's website, where relevant project materials are available for review. Based on the recommendation of legal counsel, the public hearing will proceed as scheduled at tomorrow night's Planning Commission meeting. Should you have any additional questions regarding this project please let me know and I would be happy to help answer them.
>
> The public information you requested is also available and can be viewed for free at City Hall by appointment. If you would like a paper or electronic copy of the data, the cost would be $58.43 based on the City's Data Practices Policy. If you have any questions regarding the data request process please see the City of Shorewood Data Practices Policy at DP Policy for more information. Thank you again for your participation in the public hearing process, and I would encourage you to attend the public hearing tomorrow night if you are able. Thanks.
>
> <image001.png>
>
> **JAKE GRIFFITHS**
> **Planning Director**
> City Hall: 952.960.7900

5755 Country Club Road
Shorewood, MN 55331
Available Monday – Thursday
7:00am – 5:30pm

Direct: 952.960.7909
jgriffiths@shorewoodmn.gov

www.shorewoodmn.gov

From: Janene Murtha <janenemurtha@gmail.com>
Sent: Sunday, January 4, 2026 10:12 PM
To: Cindy Holker <cholker@ci.shorewood.mn.us>; Large Conference Room <LConferenceRoom@ci.shorewood.mn.us>; Daniele Longo <dlongo@ci.shorewood.mn.us>; Eric Magistad <emagistad@ci.shorewood.mn.us>; wruoff@shorewoodmn.gov
Cc: Jake Griffiths <jgriffiths@ci.shorewood.mn.us>
Subject: Fwd: Public Comment and Public Data Request -Proposed Residential Development Affecting Maple View Court Residents

Dear Shorewood Planning Commission,

Please see my public comment regarding the residential development application submitted by Gravity Investment, LLC for preliminary plat and final plat approval for Watten Ponds 2nd Addition at Parcel ID 2911723440029.

This hearing is scheduled to be held on Tuesday, January 6, 2026, at 7:00 pm. Residents of Maple View Court have been provided inaccurate and incomplete information, and neither the applicant nor the City has provided corrected or clarifying materials to date. As a result, affected residents lack sufficient information to properly review, analyze, and assess the proposed development and its potential impacts.

Accordingly, I respectfully request that the Tuesday, January 6, 2026 meeting be postponed until interested parties receive accurate, clear, and complete notice regarding the Watten Ponds 2nd Addition at Parcel ID 2911723440029. Minnesota Statutes §§ 394.26 and 462.357 require that public notice of residential development hearings accurately describe the project, including its purpose, location, and timing. Providing incomplete or inaccurate information with the notice limits affected residents' ability to meaningfully participate in the hearing and understand the proposed project.

Best regards,

Janene Murtha

Shorewood Resident - 25650 Maple View Court
Affected Resident
Attorney at Law

___

This email message is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply email and destroy all copies of the original message.

Begin forwarded message:

From: Janene Murtha <janenemurtha@gmail.com>
Subject: Public Comment and Public Data Request -Proposed Residential Development Affecting Maple View Court Residents
Date: January 3, 2026 at 4:02:35 PM CST
To: sthone@shorewoodmn.gov, jgriffiths@shorewoodmn.gov

Public Comment:
Mr. Jake Griffiths
Planning Director
City of Shorewood
Shorewood, MN 55331

Public Data Request:
Ms. Sandie Thone

City Clerk / Human Resources Director
City of Shorewood
5755 Country Club Road
Shorewood, MN 55331

Re: Public Comment and Public Data Request Under Minnesota Statutes Chapter 13 – Proposed Residential Development Affecting Maple View Court Residents

Dear Mr. Griffiths and Ms. Thone:

I am a resident of the City of Shorewood and live in a neighborhood recently notified by Planning Director Jake Griffiths that a residential development application has been submitted by Gravity Investment, LLC for preliminary plat and final plat approval for Watten Ponds 2nd Addition at Parcel ID 2911723440029. I understand a public hearing will be held this upcoming Tuesday, January 6, 2026, at 7:00 pm to discuss and obtain public comment regarding final approval of this application.

Accurate Information Requested:

Upon review of the undated Public Hearing Notice letter and its two attached documents, and other public documents available online, and after several discussions with neighbors, there appear to be multiple instances of inconsistent survey mapping, incomplete information provided by the applicant and an overall lack of information provided to the affected residents. This lack of sufficient information includes the following:

- The nature of the proposed new residential builds on Lots 1 and 2 (house design and building dimensions, including decks, garages and outbuildings, etc.).
- The suggested changes or additions to the current cul-de-sac.
- The impacts of the proposed builds to the watershed, wetlands and animal populations in our area.
- Confirmation of resulting drainage flow and how it may affect the neighboring ponds and property.

These inconsistences and the applicant's failure to provide sufficient information for a complete application was also addressed in the memorandum written by Shorewood City Engineer Andrew Budde and dated November 10, 2025 (BMI Project: 25X141197) confirming the survey scale was inaccurate on the Certificate of Survey and Preliminary Plat. Mr. Budde's memorandum also included a numerical list of 19 other items, many of which require the applicant and owner, Audrius Asakenas to revise documents, obtain inspections or complete other tasks.

*It is important to note that the incorrect survey scale was one of the two attachments sent to neighbors as part of the Public Hearing Notice.

Further Discussion Requested:

- Further discussion is warranted about the City's allowance or waiver of right-of-way access to 2nd Street and the land that is designated as "Clara Avenue" on City-provided maps. Is there are precedence for waiver for similar projects?
- Shorewood Planning Director Jake Griffiths states in the January 6, 2026 hearing packet that, "This project may be extended for a project not included in this plan…. A future phase may include constructing homes north of Clara Ave. The potential lot directly north of Clara Ave does not have a sanitary sewer or water service provided within Birch Bluff Road. Plan to serve that lot through these proposed utilities."
- I understand Applicant and Owner Audrius Asakenas also is the owner of the property located at 25725 Birch Bluff Road, Shorewood, MN. This property sits directly north of my home, and I would appreciate further information concerning how these two projects may affect my property as a whole.

Request One: Because the residents of this neighborhood have been provided inaccurate information and have not received further updates as to the status of requested items, I respectfully request that the Tuesday, January 6, 2026 meeting be postponed until interested parties receive accurate, clear and concise information. Minnesota Statutes §§ 394.26 and 462.357, require public notice of residential development hearings to accurately describe the project, including its purpose, location, and timing. Providing incomplete or inaccurate information in the notice limits affected residents' ability to meaningfully participate in the hearing.

Request Two: Pursuant to the Minnesota Government Data Practices Act, Minnesota Statutes Chapter 13, I am formally requesting access to public data maintained by the City of Shorewood related to this proposed development and any associated building permit applications. This request is made as a result of the issues and questions addressed above, including the material deficiencies and inconsistencies in the information provided to residents to date, conflicting and inaccurate survey maps, and the absence of clear and complete information regarding the location, scale, and type of residential structures proposed relative to existing neighboring homes. Based on the information provided thus far, there is insufficient detail for residents to meaningfully analyze, assess, and understand the potential impacts of the proposed development on our respective properties.

Therefore, I request copies of any and all public data, documents, records, and communications in the City's possession related to this project, including but not limited to the following:

1. The complete building permit application or applications submitted for the proposed residential development, including all attachments, exhibits, addenda, amendments, and revisions.

2. All site plans, surveys, and maps, including any Certificates of Survey, depicting the proposed roadway extension, lot boundaries, setbacks, grades, impervious surface calculations, and the relationship of the proposed homes to existing residences.

3. All construction plans and drawings submitted in connection with the application, including foundation plans, floor plans, cross section drawings, building elevation drawings, and any stamped or approved plans.

4. Documentation identifying the type of residential construction proposed, including overall building dimensions, height, number of stories, garage locations, accessory structures, decks, porches, and driveways.

5. All Tree Preservation Plans, Tree Inventories, Landscaping Plans, and any documents identifying tree removal or preservation, including any discrepancies or revisions.

6. Any Stormwater Management Plans, drainage calculations, drainage maps, modeling, and impervious surface analyses submitted for this project.

7. Any Construction Management Plans, including material storage locations, construction parking plans, contractor lists, and approved construction hours.

8. Zoning compliance documentation, variances, conditional use permits, approvals, determinations, or staff analyses related to this application.

9. Energy code compliance documentation, combustion and make-air submittals, and related materials.

10. Inspection records, inspection reports, inspection record cards, or related documentation, if any.

11. Records of all fees paid, invoices issued, or payments received in connection with this application.

12. Any neighbor notification records, including notices sent, mailing lists, dates of notification, and copies of all correspondence sent to residents.

13. Any and all written communications regarding this project, including emails, memoranda, letters, meeting agendas, and meeting minutes, whether internal or external, involving City staff, consultants, the applicant, or elected officials.

14. Any addenda, corrections, revisions, or supplemental materials submitted after the initial application.

If any portion of this request is unclear, or if responsive data exists in electronic format, I request that the data be provided electronically where possible. If any data is withheld or redacted, please identify the specific statutory basis under Minnesota Statutes Chapter 13 for each denial or redaction. Please advise in advance of any copying costs associated with this request.

Accordingly, I respectfully request either expedited access to the public data requested above in advance of the scheduled public hearing, or that the public hearing be continued to a later date to allow residents adequate time to review the complete application materials and supporting documentation. Thank you for your attention to this matter. I look forward to your timely response.

Sincerely,

Janene Murtha

City of Shorewood Resident

25650 Maple View Court

Shorewood, MN 55331

(650) 200-5029

From: Guy Sanschagrin
To: Jake Griffiths
Cc: Marc Nevinski
Subject: Re: Watten Ponds 2nd Addition Public Notice
Date: Tuesday, January 6, 2026 2:36:05 PM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png

Thanks, Jake. FYI I received the following feedback from one of the neighbors there. Over the weekend I spoke to another resident who expressed concerns about setbacks, clear, cutting land, etc. and negative impact on the neighborhood.

—-

The Watten Pond 2nd Addition development and any further discussion or decision making should be postponed due to insufficient information and planning. The drawings aren't to scale, setbacks, easements, utilities & exact house locations aren't overlayed on the map I've received. As a Shorewood resident and Maple View Court neighbor - I can't possibly voice my concerns without an accurate proposal.

—-

Best,
Guy

Guy Sanschagrin | City Councilmember
5755 Country Club Road
Shorewood, MN 55331
Mobile: +1 (952) 217-1289
gsanschagrin@ci.shorewood.mn.us

Jake Griffiths

From: Jennifer Labadie
Sent: Thursday, January 29, 2026 9:17 AM
To: Jake Griffiths; Jared Shepherd; Marc Nevinski
Subject: Fwd:

Sent from my iPhone

Begin forwarded message:

> **From:** David McQuin <david.mcquin@oswego.edu>
> **Date:** January 29, 2026 at 6:49:44 AM CST
> **To:** Jennifer Labadie <JLabadie@ci.shorewood.mn.us>
>
> Dear Shorewood City Council,
> I have reviewed and learned about the proposed development in Watten Ponds in Shorewood. I believe that the impact of this development is much greater than the benefits and that the application for this development should be denied. Please do not approve the Watten Ponds development application.
>
> Sincerely,
> David McQuin

Jake Griffiths

From: Jennifer Labadie
Sent: Sunday, February 1, 2026 6:33 PM
To: Marc Nevinski; Jake Griffiths
Subject: Fwd: Opposition to Watton Ponds Development Proposal

Follow Up Flag: Follow up
Flag Status: Flagged

Sent from my iPhone

Begin forwarded message:

From: joanie <joaniegold1@aol.com>
Date: February 1, 2026 at 1:04:48 PM MST
To: Jennifer Labadie <JLabadie@ci.shorewood.mn.us>, Nathaniel Gorham <NGorham@ci.shorewood.mn.us>, Dustin Maddy <DMaddy@ci.shorewood.mn.us>, Guy Sanschagrin <gsanschagrin@ci.shorewood.mn.us>, Michelle DiGruttolo <mdigruttolo@ci.shorewood.mn.us>
Subject: Opposition to Watton Ponds Development Proposal

Dear Shorewood City Council,

I respectfully urge you not to approve the Watton Ponds development proposal. Allowing development on this protected land would set a concerning precedent and invite further encroachment on wetlands and other environmentally sensitive areas.

Natural wetlands are increasingly rare and irreplaceable. Once destroyed, they cannot be reclaimed, and the long-term environmental costs far outweigh the short-term economic benefits of this project. The loss of these wetlands would have lasting consequences for wildlife, water quality, and the character of our community.

Sacrificing such a valuable natural resource primarily for private financial gain is not in the best interest of Shorewood or future generations. I ask that you prioritize environmental stewardship and preserve Watton Ponds as the protected land it was intended to be.

Thank you for your time and consideration.

Sincerely,

Joanie Gold, RN, BSN, LNC-C

Jake Griffiths

From: Jennifer Labadie
Sent: Sunday, February 1, 2026 6:34 PM
To: Marc Nevinski; Jake Griffiths
Subject: Fwd: Watten Ponds proposed development

Follow Up Flag: Follow up
Flag Status: Flagged

Sent from my iPhone

Begin forwarded message:

> **From:** Jodi Livon rein <jslr@aol.com>
> **Date:** February 1, 2026 at 10:50:09 AM MST
> **To:** Jennifer Labadie <JLabadie@ci.shorewood.mn.us>, Nathaniel Gorham <NGorham@ci.shorewood.mn.us>, Dustin Maddy <DMaddy@ci.shorewood.mn.us>, Guy Sanschagrin <gsanschagrin@ci.shorewood.mn.us>, Michelle DiGruttolo <mdigruttolo@ci.shorewood.mn.us>
> **Subject: Watten Ponds proposed development**
>
> Dear Shorewood City Council,
>
> I have reviewed and learned about the proposed development in Watten Ponds in Shorewood. I believe that the impact of this development is much greater than the benefits and that the application for this development should be denied. Please do not approve the Watten Ponds development application.
>
> Most Sincerely,
> Jodi Livon Rein

Jake Griffiths

From: Jennifer Labadie
Sent: Sunday, February 1, 2026 6:34 PM
To: Marc Nevinski; Jake Griffiths
Subject: Fwd: Watten ponds - Oppose This Plan!

Follow Up Flag: Follow up
Flag Status: Flagged

Sent from my iPhone

Begin forwarded message:

> **From:** Kimberly Priebe <kimberlypriebe@mail.com>
> **Date:** February 1, 2026 at 10:15:09 AM MST
> **To:** Jennifer Labadie <JLabadie@ci.shorewood.mn.us>, Nathaniel Gorham <NGorham@ci.shorewood.mn.us>, Dustin Maddy <DMaddy@ci.shorewood.mn.us>, Guy Sanschagrin <gsanschagrin@ci.shorewood.mn.us>, Michelle DiGruttolo <mdigruttolo@ci.shorewood.mn.us>
> **Subject: Watten ponds - Oppose This Plan!**
>
> **Dear Shorewood City Council,**
>
> I have carefully reviewed the proposed development plans for **Watten Ponds**, and I am concerned that the projected benefits do not outweigh the significant environmental and infrastructure costs.
>
> Watten Ponds isn't just "empty space"; it provides essential natural drainage and a buffer for our local ecosystem. By developing this land, we risk:
>
> - **Increased Water Runoff:** Removing natural absorption zones often leads to costly drainage issues for neighboring properties.
> - **Habitat Fragmentation:** Pushing wildlife out of their established homes often increases human-wildlife conflict in surrounding residential areas.
> - **Property Values:** Shorewood's appeal lies in its integration with nature. Over-development risks turning our unique suburb into a concrete corridor.
>
> I respectfully request that the Council **deny this application** and instead look toward sustainable development that preserves our remaining green spaces.
>
> Warmly,
>
> Kimberly Priebe
> 26420 Noble Road

Shorewood, Mn 55331

Jake Griffiths

From: Jennifer Labadie
Sent: Sunday, February 1, 2026 6:34 PM
To: Marc Nevinski; Jake Griffiths
Subject: Fwd: Watten Ponds

Follow Up Flag: Follow up
Flag Status: Flagged

Sent from my iPhone

Begin forwarded message:

> **From:** BETH HOMEISTER <bhomeister@aol.com>
> **Date:** February 1, 2026 at 10:07:16 AM MST
> **To:** Nathaniel Gorham <NGorham@ci.shorewood.mn.us>, Dustin Maddy <DMaddy@ci.shorewood.mn.us>, Guy Sanschagrin <gsanschagrin@ci.shorewood.mn.us>, Michelle DiGruttolo <mdigruttolo@ci.shorewood.mn.us>, Jennifer Labadie <JLabadie@ci.shorewood.mn.us>
> **Subject: Watten Ponds**
>
> Dear Shorewood City Council,
>
> After reviewing the proposed development in Watten Ponds in Shorewood, I believe that the impact of this development is much greater than the benefits. The residents and neighbors around this area do not support this. This application should be denied. Please do not approve the Watten Ponds development application.
>
> Thank you.
> Beth Homeister
> 26790 Noble Road

Jake Griffiths

From: Jennifer Labadie
Sent: Sunday, February 1, 2026 6:34 PM
To: Marc Nevinski; Jake Griffiths
Subject: Fwd: Watten Ponds proposed development

Follow Up Flag: Follow up
Flag Status: Flagged

Sent from my iPhone

Begin forwarded message:

> **From:** Linda Murrell <ldmurrell15@gmail.com>
> **Date:** February 1, 2026 at 10:05:11 AM MST
> **To:** Jennifer Labadie <JLabadie@ci.shorewood.mn.us>, Nathaniel Gorham <NGorham@ci.shorewood.mn.us>, Dustin Maddy <DMaddy@ci.shorewood.mn.us>, Guy Sanschagrin <gsanschagrin@ci.shorewood.mn.us>, Michelle DiGruttolo <mdigruttolo@ci.shorewood.mn.us>
> **Subject: Watten Ponds proposed development**
>
> Dear Shorewood City Council,
>
> I have recently learned about the proposed development in Watten Ponds in Shorewood. I believe that the deleterious impact of this development is much greater than the benefits and that the application for this development should not be approved. Our wetlands and wooded areas should be protected, not destroyed.
>
> Please deny the Watten Ponds development application.
> Sincerely,
>
> --
> Linda Murrell
> 612.709.2334
> ldmurrell15@gmail.com

Jake Griffiths

From: Jennifer Labadie
Sent: Sunday, February 1, 2026 7:21 PM
To: Marc Nevinski; Jake Griffiths
Subject: Fwd: Please Keep Shorewood Beautiful

Follow Up Flag: Follow up
Flag Status: Flagged

Sent from my iPhone

Begin forwarded message:

> **From:** Henry Priebe <priebehd@outlook.com>
> **Date:** February 1, 2026 at 5:51:32 PM MST
> **To:** Nathaniel Gorham <NGorham@ci.shorewood.mn.us>, Dustin Maddy <DMaddy@ci.shorewood.mn.us>, Guy Sanschagrin <gsanschagrin@ci.shorewood.mn.us>, Michelle DiGruttolo <mdigruttolo@ci.shorewood.mn.us>, Jennifer Labadie <JLabadie@ci.shorewood.mn.us>
> **Cc:** Kimberly Priebe <kimberlypriebe@mail.com>
> **Subject: Please Keep Shorewood Beautiful**

Representatives of Shorewood,

I'm a teen living in Shorewood, and I'm asking you to think about the future of our community. Watten Ponds isn't "wasted space"—it's a natural defense system for our neighborhood.

Developing this land is a bad deal for us because:

- **Flooding:** Paving over this "natural sponge" will just send runoff straight into our neighbors' yards.
- **Wildlife:** We're destroying habitats and forcing animals into dangerous human areas.
- **Community:** Shorewood's whole "vibe" is built on nature. If we keep building over every green space, we're just another boring, concrete suburb.

Please vote NO on this application. I'm asking you to protect what's left of our environment so my generation actually has a green Shorewood to grow up in.... Is something people wanted me to put. But I believe that an email is more important and

impactful when you put what you feel. I feel that as the world progresses, people are rushing to put in more and more homes. Greed increases, and even though I completely agree with growth of businesses, large and small, I feel as if putting homes in such a beautiful area is too far. Shorewood is beautiful, not just because of houses, but because of the people, the land, the animals, and the livelihood of it. Ruining an important area of the ecosystem would harm so many, including me, my neighbors, and the people who will live there. So please vote no.

Sincerely,

Henry Priebe

26420 Noble Road, Shorewood Minnesota

Jake Griffiths

From: Jennifer Labadie
Sent: Monday, February 2, 2026 7:32 AM
To: Marc Nevinski; Jake Griffiths
Subject: Fwd: Disapproval of Protected Wetland use for Development

Sent from my iPhone

Begin forwarded message:

> **From:** Anna Homeister <aehomeister@gmail.com>
> **Date:** February 1, 2026 at 11:49:36 PM MST
> **To:** Jennifer Labadie <JLabadie@ci.shorewood.mn.us>, Nathaniel Gorham <NGorham@ci.shorewood.mn.us>, Dustin Maddy <DMaddy@ci.shorewood.mn.us>, Guy Sanschagrin <gsanschagrin@ci.shorewood.mn.us>, Michelle DiGruttolo <mdigruttolo@ci.shorewood.mn.us>
> **Subject: Disapproval of Protected Wetland use for Development**
>
> Dear Shorewood City Council,
>
> I am reaching out to express my disappointment and extreme disapproval of using any Shorewood protected wetlands land for residential or commercial development.
>
> This is in regards to Watten Ponds, but not limited to any future projects pertaining to development on Wetlands.
>
> Watton Ponds:
> Within the 2040 comprehensive plan, it is stated numerous times that you (The City of Shorewood), would protect wetlands. Per chapter 2, "Development on or near shorelands, wetlands, floodplains and other natural features which perform important environmental functions in their natural state shall be restricted or prohibited," and "New residential development shall maintain the natural environmental character of Shorewood through the preservation of significant trees, protection of bluffs and wetlands, and maintenance of shoreland impact zones." It is clear that the MNR report shows multiple wetlands in the proposed area of development. Any change to this land will result in significant ecosystem changes for the plants/animals that live in this area (not to mention the extreme disapproval of the residents closest to this proposed development).
>
> Part of why I love living in Shorewood is that we are surrounded by nature. I love seeing families of deer, birds, etc every day. Please honor your commitment to protect our remaining wetlands, home to hundreds of trees and so many animals. They do not deserve to have their home taken away for two residential houses.
>
> Currently, over 30 houses in Shorewood are listed for sale across a wide variety of price

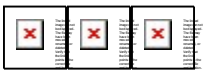
ranges. Watten Ponds does not need to be developed for new homes when there are many existing houses for sale.

Disapproval of Future Wetland Development:
Once more (excluding Watten Ponds), I also disapprove of using any current Wetland land for future residential development purposes. Specifically in R1-A (wetland circled in orange on the attached image). I have been told that this is being considered for development? Again, this area is a sanctuary and home to hundreds of animals and trees. Any development would significantly change the ecosystem and would contradict your commitment in the 2040 comprehensive plan. I strongly oppose any development in this area.

Please hear us (your neighbors and constituents) when we express opposition to development on protected wetlands. Please decline any proposals for development.

Thank you for your time,
Anna

[Screen Shot 2026-02-01 at 11.44.04 PM.png]
[Screen Shot 2026-02-01 at 11.44.23 PM.png]
[Screen Shot 2026-02-01 at 11.45.18 PM.png]



Jake Griffiths

From: Jennifer Labadie
Sent: Tuesday, February 3, 2026 12:31 PM
To: Marc Nevinski; Jake Griffiths
Subject: Fw: Watten Ponds

Mayor Jennifer Labadie

City of Shorewood
5755 Country Club Road
Shorewood, MN 55331

jlabadie@ci.shorewood.mn.us
(952) 836-8719

http://ci.shorewood.mn.us/

MN Data Practices Notification: Pursuant to MN Data Practices Chapter 13 all government data including email communications is presumed to be public unless there is a specific state statute, federal law, or temporary classification that classifies it otherwise.

From: pampi470 (null) <pampi470@aol.com>
Sent: Tuesday, February 3, 2026 11:26 AM
To: Jennifer Labadie <JLabadie@ci.shorewood.mn.us>; Nathaniel Gorham <NGorham@ci.shorewood.mn.us>; Dustin Maddy <DMaddy@ci.shorewood.mn.us>; Guy Sanschagrin <gsanschagrin@ci.shorewood.mn.us>; Michelle DiGruttolo <mdigruttolo@ci.shorewood.mn.us>
Cc: Matt Sveen <msveen19@gmail.com>
Subject: Watten Ponds

To the Shorewood City Council:
I have reviewed and learned about the proposed development in Watten Ponds in Shorewood. I believe that the impact of this development is much greater than the benefits and that the application for this development should be denied. Please do not approve the Watten Ponds development.

Sincerely,

Pamela Sveen

Jake Griffiths

From: Eric Magistad
Sent: Wednesday, February 4, 2026 1:17 PM
To: Aaron Osowski; Jake Griffiths; Sandie Thone
Subject: Fw: Watten Ponds Development

Public comments for awareness

Eric Magistad | Planning Commissioner
5755 Country Club Road
Shorewood, MN 55331
Mobile: +1 (651) 208-3855
emagistad@ci.shorewood.mn.us

From: S Sherf <ssherf42@gmail.com>
Sent: Wednesday, February 4, 2026 1:04 PM
To: Eric Magistad <emagistad@ci.shorewood.mn.us>
Subject: Watten Ponds Development

Dear Commissioner Magistad,

I am greatly opposed to the proposed Watten Ponds development. I live across Eureka Road from the site and daily see deer and turkeys exit and enter these woods. Having walked my dog through this area, it appears there is very little level land for a home site. Thus, substantial grading and change in topography will be required and I wonder how the wetlands will be protected. This seems like the developer is trying to fit a square peg into a round hole. As a former planning commissioner in another municipality, I wonder how the city plans to deal with the shared driveway to the two initial sites and then is it planning to construct a road to support the later sites? Destruction of these woods would be a tragedy for the neighborhood and the City of Shorewood. I am glad that our city is desirable enough to support the high cost of these home sites, but the destruction of the woods will just further reduce the attraction of living here.

Please vote this project down

Thank you,

Steve Sherf

--
Stephen Sherf
612-867-1649

Virus-free.www.avast.com

Jake Griffiths

From: Eric Magistad
Sent: Tuesday, February 3, 2026 6:08 PM
To: Sandie Thone; Jake Griffiths; Marc Nevinski
Subject: Fw: Watten Ponds 2nd Addition
Attachments: City of Shorewood Watten pond 2 response.docx; North pond set back to lot 1 home.jpeg; Distance between wetland ponds.jpeg

For your awareness.

Eric Magistad | Planning Commissioner
5755 Country Club Road
Shorewood, MN 55331
Mobile: +1 (651) 208-3855
emagistad@ci.shorewood.mn.us

From: Dave Vierthaler <dfvierthaler@gmail.com>
Sent: Monday, February 2, 2026 5:38 PM
To: Jennifer Labadie <JLabadie@ci.shorewood.mn.us>; ngorhham@shorewoodmn.gov <ngorhham@shorewoodmn.gov>; Guy Sanschagrin <gsanschagrin@ci.shorewood.mn.us>; Michelle DiGruttolo <mdigruttolo@ci.shorewood.mn.us>; Dustin Maddy <DMaddy@ci.shorewood.mn.us>; chokle@shorewoodmn.gov <chokle@shorewoodmn.gov>; khuskins@sgirewoodmn.gov <khuskins@sgirewoodmn.gov>; Daniele Longo <dlongo@ci.shorewood.mn.us>; Eric Magistad <emagistad@ci.shorewood.mn.us>; wruoff@shorewoodmn.gov <wruoff@shorewoodmn.gov>
Cc: Cherri Vierthaler <cavierthaler@gmail.com>
Subject: Watten Ponds 2nd Addition

Shorewood Plan Commission and City Council members,

Over the course of the next seven days the Shorewood Plan Commission, February 4th, and the City Council, February 9th, will be asked to make a decision whether the Watten Ponds 2nd addition Preliminary and Final plot application will be allowed. Attached is my letter and attachments in opposition to this development.

I trust that both governing bodies will review the extensive opposition with an open mind. We know that the Shorewood 2040 Comprehensive Plan is supposed to be a

blueprint on what is important to the City and citizens and how ideally we desire our community to grow. The Plan contemplates and balances the need for greenspace, conservation, environment and ecology over growth. In its introduction in Chapter 3, Community Framework, Natural Resources Plan it states:

"Perhaps above all other characteristics of the community, Shorewood residents value the natural setting in which it is located and have found that protecting sensitive features such as wetlands, shorelands, floodplains and wooded areas has an aesthetic, economic, health and even psychological benefit to the community as a whole.

The natural setting makes Shorewood a very attractive place to live. Ironically, this attraction creates pressure for new development which can threaten natural amenities. Shorewood is committed to maintain its high quality natural environment."

I truly hope that both governing bodies keep these foundational principles from the 2040 Comprehensive Plan in mind when making their final decision.

Regards,

Dave Vierthaler
C: 920-216-5333
dfvierthaler@gmail.com

February 2, 2026

City of Shorewood Planning Commission and Council:

Unfortunately prior commitments prevent me from attending either the February 4th Plan Commission or the February 9th City Council meetings. Consequently I am providing my comments via this email.

What is before you is a request to split an existing property into two lots and is being submitted as both a Preliminary Plat and Final Plat. However, the developer wants to develop more than the 4.3 acre parcel that is currently being submitted. This is evidenced by the developers ownership of three parcels directly north of and contiguous with the parcel submitted for subdivision. Parcel numbers: 2911723440024, 2911723440025 and 291172340019 totaling 1.62 acres are also owned by Gravity Investments and are planned for development. It is apparent the City Planning and Engineering Departments are aware of the developer's intentions as of November 10, 2025, letter from Andrew Budde, City Engineer to Jake Griffiths, Planning Director, and item 18 states:

- A future phase may include constructing homes north of Clara Rd. The potential Rd does not have sanitary sewer or water service provided within Birch Bluff
- Plan to have that lot served through these proposed utilities (the utilities are what is being proposed for the "simple" subdivision before you)
- The city will not allow new water and sanitary services to be cut into Birch Bluff Rd.
- This will likely result in extending the 8-inch sewer main and larger water service further north.
- Confirm that services from the potential lot north of Clara Ave will be permitable through the Minnehaha Creek Watershed District.

A walk along with the Minniehaha Creek Watershed District (MCWD) staff revealed that the Watershed District was unaware that the developer owned the adjacent properties, that utility services were to service those parcels and it was the intention to develop those properties. It is deceptive to request analysis on the subdivision of this parcel, plan the extension of utilities to the north and not inform the MCWD of these details. If the Watershed District were aware of the future development different and more restrictive rules would apply. This lack of full disclosure to the MCWD should raise concerns from both the Plan Commission and City Council.

Considering this subdivision request is being presented as both a Preliminary and Final Plat, both the Plan Commission and City Council must take extra care in assuring that all city, county, state and environmental codes are being adhered to. A simple affirmative answer by the City Planning Director "that they are" does not replace the member's responsibility for due diligence. Case in point, the City of Shorewood has adopted the Minnesota State Fire Code (Chapter 607) which in part states:

- Generally requires fire apparatus access roads to have an unobstructed width of at least 20 feet and a vertical clearance of 13 feet 6 inches. Roads must extend to within 150 feet of all portions of the exterior walls of the first story, unless an automatic sprinkler system is installed.

Key Access and Safety Requirements

- Access Road Dimensions: Fire lanes must maintain a 20-foot wide unobstructed width and 13 feet 6 inches of vertical clearance.
- Building Access Distance: Access roads must extend within 150 feet of all exterior walls of the first story of a building, according to the MN Revisor's Office and UpCodes. This distance can be increased if the home has an approved sprinkler system.
- **Turnarounds: Dead-end fire apparatus access roads exceeding 150 feet require approved turnarounds**.
- Hydrant Placement: Fire hydrants are generally placed no more than 400 feet apart, notes the City of Shorewood, MN FAQ.
- Emergency Escape: For homes, windows must have a net clear opening of at least 5.7 square feet (5 sq ft for ground floor) with specific height/width requirements per MN Revisor's Office.

- **Review: Site plans, including fire access, must be submitted to the fire department for review and approval, per UpCodes.**

Questionable items arise when reviewing the submitted Preliminary and Final plots for approval. 1) The submitted plots show a lengthy driveway to both homes, most notably to the home on proposed lot 1. This driveway, if to scale, is certainly not 20 feet wide nor does it provide for the 150 feet required for equipment turnaround. 2) There is no mention that this plan has been submitted to the Fire Chief for approval, 3) are the required fire hydrants noted in the Preliminary or Final plots, if they are they are not apparent and 4) if the access for fire equipment must be 20 feet wide the width between the most eastern pond and the northern pond does not offer enough clearance for the driveway

when 50 foot setbacks are considered (35' wetland setback and an additional 15' construction setback)

Another concern is the absolute distance between the northeast edge of the eastern pond in relation to the southeastern edge of the northern pond. This area is narrow. Rough scaling from the engineering packet and Hennepin county GIS appear to be slightly over 100 feet. When wetland and construction setbacks are taken into consideration, from previously placed wetland flags, the proposed driveway will only be 3-6 feet wide. This is not enough for a normal vehicle, much less access for fire equipment that requires a 20 foot wide drive.

An additional concern is how will the proposed utilities be run from Maple View Ct. through lots 2 and 1, respectively, to the northern adjacent lots? The distance between the neighbors western property line to the edge of the eastern edge of the northern pond is again very narrow. As previously stated, rough scaling from the engineering packet and Hennepin county GIS appear to be slightly over 100 feet. When there is a required 10 foot property line setback, 40 foot planned structure, 50 feet of wetland and construction setback it only provides approximately 6 feet to run all utilities to the northern planned development. In addition the utilities would not be allowed to parallel the proposed structure at such a narrow distance, thus requiring a variance allowing the contractor to disturb the wetlands and then remediate the wet lands after utilities are routed.

The submitted project also indicates a large easement being granted by the developer to the city. The easement appears equal to the diameter of the adjacent and existing Maple View Court. It is questioned why the city needs an easement and if an easement is required (presumably to access city owned outlot C) why must it be so large? There must be an explanation for an easement that is equal to or greater than the adjacent court. If the city requires access to outlot C, (which they have not had since the development of Watten Ponds and have never visited) why do they require it now? In a show of cooperation and good faith I am willing to provide a notarized letter to the City, allowing access across my property, to outlot C, at any time required. The question of the need and size of the easement must be asked and answered by the Plan Commission and Council.

In another twist, it is incredibly interesting that I had requested to work with the City to obtain Outlot C and approximately one-half to three-quarters of an acre from the prior landowner, to build a smaller home while remaining in Shorewood and a neighborhood we enjoy. I had communicated with the previous Planning Director, Marie Darling. Ms. Darling denied my request in her first response and a follow-up response indicated that a home I proposed could not be built because as she responded in-part, "Wetland buffers are 35 feet from the edge of the wetland and are a requirement of a subdivision. Conservation easements are required to be placed over the top of the wetland buffers as well as drainage and utility easements. Same as your existing lot. Structures would need to be set back another 15 feet from the edge of the buffer. There would be no area to construct a new house on the property you look to create".

Exchange below:

On Oct 29, 2024, at 3:21 PM, Marie Darling <MDarling@ci.shorewood.mn.us> wrote:

"I did speak with others on staff regarding your request to purchase/acquire the outlot adjacent to your property. Staff researched the development approvals for Watten Ponds PUD and subdivision and reviewed the conservation easements that were approved with the development. The outlots were all obtained to preserve the areas for conservation and open space purposes. As a result, staff would not support the sale of the property to a private landowner at this time."

From: Dave Vierthaler <dfvierthaler@gmail.com>
Sent: Wednesday, October 30, 2024 8:09 AM
To: Marie Darling <MDarling@ci.shorewood.mn.us>
Subject: Re: Acquisition of Outlot C

Hello,

"Thank you for the response. I understand that the marsh areas can no longer be sold or owned by individuals for purposes of conservation. However this small area of acreage, approximately 1/10 of an acre, does not conserve the environment. It is quickly being overtaken by buckthorn and has a very large dead oak. In the 6+ years I have lived here there has not been any city effort to maintain this property.

Attached is a picture of what I would like to accomplish, creating a 1/2 acre lot so I can build a new home and remain in my current neighborhood. The lower right portion and the city's area (lower left) combined

with a quarter acre from the Rufenacht property would create a 1/2 acre buildable residential lot. Whether the Rufenachts would allow me to buy a quarter acre section would be a second hurtle in developing this taxable property. Developing this lot does not eliminate the marsh out lot owned by the city and maintained for conservation purposes.

Marie, I am not sure if this longer range plan sheds a different light on the my proposal to purchase this city owned parcel. If walking this proposed property would be helpful please let me know.

Thank you for your first response and reviewing this request."

From: Marie Darling <MDarling@ci.shorewood.mn.us>

Date: October 30, 2024 at 9:33:59 AM CDT
To: Dave Vierthaler <dfvierthaler@gmail.com>
Cc: Marc Nevinski <mnevinski@ci.shorewood.mn.us>
Subject: RE: Acquisition of Outlot C

"Just because the area is outside the wetland doesn't mean that you would be able to use if for construction. Wetland buffers are 35 feet from the edge of the wetland and are a requirement of any subdivision. Conservation easements are required to be placed over the top of the wetland buffers as well as drainage and utility easements. Same as on your existing lot.

Structures would need to be set back another 15 feet from the edge of the buffer. There would be no area to construct a new house on the property you look to create."

Since Marie Darling's tenure to Jake Griffiths what has changed to allow not only one but two homes to be built on this property? If it is a case of "interpretation" the City might be best served in tightening up interpretation of statutes for consistency and susceptibility of legal actions.

Given just the few questions and concerns I raised, it is in the best interest of both the Plan Commission and City Council to do their due diligence on these issues and the entire request for Preliminary and Final plot approval. If these concerns and statute issues are not investigated, addressed and responsively responded to, both the Commission and Council will be asked in the future to grant variances on such issues when it is time to issue building permits. That is neither the time to review such requests nor the irresponsible decision making action

City Commission or Council should take. Inadequate review by the City, in its entirety, opens it up for legal issues if neighborhood property values are affected either by loss of historical view, aesthetics, flooding or any other negative effect the Watten Pond 2nd Addition proposal would have on the citizens of Maple View Court.

Regards,

Dave Vierthaler
C: 920-216-5333
dfvierthaler@gmail.com

Jake Griffiths

From: Cindy Holker
Sent: Wednesday, February 4, 2026 10:16 AM
To: Jake Griffiths
Subject: FW: Regarding Shorewood Development - urgent for today's city planning

FYI

From: Anjuli Glaza <anjuliglaza@gmail.com>
Date: Wednesday, February 4, 2026 at 9:30 AM
To: Cindy Holker <cholker@ci.shorewood.mn.us>, Large Conference Room <LConferenceRoom@ci.shorewood.mn.us>, Daniele Longo <dlongo@ci.shorewood.mn.us>, Eric Magistad <emagistad@ci.shorewood.mn.us>, "wruoff@shorewoodmn.gov" <wruoff@shorewoodmn.gov>
Subject: Regarding Shorewood Development - urgent for today's city planning

Hello City of Shorewood Planning Commisioners -

I am a resident of nearby Excelsior, and my children go to school in Shorewood. I am writing today regarding the small development being proposed at Watten Ponds. A developer has purchased 4 acres of one of the last natural wooded wetland areas in Shorewood. They intend to build multiple houses there, based on the current and future development plots, though are only starting with two large single family homes. Their plans will involve the destruction of hundreds of trees and will threaten several natural wetlands, surrounding areas, and wonderful wildlife habitat.

After decades of declaring that the Watten Ponds area could not be developed, the City of Shorewood has recently approved this housing development. The process for approval has not been transparent, and is lacking in conscious and intentional evaluation of the environmental impact of this development.

I am asking that the City of Shorewood require the developer of Watten Ponds to complete an Environmental Assessment Worksheet. According to the State, this is a brief document that lays out the project's facts and assesses for significant environmental effects, which would then trigger an Environmental Impact review. I also strongly advise that the entire long term plan be taken into account. Simply because the builder is starting with 2 homes, does not mean the full long term impact should be excluded. Their most recent plans show the potential for an additional 6 (total of 8 over multiple phases) homes being built on this site.

Please protect the nature of our beautiful trees and animals and watershed, but more importantly, please hold builders accountable for following the full process of approvals and necessary steps for environmental review.

Sincerely,
Anjuli Glaza

Jake Griffiths

From: Jodi L. Tagessen <jtagessen@mmblawfirm.com>
Sent: Tuesday, February 3, 2026 8:16 AM
To: Cindy Holker; Large Conference Room; Daniele Longo; Eric Magistad; wruoff@shorewoodmn.gov; Marc Nevinski; Aaron Osowski; Jake Griffiths
Cc: Matthew S. Duffy; Cavierthaler@gmail.com; Dave Vierthaler; Mary Benson; gogophs1 @yahoo.com; Todd Murtha; Stacy Joslin; Chris Joslin; Van De Ruijtenbeek Kat; Janene Murtha
Subject: Watton Pond 2nd Addition - Letter RE Resident Concerns

Follow Up Flag: Follow up
Flag Status: Completed

Good Morning Commissioners,

Our firm represents a group of residents currently residing on Maple View Court who have serious reservations about the impact of the Watton Pond 2nd Addition development that is coming before the Commission today, February 4. Below is a link to a letter and the attached exhibits which outlines those concerns.

https://mmblawfirm.sharefile.com/d-s812c0d34cc63461fa41db6734bb7e577

We respectfully request that you deny the current application on the grounds that the application is premature. The letter and exhibits outline a number of unresolved questions that could have significant impacts on environment and surrounding properties.

Please advise if you have any issues accessing the shared file. Due to the nature of the exhibits, the file is too large to email as an attachment.

Best Regards,

Jodi L. Tagessen
Associate Attorney
MONROE MOXNESS BERG PA
7760 France Avenue S, Suite 700
Minneapolis, MN 55435
T 952.885.5999
M 612-669-8970
www.MMBLawFirm.com

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MONROE MOXNESS BERG

7760 France Avenue South
Suite 700
Minneapolis, MN 55435-5844

T 952.885.5999
F 952.885.5969
MMBLawFirm.com

February 2, 2026

VIA ELECTRONIC MAIL

City of Shorewood
Planning Commission
5755 Country Club Road
Shorewood, MN 55331

Re: Watton Ponds 2nd Addition – Request for Comprehensive Environmental Review Prior to Action

Dear Members of the Planning Commission:

Please accept the following into the Public Record, we submit this on behalf of the residents of Maple View Court (the "Residents") regarding the pending application for preliminary and final plat approval and right-of-way vacation for the Watton Ponds 2nd Addition, scheduled for consideration at the Planning Commission's February 4, 2026 meeting.

The Residents wish to bring to the Commission's attention a number of unresolved issues and open questions that, in the Residents' view, render this application premature because of significant, yet unresolved legal and environmental compatibility issues, and not ready for approval. As a result the Commission is legally bound to deny as premature the proposed subdivision and application for preliminary and final plat approval.

I. Factual Background

The following summary is based on information available to the Residents and is presented without waiver of the right to supplement or clarify the record as additional information becomes available.

The Development. The development, referred to by agents of the applicant in designs and in applications filed with the Army Corp of Engineers, see Exhibit B, and Minnehaha Creek Watershed District, see Exhibit C, as the “Shorewood Development”, includes 4.7 acres located within and immediately adjacent to three natural wetlands that drain into a fourth downstream wetland, which ultimately connects to Lake Minnetonka. A fifth smaller pond is located on an nearby parcel that is likely to be impacted by this project’s runoff. See Exhibit D, page 10. The site sits almost entirely within the Lake Minnetonka Shoreland Protection Zone. See Exhibit E. Today, it remains a pristine, mature, contiguous tract of wetland and woodland—approximately eight acres when considered together with adjoining natural areas to the east and south. The site features a diverse old-growth forest including oaks, maples, hickory, and other hardwood species, and supports abundant wildlife including deer, turkeys, bald eagles, owls, herons, raptors, ducks, turtles, frogs, and migratory birds that rely on the ecosystem this forest provides. See Exhibit F.

The Proposal. The current application addresses development of the southern portion of the Shorewood Development. The applicant seeks subdivision, preliminary plat and final plat approval for subdividing the southern part of the Shorewood Development into two new residential lots. In addition to this application,

the applicant is expected to file subsequent applications relating to the northern part of the Shorewood Development as well as other properties owned by applicant and contiguous with the Shorewood Development. See Exhibit K and L.

II. Standard of Decision.

Shorewood City Code Section 201.07, Subd. 7, see Exhibit G, provides that "the Planning Commission shall make recommendations about the subdividing of land as prescribed by the ordinance and conduct public hearings as directed by City Council or city policy. The Planning Commission shall report its recommendations to the City Council for action." The Commission should recommend an option that is available to the City Council. The City Council has three options for decisions on applications – it can approve the application, reject the application, or reject the application as premature under Code Section 1202.20 Subd. 1, approved by the City Council in July, 2025.

Section 1202.20 Subd. 1(a), provides that "Any proposed subdivision deemed premature for development shall be denied by the City Council." The Commission, in its advisory role, should recommend the decision that is legally appropriate, and in many cases, that decision will be to deny as premature.

Importantly, denial as premature is *mandatory* – the City Council *must* deny any application that is premature, it has no option. Code Section 1202.06, Subd. 4(c). Moreover, "the burden shall be upon the applicant to show that the proposed subdivision is not premature." Section 1202.20 Subd. 1(b). The applicant must convince you that the subdivision is not premature under the criteria set out in Section 1202.20 Subd. 1(c). If you have doubts, then you must recommend denial as premature.

We understand that the Commission may have received different advice about the options available to you as a Commission. While we express no opinion on the options that the Commission could have considered prior to the passage of Section 1202.20, it is quite clear that since July 2025, the Commission must review the criteria set out in Section 1202.20 in deciding whether to recommend rejection of the application as premature.

There are five criteria that the Commission and City Council must consider in determining whether an application is premature, as set out in Section 1202.20, Subd. 1, (c). The text of Section 1202.20 is attached as Exhibit H hereto (this section has not been codified in the online code and is only available by viewing Ordinance 617). The relevant criteria of premature for the Shorewood Development include:

> (1) Inconsistency with Comprehensive Plan. The proposed subdivision is inconsistent with the purposes, objectives, and recommendations of the duly adopted Comprehensive Plan of Shorewood, as may be amended.
>
> (3) Lack of Adequate Roads to Serve the Subdivision. A proposed subdivision shall be deemed to lack adequate roads if direct access to a public road is not possible or if the roads which serve the proposed subdivision are deemed inadequate by the City Engineer.
>
> (5) Lack of Adequate Drainage: A condition of inadequate drainage shall be deemed to
>
> exist if:
>
> (a) Surface or subsurface water retention and runoff is such that it constitutes a

danger to the structural security of the proposed structures and/or adjacent properties.

[(b) through (d) omitted]

III. Danger to the structural security of the proposed structures and/or adjacent properties.

As noted above, the Commission and the City Council must deny an application as premature if: "Lack of Adequate Drainage: A condition of inadequate drainage shall be deemed to exist if: (a) Surface or subsurface water retention and runoff is such that it constitutes a danger to the structural security of the proposed structures and/or adjacent properties."

The Planning Department does not appear to have concluded whether or not surface or subsurface water retention and runoff is such that it constitutes a danger to the structural security of the proposed structures and/or adjacent properties. This seems to be an open question.

The applicant has provided a stormwater analysis. The applicant is of course motivated to devise flood related numbers that will fall within the city guidelines. Even with such obvious motivation, the estimates of runoff volume, for example, are just barely under the city maximums. Even a very slight change to the calculations would render the project not in compliance.

As a result, in order to conclude that the applicant has affirmatively convinced the Commission that the project will not constitute a danger to the structural security of the proposed structures and/or adjacent properties, the commission must conclude that the applicant's calculations are exactly right, without any error at all.

However, it is clear that the applicant's calculations cannot be relied on. For example, the MCWD recently rejected the applicant's calculation of 100 year high water level for failing to take into consideration certain important factors that likely will lead to a higher 100 year high water level than posited by the applicant – and thus a higher risk that the project will constitute a danger to the structural security of adjacent properties. In short, it is likely that the proposed subdivision will flood the neighbors.

The inaccuracy of the 100 year high water level is also demonstrated by observational data of neighbors – neighbors who have lived in the property for well less than 100 years have on multiple occasions seen water levels above the levels calculated by applicant. Very small increases in the water levels is likely to result in flooding for neighbors.

Further, as recently as January 27, 2026, MCWD Permitting Technician Abigail Couture received an email from an MCWD engineering consultant expressly identifying deficiencies in the applicant's analysis. See Exhibit J. Specifically, the consultant concluded that "the applicant's current analysis of high water level impacts and proposed floodplain fill appears to be based on modeling that does not consider the upstream and downstream hydrologic conditions of the site (e.g., wetlands, drainage area, etc.)." The memorandum makes clear that these deficiencies are sufficiently serious to require further conversations and necessary action by the applicant.

The commission has multiple sources of indisputable proof that the applicant's calculations cannot be relied on. If the flood-related calculations had a great deal of room for error, that would be one thing, but they do not. Even a very small error will result in the project being out of compliance – and neighbors being flooded. The applicant clearly has not met its burden of convincing the Commission that the subdivision will not constitute a danger to the structural security of the proposed structures and/or adjacent properties. Based on this factor alone, the Commission must deny the application as premature.

Further, the applicant has staged its applications to take advantage of more lenient rules from the MCWD. The MCWD only applies its stormwater management rules, which would require more stringent rules relating to stormwater management and wetland management, to developments of three (3) or more lots. The applicant has submitted this application as two (2) lots only, even though it has regularly referred to the entire Shorewood Development, which includes additional adjacent lots (See PID: 29-117-23-24 and PID: 29-117-2344-0025).[1] The Shorewood Development is documented in the applicant's Certificate of Survey which can be found on the City of Shorewood's website and describes and illustrates two (2) of applicant's other owned properties (Lots 21 and 25) sitting north of the two (2) requested lots described in the application. Applicant failed to include or mention his ownership of additional adjacent Lots 7,8,19 20 (PID: 29-117-2344-0019) which sit directly east of these other properties and are also likely to be developed. By creative staging of applications, the applicant has avoided the MCWD's more rigorous rules, and has avoided having the MCWD check and confirm the accuracy of the applicant's calculations that are the basis for its argument that the subdivision will not constitute a danger to the structural security of the proposed structures and/or adjacent properties.

Applicant has taken advantage of a loophole to avoid stricter regulations – but these regulations recognize the fact that a larger development creates a larger "danger to the structural security of the proposed structures and/or adjacent properties". The fact that the applicant has attempted to avoid requirements intended to protect neighbors from flooding is in itself adequate proof that the applicant has not carried its burden of convincing the Commission that the subdivision will not constitute a danger to the structural security of the proposed structures and/or adjacent properties. Based on this factor alone, the Commission must deny the application as premature.

By having the MWCD review this project as two (2) properties instead of three (3), the applicant also takes advantage of smaller wetland buffer areas. But the wetland buffers exist in part to mitigate the risk of flooding. One purpose of the buffer is to provide space for "infiltration", which is water sinking into the ground instead of running off. The greater buffer means that runoff would have more time to sink into the ground instead of running into, and raising the level, of the wetland, which in turn can flow into neighboring properties. The MCWD rules provide that a greater buffer is required for larger developments in part to control the greater flooding risk of larger developments. By avoiding these requirements, applicant creates a greater risk of flooding.

Critically, the obligation to determine "the subdivision will not constitute a danger to the structural security of the proposed structures and/or adjacent properties" is separate from and in addition to the applicant's other obligations to provide, for example, stormwater analyses. The applicant of course must provide any analyses required under those specific sections, but the City Council and, by extension the Commission, must make a separate determination that the subdivision will not constitute a danger. The applicant cannot just point to their stormwater analyses, the Commission and City Council must *separately determine* this issue based on the criteria set out in Section 1202.20, Subd. 1(c)(5).

As noted above, the applicant must convince the Commission that the proposed development will not result in "a danger to the structural security of the proposed structures and/or adjacent properties". If the Commission has any doubts given the above information, the Commission "shall" reject the application as premature. At a more basic level, approval of a project with the substantial red flags noted above would impose flooding on neighbors while rewarding the applicant by allowing him to skip the cost of appropriate flood control measures, effectively foisting his obligations on your neighbors, current residents of

[1] Residents are separately submitting comments to the MWCD, which we expect will result in the MWCD treating the Shorewood Development as one project, with 3 or more properties.

Shorewood, and the city. Clearly, this is exactly the situation that the new denial as premature section of the City Code was intended to avoid.

III. Inconsistency with the Comprehensive Plan

City Code Section 1202.20, Subd. 1(c)(1) requires the City Council to deny as premature a proposal that is inconsistent with Comprehensive Plan. "The proposed subdivision is inconsistent with the purposes, objectives, and recommendations of the duly adopted Comprehensive Plan of Shorewood, as may be amended." Elsewhere, the City Code provides that "It is the policy of the city that the enforcement, amendment and administration of this chapter be accomplished with due consideration of the direction contained in the Shorewood Comprehensive Plan as developed and amended from time to time by the City Council." Section 1202.6 Subd. 2(b).

Simply put, the applicant has made no effort at all to demonstrate that the application is consistent with the Comprehensive Plan. We note again that the burden of proving that the application is consistent with the Comprehensive Plan is on the applicant – Residents do not have any burden of convincing the Commission that the application is inconsistent. In the absence of any effort by applicant to demonstrate consistency with the Comprehensive Plan, the Commission must determine that the project, on its face with no further information than provided by the applicant, is clearly consistent with the Comprehensive Plan. If the commission cannot make that determination, then it must recommend denial of the application as premature.

The proposal is clearly inconsistent with the Comprehensive Plan in the following ways, as set out in the 2040 Comprehensive Plan, Policy Plan. See Exhibit M.

<u>Natural Resources Section, policy number:</u>

6. New development and the expansion of existing activities shall be restricted and regulated where environmental damage may result.

7. Development on or near shorelands, wetlands, floodplains and other natural features which perform important environmental functions in their natural state shall be restricted or prohibited.

8. Natural drainage patterns shall be preserved whenever feasible.

12. Environmentally sensitive areas such as wetlands and wooded areas are to be acquired or publicly controlled, when necessary to preserve their integrity as funds are available.

13. Conservation easements and similar methods of preserving open space shall be pursued to ensure that such areas remain in open space indefinitely.

<u>Land Use Section, General policy number:</u>

3. All development proposals shall be analyzed on an individual basis from a physical, economic and social standpoint to determine the most appropriate uses within the context of the planning district in which it is located and within the community as a whole

<u>Land Use Section, Residential policy number:</u>

9. Residential development shall be prohibited on floodplains, bluffs, wetlands and other natural features that perform important protection functions in their natural state.

10. New residential development shall maintain the natural environmental character of Shorewood through the preservation of significant trees, protection of bluffs and wetlands, and maintenance of shoreland impact zones

Housing Section, Compatibility policy number:

2. The character of individual residential neighborhoods shall be respected and maintained

As noted above, the applicant has the burden of proof, they must convince you that the proposal is consistent with the Comprehensive Plan.

If the Commission is not convinced that the proposed subdivision is consistent with these provisions of the Comprehensive Plan, then the Commission must recommend that the application be denied as premature.

We are aware that the Commission may previously have been advised that it may not deny an application based on failure to conform with the Comprehensive Plan. We express no opinion on whether that was historically true, but the addition of City Code Section 1202.20 clearly provides a legal basis for the right of the City to deny as premature applications that do not comport with the Comprehensive Plan.

More generally, denial of an application for failure to comply with a comprehensive plan is a power that is granted to cities in Minnesota. See, e.g., SuperAmerica Grp., Inc., v. City of Little Canada, 539 N.W.2d 264, 268 (Minn. Ct. App. 1995), (holding that incompatibility between proposed use and "definite and objective standards" in city's comprehensive plan justified denial of conditional-use permit), review denied. See Exhibit N. See also Exhibit O, RDNT, LLC v. City of Bloomington, 861 N.W.2d 71, 77 (Minn. 2015) (upholding the denial of a project that was inconsistent with the city's comprehensive plan and finding that the City's decision to deny a conditional use permit application on the ground that the proposed use would be injurious to the surrounding neighborhood or otherwise harm the public health, safety, and welfare was not unreasonable, arbitrary, or capricious.”). That is especially the case where, as here, the city code is clear that compliance with the comprehensive plan is a basis for rejection of an application. Simply put, denying the application based on the Comprehensive Plan is, in this case, legally allowed.

IV. Prior City Determinations and Severe Process Irregularities Prevent This Application from Being Approved.

The City has previously taken a number of positions that require denial of this application, but then has, without explanation or any formal process of any type, changed those positions, apparently with the goal of allowing this particular development to be approved.

For example, on May 2025, a few months before applicant purchased the property, Matt Pavek P.E., Principal Civil Engineer discussed the development of the property and informed the MCWD and a real estate agent, “After meeting with the City it was determined per their requirements that only 1 lot is possible in that location without the extension of a public street. Due to site constraints and cost, street extension is not feasible, so the project is likely not moving forward.” See Exhibit P. Further, there is evidence to show the City of Shorewood had previously decided that the wetlands must be placed in outlots, which would severely limit development, and that the city would not allow access for water and

sewer off of Birch Bluff for the northern properties of the Shorewood Development. Somewhere along the way, the Planning Department either changed the rules, provided its own variances or just dropped all these requirements, all for reasons unknown and unexplained and with no process.

The Commission has had no explanation of why the development is compliant today when it was not compliant 9 months ago. If the applicant has not convinced the Commission that the development is compliant now when it was not before – and the burden is on the applicant to remove any reasonable doubt - then the Commission must reject the proposal as premature.

V. Other Unresolved Concerns Regarding Impacts on Neighboring Properties and the Environment

The following significant concerns represent open questions warranting full evaluation *before* any development activity is approved on this site:

- Irreversible Fragmentation of a Keystone Natural Area. The proposed intense grading, home construction, driveway cuts, increased impervious surface, decreased natural infiltration areas, and loss of mature vegetation would fragment what is currently a contiguous natural area providing critical ecological functions. Once fragmented, these functions cannot easily be restored. *Has this impact been adequately evaluated?*

- Habitat Loss and Wildlife Displacement. The removal of 98 significant trees—and the inevitable collateral loss of additional trees on both the site and neighboring properties—will substantially diminish the forest canopy's ability to support the diverse wildlife currently present, including species that rely on mature hardwood forest habitat. *Is the proposed mitigation adequate?*

- Cumulative Effects Not Captured in Piecemeal Review. Evaluating this application in isolation—without considering the connected development activity and reasonably foreseeable future phases—risks understating the true cumulative impact on the area's hydrology, ecology, and neighborhood character. *Has the City evaluated cumulative impacts as required when it has knowledge of a common plan of development?*

- Easement Access/Front Elevation Rotation. The site access using a roadway easement along the back side of Maple View Court, which effectively disrupts and renders the backyards of at least two of the existing houses useless. Is the egress and ingress consistent with the access requirements under city code and best development practices in the existing shoreland overlay? Further, the rotation of the front elevation of the proposed residences to this easement, enables setbacks to be reduced and thus the scale and structure volume of the proposed residences now masses critically close to and overshadows at least two of the existing residences on Maple View Court. This scale and structure volume dwarfs the existing residences. *Why would the city permit such a rotation to enable two potential buildable lots when the parcel itself is more appropriate for single building lot given the existing slopes, drainage patterns, and environmental diversity on the site.*

These questions and concerns have not been adequately addressed or answered.

VI. The Commission's Authority and Responsibility to Deny a Premature Application

The Residents respectfully submit that the Commission has both the authority and the responsibility under Section 1202.20 to deny an application that leaves material questions unresolved. The statutory timeline to respond requires a decision—it does not require an approval. Denial as premature is the appropriate and lawful response when an application is incomplete and fails to adequately address the

cumulative impacts from connected actions, see Exhibit R, and phased actions, See Exhibit S, when the record does not support required findings, or when significant questions remain about consistency with applicable standards and potential harm to neighboring properties and the environment.

The Residents do not question the applicant's right to pursue development. The concern is straightforward: given the hydrologic interconnectedness and ecological sensitivity of this area, and given the open questions identified above and in the attached exhibits, **approval at this time would be premature**. The City owes it to its residents—and to the environment it has committed to protect in its Comprehensive Plan—to ensure these questions are answered before granting approvals that may be difficult or impossible to undo.

VII. Requested Commission Action

For all the reasons set forth above, the Residents respectfully request that the Planning Commission take the following actions:

1. **Deny the Application**. The application for preliminary and final plat approval should be denied based on the unresolved questions and concerns identified herein. The application is not ready for approval.

2. **Enter This Letter into the Public Record**. This letter and all accompanying exhibits should be made part of the official record for this application.

3. **Require Answers to Open Questions Before Any Future Consideration.** If the applicant chooses to resubmit, the Commission should require that the open questions identified in this letter—regarding cumulative impacts, downstream flooding, stormwater management, the May 2025 feasibility determination, the public use easement, and consistency with the Comprehensive Plan—be adequately addressed in the application materials.

4. **Require Cumulative Impact Analysis.** Before approving any phase of development by this applicant in this area, the Commission should require disclosure of the full scope of planned development and evaluation of cumulative environmental impacts.

VIII. Conclusion

Given the pristine nature of this property, its role as a keystone environmental resource, the significant potential for adverse impacts on neighboring properties, and its direct hydrologic connection to Lake Minnetonka, this development warrants the most careful and complete review before any irreversible changes occur. The application, as submitted, does not provide adequate answers to the questions that must be resolved before approval can responsibly be granted.

The Residents appreciate the Commission's stewardship and stand ready to provide additional information, site observations, photographs, or testimony as the Commission may find helpful.

This letter is not intended to waive, and does not waive, any rights, claims, objections, or defenses available to the Residents, all of which are expressly reserved. The Residents further reserve the right to supplement or clarify the record as additional information becomes available.

Thank you for your thoughtful consideration of these concerns.

Respectfully submitted,

MONROE MOXNESS BERG PA

/s/ Jodi L. Tagessen

Jodi L. Tagessen

cc: Residents of Maple View Court

Exhibit A

Application for preliminary and final plat approval and right-of-way vacation for Watton Ponds 2nd Addition

HILL INCORPORATED
CIVIL ENGINEERS & LAND SURVEYORS

2999 County Road 42 W, Ste. 100
Burnsville, MN 55306-5904
www.mnhill.com
952.890.6044

October 20, 2025

City of Shorewood
Planning Department
Address Line 1
Address Line 2
Email Address

Watten Ponds 2nd Addition Preliminary & Final Plat, and ROW Vacation Application

Audrius Asakenas of Chestnut Business Park has purchased the 4.3 acre vacant property at the end of the Maple View Court cul-de-sac. An application for preliminary and and final plat has been submitted to subdivide the property into two single-family residential lots. Each lot will be approximately 2 acres in size and will be in conformance to city zoning standards. Although an extension of the Maple View Court cul-de-sac is shown for the subdivision it is proposed that both lots be served by a single shared driveway from Maple View Court to minimize grading and tree loss. The subdivision will not impact the wetlands or utilize the undeveloped right of ways surrounding the property. City wetland buffer setbacks and protection are incorporated in the development plans. As part of the application, and as discussed with City staff at pre-application meetings, the owner is proposing to vacate their half of the 2nd Street ROW.

The two lots will be served by city sewer and water connections from Maple View Court. All construction activity will be from Maple view Court and will not utilize the surrounding undeveloped ROW. It is intended to have initial grading and sewer/water services constructed this year with home construction to start Spring of 2026. Construction will be dependent on purchase of the lots, approvals and weather. The Minnehaha Creek Watershed has been notified of the request. They are in the process of reviewing the wetland delineation and development application.

BENCHMARKS

#1 TNH AT END OF CUL-DE-SAC OF MAPLE VIEW COURT, ON EAST SIDE OF SITE
ELEV=956.35

WATTEN POND 2ND ADDITION RESIDENTIAL

SHOREWOOD, MINNESOTA

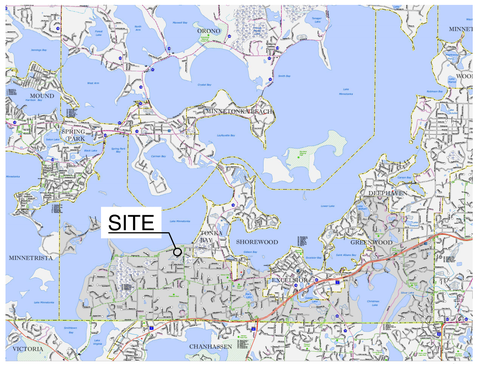
PRELIMINARY PHASE

FOR

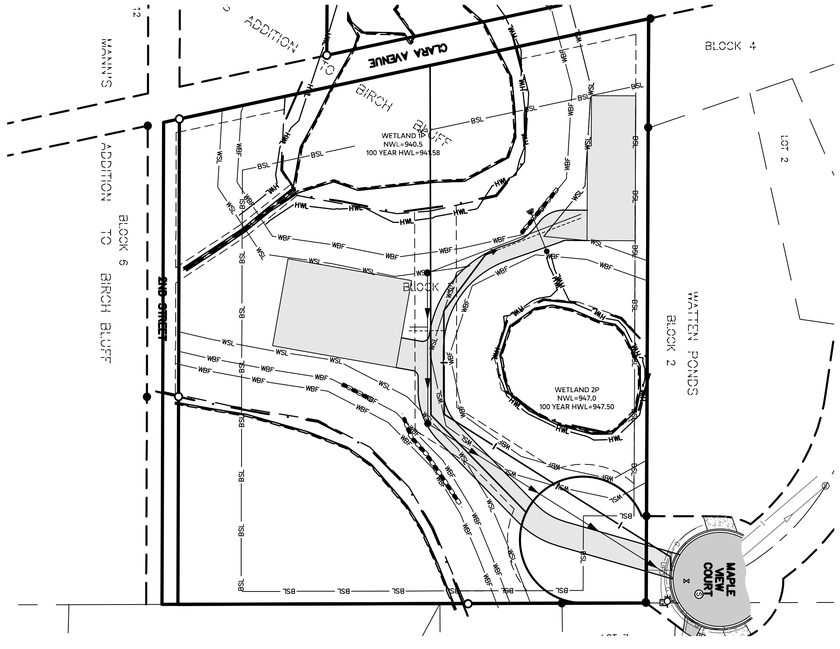
GRAVITY INVESTMENT LLC

INDEX

TITLE SHEET	C100
EXISTING CONDITIONS	1 OF 1
PRELIMINARY PLAT	2.0
GRADING & DRAINAGE PLAN	C300
SITE & UTILITY PLAN	C400
PHASE I EROSION & SEDIMENT CONTROL PLAN	C500
PHASE II EROSION & SEDIMENT CONTROL PLAN	C501
TREE PRESERVATION PLAN	C600



LOCATION MAP



DEVELOPER

GRAVITY INVESTMENT LLC
1680 WEST FARM ROAD
CHASKA, MN 55318
612-865-4100

PROJECT ENGINEER

JAMES R. HILL, INC
2999 WEST COUNTY ROAD 42, SUITE 100
BURNSVILLE, MN 55306
952-890-6044

SURVEYOR

JAMES R. HILL, INC
2999 WEST COUNTY ROAD 42, SUITE 100
BURNSVILLE, MN 55306
952-890-6044

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www.mnhill.com

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Date: XX/XX/20 Reg No. XXXXX

PRELIMINARY

SHOREWOOD RESIDENTIAL
SHOREWOOD, MN
TITLE SHEET
FOR
CHESTNUT BUSINESS PARK LLP

DRAWN BY
VUN

DATE
10/20/25

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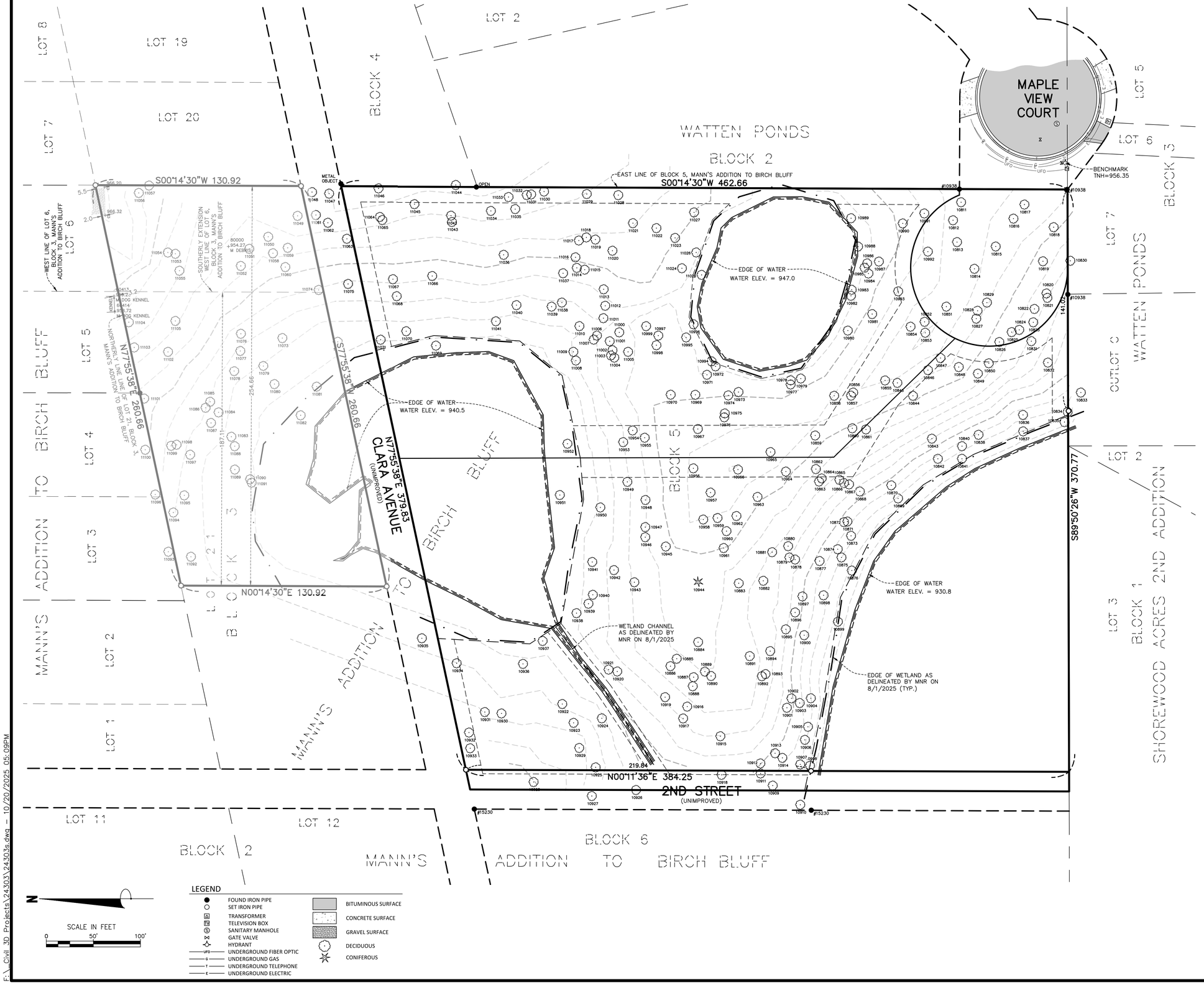
LOT 19
LOT 20
LOT 2
LOT 8
LOT 7
LOT 6
LOT 5
LOT 4
LOT 3
LOT 1
LOT 11
LOT 12
BLOCK 4
BLOCK 5
BLOCK 2
BLOCK 1
BLOCK 6
WATTEN PONDS
MAPLE VIEW COURT
BIRCH BLUFF
MANN'S ADDITION TO BIRCH BLUFF
SHOREWOOD ACRES 2ND ADDITION
OUTLOT C WATTEN PONDS
S00°14'30"W 130.92
METAL OBJECT
OPEN
EAST LINE OF BLOCK 5, MANN'S ADDITION TO BIRCH BLUFF
S00°14'30"W 462.66
#10938
BENCHMARK
TNH=956.35
WEST LINE OF LOT 6, BLOCK 3, MANN'S ADDITION TO BIRCH BLUFF
SOUTHERLY EXTENSION OF WEST LINE OF LOT 6, BLOCK 3, MANN'S ADDITION TO BIRCH BLUFF
80000 854.27 M DEBRIS
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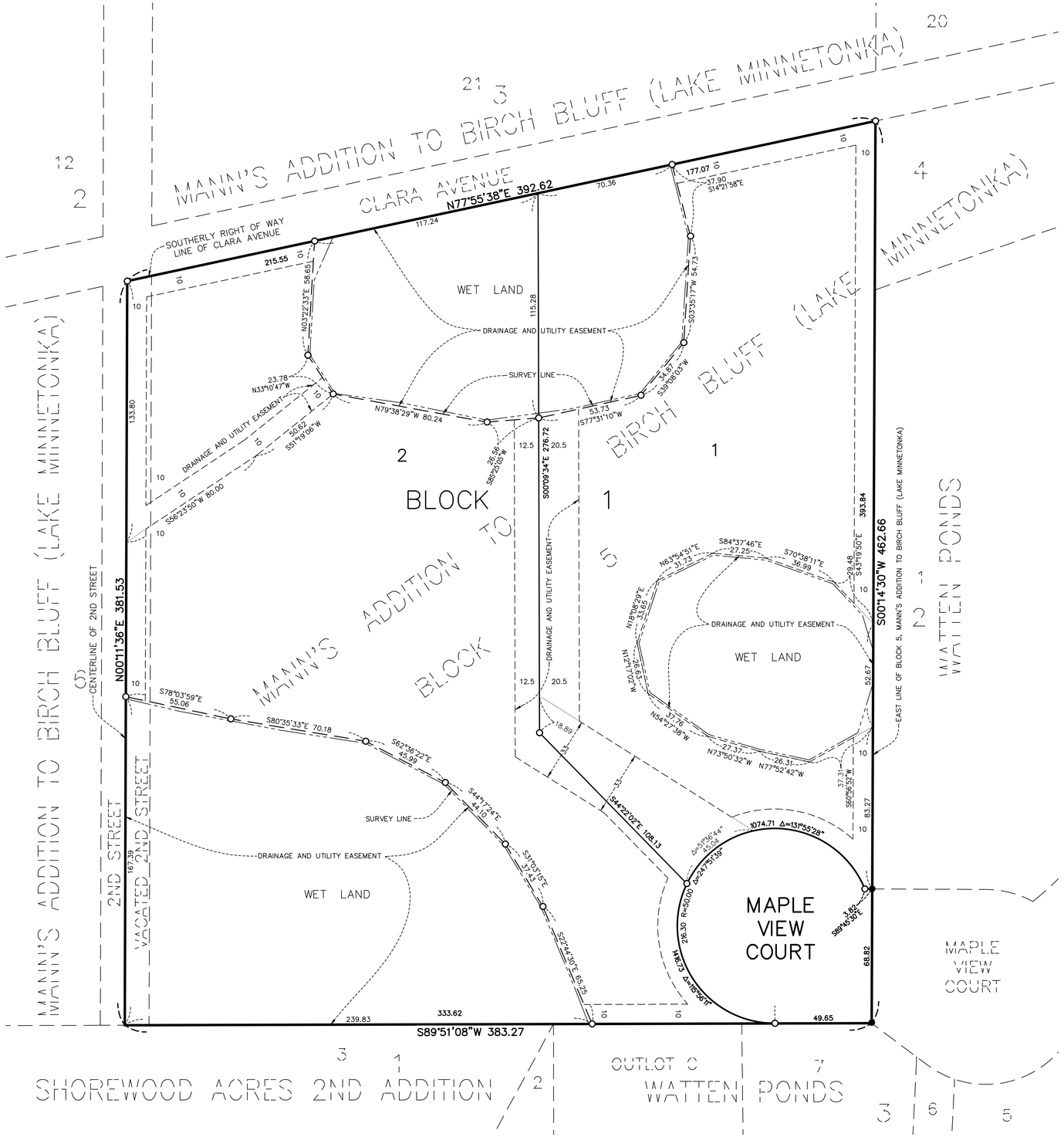
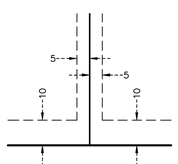


DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:



DRAINAGE AND UTILITY EASEMENTS BEING 5 FEET IN WIDTH, UNLESS OTHERWISE INDICATED, ADJOINING LOT LINES, AND BEING 10 FEET IN WIDTH, UNLESS OTHERWISE INDICATED, ADJOINING RIGHT OF WAY LINES, AS SHOWN ON THIS PLAT.

SCALE IN FEET
0 1X 2X

SURVEYED PROPERTY

Legal Description:

All of Block 5, Mann's Addition To Birch Bluff (Lake Minnetonka)

AND

All that part of the east half of the 2nd Street, originally dedicated on the recorded plat of Mann's Addition To Birch Bluff (Lake Minnetonka), Hennepin County, Minnesota, and now to be vacated, which lies south of the southerly right of way line of Clara Avenue.

ZONING INFORMATION

CURRENT ZONING:	R-1A RESIDENTIAL
PROPOSED ZONING:	R-1A RESIDENTIAL

SITE DATA

GROSS AREA	3.61 ACRES
LOTS	2 LOTS
GROSS DENSITY (TOTAL UNITS/GROSS AREA)	0.55 D.U./ACRE
LOTS	3.41 ACRES
R.O.W.	0.20 ACRES
TOTAL	3.61 ACRES

MINIMUM SETBACKS (SINGLE FAMILY)

FRONT	50 FEET
SIDE (HOUSE & GARAGE)	10 FEET
SIDE (STREET)	50 FEET
REAR	50 FEET

MINIMUM LOT REQUIREMENTS

LOT SIZE	40,000 S.F.
LOT WIDTH	120 FEET
LOT DEPTH	150 FEET

HILL INCORPORATED
2999 WEST C.R. 42, SUITE 100
BURNSVILLE, MN 55306
PHONE: 952-890-6044
marcus@mnhill.com
www.mnhill.com

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.

Reg.No.

Date:

PRELIMINARY

WATTEN PONDS 2ND ADDITION

SHOREWOOD, MINNESOTA

PRELIMINARY PLAT

FOR

GRAVITY INVESTMENT, LLC

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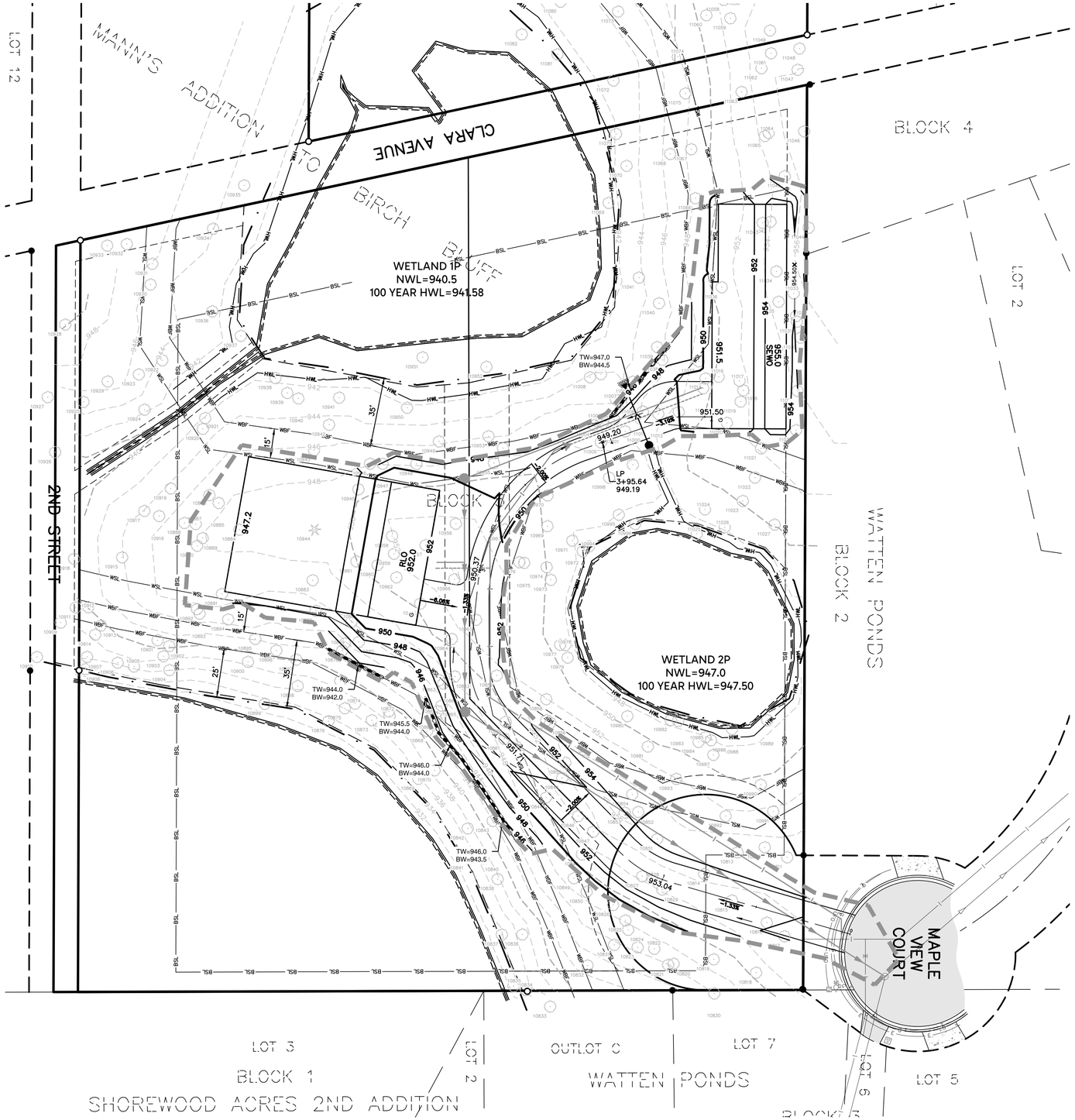

LEGEND

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- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
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- EXISTING CLEANOUT
- EXISTING ELECTRIC TRANSFORMER BOX
- EXISTING TELEPHONE BOX
- EXISTING TELEVISION BOX
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- EXISTING FENCE
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- EXISTING RAILROAD
- EXISTING CONTOUR
- EXISTING WETLAND EDGE
- EXISTING SIGN
- EXISTING TREELINE/TREES
- SB-1 EXISTING SOIL BORING LOCATION
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING GRAVEL
- EXISTING WETLAND
- PROPOSED WATERMAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED DRAINTILE
- PROPOSED CURB & GUTTER
- PROPOSED RETAINING WALL
- PROPOSED CONTOUR
- PROPOSED GRADING LIMITS
- PROPOSED EMERGENCY OVERFLOW
- PROPOSED CONCRETE
- PROPOSED ASPHALT SURFACE
- PROPOSED INFILTRATION BASIN

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

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SHOREWOOD, MN

PRELIMINARY GRADING & DRAINAGE PLAN
FOR
CHESTNUT BUSINESS PARK LLP

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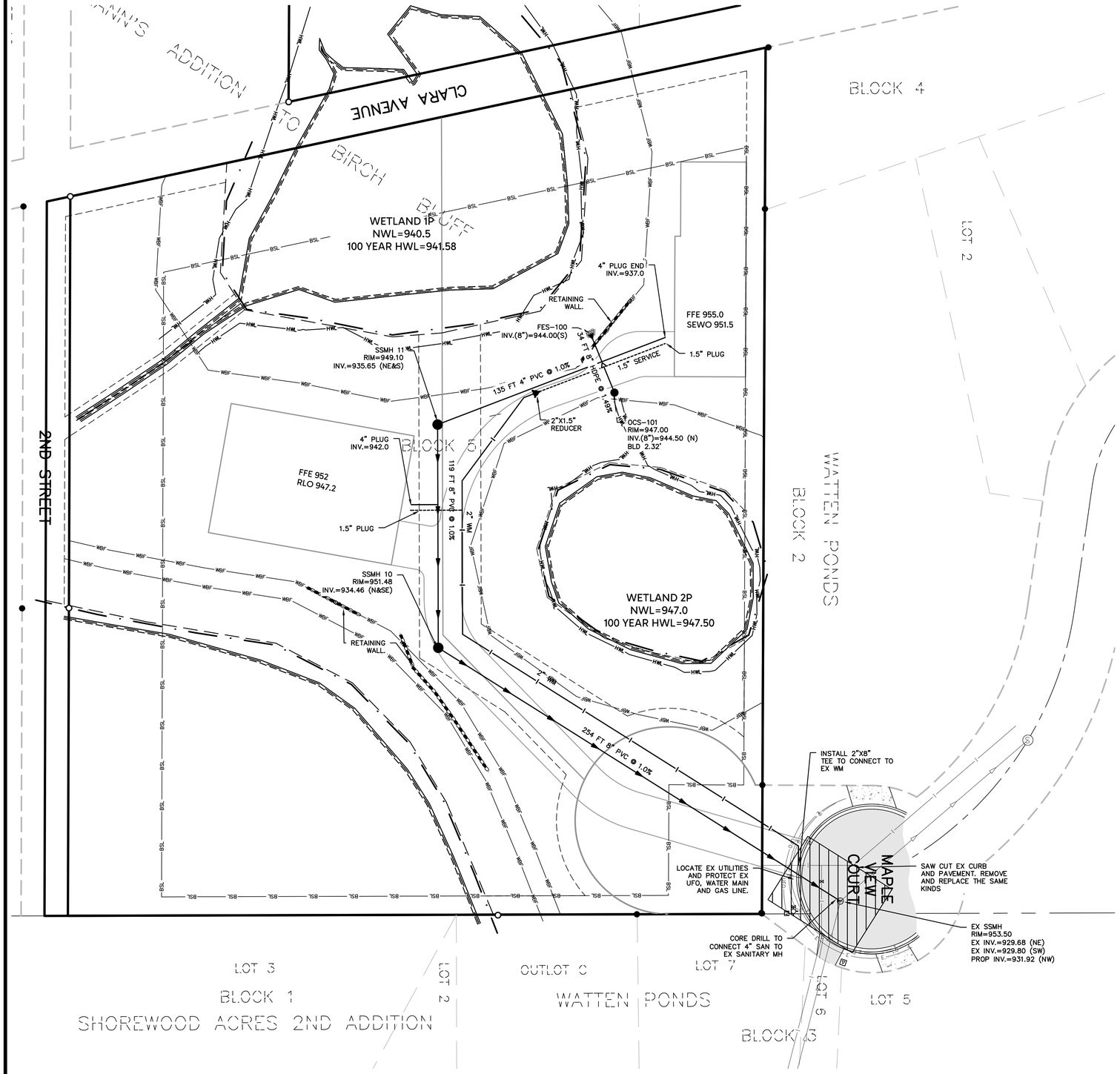

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- PROPOSED RETAINING WALL
- PROPOSED CONCRETE
- PROPOSED ASPHALT SURFACE
- PROPOSED INFILTRATION BASIN
- PROPOSED GRADING LIMITS
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SHOREWOOD RESIDENTIAL
SHOREWOOD, MN

PRELIMINARY SITE & UTILITY PLAN

FOR
CHESTNUT BUSINESS PARK LLP

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10/20/25

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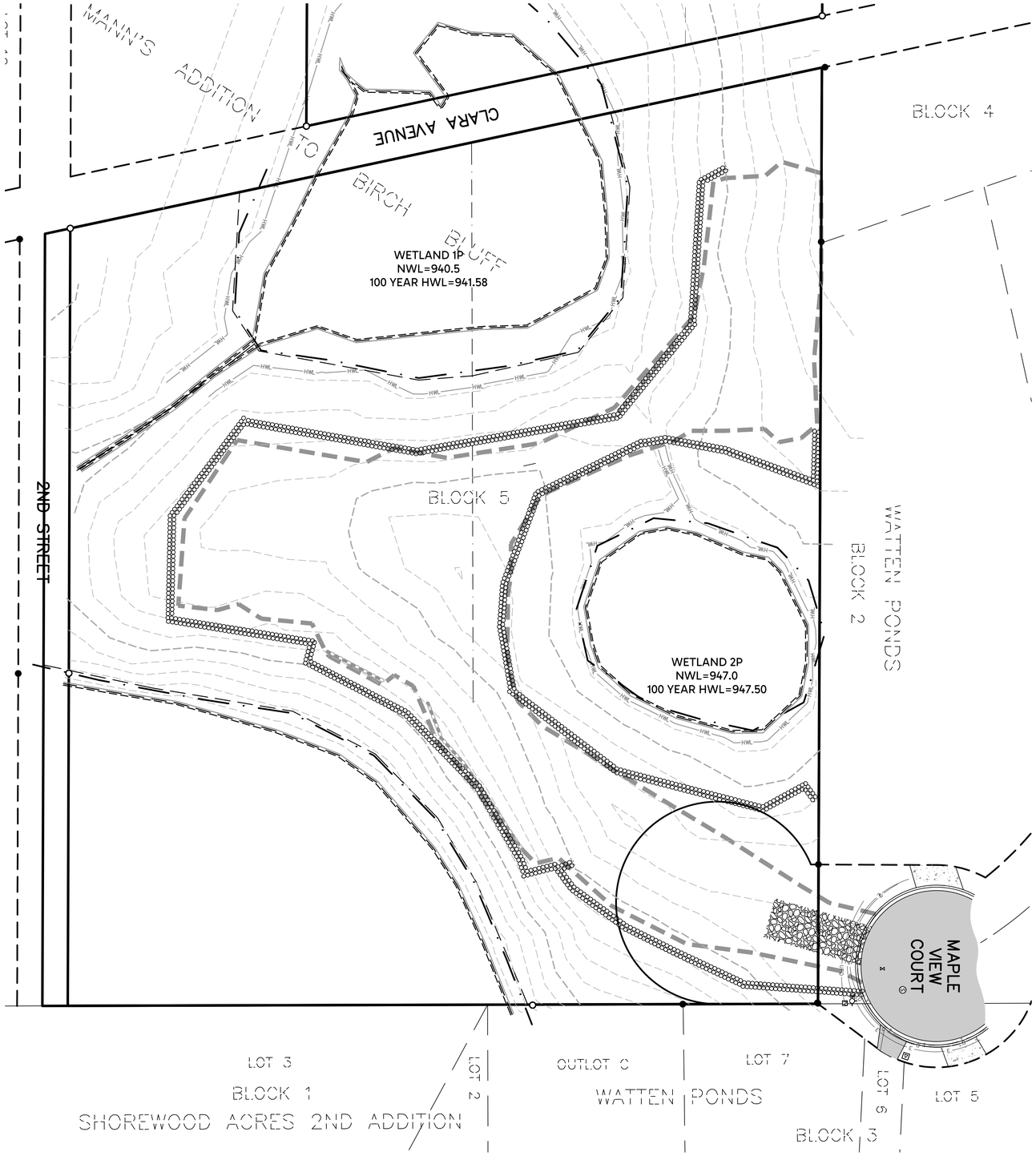

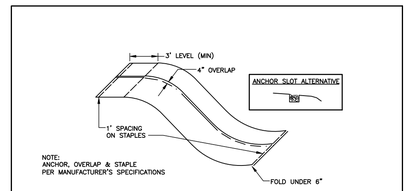

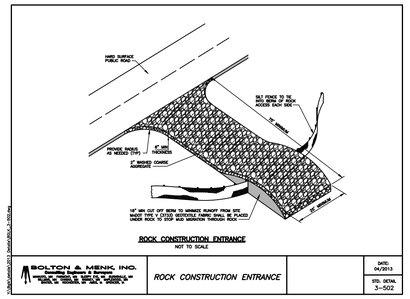

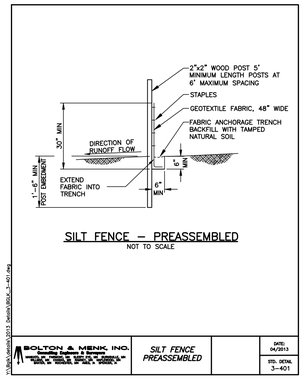

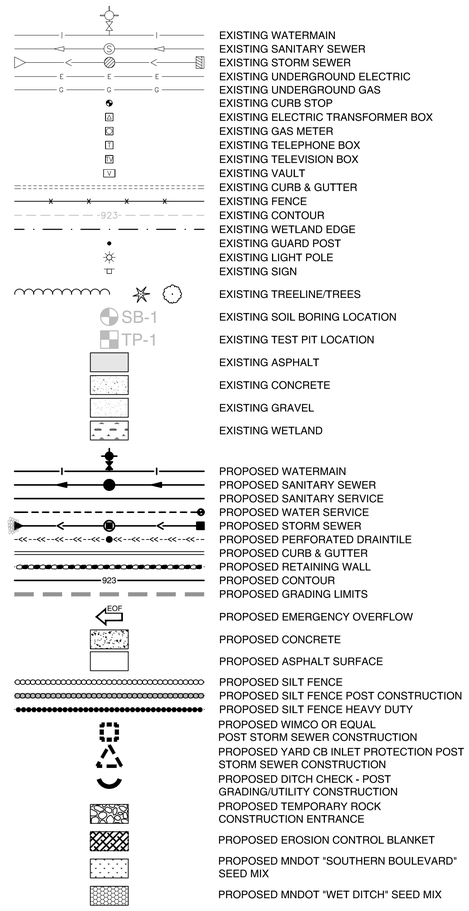

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SHOREWOOD RESIDENTIAL
SHOREWOOD, MN

PHASE I EROSION CONTROL PLAN

FOR

CHESTNUT BUSINESS PARK LLP

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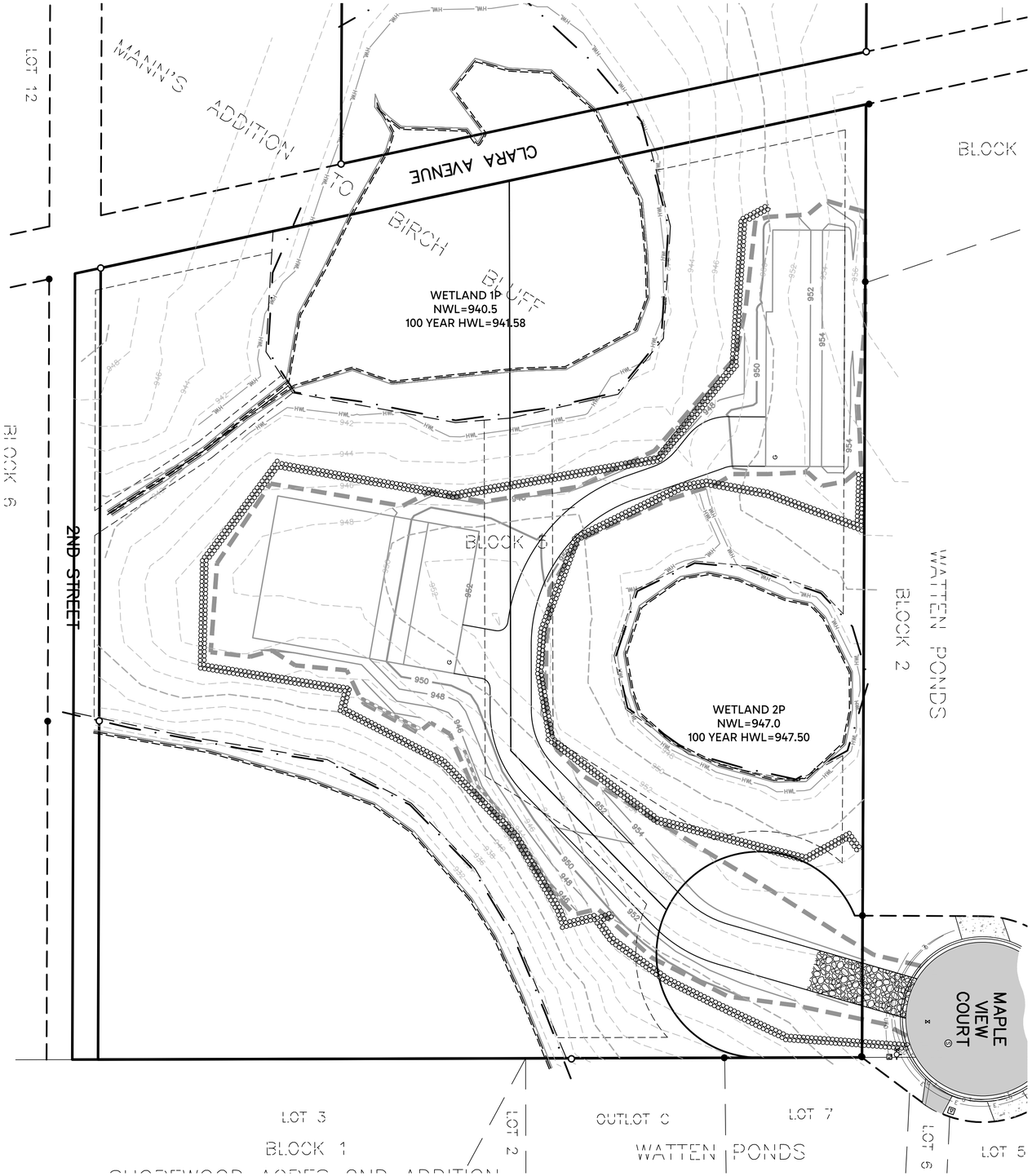

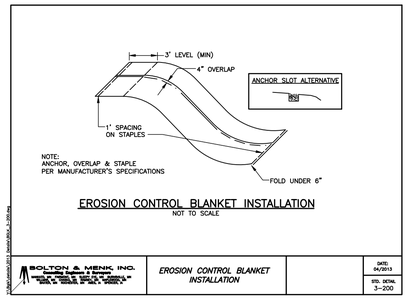

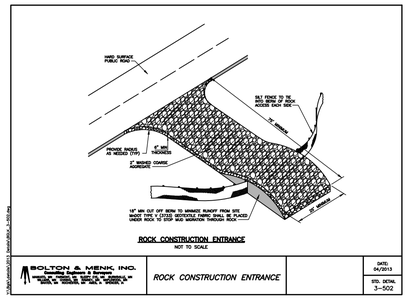

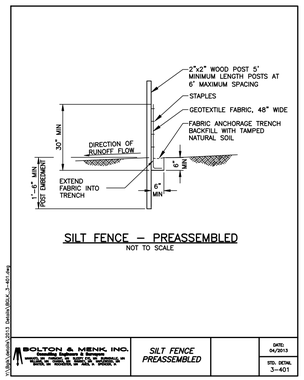

EXISTING WATERMAIN
EXISTING SANITARY SEWER
EXISTING STORM SEWER
EXISTING UNDERGROUND ELECTRIC
EXISTING UNDERGROUND GAS
EXISTING CURB STOP
EXISTING ELECTRIC TRANSFORMER BOX
EXISTING GAS METER
EXISTING TELEPHONE BOX
EXISTING TELEVISION BOX
EXISTING VAULT
EXISTING CURB & GUTTER
EXISTING FENCE
EXISTING CONTOUR
EXISTING WETLAND EDGE
EXISTING GUARD POST
EXISTING LIGHT POLE
EXISTING SIGN
EXISTING TREELINE/TREES
EXISTING SOIL BORING LOCATION
EXISTING TEST PIT LOCATION
EXISTING ASPHALT
EXISTING CONCRETE
EXISTING GRAVEL
EXISTING WETLAND

PROPOSED WATERMAIN
PROPOSED SANITARY SEWER
PROPOSED SANITARY SERVICE
PROPOSED WATER SERVICE
PROPOSED STORM SEWER
PROPOSED PERFORATED DRAINTILE
PROPOSED CURB & GUTTER
PROPOSED RETAINING WALL
PROPOSED CONTOUR
PROPOSED GRADING LIMITS
PROPOSED EMERGENCY OVERFLOW
PROPOSED CONCRETE
PROPOSED ASPHALT SURFACE
PROPOSED SILT FENCE
PROPOSED SILT FENCE POST CONSTRUCTION
PROPOSED SILT FENCE HEAVY DUTY
PROPOSED WIMCO OR EQUAL POST STORM SEWER CONSTRUCTION
PROPOSED YARD CB INLET PROTECTION POST STORM SEWER CONSTRUCTION
PROPOSED DITCH CHECK - POST GRADING/UTILITY CONSTRUCTION
PROPOSED TEMPORARY ROCK CONSTRUCTION ENTRANCE
PROPOSED EROSION CONTROL BLANKET
PROPOSED MNDOT "SOUTHERN BOULEVARD" SEED MIX
PROPOSED MNDOT "WET DITCH" SEED MIX

Know what's below. Call before you dig.

N

SCALE IN FEET
0 30 60 90
1 inch = 30 feet

HILL INCORPORATED
2999 WEST C.R. 42, SUITE 100
BURNSVILLE, MN 55306
PHONE: 952-890-6044
emoil@mnhill.com
www.mnhill.com

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

ENTER NAME HERE
Date: XX/XX/20 Reg No. XXXXX

PRELIMINARY

SHOREWOOD RESIDENTIAL
SHOREWOOD, MN
PHASE II EROSION CONTROL PLAN
FOR
CHESTNUT BUSINESS PARK LLP

DRAWN BY
BDB

DATE
10/20/25

REVISIONS

CAD FILE
24303ERC

PROJECT NO.
24303

C501

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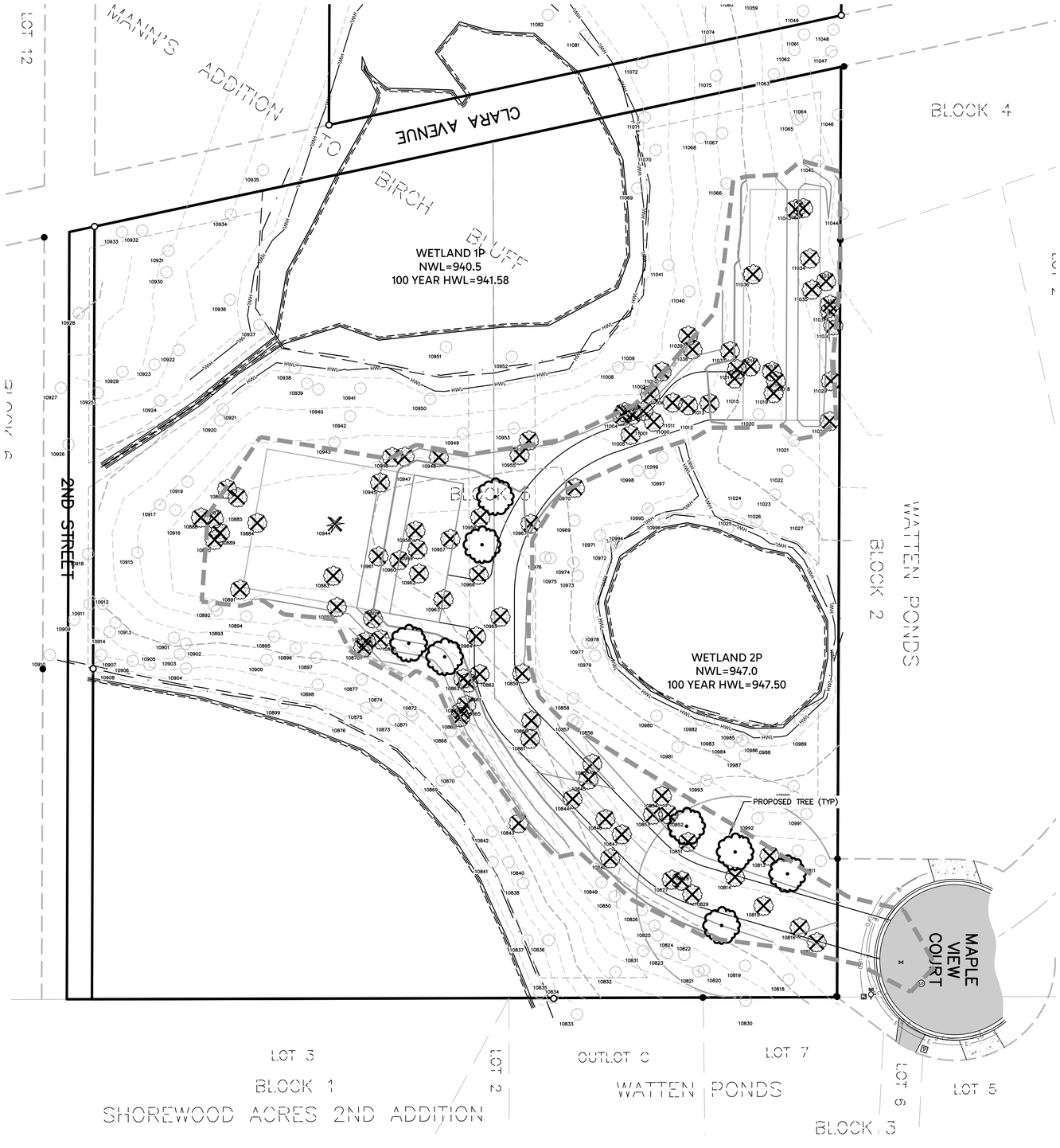

LEGEND

- EXISTING TREE
- REMOVE TREE
- EXISTING TREE (OFF-SITE)
- GRADING/DISTURBANCE LIMITS

NOTES

1. THE HOUSE LAYOUT IS CONCEPT. FINAL LANDSCAPE PLAN THAT MEETS THE REQUIREMENTS OF THE CITY OF SHOREWOOD SHALL BE SUBMITTED WITH BUILDING PERMIT.

2. MINIMUM TREE REPLACEMENT IS 0.9 ACRES X 8 TREES/ACRE = 7.2 TREES.
PROPOSED 8 TREES SHOWN ON PLAN.

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

N

SCALE IN FEET
0 30 60 90
1 inch = 30 feet

HILL INCORPORATED
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email@mnhill.com
www.mnhill.com

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Date: _____ Reg.No. _____

SHOREWOOD RESIDENTIAL
SHOREWOOD, MN
TREE PRESERVATION PLAN
FOR
CHESTNUT BUSINESS PARK LLP

DRAWN BY
VUN

DATE
10/20/25

REVISIONS

CAD FILE
24303TP

PROJECT NO.
24303

C600

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	TREE REMOVAL LIST			
PT. #	NORTHING	EASTING	CALIBER (IN)	NAME
10813	142117.3	442100.8	8	MAPLE
10814	142106.2	442083.8	8	MAPLE
10815	142092.6	442098	19	OAK
10816	142081.3	442115.8	18	OAK
10817	142074.3	442124.8	23	OAK
10827	142105	442052.1	8	MAPLE
10828	142104.2	442057.1	8	OAK
10829	142098.2	442062.3	9	MAPLE
10843	142133.3	441975.7	24	OAK
10844	142145.3	442003	14	OAK
10845	142155.2	442011.2	8	OAK
10846	142135.8	442019.3	10	HICKORY
10847	142127.8	442027	8	HICKORY
10848	142116.2	442021.3	10	MAPLE
10851	142124.1	442059.7	12	OAK
10852	142137.9	442050.1	9	OAK
10853	142137.5	442043.1	8	ELM
10854	142146.9	442047	13,9,8	BASSWOOD
10855	142163.1	442012.8	14	BASSWOOD
10859	142207.6	441977.7	8	ELM
10860	142184	441982.3	9	OAK
10861	142175.3	441981.6	12	BASSWOOD
10862	142207.2	441956.3	13,11	BASSWOOD
10863	142205.2	441948.4	14	OAK
10864	142203.5	441950.4	15	OAK
10865	142192.2	441949.5	15	BASSWOOD
10866	142189.3	441947.4	10	OAK
10867	142186	441946.6	10	OAK
10874	142193.2	441905.3	8	OAK
10877	142204.8	441897.8	8	OAK
10878	142220.4	441898.7	10	OAK
10879	142224	441900	12	OAK
10880	142224.8	441907.2	8	MAPLE
10881	142235	441903.4	10	BASSWOOD
10882	142240.7	441885.2	24	OAK
10883	142256.3	441883.6	11	ELM
10884	142282.2	441846.1	15	MAPLE
10885	142295.8	441835.6	16	OAK
10886	142299.8	441830.8	20	WALNUT
10887	142285.1	441823.8	21	WALNUT
10889	142277.9	441827.4	8	WALNUT
10890	142273.9	441824.6	8	WALNUT
10891	142249.3	441837.3	8	WALNUT
10892	142241.6	441824.5	13	OAK
10943	142322.8	441884.3	18	WALNUT
10944	142282.3	441884.5	7	CEDAR
10945	142302.8	441907	8	WALNUT
10946	142315.9	441913	15	ASH
10947	142315.8	441919.4	9	MAPLE
10948	142315.7	441936.7	8	WALNUT
10954	142323.9	441980.9	17	WALNUT
10955	142316.2	441976.3	16	WALNUT
10956	142285.2	441956.8	14	MAPLE
10957	142274.3	441941.4	13	WALNUT
10958	142278.9	441924.2	14	WALNUT
10959	142269.8	441925.2	8	MAPLE
10960	142264.1	441916.8	8	ASH
10961	142265.9	441906.1	8	WALNUT
10962	142257.8	441926.4	10	MAPLE
10963	142244.3	441938.6	13	WALNUT
10964	142226.3	441954.7	15	WALNUT
10965	142236.1	441967.2	9	MAPLE
10966	142256.8	441956	9,9	MAPLE
10967	142282.4	441981.8	9	MAPLE
10970	142299.7	442003.7	12	WALNUT
11000	142332.4	442043.4	13	ASH
11001	142338.5	442037.7	14	ASH
11002	142336.8	442032	9	ASH
11003	142337.7	442028.6	10	MAPLE
11004	142335.6	442027.3	9	MAPLE
11005	142326.8	442031	8	MAPLE
11006	142346.6	442041.3	9	MAPLE
11007	142348.7	442038.7	9	MAPLE
11010	142357.8	442047.3	8	MAPLE
11011	142342.5	442052.4	9	MAPLE
11012	142341.4	442060.3	8	MAPLE
11013	142342.4	442070.8	8	MAPLE
11014	142359.5	442084.4	17	BASSWOOD
11015	142354.4	442083.3	9	ELM
11016	142360.3	442091.2	9	ELM
11017	142358.2	442101.8	10	BASSWOOD
11018	142353.4	442103.8	21	OAK
11019	142347.6	442102.4	24	OAK
11020	142336.8	442095.3	9	ELM
11028	142333.1	442130.7	15	BASSWOOD
11029	142353.1	442131.4	8	ASH
11030	142380.3	442133	8	ELM
11031	142388.5	442131.2	8	HICKORY
11032	142391.4	442130.8	8	HICKORY
11033	142403	442129.5	15	BASSWOOD
11034	142414.2	442120.7	9	MAPLE
11035	142398.7	442121.8	10	HICKORY
11036	142406.1	442092.7	28	OAK
11037	142368.2	442081	9	MAPLE
11038	142369	442062.3	10	HICKORY
11039	142375.5	442059.7	22	ASH
11042	142439.6	442117.7	10,8	MAPLE
11043	142439	442113.6	8	MAPLE

HILL INCORPORATED
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PHONE: 952-890-6044
emoil@mnhill.com
www.mnhill.com

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

PRELIMINARY

Date: _____ Reg.No. _____

SHOREWOOD RESIDENTIAL
SHOREWOOD, MN

TREE PRESERVATION PLAN

FOR
CHESTNUT BUSINESS PARK LLP

DRAWN BY
VUN

DATE
10/20/25

REVISIONS

CAD FILE
24303TP

PROJECT NO.
24303

C601

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WATTEN PONDS 2ND ADDITION

R.T. DOC. NO. _____

KNOW ALL PERSONS BY THESE PRESENTS: That Gravity Investment, LLC, a Minnesota limited liability company, owner of the following described property:

All of Block 5, Mann's Addition To Birch Bluff (Lake Minnetonka)

AND

All that part of the east half of the 2nd Street, originally dedicated on the recorded plat of Mann's Addition To Birch Bluff (Lake Minnetonka), Hennepin County, Minnesota, and now to be vacated, which lies south of the southerly right of way line of Clara Avenue.

Has caused the same to be surveyed and platted as WATTEN PONDS 2ND ADDITION and does hereby dedicate to the public for public use the public ways and the drainage and utility easements as created on this plat.

In witness whereof said Gravity Investment, LLC, a Minnesota limited liability company, has caused these presents to be signed by its proper officer this _____ day of _____, 20____.

Signed: Gravity Investment, LLC

By: _____ its _____

STATE OF _____
COUNTY OF _____

This instrument was acknowledged before me on this _____ day of _____, 20_____,
by _____, the _____ of Gravity Investment, LLC, a
Minnesota limited liability company, on behalf of the company.

_____ _____
_____ County, _____ Printed Name
My commission expires _____

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

Dated this _____ day of _____, 20_____

_____
Marcus F. Hampton, Licensed Land Surveyor, Minnesota License No. 47481

STATE OF MINNESOTA
COUNTY OF _____

This instrument was acknowledged before me on this _____ day of _____, 20___,
by Marcus F. Hampton.

_____ _____
_____ County, _____ Printed Name
My commission expires January 31,_____

CITY COUNCIL, CITY OF SHOREWOOD, MINNESOTA

This plat of WATTEN PONDS 2ND ADDITION was approved and accepted by the City Council of the City of Shorewood, Minnesota at a regular meeting thereof held this _____ day of _____, 20___, and said plat is in compliance with the provisions of Minnesota Statutes, Section 505.03, Subd. 2.

By: _____ _____
Mayor Clerk

COUNTY AUDITOR, Hennepin County, Minnesota

I hereby certify that taxes payable in 20___ and prior years have been paid for land described on this plat, dated this _____ day of _____, 20_____.

Daniel Rogan, County Auditor

By: _____, Deputy

SURVEY DIVISION, Hennepin County, Minnesota

Pursuant to Minnesota Statutes Section 383B.565 (1969), this plat has been approved this _____ day of _____, 20_____.

Chris F. Mavis, County Surveyor

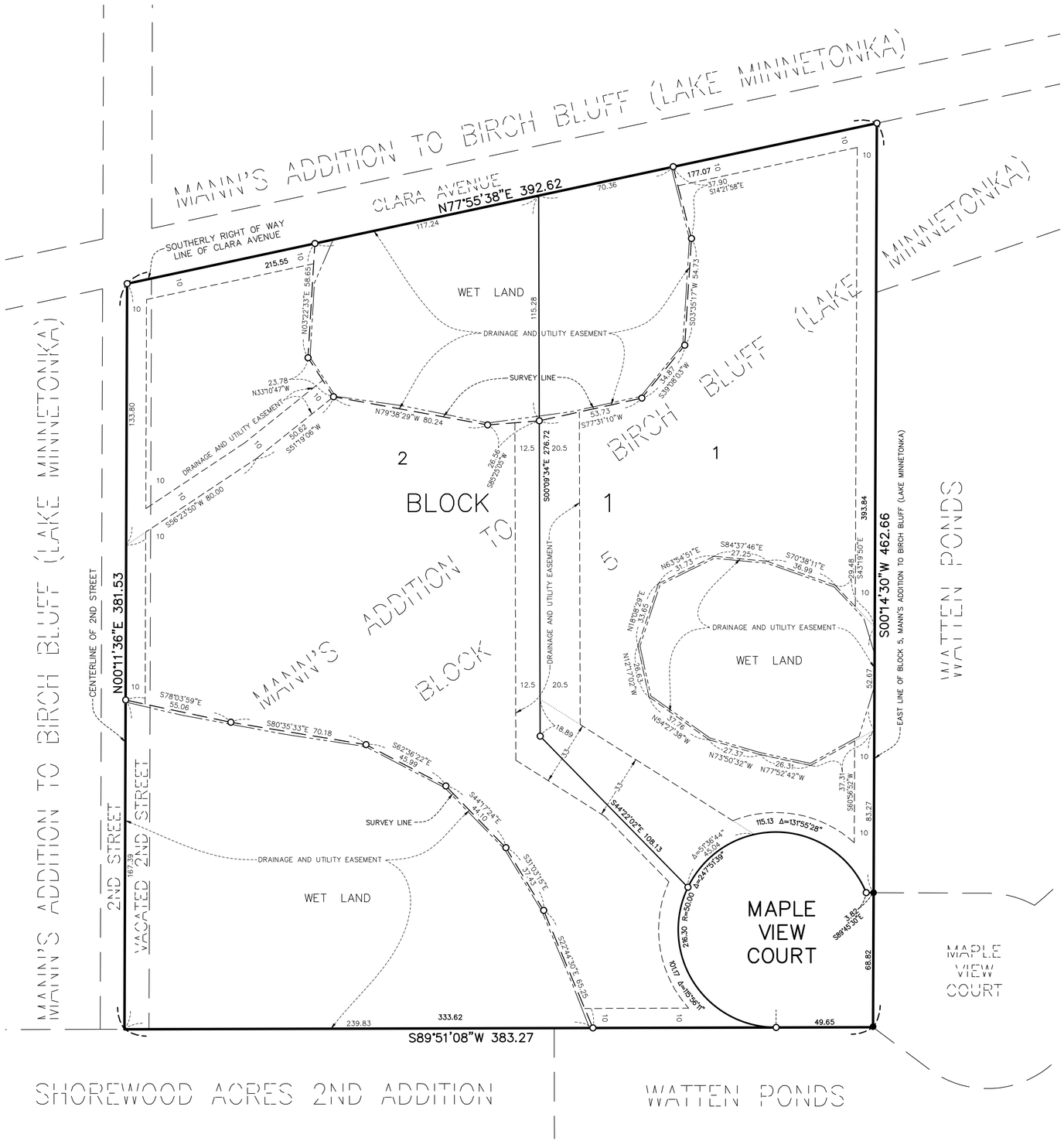
By: _____

REGISTRAR OF TITLES, Hennepin County, Minnesota

I hereby certify that the within plat of WATTEN PONDS 2ND ADDITION was filed in this office this _____ day of _____, 20_____,
at _____ o'clock _____. M.

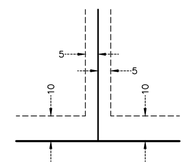
Amber Bougie, Registrar of Titles

By: _____, Deputy



SCALE IN FEET
0 30 60

DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:



DRAINAGE AND UTILITY EASEMENTS BEING 5 FEET IN WIDTH, UNLESS OTHERWISE INDICATED, ADJOINING LOT LINES, AND BEING 10 FEET IN WIDTH, UNLESS OTHERWISE INDICATED, ADJOINING RIGHT OF WAY LINES, AS SHOWN ON THIS PLAT.

BEARINGS ARE BASED ON THE EAST LINE OF BLOCK 5, MANN'S ADDITION TO BIRCH BLUFF (LAKE MINNETONKA) WHICH IS ASSUMED TO HAVE A BEARING OF S 00°14'30" W

● DENOTES FOUND 1/2 INCH IRON MONUMENT WITH CAP MARKED L.S. NO. 10938

○ DENOTES SET 1/2 INCH BY 14 INCH IRON MONUMENT WITH CAP MARKED L.S. NO. 47481

HILL INCORPORATED

SKETCH & DESCRIPTION

FOR: GRAVITY INVESTMENT, LLC

RIGHT OF WAY VACATION

All that part of the east half of the 2nd Street, originally dedicated on the recorded plat of Mann's Addition To Birch Bluff (Lake Minnetonka), Hennepin County, Minnesota, and now to be vacated, which lies south of the southerly right of way line of Clara Avenue.

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 Professional Land Surveyor under the laws of the State of Minnesota.

Signed this 20th day of October, 2025
For: Hill Incorporated

By: _____
Marcus F. Hampton, MN LS No. 47481

SHEET 1 OF 2

PROJECT NO. 24303-00

CAD FILE 24303VAC.dwg

REVISIONS

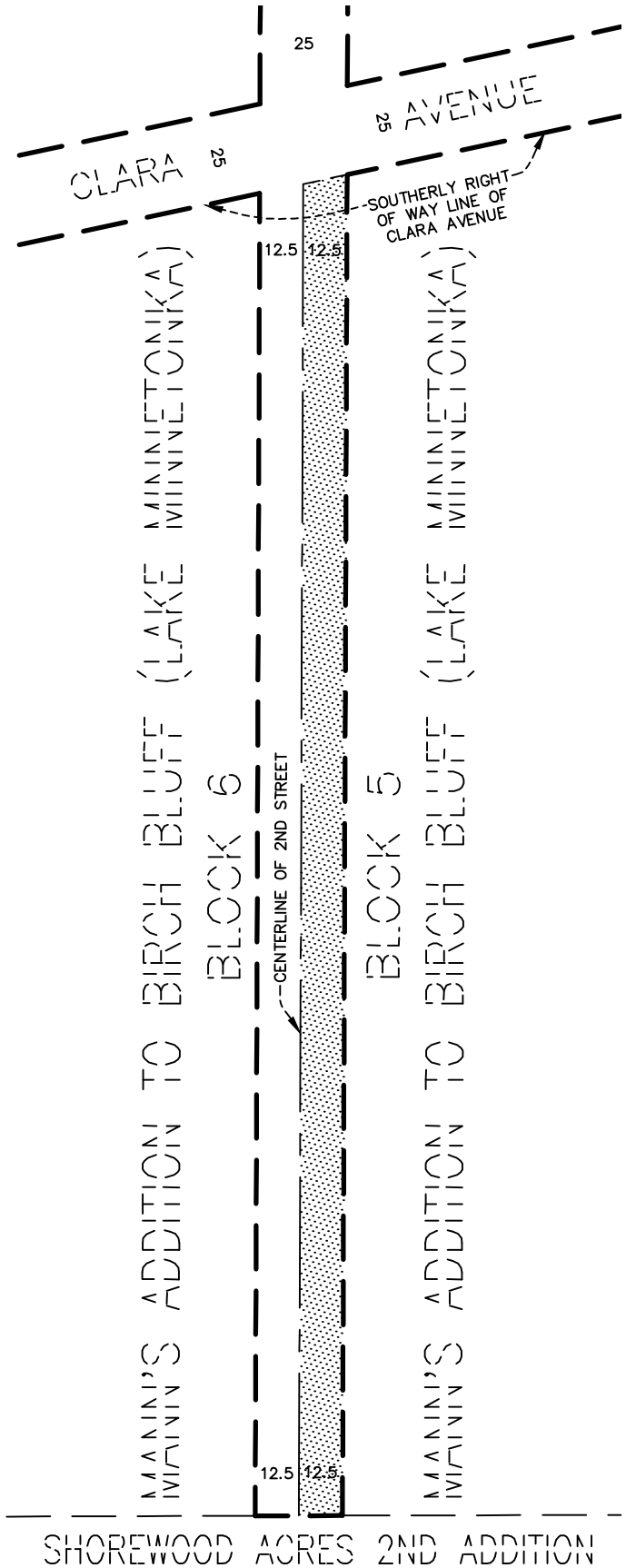
DATE 10/20/2025

DRAWN BY PLM

HILL INCORPORATED
2999 WEST C.R. 42, SUITE 100
BURNSVILLE, MN 55306
PHONE: 952-890-6044
marcus@mnhill.com
www.mnhill.com

SKETCH & DESCRIPTION

FOR: GRAVITY INVESTMENT, LLC



N

SCALE: 1"=50'

RIGHT OF WAY VACATION

SHEET 2 OF 2

24303VAC.dwg

HILL INCORPORATED

LEGEND

- 1P — POND AREA
- 1S — DRAINAGE AREA (TOTAL DRAINAGE AREA: 1.234 AC; IMPERVIOUS AREA: 0.123 AC IMP)
- 1R — REACH
- FLOW DIRECTION
- ToC PATH
- DRAINAGE BOUNDARY

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email@mnhill.com
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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

PRELIMINARY

Reg.No. _____

Date: _____

SHOREWOOD RESIDENTIAL

SHOREWOOD, MN

EXISTING DRAINAGE MAP

FOR

CHESTNUT BUSINESS PARK LLP

DRAWN BY	EPF
DATE	10/20/25
REVISIONS	
CAD FILE	24303DRN
PROJECT NO.	24303
	EXISTING

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Exhibit B
Shorewood Development Application
with Army Corp of Engineers

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Shorewood Development City/County: Shorewood/Hennepin Sampling Date: 2025-08-01

Applicant/Owner: Chestnut Business Park, LLP State: Minnesota Sampling Point: 25256-w2-w

Investigator(s): Ken Arndt Section, Township, Range: sec 29 T117N R023W

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 0-2 Lat: 44.907104 Long: -93.607468 Datum: WGS84

Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation____, Soil____, or Hydrology____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland? **Yes** ✓ **No** ____

Remarks:
Wetland 2 would be a type 2/4 fresh wet meadow/deep marsh wetland. The Type 4 part of the wetland is scattered Carex lupulina and the open water is covered in duck weed with occasional grouping of reed canary grass.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Phalaris arundinacea	80	Y	FACW
2. Impatiens capensis	15	N	FACW
3. Urtica dioica	5	N	FACW
4.			
5.			
	100.0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200.00 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation
✓ 2 - Dominance Test is >50%
✓ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ✓ **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
The fringe of the wetland is dominated by reed canary grass with jewel weed and stinging nettle.

SOIL

Sampling Point: 25256-w2-w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-24	10YR 2/1	100					SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ✔ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✔ No ___

Remarks:

Soils are assumed hydric based on landscape position and the dominance of hydrophilic vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ✔	No ___	Depth (inches): 7
Saturation Present? (includes capillary fringe)	Yes ✔	No ___	Depth (inches): 6

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

30% of Wetland 2 is covered in open water with lesser duckweed.

25256-w2-w
2025-08-01
Lat/Long: 44.906969, -93.607430
Direction: n

25256-w2-w
2025-08-01
Lat/Long: 44.907091, -93.607499

Exhibit C
Shorewood Development Application
with Minnehaha Creek Watershed District

Minnesota Wetland Conservation Act
NOTICE OF DECISION

Date this Notice was sent:	**10/27/2025**
Local Government Unit:	**Minnehaha Creek Watershed District**
County:	**Hennepin**
Applicant and (if applicable) Applicant's Representative:	**Audrius Asakenas, Chestnut Business Park LLP** **Ken Arndt, Midwest Natural Resources, Inc.**
Project Name/Number:	**Shorewood Development; W25-032**
Type of Decision (check all that apply): **Note:** Boundary/type, sequencing, replacement plan, and bank plan decisions require an associated notice of application prior to the decision being made.	☒ Boundary/Type ☐ Sequencing (submitted separately from a replacement plan) ☐ Replacement Plan ☐ Bank Plan ☐ Exemption Identify which exemption by Rule or Statute Citation: ☐ No-Loss Identify which provision by Rule or Statute Citation:
Decision: **Note:** All replacement plan approvals are conditional upon confirmation from BWSR of withdrawal of specified credits and/or financial assurance received for project-specific replacement.	☐ Denied ☒ Approved. Valid for ☒ 5 yrs (default); ☐ Other. Specify: ☐ Approved with Conditions List Conditions: Valid for ☐ 5 yrs (default); ☐ Other. Specify:
LGU Representative Name & Signature:	Jenna Christenson, **Jenna Christenson**

Decision Timeline

An LGU must approve or deny a request within 60 days of receiving a complete application per MINN. STAT. § 15.99.

Date Complete Application Received:	**9/16/2025**
Date of Decision:	**10/27/2025**
If applicable, date of *written extension* to 60-day decision timeline & number of days extended: **Reason for Extension (check one):**	☐ Other process or decision required to occur before WCA decision. Describe: ☐ Additional information and/or revision to application submitted. ☐ Applicant request. ☐ Other. Describe:

Date & number of days extended for any *additional written extensions* agreed to by the applicant:	

Decision Summary

Technical Evaluation Panel Recommendation (check one):	☒ No recommendation ☐ Approval or approval with conditions (attach recommendation) ☐ Denial (attach recommendation)
LGU Findings (check all that apply):	☐ Findings attached ☒ Findings: **Midwest Natural Resources, Inc. (MNR) delineated the site on August 1st, 2025 and found 3 wetlands on site. Wetland 1 was delineated as a 0.69 acre type 3, shallow marsh; Wetland 2 was a 0.7 acre, type 2/4 fresh wet meadow/deep marsh; Wetland 3 was a 0.22 type 3 shallow marsh.** **One MCWD staff and the applicant's representative performed a site visit 10/27/2025. The LGU concurred with the delineation as written in the report for the boundary and type of the wetlands.** ☒ Other attachments. Specify: Delineation Report, Joint Application Form
For Replacement Plan Decisions *Only*:	Total wetland impacts requiring replacement (acres): Type of wetland replacement (check all that apply): ☐ Project-Specific. Number of Credits: ☐ Banking. Number of Credits by Bank Account #:

Notice Distribution

Notice Recipients (check all that apply):	☒ SWCD TEP Member (if different from LGU): **Stacey Lijewski – Stacey.Lijewski@co.hennepin.mn.us** ☒ BWSR TEP Member: **Jed Chesnut – Jed.Chesnut@state.mn.us** ☒ DNR Representative: **Ryan Toot – Ryan.Toot@state.mn.us** ☐ Watershed District or WMO (if applicable): ☐ bank.administrator.bwsr@state.mn.us (Bank Plan Applications Only) ☒ Applicant: **info@chestnutbusinesspark.com** ☒ Applicant's Representative (if applicable): **ken.arndt@mnrinc.us** ☐ Members of the Public Requesting Notices (if applicable): ☒ Corps of Engineers: **usace_requests_mn@usace.army.mil** ☐ Others:

Appeal Process

Appeal Process (check one):	☒ Local Appeal Process (if established). Specify How to Appeal: **Send petition and $100 fee too:** **Minnehaha Creek Watershed District** **Attn: Permitting**

	15320 Minnetonka Blvd **Minnetonka, MN 55345** ☐ Board of Water & Soil Resources (see instructions below)
If there is no established Local Appeal Process indicated above, an appeal of this decision may be made to BWSR per the instructions to the right. **Note:** Decisions are not final until the 30-day appeal window ends.	Mail or email written request to appeal sent to BWSR within 30 days of date this notice was sent. Include copy of this notice, name and contact information of appellant(s) and their representative(s) (if applicable), a statement clarifying intent to appeal, and supporting information as to why the decision is in error. Mail check payable to MN Board of Water & Soil Resources for $500. Send to: Appeals & Regulatory Compliance Coordinator Minnesota Board of Water & Soil Resources 520 Lafayette Road North St. Paul, MN 55155 travis.germundson@state.mn.us.

Exhibit D
Shorewood Development, Shorewood, MN
Wetland Delineation Report Dated August 18, 2025

Shorewood Development
Shorewood, MN
Wetland Delineation Report

Prepared for:
Chestnut Business Park, LLP
3740 N. Chesnut St.
Chaska, MN 55318

August 18, 2025

MIDWEST NATURAL RESOURCES, INC.
1032 West 7th Street, Suite 150
St. Paul, Minnesota 55102

MNR
MIDWEST NATURAL RESOURCES

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Appendix C Wetland Determination Data Forms

INTRODUCTION

Midwest Natural Resources, Inc. (MNR) was contracted by Chestnut Business Park, LLP to provide wetland delineation services for the 4.7-acre Shorewood Development site in Shorewood, Hennepin County, Minnesota (**Appendix A, Figure 1**). On August 1, 2025 MNR conducted a routine wetland delineation within the site to determine any wetland boundaries. In all, the boundaries of three wetlands were delineated and the center line of two ephemeral, linear waterbodies were located. No other areas within the site were needed to be reviewed for the presence of wetland.

DESKTOP REVIEW

Prior to conducting the field surveys, MNR staff conducted a desktop review to evaluate the following data within the project area. Background data are illustrated in the figures in Appendix A.

- Minnesota's Public Waters Inventory (PWI)
- National Wetlands Inventory (NWI)
- National Hydrography Dataset (NHD)
- County Soil Surveys
- Aerial Imagery
- Precipitation Data

Review of the PWI (**Figure 2, Appendix A**) indicates one mapped public waters within the survey area where Wetland 1 was delineated (Unnamed public waters wetland 27090300). The NWI (**Figure 3, Appendix A**) indicates four different wetland communities within the site including PEM1C, PEM1F, PUBH, and PSS3/EM1Dg. According to the Hennepin County soil survey, Klossner, Okoboji, and Glencoe soils and Glencoe loam soils make up the hydric soils within the survey area, and Lester loam make up the non-hydric soils (**Figure 4, Appendix A**) within the survey area. Below is **Table 1** that lists all of the soils mapped within the survey area and includes their map unit symbol, map unit name, drainage class, and whether it is a hydric soil or not.

Table 1. Soils Mapped Within the Site

Map Unit Symbol	Map Unit Name	Drainage Class	Hydric/Non-Hydric Soil
L16A	Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes	Very poorly drained	Hydric
L22F	Lester loam, morainic, 25 to 35 percent slopes	Well drained	Non-Hydric
L24A	Glencoe loam, depressional, 0 to 1 percent slopes	Very poorly drained	Hydric

According to precipitation data reviewed at the time of the survey in August 2025, the project area received no precipitation during the first day of August. The months of May, June, and July indicate likely normal, wet, and normal conditions, respectively, resulting in an overall likely north multi-month precipitation score. Recent climate data is included in **Appendix B** to provide context for the wetland survey effort.

METHODS

The survey area was evaluated via pedestrian surveys to determine and document the presence of wetlands. All potential wetlands were evaluated utilizing the Routine "Onsite" Determination Method contained in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region Version 2.0 Aug. 2010 for the 1987 Wetlands Delineation Manual Technical Report Y-87-1. For each potential wetland within the survey area, the three wetland parameters (vegetation, hydrology, and soils) were examined to determine wetland status. If positive wetland status was determined, a sample transect was established along the wetland/upland transition. In each transect, the three parameters (vegetation, hydrology, and soils) were documented at a sample point within the wetland and in the adjacent upland.

Vegetation was assessed at each sample point by identifying the dominant species present and noting wetland indicator status. Hydrologic indicators were evaluated for characteristics including, but not limited to, the presence or absence of inundated or saturated soils, high water table, drift deposits, drainage patterns, and landscape position. The final parameter, soils, was assessed by digging a soil pit to at least 20 inches, where feasible, and examining the soil profile for indicators of hydric soils. All data and information pertaining to each wetland and upland sample point were collected using the applicable Corps wetland determination forms, and representative photos of each sample point were collected.

All spatial data was collected in WGS84 using ESRI ArcGIS online and ArcGIS Field Maps mobile application on mobile devices. Sub-meter satellite reception was achieved through the use of Trimble® DA2 receivers. The receivers are connected to the Trimble Catalyst service, using a real-time correction service.

RESULTS AND DISCUSSION

The site was surveyed for the presence of wetland and field efforts resulted in the delineation of three wetland boundaries (**Figure 5, Appendix A**). Below is **Table 2** that summarizes each of the delineated wetlands by feature number, feature ID, HGM Class, Cowardin/Type, Circular 39 type, Eggers and Reed Plant Community, and by size in acres. Wetland determination data forms for Wetland 1-3 are provided with representative photos in **Appendix C**.

Table 2. Delineated Wetland Features

Feature Name	Feature ID	HGM Class	Cowardin/Type	Circ. 39	Eggers & Reed	Area (acre)
Wetland 1	25256-w1	Depressional	PEMC	3	shallow marsh	0.69
Wetland 2	25256-w2	Depressional	PEMB/F	2/4	fresh wet meadow/deep marsh	0.70
Wetland 3	25256-w3	Depressional	PEMC	3	shallow marsh	0.22

[1]The Feature ID corresponds to the sampling point name on the Wetland Determination Data Forms and in the spatial data.

Wetlands

Wetland 1

Within the survey area, Wetland 1 is a depressional, Type 3 (PEMC; Shallow Marsh) wetland located within the southwestern part of the site and is 0.69 acres in size within the survey area. This wetland extends off-site to the south and west as a shallow marsh and hardwood swamp. At the wetland sample point, this wetland was dominated by reed canary grass (*Phalaris arundinacea*) and jewelweed (*Impatiens capensis*) with a fair amount of open water right to the edge of the wetland. Soils investigated met the F8 (Redox Depressions) indicator and are considered hydric. Wetland hydrology was met with one primary indicator including A1 (Standing Water) as well as two secondary indicators D2 (Geomorphic Position) and D5 (FAC-Neutral Test). National Wetlands Inventory maps PUBH and PSS3/EM1Dg communities where Wetland 1 is located. Wetland 1 is mapped as an MNDNR unnamed public water wetland (27090300).

Wetland 2

Wetland 2 is a depressional, Type 2/4 (PEMB/F; Fresh Wet Meadow/Deep Marsh) wetland located within the northern part of the survey area and is 0.70 acre in size within the site. This wetland extends off-site to the west as a similar type wetland. An excavated outlet channel drains this wetland at its southwestern extent to Wetland 1. At the time of the survey no water was observed within the outlet channel and no wetland fringe was present along its banks. The fresh wet meadow part of Wetland 2 is dominated primarily by reed canary grass (*Phalaris arundinacea*) with a mix of other native forbs and sedges including jewelweed (*Impatiens capensis*) and stinging nettle (*Urtica dioica*). The deep marsh part of Wetland 2 was mainly covered in lesser duckweed (*Lemna minor*) with scattered clumps of bristly sedge (*Carex comosa*) and areas open water. Soils were investigated to a depth of 24" and were assumed to be hydric based on landscape position and having a dominance of hydrophytic vegetation present throughout the entire basin. Wetland hydrology was met with two primary indicators including A2 (High Water Table) and A3 (Saturation) as well as two secondary indicators

D2 (Geomorphic Position) and D5 (FAC-Neutral Test). National Wetlands Inventory maps a PEM1F community where Wetland 2 is located. Wetland 2 is not mapped as a MNDNR public water.

Wetland 3

Wetland 3 is a depressional, Type 3 (PEMC; Shallow Marsh) wetland located along the eastern property line and is 0.22 acre in size within the property. This wetland extends just off-site to the east as a similar type wetland. Along the northern edge of this wetland is an excavated drainage channel that allows overflow from Wetland 3 to drain downslope to Wetland 2. At the time of the survey, no water was observed within the channel's banks. Vegetation recorded at the wetland sample point included mainly lesser duckweed (*Lemna minor*) with a minor amount of reed canary grass (*Phalaris arundinacea*) and mad-dog skullcap (*Scutellaria lateriflora*). Much of this wetland is open water covered in duckweed with scattered clumps of common hop sedge (*Carex lupulina*). Soils investigated met the A11 (Depleted Below Dark Surface) and A12 (Thick Dark Surface) indicators and are considered hydric. Wetland hydrology was met with one primary indicator including A1 (Standing Water) as well as two secondary indicators D2 (Geomorphic Position) and D5 (FAC-Neutral Test). National Wetlands Inventory maps a PEM1C community where Wetland 3 is located. Wetland 3 is not mapped as a MNDNR public water.

Other Aquatic Resources

Channel 1

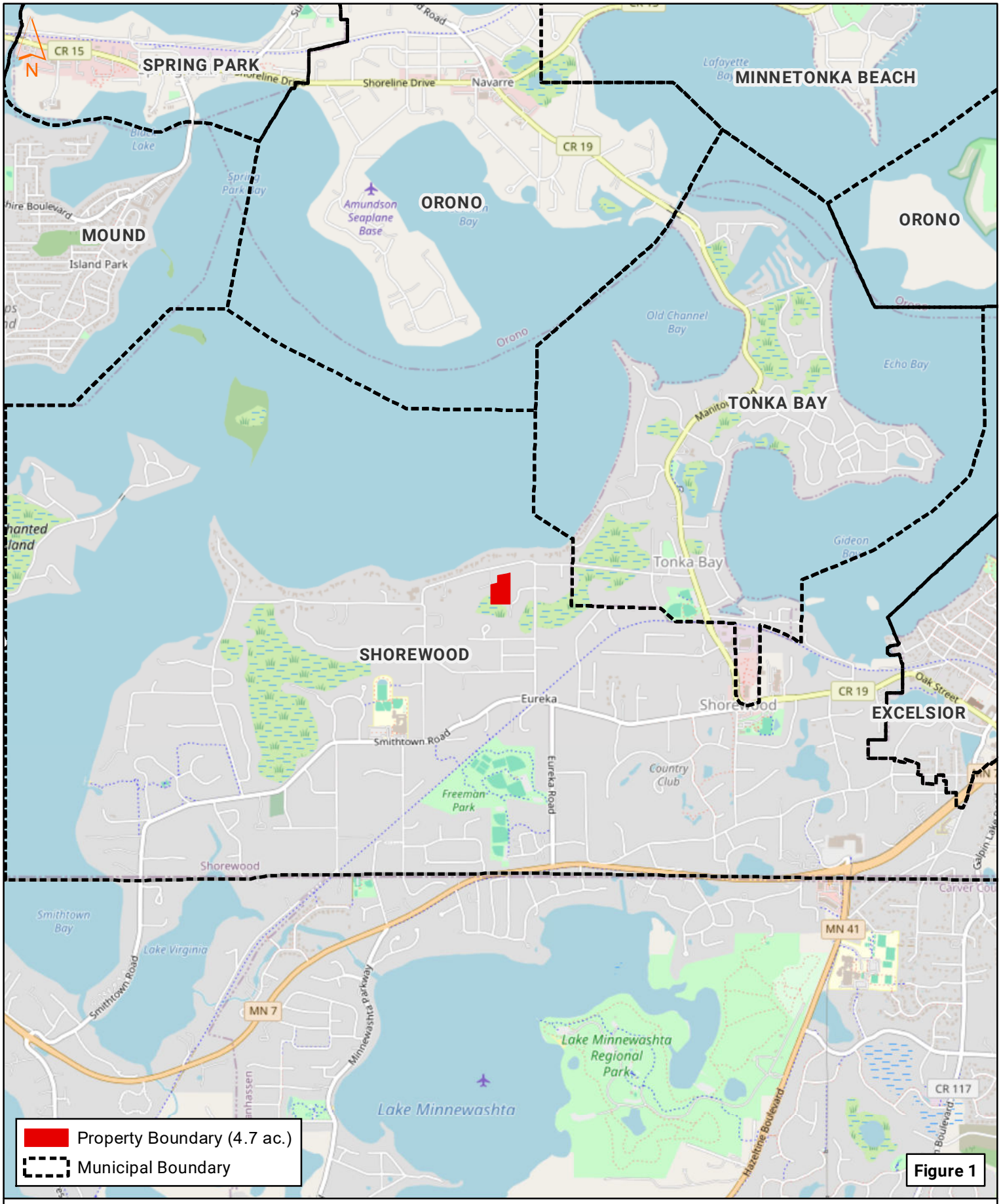
Between Wetlands 1 and 2, an excavated drainage channel was located and is approximately 130 LF in length within the survey area. This channel extends off-site to the west where it eventually connects to Wetland 1. This created feature would have an ephemeral water flow with no wetland fringe along its banks. Channel 1 conveys overflow water from Wetland 2 downslope and into Wetland 1. Below is a photo of Channel 1 facing northeast within the channel itself.

Channel 2

Between Wetlands 2 and 3, an excavated drainage channel was located and is approximately 105 LF in length. This channel's bed and bank is well defined along nearly all of its length but becomes less defined at the bottom of the slope just before the edge of Wetland 2. This created feature would have an ephemeral water flow with no wetland fringe along its banks. Channel 2 conveys overflow water from Wetland 3 and into Wetland 2. Below is a photo of Channel 2 facing north within the channel itself.

Appendix A

Site Figures



Sources: OpenStreetMap, US Census Bureau
US Census Bureau, Date: 8/16/2025

0 0.25 0.5 Miles

Site Location
Chestnut Business Park, LLP
Shorewood Development
Shorewood, MN

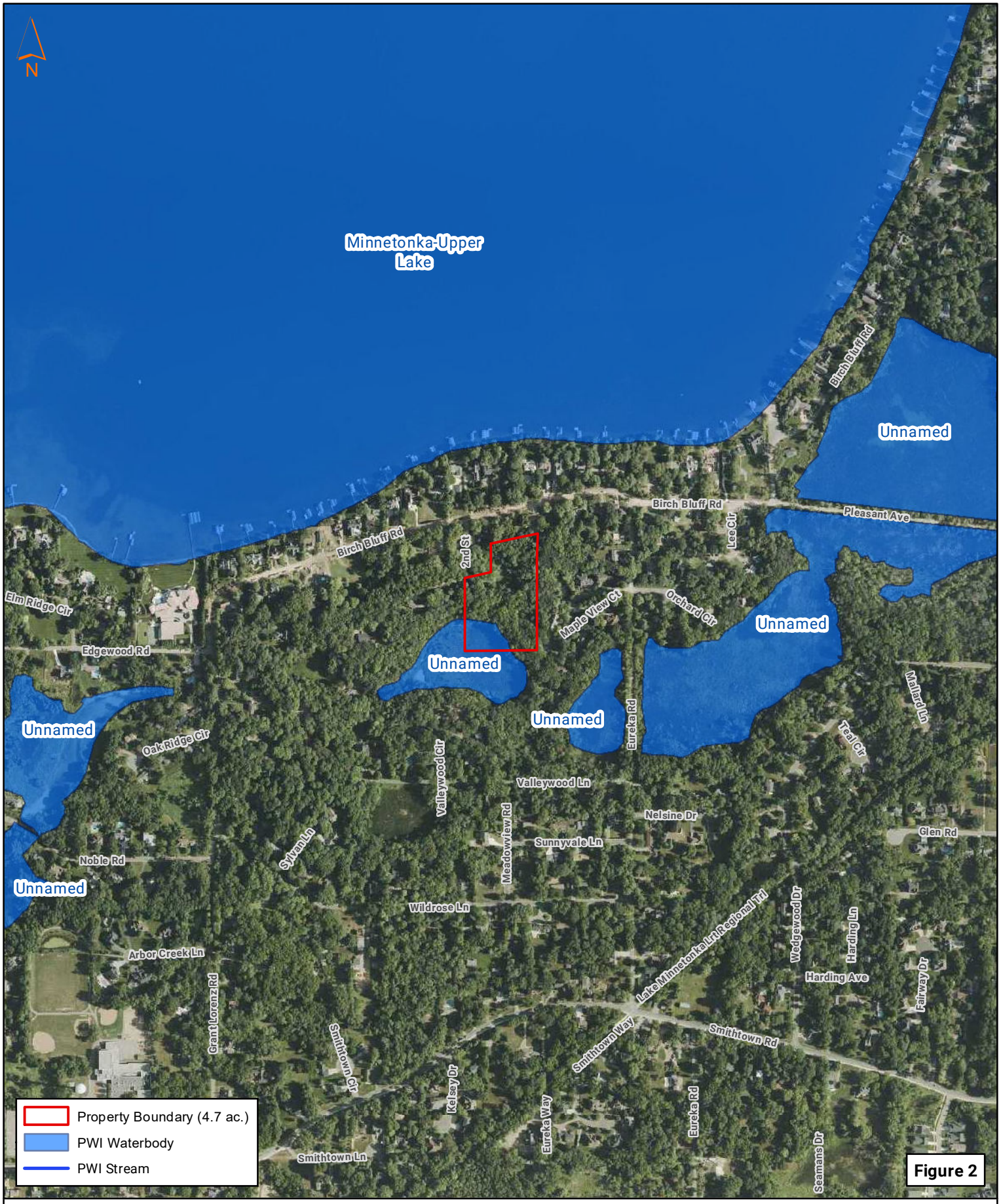
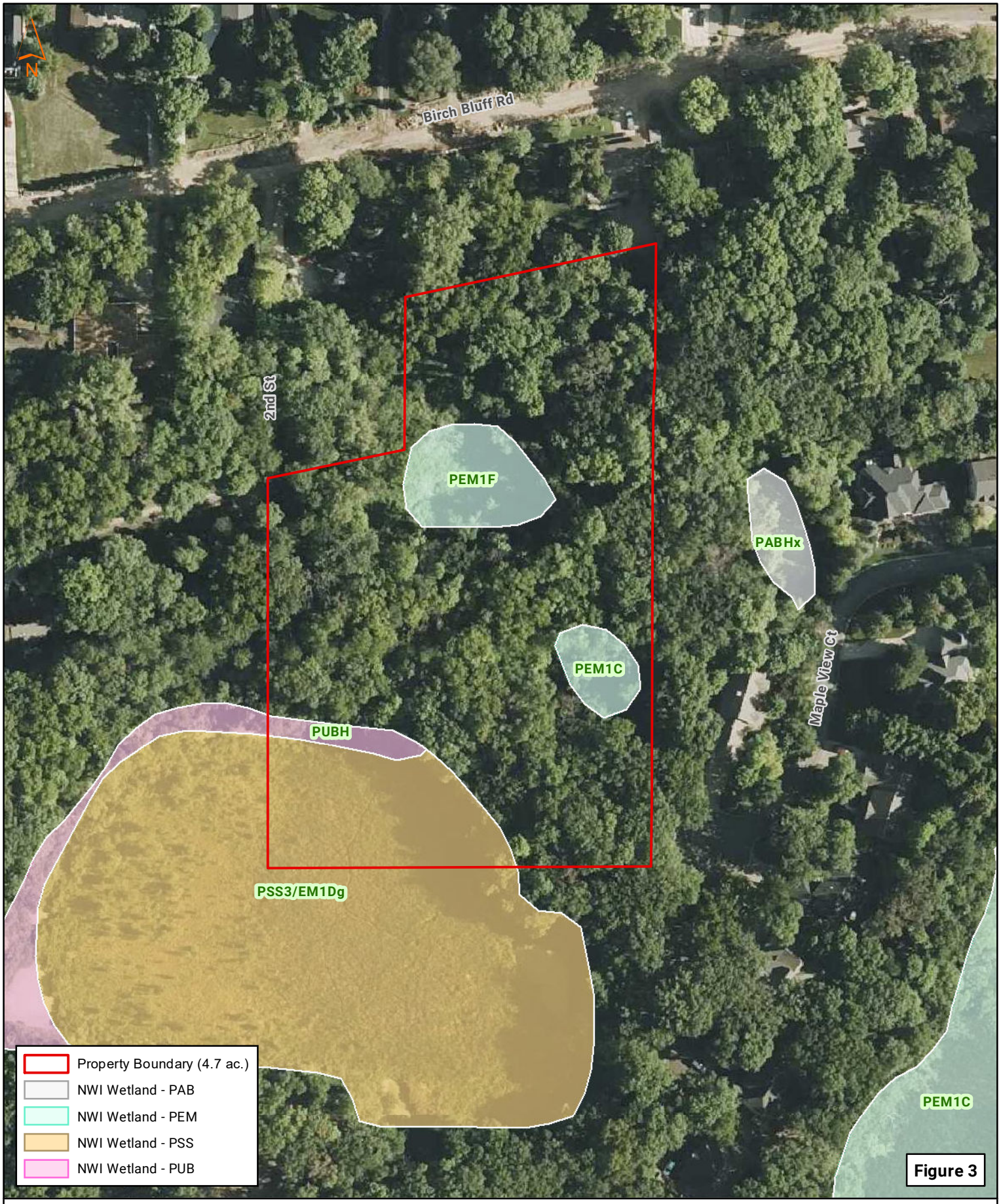


Figure 2

Sources: USDA Farm Service Agency NAIP Imagery, 2023, MnGeo, MN Department of Natural Resources, US Census Bureau, Date: 8/16/2025

0 500 1,000 Feet

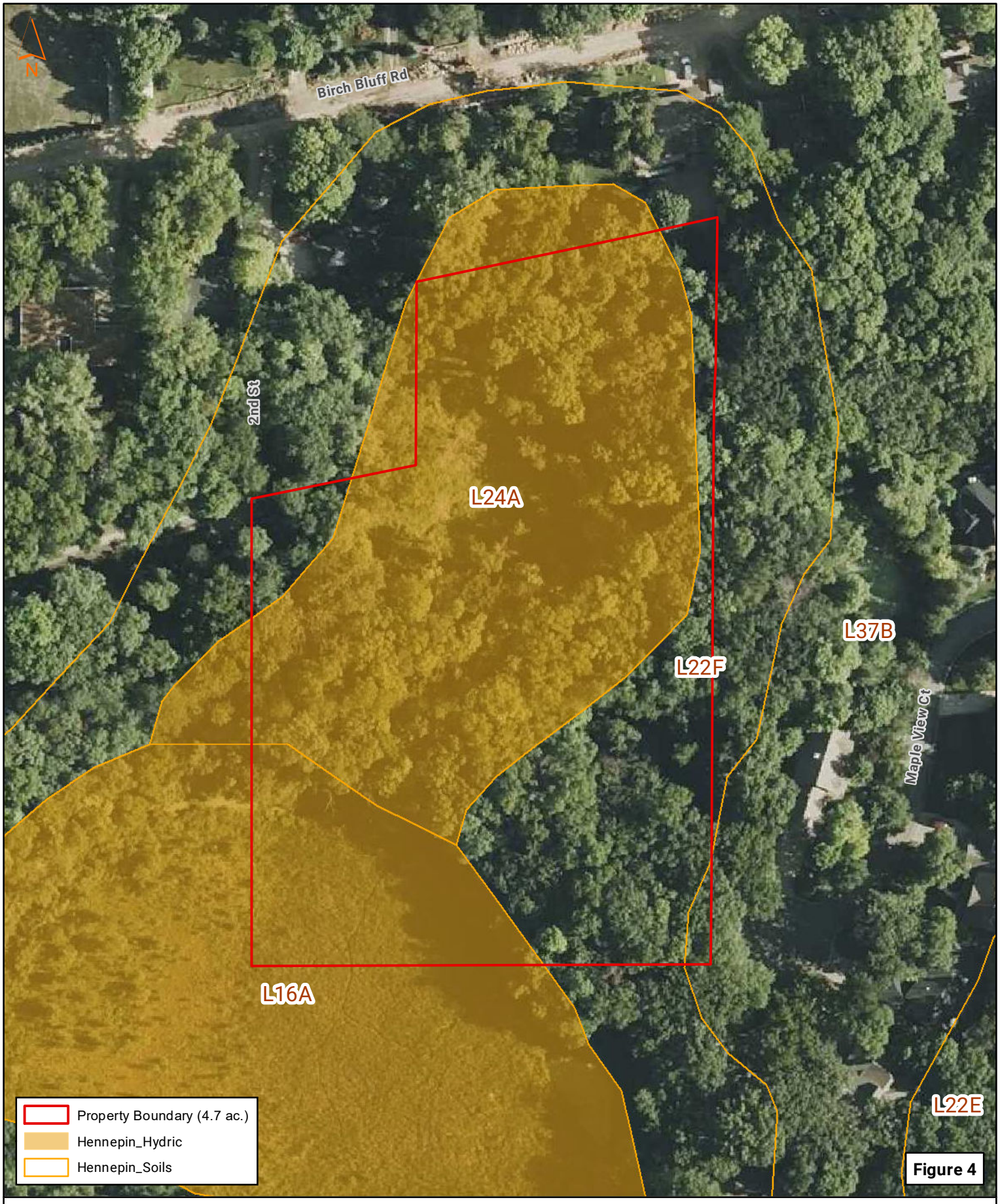
MN DNR Public Waters Inventory
Chestnut Business Park, LLP
Shorewood Development
Shorewood, MN



Sources: USDA Farm Service Agency NAIP Imagery, 2023, MnGeo, MN Department of Natural Resources, US Fish and Wildlife Service, US Census Bureau, Date: 8/16/2025

0 100 200 Feet

US FWS National Wetlands Inventory
Chestnut Business Park, LLP
Shorewood Development
Shorewood, MN



Sources: USDA Farm Service Agency NAIP Imagery, 2023, MnGeo, MN Department of Natural Resources, USDA Natural Resources Conservation Service US Census Bureau, Date: 8/16/2025

0 50 100 Feet

County Soil Survey/SSurgo Soil Map Units
Chestnut Business Park, LLP
Shorewood Development
Shorewood, MN

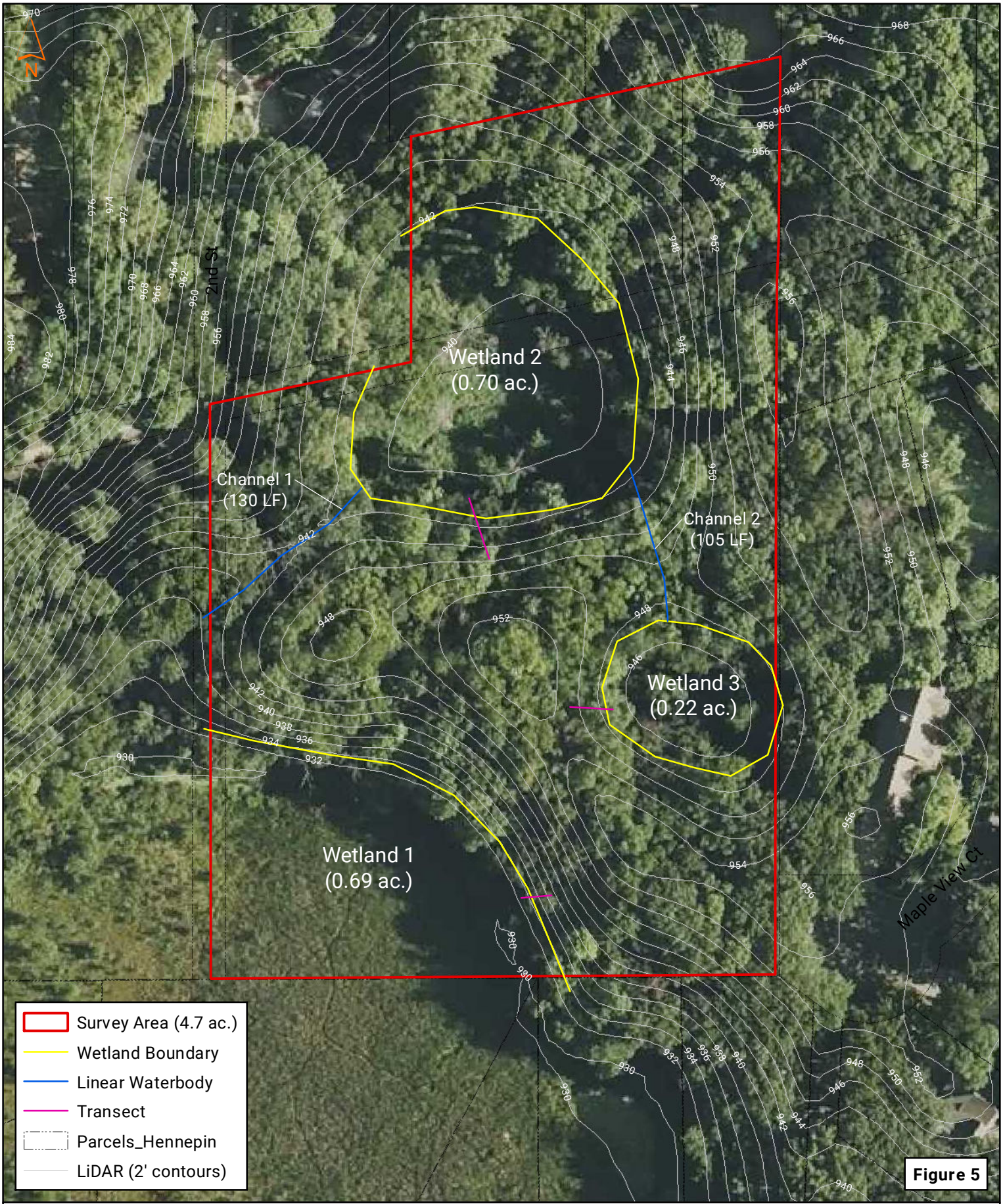


Figure 5

Sources: USDA Farm Service Agency NAIP Imagery, 2023, MnGeo, MN Department of Natural Resources, US Census Bureau, Date: 8/16/2025

0 75 150 Feet

Delineated Aquatic Resources
Chestnut Business Park, LLP
Shorewood Development
Shorewood, MN

Appendix B

Recent Climate Data

Past Year's Precipitation Data from Gridded Database

Source: Minnesota State Climatology Office website:
https://climateapps.dnr.state.mn.us/gridded_data/precip/wetland/wetland.asp

Since the delineation of the Shorewood Development site was conducted on August 1, 2025 daily precipitation data from the months of May, June, and July were reviewed. Precipitation data for the three months prior to August were obtained from the Minnesota Climatology Working Group for the area of Hennepin County where the nearest precipitation data was collected. Precipitation data was obtained using the following as the target location:

County: Hennepin
Township Name: Excelsior
Nearest Community: Crescent Beach
Township Number: 117N
Range Number: 23W
Section Number: 29

Aerial photograph or site visit date: Friday, August 1, 2025

Table 1. Precipitation Worksheet Using Gridded Database (Score Using 1991-2020 Normal Period)

values are in inches	first prior month: **July 2025**	second prior month: **June 2025**	third prior month: **May 2025**
estimated precipitation total for this location:	**missing**	**missing**	**3.74R**
there is a 30% chance this location will have less than:	3.19	3.69	3.03
there is a 30% chance this location will have more than:	4.93	4.70	4.97
type of month: dry normal wet	**missing**	**missing**	**normal**
monthly score	**missing**	**missing**	**1 * 2 = 2**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**missing**		

Table 2. Recent Precipitation from Wayzata 2.5 E Weather Station

	May	June	July	1st day of August
Precipitation (in.)	2.44"	8.04"	3.97"	2.54"

Average Temperature Climate Data

Source: MN Department of Natural Resources Local Climatological Data:
https://www.dnr.state.mn.us/climate/historical/lcd.html?loc=msp

Average monthly high temperature for the three months preceding the month of the site visits as well as the two days of the field survey are recorded in Table 3 below. Temperature data were obtained from the MN Department of Natural Resources Local Climatological Data website and is based on weather measurements collected by the National Weather Service and the Federal Aviation Administration.

Table 3. Monthly Average High Temperature

	May	June	July	August 1, 2025
Temperature (°F)	70.8°	78.8°	84.9°	78°

Appendix C

Wetland Determination Data Forms

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Shorewood Development | City/County: Shorewood/Hennepin | Sampling Date: 2025-08-01
Applicant/Owner: Chestnut Business Park, LLP | State: Minnesota | Sampling Point: 25256-w1-w
Investigator(s): Ken Arndt | Section, Township, Range: sec 29 T117N R023W
Landform (hillside, terrace, etc.): Depression | Local relief (concave, convex, none): Concave
Slope (%): 0-2 | Lat: 44.906364 | Long: -93.607334 | Datum: WGS84
Soil Map Unit Name: Lester loam, morainic, 25 to 35 percent slopes | NWI classification: PSS3/EM1Dg
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation____, Soil____, or Hydrology____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland? **Yes** ✓ **No** ____

Remarks:
Wetland 1 is a Type 3 shallow marsh dominated by narrowleaf cattail with a narrow fringe around the edge with reed canary grass and open water.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Phalaris arundinacea	50	Y	FACW
2. Impatiens capensis	20	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70.0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		140.00 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:
✓ 1 - Rapid Test for Hydrophytic Vegetation
✓ 2 - Dominance Test is >50%
✓ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ✓ **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation at the sample point is dominated by reed canary grass with jewel weed. A fair amount of open water is present.

SOIL

Sampling Point: 25256-w1-w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	95	7.5YR 4/6	5	C	M	SICL	
2-18	10YR 4/2	100					CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

Soils meet the F8 indicator.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 2
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water levels in the wetland appear higher than normal.

25256-w1-w
2025-08-01
Lat/Long: 44.906603, -93.607517
Direction: s

25256-w1-w
2025-08-01
Lat/Long: 44.906606, -93.607677
Direction: e
Typical transition from upland slope to wetland edge.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Shorewood Development | City/County: Shorewood/Hennepin | Sampling Date: 2025-08-01
Applicant/Owner: Chestnut Business Park, LLP | State: Minnesota | Sampling Point: 25256-w1-u
Investigator(s): Ken Arndt | Section, Township, Range: sec 29 T117N R023W
Landform (hillside, terrace, etc.): Sideslope | Local relief (concave, convex, none): Concave
Slope (%): 8-15 | Lat: 44.906368 | Long: -93.607254 | Datum: WGS84
Soil Map Unit Name: Lester loam, morainic, 25 to 35 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation____, Soil____, or Hydrology____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:
Sample point is within a deciduous forest dominated by sugar maple .

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus macrocarpa	50	Y	FAC
2. Acer saccharum	40	Y	FACU
3.			
4.			
5.			
	90.0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Carex pennsylvanica	70	Y	NI
2. Rhamnus cathartica	10	N	FAC
3. Acer saccharum	10	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90.0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	110 (A)		380.00 (B)

Prevalence Index = B/A = 3.45

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 25256-w1-u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 2/1	100					SICL	
15-22	10YR 3/4	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✓

Remarks:

Soils are non-hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

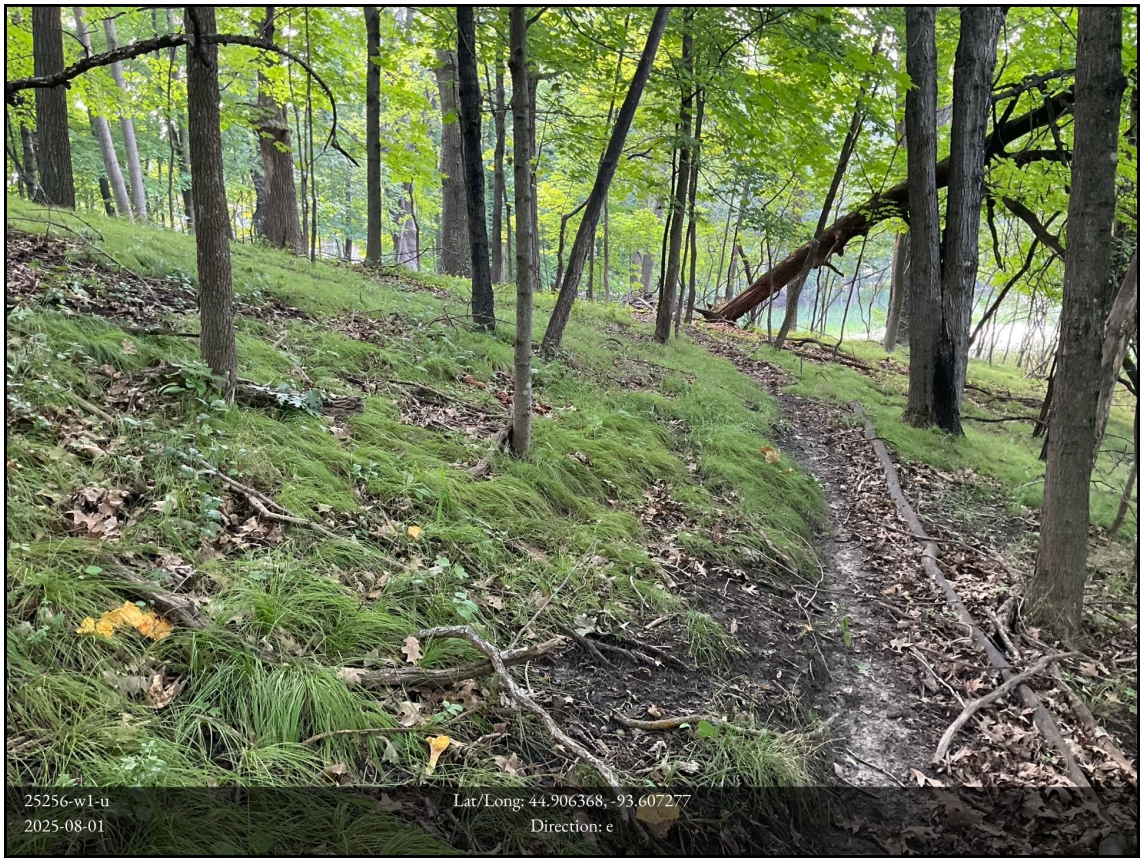
Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators of wetland hydrology present.



25256-w1-u
2025-08-01

Lat/Long: 44.906368, -93.607277
Direction: e

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Shorewood Development City/County: Shorewood/Hennepin Sampling Date: 2025-08-01
Applicant/Owner: Chestnut Business Park, LLP State: Minnesota Sampling Point: 25256-w2-w
Investigator(s): Ken Arndt Section, Township, Range: sec 29 T117N R023W
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave
Slope (%): 0-2 Lat: 44.907104 Long: -93.607468 Datum: WGS84
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation____, Soil____, or Hydrology____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland? **Yes** ✓ **No** ____

Remarks:
Wetland 2 would be a type 2/4 fresh wet meadow/deep marsh wetland. The Type 4 part of the wetland is scattered Carex lupulina and the open water is covered in duck weed with occasional grouping of reed canary grass.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Phalaris arundinacea	80	Y	FACW
2. Impatiens capensis	15	N	FACW
3. Urtica dioica	5	N	FACW
4.			
5.			
	100.0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200.00 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation
✓ 2 - Dominance Test is >50%
✓ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ✓ **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
The fringe of the wetland is dominated by reed canary grass with jewel weed and stinging nettle.

SOIL

Sampling Point: 25256-w2-w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-24	10YR 2/1	100					SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

Soils are assumed hydric based on landscape position and the dominance of hydrophilic vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ✓	No ___	Depth (inches): 7
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 6

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

30% of Wetland 2 is covered in open water with lesser duckweed.

25256-w2-w
2025-08-01
Lat/Long: 44.906969, -93.607430
Direction: n

25256-w2-w
2025-08-01
Lat/Long: 44.907091, -93.607499

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Shorewood Development | City/County: Shorewood/Hennepin | Sampling Date: 2025-08-01
Applicant/Owner: Chestnut Business Park, LLP | State: Minnesota | Sampling Point: 25256-w2-u
Investigator(s): Ken Arndt | Section, Township, Range: sec 29 T117N R023W
Landform (hillside, terrace, etc.): Sideslope | Local relief (concave, convex, none): Concave
Slope (%): 3-7 | Lat: 44.906992 | Long: -93.607416 | Datum: WGS84
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation____, Soil____, or Hydrology____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:
Sample point is within a deciduous forest area dominated by sugar maple with some black walnut and green ash.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharum	40	Y	FACU
2. Juglans nigra	40	Y	FACU
3. Fraxinus pennsylvanica	10	N	FACW
4.			
5.			
	90.0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Pilea pumila	50	Y	FACW
2. Ageratina altissima	20	Y	FACU
3. Leersia virginica	20	Y	FACW
4. Amphicarpaea bracteata	10	N	FAC
5. Hackelia virginiana	5	N	FACU
6.			
7.			
8.			
9.			
10.			
	105.0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 40.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	10	x 3 =	30
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals:	195 (A)		610.00 (B)

Prevalence Index = B/A = 3.13

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 25256-w2-u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 2/1	100					SIL	
11-20	10YR 4/2	100					SIL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✓

Remarks:

Soils are non-hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

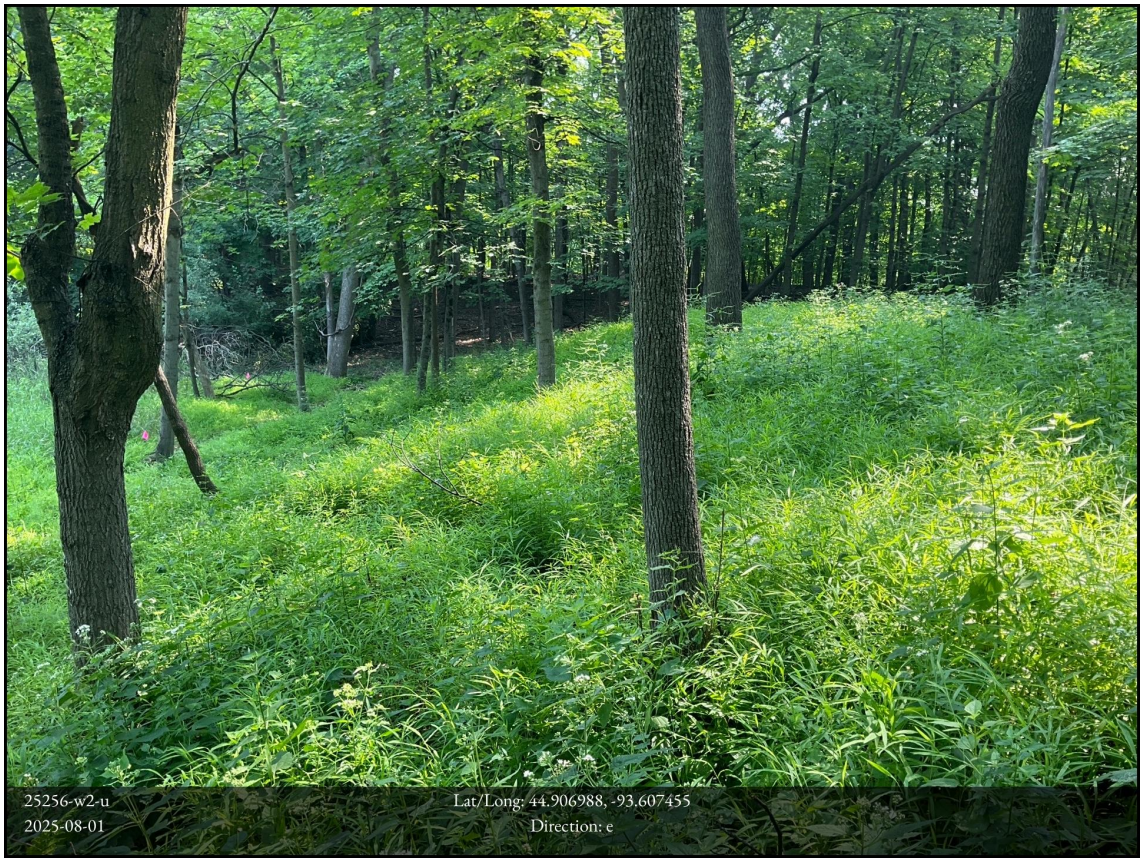
Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators of wetland hydrology present.



25256-w2-u
2025-08-01

Lat/Long: 44.906988, -93.607455
Direction: e

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Shorewood Development City/County: Shorewood/Hennepin Sampling Date: 2025-08-01

Applicant/Owner: Chestnut Business Park, LLP State: Minnesota Sampling Point: 25256-w3-w

Investigator(s): Ken Arndt Section, Township, Range: sec 29 T117N R023W

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 0-2 Lat: 44.906713 Long: -93.607111 Datum: WGS84

Soil Map Unit Name: Lester loam, morainic, 25 to 35 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation____, Soil____, or Hydrology____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** **Yes** ✓ **No** ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Wetland 3 would be a Type 3 shallow marsh dominated by scattered clumps of common hop sedge and lake sedge and groupings of reed canary grass, 60 to 70% of the surface area of the water is covered in lesser duckweed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Lemna minor	60	Y	OBL
2. Scutellaria lateriflora	10	N	OBL
3. Phalaris arundinacea	10	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80.0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		90.00 (B)

Prevalence Index = B/A = 1.12

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation
✓ 2 - Dominance Test is >50%
✓ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ✓ **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
At the sample point, lesser duckweed is the dominant vegetation with scattered reed canary grass that is submerged under 4 to 6 inches of water.

SOIL

Sampling Point: 25256-w3-w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	100					CL	
12-23	10YR 4/2	95	2.5YR 4/6	5	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ✓ Depleted Below Dark Surface (A11)
- ✓ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

Soils meet the A11 and A12 indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 5
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water in the wetland appears higher than normal with standing water coming almost up to the edge of the wetland boundary within 2 to 3 feet.

25256-w3-w
2025-08-01
Lat/Long: 44.906690, -93.607122
Direction: ne

25256-w3-w
2025-08-01
Lat/Long: 44.906610, -93.607105
Direction: n

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Shorewood Development | City/County: Shorewood/Hennepin | Sampling Date: 2025-08-01
Applicant/Owner: Chestnut Business Park, LLP | State: Minnesota | Sampling Point: 25256-w3-u
Investigator(s): Ken Arndt | Section, Township, Range: sec 29 T117N R023W
Landform (hillside, terrace, etc.): Sideslope | Local relief (concave, convex, none): Concave
Slope (%): 3-7 | Lat: 44.906718 | Long: -93.607206 | Datum: WGS84
Soil Map Unit Name: Lester loam, morainic, 25 to 35 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation____, Soil____, or Hydrology____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓
Hydric Soil Present?	Yes ____	No ✓
Wetland Hydrology Present?	Yes ____	No ✓

Is the Sampled Area within a Wetland? Yes ____ No ✓

Remarks:
Sample point is within a deciduous forested area dominated by sugar maple with some ironwood and basswood.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharum	50	Y	FACU
2. Tilia americana	20	Y	FACU
3. Ostrya virginiana	10	N	FACU
4.			
5.			
	80.0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Carex pennsyvanica	50	Y	NI
2. Rhamnus cathartica	10	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60.0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	90 (A)		350.00 (B)

Prevalence Index = B/A = 3.89

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 25256-w3-u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix			Redox Features					
(inches)	Color (moist)		%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR	2/2	100					SIL	
2-18	10YR	4/3	100					SIL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✓

Remarks:

Soils are non-hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators of wetland hydrology present.

25256-w3-u
2025-08-01
Lat/Long: 44.906685, -93.607220
Direction: n

Exhibit E
Shorewood Residential 1000’ Shoreland Overlay Exhibit
by Hill Incorporated

LAKE MINNETONKA

OHW=930.0± (NAVD88)

Minnetonka

OHW

Birch Bluff Rd

CLARA AVENUE

2ND STREET

LOT 2, BLOCK 1
SHORELAND AREA
73,204 SF / 1.68 AC

LOT 1, BLOCK 1
SHORELAND AREA
58,094 SF / 1.33 AC

1000' SHORELAND OVERLAY LINE

LEGEND

AREA WITHIN 1000' SHORELAND OVERLAY

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

SCALE IN FEET
0 60 120

HILL INCORPORATED
2999 WEST C.R. 42, SUITE 100
BURNSVILLE, MN 55306
PHONE: 952-890-6044
bbusselman@mnhill.com
www.mnhill.com

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

PRELIMINARY

Date: _____ Reg.No. _____

SHOREWOOD RESIDENTIAL
SHOREWOOD, MN

1000' SHORELAND OVERLAY EXHIBIT
FOR
GRAVITY INVESTMENT LLC

DRAWN BY
JSO

DATE
10/20/2025

REVISIONS

2026-01-16 CITY & MCWD COMM.
2026-01-19 BASIN OUTLET REVS
2026-01-20 ROW VACATION REMOVAL

CAD FILE
24303SHORE

PROJECT NO.
24303

SHEET 1 OF 1

F:_Civil 3D Projects\24303\PRE-PLAT PLANS\24303SHORE.dwg - 1/20/2026 02:40PM

Exhibit F
Letter Donald Dehn, BS Urban Forestry dated January 30, 2026
RE Tree Diversity on Subject Property

Rustic Lodge
LANDSCAPE, TREE & SHRUB CARE
612-250-9151

Donald Dehn, BS Urban Forestry
100 East Rustic Lodge Avenue
Minneapolis, MN 55419
Email: rusticlodge@hotmail.com

January 30th, 2026

To Whom It May Concern:

I was contacted by neighbors from Maple View Court, Shorewood, they are concerned with the proposed development on the NW side of the Cal de sac. They view the 4.8 acre parcel as a valued wood land and indeed it is. My review of the inventory reveals it to be a remnant of the Big Woods complex which covered at one time 5000 square miles of Minnesota.

The Big Woods area is in southern Minnesota from Mankato following the Minnesota river to Minneapolis and western 2/3 of Hennepin County north to Sherburn county and west ½ way to South Dakota and then south again meeting with the Minnesota river. The irony is that an estimated 2% to 5% remain in broken parcels through this historic range. It currently is farm land and developments.

What makes this parcel unique is that it contains the major and minor tree species of the Big Woods. The other factor is the ratio of Sugar maple and Basswood that give this parcel enough shade to compromise the growth of Buckthorn. The stand has an intact understory.

This stand has Bur Oak, Sugar Maple, Basswood, Ash, BitterNut Hickory, American Elm, Ironwood. I find it unique to find all these species in this small stand of trees.

I'm not aware of the surrounding attached areas and what else it may have for habitat, but it may be worth the effort to see if any of the remaining wood land meets the big woods definition.

I've included some information describing the Big Woods.

Sincerely, Donald Dehn

Donald Dehn

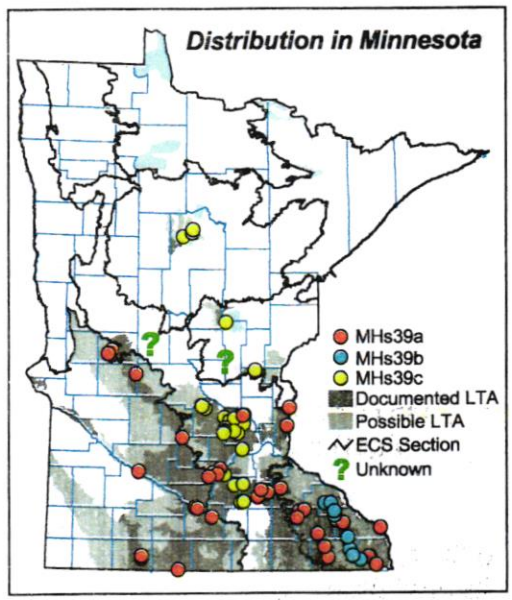
I'm a retired urban forester and arborist with a degree in Urban Forestry from the University of Minnesota.

Southern Mesic Maple-Basswood Forest

Rich mesic hardwood forests on loamy soils derived from calcareous till or wind-deposited silt over bedrock. Present on sites that have been historically protected from fires on hummocky stagnation moraines, on till plains along rivers, and on middle or lower slopes of bedrock bluffs.

Vegetation Structure & Composition

Description is based on summary of vegetation data from 110 plots (relevés).



- **Ground-layer** cover is interrupted to continuous (50–100%); important species include Virginia waterleaf *(Hydrophyllum virginianum)*, bloodroot *(Sanguinaria canadensis)*, yellow violet *(Viola pubescens)*, large-flowered bellwort *(Uvularia grandiflora)*, wild leek *(Allium tricoccum)*, blue cohosh *(Caulophyllum thalictroides)*, and early meadow-rue *(Thalictrum dioicum)*. Spring ephemeral species such as cut-leaved toothwort *(Cardamine concatenata)* and Dutchman's breeches *(Dicentra cucullaria)* are characteristic.
- **Shrub-layer** cover is rare to interrupted (5–75%); common species include sugar maple, bitternut hickory, basswood, prickly gooseberry *(Ribes cynosbati)*, and chokecherry *(Prunus virginiana)*.
- **Subcanopy** cover is most commonly patchy to interrupted (25–75%); important species include sugar maple, ironwood, basswood, and bitternut hickory.
- **Canopy** cover is interrupted to continuous (50–100%) and strongly dominated by sugar maple, with basswood, northern red oak, and occasionally red elm and American elm. Bur oak replaces northern red oak in importance in the CGP.

Landscape Setting & Soils

- **Stagnation moraines**—Occasional. Present on rolling to hummocky topography with complex slopes. Parent material is strongly calcareous till with little gravel and few stones. Soil surface is loamy and dark colored to about 10in (25cm), indicating former occupation of these sites by oak or aspen woodland. Soils have a very thick clay-loam subsoil horizon, but there is no indication that it perches or retains water for long periods of time. Gray soil colors and deposits of free carbonates are common below the clay-loam horizon, indicating availability of water and nutrients below the clay layer. Soils are well drained. Soil-moisture regime is fresh or very fresh. (Big Woods, Hardwood Hills, and Oak Savanna in MIM; localized along large lakes in MDL and WSU)
- **Till plains**—Common. Present on rolling topography, with most occurrences on north aspects. Parent material is strongly calcareous, fine-textured till with little gravel and few stones. Soil surface is loamy and dark to about 10in (25cm), indicating former occupation of these sites by oak or aspen woodland. Soils have a very thick clay-loam subsoil horizon but there is no indication that it perches or retains water for long periods of time. Gray soil colors and deposits of free carbonates are common below the clay-loam horizon, indicating availability of water and nutrients below the clay layer. Soils are well drained. Soil-moisture regime is fresh or very fresh. (Big Woods, Hardwood Hills, and Oak Savanna in MIM; localized along large lakes in MDL and WSU; localized along river valleys in CGP)
- **Loess-covered or drift-covered bedrock bluffs**—Occasional. Most often present on middle and lower slopes with strong affinity for north and northeast aspects. Parent material is wind-deposited silt that is generally deeper than 60in (150cm) over sedimentary bedrock. Flagstone-sized rocks are common just above the bedrock. Soils have dark, organic-rich surface horizons, indicating former occupation of these sites

by oak woodland or prairie. Little clay is available for development of subsoil horizons capable of perching snowmelt and rainfall. Soils are well drained. Soil moisture regime is fresh. (Blufflands in PPL; MIM)

Natural History

In the past, catastrophic disturbances were rare in MHs39. An analysis of Public Land Survey records indicates the rotation of catastrophic fires was in excess of 1,000 years, and the rotation of catastrophic windthrow was about 680 years.[1] Events that result in partial loss of trees, especially light surface fires, were more common, with an estimated rotation of about 50 years. Based on the historic composition and age structure of these forests, MHs39 had two growth stages separated by a period of transition.

- **0–35 years**—Young forests recovering from wind or fire, dominated by northern red oak mixed with basswood, quaking aspen, and some American elm.
- **35–75 years**—A transition period marked by the gradual decline of northern red oak and its replacement by sugar maple. Basswood declines slightly, and quaking aspen is essentially eliminated during this stage. American elm and ironwood increase, and white oak seedlings become established during this period.
- **> 75 years**—Mature forests mostly of sugar maple mixed evenly with basswood, American elm, ironwood, and northern red oak, and with some white oak in the eastern part of the range of the community.

Similar Native Plant Community Classes

• MHs38 Southern Mesic Oak-Basswood Forest

MHs38 and MHs39 are very similar, and the ranges of the two classes overlap strongly. MHs38 lacks the spring ephemeral species often present in the herbaceous layer of MHs39 and also is less likely to have large patches of wood nettle *(Laportea canadensis)*.

MHs39 Indicator Species	(freq%) MHs39	MHs38
False rue anemone *(Enemion biternatum)*	**25**	2
Dutchman's breeches *(Dicentra cucullaria)*	**44**	5
Cut-leaved toothwort *(Cardamine concatenata)*	**36**	4
White trout lily *(Erythronium albidum)*	**30**	4
Blue phlox *(Phlox divaricata)*	**36**	5
Puttyroot *(Aplectrum hyemale)*	**15**	3
Ostrich fern *(Matteuccia struthiopteris)*	**15**	3
Stemless blue violets *(Viola* spp.)*	**38**	11

*Stemless blue violets *(Viola sororia* and similar *Viola* spp.)

MHs38 Indicator Species	(freq%) MHs39	MHs38
Northern bedstraw *(Galium boreale)*	-	**23**
Poison ivy *(Toxicodendron rydbergii)*	**2**	**57**
Paper birch (C)	2	**20**
Canada mayflower *(Maianthemum canadense)*	**4**	**37**
Columbine *(Aquilegia canadensis)*	5	**30**
Pointed-leaved tick trefoil *(Desmodium glutinosum)*	**7**	**47**
Wild sarsaparilla *(Aralia nudicaulis)*	15	**54**
Wild grape *(Vitis riparia)*	**12**	**39**

• MHs49 Southern Wet-Mesic Hardwood Forest

The range of MHs49 overlaps with MHs39 in the southeastern and south-central part of the state, where MHs49 occurs on wet-mesic, level silty alluvium or glacial till. Species adapted to high water tables or species common on heavy, moist soil are common in MHs49. Spring ephemerals are often abundant in both classes.

MHs39 Indicator Species	(freq%) MHs39	MHs49
Northern red oak (C,U)	**55**	13
Lady fern *(Athyrium filix-femina)*	**55**	13
Hairy Solomon's seal *(Polygonatum pubescens)*	**22**	5
Rattlesnake fern *(Botrychium virginianum)*	**41**	10
Red baneberry *(Actaea rubra)*	**30**	8
Early meadow-rue *(Thalictrum dioicum)*	**67**	18
Wood anemone *(Anemone quinquefolia)*	**45**	13
Nodding trillium *(Trillium cernuum)*	**25**	8

*Appendaged waterleaf *(Hydrophyllum appendiculatum)*

MHs49 Indicator Species	(freq%) MHs39	MHs49
Rock elm (C,U)	1	**23**
Appendaged waterleaf*	**2**	**21**
Stinging nettle *(Urtica dioica)*	5	**46**
Hackberry (C)	**7**	**51**
Hawthorn *(Crataegus* spp.)	6	**33**
Nannyberry *(Viburnum lentago)*	**8**	**36**
Tall coneflower *(Rudbeckia laciniata)*	10	**38**
Ambiguous sedge *(Carex amphibola)*	**8**	**28**

• MHc36 Central Mesic Hardwood Forest (Eastern)

The range of MHc36 overlaps with MHs39 through the central part of Minnesota. MHc36 tends to lack the spring ephemeral species present in the herbaceous layer of MHs39.

---

[1]Forested communities that extend into the prairie regions of Minnesota tend to have shorter rotations of disturbance from fire (and often wind) on the western edge of their range compared with th eastern part. This probably results from drier climate in the west and being surrounded by prairie vegetation that burns frequently. Because estimated rotations of disturbance for forested communities are calculated from PLS bearing-tree records across the range of the community, and records in the prairie regions are often much sparser than those to the east, disturbance rotations may be much shorter for forest stands in the prairie regions than those presented for the class as a whole.

MHs39 Indicator Species	(freq%) MHs39	MHc36
Dutchman's breeches *(Dicentra cucullaria)*	41	-
Cut-leaved toothwort *(Cardamine concatenata)*	30	-
Blue phlox *(Phlox divaricata)*	36	1
Missouri gooseberry *(Ribes missouriense)*	28	2
Hackberry (U)	35	2
Cleavers *(Galium aparine)*	66	5
Wood nettle *(Laportea canadensis)*	63	8
Stemless blue violets *(Viola* spp.)*	39	6

*Stemless blue violets *(Viola sororia* and similar *Viola* spp.)

MHc36 Indicator Species	(freq%) MHs39	MHc36
Large-leaved aster *(Aster macrophyllus)*	-	77
Rose twistedstalk *(Streptopus roseus)*	1	56
Pale bellwort *(Uvularia sessilifolia)*	1	54
Red maple (C,U)	1	50
Round-lobed hepatica *(Anemone americana)*	2	61
Mountain rice grass *(Oryzopsis asperifolia)*	2	60
Beaked hazelnut *(Corylus cornuta)*	3	62
Canada mayflower *(Maianthemum canadense)*	4	51

Native Plant Community Types in Class

- **MHs39a Sugar Maple - Basswood - (Bitternut Hickory) Forest**

Rich mesic hardwood forests on moderate to steep north-facing slopes on hummocky stagnation moraines, on till plains along the Minnesota River, and on middle and lower slopes on bedrock bluffs. Most often, canopy is strongly dominated by sugar maple with lesser amounts of basswood and, often, northern red oak or bur oak. Ironwood and sugar maple are the most abundant subcanopy species. Sugar maple is also common in the shrub layer with bitternut hickory, prickly gooseberry, chokecherry, and pagoda dogwood *(Cornus alternifolia)*. MHs39a is the most widespread of the three community types in MHs39. MHs39a is less likely than MHs39b to have abundant spring ephemerals in the ground layer where the ranges of the two community types overlap in the PPL and is less likely than MHs39c to have abundant wood nettle in the ground layer where the ranges of these two types overlap in the Big Woods Subsection of the MIM. Documented in the PPL, MIM, and CGP. Description is based on summary of vegetation data from 62 plots.

- **MHs39b Sugar Maple - Basswood - Red Oak - (Blue Beech) Forest**

Rich mesic hardwood forests on shady, moist, middle and lower parts of moderate to steep north-facing slopes. Canopy is strongly dominated by sugar maple, with basswood and northern red oak. Ironwood, blue beech, sugar maple, basswood, and bitternut hickory are the most abundant subcanopy species. These same species are also common in the shrub layer with bladdernut *(Staphylea trifolia)*, pagoda dogwood, and leatherwood *(Dirca palustris)*. Species that help to differentiate MHs39b from the other types in this class include blue beech *(Carpinus caroliniana)* in the canopy and understory, and bladdernut, Wood's sedge *(Carex woodii)*, woodland millet grass *(Milium effusum)*, shining bedstraw *(Galium concinnum)*, mayapple *(Podophyllum peltatum)*, bulblet fern *(Cystopteris bulbifera)*, interrupted fern *(Osmunda claytoniana)*, Virginia spring beauty *(Claytonia virginica)*, two-leaved miterwort *(Mitella diphylla)*, and hispid buttercup *(Ranunculus hispidus)* in the understory. MHs39b has very high species diversity and provides important habitat for a variety of rare plant species. Restricted to the PPL. Description is based on summary of vegetation data from 10 plots.

- **MHs39c Sugar Maple Forest (Big Woods)**

Rich mesic hardwood forests on gently sloping sites on hummocky stagnation moraines and also on till plains along the Minnesota River. Canopy is strongly dominated by sugar maple, often with basswood and less frequently with northern red oak, red elm, or American elm. Sugar maple is also abundant in the subcanopy and shrub layer. Other common species in the shrub layer are basswood, bitternut hickory, prickly gooseberry, red-berried elder *(Sambucus racemosa)*, and chokecherry. MHs39c has been documented mainly in the Big Woods Subsection of the MIM, where it may overlap with MHs39a. Species that help to differentiate MHs39c in this area include hackberry (especially when present in the canopy), red-berried elder, puttyroot *(Aplectrum hyemale)*, giant Solomon's seal *(Polygonatum biflorum)*, and hairy Solomon's seal *(Polygonatum pubescens)*. MHs39c is also more likely to have dense patches of wood nettle in the ground layer. Documented in the MIM with occasional occurrences in the WSU and MDL. Description is based on summary of vegetation data from 38 plots.

MN DNR

Wolsfeld Woods Scientific and Natural Area, Hennepin County, MN

MHs39 Southern Mesic Maple-Basswood Forest — Species Frequency and Cover

Forbs, Ferns & Fern Allies	freq%	cover
Virginia waterleaf *(Hydrophyllum virginianum)*	85	●●●
Bloodroot *(Sanguinaria canadensis)*	85	●
Yellow violet *(Viola pubescens)*	77	●
Large-flowered bellwort *(Uvularia grandiflora)*	75	●
Wild leek *(Allium tricoccum)*	74	●
Blue cohosh *(Caulophyllum thalictroides)*	72	●
Early meadow-rue *(Thalictrum dioicum)*	67	●
Cleavers *(Galium aparine)*	66	●
Clayton's sweet cicely *(Osmorhiza claytonii)*	66	●
Zigzag goldenrod *(Solidago flexicaulis)*	60	●
Jack-in-the-pulpit *(Arisaema triphyllum)*	60	●
Wood nettle *(Laportea canadensis)*	59	●●●
Lady fern *(Athyrium filix-femina)*	55	●
Common false Solomon's seal *(Smilacina racemosa)*	53	●
Wild ginger *(Asarum canadense)*	52	●●
Common enchanter's nightshade *(Circaea lutetiana)*	49	●
Sharp-lobed hepatica *(Anemone acutiloba)*	47	●
Maidenhair fern *(Adiantum pedatum)*	45	●
Wood anemone *(Anemone quinquefolia)*	45	●
Erect, Smooth, or Illinois carrion-flower*	44	●
Dutchman's breeches *(Dicentra cucullaria)*	44	●
Rattlesnake fern *(Botrychium virginianum)*	41	●
White avens *(Geum canadense)*	41	●
Kidney-leaved buttercup *(Ranunculus abortivus)*	40	●
Honewort *(Cryptotaenia canadensis)*	40	●
Stemless blue violets *(Viola sororia* and similar *Viola* spp.)	38	●
Blue phlox *(Phlox divaricata)*	36	●
Cut-leaved toothwort *(Cardamine concatenata)*	36	●●
Wild geranium *(Geranium maculatum)*	35	●
White trout lily *(Erythronium albidum)*	30	●●●
Red baneberry *(Actaea rubra)*	30	●
Lopseed *(Phryma leptostachya)*	29	●
Touch-me-not *(Impatiens* spp.)	28	●
Drooping trillium *(Trillium flexipes)*	27	●
Sweet-scented bedstraw *(Galium triflorum)*	26	●
Two-leaved miterwort *(Mitella diphylla)*	25	●
False rue anemone *(Enemion biternatum)*	25	●●
Nodding trillium *(Trillium cernuum)*	25	●
Gregarious black snakeroot *(Sanicula gregaria)*	22	●
Hairy Solomon's seal *(Polygonatum pubescens)*	22	●
Grasses & Sedges		
Pennsylvania sedge *(Carex pensylvanica)*	34	●
Starry sedge *(Carex rosea)*	27	●
Long-stalked sedge *(Carex pedunculata)*	27	●
Bland sedge *(Carex blanda)*	26	●
Bottlebrush grass *(Elymus hystrix)*	25	●
Woody Vines		
Virginia creeper *(Parthenocissus* spp.)	50	●
Canada moonseed *(Menispermum canadense)*	25	●
Shrubs		
Prickly gooseberry *(Ribes cynosbati)*	81	●
Chokecherry *(Prunus virginiana)*	58	●
Pagoda dogwood *(Cornus alternifolia)*	45	●
Prickly ash *(Zanthoxylum americanum)*	31	●
Missouri gooseberry *(Ribes missouriense)*	28	●●
Red-berried elder *(Sambucus racemosa)*	27	●

Trees	Canopy		Subcanopy		Shrub Layer	
	freq%	cover	freq%	cover	freq%	cover
Sugar maple	91	●●●●●	87	●●●●	88	●●●
Basswood	90	●●●	46	●	57	●
Northern red oak	55	●●●	-	-	37	●
Red elm	35	●●●	20	●●	33	●●
American elm	35	●●	18	●	22	●
Ironwood	35	●	67	●●●	39	●
Bitternut hickory	25	●●	31	●●	75	●
Black ash	25	●	12	●	18	●
Green ash	16	●●	-	-	28	●
Blue beech	-	-	15	●●●	15	●●

*Erect, Smooth, or Illinois carrion-flower *(Smilax ecirrata, S. herbacea,* or *S. illinoensis)*

Common or Scientific Name Search

Big Woods

Last updated: October 8th, 2021

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About Plants References

About the Big Woods

The **Big Woods** are a region in southern Minnesota, located roughly west of Minneapolis. Historically, this region stood out as an island of hardwood forest surrounded by prairie and savanna, although there were numerous regions of wet prairie throughout, along with abundant lakes, so much that in parts of this region there is more open water than land. The Minnesota river also flows northeast through this region.

This region is hilly and irregular, formed of stagnation moraines, with some terminal moraines. There are numerous lakes throughout, most small, but in some places the density of lakes is so high and the different basins are fused to form larger lakes interrupted by isthmuses and peninsulas. In total lakes cover over 6% of this region's surface. Some of the shallower depressions contain bogs and even shallower ones, wet prairies. Glacial drift is thick here, 100-400 feet, deeply burying the bedrock throughout. Soils formed here are mostly loams to clay loams, with a greater portion of clay as one moves north, and tend to be nutrient-rich and often calcium-rich.

Originally this area was mostly covered in hardwood forests, with open prairie only on the wetter sites, and some bogs. The predominate forest cover was oak on the drier sites. Moister sites, as well as sites where topography sheltered plants from fire, supported forest of American elm (*Ulmus americana*), slippery elm (*Ulmus rubra*), American basswood (*Tilia americana*), sugar maple (*Acer saccharum*), and bur oak (*Quercus macrocarpa*), with some bur oak (*Quercus macrocarpa*), northern red oak (*Quercus rubra*), and quaking aspen (*Populus tremuloides*). Although this forest is sometimes classified as "Sugar Maple - Basswood", this region probably had more elm than maple or basswood. Drier sites subjected to fire more frequently, supported mostly oak woodland, with dominant species being, northern red oak, bur oak, quaking aspen, and in the east, white oak (*Quercus alba*), a species that reaches its westernmost range limits in this region. Although fire did occur here, it was much less common than areas to the west and south. Windthrow was probably also an important disturbance.

Nowadays this region has been heavily developed and severely altered from its original state. The dominant land use here is agriculture, with 40% of the region taken up in cropland producing either corn or soybeans. There are small amounts of pastureland but little other agriculture. Especially in the east of this region, near Minneapolis, there is extensive suburban development, and there is also extensive development for recreation and vacation homes around the areas with the highest density of lakes. Only around 15% of the land is still forested, and about 13% is covered in wetlands, much of it along the Minnesota River valley. Forest cover exists mostly as small, isolated woodlots, but there is also a large corridor of contiguous bottomland forests along the Minnesota river, and along some of its larger tributaries. There are significant areas of protected public land here, and some of them include high-quality habitat that has been relatively undisturbed for a long time; such protected areas include both dry oak savannas, maple-basswood forest, and wetlands. Outside protected lands, northern red oak has been reduced in this region by pressure from selective logging on private woodlots, and pressure for higher yields has also led to loss of small woodlots. There are no cities here of appreciable size other than Minneapolis, which lies just outside this region, but there are numerous small towns throughout.

This region is bordered to the southeast by the Eastern Iowa and Minnesota Drift

Plains, to the east north of that by the Lower St. Croix and Vermillion Valleys, and to the southwest over most of its length by the Des Moines Lobe; these are all areas of prairie, marking the start of the Great Plains, an area where fire was more common. To the northwest this region borders the McGrath Till Plain and Drumlins, and to the northeast, the Anoka Sand Plain and Mississippi Valley Outwash. There is a small border to the east with the St. Croix Stagnation Moraines, an area with sandier, more acidic soils.

Plant Lists & In-Region Search

We do not yet have data to generate plant lists for a region as fine-tuned as this one. However you can move up to the broader North Central Hardwood Forests and generate lists for that region: native plants or all plants. Or search that region's plants here:

Common or Scientific Name Search Region Only

References

1. Albert, Dennis A. "Regional landscape ecosystems of Michigan, Minnesota, and Wisconsin: a working map and classification.", *General Technical Report NC-178*, U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station, St. Paul, MN (1995) Web.

2. Denis White "Ecological Regions of Minnesota: Level III and IV maps and descriptions", (2020) Web.

Exhibit G
Shorewood Code Section 201.07, Subd. 7

201.07 POWERS AND DUTIES.

Subd. 1. *Generally.* The Planning Commission shall have the powers and duties given to city planning agencies generally by law, including the authority to conduct public hearings as directed by City Council or city policy. The Planning Commission also shall exercise the duties conferred upon it by this chapter.

Subd. 2. *Comprehensive Plan.* It shall be the purpose of the Planning Commission to prepare and adopt a comprehensive plan for the physical development of the city, including proposed public buildings, street arrangements and improvements, efficient design of major thoroughfares for moving of traffic, parking facilities, public utilities services, parks and playgrounds, a general land use plan and other matters relating to the physical development of the city. This plan may be prepared in sections, each of which shall relate to a comprehensive plan program. After the City Council has adopted the Comprehensive Plan, the Planning Commission may periodically, but at least every five years, review the Comprehensive Plan and any ordinances or programs implementing the plan.

Subd. 3. *Means of executing plan.* Upon the adoption of a comprehensive plan or any section thereof, it shall be the concern of the Planning Commission to recommend to the City Council reasonable and practical means for putting into effect the plan or section thereof, in order that it will serve as a pattern and guide for the orderly physical development of the city. Means of effectuating the plan, among other things, shall consist of a zoning ordinance, subdivision regulations, capital improvement programming and technical review, and recommendations of matters referred to the Planning Commission by the City Council.

Subd. 4. *Zoning ordinance.* Pursuant to M.S. § 462.357, Subd. 3, as it may be amended from time to time, after adoption of a comprehensive plan, the Planning Commission shall review all proposed amendments to the zoning ordinance, conduct public hearings as directed by City Council or city policy, and make recommendations to the City Council concerning zoning ordinance amendments and their relation to the Comprehensive Plan and other land use controls. The Planning Commission shall report its recommendations to the City Council for action.

Subd. 5. *Conditional use permits.* The Planning Commission shall make recommendations on all requests for a conditional use permit under the terms of the zoning ordinance, and conduct public hearings as directed by City Council or city policy. The Planning Commission shall report its recommendations to the City Council for action.

Subd. 6. *Interim use permits.* The Planning Commission shall make recommendations on all requests for an interim use permit under the terms of the zoning ordinance, and conduct public hearings as directed by City Council or city policy. The Planning Commission shall report its recommendations to the City Council for action.

Subd. 7. *Subdivision regulations.* The Planning Commission shall make recommendations about the subdividing of land as prescribed by the ordinance and conduct public hearings as directed by City Council or city policy. The Planning Commission shall report its recommendations to the City Council for action.

Subd. 8. *Zoning variances.* All applications for variances shall be referred to the Planning Commission, and forwarded with or without recommendations directly to the City Council. The City Council shall have the powers of a board of appeals and adjustments, as provided for in M.S. § 462.357, Subd. 6, as it may be amended from time to time, for its decision.

Subd. 9. *Appeals to interpretation of zoning code provisions or denials of zoning or building permits based on the zoning code.* In cases where it is alleged that there is an error in any order, requirement, decision or determination by an administrative officer in the enforcement of the zoning code, appeals shall be referred to the Planning Commission, and forwarded with its recommendations directly to the City Council. The City Council shall have the powers of a Board of Appeals and Adjustments, as provided for in M.S. § 462.359, Subd. 4, as it may be amended from time to time, for its decision.

Subd. 10. *Capital improvements.* Pursuant to M.S. § 462.356, Subd. 2, as it may be amended from time to time, after adoption of a comprehensive plan, the Planning Commission shall review all proposed capital improvements within the city by the municipality, or any special district or any agency thereof, or any other political subdivision having jurisdiction within the municipality, and make findings as to the compliance of the proposed capital improvement with the Comprehensive Plan. The City Council may, by resolution adopted by two-thirds vote, dispense with the requirements of this section when in its judgment it finds that the proposed capital improvement has no relationship to the Comprehensive Plan.

Subd. 11. *Purchase and sale of real property.* Pursuant to M.S. 462.356, Subd. 2, as it may be amended from time to time, after adoption of a comprehensive plan, the Planning Commission shall review all proposed acquisitions or disposals of publically owned interests in real property within the city by the municipality, or any special district or any agency thereof, or any other political subdivision having jurisdiction within the municipality, and make findings as to the compliance of the proposed acquisition or disposal of real property with the Comprehensive Plan. The City Council may, by resolution adopted by two-thirds vote, dispense with the requirements of this section when in its judgment it finds that the proposed acquisition or disposal of real property has no relationship to the Comprehensive Plan.

Subd. 12. Comprehensive Plan amendments. Pursuant to M.S.§ 462.355, Subds. 2, 3, as they may be amended from time to time, after adoption of a comprehensive plan, the Planning Commission shall review all proposed amendments to the Comprehensive Plan, hold at least one public hearing, and make recommendations to the City Council relative to the amendments and their relation to the Comprehensive Plan and other land use controls. The Planning Commission shall report its recommendations to the City Council for action.

(1987 Code, § 201.04) (Am. Ord. 466, passed 4-26-2010)

Exhibit H
Shorewood Code Section 1202.20 Subd. 1 and Ordinance 617

EXHIBIT A

Chapter 1202 Subdivision Regulation

1202.00 Introductory Provisions

1202.01 Title

Subd. 1 This chapter shall be known as “City of Shorewood Subdivision Ordinance,” except as referred to herein, where it shall be known as “this chapter.”

1202.02 Purpose

Subd. 1 It is the purpose of this chapter to safeguard the best interests of the city and to assist property owners and subdividers of land in harmonizing their interests with those of the city.

Subd. 2 It is the purpose of this chapter to make certain regulations and requirements for the subdivision of land within the city, pursuant to the authority contained in Minnesota State Statutes, which regulations the City Council deems necessary for the health, safety and general welfare of this community.

Subd. 3 This chapter is intended to promote good planning practice and to ensure orderly growth and development and shall supplement and implement the provisions of the Shorewood Comprehensive Plan, the Shorewood Zoning Regulations, and City Code.

1202.03 Authority and Effective Date

Authority. This chapter is enacted pursuant to the authority granted by M.S. § 462.358.

The effective date of this chapter is _____, 2025.

Comprehensive revision. The City Council intends this chapter to be a comprehensive revision to the Shorewood Subdivision Ordinance, as amended. Except as otherwise provided herein, the provisions of this chapter are not intended to alter, diminish, increase or otherwise modify any rights or liabilities existing on its effective date. Any act done, offense committed or rights accruing or accrued or liability or penalty incurred or imposed prior to the effective date of this chapter is not affected by its enactment.

Whenever other applicable city, state or federal laws or rules referenced in this chapter have been amended or superseded, this chapter shall also be considered amended accordingly.

1202.04 Administration

Subd. 1 This chapter shall be administered by the Zoning Administrator who is appointed by the City Council. The Zoning Administrator may delegate specific responsibility to any individual city employee, but shall remain responsible for all decisions made by those employees.

Subd. 2 Approvals necessary for acceptance of subdivision plats. Before any subdivision shall be recorded or be of legal effect, it shall be approved by the city as having fulfilled the requirements of this chapter.

Subd. 3 Conditions for recording. No plat of any subdivision shall be entitled to be recorded in the Hennepin County Recorder’s Office or have any validity until the plat thereof has been prepared, approved and acknowledged in the manner prescribed by this chapter and all conditions of approval satisfied.

Subd. 4 Permits. No building permits shall be granted by the city for the construction of any building, structure or improvement to the land or to any lot in a subdivision as defined

herein, until all requirements of this chapter have been fully complied with and the subdivision recorded.

Subd. 5 Exceptions. Except in the case of resubdivision, this chapter shall not apply to any lot or lots forming a part of a subdivision recorded in the office of the Hennepin County Register of Deeds for Registrar of Titles prior to the effective date of this chapter.

1202.05 Applicability

Subd. 1 The requirements of this chapter shall apply to all subdivision applications and procedures subject to development review under this Code unless otherwise stated.

Subd. 2 Subdivisions which meet the following circumstances are exempt from the regulations of this chapter:

a. Where all the resulting parcels, tracts, lots, or interests will be 20 acres or larger in size and 500 feet in width for agricultural or residential uses;
b. Where all the resulting parcels, tracts, lots, or interests will be five acres or larger in size for commercial and industrial uses;
c. Creating cemetery lots; or
d. Subdivisions resulting from court orders or the adjustment of a lot line by the relocation of a common boundary.

Subd. 3 Building Permits.

a. Outlots are deemed unbuildable, and no building permit shall be issued for such properties, except in the case of public park facilities and essential services.

1202.06 Interpretation

Subd. 1 Conflicting Regulations or Provisions.

a. In the interpretation of this chapter, its provisions shall be held to be the minimum requirements for the promotion of the public health, safety and welfare.
b. In the event of a conflict or inconsistency between the provisions contained in this chapter and the state statutes or rules, state statutes and rules shall govern, unless such state statutes or rules provide otherwise.
c. Where the conditions imposed by any provision of this chapter are either more or less restrictive than comparable conditions imposed by any other ordinance, rule or regulation of the city, the ordinance, rule or regulation that imposes the more restrictive condition, standard or requirement shall prevail. The Zoning Administrator shall determine which is more restrictive, and appeals from the determination may be made in the manner provided herein.
d. This chapter is not intended to abrogate, annul, impair or interfere with any existing easement, covenant or any other private agreement. However, where the regulations of this chapter are more restrictive or impose higher standards or requirements on such easements, covenants or other private agreements, the requirements of this chapter shall govern.

Subd. 2 Relationship to Comprehensive Plan.

a. The City Council recognizes the Comprehensive Plan as the Policy Guide responsible for regulation of land use and development in accordance with the policies and purpose herein set forth.

b. It is the policy of the city that the enforcement, amendment and administration of this chapter be accomplished with due consideration of the direction contained in the Shorewood Comprehensive Plan as developed and amended from time to time by the City Council.

Subd. 3 Use of Cross-References. In some instances, cross-references between chapters, sections and subsections are provided that include the chapter, section or subsection number along with the name of the reference. Where a conflict may occur between the given cross-reference number and name, the name shall control.

Subd. 4 Rules. The language set forth in the text of this chapter shall be interpreted in accordance with the following rules of construction:

a. The singular number shall include the plural and the plural the singular.
b. The present tense includes the past and future tenses and the future the present.
c. The word SHALL is mandatory while the word MAY is permissive.
d. Whenever a word or term defined hereinafter appears in the text of this chapter, its meaning shall be construed as set forth in the definition thereof.
e. All measured distances expressed in feet shall be to the nearest tenth of a foot.

Subd. 5 Separability. It is declared to be the intention of the city that the several provisions of this chapter are separable in accordance with the following:

a. Other parts of this chapter. If any court of competent jurisdiction shall adjudge any provision of this chapter to be invalid, the judgment shall not affect any other provisions of this chapter not specifically included in the judgment.
b. Application to other party or property. If any court of competent jurisdiction shall adjudge invalid the application of any provision of this chapter to a particular property, building or structure, the judgment shall not affect the application of the provision to any other property, building or structure not specifically included in the judgment.

1202.10 Definitions

For the purpose of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

ALLEY. A public or private right-of-way primarily designed to serve as secondary access to the side or rear of those properties whose principal frontage is on a street.

APPLICANT. The owner of land proposed to be subdivided or the owner's representative. Consent shall be required from the legal owner of the premises.

BLOCK. An area of land within a subdivision containing one or more lots that is entirely bounded by streets, or by streets and the entire boundary or boundaries of the subdivision, or a combination of the above with a river, lake or other physical barrier.

BOULEVARD. The portion of the street right-of-way not occupied by pavement or other traveled surface.

BUILDING. Any structure used or intended for supporting or sheltering any use or occupancy.

COMPREHENSIVE PLAN. The long range goals, objectives, policies, concepts and plans of the city as stated in a group of maps, charts and text.

DESIGN STANDARDS. The specifications to land owners or applicants for the preparation of plats, both preliminary and final, indicating among other things, the optimum, minimum or maximum dimensions of the items as rights-of-way, blocks, easements and lots.

DEVELOPMENT AGREEMENT. A written contract between the city and applicant in conjunction with the approval by the city of a subdivision.

EASEMENT. A grant by a property owner for the use of land for the purpose of constructing and maintaining drives and utilities, including, but not limited to wetlands, ponding areas, sanitary sewers, watermains, electric lines, telephone lines, storm sewer or storm drainage ways and gas lines.

FINAL PLAT. A drawing, suitable for recording, showing the layout of a subdivision that has received preliminary plat approval pursuant to § 1202.35 and M.S. Chapter 505.

IMPERVIOUS SURFACE. An artificial or natural surface through which water, air or roots cannot penetrate.

LOT. A parcel of land in a subdivision or plat of land, separated from other parcels or portions by descriptions or by metes and bounds, for the purpose of sales or lease or separate use thereof.

LOT, BASE. A lot meeting all the lot specifications in the zoning district in which it is located prior to being subdivided into a two-family or townhouse subdivision.

LOT, CORNER. A lot situated at the intersection of two streets, or a lot at the point of deflection of a single street, the interior angle of which 135 degrees or less.

***LOT, UNIT*.** A lot created from the subdivision of a two-family dwelling or townhouse, having different minimum lot size requirements than the conventional base lots within the zoning district in which it is located.

LOT IMPROVEMENT. Any building, structure, place, work of art or other object which constitutes a physical betterment of the real property on which it is situated or any part of the betterment.

LOT WIDTH. The shortest horizontal distance between the side lot lines measured at right angles to the lot depth measured at the required minimum building setback line as set forth in the Shorewood Zoning Code.

ORDINARY HIGH WATER LEVEL (OHWL). The boundary of public waters and wetlands that is described as an elevation delineating the highest water level that has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly that point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial. For watercourses the ORDINARY HIGH WATER LEVEL is the elevation of the top of the bank or channel.

OUTLOT. A lot remnant or parcel of land left over after platting, which is intended as open space or other use, or which is reserved for future development and for which no building permit shall be issued.

OWNER. Any individual, firm, association, syndicate, partnership, corporation, trust or any other legal entity having sufficient proprietary interest in the land sought to be subdivided or commercially used to commence and maintain proceedings under this chapter.

PARKS AND PLAYGROUNDS. Public land and open spaces in the city dedicated or reserved for recreation purposes.

PEDESTRIAN WAY. A public right-of-way or private easement that provides access for pedestrians and which may be used for the installation of utility lines.

PERCENTAGE OF GRADE. The ratio of the distance vertically from the horizontal in feet and tenths of a foot for each 100 feet of horizontal distance.

PRELIMINARY PLAT. A drawing or set of drawings describing the existing physical characteristics of a parcel of land and illustrating a proposed layout for subdividing the land into lots, blocks,

streets and easements for purposes of obtaining preliminary approval of a subdivision, pursuant to § 1202.35 and M.S. § 462.358 and Chapter 505.

PROTECTIVE COVENANTS. Contracts made between private parties relating to the manner in which land may be used in order to protect and preserve the physical and economic integrity of any given area.

PUBLIC IMPROVEMENT. Any drainage facilities, roadway, parkway, sidewalk, pedestrian way, tree, lawn, off-street parking area, lot improvement, utility or other facility for which the city may ultimately assume the responsibility for maintenance and operation or which may affect an improvement for which local government responsibility is established.

REGISTERED LAND SURVEYOR. A surveyor whom is registered and licensed in accordance to M.S. § 326.02, Subd. 4.

REGISTERED PROFESSIONAL ENGINEER. A REGISTERED PROFESSIONAL ENGINEER licensed in accordance to M.S. § 326.02, Subd. 3.

RIGHT-OF-WAY, PUBLIC. Any property established for the use of the public for street or highway purposes by any federal, state, county or local government by dedication, easement, gift or statutory user, whether developed or undeveloped, paved or unpaved.

SETBACK. The minimum horizontal distance between building and street, lot line or ordinary high water level. Distances are to be measured at ground level from the most outwardly extended portion of the structure. In the case of a private street or street acquired by statutory user as defined by Minnesota Statutes, the setback shall be measured from a line 15 feet from the edge of the traveled surface.

STREET. A public right-of-way or private way serving three or more properties, whether designated as a street, highway, thoroughfare, parkway, throughway, road, avenue, lane, place or however otherwise designated, which is used or can be used for travel.

STREETS, ARTERIAL. Those streets, as identified in the Shorewood Comprehensive Plan, carrying larger volumes of traffic and serving as links between various subareas of the community. Arterial streets are intended to provide for collection and distribution of traffic between highways and collector streets; hence regulations of direct access to property is critical.

STREETS, COLLECTOR. Those streets, as identified in the Shorewood Comprehensive Plan, that carry traffic from local streets to the major system of arterials and highways. COLLECTOR STREETS primarily provide principal access to residential neighborhoods, including, to a lesser degree direct land access.

STREETS, LOCAL. Those streets, as identified in the Shorewood Comprehensive Plan, that are used primarily for access to abutting properties and for local traffic movement.

STREETS, MARGINAL ACCESS. Those local streets that are parallel and adjacent to thoroughfares and highways and that provide access to abutting properties and protection from through traffic.

STREETS, CUL-DE-SAC. Those local streets with only one outlet and having an appropriate terminal for the safe and convenient reversal of traffic movement.

STREET WIDTH. The shortest distance between lines of lots delineating the streets right-of- way.

SUBDIVISION. The division of a parcel of land into two or more lots or parcels for the purpose of transfer of ownership or of building developments. The term includes resubdivision and, when appropriate to the context, shall relate to the process of subdividing or to the land subdivided.

WATERCOURSE. Watercourse means any channel having definable beds and banks and capable of conducting generally confined runoff from adjacent lands. During floods water may leave the

confining beds and banks but under low and normal flows water is confined within the channel. A watercourse may be perennial or intermittent.

1202.20 Premature Subdivision Prohibited

Subd. 1 Premature Subdivisions.

a. Any proposed subdivision deemed premature for development shall be denied by the City Council.
b. The burden shall be upon the applicant to show that the proposed subdivision is not premature.
c. A subdivision may be deemed premature should any of the following conditions exist:
    (1) Inconsistency with Comprehensive Plan. The proposed subdivision is inconsistent with the purposes, objectives, and recommendations of the duly adopted Comprehensive Plan of Shorewood, as may be amended.
    (2) Lack of Adequate Water Supply. A proposed subdivision shall be deemed to lack an adequate water supply if municipal water is not available to the plat. With the extension of municipal water, all private wells must be capped in accordance with State Statutes.
    (3) Lack of Adequate Roads to Serve the Subdivision. A proposed subdivision shall be deemed to lack adequate roads if direct access to a public road is not possible or if the roads which serve the proposed subdivision are deemed inadequate by the City Engineer.
    (4) Lack of Adequate Waste Disposal Systems. A proposed subdivision shall be deemed to lack adequate waste disposal systems if municipal sanitary sewer is not available to the plat or if in subdivisions for which sewer lines are proposed, there is inadequate sewer capacity in the present system to support the subdivision if developed to its maximum permissible density indicated in the Shorewood Comprehensive Plan, as may be amended.
    (5) Lack of Adequate Drainage: A condition of inadequate drainage shall be deemed to exist if:
        (a) Surface or subsurface water retention and runoff is such that it constitutes a danger to the structural security of the proposed structures and/or adjacent properties.
        (b) The proposed subdivision will cause pollution of water sources or damage from erosion and siltation on downhill or downstream land.
        (c) The proposed site grading and development will cause harmful and irreparable damage from erosion and siltation on downstream land.
        (d) Factors to be considered in making these determinations may include:
            1. Average rainfall for the area.
            2. The relation of the land to floodplains.
            3. The nature of soils and subsoils and their ability to adequately support surface water runoff and waste disposal systems.
            4. The slope of the land and its effect on effluents.
            5. The presence of streams as related to effluent disposal.

1202.30 Procedures and Enforcement

1202.31 Common Procedures

Subd. 1 Authority to File Applications.

a. Subdivision applications for an individual property may be initiated by:
   (1) The owner of the property that is the subject of the application.
   (2) An agent authorized by the owner of the property that is the subject of the application, which may include a lessee of the property. Evidence of such authorization shall be the signature of the property owner.
   (3) If the property subject to an application is under more than one ownership, all owners or their authorized agents shall join in filing the application.

Subd. 2 Application and Fees.

a. A complete application shall be made in writing, submitted in a format prescribed by the city.
b. All applications for subdivision approval shall be accompanied by a fee established by chapter 1301 of the City Code to pay for costs associated with the application processing and review. Said fee ordinance will be annually reviewed and updated.
c. An escrow amount shall be required by the city to pay for actual costs incurred by the city during the review process.
d. No application shall be deemed complete for processing until the necessary fee has been paid.

Subd. 3 Pre-Application Meeting.

a. Applicants are encouraged to meet with city staff prior to filing a subdivision application.
b. A pre-application meeting is an informal discussion between a potential applicant and city staff regarding a possible project subject to this chapter. The purpose of the meeting is to inform applicants of the procedural requirements and minimum standards of this chapter and the requirements or limitations imposed by other city ordinances or plans prior to the development of a subdivision.
c. For discussion purposes, applicants shall provide a sketch or concept of the proposed subdivision to the Zoning Administrator. This plan shall contain, at a minimum, plat boundary, north arrow, graphic scale, street layout on and adjacent to plat, designation of land use and current or proposed zoning, significant topographical or physical features and general lot locations and layout.
d. Discussions that occur during pre-application meetings are not binding on the city and do not constitute official assurances or representations of the city.

Subd. 4 Coordination of Applications.

a. Depending on the requirements of this Code, multiple applications may be required for a single development. Each application filed requires a fee and escrow as described in this Code.
b. City staff shall determine the order of application review based on the City Code, including this chapter, and state requirements. Where possible, applications will be reviewed simultaneously.

c. When submitting multiple applications of different review periods, the applicant is encouraged to agree to an extension of the shorter review period to match that of the application with the longest review period.

Subd. 5 Deadline for Action.

a. In compliance with M.S. § 462.358, the city shall take action to preliminarily approve or deny a subdivision application within 120 days following delivery of an application completed in compliance with this Code, unless an extension for the review period has been agreed to by the applicant.

b. In compliance with M.S. § 462.358, the city shall certify final approval of a subdivision application within 60 days if the applicant has complied with all conditions and requirements of applicable regulations and the preliminary approval.

Subd. 6 Withdrawal of Applications.

a. Any request for withdrawal of an application shall be submitted in writing to city staff.

b. In all cases where the applicant has requested withdrawal of an application, the associated fee paid and any costs incurred by the city in the processing of the application shall not be refunded.

Subd. 7 Successive Applications.

a. No application which has been denied wholly or in part may be resubmitted for at least one year from the date of its submittal, unless substantial changes have been made which warrant reconsideration, as determined by city staff.

Subd. 8 Appeals of Decisions.

a. The City Council shall serve as the Board of Adjustment and Appeals and hear and decide any appeals of the Zoning Administrator's interpretation of this chapter.

b. All decisions made by the City Council regarding subdivision shall be final, except that any aggrieved person shall have the right to appeal to the District Court in Hennepin County within 30 days after delivery of the city decision to the appellant. Any person seeking judicial review under this chapter must serve the city and all necessary parties, including any landowners, within the 30-day period defined above.

1202.32 Registered Land Surveys

Subd. 1 It is the intention of this chapter that all registered land surveys in the city should be presented to the Planning Commission in the form of a preliminary plat in accordance with the standards and procedures set forth in this chapter for preliminary plats.

Subd. 2 The Planning Commission shall first recommend the arrangement, sizes and the relationships of proposed tracts in the registered land surveys, and tracts to be used as easements or roads should be so dedicated.

Subd. 3 Building permits will be withheld for buildings on tracts that have been so subdivided by registered land surveys unless a recommendation and approval have been obtained from the Planning Commission and City Council respectively, in accordance with the standards and procedures set forth in this chapter. The city may refuse to take over tracts as streets or roads or to improve, repair or maintain any tracts unless so approved.

1202.33 Administrative Adjustment

Subd. 1 Applicability. An application for an administrative adjustment shall be submitted to the city when any of the following apply:

a. Requests to relocate a property line(s) without increasing or decreasing the number of parcels and where all parcels meet Code requirements meet Code requirements.
b. Requests to divide a base lot, upon which has been constructed a twinhome that is directly accessible to a public street, where the division is to permit individual private ownership of a single dwelling unit within the structure and the newly created property lines will not cause any of the unit lots or the structure to be in violation of this chapter, the Zoning Regulations, or the State Building Code.

Subd. 2 Submittal Requirements.

a. Complete application, fee and escrow as specified in city's fee schedule
b. Proof of ownership of the property
c. Existing and proposed legal descriptions for the property provided as Word document(s)
d. One large-scale paper copy and one digital submission of a survey prepared and signed by a registered land surveyor which includes:
   (1) North arrow, scale and date of preparation
   (2) Proposed name of subdivision
   (3) Original and proposed lot boundaries and dimensions
   (4) Acreage of site
   (5) Existing and proposed lot areas
   (6) Layout, numbers and dimensions of parcels
   (7) Location and dimensions of existing structures on the site
   (8) Location and dimensions of curb cuts and driveways
   (9) Street layout on and adjacent to subdivision
   (10) Existing and proposed easement locations, including legal descriptions and graphic depictions of all easements
   (11) Significant topographical or physical features
e. Additional information as determined necessary by the Zoning Administrator.

Subd. 3 Procedure.

a. The Zoning Administrator shall review the application to determine conformance with the Comprehensive Plan and the Zoning and Subdivision ordinances.
b. The Zoning Administrator shall have the authority to make a final decision on the application.
c. Following the approval or denial of the application, the Zoning Administrator shall provide the applicant with written notice of the decision and reasons for approval or denial.

Subd. 4 Criteria for Approval. In considering the administrative adjustment application, the Zoning Administrator shall consider the following factors:

a. Conformance with City Code and all other applicable ordinances, rules and regulations.
b. Consistency with the Comprehensive Plan.
c. In addition to the criteria above, subdivisions of base lots shall meet the following criteria:
   (1) Prior to a base lot subdivision, the base lot must meet all the requirements of the zoning district.

(2) In any residential district, there shall be no more than one principal structure on the base lot. The principal structure on unit lots created in a base lot subdivision will be the portion of the attached dwelling existing or constructed on the platted unit lots.
(3) A property maintenance agreement must be arranged by the applicant and submitted to the City Attorney for their review and subject to approval. The agreement shall ensure the maintenance and upkeep of the structure and the lots to meet minimum city standards. The agreement is to be filed with the Hennepin County Recorder's office as a deed restriction against the title of each unit lot.
(4) Separate public utility service shall be provided to each subdivided unit and shall be subject to the review and approval of the City Engineer.

Subd. 5 Post-Approval Actions

a. City approval for an administrative adjustment shall become null and void if, within one year after such approval, the administrative adjustment has not been duly filed and recorded with the Hennepin County Recorder's Office.

1202.34 Minor Subdivision

Subd. 1 Applicability. An application for a minor subdivision shall be submitted to the city when all of the following apply:

a. The request to subdivide would create no more than two lots or building sites, neither of which is capable of being further subdivided in the future;
b. The land has been previously subdivided by plat or registered land survey and is on file and of record in the County Register of Deeds or Registrar of Titles;
c. The application will not cause the parcel or any structure on the parcel to be in violation of this chapter, the Zoning Regulations, or the building code;
d. With the exception of sidewalks or trails, the application will not involve the construction of any new street or road, the extension of municipal facilities, or the creation of any public improvements; and
e. The application does not involve an outlot.

Subd. 2 Submittal Requirements.

a. Complete application, fee and escrow as specified in city's fee schedule
b. Proof of ownership of the property
c. Existing and proposed legal descriptions for the property and any easements provided as Word document(s)Certificate of survey prepared by a registered land surveyor.
d. The data and supportive information detailing the proposed subdivision shall be the same as required for a preliminary plat as set forth in § 1202.35, Subd. 2. of this chapter. The Zoning Administrator may exempt the applicant from certain informational requirements.
e. Additional information as determined necessary by the Zoning Administrator.

Subd. 3 Procedure.

a. A pre-application meeting pursuant to § 1202.31 of this chapter is suggested prior to submitting a minor subdivision application.
b. The owner or applicant shall submit an application for minor subdivision, together with all necessary supplementary information listed above.
c. The Zoning Administrator shall refer the application to all appropriate city staff for review and comment.

d. The Zoning Administrator shall distribute the request to other jurisdictions as appropriate.
e. City Council Action.
(1) The City Council shall act upon the minor subdivision and may impose conditions and restrictions which are deemed necessary for compliance with City Code. Approval of the application requires a simple majority vote of the full City Council.
(2) The reasons for the City Council's action shall be recorded in the proceedings of the Council and transmitted in writing to the applicant.

Subd. 4 Criteria for Approval. In considering the minor subdivision application, the City Council shall consider the following factors:
a. Conformance with this chapter, the Zoning Regulations, and all other applicable ordinances, rules and regulations; and
b. Consistency with the Comprehensive Plan's vision, mission, values and policies.

Subd. 5 Post-Approval Actions.
a. Prior to release of a Council resolution approving a minor subdivision for recording, the applicant shall submit the following:
(1) An up-to-date title opinion from within the last 30 days for review and approval by the City Attorney.
(2) Deeds in favor of the city for any easements or public right-of-way that may be required as part of the minor subdivision.
b. The applicant must record the minor subdivision, and any required deeds for easements or street right-of-way, with the Hennepin County Recorder within one year of the date it receives the resolution approving the subdivision. Failure to record the subdivision within one year shall void the approval. No building permits shall be issued for new lots until the applicant has provided proof of recording.
c. Prior to the expiration of a minor subdivision approval, an extension of the approval may be granted by the City Council upon the city's receipt of a request for extension. A request for an extension shall be in writing and filed with the city. The request for extension shall state facts showing a good faith attempt was made to meet the recording requirement.

1202.35 Preliminary Plat

Subd. 1 Applicability. A preliminary plat application shall be submitted to the city when any of the following apply:
a. The applicant is proposing to create three or more lots as part of a subdivision.
b. The applicant is proposing to change the exterior boundaries of an existing plat.
c. The proposed subdivision includes the creation or installation of any public improvements as identified in § 1202.50 Improvements.
d. The property to be subdivided has a current metes and bounds legal description rather than a lot and block legal description.
e. The proposed subdivision does not qualify to be processed as an administrative adjustment or minor subdivision.

Subd. 2 Submittal Requirements.
a. The required number and format of the preliminary plat and application materials shall be determined by and submitted to the Zoning Administrator. The required filing fee as

established by City Code § 1301.03 shall be paid and any necessary applications for variances from the provisions of this chapter shall be submitted with the required fee.

b. The applicant shall prepare and submit a preliminary plat, together with any necessary supplementary information as described below. All plans shall include a graphic scale not to exceed 1 inch equal to 50 feet, north arrow, and date of preparation.
   (1) Complete application and fee as specified in the city's fee schedule.
   (2) Proof of ownership of the property
   (3) Existing and proposed legal descriptions for the property and any easements provided as Word document(s)
   (4) Existing Conditions Survey prepared by a registered land surveyor.
      (a) Topographic map with contour interval of two feet or less.
      (b) Total acreage of proposed plat.
      (c) Boundary lines of proposed plat and of adjoining property within 300 feet.
      (d) Ownership of adjoining property within 300 feet, including all contiguous land owned or controlled by the applicant.
      (e) Existing zoning classifications for land within and abutting the subdivision.
      (f) Location, right-of-way widths and names of all existing or previously platted streets or other public or private ways, railroad and utility rights-of-way, parks and other public open spaces, permanent buildings and structures, easements and section and corporate lines within the tract and 300 feet beyond the tract.
      (g) Location, width and names of all existing power transmission poles and lines.
      (h) Calculations showing all impervious surface coverage with the total expressed in a percentage of the lot area.
   (5) Preliminary Plat.
      (a) Proposed name of subdivision. Names shall not duplicate or too closely resemble names of existing subdivisions within Hennepin County.
      (b) Location of boundary lines in relation to a known section, quarter section or quarter-quarter section lines comprising a legal description of the property.
      (c) Names and addresses of all persons having property interest, the applicant, designer and surveyor, together with the surveyor's registration number.
      (d) Layout of proposed streets showing the right-of-way widths, centerline gradients, typical cross sections and proposed names of streets in conformance with City and County street identification policies.
      (e) Locations and size of proposed sewer lines and watermains or water wells.
      (f) Locations and widths of proposed curb cuts, driveways, access roads, alleys and pedestrian ways and trails.
      (g) Location, dimension and purpose of all easements.
      (h) Layout, numbers, lot areas and preliminary dimensions of lots and blocks. All lots shall be numbered clockwise in each block and blocks shall be numbered consecutively.
      (i) Minimum front, side and rear building setback lines.
      (j) When lots are located on a curve, the width of the lot at the building setback line.

(k) Areas, other than streets, alleys, pedestrian ways and utility easements, dedicated or reserved for public use, including the size of the area or areas in square feet and acres.

(l) A statement of the proposed use of lots stating type of buildings with number of proposed dwelling units or type of business, so as to reveal the effect of the development on traffic, fire hazards and congestion of population.

(6) Grading and Erosion Control Plan prepared and signed by licensed Civil Engineer.

(a) Location and size of existing sewers, water mains, stormwater pipes, culverts, drainage tiles or other underground facilities within the tract and to a distance of 100 feet beyond the tract. The data as grades, invert elevations, locations of catch basins, manholes and hydrants shall also be shown.

(b) Topographic data, including contours at vertical intervals of not more than two feet. Watercourses, wetlands, woodland areas, rock outcrops, power transmission poles and lines, and other significant features shall also be shown.

(c) 100-year flood elevations, the regulatory flood protection, and boundaries of flood way and flood fringe areas, if known taking into consideration the Flood Insurance Study and Flood Insurance Rate Map.

(d) On a separate plan sheet provide proposed grading, including existing and proposed contours at vertical intervals of not more than two feet, proposed cut and fill areas, proposed building pads showing type of house (full basement, walkout, split entry and the like), elevations of lowest floor and garage floor, ordinary high water level, proposed storm water treatment devices with rate and volume control, and emergency overflow elevation and route.

(e) Layout of the proposed streets showing right-of-way widths, centerline gradients, and typical cross sections.

(f) Proposed fill, levees, channel modifications, and other methods to overcome flood or erosion hazard areas in acceptance with the Zoning Ordinance and by use of the 100-year flood profile and other supporting technical data in the Flood Insurance Study.

(g) A plan for soil erosion and sediment control both during construction and after development has been completed. The plan shall include gradients of waterways, design of velocity and erosion control measures, design of sediment control measures and landscaping of the erosion and sediment control system.

(7) Wetlands delineation report.

(8) Landscape plan addressing the requirements of the Zoning Code.

(9) Utility plan showing public utilities, including water, sanitary sewer mains and service connections to be installed in accordance with the standards of the city.

(10) Stormwater management plan with drainage calculations and map.

(11) Tree preservation plan addressing the requirements of the Zoning Code.

(12) Supplementary Information. Any or all of the supplementary information requirements set forth in this subdivision shall be submitted, when deemed necessary by the city staff, consultants, advisory bodies or City Council.

(a) A vegetation preservation and protection plan that shows those trees proposed to be removed, those to remain and the types and locations of trees and other vegetation that are to be planted
(b) Proposed protective covenants.
(c) An accurate soils report of the subdivision prepared by a registered professional engineer qualified to perform and analyze soil materials under the laws of Minnesota.
    1. The soils report shall consist of test holes to a depth necessary to determine the various types of soils to be encountered before reaching a stable base and the static water table elevation. The test holes, when ordered by city authorities, shall be drilled at the expense of the owner or applicant and the information disclosed shall be furnished to the city, together with a copy of the proposed plat showing the location of each test hole.
    2. The information required by the city shall include a report as to the various types of soils encountered and their depths, the level of the ground water, a percolation test and may include additional information. The number of test holes to be drilled and their location on the property, which is proposed to be platted, will be as directed by the city or their authorized representative.
    3. The owner shall be required to furnish to the city a report from a recognized engineering laboratory as to the safety and practicability of the use of the area for building construction.
(d) A survey prepared by a qualified landscape architect, forester or arborist identifying tree coverage in the proposed subdivision in terms of type, weakness, maturity, potential hazard, infestation, vigor, density and spacing.
(e) Where the applicant owns property adjacent to that which is being proposed for the subdivision, it shall be required that the applicant submit a sketch plan of the remainder of the property so as to show the possible relationships between the proposed subdivision and the future subdivision. In any event, all subdivisions shall be required to relate well with existing or potential adjacent subdivision.
(f) Where structures are to be placed on large or excessively deep lots that are subject to potential replat, the preliminary plat shall indicate a logical way in which the lots could potentially be subdivided in the future.
(g) Additional information as may be required.

Subd. 3 Procedure.

a. A pre-application meeting pursuant to § 1202.31 is suggested prior to submitting a preliminary plat application.
b. The owner or applicant shall submit an application for preliminary plat, together with all necessary supplementary information listed above. The plan shall be considered as being officially submitted when all the information requirements have been complied with.
c. Technical assistance reports. The Zoning Administrator shall instruct the appropriate staff persons to prepare technical reports and provide general assistance in preparing a recommendation to the Planning Commission and City Council.

d. Review by other commissions or jurisdictions. The Zoning Administrator shall refer copies of the preliminary plat to the Park Commission, county, metropolitan, state or other public jurisdictions for their review and comment, where appropriate and when required.

e. Public Hearing.
   (1) Upon receipt of a complete application, the Zoning Administrator shall set a public hearing for public review of the preliminary plat.
   (2) Notice of the hearing shall contain a legal property description, description of request detailing property location and be published in the official newspaper no more than 30 and no less than 10 days prior to the hearing. Written notification of the hearing shall be mailed no more than 30 and no less than 10 days prior to the hearing to all owners of land within 750 feet of the boundary of the property in question.
   (3) The city shall post a sign on the subject property indicating that the property is under development review.
   (4) The Planning Commission shall conduct the hearing and report its findings and make recommendations to the City Council.

f. Planning Commission Action. The Planning Commission shall make a recommendation on the application to the City Council following the close of the public hearing.

g. City Council Action.
   (1) Upon receiving a recommendation from the Planning Commission, the City Council shall act upon the preliminary plat and may impose conditions and restrictions which are deemed necessary for compliance with City Code.
   (2) If a recommendation has not been received from the Planning Commission in a timely manner to meet the requirements of M.S. 462.358, the City Council may act on an application without receiving a Planning Commission recommendation.
   (3) A request for a time extension of the City Council's review process may be granted by the City Council, if requested in writing by the applicant. Applications granted a time extension shall be subject to new or amended requirements of the City Code since the application was originally submitted.
   (4) The reasons for the City Council's action shall be recorded in the proceedings of the Council and transmitted in writing to the applicant.
   (5) Approval of the preliminary plat shall not constitute final acceptance of the layout. Subsequent approval will be required of the engineering proposals and other features and requirements as specified by this chapter to be indicated on the final plat. The City Council may require revisions in the preliminary plat and final plat as it deems necessary for the health, safety and general welfare of those living in and near the City.

Subd. 4 Criteria for Approval. In considering the preliminary plat application, the City Council shall consider the following factors:

a. Conformance with this chapter and all other applicable ordinances, rules, and regulations including the city's Zoning Regulations; and

b. Consistency with the Comprehensive Plan's vision, mission, values and policies.

Subd. 5 Post-Approval Actions.

a. If the preliminary plat is approved by the City Council, the applicant must submit the final plat within one year after the approval or approval of the preliminary plat shall be considered void, unless a request for time extension is submitted in writing and approved by the City Council prior to expiration of the one year period.
b. A reasonable time extension will be considered by the City Council, if circumstances requiring the extension are beyond the control of the applicant.

1202.36 Final Plat

Subd. 1 Submittal Requirements.

a. The required number and format of the final plat and following required documents, together with any necessary supplementary application materials shall be determined by and submitted to the Zoning Administrator. The required filing fee as established by City Code § 1301.03 shall be paid.
b. Final Plat. The Final Plat shall be prepared in accordance with provisions of Minnesota State Statutes and Hennepin County regulations, and the final plat shall contain the information listed below. All plans shall include a graphic scale not to exceed 1 inch equal to 50 feet, north arrow, and date of preparation.
   (1) Subdivision name.
   (2) Existing and proposed legal descriptions of the property.
   (3) Name, address and signature of surveyor making the plat.
   (4) The location of monuments shall be shown and described in reference to existing official monuments on the nearest established street lines, including true angles and distances to the reference points or monuments.
   (5) Location of lots, streets, public highways, alleys, parks and other features with accurate dimensions in feet and decimals of feet, with the length of radii and arcs of all curves and with all other information necessary to reproduce the plat on the ground. Dimensions shall be shown from all angle points of curve to lot lines.
   (6) Blocks and lots, clearly numbered.
   (7) The exact locations, widths and names of all streets to be dedicated.
   (8) Statement dedicating all streets, alleys and other public areas not previously dedicated as follows: streets, alleys and other public areas shown on this plat and not heretofore dedicated to public use are hereby so dedicated.
   (9) The exact locations and widths of all easements to be dedicated.
   (10) Statement dedicating all easements as follows: easements for installation and maintenance of utilities and drainage facilities are reserved over, under and along the strips marked “utility easements”
   (11) Comply with rules and regulations of the Minnehaha Creek Watershed District, or Riley-Purgatory-Bluff Creek Watershed District, whichever District has jurisdiction or statement from the District indicating that it has no interest in the plat;
   (12) Any supplementary engineering data required by the city.
c. Final Grading, Erosion Control, and Stormwater Drainage Plan approved by the City Engineer. Provide evidence that ground water controls are provided at least ten feet below level of finished grades of plan.
d. Final Utility Plan in accordance with the City of Shorewood Standard Specifications for Construction of Public Utilities and approved by the City Engineer.

e. Final Tree Preservation Plan.
f. Final Landscape plan.
g. Specification book for construction of public improvements.
h. Cost estimates for grading and all public and private improvements.
i. Homeowners association documents, private covenants, of deed restrictions as applicable.
j. Additional application materials as deemed necessary.
k. Certification required.
    (1) Certification by registered surveyor in the form required by M.S. § 505.03, as amended.
    (2) Execution by all owners of any interest in the land or any holders of a mortgage thereon of the certificates required by M.S. § 505.03, as amended, and which certificate shall include a dedication of the utility easement and other public areas in the form as approved by the City Council.
    (3) Space for certificates of approval and review, including the date of approval and spaces to be filled in by the signature of the Mayor and City Administrator/Clerk.

Subd. 2 Procedure.

a. Submittal.
    (1) Within one year after approval of the preliminary plat, the owner or applicant shall submit an application for final plat, together with all necessary supplementary information listed above.
    (2) The final plat may constitute only that portion of the preliminary plat which the applicant proposes to record and develop at the time.
    (3) The city may agree to review the preliminary and final plat simultaneously.
    (4) The final plat shall incorporate all changes, modifications, and revisions required by the city in its approval of the preliminary plat. Otherwise, it shall strictly conform to the approved preliminary plat.
b. Approval of the City Council.
    (1) If accepted and all fees for processing the application have been paid, the final plat shall be approved by resolution, which shall provide for the acceptance of all agreements for basic improvements, public dedication, and other requirements as indicated by the City Council.
    (2) If denied, the grounds for any refusal to approve a plat shall be set forth in the proceedings of the Council and reported to the person or persons applying for the approval.
c. Development Agreement.
    (1) If needed due to the subdivision, final plat approval shall be contingent upon the applicant's entrance into a development agreement with the city. Said agreement will require all improvements and approval conditions to comply with approved engineering standards and applicable regulations.
    (2) The agreement shall be prepared by the city and shall ensure development performance based on approvals.
    (3) The agreement shall address, but not be limited to, the following:
        (a) Financial securities

(b) Warranties
(c) Development time lines
(d) Remedies for default
(e) Iron monuments
(f) Improvements
(g) City administration and construction observation
(h) Permits
(i) Erosion and sediment control
(j) Maintenance
(k) Park dedication
(l) Sewer and water trunk utility charges

d. Prior to recording or registering a final plat, the applicant shall have executed the development agreement with the city.

Subd. 3 Criteria for Approval. In considering the final plat application, the City Council shall consider the following factors:

a. Substantial conformance with the approved preliminary plat and all conditions of approval.
b. Conformance with this chapter and all other applicable city policies, ordinances, rules and regulations.
c. Consistency with the Comprehensive Plan's vision, mission, values, and policies.

Subd. 4 Post-Approval Actions.

a. If the final plat is approved by the City Council, the applicant shall record the final plat and development agreement, if required, with the Hennepin County Recorder within one year after the approval or approval of the final plat shall be considered void, unless a request for time extension is submitted in writing and approved by the City Council.
b. Prior to recording, the applicant shall furnish the Zoning Administrator with two blackline prints and a reproducible mylar of the final plat.
c. Upon recording the plat, the applicant shall provide the Zoning Administrator with evidence of the recording.
d. No building permits shall be issued for construction of any structure on any lot in the plat until the city has received evidence of the plat and development agreement being recorded by Hennepin County and the provisions of the development agreement have been satisfactorily met.

1202.37 Subdivision Variance

Subd. 1 Applicability. Subdivisions which do not meet the requirements of this chapter may request a subdivision variance.

Subd. 2 Submittal Requirements.

a. Complete application, fee and escrow as specified in city's fee schedule
b. Legal description of the property
c. Detailed written and graphic materials fully explaining the proposed variance request with the number of copies and format as specified by the Zoning Administrator.
d. Explanation of practical difficulties
e. Additional information as determined necessary by the Zoning Administrator

Subd. 3 Procedure.

a. Upon receipt of a subdivision variance application, the Zoning Administrator shall refer the application to all appropriate city staff for review and comment.
b. Public Hearing
   (1) Upon receipt of a complete application, the Zoning Administrator shall set a public hearing for public review of the minor subdivision.
   (2) Notice of the hearing shall contain a legal property description, description of request detailing property location and be published in the official newspaper no more than 30 and no less than 10 days prior to the hearing. Written notification of the hearing shall be mailed no more than 30 and no less than 10 days prior to the hearing to all owners of land within 500 feet of the boundary of the property in question.
c. Planning Commission action.
   (1) The Planning Commission shall review the application and consider possible adverse effects of the variance request. The Planning Commission's judgment shall be based upon (but not limited to) the conditions set forth in Subd. 4 below.
   (2) The Planning Commission and city staff shall have the authority to request any additional information from the applicant deemed necessary to establish performance conditions pertaining to the request.
   (3) The Planning Commission shall make a finding of fact and recommend the actions or conditions relating to the request as they deem necessary to carry out the intent and purpose of this chapter. The recommendation shall be in writing and accompanied by any report and recommendation of the city staff. The written recommendation of the Planning Commission shall be forwarded to the City Council.
d. City Council action. Upon receiving the request and any report of the city staff, the city Council shall review and take action on the variance application and make a recorded finding(s) of fact.
   (1) Approval of a request shall require passage by a simple majority vote of the full City Council.
   (2) The Council may impose any condition it considers necessary to protect the public health, safety and welfare.

Subd. 4 Criteria for Approval.

a. The City Council may grant a variance from strict compliance with the subdivision regulations contained in this chapter when it finds that all of the following exist:
   (1) That the requested subdivision variance is consistent with the Comprehensive Plan and all other applicable city plans.
   (2) That the requested variance is in harmony with the general purposes and intent of this chapter.
   (3) There are special and highly unique circumstances or conditions affecting the property that are not common to other properties in the city and that the strict application of the provisions of this chapter would deprive the applicant of the reasonable and minimum use of its land.

(4) That the granting of the variance will not be detrimental to the public health or welfare or injurious to other property in the vicinity in which the property is situated.

(5) That the applicant has established that there are special circumstances or conditions affecting the property not resulting from the actions of the applicant, such as exceptional topographic or water conditions or inadequate access to direct sunlight for solar energy systems, such that an unusual hardship to the owner would result if the strict letter of these regulations was to be carried out.

Subd. 5 Post-Approval Actions.

a. City approval for a subdivision variance shall become null and void if, within one year after such approval, the subdivision variance has not been duly filed and recorded with the Hennepin County Recorder's Office.

b. Upon recording, the applicant shall provide the Zoning Administrator with evidence of the recording.

c. Violations of the conditions of a subdivision variance shall void the variance.

1202.38 Amendments

Subd. 1 From time to time, the Planning Commission may, of its own motion, upon petition, or at the direction of the City Council, cause to be prepared amendments supplementing or changing regulations herein established.

Subd. 2 Before any proposed amendment can be acted on, a public hearing shall be held by the Planning Commission with notice given in the official newspaper at least 10 days prior to the hearing.

Subd. 3 Upon receiving the recommendation of the Planning Commission, the City Council shall study the Planning Commission's recommendation and approve or disapprove the amendment.

1202.39 Violations and Penalty

Subd. 1 Violations.

a. Sale of lots from unrecorded plats. It shall be a misdemeanor to sell, trade or otherwise convey any lot or parcel of land as a part of, or in conformity with, any plan, plat or replat of any subdivision or area located within the jurisdiction of this chapter unless the plan, plat or replat shall have first been recorded in the office of the County Recorder.

b. Receiving or recording unapproved plats. It shall be unlawful for a private individual to receive or record in any public office any plans or plats of land laid out in building lots and streets, alleys or other portions of the same intended to be dedicated to public or private use or for the use of purchasers or owners of lots fronting on or adjacent thereto, and located within the jurisdiction of this chapter, unless the same shall bear thereon, by endorsement or otherwise, the approval of the City Council.

c. Misrepresentation as to authority to file or for the construction, supervision or inspection of improvements.

(1) It shall be unlawful for any person, firm or corporation to misrepresent their authority to file an application.

(2) It shall be unlawful for any person, firm or corporation owning an addition or subdivision of land within the city to represent that any improvement upon any of

the streets, alleys or avenues of the addition or subdivision or any sewer in the addition or subdivision has been constructed according to the plans and specifications approved by the City Council or has been supervised or inspected by the city, when the improvements have not been so constructed, supervised, or inspected.

Subd. 2 Penalty. Anyone violating any of the provisions of this chapter shall be guilty of a misdemeanor punishable by a fine and imprisonment as provided in State Statutes.

1202.40 Design Standards

1202.41 General

Subd. 1 The design features of the subdivision shall meet the requirements set forth by the City Engineering Guidelines. The city may improve additional or more stringent requirements as deemed appropriate considering the property being subdivided.

Subd. 2 Political boundaries. No singular plat shall extend over a political boundary without legal notification to and approval by affected units of government.

Subd. 3 Provisions for resubdivision of large lots and parcels.

a. All contiguous land owned by the same property owner shall be included in the plat.
b. When a tract is subdivided into larger than required building lots or parcels, the lots or parcels shall be so arranged as to permit the logical location and openings of future streets and appropriate resubdivision with provision for adequate utility connections for the resubdivision.
c. Streets and utilities shall be extended to the boundary of the plat.
d. Watercourses.
    (1) Watercourses shall be contained within abutting lots.
    (2) Watercourses shall be protected by easement to the anticipated high water level (as determined by the city. Lots with easements protecting watercourses shall have sufficient dimensions and area above the high water level.
e. Monuments.
    (1) Official monuments, as designated and adopted by the Hennepin County Surveyor's Office and approved by the Hennepin County District Court for use as judicial monuments, shall be set at each corner or angle on the outside boundary of the final plat or in accordance with a plan as approved by the City Engineer. The boundary line of the property to be included within the plat shall be fully dimensioned on the plat. All angles of the boundary, excepting the closing angle, are to be indicated on the plat and all monuments and surveyor's irons are to be indicated on the plat. Each angle point of the boundary perimeter shall be so monumented.
    (2) Location of monuments within the plat. Pipes or steel rods shall be placed at each lot and at each intersection of street right-of-way lines. All United States, state, county or other official bench marks, monuments or triangular stations in or adjacent to the property shall be preserved in precise position and shall be recorded on the plat.
    (3) Second monumentation. To ensure that all irons and monuments are correctly in place following the final grading of a plat, a second monumentation shall be

required. Proof of the second monumentation shall be in the form of a surveyor's certificate and this requirement shall additionally be a condition of certificate of occupancy as provided for in the Shorewood Zoning Ordinance. As an alternative the applicant's surveyor may, upon approval by the City Engineer, place official monuments within the plat after the site grading has been completed, but no later than one year after the recording of the plat. In such cases a letter of credit or cash escrow in form and dollar amount acceptable to the city shall be submitted to guarantee that the monumentation will be completed.

1202.42 Protected Areas

Subd. 1 Where land proposed for subdivision is deemed environmentally sensitive by the city because of the existence of wetlands, drainage ways, water courses, floodprone areas or steep slopes, the design of the subdivision shall clearly reflect all necessary measures of protection to insure against adverse environmental impact.

Subd. 2 Based upon the necessity to control and maintain certain sensitive areas, the city shall determine whether the protection will be accomplished through lot enlargement, redesign, conservation easement, dedication of those sensitive areas in the form of outlots or through the use of protective covenants in Planned Unit Developments.

Subd. 3 Measures of protection shall include design solutions that allow for construction and grading involving a minimum of alteration to sensitive areas. Where these areas are to be incorporated into lots within the proposed subdivision, the applicant shall be required to demonstrate that the proposed design will not require construction on slopes that exceed 12% or result in significant alteration to the natural drainage system, such that adverse impacts cannot be confined within the plat boundary.

Subd. 4 Tree preservation and reforestation. Natural vegetation shall be protected in accordance with the Shorewood Tree Preservation and Reforestation Policy.

1202.43 Lots and Blocks

Subd. 1 All lot and block dimensions shall be shown on the plat and all necessary angles pertaining to the lots and blocks, as an aid to future surveys shall be shown on the plat.

Subd. 2 Blocks.

a. Block length. In general, intersecting streets determining block lengths shall be provided at intervals so as to serve cross-traffic adequately and to meet existing streets. In blocks longer than 1,000 feet, pedestrian ways or easements through the block may be required in locations deemed necessary for convenient pedestrian circulation.

b. Block width. The width of the block shall normally be sufficient to allow two tiers of lots of appropriate depth unless it adjoins a railroad, arterial or collector street, lake, wetland, park street or other natural feature where it may have a single tier of lots. Blocks intended for commercial use shall be of the width as to be considered most suitable for their respective use, including adequate space for off-street parking and deliveries.

Subd. 3 Lots.

a. Size.

(1) The minimum lot area, width and depth shall not be less than that established by the Shorewood Zoning Ordinance in effect at the time of adoption of the final plat.

(2) To eliminate any doubt as to the interpretation of lot size, the minimum lot square footage shall not include arterial right-of-way, public waters, public waters wetlands, city designated wetlands, areas protected through a publicly held conservation easement, and portions of property protected by regulations, including bluffs and historic sites.

(3) No lots less than the minimum square footage provided by the Shorewood Zoning Ordinance for the area involved shall be authorized by this chapter except upon the granting of a variance in accordance with the Shorewood Zoning Ordinance.

b. Corner lots. Corner lots for residential use shall have additional width to permit appropriate building setbacks from both streets as required in the Zoning Ordinance.

c. Flag lots. Flag lots shall only be used when it can be demonstrated through a subdivision variance that an alternative lot arrangement meeting the density requirements of the Comprehensive Plan is not possible due to unique lot characteristics such as shape, topography, wetlands or public waters.

d. Double-frontage lots.

(1) Double-frontage lots that have frontage on two parallel streets shall not be permitted, except where lots back on arterial streets or highways or where topographic or other conditions render subdividing otherwise unreasonable.

(2) Double-frontage lots shall have an additional depth of at least 20 feet in order to provide space screening along the rear lot line.

e. Irregularly shaped lots are discouraged. Where such lots are proposed, the development shall demonstrate to the city an ability to properly place principal buildings and accessory structures on the site in a manner which is compatible in size and character to the surrounding area.

f. Side Lot Lines.

(1) In general, side lot lines shall be at right angles to street lines or radial to curving street lines unless a variation from the rule will give a better street or lot plan, or unless topographic conditions necessitate a different arrangement.

(2) Lots which have a side lot line along an arterial street shall include an additional 15 feet of lot width to provide screening.

g. Lot frontage. Every lot must have adequate frontage on a city-approved street to accommodate a driveway and required driveway setbacks, as required in the Shorewood Zoning Ordinance.

h. Setback lines. Setback or building lines shall be shown on all lots intended for residential use and shall not be less than the setback required by the Shorewood Zoning Ordinance, as may be amended.

i. Access.

(1) Each lot shall directly access a public street unless a subdivision has received approval from the City Council for a private street or access easement.

(2) Where proposed residential lots abut a collector or arterial street, they should be platted in such a manner as to encourage turn-around access - and egress on each lot.

(3) In new subdivisions, there shall be no direct vehicular access from residential lots to arterial streets.

(4) In cases where a proposed plat is adjacent to a county or state highway, the plat shall be subject to county and/or state approval.

j. Drainage. Lots shall be graded so as to provide drainage away from building locations, subject to City Engineering Guidelines and the approval of the City Engineer. A grading plan shall be submitted showing all lot grading and drainage provisions.

k. Features. In the subdividing of any land, due regard shall be shown for all natural features such as tree growth, watercourses, historic sites or similar conditions which, if preserved, will add attractiveness and stability to the proposed development.

l. Lot remnants. Remnants of land below minimum lot size, except in instances of cluster zoning, shall be added to adjacent lots rather than remaining as unusable parcels. Building permits shall not be issued for remnants.

m. Outlots.
   (1) An outlot is not buildable. A building permit shall not be issued for an outlot.
   (2) An outlot may be used to set aside land to be platted at a later time. At the time of the platting, a resubdivision sketch for the outlot shall be required.
   (3) An outlot may be used to preserve open space with an easement in favor of the City.

1202.44 Street and Alley Design

Subd. 1 General Requirements

a. Streets shall be designed to comply with the standards set forth in the City's Engineering Guidelines.

b. Minimum design standards for major collector streets shall comply with Minnesota Department of Transportation State Aid Standards.

c. All proposed streets shall conform to city, county and state plans and standards and be offered for dedication as public streets unless:
   (1) The streets are part of a planned unit development (PUD) for two-family dwellings or townhouses.
      (a) The private street shall be located on a separate outlot and encumbered with an easement.
      (b) A homeowners association shall be established to oversee ownership and operation private street.
      (c) The private street is established within an easement at least 50 feet wide from the public street up to and including the lot(s) being created.
      (d) The shared driveway improvements are deemed adequate for their intended use and comply with fire code requirements.
   (2) Otherwise determined by the City Council after a recommendation from the City Engineer.

d. Street plans for future subdivisions. Where the plat to be submitted includes only part of the tract owned or intended for development by the applicant, a tentative plan of a proposed future street system for the unsubdivided portion shall be prepared and submitted by the applicant and a temporary turnaround shall be provided.

Subd. 2 Street Layout.

a. Continuous streets.
   (1) Except for cul-de-sacs, streets shall connect with streets already dedicated in adjoining or adjacent subdivisions, provide for future connections to adjoining

unsubdivided tracts or shall be a reasonable projection of streets in the nearest subdivided tracts.

(2) Dead-end streets are prohibited, except for cul-de-sac streets as specified in this subsection.

(3) The arrangement of arterials and collector streets shall be considered in their relation to the reasonable circulation of traffic, to topographic conditions, to run-off of storm water, to public convenience and safety and in their appropriate relation to the proposed uses of the area to be served.

b. Local streets. Local streets should be planned as to discourage their use by non-local traffic.

c. Cul-de-sac Streets.

(1) Cul- de-sac streets shall be permitted where topography or other physical conditions justify their use.

(2) Cul-de-sac streets shall not be longer than 700 feet including a terminal turn-around which shall be provided at the closed end. The cul-de-sac shall have a right-of-way radius of not less than 100 feet.

(3) Temporary cul-de-sac. In those instances where a street is terminated pending future extension in conjunction with future subdivision, a temporary turn-around facility shall be provided at the closed end in conformance with cul-de-sac requirements.

d. Frontage roads.

(1) Wherever the proposed subdivision contains or is adjacent to the right-of-way of a state highway or an arterial street, provision may be made for a marginal access street approximately parallel and adjacent to the boundary of the right-of-way or for a street at a distance suitable for the appropriate use of land between the street and right-of-way.

(2) The distance shall be determined with due consideration of the minimum distance required for lot depths.

e. Half-streets. Half-streets shall be prohibited, except where essential to the reasonable development of the subdivision and adjoining unsubdivided areas.

f. Private streets shall be designed to meet fire lane standards from Chapter 607 Uniform Fire Code.

g. Street intersections.

(1) Streets shall be laid out so as to intersect as nearly as possible at right angles, except where topography or other conditions justify variations.

(2) Angles formed by the intersection of two streets shall comply with the provisions of the City Engineering Guidelines.

(3) Under no conditions shall the minimum angle of intersection of streets be less than 80 degrees.

(4) Street intersection jogs with an offset of less than 125 feet shall be avoided.

h. Street right-of-way width.

(1) Street right-of-way widths shall conform with following standards and be dedicated on the final plat, or by easement in the case of minor subdivisions:

(a) Arterial street: 100 feet.

(b) Collector street: 60 feet.
(c) Local street: 50 feet.

(2) All subdivisions incorporating streets which are identified in the Hennepin County Thoroughfare Plan shall comply with the minimum right-of-way, surfaced width and design standards as outlined in the plan.

i. Street grades.
(1) Except upon the recommendation of the City Engineer, and the topography warrants a greater maximum, the grades in all streets, thoroughfares, collector streets, local streets and alleys in any subdivision shall not be greater than 8%.
(2) In addition, there shall be a minimum center line grade on all streets and thoroughfares of not less than 1%.

j. Reverse curves. Minimum design standards for collector and arterial streets shall comply with Minnesota State Aid Standards.

k. Curbs and gutters. Concrete curbs and gutters shall be required on all streets.

l. Hardship to owners of adjoining property. The arrangement of streets in a new subdivision shall make provision for the continuation and proper intersection of streets into the adjoining, undeveloped property.

m. Boulevards. Boulevards shall be uniformly finished to match the top of the curb and sodded or seeded to present a finished appearance.

Subd. 3 Street dedications.

a. All streets within the subdivision shall be dedicated as public streets on the plat unless it is a private street that is located within an easement or is otherwise allowed under this Chapter.

b. Steets in new subdivisions shall be laid out so as to eliminate or avoid new perimeter half streets.
(1) Where an existing half-street is adjacent to a new subdivision, the other half of the street shall be dedicated and improved by the applicant.
(2) The City Council may authorize a new perimeter street if the applicant dedicates and agrees to improve the entire required street right-of-way width within the subdivision boundaries.

c. When a subdivision borders an existing substandard street or street needing improved, the applicant shall be required to dedicate and improve as its expense those areas for widening or improvement. Such streets shall be dedicated and improved to the full width as required by the subdivision regulations when the applicant's application contribute to the need for the street expansion.

Subd. 4 Street naming.

a. The name of any street heretofore used in the City or its environs shall not be used unless the proposed street is a logical extension of an already named street, in which event the same name shall be used.

1202.45 Non-Motorized Connections

Subd. 1 Non-motorized connections shall be established in accordance with the City's Comprehensive Plan, along natural features, such as lakes and wetlands, and in other areas where trails will serve an important transportation or recreational purpose as recommended and approved by the City Council.

Subd. 2 Land to be used for non-motorized corridors shall be dedicated to the City as a parcel or as an easement for public purposes.

Subd. 3 Any trail constructed by the applicant shall be constructed in accordance with the City Engineer's Guidelines.

Subd. 4 Any new sidewalk constructed by the applicant shall be similar in width and design to existing trails but no narrower than what is recommended in the City Engineer's Guidelines.

1202.46 Easements

Subd. 1 Easements.

a. Easements shall be dedicated on the plat instrument for the required use.
b. Width and location.
    (1) An easement for utilities at least 10 feet wide shall be provided on the complete perimeter of the lot.
    (2) An easement at least 7.5 feet in width on either side of a utility main shall be provided. The width of the easement may be increased by the City Engineer due to the depth of the utility main or the complexity of the utility main design.
    (3) If necessary for the extension of City water or sewer lines or similar utilities, drainage purposes or to incorporate wetlands, easements of greater width may be required along lot lines or across lots.
c. Continuous utility easement locations. Utility easements shall connect with easements established in adjoining properties.
d. Easements, when approved, shall not thereafter be changed without the approval of the City Council following the process required in M.S. § 462.358 and M.S § 412.851.
e. Guy wires. Additional easements for pole guys should be provided, where appropriate, at the outside of turns. Where possible, lot lines shall be arranged to bisect the exterior angle so that pole guys will fall along side lot lines.

1202.47 Utilities

Subd. 1 The applicant shall install sewer and water mains and service connections, which are stubbed to the property line, to serve all lots in the subdivision.

Subd. 2 A sewer shall be connected on all properties which are abutting a street, alley, public sewer easement or right-of-way in which there is located a public sanitary sewer. This shall not apply to city park facilities.

Subd. 3 All utility facilities, including but not limited to telephone, CATV, natural gas and electric power, shall be located underground. Such utilities shall be placed within a joint trench unless otherwise approved by the City Engineer. Whenever existing utility facilities are located above ground, except when existing on public roads and right-of-way, they shall be removed and placed underground. Underground service connections to the street property line of each platted lot shall be installed at the applicant's expense. At the discretion of the city, the requirement for service connections to each lot may be waived in the case of adjoining lots to be retained in single ownership and intended to be developed for the same primary use.

1202.48 Drainage and Erosion Control

Subd. 1 Storm drainage. All subdivision design shall incorporate adequate provisions for storm water runoff consistent with the Shorewood Comprehensive Water Resource Management

Plan, Minnesota Pollution Control Agency (MPCA), and National Pollutant Discharge Elimination System (NPDES) permit. Storm water design shall be subject to review and approval of the City Engineer. An agreement for maintenance and inspection for the private storm water system must be in place before construction can commence.

Subd. 2 Existing topography. The development shall conform to the natural limitations presented by topography and soil so as to create the least potential for soil erosion.

Subd. 3 Limitations on exposed ground. Land shall be developed in increments of workable size that adequate erosion and siltation controls can be provided as construction progresses. The smallest practical area of land shall be exposed at any one period of time. When soil is exposed, the exposure shall be for the shortest feasible period of time, as specified in the development agreement.

Subd. 4 Staging. Erosion and siltation control measures shall be coordinated with the different stages of construction. Appropriate control measures shall be installed prior to development when necessary to control erosion.

Subd. 5 Commencement of work. No filling, grading or clearing of vegetation shall occur on the site during the processing of the plat until the final plat has been approved by the City Council. Violation of this provision shall make the application null and void.

Subd. 6 Removal/replacement of topsoil. Where the topsoil is removed, sufficient arable soil shall be set aside for respreading over the developed area. Topsoil shall be restored or provided to a depth of four inches and shall be of a quality at least equal to the soil quality prior to development.

1202.50 Improvements

1202.51 Improvements Required

Subd. 1 All of the required improvements specified in this chapter shall be constructed in accordance with the State Building Code and all other applicable city, county and state regulations.

Subd. 2 If public improvements are required for a subdivision, or if impacts to public improvements are proposed as part of a subdivision, the applicant shall execute a development agreement in accordance with the requirements of § 1202.36 Final Plat.

Subd. 3 Community facilities improvements.

a. Sanitary sewer system. Municipal sanitary sewer facilities shall be provided for all proposed subdivisions and all lots within the subdivision shall be served by the municipal sanitary sewer system.
b. Water system. Where the city determines it is technically and financially feasible, municipal water service facilities shall be provided for all proposed subdivisions containing more than three lots and all lots within the subdivision shall be served by the municipal water system.

Subd. 4 Semi-public utilities. Telephone, cable television, internet, electric and gas service shall be installed underground in accordance with the provisions of all applicable City ordinances.

Subd. 5 Street Improvements.

a. Conformance with city standards. All street improvements shall be designed and conform to the Minnesota Department of Transportation Road Design Manual, Section 5-291.523, and the City of Shorewood Department of Public Works Standard

Specifications and Detail Plates. Design and construction specifications shall be subject to the review and approval of the City Engineer.

b. Acceptance of streets. No street within the city will be accepted as a public street, except under the following conditions:
   (1) The final bituminous wear course shall not be placed until the time as the approved bituminous base course has been placed and has sustained one full winter and spring season. Prior to placement of the wearing surface, the applicant shall obtain written approval by the City Engineer. Failure to obtain the approval shall result in removal and replacement of the wearing surface at no expense to the City.
   (2) The applicant shall be responsible for all snowplowing, sanding and maintenance of all roadways within a proposed subdivision until the time as the final lift of bituminous wearing course has been placed, the City Engineer has reviewed and recommended acceptance by the city, and City Council has accepted the project, pursuant to inspections.
   (3) The street will not be accepted until the City Council has received a recommendation from the City Engineer that this street is in good condition and not breaking up or deteriorating in any way. Upon receipt of the recommendation, the City Council will consider a resolution accepting the street as a public street for snowplowing and maintenance.

c. Street lighting fixtures as may be required by the City Council shall be installed.

d. The City Council may require the provision of sidewalks on arterials, collectors and other streets in proximity to public service areas such as parks, schools or shopping facilities or in other appropriate locations of a similar nature. The design of the sidewalks shall be considered in their relation to existing and planned sidewalks, reasonable circulation of traffic, topographic conditions, run-off of stormwater and the proposed uses of the area to be served.

Subd. 6 Utility Improvements.

a. All required utility improvements shall be inspected during the course of construction by the City Engineer at the applicant's expense and acceptance shall be subject to the City Engineer's determination.

Subd. 7 Election by city to install improvements. It is the applicant's responsibility to install all required improvements. Pursuant to city policy, the applicant may petition the city for the installation of required improvements. The city also reserves the right to elect to install all or any part of the improvements required under the provisions of this chapter in lieu of requiring the applicant to install the improvements, pursuant to M.S. Chapter 429.

1202.52 Financial Guarantee

Subd. 1 Financial guarantee. Prior to the delivery of the approved final plat, the applicant shall deposit with the city financial security in an amount of 150% of the City Engineer's estimated cost of the required improvements within the plat, either in a cash escrow or letter of credit. The surety involved in the financial guarantees shall be approved by the city. Release of the cash escrow or letter of credit shall be conditioned upon:

a. The making and installing of all of the improvements required by the terms and conditions set forth by the city within one year.

b. Satisfactory completion of the work and payment therefore, which was undertaken by the applicant in accordance with the developer's agreement referred to above.
c. The payment by the applicant to the city of all expenses incurred by the city, which expenses shall include, but not be limited to, expenses for engineering, planning, fiscal, legal, construction and administration. In instances where a letter of credit is used in lieu of a cash escrow, the letter of credit shall be in a form satisfactory to the city.

Subd. 2 Maintenance guarantee. The city shall require an applicant to submit a warranty/maintenance guarantee in the form of a letter of credit or cash deposit in the amount of 25% of the original cost of the improvements, or as approved by the city Engineer, which shall be in force for two years following the final acceptance of any required improvements and shall guarantee satisfactory performance of the improvement.

1202.53 Inspection

Subd. 1 As-built drawings. "As-built" drawings of all required improvements as required by the City Engineer shall be furnished to the City by the applicant in the format and quantity indicated by the City Engineer at no cost to the City. The "as-built" drawings and files shall meet format requirements of the City Engineer. The "as-built" drawings shall be certified to be true and accurate by the registered professional engineer responsible for the installation of the improvements.

Subd. 2 Inspection/reimbursement of city expenses. All of the required improvements to be installed under the provisions of this chapter shall approved by and subject to the inspection of the City Engineer or designees. The City Engineer shall assign a field representative to observe the project from initial construction through completion and acceptance by the city. All of the city's expenses incurred as the result of the requirement improvements shall be paid to the city by the applicant.

1202.60 Park Dedication

1202.61 Dedication Required

Subd. 1 Because a new subdivision creates a need for parks, playgrounds and open space, it is hereby found and declared, that pursuant to M.S. § 462.358, a reasonable portion of such land shall be dedicated to the public or preserved for conservation purposes or for public use as parks, playgrounds, trails, wetlands, or open space.

Subd. 2 At the time of subdivision, the applicant shall dedicate 8 percent of the total area of each new subdivision for public use as parks, playgrounds, recreation facilities, trails, or public open space.

Subd. 3 If the City Council determines that land is not needed in the area of the proposed subdivision, the city may alternatively require payment of a sum of money equivalent to 8 percent of the value of the raw land required.

Subd. 4 If the City Council determines that land is needed in the development, but in a lesser amount than the required amount, the City Council may require payment of cash in lieu of land dedication based on a pro-rata share of the land dedication that otherwise would be required.

Subd. 5 This dedication shall be in addition to the land dedicated for streets, alleys, trails or sidewalks along streets, storm water ponds or other public purposes.

Subd. 6 Credit for previous park dedication.

a. Previously subdivided property from which a park dedication has been received, being re-subdivided with the same number of lots, is exempt from park dedication requirements.
b. If, as a result of re-subdividing the property, the number of lots is increased, then the park dedication or per-lot cash fee must apply only to the net increase of lots.
c. If a property being subdivided has existing homes and there is no documentation of previous dedication or payment of park dedication, then no credit for park dedication shall be given.

1202.62 Land Suitability

Subd. 1 The area intended to be dedicated must be suitable for parks and playgrounds and shall conform to city plans for parks, trails or open space within the city.

Subd. 2 The city shall not be required to accept land which will not be usable for parks, trails or open space or which would require extensive expenditures on the part of the city to make them usable.

Subd. 3 The city will not give park dedication credit for floodplains, wetlands, stormwater ponding areas, land encumbered by gas pipeline or other utility easements, slopes of more than 20% grade or for required sidewalks or trails within road rights of way.

Subd. 4 All land dedicated for parks, trails, and/or open space shall be designed to incorporate natural features as much as possible, such as rivers, streams, wildlife habitats, woodlands, and ponding areas.

Subd. 5 Improvements to Dedicated Land.

a. As part of the subdivision approval, the applicant shall be responsible for making certain improvements to dedicated park land, including, but not limited to, finish grading, ground cover, construction of trails and clearly identifying park and trail boundaries with city-approved markers.
b. The applicant shall preserve all existing trees to the greatest extent possible during the grading process on the land that is to be dedicated for a park, trail or open space.
c. When the city's Comprehensive Plan identifies a trail or trails to be constructed in the land to be subdivided, the applicant shall be required to pay for the construction of the trail improvements. The construction specifications of trails shall be determined by City Staff. Whenever possible, trails shall connect with existing trails and/or sidewalks.

1202.63 Modification of Requirements

Subd. 1 No credit to the requirements of § 1202.61 will be given for private open space, park, recreational facilities, or trails.

Subd. 2 The dedication requirements are presumptively appropriate. An applicant for affordable housing or senior housing may request a deviation from the presumptive requirements based upon: the anticipated impact of that particular subdivision; or proposed parks, open space, recreational or common areas and facilities open to the public as designated on development plans. The request must be made to the City Council as part of an application for final plat approval. The City Council, after consideration of the request, may modify or reduce the requirements of this section.

Subd. 3 If the applicant disputes the amount of the proposed cash contribution in lieu of the land dedication, the applicant, at their own expense, may obtain an appraisal of the

property. The appraisal shall be made by an approved Member of the Appraisal Institute (MAI), or equivalent real estate appraisal societies. If the city disputes such appraisal, the city may, at the applicant's expense, obtain an appraisal of the property by a qualified real estate appraisal.

1202.64 Required Actions

Subd. 1 Prior to the dedication of the required property, the developer shall:

a. Indicate separate lots or outlots on the plat drawings for the area(s) to be dedicated. Such lots or outlots shall be deeded to the City prior to the issuance of any building permits within the plat.

b. Provide a survey with topographic data, including contours at vertical intervals of at least two feet, watercourses, wetlands, marshes, rock outcrops, easements, utilities and vegetative data. Portions of any property dedicated to the public for park, trail and open space purposes to be used for borrow and fill activities elsewhere in the development shall be clearly identified.

c. Provide the city with evidence of title in a form acceptable to the city attorney or a title insurance policy insuring the city's interest in the property. In any dedication of required land, the developer must have good and marketable title to the land, free and clear of any mortgages, liens, encumbrances or assessments, except easements or minor imperfections of title acceptable to the city.

Subd. 2 Prior to the paying of a cash fee in lieu of land dedication, the payment of such fee shall be required as follows:

a. For residential developments, the fee shall be paid prior to the city's release of the signed final plat Mylars for recording with Hennepin County. The exception is that in the case of multiple-family residential developments where the site plan review occurs after the time of final plat approval, the fee shall be paid prior to the issuance of any building permits.

b. For non-residential developments, the fee shall be paid prior to issuance of any building permits within the subdivision. A pro-rated portion of the fee may be deferred if the applicant proposes to construct significantly less square footage than the site supports, provided that any remaining fees shall be paid if and when additional square footage is constructed on the site in the future.

c. In plats that include outlots for future development, the applicant may pay to the city:
   (1) the required dedication for the entire subdivision including the outlots
   (2) the required dedication excluding such outlots, provided that the park dedication requirement shall be satisfied when such outlots are replatted.

1202.65 Timing

Subd. 1 The requirements of this section for dedication of land or for contribution of cash in lieu of land shall apply at the time of final subdivision approval. If the plat is not recorded within one year of approval and the City Council approves an extension, then the applicant is responsible for paying any increases to the fee.

Exhibit I
Storm Water Analysis

HILL INCORPORATED
CIVIL ENGINEERS & LAND SURVEYORS

2999 County Road 42 W, Ste. 100
Burnsville, MN 55306-5904
www.mnhill.com
952.890.6044

STORMWATER MANAGEMENT REPORT

Date: January 19, 2026

To: Andrew Budde
City Engineer
City of Shorewood

Abigaile Couture
Permitting Technician
Minnehaha Creek Watershed District

From: Brady Busselman, P.E.
Project: Watten Ponds 2nd Addition
Shorewood, MN

PROJECT SUMMARY

The proposed project is located at the end of the Maple View Court cul-de-sac, south of Birch Bluff Road. The project and consists of construction of two single family homes.

AREA SUMMARY (Acres)	
TOTAL SITE	3.61
TOTAL DISTURBED	0.96
EXISTING IMPERVIOUS	0.00
PROPOSED IMPERVIOUS	0.46
NET NEW IMPERVIOUS	0.46

EXISTING CONDITIONS SUMMARY

The site is currently an undeveloped lot with woods and wetland (standing water) groundcover. Based on USGS soil maps, a HSG of C was selected. It is assumed that the groundwater elevation is high based on the standing water in the three wetlands on site. Soil borings will be completed prior to applying for building permits. Based on the available information, the site is restricted and abstraction cannot be provided. This is a conservative approach in that it requires sufficient vertical elevation to provide outlets for underdrains from proposed filtration basins.

GOVERNING REGULATIONS

The proposed project is subject to the City of Shorewood's Surface Management Plan and Minnehaha Creek Watershed District's (MCWD) Erosion Control, Floodplain Alteration, Waterbody Crossings and Wetland Protection Rules.

The City of Shorewood requires the following stormwater management standards be met:

Rate Control: No increase in discharge rates for the 1-, 10- and 100-year rainfall events.
Volume Control: Infiltration or filtration of 1" of runoff over the net new impervious area.

MCWD requires the following criteria be met:

No net fill placed within the channel between Wetland 2P and Wetland 1P.
Demonstrate the No-Rise Standard is met within the channel (no increase greater than 0.00 ft in the 100-year HWL of the channel

The proposed project will not disturb over 1 acre and is not subject to the MPCA Construction Stormwater Permit.

The stormwater management system has been designed to meet the most restrictive of the above requirements.

STORMWATER MANAGEMENT SUMMARY

Text.

1. **RATE CONTROL**
   The City of Shorewood requires that proposed peak runoff rates not exceed existing peak runoff rates for the 1-, 10- and 100-year frequency storm events. Refer to Attachment A for existing drainage maps, and Attachment B for HydroCAD calculations.

Rate Control			
	1-YEAR PEAK RUNOFF	10-YEAR PEAK RUNOFF	100-YEAR PEAK RUNOFF
Existing Total Discharge	1.60	6.67	17.47
Proposed Total Discharge	1.37	6.30	17.20

2. **VOLUME CONTROL**
   The City of Shorewood requires an infiltration volume of 1.0" times the net new impervious surfaces. Infiltration is anticipated to be infeasibly due to high groundwater at this site, in which case the city requires filtration of the same volume.

   Required Infiltration Volume Area A = 5,200 SF impervious * 1.0" = **433 CF**
   Provided Infiltration Volume Area A = 768 CF

   Required Infiltration Volume Area B = 2,870 SF impervious * 1.0" = **230 CF**
   Provided Infiltration Volume Area B = 469 CF

   Required Infiltration Volume Area C = 5,580 impervious * 1.0" = **465 CF**
   Provided Infiltration Volume Area C = 662 CF

   Required Infiltration Volume Area D = 6,220 SF impervious * 1.0" = **518 CF**
   Provided Infiltration Volume Area D = 962 CF

FLOODPLAIN SUMMARY

MCWD Requires no net fill within the channel floodplain (between the OHWL and the 100-year HWL). The existing open channel and proposed pipe have been modeled in HydroCAD, and show that the proposed pipe provides over double the volume of storage below the 100-year HWL than the existing channel does. See summary below and refer to Attachment C for the channel and pipe models.

	Upstream invert	Downstream invert	10-Year OHWL	100-Year HWL	Storage Below 10-Year Elev0	Storage Below 100-Year Elev
Existing Channel	947.00	944.00	947.14 (0.14' depth)	947.22 (0.22' depth)	13 CF	26 CF
Proposed Pipe	944.10	944.00	NA	NA	NA	60 CF

Sincerely,

Brady Busselman, P.E.
Vice President
bbusselman@mnhill.com
952.426.4758

HILL INCORPORATED

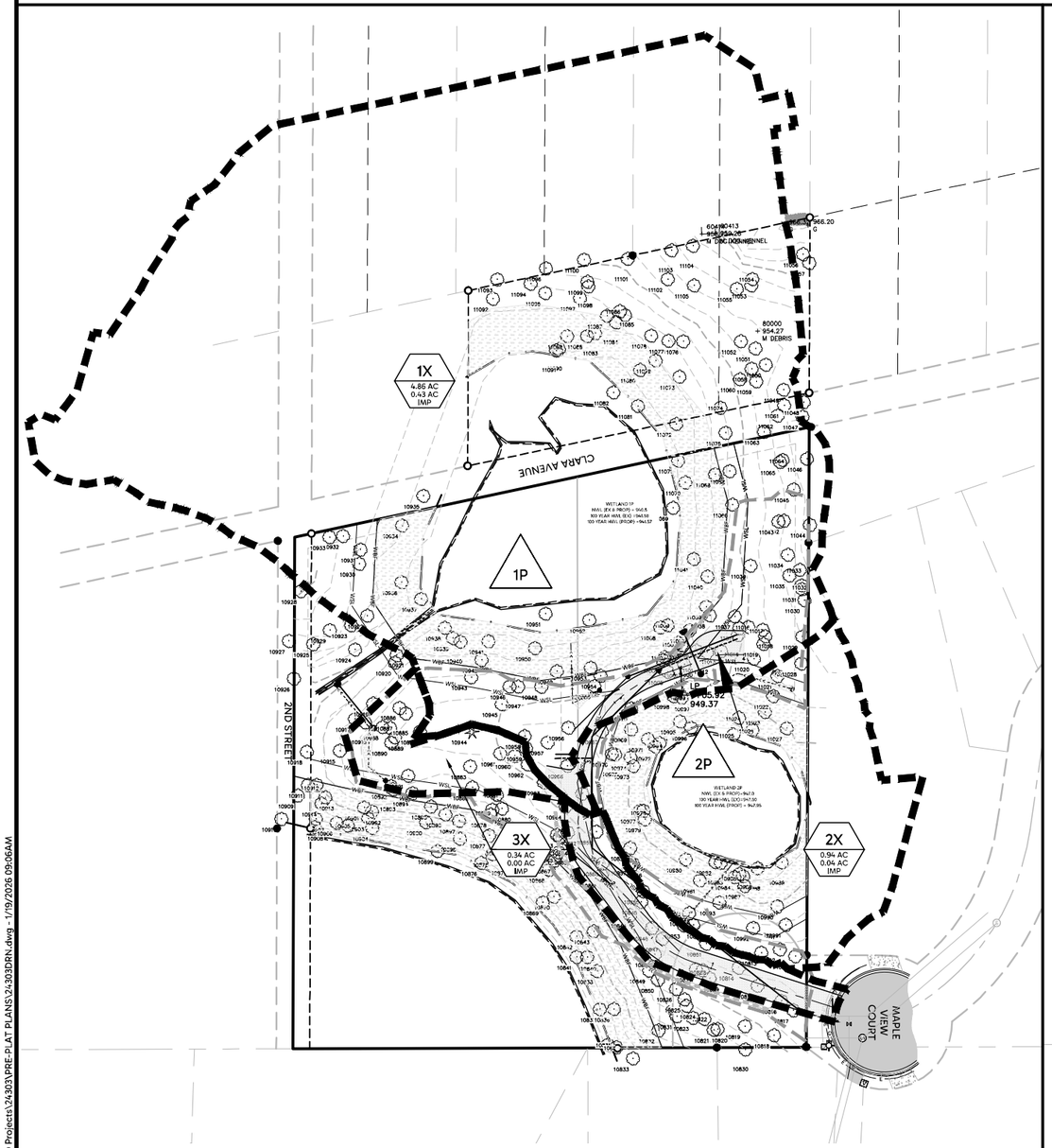
ATTACHMENT A
DRAINAGE MAPS

LEGEND

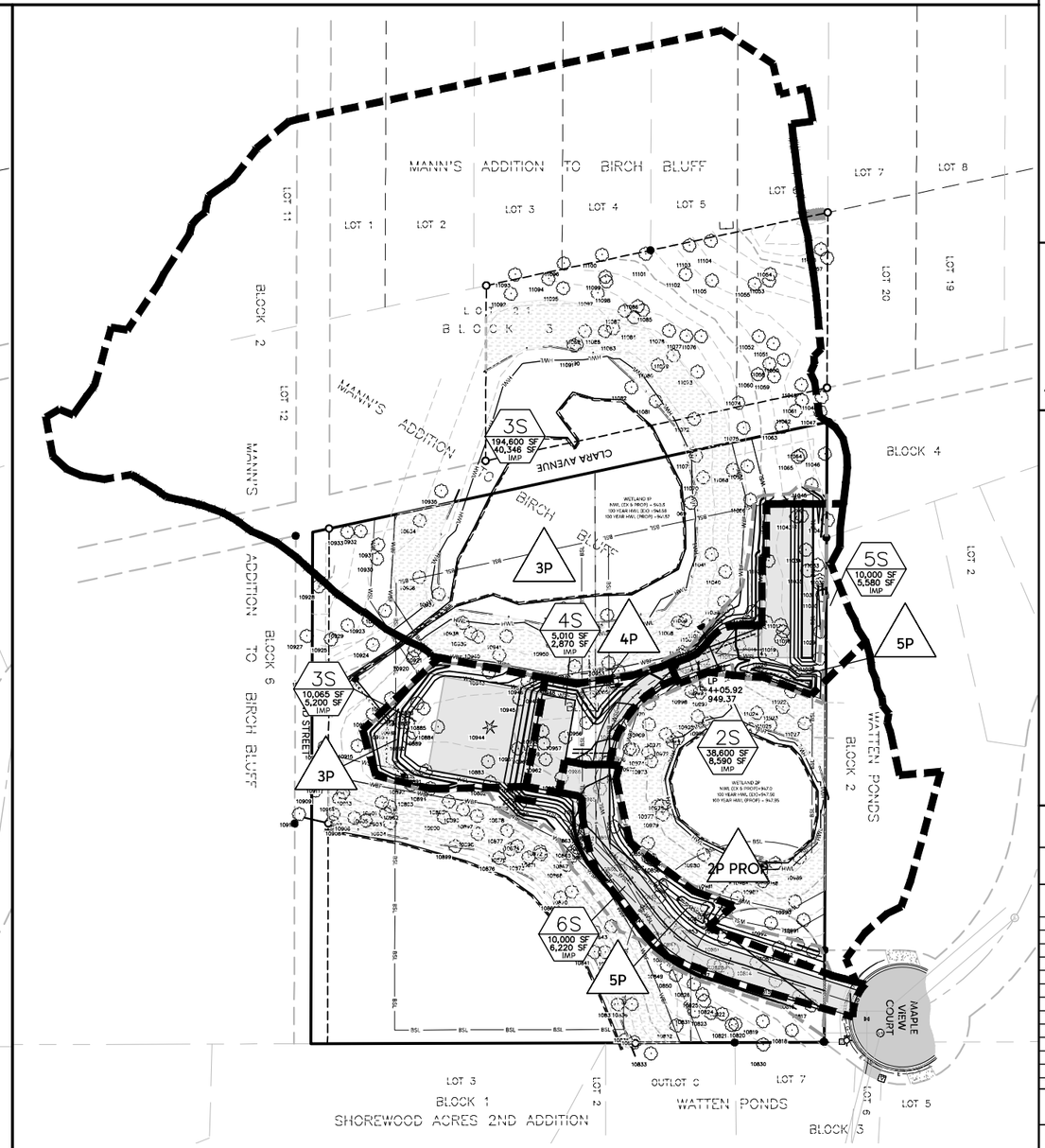
- 1P — POND AREA
- 1R — REACH
- 1S — DRAINAGE AREA (TOTAL DRAINAGE AREA / IMPERVIOUS AREA: 1.234 AC / 0.123 AC IMP)
- FLOW DIRECTION
- ToC PATH
- DRAINAGE BOUNDARY

Know what's below. Call before you dig.

SCALE IN FEET 0 50 100



EXISTING DRAINAGE MAP



PROPOSED DRAINAGE MAP

HILL INCORPORATED
2999 WEST C.R. 42, SUITE 100
BURNSVILLE, MN 55306
PHONE: 952-890-6044
bbusselman@mnhill.com
www.mnhill.com

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

PRELIMINARY

Reg.No.

Date:

SHOREWOOD RESIDENTIAL

SHOREWOOD, MN

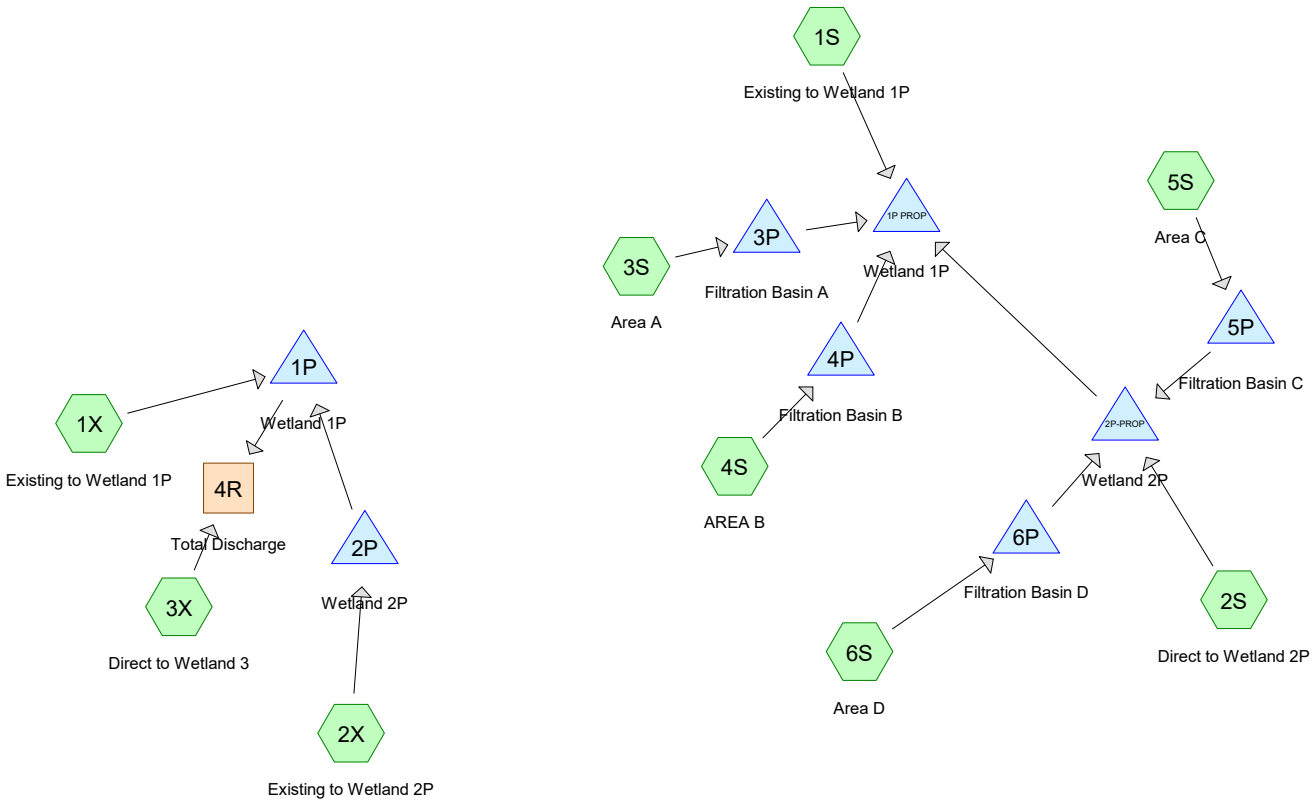
DRAINAGE MAPS

FOR GRAVITY INVESTMENT LLC

DRAWN BY	BDB
DATE	10/20/2025
REVISIONS	
2026-01-16 CITY & MCWD COMM.	
2026-01-19 BASIN OUTLET REVS	
CAD FILE	24303DRN
PROJECT NO.	24303
	COMBINED

F:\..Civil 3D Projects\24303\PRE-PLAT PLANS\24-303DRN.dwg - 1/19/2026 09:06AM

ATTACHMENT B
HYDROCAD CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for 24303-Watten Ponds 2nd Stormwater_2026-01-18
Prepared by {enter your company name here}, Printed 1/19/2026
HydroCAD® 10.00-25 s/n 00744 © 2019 HydroCAD Software Solutions LLC

Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 5327 MN Hennepin

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.349	74	>75% Grass cover, Good, HSG C (3S, 4S, 5S, 6S)
0.107	96	Gravel surface, HSG C (1S, 1X)
0.597	98	Paved parking, HSG C (1S, 1X, 6S)
0.056	98	Unconnected pavement, HSG C (4S, 5S)
0.702	98	Unconnected roofs, HSG C (1S, 1X, 2X, 3S, 4S, 5S)
1.285	98	Water Surface, 0% imp, HSG C (1S, 1X, 2S, 2X)
9.184	72	Woods/grass comb., Good, HSG C (1S, 1X, 2S, 2X, 3X)
12.280	**78**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
12.280	HSG C	1S, 1X, 2S, 2X, 3S, 3X, 4S, 5S, 6S
0.000	HSG D	
0.000	Other	
12.280		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.349	0.000	0.000	0.349	>75% Grass cover, Good	3S, 4S, 5S, 6S
0.000	0.000	0.107	0.000	0.000	0.107	Gravel surface	1S, 1X
0.000	0.000	0.597	0.000	0.000	0.597	Paved parking	1S, 1X, 6S
0.000	0.000	0.056	0.000	0.000	0.056	Unconnected pavement	4S, 5S
0.000	0.000	0.702	0.000	0.000	0.702	Unconnected roofs	1S, 1X, 2X, 3S, 4S, 5S
0.000	0.000	1.285	0.000	0.000	1.285	Water Surface, 0% imp	1S, 1X, 2S, 2X
0.000	0.000	9.184	0.000	0.000	9.184	Woods/grass comb., Good	1S, 1X, 2S, 2X, 3X
0.000	**0.000**	**12.280**	**0.000**	**0.000**	**12.280**	**TOTAL AREA**	

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	2P-PROP	944.10	944.00	34.0	0.0029	0.013	18.0	0.0	0.0
2	3P	941.00	940.00	42.0	0.0238	0.013	12.0	0.0	0.0

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment 1S: Existing to Wetland 1P Runoff Area=193,772 sf 9.61% Impervious Runoff Depth=0.73"
Flow Length=325' Slope=0.1350 '/' Tc=18.3 min CN=77 Runoff=3.57 cfs 0.270 af

Subcatchment 1X: Existing to Wetland 1P Runoff Area=211,609 sf 8.80% Impervious Runoff Depth=0.68"
Flow Length=325' Slope=0.1350 '/' Tc=18.3 min UI Adjusted CN=76 Runoff=3.60 cfs 0.276 af

Subcatchment 2S: Direct to Wetland 2P Runoff Area=38,600 sf 0.00% Impervious Runoff Depth=0.77"
Flow Length=100' Tc=12.3 min CN=78 Runoff=0.94 cfs 0.057 af

Subcatchment 2X: Existing to Wetland 2P Runoff Area=40,857 sf 4.62% Impervious Runoff Depth=0.77"
Flow Length=100' Tc=12.3 min UI Adjusted CN=78 Runoff=0.99 cfs 0.061 af

Subcatchment 3S: Area A Runoff Area=10,065 sf 51.66% Impervious Runoff Depth=1.23"
Tc=7.0 min CN=86 Runoff=0.51 cfs 0.024 af

Subcatchment 3X: Direct to Wetland 3 Runoff Area=0.344 ac 0.00% Impervious Runoff Depth=0.52"
Tc=7.0 min CN=72 Runoff=0.29 cfs 0.015 af

Subcatchment 4S: AREA B Runoff Area=5,010 sf 57.29% Impervious Runoff Depth=1.36"
Tc=7.0 min CN=88 Runoff=0.28 cfs 0.013 af

Subcatchment 5S: Area C Runoff Area=10,000 sf 55.80% Impervious Runoff Depth=1.29"
Tc=7.0 min CN=87 Runoff=0.53 cfs 0.025 af

Subcatchment 6S: Area D Runoff Area=10,000 sf 62.20% Impervious Runoff Depth=1.44"
Tc=7.0 min CN=89 Runoff=0.58 cfs 0.027 af

Reach 4R: Total Discharge Inflow=1.60 cfs 0.352 af
Outflow=1.60 cfs 0.352 af

Pond 1P: Wetland 1P Peak Elev=940.73' Storage=11,989 cf Inflow=3.90 cfs 0.337 af
Outflow=1.55 cfs 0.337 af

Pond 1P PROP: Wetland 1P Peak Elev=940.71' Storage=11,630 cf Inflow=3.61 cfs 0.350 af
Outflow=1.37 cfs 0.349 af

Pond 2P: Wetland 2P Peak Elev=947.10' Storage=7,131 cf Inflow=0.99 cfs 0.061 af
Outflow=0.39 cfs 0.061 af

Pond 2P-PROP: Wetland 2P Peak Elev=947.16' Storage=7,621 cf Inflow=0.94 cfs 0.073 af
Outflow=0.14 cfs 0.071 af

Pond 3P: Filtration Basin A Peak Elev=944.71' Storage=768 cf Inflow=0.51 cfs 0.024 af
Outflow=0.02 cfs 0.006 af

Pond 4P: Filtration Basin B Peak Elev=949.51' Storage=469 cf Inflow=0.28 cfs 0.013 af
Outflow=0.01 cfs 0.002 af

Pond 5P: Filtration Basin C Peak Elev=951.53' Storage=662 cf Inflow=0.53 cfs 0.025 af
Outflow=0.06 cfs 0.010 af

Pond 6P: Filtration Basin D Peak Elev=952.81' Storage=962 cf Inflow=0.58 cfs 0.027 af
Outflow=0.02 cfs 0.006 af

Total Runoff Area = 12.280 ac Runoff Volume = 0.768 af Average Runoff Depth = 0.75"
88.97% Pervious = 10.925 ac 11.03% Impervious = 1.355 ac

Summary for Subcatchment 1S: Existing to Wetland 1P

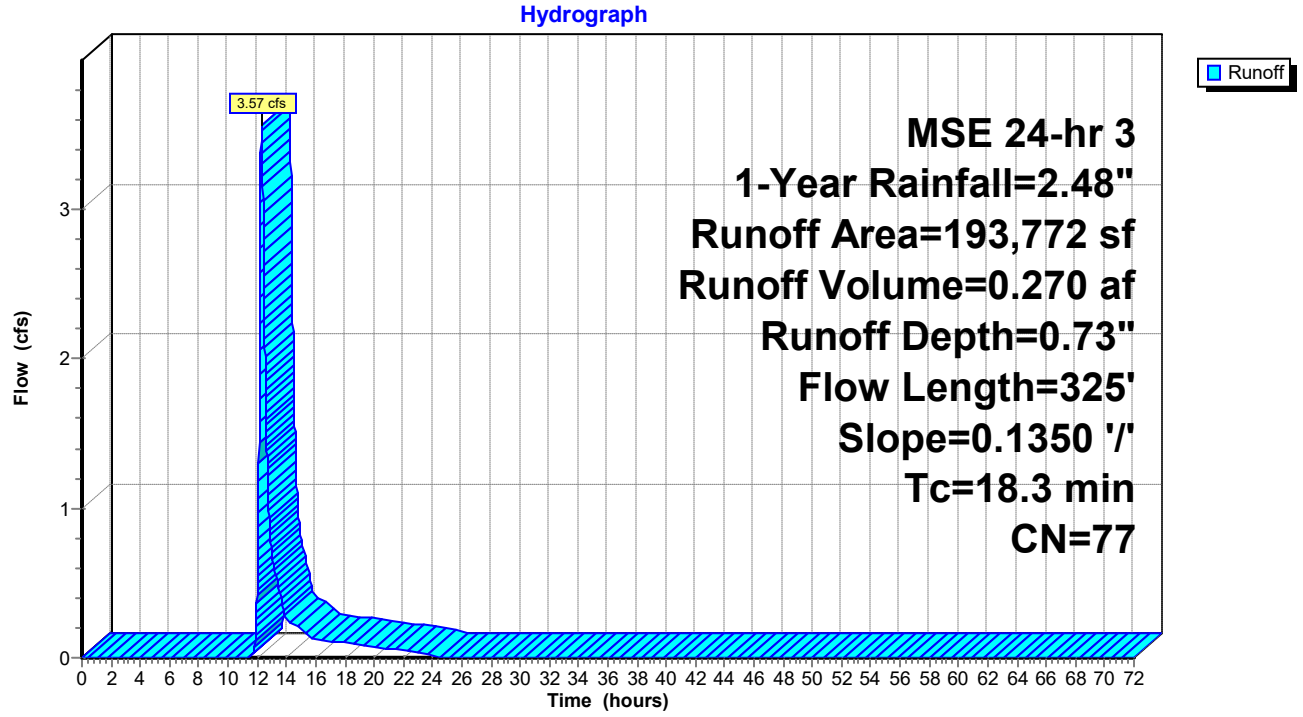
Runoff = 3.57 cfs @ 12.30 hrs, Volume= 0.270 af, Depth= 0.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 1-Year Rainfall=2.48"

Area (sf)	CN	Description
8,744	98	Unconnected roofs, HSG C
9,885	98	Paved parking, HSG C
19,395	98	Water Surface, 0% imp, HSG C
2,322	96	Gravel surface, HSG C
153,426	72	Woods/grass comb., Good, HSG C
193,772	77	Weighted Average
175,143		90.39% Pervious Area
18,629		9.61% Impervious Area
8,744		46.94% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	180	0.1350	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.85"
1.3	145	0.1350	1.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	325	Total			

Subcatchment 1S: Existing to Wetland 1P



Summary for Subcatchment 1X: Existing to Wetland 1P

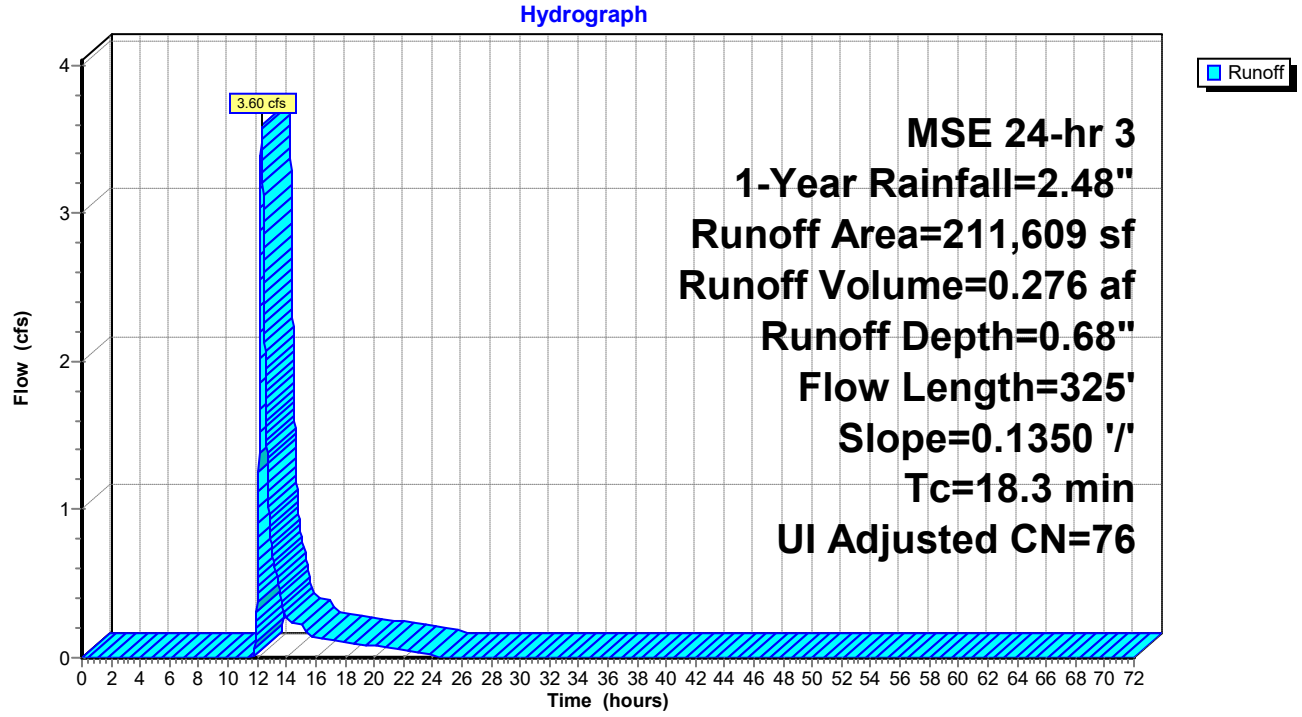
Runoff = 3.60 cfs @ 12.30 hrs, Volume= 0.276 af, Depth= 0.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 1-Year Rainfall=2.48"

Area (sf)	CN	Adj	Description
8,744	98		Unconnected roofs, HSG C
9,885	98		Paved parking, HSG C
19,395	98		Water Surface, 0% imp, HSG C
2,322	96		Gravel surface, HSG C
171,263	72		Woods/grass comb., Good, HSG C
211,609	77	76	Weighted Average, UI Adjusted
192,980			91.20% Pervious Area
18,629			8.80% Impervious Area
8,744			46.94% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	180	0.1350	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.85"
1.3	145	0.1350	1.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	325	Total			

Subcatchment 1X: Existing to Wetland 1P



Summary for Subcatchment 2S: Direct to Wetland 2P

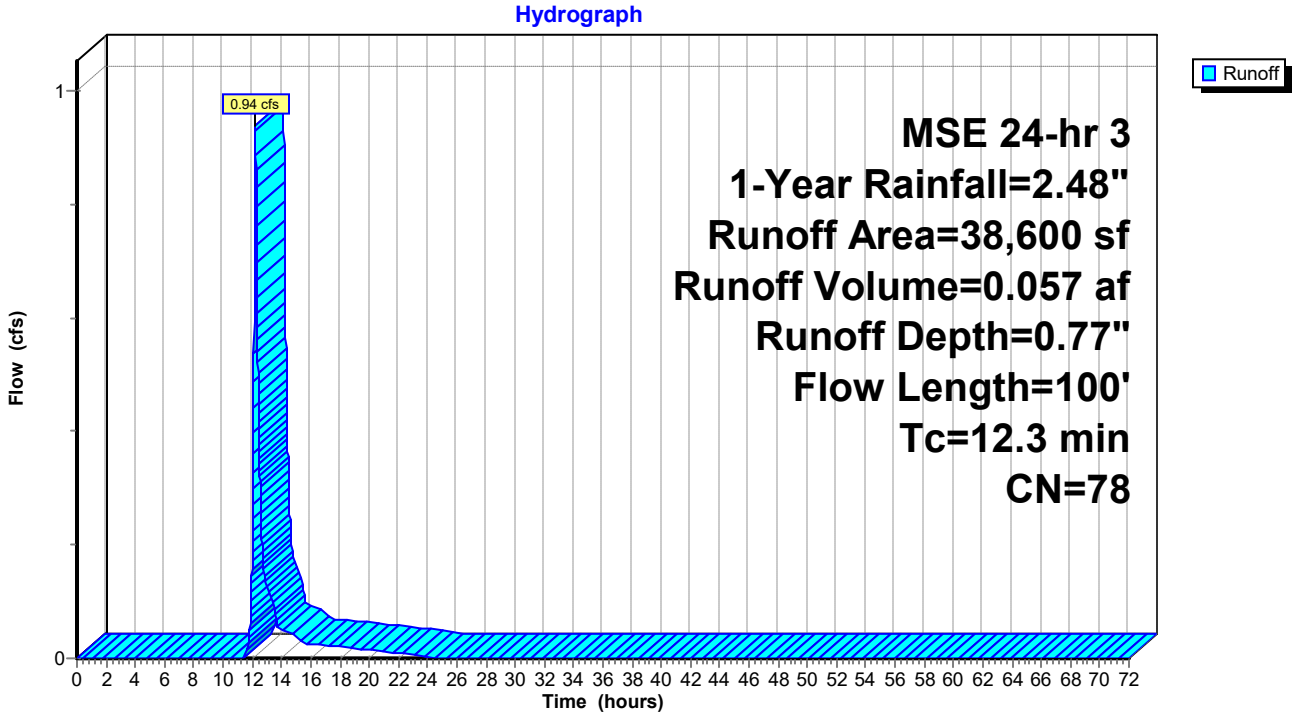
Runoff = 0.94 cfs @ 12.21 hrs, Volume= 0.057 af, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 1-Year Rainfall=2.48"

Area (sf)	CN	Description
8,590	98	Water Surface, 0% imp, HSG C
30,010	72	Woods/grass comb., Good, HSG C
38,600	78	Weighted Average
38,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0830	1.66		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.85"
12.1	80	0.0625	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.85"
12.3	100	Total			

Subcatchment 2S: Direct to Wetland 2P



Summary for Subcatchment 2X: Existing to Wetland 2P

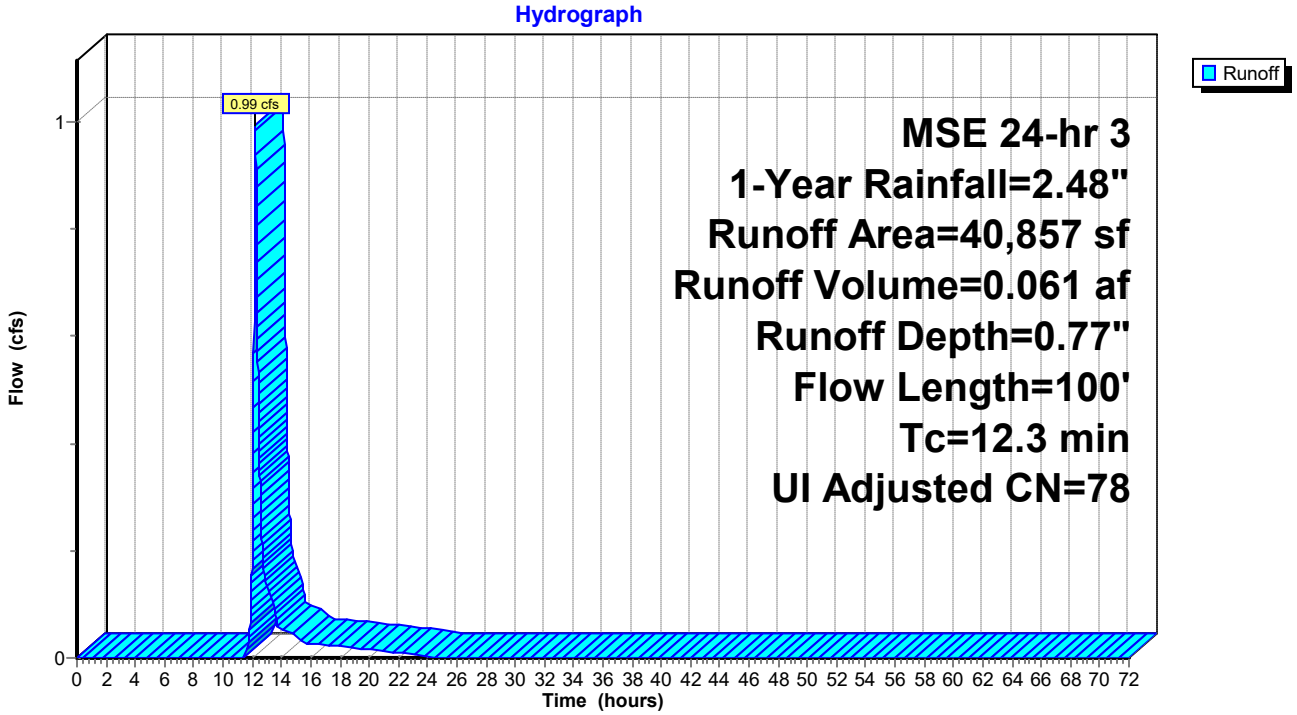
Runoff = 0.99 cfs @ 12.21 hrs, Volume= 0.061 af, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 1-Year Rainfall=2.48"

Area (sf)	CN	Adj	Description
1,886	98		Unconnected roofs, HSG C
8,586	98		Water Surface, 0% imp, HSG C
30,385	72		Woods/grass comb., Good, HSG C
40,857	79	78	Weighted Average, UI Adjusted
38,971			95.38% Pervious Area
1,886			4.62% Impervious Area
1,886			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0830	1.66		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.85"
12.1	80	0.0625	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.85"
12.3	100	Total			

Subcatchment 2X: Existing to Wetland 2P



Summary for Subcatchment 3S: Area A

5,200 SF impervious requires 434 CF filtration

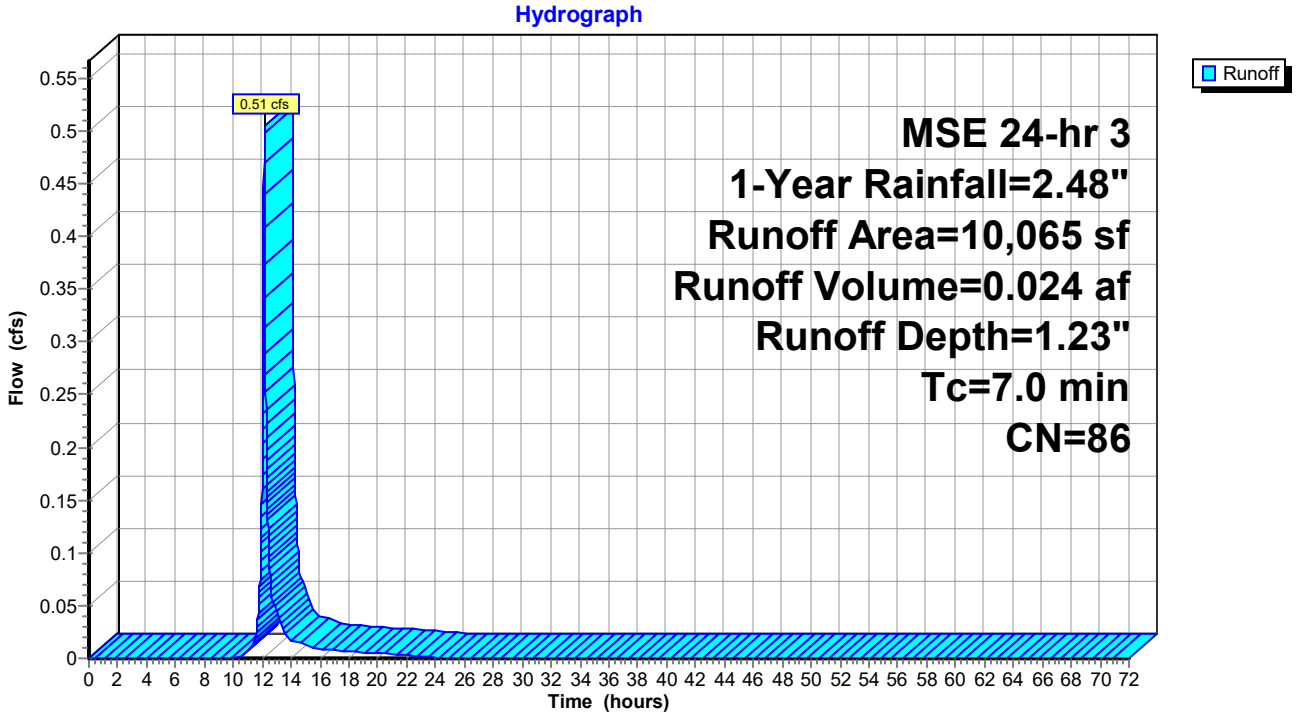
Runoff = 0.51 cfs @ 12.14 hrs, Volume= 0.024 af, Depth= 1.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 1-Year Rainfall=2.48"

Area (sf)	CN	Description
5,200	98	Unconnected roofs, HSG C
4,865	74	>75% Grass cover, Good, HSG C
10,065	86	Weighted Average
4,865		48.34% Pervious Area
5,200		51.66% Impervious Area
5,200		100.00% Unconnected

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

Subcatchment 3S: Area A



Summary for Subcatchment 3X: Direct to Wetland 3

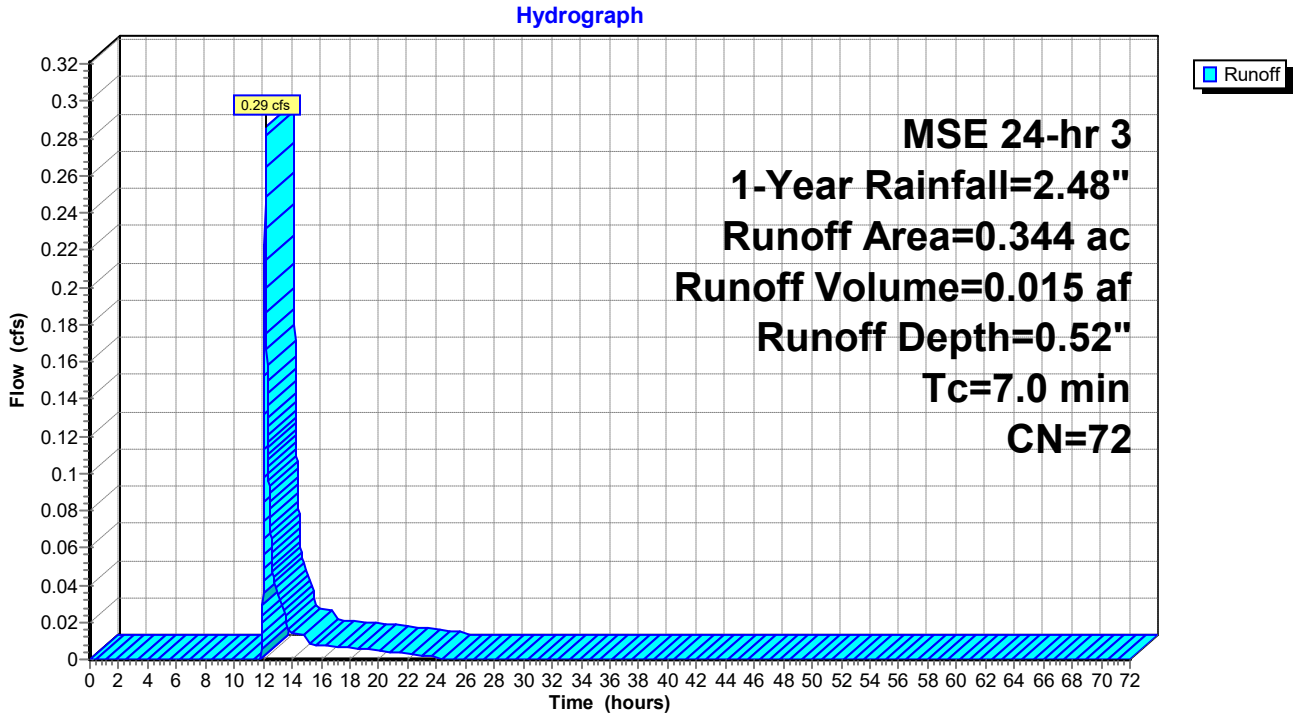
Runoff = 0.29 cfs @ 12.15 hrs, Volume= 0.015 af, Depth= 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 1-Year Rainfall=2.48"

Area (ac)	CN	Description
0.344	72	Woods/grass comb., Good, HSG C
0.344		100.00% Pervious Area

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

Subcatchment 3X: Direct to Wetland 3



Summary for Subcatchment 4S: AREA B

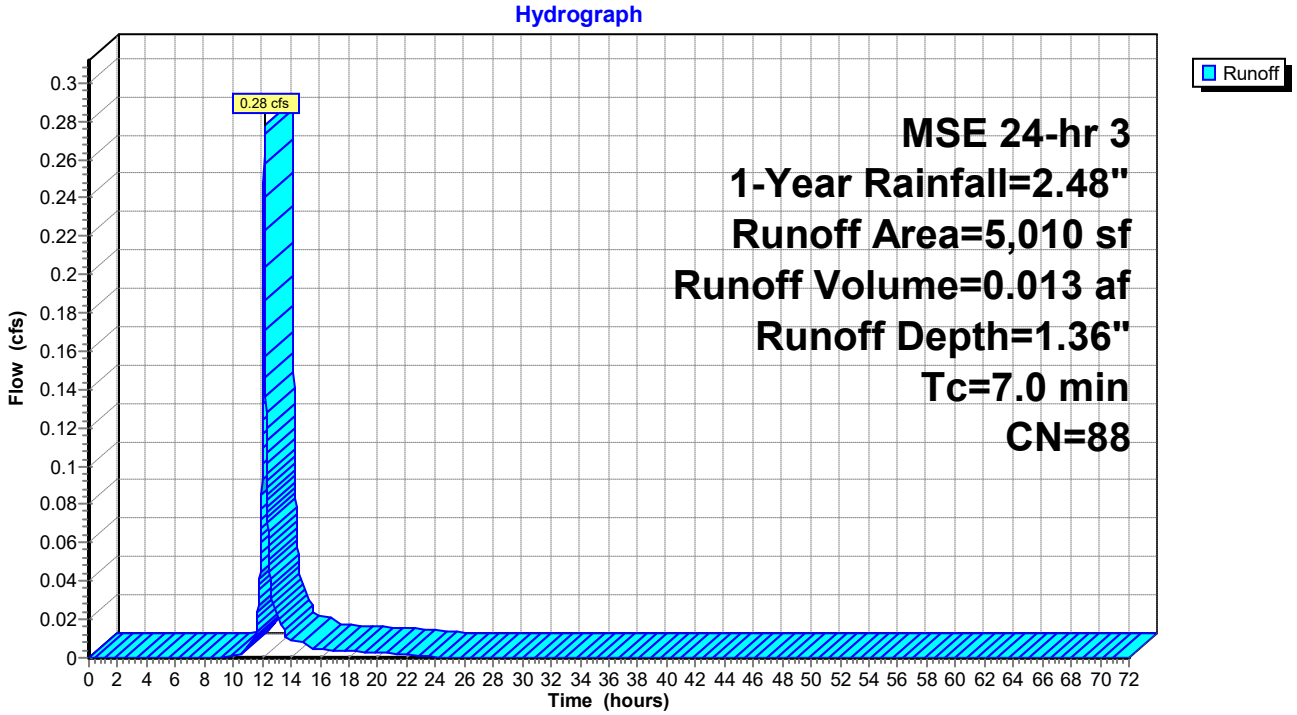
Runoff = 0.28 cfs @ 12.14 hrs, Volume= 0.013 af, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 1-Year Rainfall=2.48"

Area (sf)	CN	Description
1,750	98	Unconnected roofs, HSG C
1,120	98	Unconnected pavement, HSG C
2,140	74	>75% Grass cover, Good, HSG C
5,010	88	Weighted Average
2,140		42.71% Pervious Area
2,870		57.29% Impervious Area
2,870		100.00% Unconnected

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

Subcatchment 4S: AREA B



Summary for Subcatchment 5S: Area C

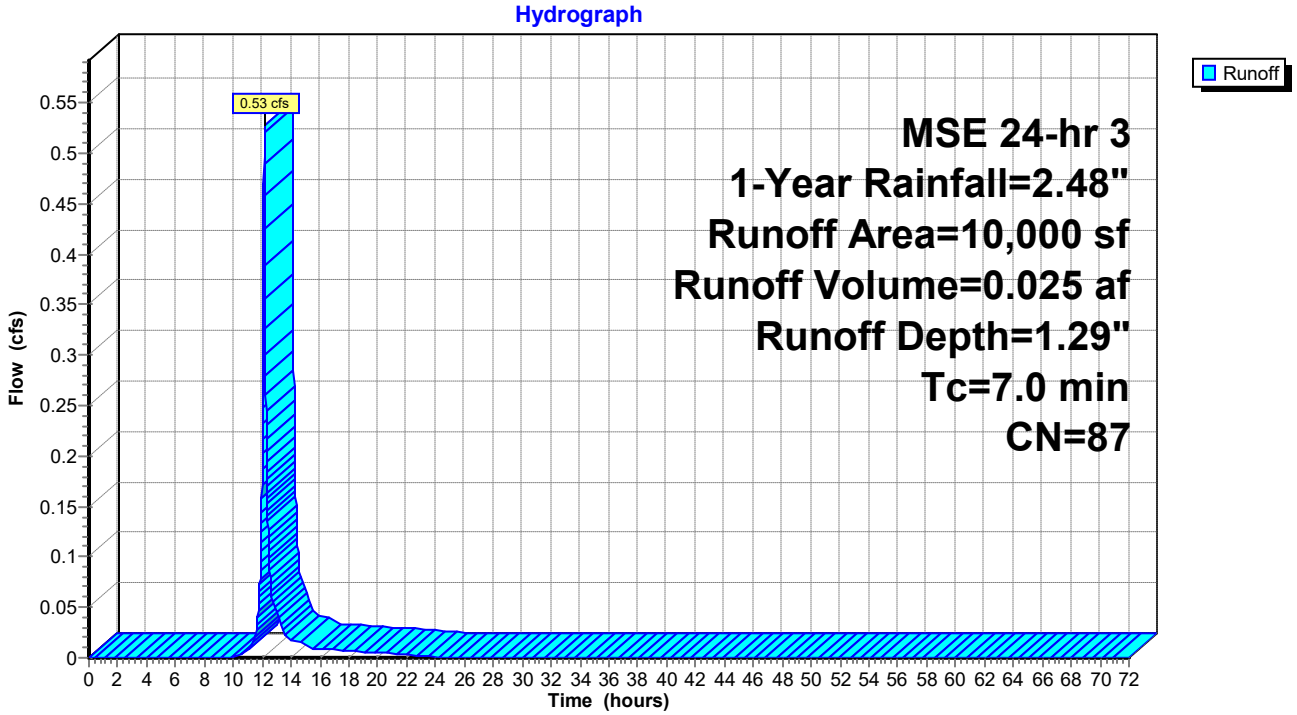
Runoff = 0.53 cfs @ 12.14 hrs, Volume= 0.025 af, Depth= 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 1-Year Rainfall=2.48"

Area (sf)	CN	Description
4,240	98	Unconnected roofs, HSG C
1,340	98	Unconnected pavement, HSG C
4,420	74	>75% Grass cover, Good, HSG C
10,000	87	Weighted Average
4,420		44.20% Pervious Area
5,580		55.80% Impervious Area
5,580		100.00% Unconnected

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

Subcatchment 5S: Area C



Summary for Subcatchment 6S: Area D

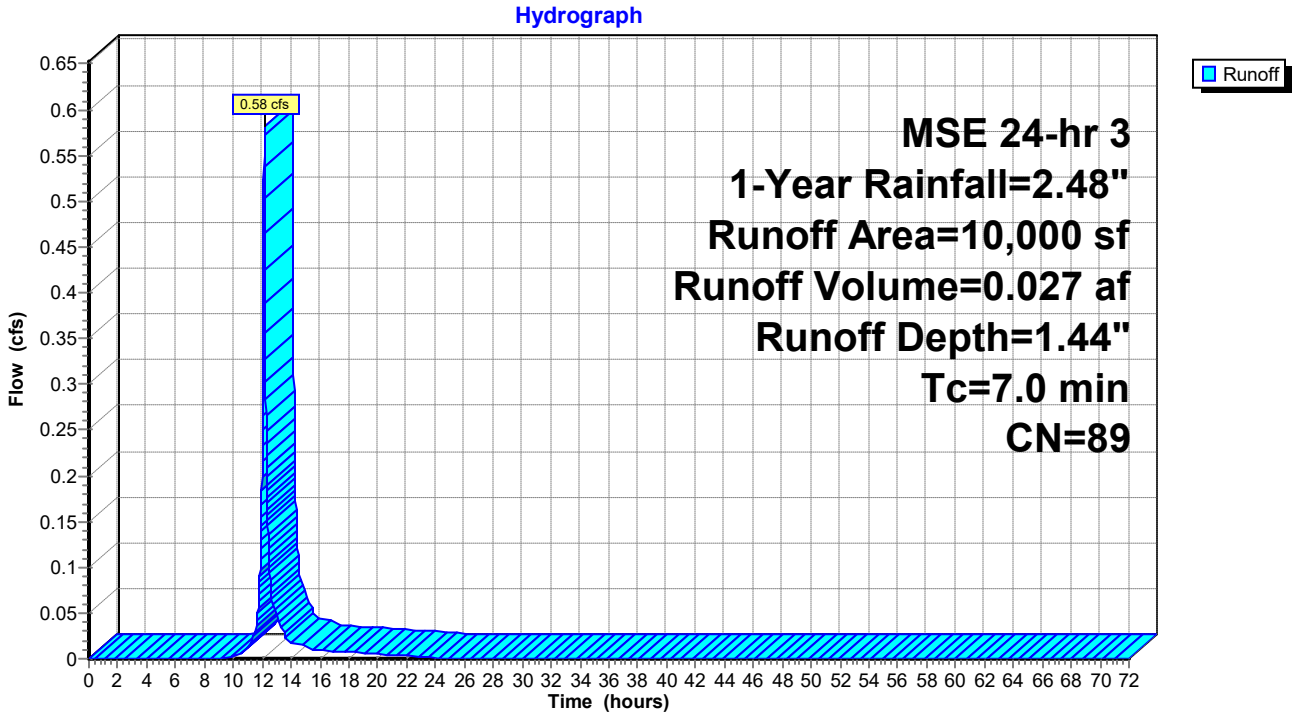
Runoff = 0.58 cfs @ 12.14 hrs, Volume= 0.027 af, Depth= 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 1-Year Rainfall=2.48"

Area (sf)	CN	Description
6,220	98	Paved parking, HSG C
3,780	74	>75% Grass cover, Good, HSG C
10,000	89	Weighted Average
3,780		37.80% Pervious Area
6,220		62.20% Impervious Area

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

Subcatchment 6S: Area D



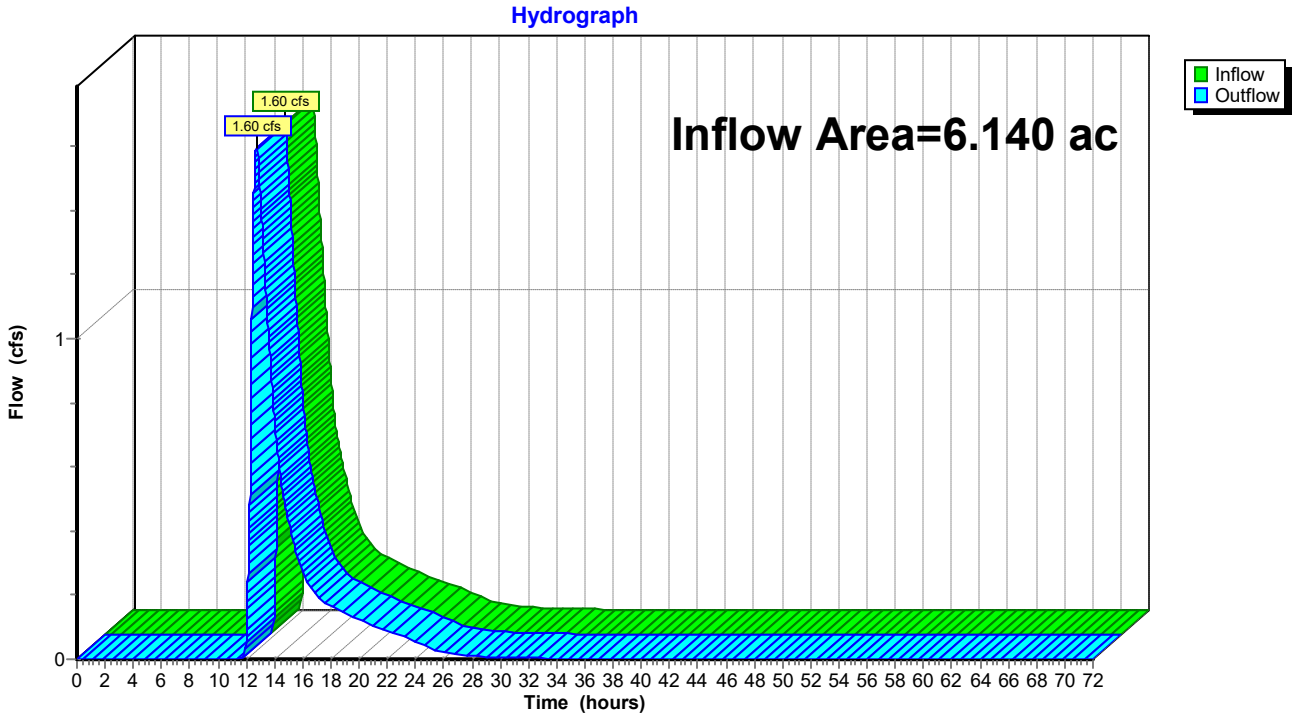
Summary for Reach 4R: Total Discharge

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.140 ac, 7.67% Impervious, Inflow Depth = 0.69" for 1-Year event
Inflow = 1.60 cfs @ 12.72 hrs, Volume= 0.352 af
Outflow = 1.60 cfs @ 12.73 hrs, Volume= 0.352 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Reach 4R: Total Discharge



Summary for Pond 1P: Wetland 1P

Inflow Area = 5.796 ac, 8.13% Impervious, Inflow Depth = 0.70" for 1-Year event
Inflow = 3.90 cfs @ 12.30 hrs, Volume= 0.337 af
Outflow = 1.55 cfs @ 12.72 hrs, Volume= 0.337 af, Atten= 60%, Lag= 25.0 min
Primary = 1.55 cfs @ 12.72 hrs, Volume= 0.337 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 940.50' Surf.Area= 18,044 sf Storage= 7,632 cf
Peak Elev= 940.73' @ 12.72 hrs Surf.Area= 20,553 sf Storage= 11,989 cf (4,357 cf above start)

Plug-Flow detention time= 339.5 min calculated for 0.162 af (48% of inflow)
Center-of-Mass det. time= 73.1 min (928.9 - 855.9)

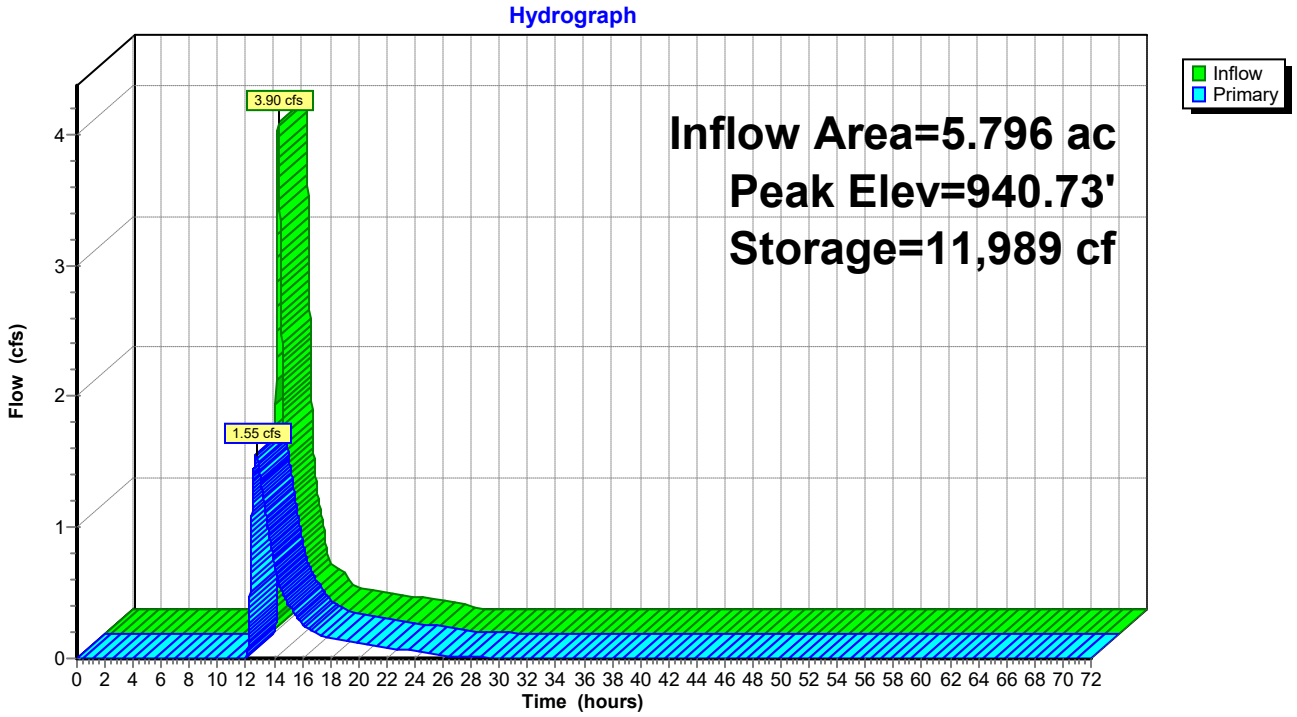
Volume	Invert	Avail.Storage	Storage Description
#1	940.00'	92,346 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
940.00	12,486	0	0
941.00	23,601	18,044	18,044
942.00	38,749	31,175	49,219
943.00	47,506	43,128	92,346

Device	Routing	Invert	Outlet Devices
#1	Primary	940.50'	**5.8' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.55 cfs @ 12.72 hrs HW=940.73' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 1.55 cfs @ 1.19 fps)

Pond 1P: Wetland 1P



Summary for Pond 1P PROP: Wetland 1P

Inflow Area = 6.140 ac, 14.40% Impervious, Inflow Depth = 0.68" for 1-Year event
Inflow = 3.61 cfs @ 12.30 hrs, Volume= 0.350 af
Outflow = 1.37 cfs @ 12.70 hrs, Volume= 0.349 af, Atten= 62%, Lag= 23.9 min
Primary = 1.37 cfs @ 12.70 hrs, Volume= 0.349 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 940.50' Surf.Area= 18,044 sf Storage= 7,632 cf
Peak Elev= 940.71' @ 12.70 hrs Surf.Area= 20,357 sf Storage= 11,630 cf (3,997 cf above start)

Plug-Flow detention time= 422.1 min calculated for 0.174 af (50% of inflow)
Center-of-Mass det. time= 75.8 min (981.9 - 906.2)

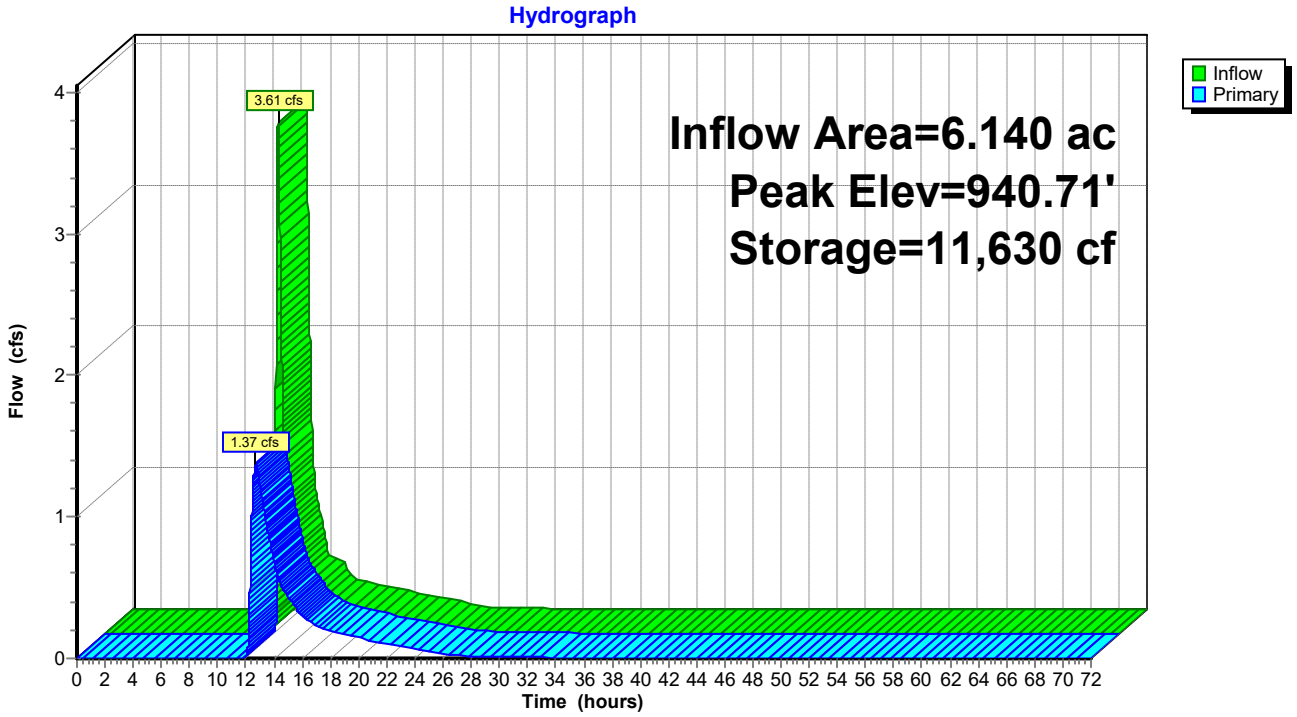
Volume	Invert	Avail.Storage	Storage Description
#1	940.00'	92,346 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
940.00	12,486	0	0
941.00	23,601	18,044	18,044
942.00	38,749	31,175	49,219
943.00	47,506	43,128	92,346

Device	Routing	Invert	Outlet Devices
#1	Primary	940.50'	**5.8' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.37 cfs @ 12.70 hrs HW=940.71' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 1.37 cfs @ 1.14 fps)

Pond 1P PROP: Wetland 1P



Summary for Pond 2P: Wetland 2P

Inflow Area = 0.938 ac, 4.62% Impervious, Inflow Depth = 0.77" for 1-Year event
Inflow = 0.99 cfs @ 12.21 hrs, Volume= 0.061 af
Outflow = 0.39 cfs @ 12.48 hrs, Volume= 0.061 af, Atten= 61%, Lag= 16.3 min
Primary = 0.39 cfs @ 12.48 hrs, Volume= 0.061 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 947.00' Surf.Area= 7,818 sf Storage= 6,322 cf
Peak Elev= 947.10' @ 12.48 hrs Surf.Area= 8,190 sf Storage= 7,131 cf (810 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 59.3 min (895.2 - 835.9)

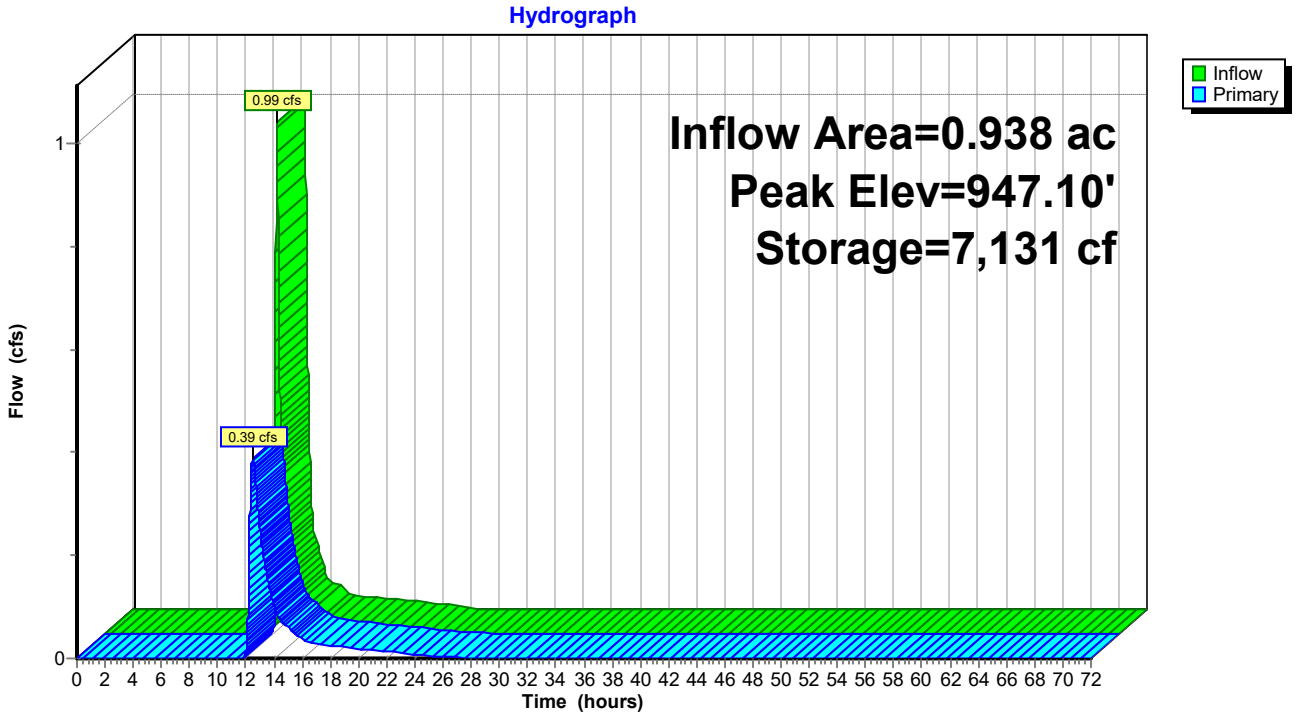
Volume	Invert	Avail.Storage	Storage Description
#1	946.00'	29,308 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
946.00	4,825	0	0
947.00	7,818	6,322	6,322
948.00	11,496	9,657	15,979
949.00	15,162	13,329	29,308

Device	Routing	Invert	Outlet Devices
#1	Primary	947.00'	**4.5' long x 15.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.39 cfs @ 12.48 hrs HW=947.10' TW=940.70' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.39 cfs @ 0.85 fps)

Pond 2P: Wetland 2P



Summary for Pond 2P-PROP: Wetland 2P

Inflow Area = 1.345 ac, 20.14% Impervious, Inflow Depth = 0.65" for 1-Year event
Inflow = 0.94 cfs @ 12.21 hrs, Volume= 0.073 af
Outflow = 0.14 cfs @ 13.33 hrs, Volume= 0.071 af, Atten= 85%, Lag= 67.3 min
Primary = 0.14 cfs @ 13.33 hrs, Volume= 0.071 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 947.00' Surf.Area= 7,818 sf Storage= 6,322 cf
Peak Elev= 947.16' @ 13.33 hrs Surf.Area= 8,407 sf Storage= 7,621 cf (1,300 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 256.3 min (1,123.3 - 867.0)

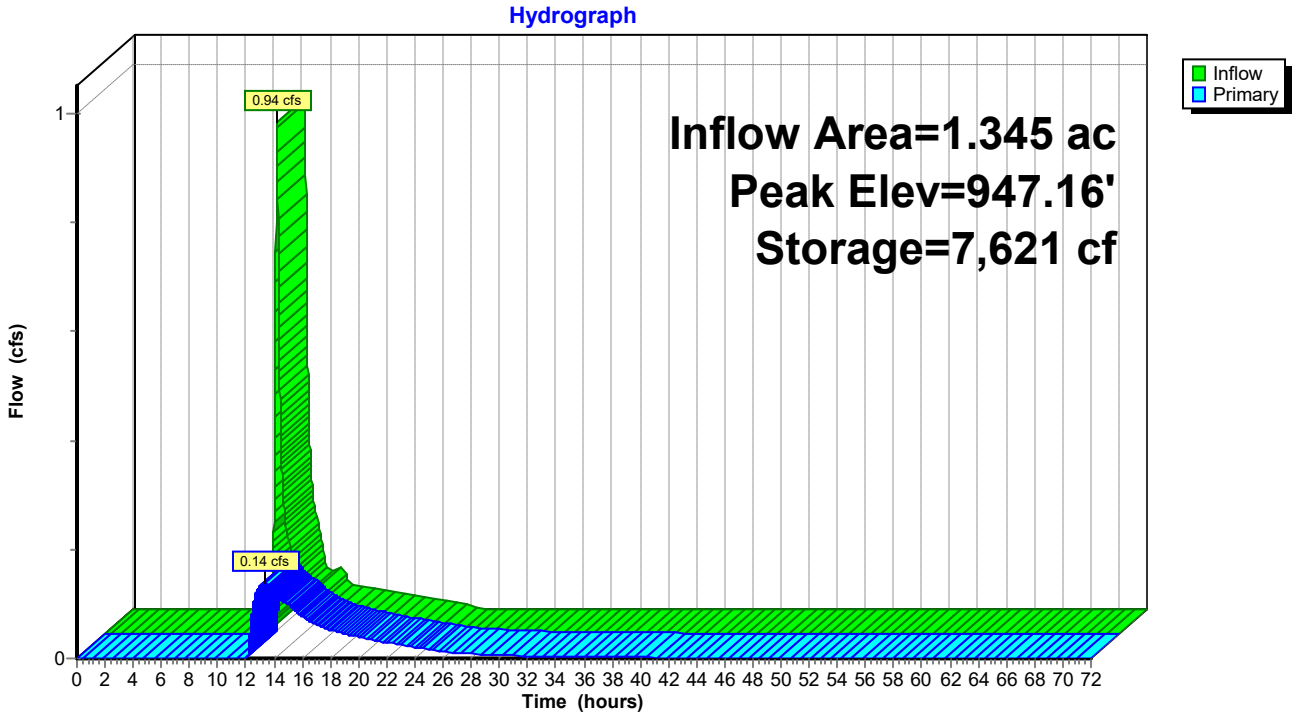
Volume	Invert	Avail.Storage	Storage Description
#1	946.00'	29,308 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
946.00	4,825	0	0
947.00	7,818	6,322	6,322
948.00	11,496	9,657	15,979
949.00	15,162	13,329	29,308

Device	Routing	Invert	Outlet Devices
#1	Device 2	947.00'	**18.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	944.10'	**18.0" Round Culvert** L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 944.10' / 944.00' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.14 cfs @ 13.33 hrs HW=947.16' TW=940.67' (Dynamic Tailwater)
↑**2=Culvert** (Passes 0.14 cfs of 11.41 cfs potential flow)
↑**1=Orifice/Grate** (Orifice Controls 0.14 cfs @ 1.36 fps)

Pond 2P-PROP: Wetland 2P



Summary for Pond 3P: Filtration Basin A

Inflow Area = 0.231 ac, 51.66% Impervious, Inflow Depth = 1.23" for 1-Year event
Inflow = 0.51 cfs @ 12.14 hrs, Volume= 0.024 af
Outflow = 0.02 cfs @ 13.68 hrs, Volume= 0.006 af, Atten= 96%, Lag= 92.1 min
Primary = 0.02 cfs @ 13.68 hrs, Volume= 0.006 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 944.71' @ 13.68 hrs Surf.Area= 833 sf Storage= 768 cf

Plug-Flow detention time= 312.9 min calculated for 0.006 af (26% of inflow)
Center-of-Mass det. time= 216.4 min (1,025.5 - 809.1)

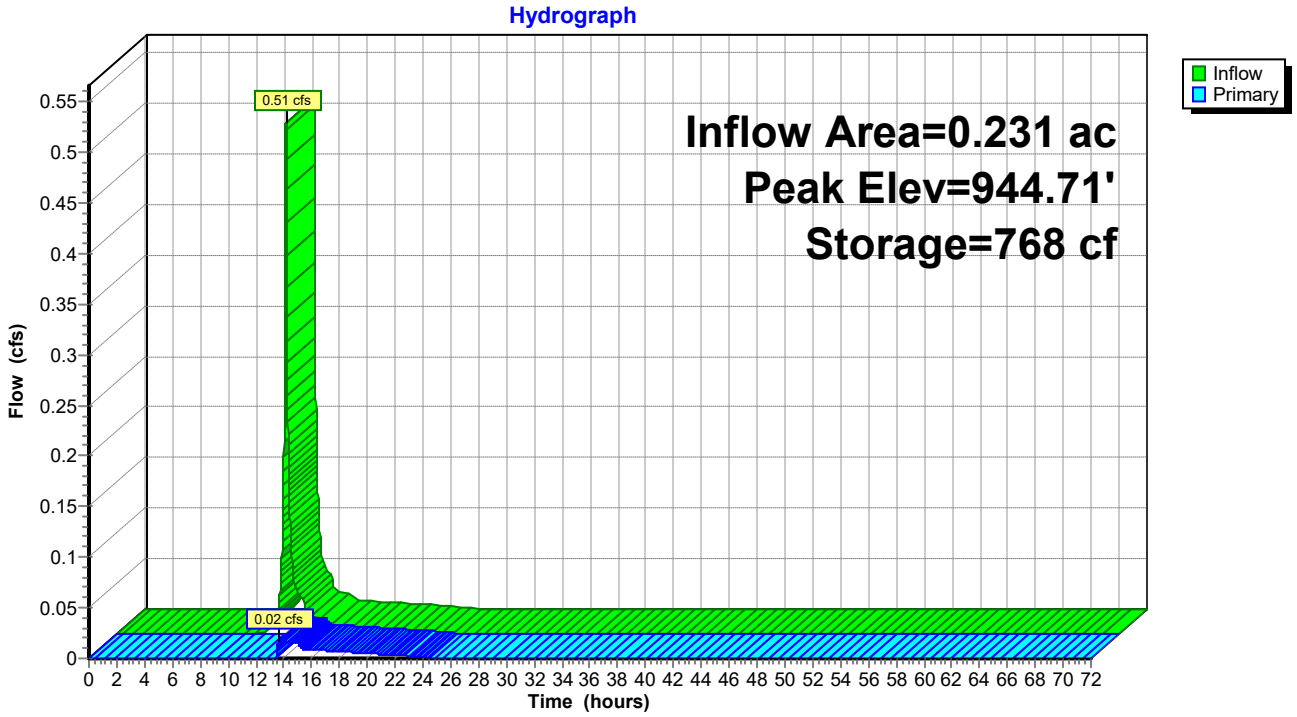
Volume	Invert	Avail.Storage	Storage Description
#1	943.00'	1,032 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
943.00	125	0	0
944.00	480	303	303
945.00	978	729	1,032

Device	Routing	Invert	Outlet Devices
#1	Primary	941.00'	**12.0" Round Culvert** L= 42.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 941.00' / 940.00' S= 0.0238 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	944.70'	**27.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 13.68 hrs HW=944.71' TW=940.65' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.02 cfs of 5.98 cfs potential flow)
↑**2=Orifice/Grate** (Weir Controls 0.02 cfs @ 0.30 fps)

Pond 3P: Filtration Basin A



Summary for Pond 4P: Filtration Basin B

Inflow Area = 0.115 ac, 57.29% Impervious, Inflow Depth = 1.36" for 1-Year event
Inflow = 0.28 cfs @ 12.14 hrs, Volume= 0.013 af
Outflow = 0.01 cfs @ 15.03 hrs, Volume= 0.002 af, Atten= 97%, Lag= 172.9 min
Primary = 0.01 cfs @ 15.03 hrs, Volume= 0.002 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 949.51' @ 15.03 hrs Surf.Area= 507 sf Storage= 469 cf

Plug-Flow detention time= 388.0 min calculated for 0.002 af (18% of inflow)
Center-of-Mass det. time= 285.1 min (1,088.5 - 803.4)

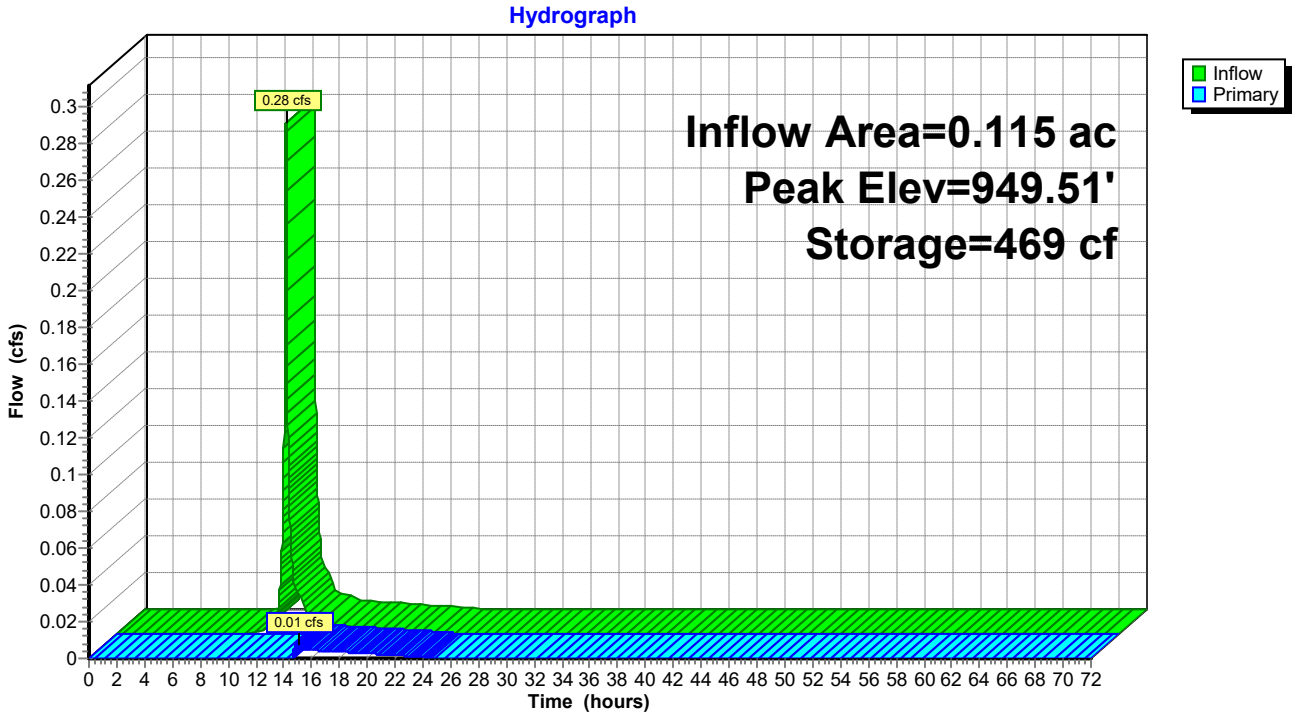
Volume	Invert	Avail.Storage	Storage Description
#1	948.00'	758 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
948.00	138	0	0
949.00	360	249	249
949.50	505	216	465
950.00	665	293	758

Device	Routing	Invert	Outlet Devices
#1	Primary	949.50'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.01 cfs @ 15.03 hrs HW=949.51' TW=940.60' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.01 cfs @ 0.22 fps)

Pond 4P: Filtration Basin B



Summary for Pond 5P: Filtration Basin C

Inflow Area = 0.230 ac, 55.80% Impervious, Inflow Depth = 1.29" for 1-Year event
Inflow = 0.53 cfs @ 12.14 hrs, Volume= 0.025 af
Outflow = 0.06 cfs @ 12.70 hrs, Volume= 0.010 af, Atten= 89%, Lag= 33.3 min
Primary = 0.06 cfs @ 12.70 hrs, Volume= 0.010 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 951.53' @ 12.70 hrs Surf.Area= 705 sf Storage= 662 cf

Plug-Flow detention time= 220.0 min calculated for 0.010 af (40% of inflow)
Center-of-Mass det. time= 130.6 min (936.9 - 806.3)

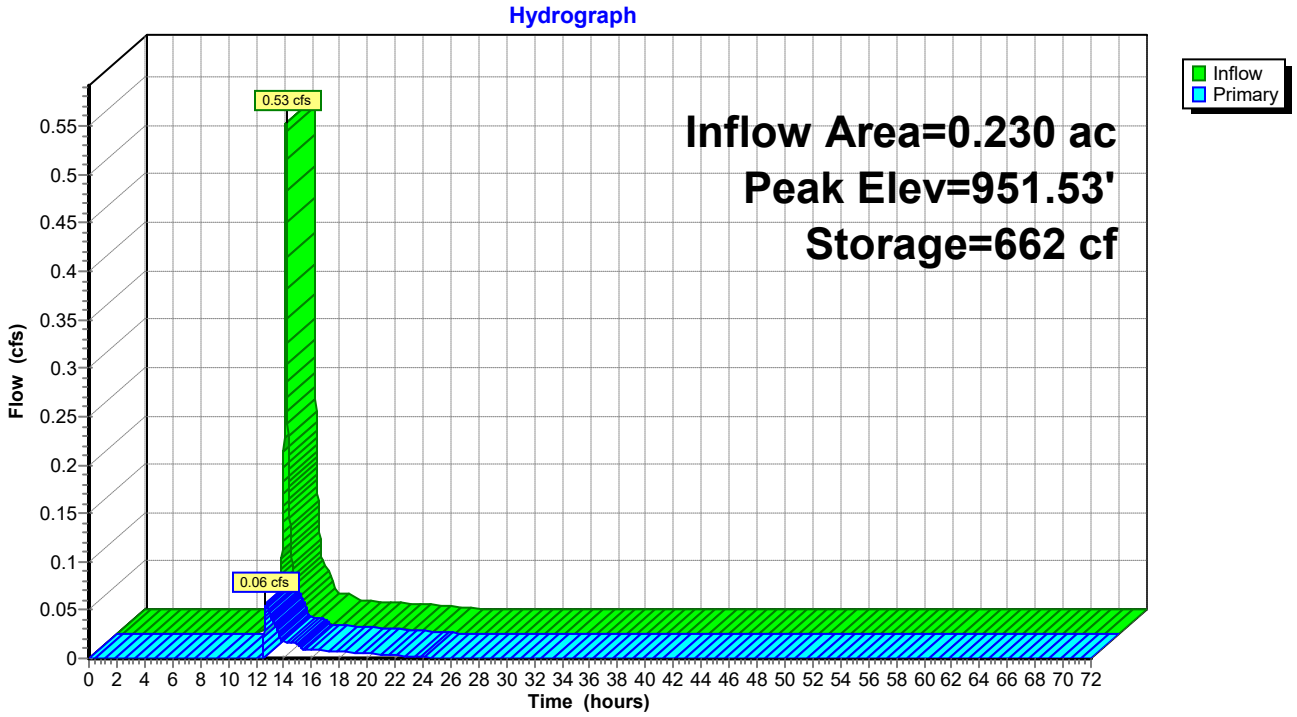
Volume	Invert	Avail.Storage	Storage Description
#1	950.00'	1,040 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
950.00	190	0	0
951.00	500	345	345
952.00	890	695	1,040

Device	Routing	Invert	Outlet Devices
#1	Primary	951.50'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.06 cfs @ 12.70 hrs HW=951.53' TW=947.15' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 0.06 cfs @ 0.42 fps)

Pond 5P: Filtration Basin C



Summary for Pond 6P: Filtration Basin D

Inflow Area = 0.230 ac, 62.20% Impervious, Inflow Depth = 1.44" for 1-Year event
Inflow = 0.58 cfs @ 12.14 hrs, Volume= 0.027 af
Outflow = 0.02 cfs @ 14.56 hrs, Volume= 0.006 af, Atten= 97%, Lag= 144.8 min
Primary = 0.02 cfs @ 14.56 hrs, Volume= 0.006 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 952.81' @ 14.56 hrs Surf.Area= 952 sf Storage= 962 cf

Plug-Flow detention time= 362.5 min calculated for 0.006 af (20% of inflow)
Center-of-Mass det. time= 261.0 min (1,061.3 - 800.3)

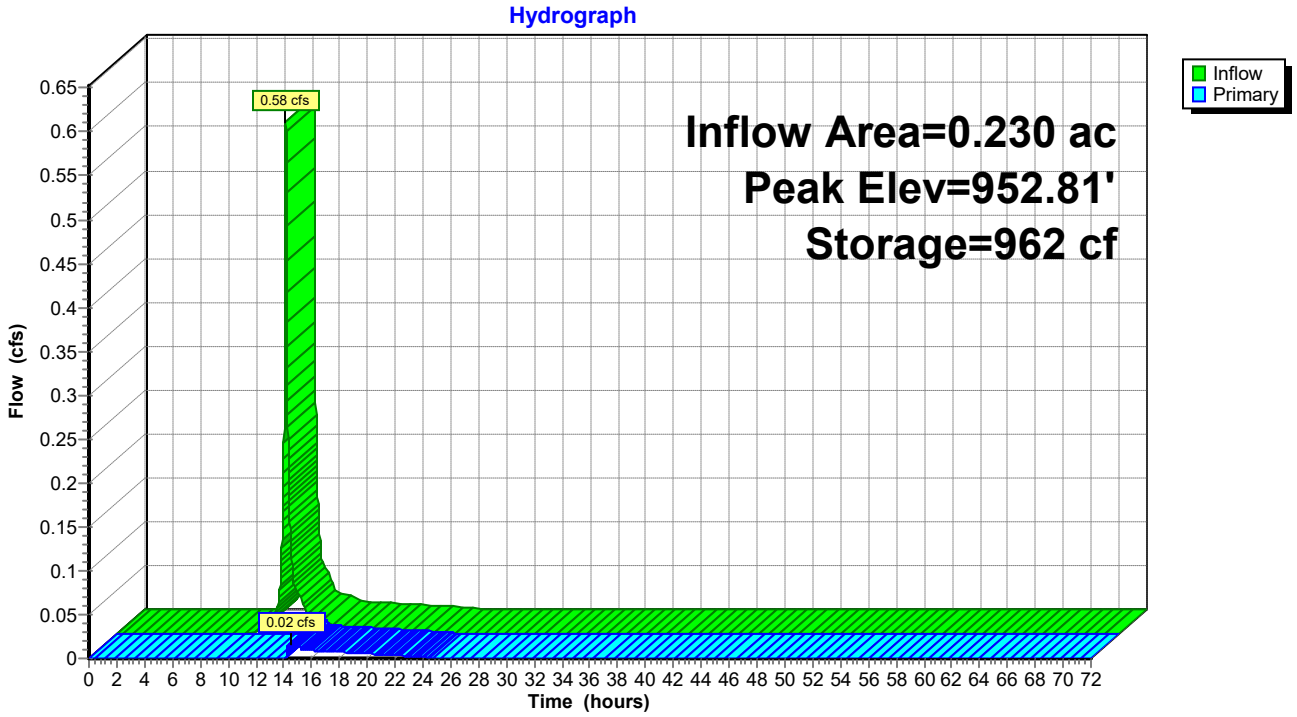
Volume	Invert	Avail.Storage	Storage Description
#1	951.00'	1,155 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
951.00	180	0	0
952.00	540	360	360
953.00	1,050	795	1,155

Device	Routing	Invert	Outlet Devices
#1	Primary	952.80'	**10.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.02 cfs @ 14.56 hrs HW=952.81' TW=947.14' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 0.02 cfs @ 0.22 fps)

Pond 6P: Filtration Basin D



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment 1S: Existing to Wetland 1P Runoff Area=193,772 sf 9.61% Impervious Runoff Depth=2.02"
Flow Length=325' Slope=0.1350 '/' Tc=18.3 min CN=77 Runoff=10.48 cfs 0.748 af

Subcatchment 1X: Existing to Wetland 1P Runoff Area=211,609 sf 8.80% Impervious Runoff Depth=1.94"
Flow Length=325' Slope=0.1350 '/' Tc=18.3 min UI Adjusted CN=76 Runoff=10.99 cfs 0.785 af

Subcatchment 2S: Direct to Wetland 2P Runoff Area=38,600 sf 0.00% Impervious Runoff Depth=2.10"
Flow Length=100' Tc=12.3 min CN=78 Runoff=2.65 cfs 0.155 af

Subcatchment 2X: Existing to Wetland 2P Runoff Area=40,857 sf 4.62% Impervious Runoff Depth=2.10"
Flow Length=100' Tc=12.3 min UI Adjusted CN=78 Runoff=2.80 cfs 0.164 af

Subcatchment 3S: Area A Runoff Area=10,065 sf 51.66% Impervious Runoff Depth=2.78"
Tc=7.0 min CN=86 Runoff=1.12 cfs 0.054 af

Subcatchment 3X: Direct to Wetland 3 Runoff Area=0.344 ac 0.00% Impervious Runoff Depth=1.65"
Tc=7.0 min CN=72 Runoff=1.01 cfs 0.047 af

Subcatchment 4S: AREA B Runoff Area=5,010 sf 57.29% Impervious Runoff Depth=2.97"
Tc=7.0 min CN=88 Runoff=0.59 cfs 0.028 af

Subcatchment 5S: Area C Runoff Area=10,000 sf 55.80% Impervious Runoff Depth=2.88"
Tc=7.0 min CN=87 Runoff=1.14 cfs 0.055 af

Subcatchment 6S: Area D Runoff Area=10,000 sf 62.20% Impervious Runoff Depth=3.07"
Tc=7.0 min CN=89 Runoff=1.20 cfs 0.059 af

Reach 4R: Total Discharge Inflow=6.67 cfs 0.996 af
Outflow=6.67 cfs 0.996 af

Pond 1P: Wetland 1P Peak Elev=941.06' Storage=19,495 cf Inflow=12.33 cfs 0.949 af
Outflow=6.50 cfs 0.949 af

Pond 1P PROP: Wetland 1P Peak Elev=941.05' Storage=19,238 cf Inflow=12.02 cfs 1.032 af
Outflow=6.30 cfs 1.032 af

Pond 2P: Wetland 2P Peak Elev=947.25' Storage=8,357 cf Inflow=2.80 cfs 0.164 af
Outflow=1.48 cfs 0.164 af

Pond 2P-PROP: Wetland 2P Peak Elev=947.47' Storage=10,437 cf Inflow=4.68 cfs 0.232 af
Outflow=1.12 cfs 0.230 af

Pond 3P: Filtration Basin A Peak Elev=944.83' Storage=868 cf Inflow=1.12 cfs 0.054 af
Outflow=1.02 cfs 0.036 af

Pond 4P: Filtration Basin B Peak Elev=949.61' Storage=524 cf Inflow=0.59 cfs 0.028 af
Outflow=0.48 cfs 0.018 af

Pond 5P: Filtration Basin C Peak Elev=951.69' Storage=786 cf Inflow=1.14 cfs 0.055 af
Outflow=1.09 cfs 0.040 af

Pond 6P: Filtration Basin D Peak Elev=952.92' Storage=1,071 cf Inflow=1.20 cfs 0.059 af
Outflow=1.04 cfs 0.037 af

Total Runoff Area = 12.280 ac Runoff Volume = 2.095 af Average Runoff Depth = 2.05"
88.97% Pervious = 10.925 ac 11.03% Impervious = 1.355 ac

Summary for Subcatchment 1S: Existing to Wetland 1P

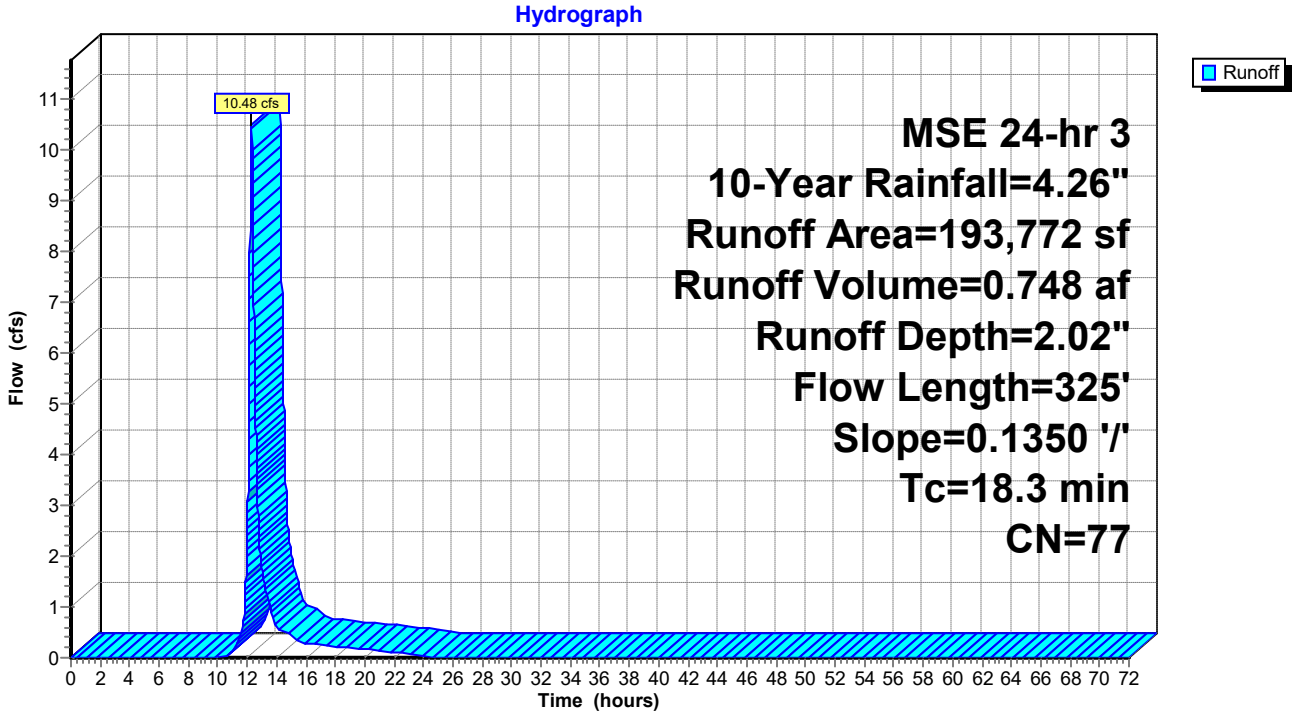
Runoff = 10.48 cfs @ 12.28 hrs, Volume= 0.748 af, Depth= 2.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
8,744	98	Unconnected roofs, HSG C
9,885	98	Paved parking, HSG C
19,395	98	Water Surface, 0% imp, HSG C
2,322	96	Gravel surface, HSG C
153,426	72	Woods/grass comb., Good, HSG C
193,772	77	Weighted Average
175,143		90.39% Pervious Area
18,629		9.61% Impervious Area
8,744		46.94% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	180	0.1350	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.85"
1.3	145	0.1350	1.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	325	Total			

Subcatchment 1S: Existing to Wetland 1P



Summary for Subcatchment 1X: Existing to Wetland 1P

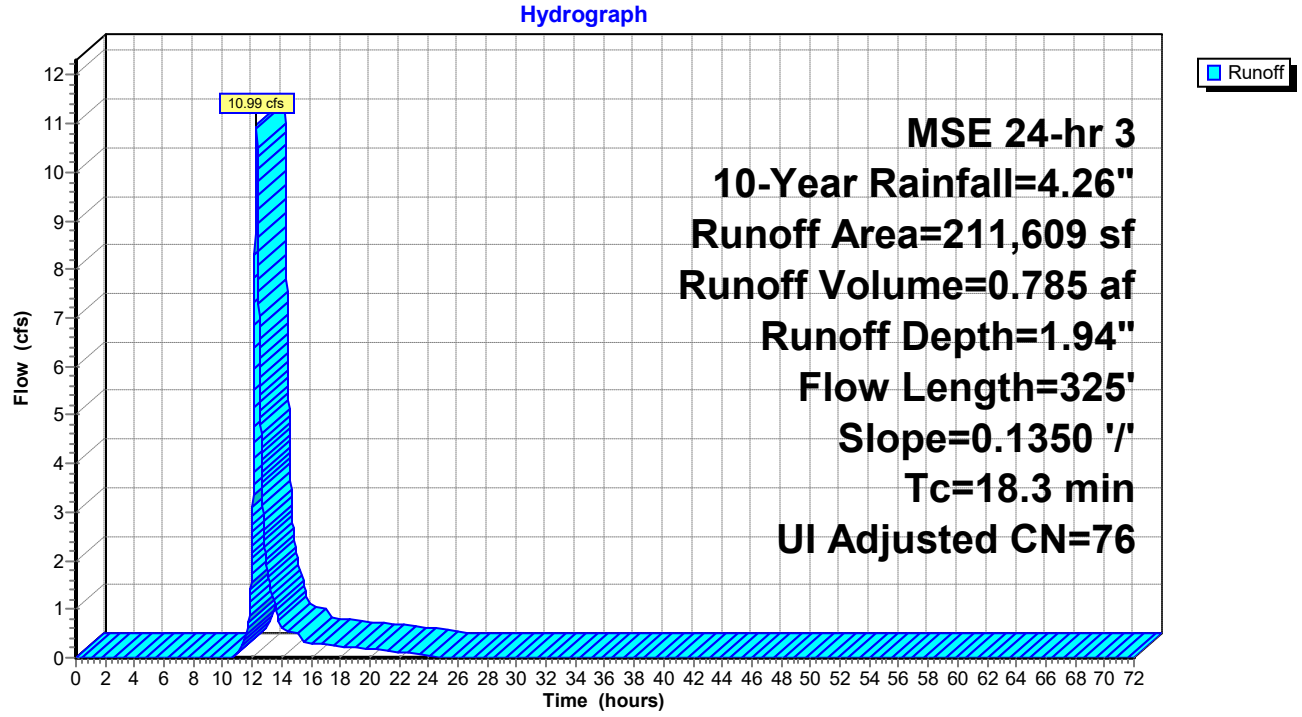
Runoff = 10.99 cfs @ 12.28 hrs, Volume= 0.785 af, Depth= 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Adj	Description
8,744	98		Unconnected roofs, HSG C
9,885	98		Paved parking, HSG C
19,395	98		Water Surface, 0% imp, HSG C
2,322	96		Gravel surface, HSG C
171,263	72		Woods/grass comb., Good, HSG C
211,609	77	76	Weighted Average, UI Adjusted
192,980			91.20% Pervious Area
18,629			8.80% Impervious Area
8,744			46.94% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	180	0.1350	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.85"
1.3	145	0.1350	1.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	325	Total			

Subcatchment 1X: Existing to Wetland 1P



Summary for Subcatchment 2S: Direct to Wetland 2P

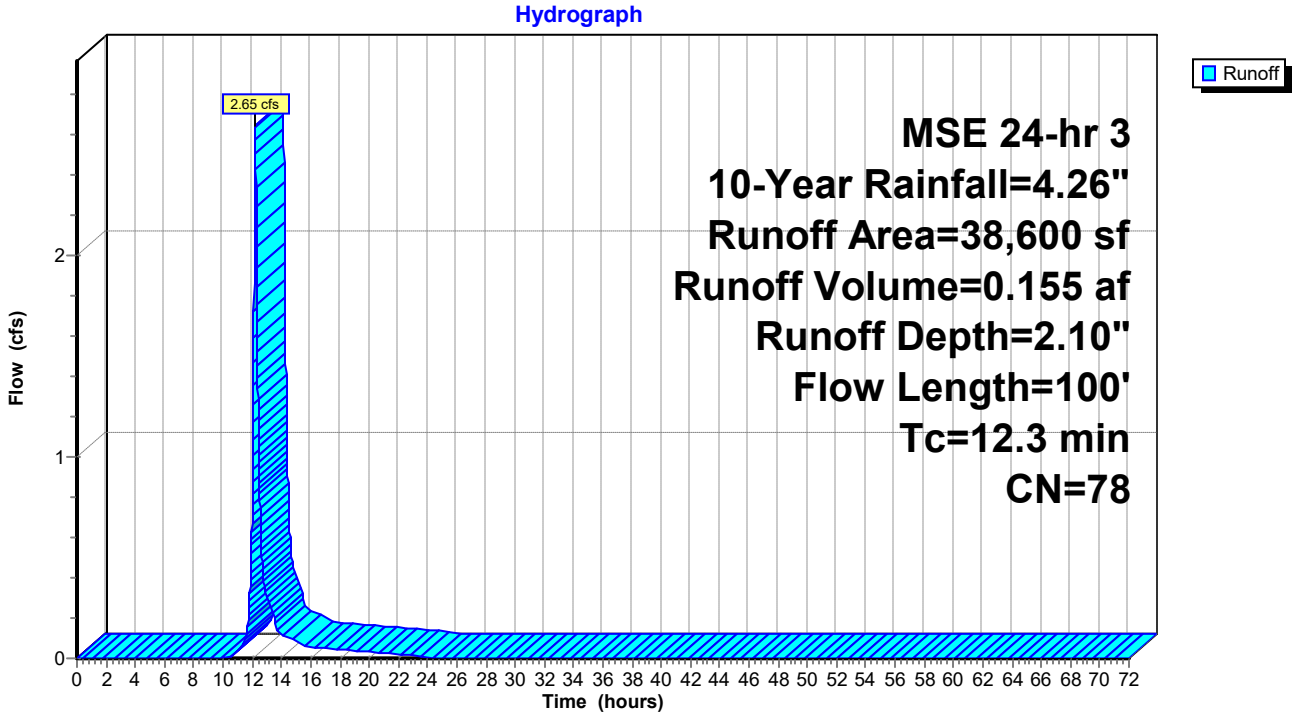
Runoff = 2.65 cfs @ 12.20 hrs, Volume= 0.155 af, Depth= 2.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
8,590	98	Water Surface, 0% imp, HSG C
30,010	72	Woods/grass comb., Good, HSG C
38,600	78	Weighted Average
38,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0830	1.66		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.85"
12.1	80	0.0625	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.85"
12.3	100	Total			

Subcatchment 2S: Direct to Wetland 2P



Summary for Subcatchment 2X: Existing to Wetland 2P

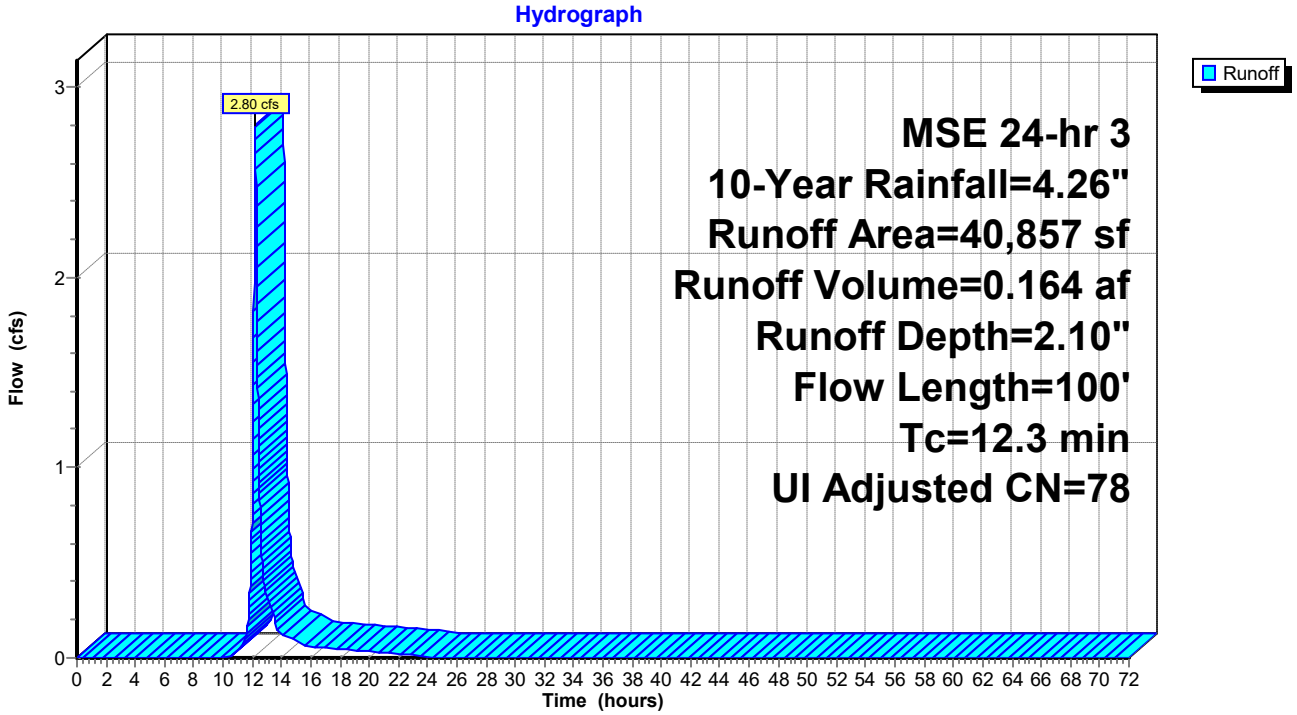
Runoff = 2.80 cfs @ 12.20 hrs, Volume= 0.164 af, Depth= 2.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Adj	Description
1,886	98		Unconnected roofs, HSG C
8,586	98		Water Surface, 0% imp, HSG C
30,385	72		Woods/grass comb., Good, HSG C
40,857	79	78	Weighted Average, UI Adjusted
38,971			95.38% Pervious Area
1,886			4.62% Impervious Area
1,886			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0830	1.66		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.85"
12.1	80	0.0625	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.85"
12.3	100	Total			

Subcatchment 2X: Existing to Wetland 2P



Summary for Subcatchment 3S: Area A

5,200 SF impervious requires 434 CF filtration

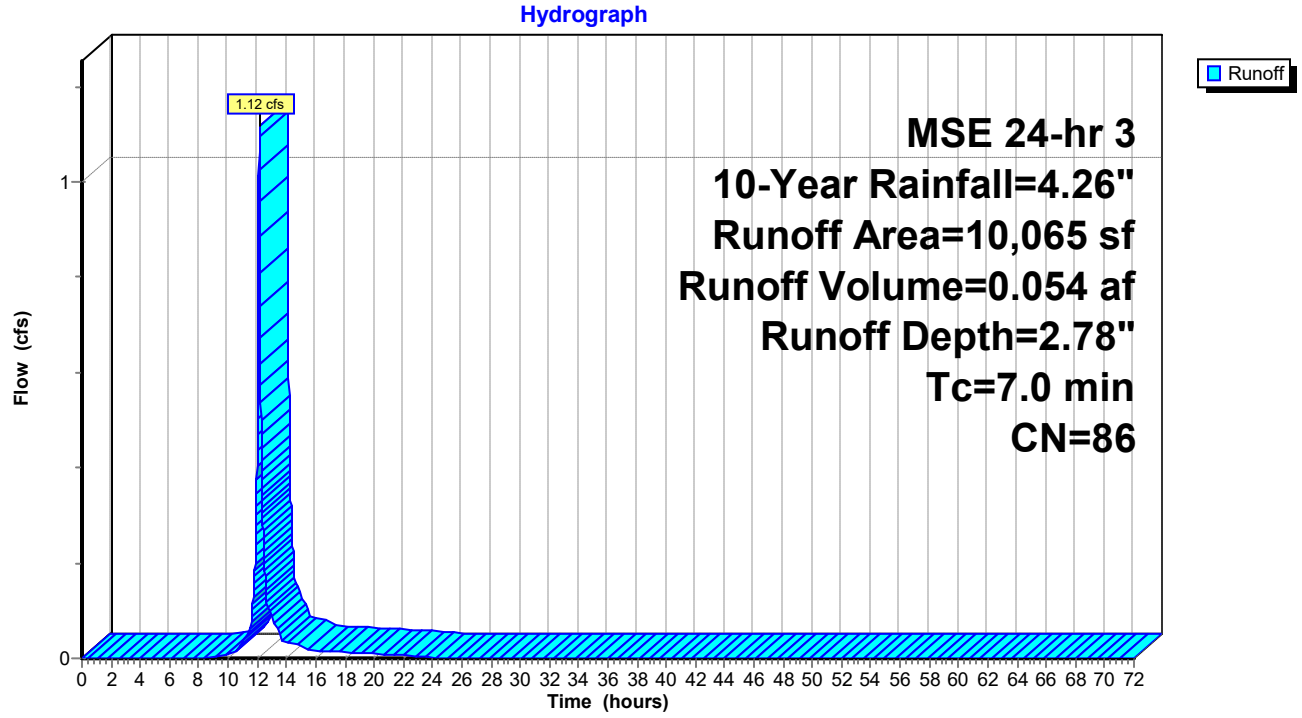
Runoff = 1.12 cfs @ 12.14 hrs, Volume= 0.054 af, Depth= 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
5,200	98	Unconnected roofs, HSG C
4,865	74	>75% Grass cover, Good, HSG C
10,065	86	Weighted Average
4,865		48.34% Pervious Area
5,200		51.66% Impervious Area
5,200		100.00% Unconnected

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

Subcatchment 3S: Area A



Summary for Subcatchment 3X: Direct to Wetland 3

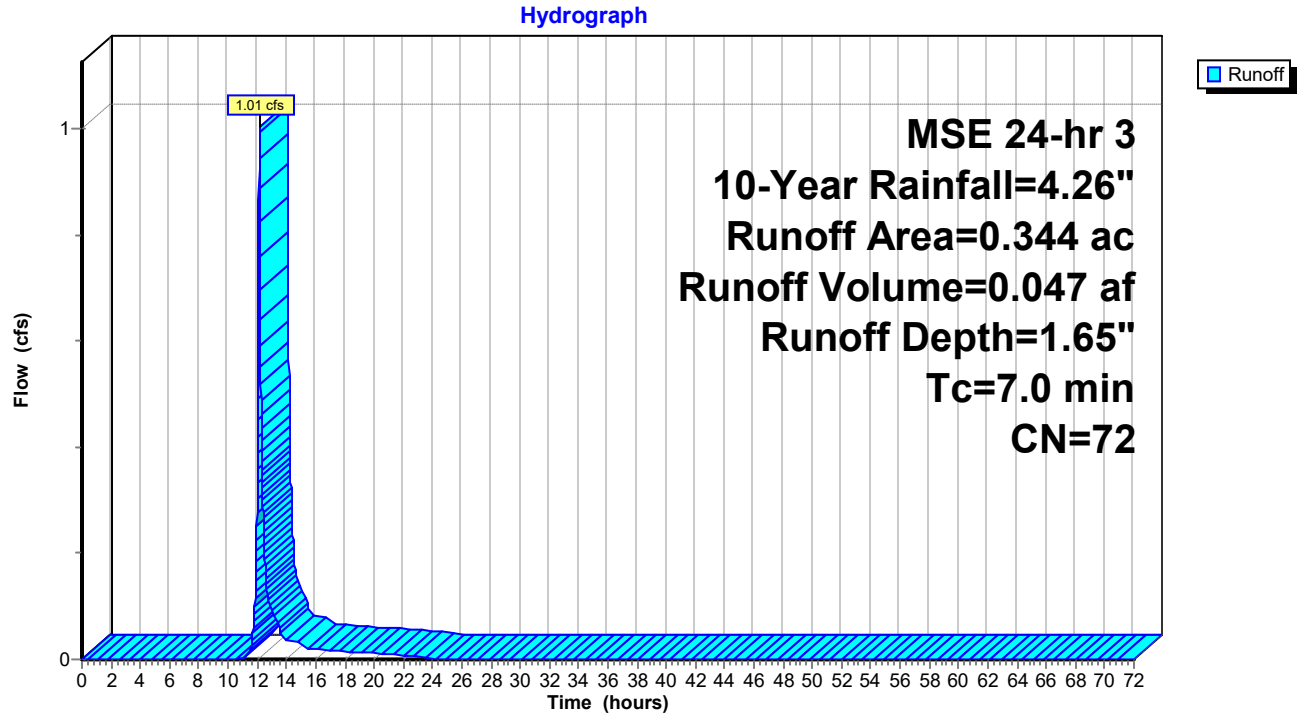
Runoff = 1.01 cfs @ 12.15 hrs, Volume= 0.047 af, Depth= 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (ac)	CN	Description
0.344	72	Woods/grass comb., Good, HSG C
0.344		100.00% Pervious Area

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

Subcatchment 3X: Direct to Wetland 3



Summary for Subcatchment 4S: AREA B

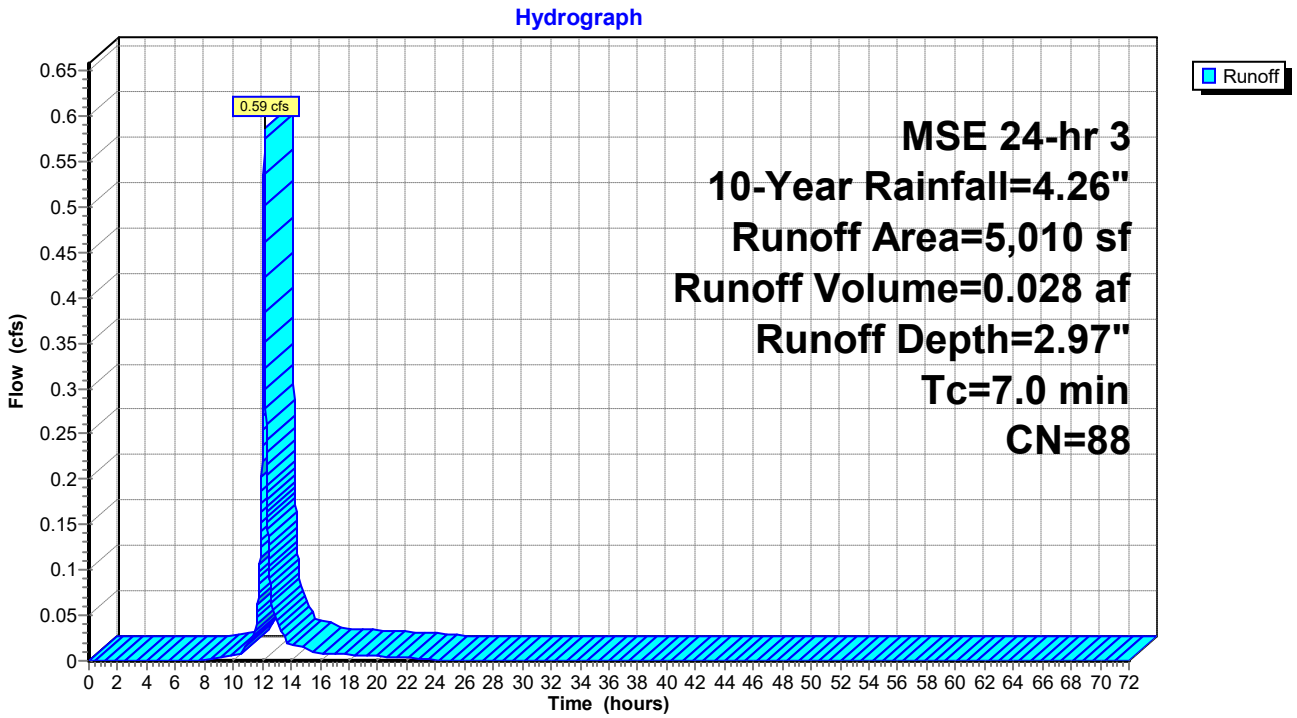
Runoff = 0.59 cfs @ 12.14 hrs, Volume= 0.028 af, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
1,750	98	Unconnected roofs, HSG C
1,120	98	Unconnected pavement, HSG C
2,140	74	>75% Grass cover, Good, HSG C
5,010	88	Weighted Average
2,140		42.71% Pervious Area
2,870		57.29% Impervious Area
2,870		100.00% Unconnected

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

Subcatchment 4S: AREA B



Summary for Subcatchment 5S: Area C

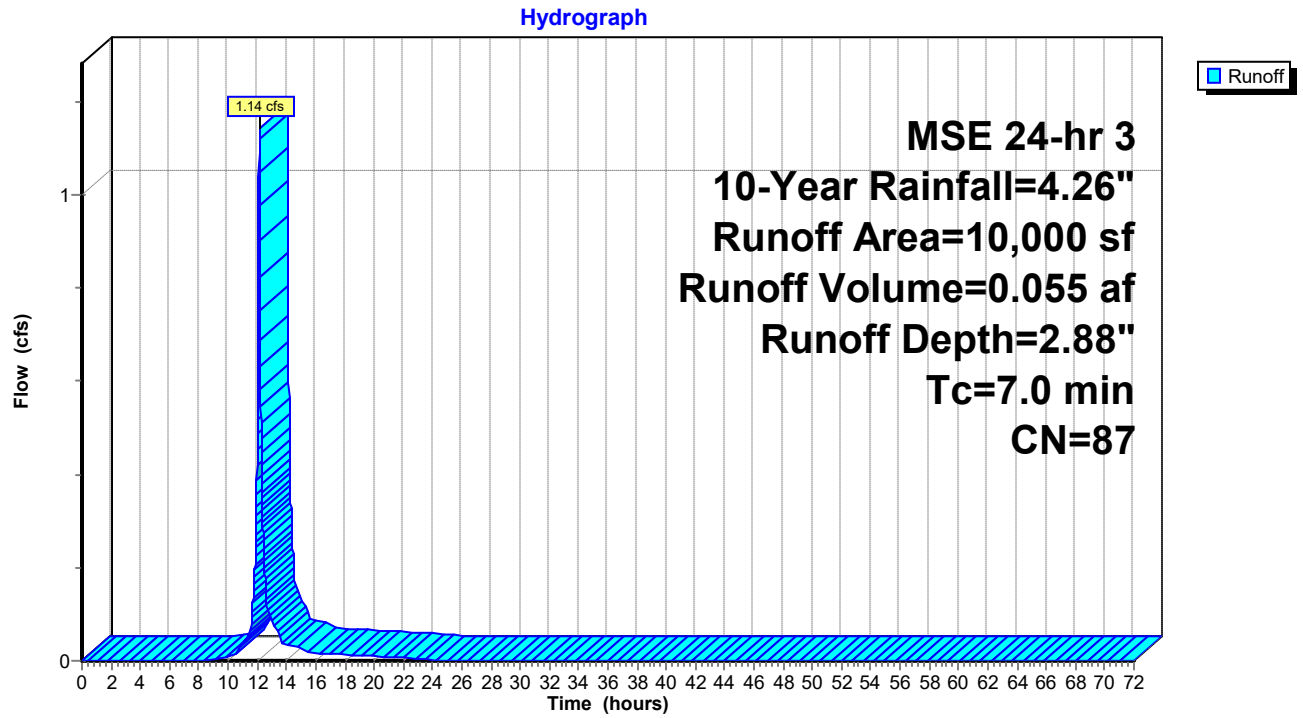
Runoff = 1.14 cfs @ 12.14 hrs, Volume= 0.055 af, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
4,240	98	Unconnected roofs, HSG C
1,340	98	Unconnected pavement, HSG C
4,420	74	>75% Grass cover, Good, HSG C
10,000	87	Weighted Average
4,420		44.20% Pervious Area
5,580		55.80% Impervious Area
5,580		100.00% Unconnected

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

Subcatchment 5S: Area C



Summary for Subcatchment 6S: Area D

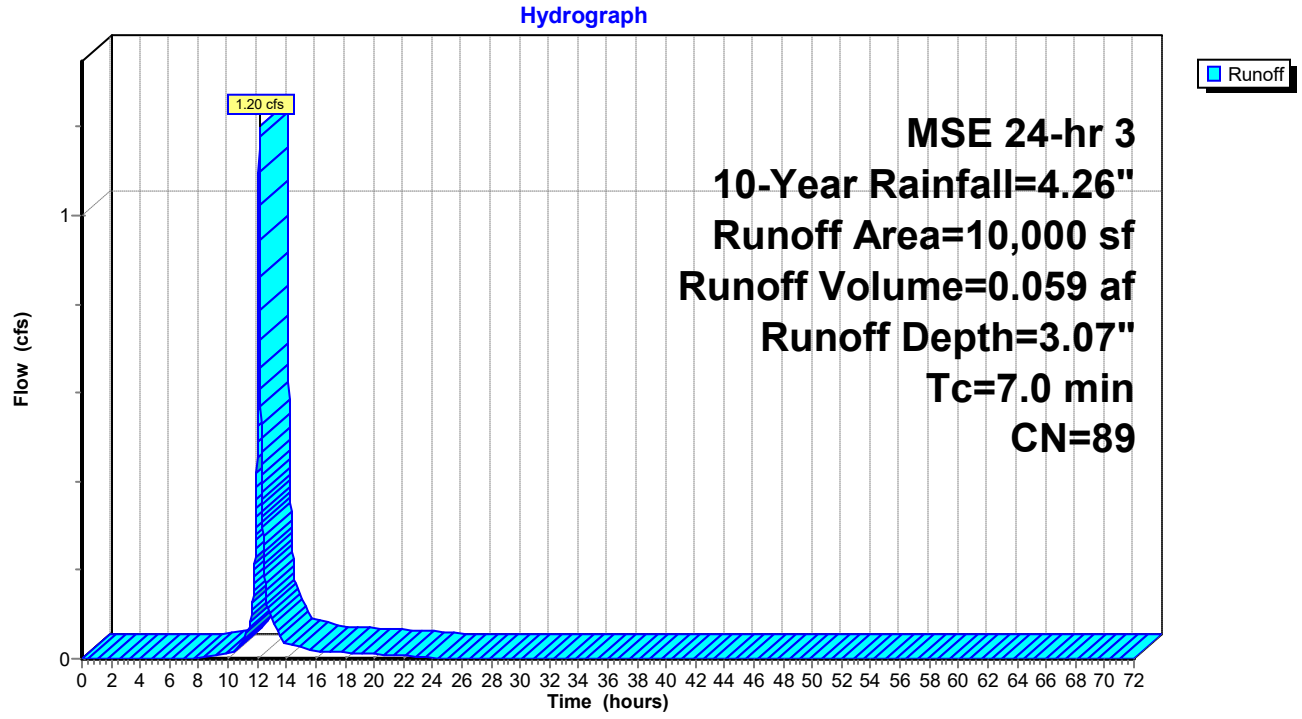
Runoff = 1.20 cfs @ 12.14 hrs, Volume= 0.059 af, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.26"

Area (sf)	CN	Description
6,220	98	Paved parking, HSG C
3,780	74	>75% Grass cover, Good, HSG C
10,000	89	Weighted Average
3,780		37.80% Pervious Area
6,220		62.20% Impervious Area

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

Subcatchment 6S: Area D



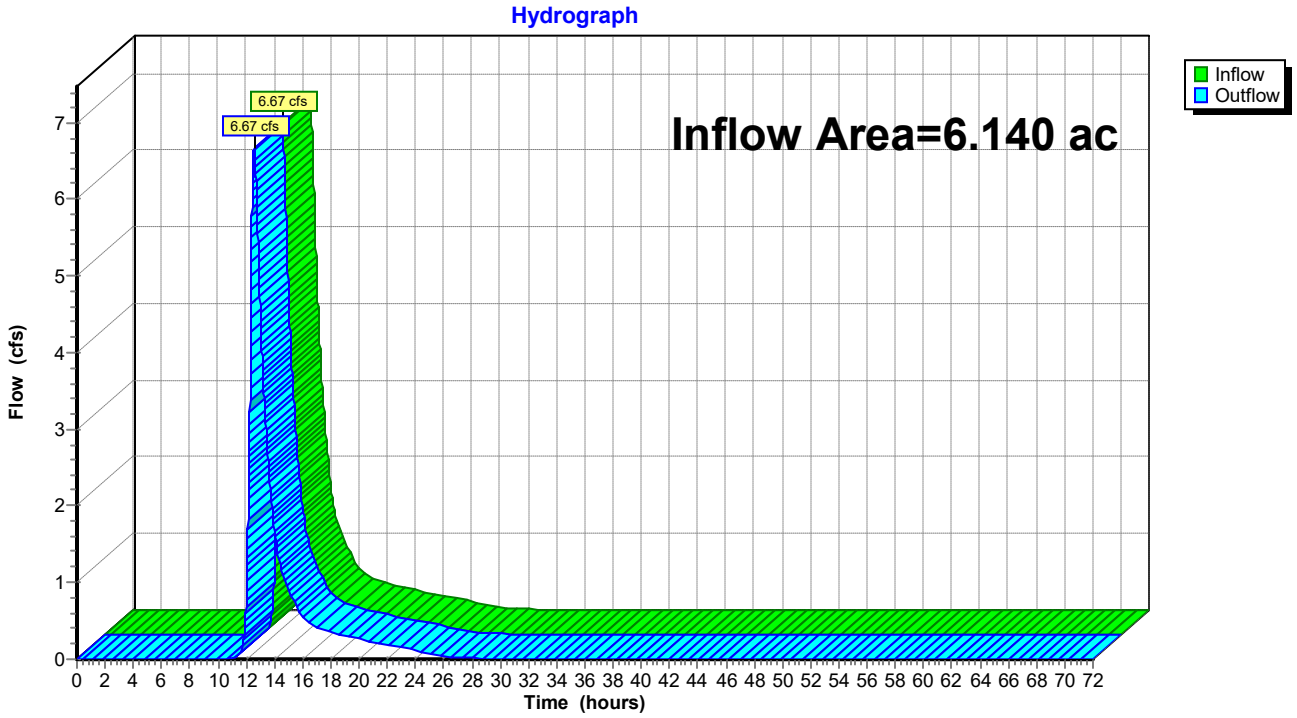
Summary for Reach 4R: Total Discharge

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.140 ac, 7.67% Impervious, Inflow Depth = 1.95" for 10-Year event
Inflow = 6.67 cfs @ 12.55 hrs, Volume= 0.996 af
Outflow = 6.67 cfs @ 12.56 hrs, Volume= 0.996 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Reach 4R: Total Discharge



Summary for Pond 1P: Wetland 1P

Inflow Area = 5.796 ac, 8.13% Impervious, Inflow Depth = 1.97" for 10-Year event
Inflow = 12.33 cfs @ 12.29 hrs, Volume= 0.949 af
Outflow = 6.50 cfs @ 12.56 hrs, Volume= 0.949 af, Atten= 47%, Lag= 15.9 min
Primary = 6.50 cfs @ 12.56 hrs, Volume= 0.949 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 940.50' Surf.Area= 18,044 sf Storage= 7,632 cf
Peak Elev= 941.06' @ 12.56 hrs Surf.Area= 24,515 sf Storage= 19,495 cf (11,863 cf above start)

Plug-Flow detention time= 147.0 min calculated for 0.774 af (82% of inflow)
Center-of-Mass det. time= 49.9 min (879.2 - 829.2)

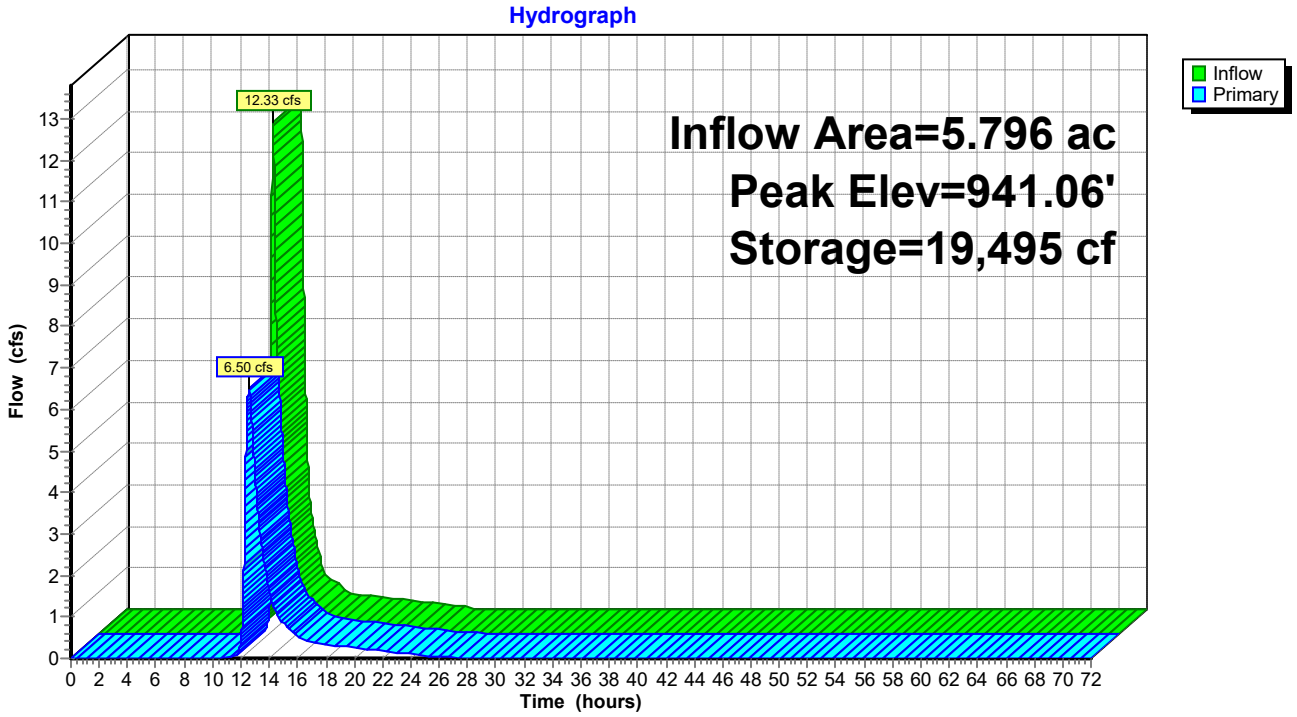
Volume	Invert	Avail.Storage	Storage Description
#1	940.00'	92,346 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
940.00	12,486	0	0
941.00	23,601	18,044	18,044
942.00	38,749	31,175	49,219
943.00	47,506	43,128	92,346

Device	Routing	Invert	Outlet Devices
#1	Primary	940.50'	**5.8' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=6.50 cfs @ 12.56 hrs HW=941.06' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 6.50 cfs @ 2.00 fps)

Pond 1P: Wetland 1P



Summary for Pond 1P PROP: Wetland 1P

Inflow Area = 6.140 ac, 14.40% Impervious, Inflow Depth = 2.02" for 10-Year event
Inflow = 12.02 cfs @ 12.28 hrs, Volume= 1.032 af
Outflow = 6.30 cfs @ 12.56 hrs, Volume= 1.032 af, Atten= 48%, Lag= 16.9 min
Primary = 6.30 cfs @ 12.56 hrs, Volume= 1.032 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 940.50' Surf.Area= 18,044 sf Storage= 7,632 cf
Peak Elev= 941.05' @ 12.56 hrs Surf.Area= 24,355 sf Storage= 19,238 cf (11,605 cf above start)

Plug-Flow detention time= 158.3 min calculated for 0.857 af (83% of inflow)
Center-of-Mass det. time= 50.3 min (902.4 - 852.1)

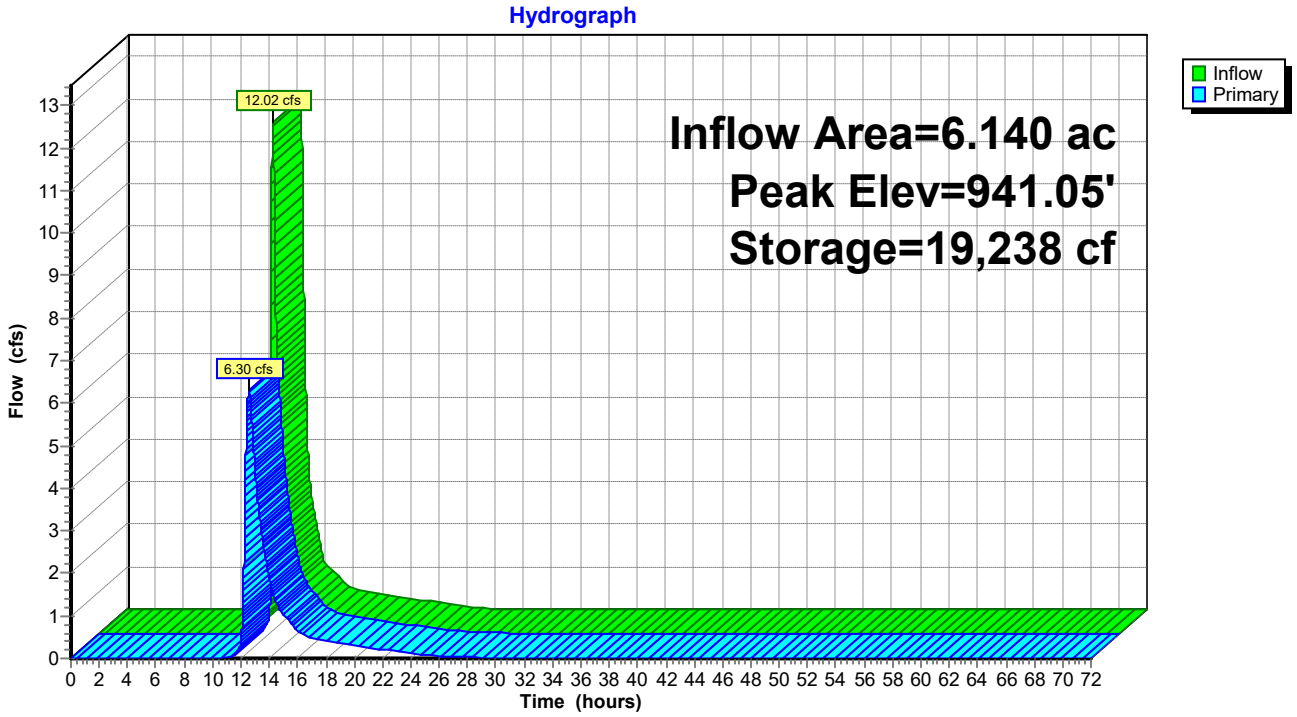
Volume	Invert	Avail.Storage	Storage Description
#1	940.00'	92,346 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
940.00	12,486	0	0
941.00	23,601	18,044	18,044
942.00	38,749	31,175	49,219
943.00	47,506	43,128	92,346

Device	Routing	Invert	Outlet Devices
#1	Primary	940.50'	**5.8' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=6.30 cfs @ 12.56 hrs HW=941.05' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 6.30 cfs @ 1.98 fps)

Pond 1P PROP: Wetland 1P



Summary for Pond 2P: Wetland 2P

Inflow Area = 0.938 ac, 4.62% Impervious, Inflow Depth = 2.10" for 10-Year event
Inflow = 2.80 cfs @ 12.20 hrs, Volume= 0.164 af
Outflow = 1.48 cfs @ 12.38 hrs, Volume= 0.164 af, Atten= 47%, Lag= 10.2 min
Primary = 1.48 cfs @ 12.38 hrs, Volume= 0.164 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 947.00' Surf.Area= 7,818 sf Storage= 6,322 cf
Peak Elev= 947.25' @ 12.38 hrs Surf.Area= 8,723 sf Storage= 8,357 cf (2,036 cf above start)

Plug-Flow detention time= 575.7 min calculated for 0.019 af (11% of inflow)
Center-of-Mass det. time= 41.0 min (855.3 - 814.3)

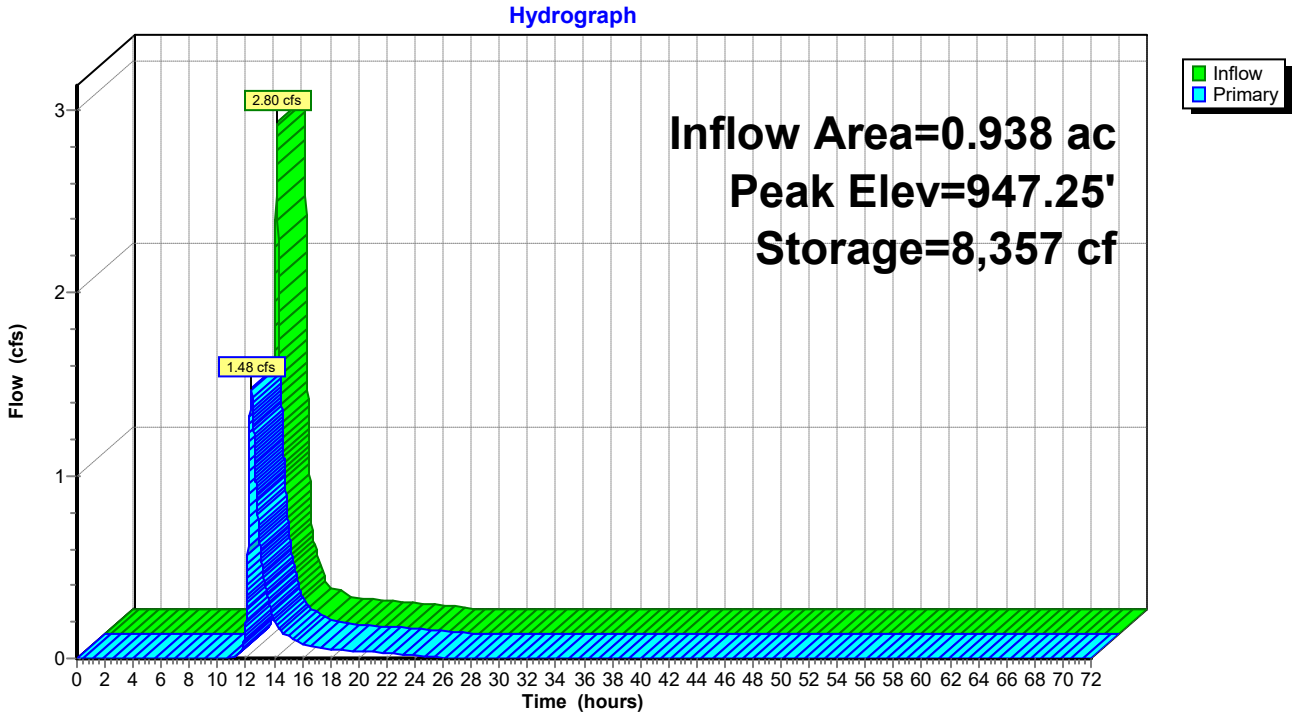
Volume	Invert	Avail.Storage	Storage Description
#1	946.00'	29,308 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
946.00	4,825	0	0
947.00	7,818	6,322	6,322
948.00	11,496	9,657	15,979
949.00	15,162	13,329	29,308

Device	Routing	Invert	Outlet Devices
#1	Primary	947.00'	**4.5' long x 15.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=1.47 cfs @ 12.38 hrs HW=947.25' TW=940.99' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 1.47 cfs @ 1.33 fps)

Pond 2P: Wetland 2P



Summary for Pond 2P-PROP: Wetland 2P

Inflow Area = 1.345 ac, 20.14% Impervious, Inflow Depth = 2.07" for 10-Year event
Inflow = 4.68 cfs @ 12.19 hrs, Volume= 0.232 af
Outflow = 1.12 cfs @ 12.55 hrs, Volume= 0.230 af, Atten= 76%, Lag= 21.6 min
Primary = 1.12 cfs @ 12.55 hrs, Volume= 0.230 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 947.00' Surf.Area= 7,818 sf Storage= 6,322 cf
Peak Elev= 947.47' @ 12.55 hrs Surf.Area= 9,560 sf Storage= 10,437 cf (4,116 cf above start)

Plug-Flow detention time= 496.7 min calculated for 0.085 af (37% of inflow)
Center-of-Mass det. time= 131.0 min (952.7 - 821.7)

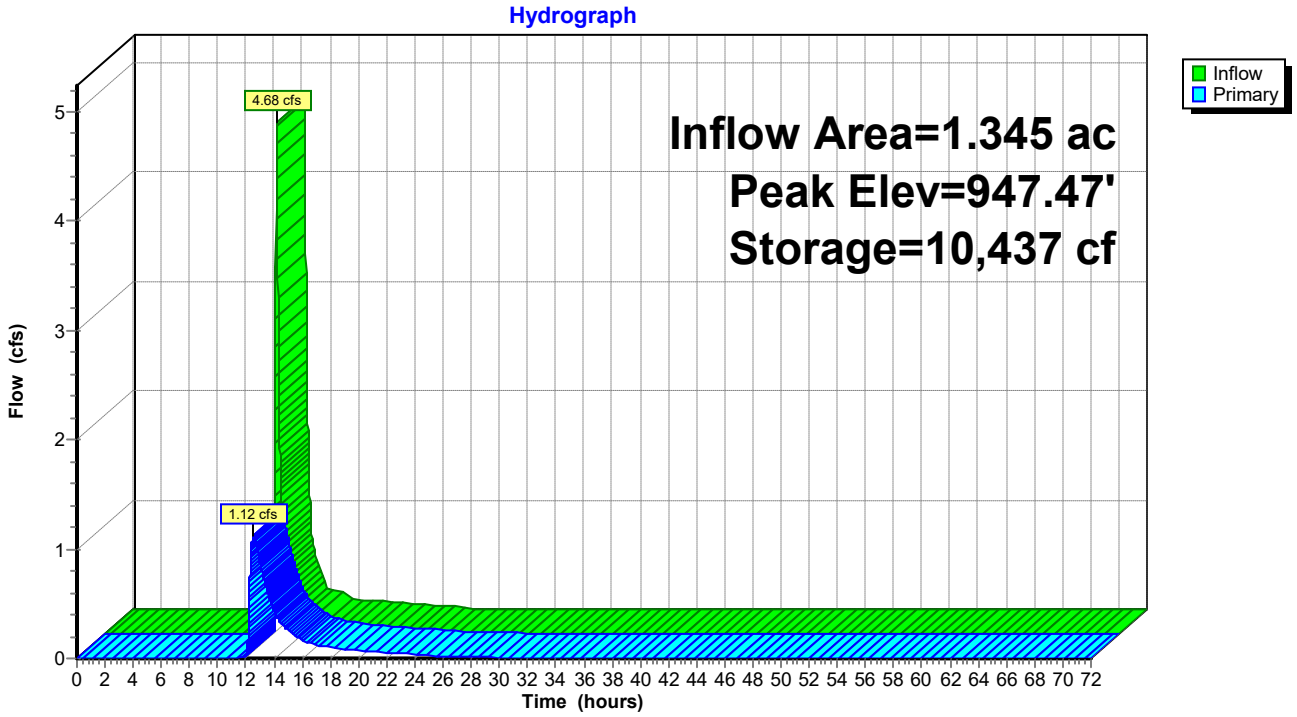
Volume	Invert	Avail.Storage	Storage Description
#1	946.00'	29,308 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
946.00	4,825	0	0
947.00	7,818	6,322	6,322
948.00	11,496	9,657	15,979
949.00	15,162	13,329	29,308

Device	Routing	Invert	Outlet Devices
#1	Device 2	947.00'	**18.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	944.10'	**18.0" Round Culvert** L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 944.10' / 944.00' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.12 cfs @ 12.55 hrs HW=947.47' TW=941.05' (Dynamic Tailwater)
↑**2=Culvert** (Passes 1.12 cfs of 12.16 cfs potential flow)
↑**1=Orifice/Grate** (Orifice Controls 1.12 cfs @ 2.34 fps)

Pond 2P-PROP: Wetland 2P



Summary for Pond 3P: Filtration Basin A

Inflow Area = 0.231 ac, 51.66% Impervious, Inflow Depth = 2.78" for 10-Year event
Inflow = 1.12 cfs @ 12.14 hrs, Volume= 0.054 af
Outflow = 1.02 cfs @ 12.18 hrs, Volume= 0.036 af, Atten= 8%, Lag= 2.0 min
Primary = 1.02 cfs @ 12.18 hrs, Volume= 0.036 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 944.83' @ 12.18 hrs Surf.Area= 891 sf Storage= 868 cf

Plug-Flow detention time= 121.2 min calculated for 0.036 af (67% of inflow)
Center-of-Mass det. time= 48.4 min (841.0 - 792.6)

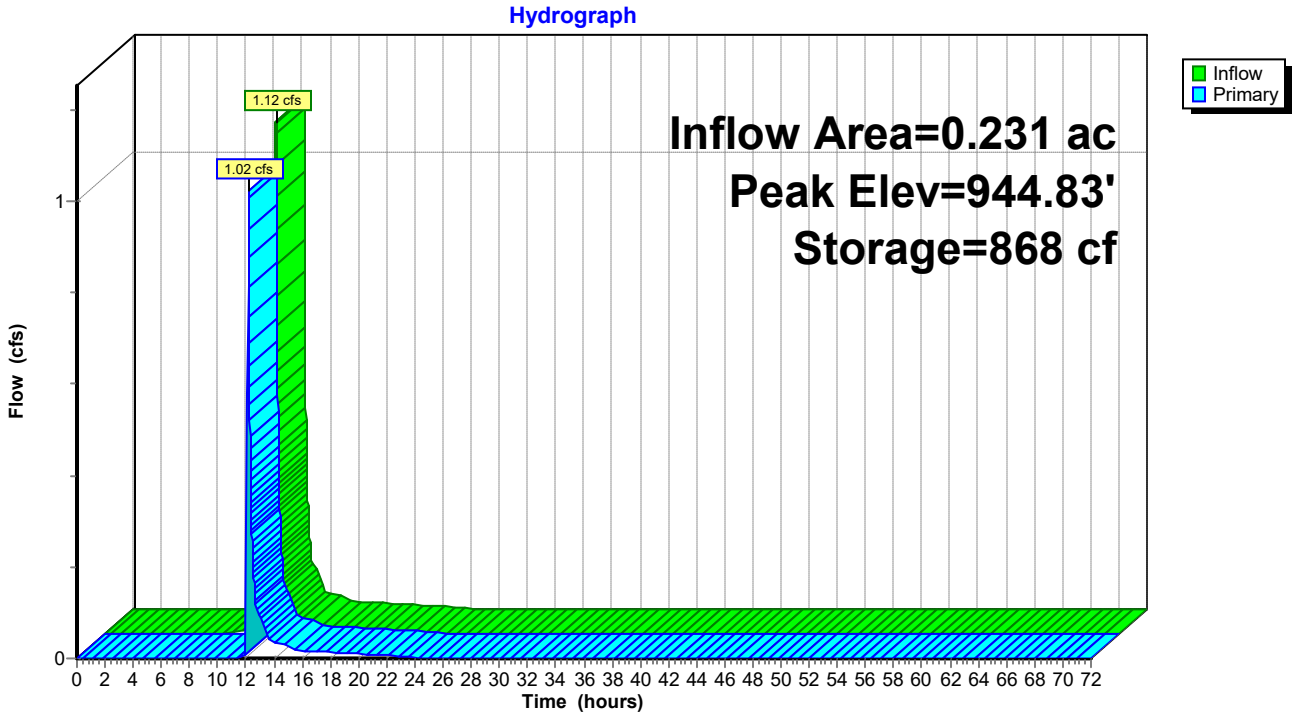
Volume	Invert	Avail.Storage	Storage Description
#1	943.00'	1,032 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
943.00	125	0	0
944.00	480	303	303
945.00	978	729	1,032

Device	Routing	Invert	Outlet Devices
#1	Primary	941.00'	**12.0" Round Culvert** L= 42.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 941.00' / 940.00' S= 0.0238 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	944.70'	**27.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.02 cfs @ 12.18 hrs HW=944.82' TW=940.72' (Dynamic Tailwater)
↑**1=Culvert** (Passes 1.02 cfs of 6.08 cfs potential flow)
↑**2=Orifice/Grate** (Weir Controls 1.02 cfs @ 1.16 fps)

Pond 3P: Filtration Basin A



Summary for Pond 4P: Filtration Basin B

Inflow Area = 0.115 ac, 57.29% Impervious, Inflow Depth = 2.97" for 10-Year event
Inflow = 0.59 cfs @ 12.14 hrs, Volume= 0.028 af
Outflow = 0.48 cfs @ 12.19 hrs, Volume= 0.018 af, Atten= 19%, Lag= 3.1 min
Primary = 0.48 cfs @ 12.19 hrs, Volume= 0.018 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 949.61' @ 12.19 hrs Surf.Area= 541 sf Storage= 524 cf

Plug-Flow detention time= 132.2 min calculated for 0.018 af (62% of inflow)
Center-of-Mass det. time= 57.9 min (845.7 - 787.8)

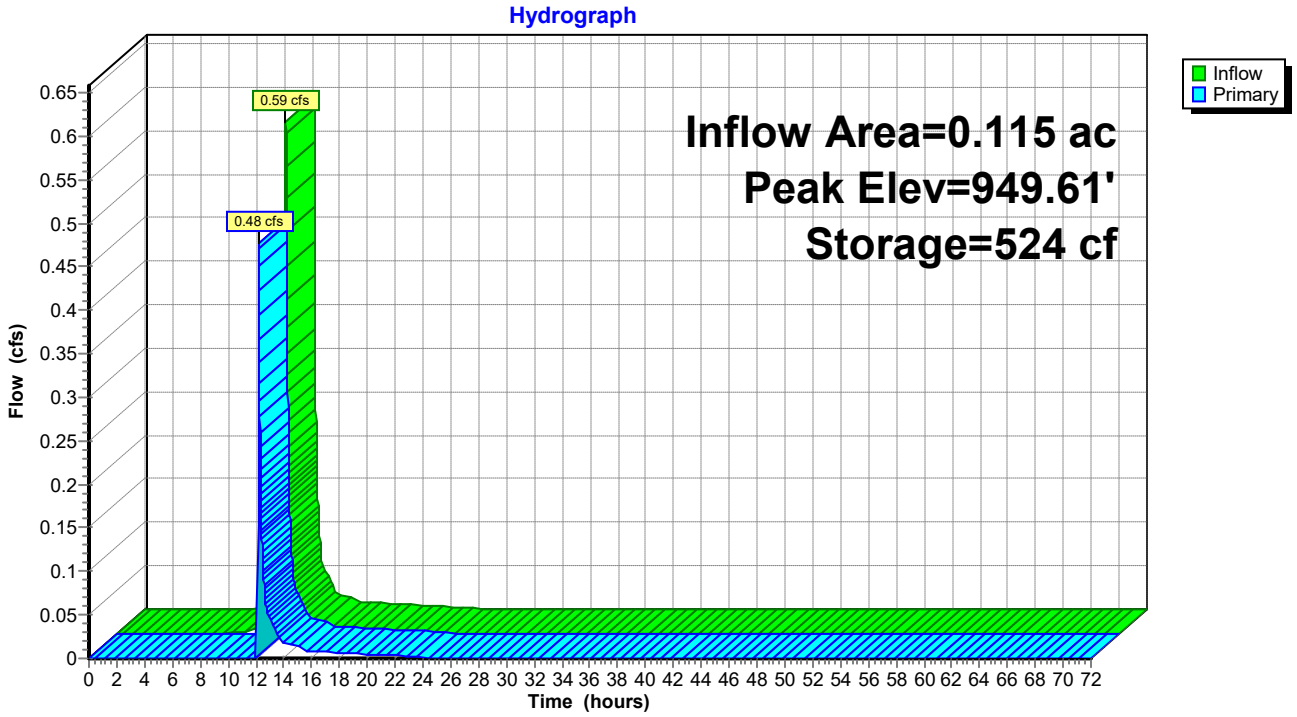
Volume	Invert	Avail.Storage	Storage Description
#1	948.00'	758 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
948.00	138	0	0
949.00	360	249	249
949.50	505	216	465
950.00	665	293	758

Device	Routing	Invert	Outlet Devices
#1	Primary	949.50'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.47 cfs @ 12.19 hrs HW=949.61' TW=940.75' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.47 cfs @ 0.85 fps)

Pond 4P: Filtration Basin B



Summary for Pond 5P: Filtration Basin C

Inflow Area = 0.230 ac, 55.80% Impervious, Inflow Depth = 2.88" for 10-Year event
Inflow = 1.14 cfs @ 12.14 hrs, Volume= 0.055 af
Outflow = 1.09 cfs @ 12.17 hrs, Volume= 0.040 af, Atten= 5%, Lag= 1.6 min
Primary = 1.09 cfs @ 12.17 hrs, Volume= 0.040 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 951.69' @ 12.17 hrs Surf.Area= 771 sf Storage= 786 cf

Plug-Flow detention time= 109.1 min calculated for 0.040 af (73% of inflow)
Center-of-Mass det. time= 40.8 min (831.0 - 790.3)

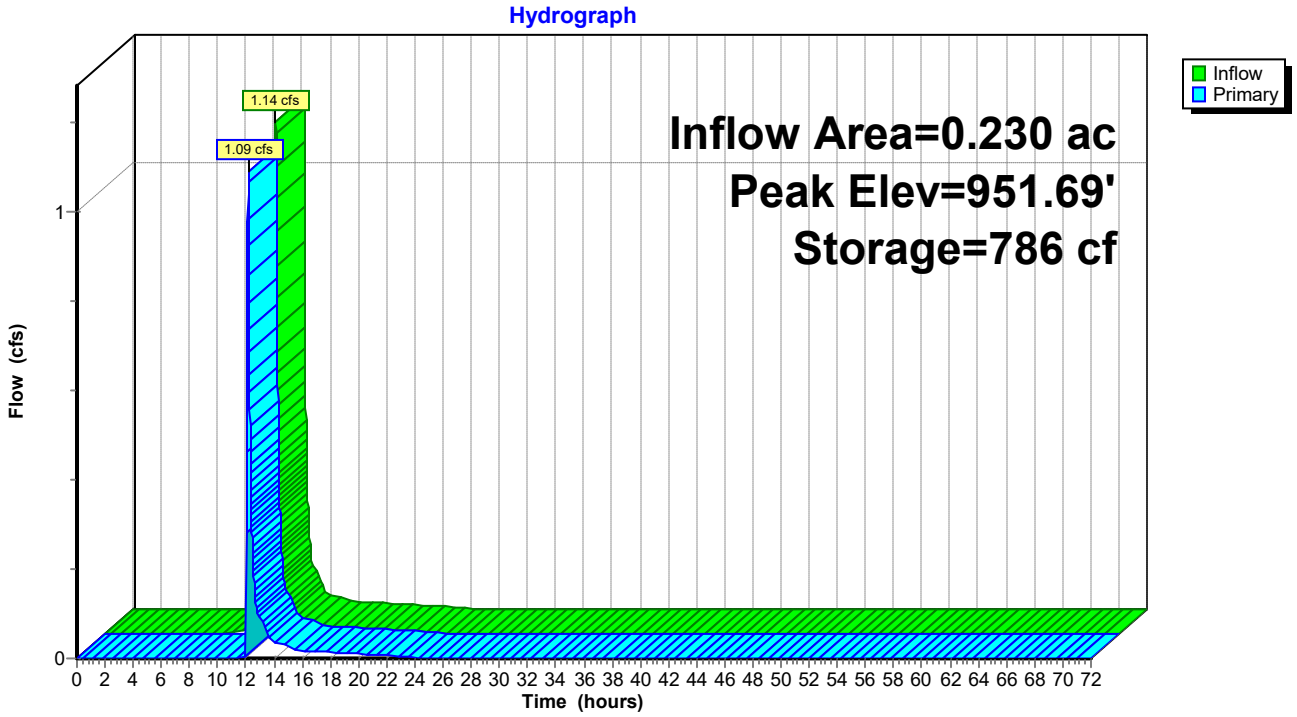
Volume	Invert	Avail.Storage	Storage Description
#1	950.00'	1,040 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
950.00	190	0	0
951.00	500	345	345
952.00	890	695	1,040

Device	Routing	Invert	Outlet Devices
#1	Primary	951.50'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.09 cfs @ 12.17 hrs HW=951.69' TW=947.21' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 1.09 cfs @ 1.12 fps)

Pond 5P: Filtration Basin C



Summary for Pond 6P: Filtration Basin D

Inflow Area = 0.230 ac, 62.20% Impervious, Inflow Depth = 3.07" for 10-Year event
Inflow = 1.20 cfs @ 12.14 hrs, Volume= 0.059 af
Outflow = 1.04 cfs @ 12.18 hrs, Volume= 0.037 af, Atten= 14%, Lag= 2.6 min
Primary = 1.04 cfs @ 12.18 hrs, Volume= 0.037 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 952.92' @ 12.18 hrs Surf.Area= 1,009 sf Storage= 1,071 cf

Plug-Flow detention time= 131.3 min calculated for 0.037 af (63% of inflow)
Center-of-Mass det. time= 57.5 min (842.7 - 785.2)

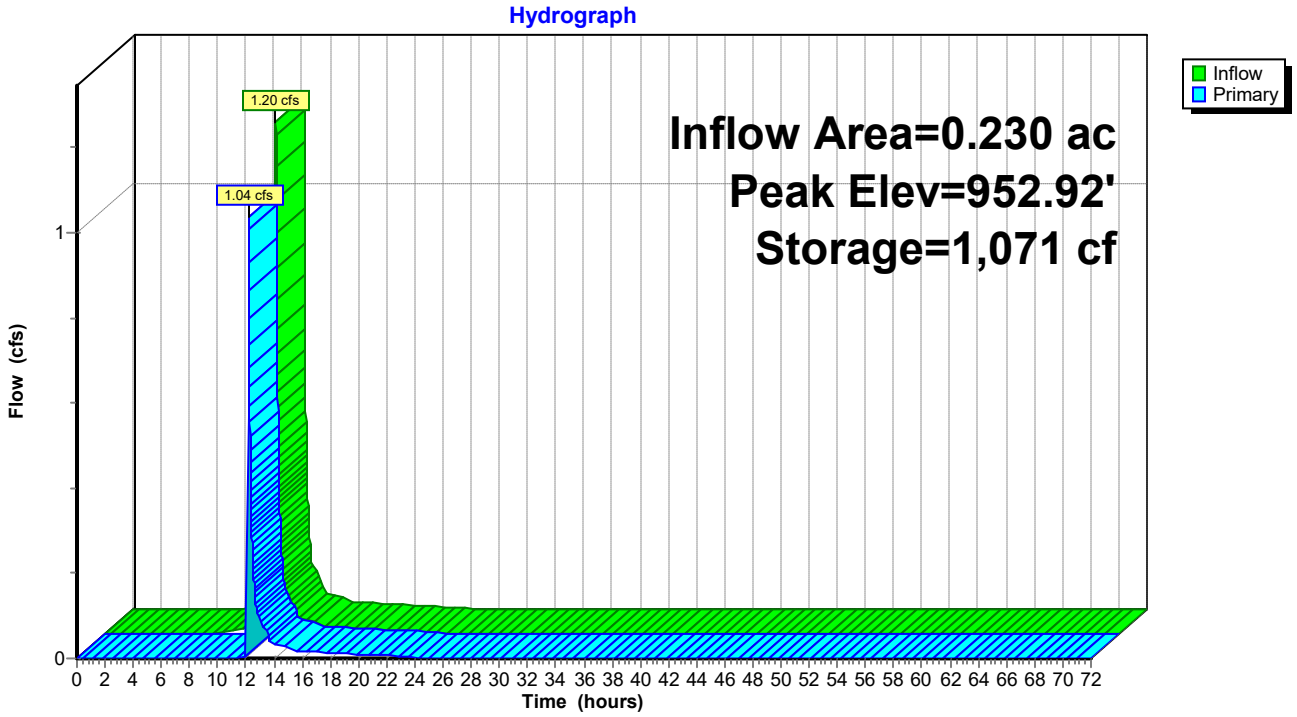
Volume	Invert	Avail.Storage	Storage Description
#1	951.00'	1,155 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
951.00	180	0	0
952.00	540	360	360
953.00	1,050	795	1,155

Device	Routing	Invert	Outlet Devices
#1	Primary	952.80'	**10.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.03 cfs @ 12.18 hrs HW=952.92' TW=947.24' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 1.03 cfs @ 0.87 fps)

Pond 6P: Filtration Basin D



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment 1S: Existing to Wetland 1P Runoff Area=193,772 sf 9.61% Impervious Runoff Depth=4.65"
Flow Length=325' Slope=0.1350 '/' Tc=18.3 min CN=77 Runoff=24.14 cfs 1.725 af

Subcatchment 1X: Existing to Wetland 1P Runoff Area=211,609 sf 8.80% Impervious Runoff Depth=4.54"
Flow Length=325' Slope=0.1350 '/' Tc=18.3 min UI Adjusted CN=76 Runoff=25.77 cfs 1.839 af

Subcatchment 2S: Direct to Wetland 2P Runoff Area=38,600 sf 0.00% Impervious Runoff Depth=4.77"
Flow Length=100' Tc=12.3 min CN=78 Runoff=5.94 cfs 0.352 af

Subcatchment 2X: Existing to Wetland 2P Runoff Area=40,857 sf 4.62% Impervious Runoff Depth=4.77"
Flow Length=100' Tc=12.3 min UI Adjusted CN=78 Runoff=6.29 cfs 0.373 af

Subcatchment 3S: Area A Runoff Area=10,065 sf 51.66% Impervious Runoff Depth=5.67"
Tc=7.0 min CN=86 Runoff=2.19 cfs 0.109 af

Subcatchment 3X: Direct to Wetland 3 Runoff Area=0.344 ac 0.00% Impervious Runoff Depth=4.10"
Tc=7.0 min CN=72 Runoff=2.50 cfs 0.118 af

Subcatchment 4S: AREA B Runoff Area=5,010 sf 57.29% Impervious Runoff Depth=5.90"
Tc=7.0 min CN=88 Runoff=1.12 cfs 0.057 af

Subcatchment 5S: Area C Runoff Area=10,000 sf 55.80% Impervious Runoff Depth=5.79"
Tc=7.0 min CN=87 Runoff=2.21 cfs 0.111 af

Subcatchment 6S: Area D Runoff Area=10,000 sf 62.20% Impervious Runoff Depth=6.02"
Tc=7.0 min CN=89 Runoff=2.26 cfs 0.115 af

Reach 4R: Total Discharge Inflow=17.47 cfs 2.329 af
Outflow=17.47 cfs 2.329 af

Pond 1P: Wetland 1P Peak Elev=941.56' Storage=33,687 cf Inflow=29.49 cfs 2.212 af
Outflow=17.02 cfs 2.212 af

Pond 1P PROP: Wetland 1P Peak Elev=941.57' Storage=33,920 cf Inflow=29.18 cfs 2.403 af
Outflow=17.20 cfs 2.402 af

Pond 2P: Wetland 2P Peak Elev=947.47' Storage=10,390 cf Inflow=6.29 cfs 0.373 af
Outflow=3.90 cfs 0.373 af

Pond 2P-PROP: Wetland 2P Peak Elev=947.95' Storage=15,369 cf Inflow=10.02 cfs 0.541 af
Outflow=3.89 cfs 0.540 af

Pond 3P: Filtration Basin A Peak Elev=944.91' Storage=942 cf Inflow=2.19 cfs 0.109 af
Outflow=2.17 cfs 0.092 af

Pond 4P: Filtration Basin B Peak Elev=949.70' Storage=570 cf Inflow=1.12 cfs 0.057 af
Outflow=1.10 cfs 0.046 af

Pond 5P: Filtration Basin C Peak Elev=951.80' Storage=873 cf Inflow=2.21 cfs 0.111 af
Outflow=2.16 cfs 0.096 af

Pond 6P: Filtration Basin D Peak Elev=953.00' Storage=1,153 cf Inflow=2.26 cfs 0.115 af
Outflow=2.24 cfs 0.093 af

Total Runoff Area = 12.280 ac Runoff Volume = 4.799 af Average Runoff Depth = 4.69"
88.97% Pervious = 10.925 ac 11.03% Impervious = 1.355 ac

Summary for Subcatchment 1S: Existing to Wetland 1P

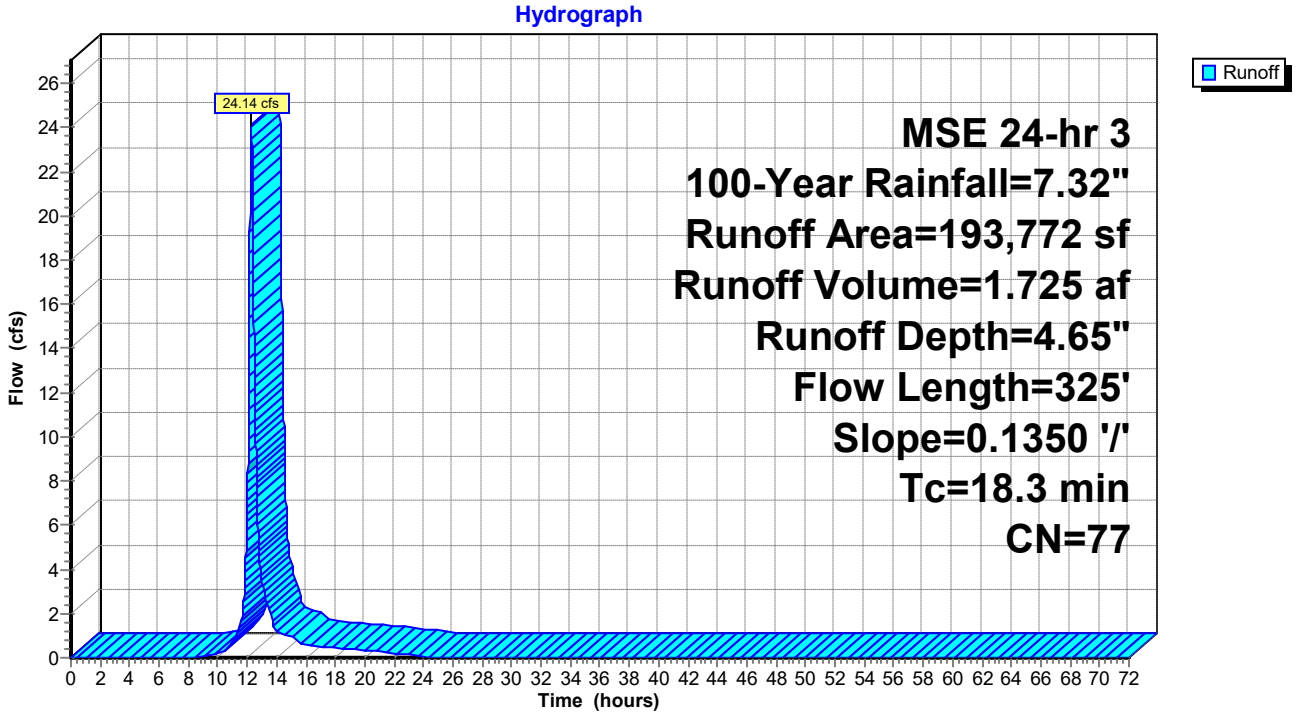
Runoff = 24.14 cfs @ 12.27 hrs, Volume= 1.725 af, Depth= 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
8,744	98	Unconnected roofs, HSG C
9,885	98	Paved parking, HSG C
19,395	98	Water Surface, 0% imp, HSG C
2,322	96	Gravel surface, HSG C
153,426	72	Woods/grass comb., Good, HSG C
193,772	77	Weighted Average
175,143		90.39% Pervious Area
18,629		9.61% Impervious Area
8,744		46.94% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	180	0.1350	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.85"
1.3	145	0.1350	1.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	325	Total			

Subcatchment 1S: Existing to Wetland 1P



Summary for Subcatchment 1X: Existing to Wetland 1P

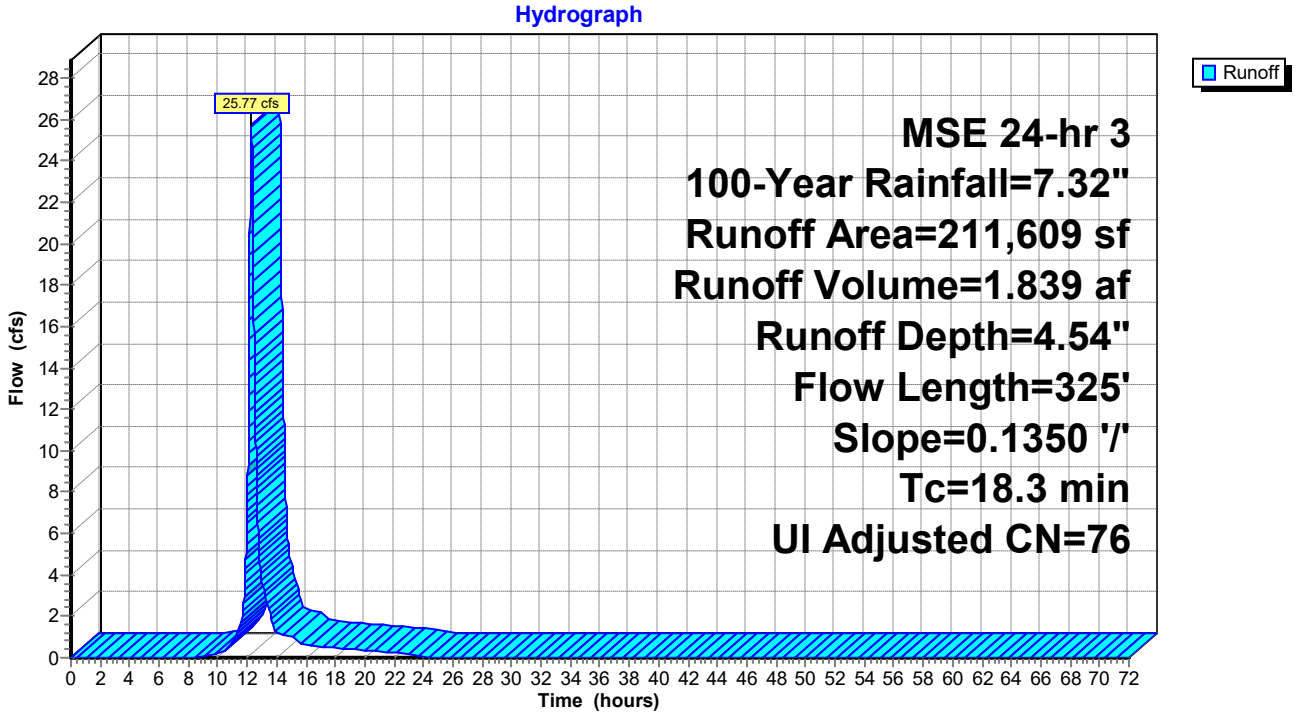
Runoff = 25.77 cfs @ 12.27 hrs, Volume= 1.839 af, Depth= 4.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Adj	Description
8,744	98		Unconnected roofs, HSG C
9,885	98		Paved parking, HSG C
19,395	98		Water Surface, 0% imp, HSG C
2,322	96		Gravel surface, HSG C
171,263	72		Woods/grass comb., Good, HSG C
211,609	77	76	Weighted Average, UI Adjusted
192,980			91.20% Pervious Area
18,629			8.80% Impervious Area
8,744			46.94% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	180	0.1350	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.85"
1.3	145	0.1350	1.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	325	Total			

Subcatchment 1X: Existing to Wetland 1P



Summary for Subcatchment 2S: Direct to Wetland 2P

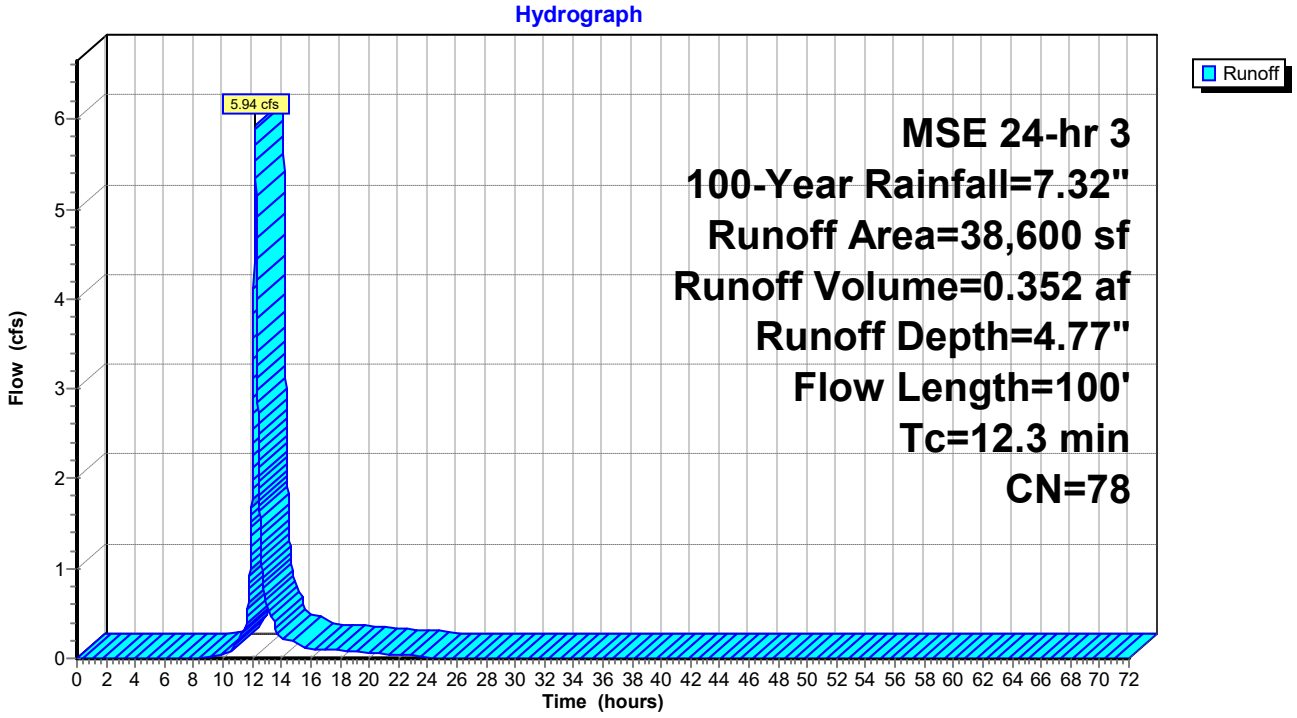
Runoff = 5.94 cfs @ 12.20 hrs, Volume= 0.352 af, Depth= 4.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
8,590	98	Water Surface, 0% imp, HSG C
30,010	72	Woods/grass comb., Good, HSG C
38,600	78	Weighted Average
38,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0830	1.66		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.85"
12.1	80	0.0625	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.85"
12.3	100	Total			

Subcatchment 2S: Direct to Wetland 2P



Summary for Subcatchment 2X: Existing to Wetland 2P

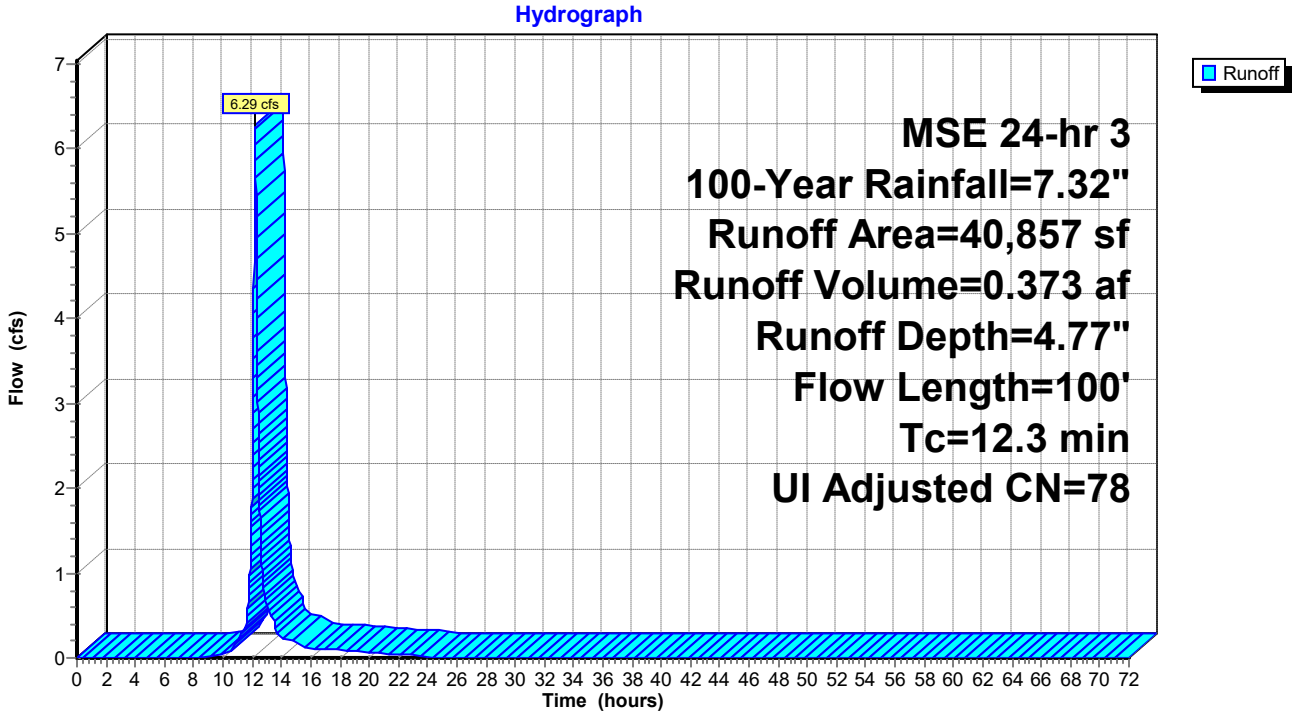
Runoff = 6.29 cfs @ 12.20 hrs, Volume= 0.373 af, Depth= 4.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Adj	Description
1,886	98		Unconnected roofs, HSG C
8,586	98		Water Surface, 0% imp, HSG C
30,385	72		Woods/grass comb., Good, HSG C
40,857	79	78	Weighted Average, UI Adjusted
38,971			95.38% Pervious Area
1,886			4.62% Impervious Area
1,886			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.0830	1.66		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.85"
12.1	80	0.0625	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.85"
12.3	100	Total			

Subcatchment 2X: Existing to Wetland 2P



Summary for Subcatchment 3S: Area A

5,200 SF impervious requires 434 CF filtration

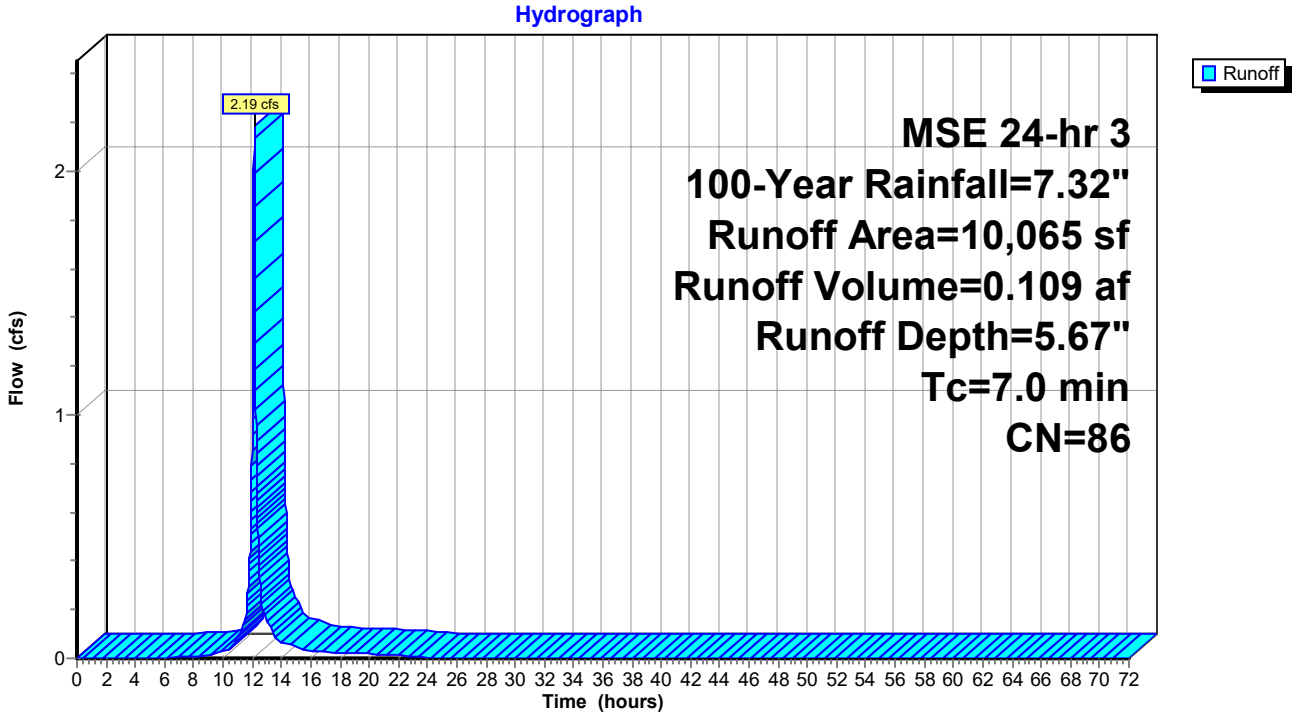
Runoff = 2.19 cfs @ 12.14 hrs, Volume= 0.109 af, Depth= 5.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
5,200	98	Unconnected roofs, HSG C
4,865	74	>75% Grass cover, Good, HSG C
10,065	86	Weighted Average
4,865		48.34% Pervious Area
5,200		51.66% Impervious Area
5,200		100.00% Unconnected

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

Subcatchment 3S: Area A



Summary for Subcatchment 3X: Direct to Wetland 3

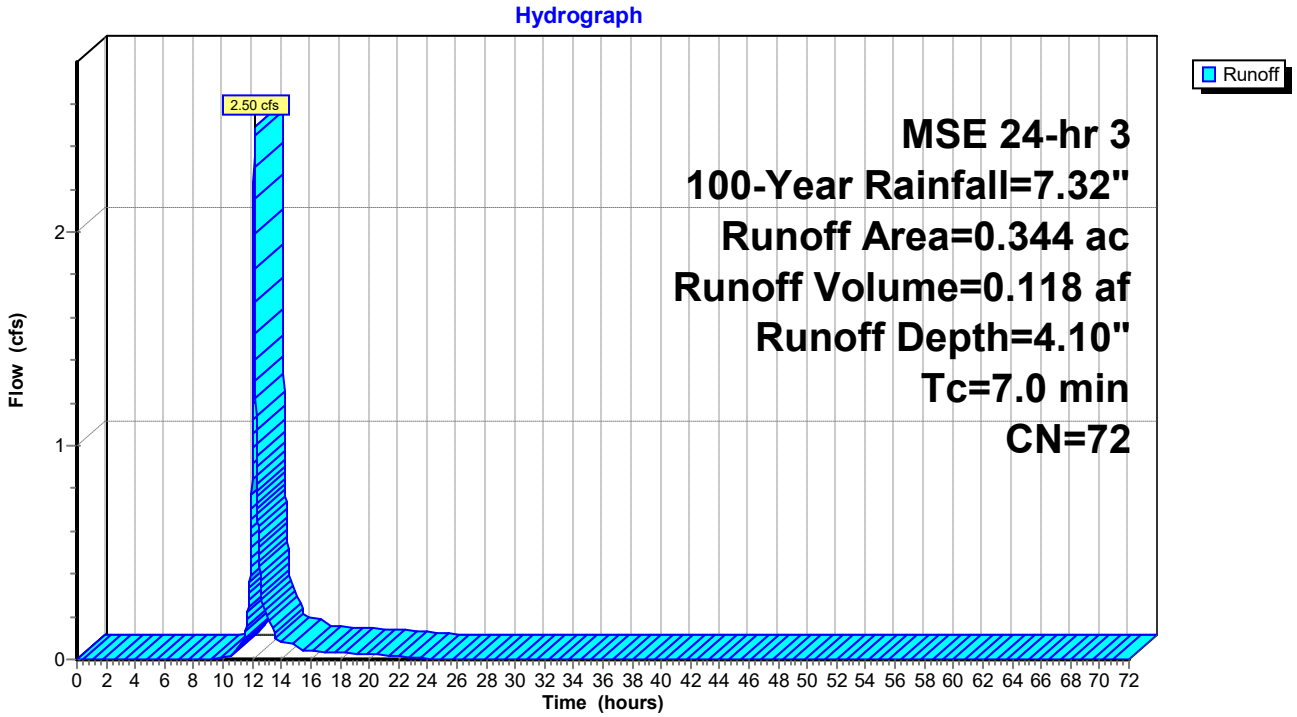
Runoff = 2.50 cfs @ 12.14 hrs, Volume= 0.118 af, Depth= 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (ac)	CN	Description
0.344	72	Woods/grass comb., Good, HSG C
0.344		100.00% Pervious Area

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

Subcatchment 3X: Direct to Wetland 3



Summary for Subcatchment 4S: AREA B

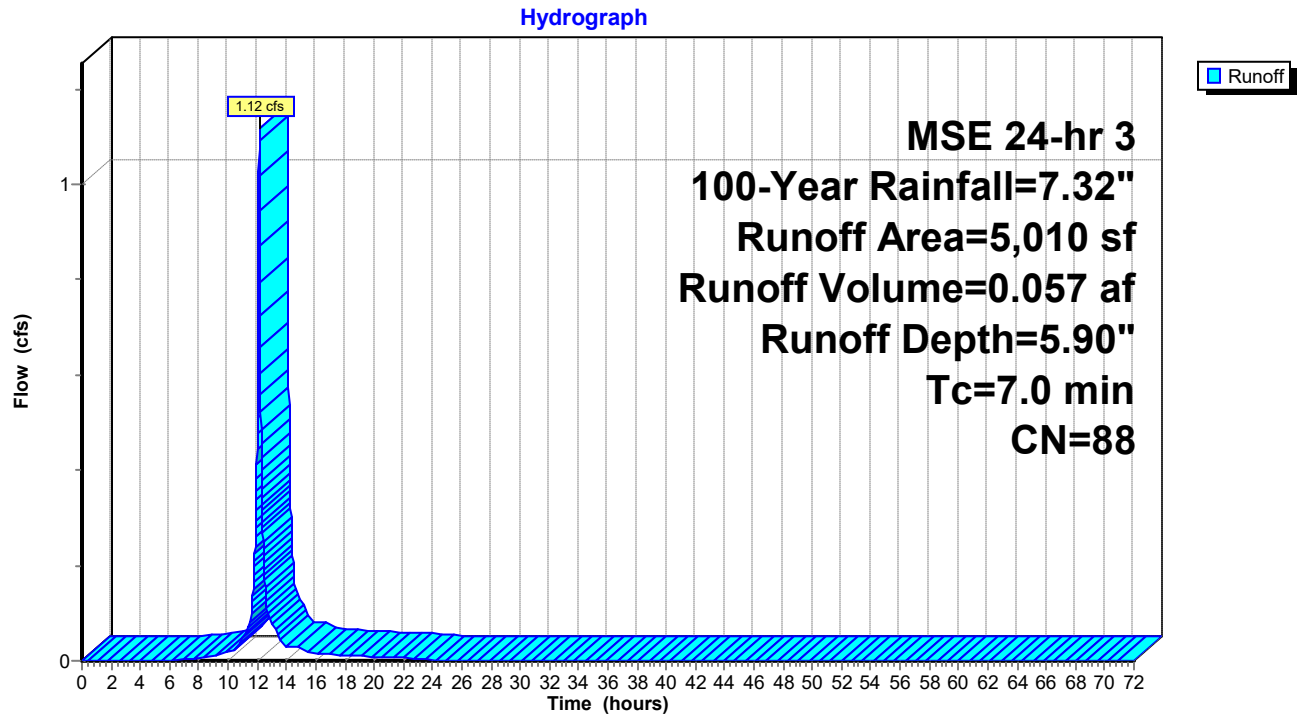
Runoff = 1.12 cfs @ 12.14 hrs, Volume= 0.057 af, Depth= 5.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
1,750	98	Unconnected roofs, HSG C
1,120	98	Unconnected pavement, HSG C
2,140	74	>75% Grass cover, Good, HSG C
5,010	88	Weighted Average
2,140		42.71% Pervious Area
2,870		57.29% Impervious Area
2,870		100.00% Unconnected

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

Subcatchment 4S: AREA B



Summary for Subcatchment 5S: Area C

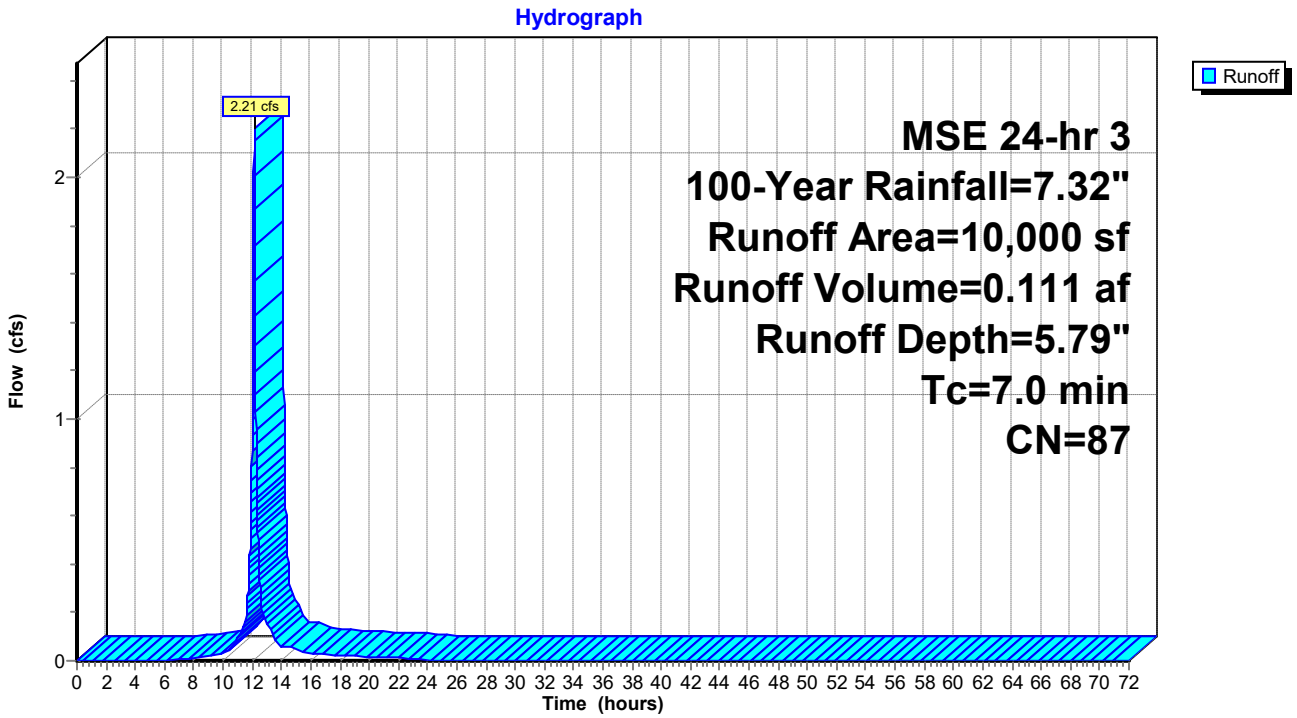
Runoff = 2.21 cfs @ 12.14 hrs, Volume= 0.111 af, Depth= 5.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
4,240	98	Unconnected roofs, HSG C
1,340	98	Unconnected pavement, HSG C
4,420	74	>75% Grass cover, Good, HSG C
10,000	87	Weighted Average
4,420		44.20% Pervious Area
5,580		55.80% Impervious Area
5,580		100.00% Unconnected

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

Subcatchment 5S: Area C



Summary for Subcatchment 6S: Area D

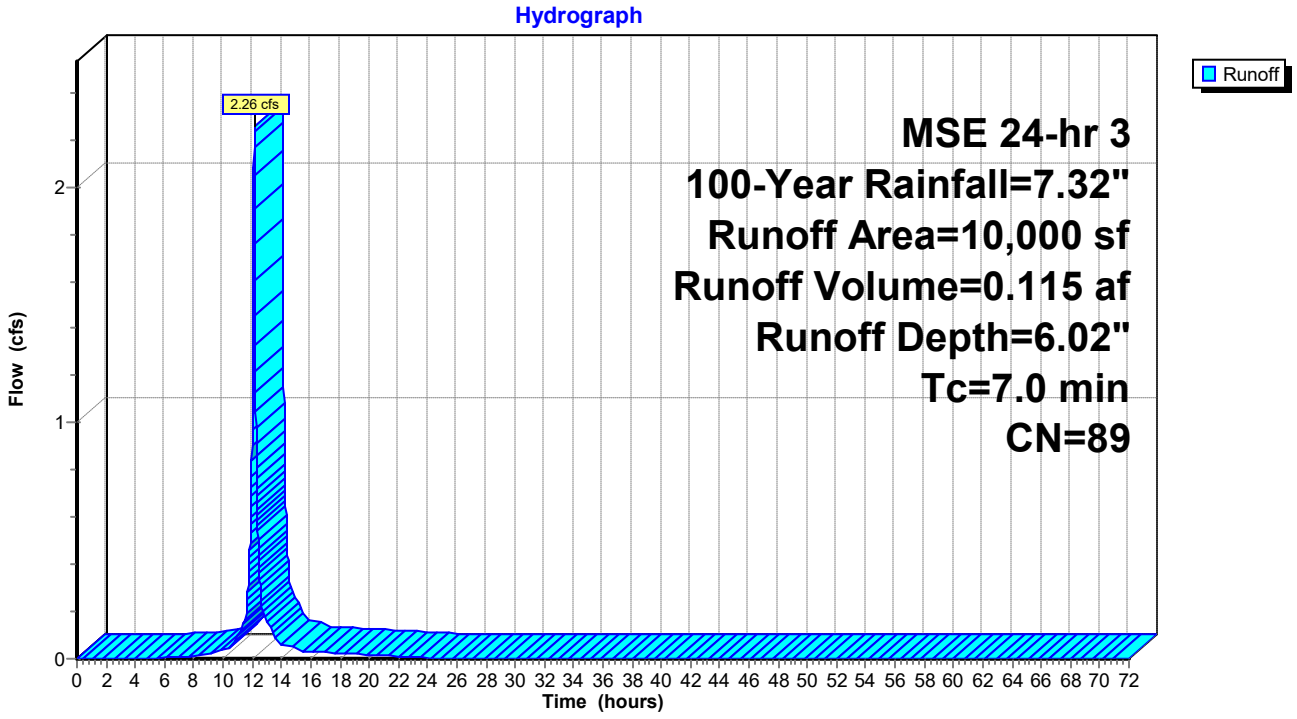
Runoff = 2.26 cfs @ 12.14 hrs, Volume= 0.115 af, Depth= 6.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.32"

Area (sf)	CN	Description
6,220	98	Paved parking, HSG C
3,780	74	>75% Grass cover, Good, HSG C
10,000	89	Weighted Average
3,780		37.80% Pervious Area
6,220		62.20% Impervious Area

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

Subcatchment 6S: Area D



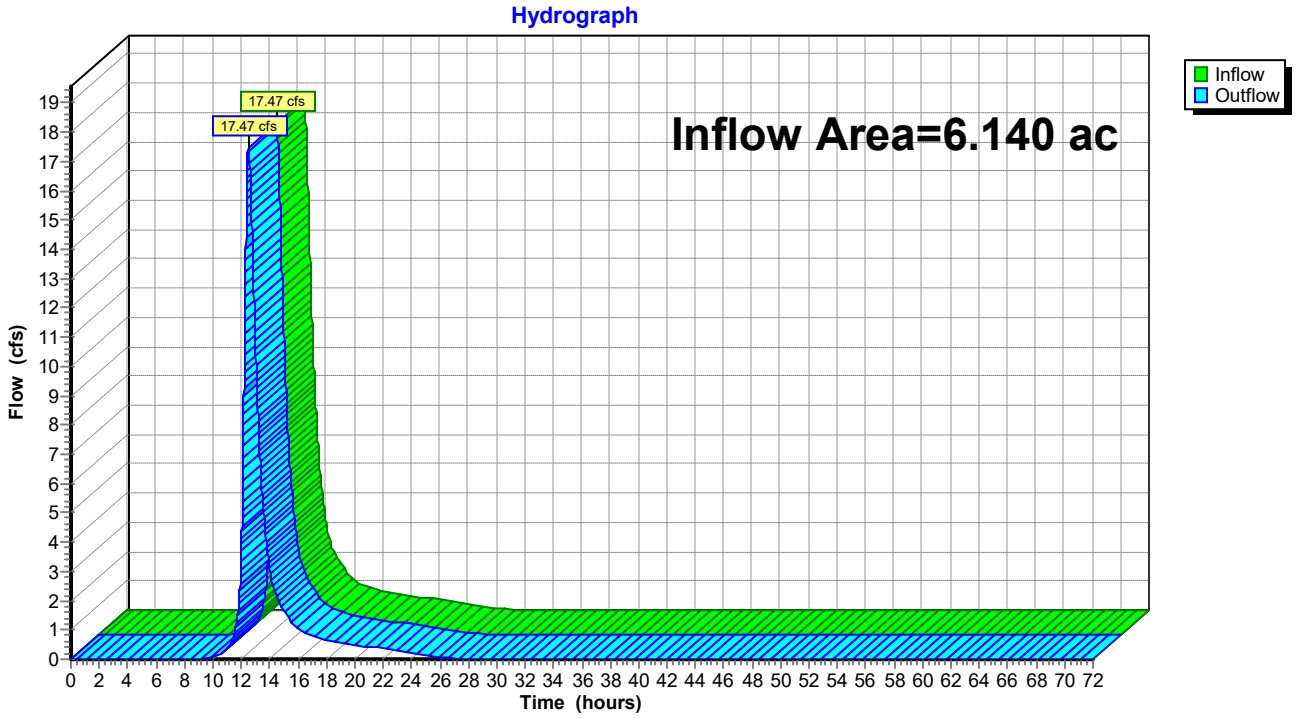
Summary for Reach 4R: Total Discharge

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.140 ac, 7.67% Impervious, Inflow Depth = 4.55" for 100-Year event
Inflow = 17.47 cfs @ 12.49 hrs, Volume= 2.329 af
Outflow = 17.47 cfs @ 12.50 hrs, Volume= 2.329 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Reach 4R: Total Discharge



Summary for Pond 1P: Wetland 1P

Inflow Area = 5.796 ac, 8.13% Impervious, Inflow Depth = 4.58" for 100-Year event
Inflow = 29.49 cfs @ 12.28 hrs, Volume= 2.212 af
Outflow = 17.02 cfs @ 12.50 hrs, Volume= 2.212 af, Atten= 42%, Lag= 13.4 min
Primary = 17.02 cfs @ 12.50 hrs, Volume= 2.212 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 940.50' Surf.Area= 18,044 sf Storage= 7,632 cf
Peak Elev= 941.56' @ 12.50 hrs Surf.Area= 32,108 sf Storage= 33,687 cf (26,055 cf above start)

Plug-Flow detention time= 87.5 min calculated for 2.036 af (92% of inflow)
Center-of-Mass det. time= 38.8 min (849.2 - 810.4)

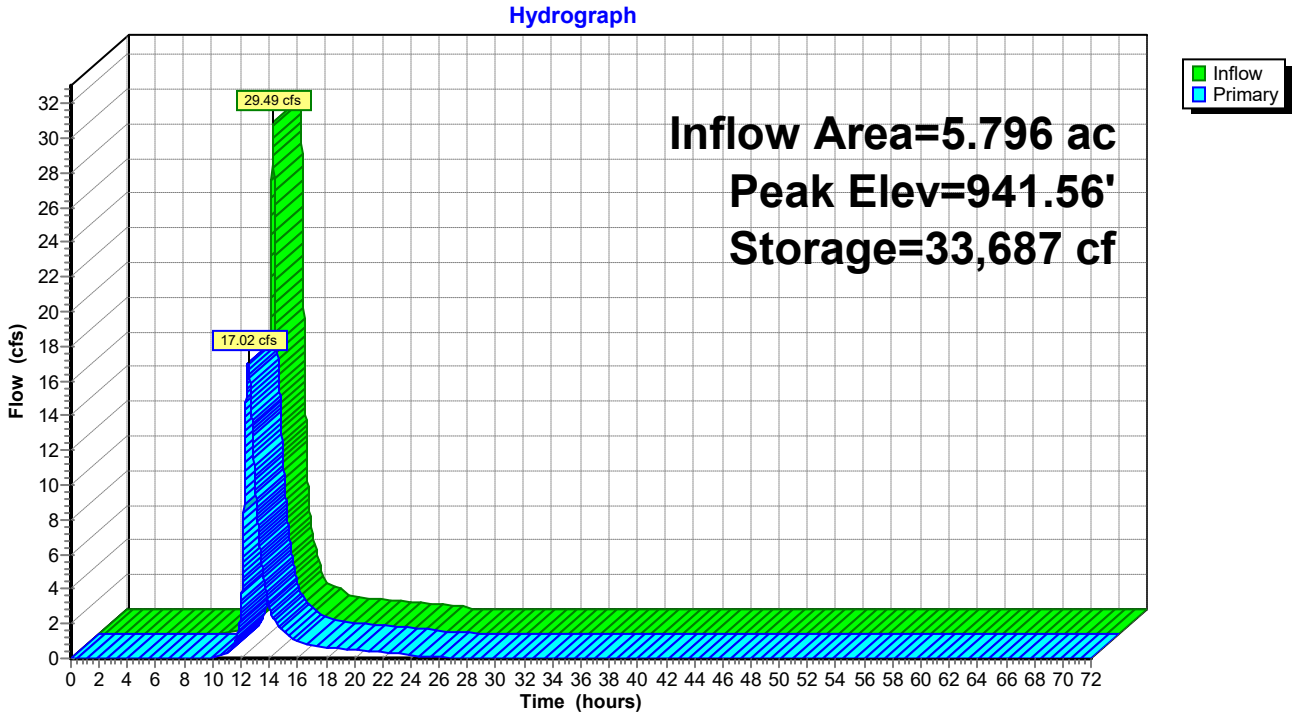
Volume	Invert	Avail.Storage	Storage Description
#1	940.00'	92,346 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
940.00	12,486	0	0
941.00	23,601	18,044	18,044
942.00	38,749	31,175	49,219
943.00	47,506	43,128	92,346

Device	Routing	Invert	Outlet Devices
#1	Primary	940.50'	**5.8' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=17.02 cfs @ 12.50 hrs HW=941.56' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 17.02 cfs @ 2.76 fps)

Pond 1P: Wetland 1P



Summary for Pond 1P PROP: Wetland 1P

Inflow Area = 6.140 ac, 14.40% Impervious, Inflow Depth = 4.70" for 100-Year event
Inflow = 29.18 cfs @ 12.27 hrs, Volume= 2.403 af
Outflow = 17.20 cfs @ 12.50 hrs, Volume= 2.402 af, Atten= 41%, Lag= 14.2 min
Primary = 17.20 cfs @ 12.50 hrs, Volume= 2.402 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 940.50' Surf.Area= 18,044 sf Storage= 7,632 cf
Peak Elev= 941.57' @ 12.50 hrs Surf.Area= 32,218 sf Storage= 33,920 cf (26,288 cf above start)

Plug-Flow detention time= 89.6 min calculated for 2.227 af (93% of inflow)
Center-of-Mass det. time= 38.6 min (861.6 - 823.0)

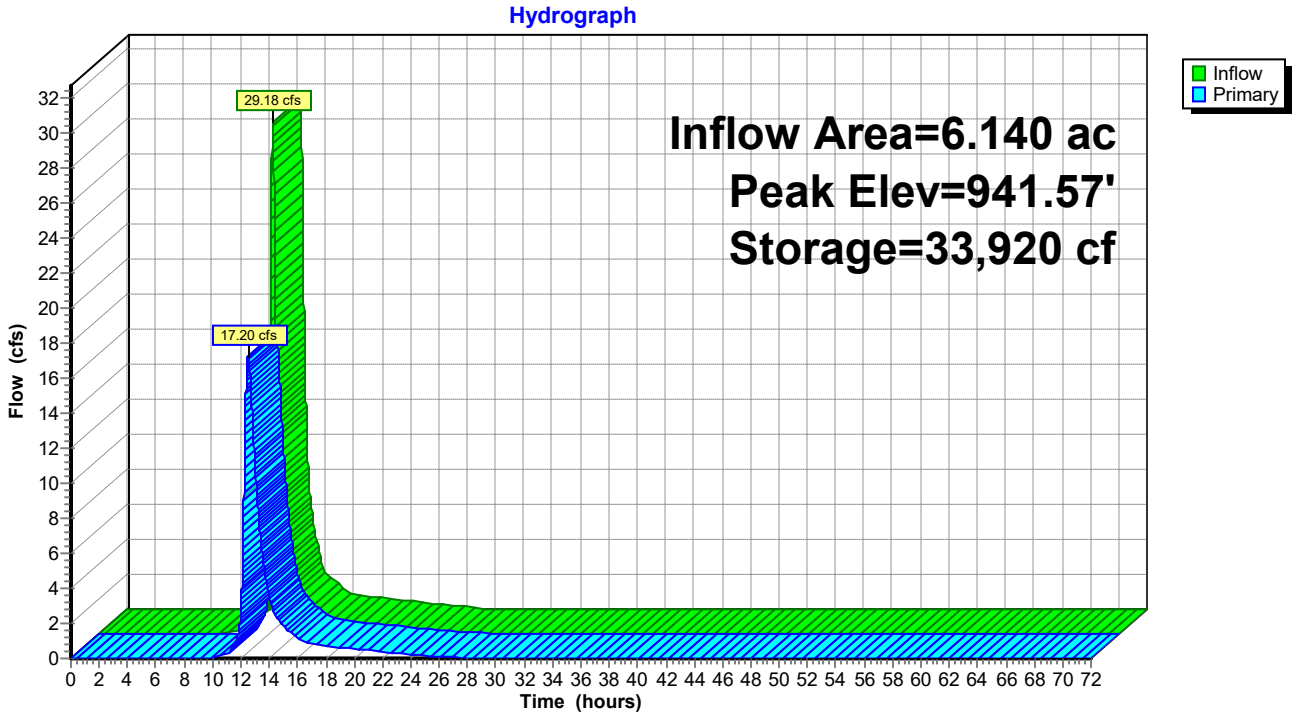
Volume	Invert	Avail.Storage	Storage Description
#1	940.00'	92,346 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
940.00	12,486	0	0
941.00	23,601	18,044	18,044
942.00	38,749	31,175	49,219
943.00	47,506	43,128	92,346

Device	Routing	Invert	Outlet Devices
#1	Primary	940.50'	**5.8' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=17.20 cfs @ 12.50 hrs HW=941.57' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 17.20 cfs @ 2.77 fps)

Pond 1P PROP: Wetland 1P



Summary for Pond 2P: Wetland 2P

Inflow Area = 0.938 ac, 4.62% Impervious, Inflow Depth = 4.77" for 100-Year event
Inflow = 6.29 cfs @ 12.20 hrs, Volume= 0.373 af
Outflow = 3.90 cfs @ 12.33 hrs, Volume= 0.373 af, Atten= 38%, Lag= 7.8 min
Primary = 3.90 cfs @ 12.33 hrs, Volume= 0.373 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 947.00' Surf.Area= 7,818 sf Storage= 6,322 cf
Peak Elev= 947.47' @ 12.33 hrs Surf.Area= 9,542 sf Storage= 10,390 cf (4,068 cf above start)

Plug-Flow detention time= 172.4 min calculated for 0.227 af (61% of inflow)
Center-of-Mass det. time= 31.4 min (829.2 - 797.8)

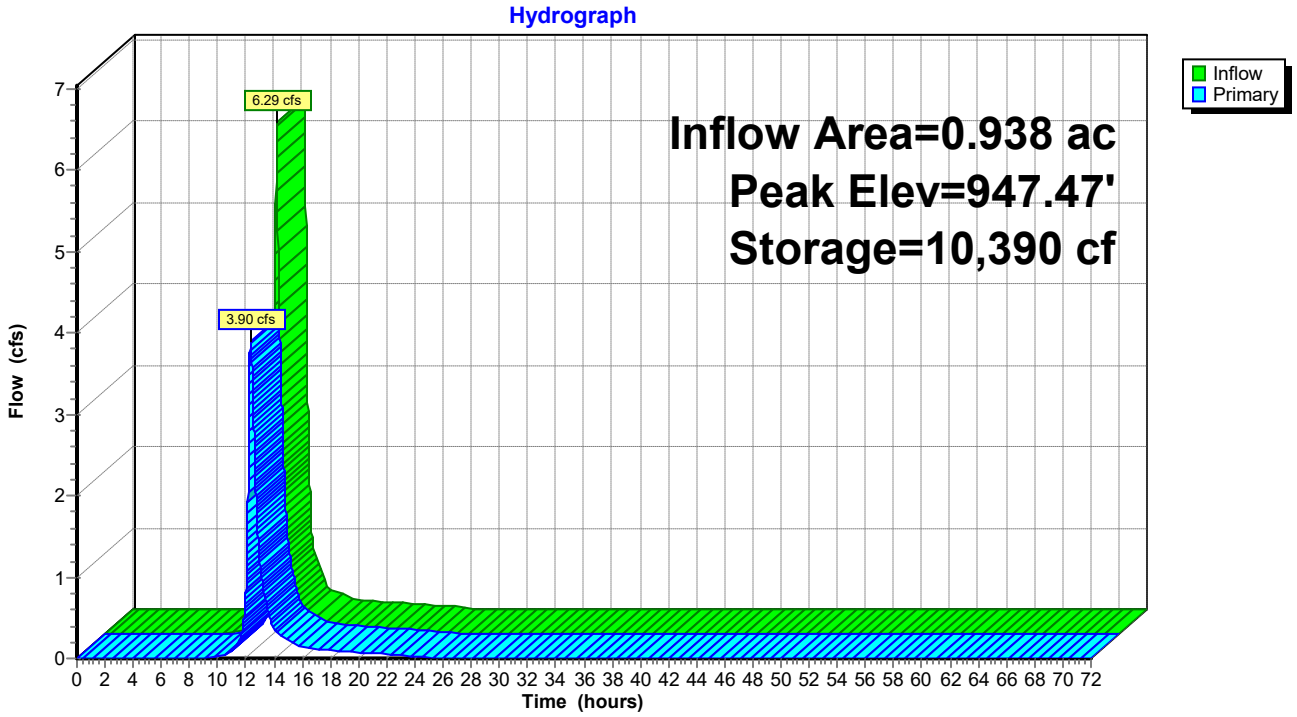
Volume	Invert	Avail.Storage	Storage Description
#1	946.00'	29,308 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
946.00	4,825	0	0
947.00	7,818	6,322	6,322
948.00	11,496	9,657	15,979
949.00	15,162	13,329	29,308

Device	Routing	Invert	Outlet Devices
#1	Primary	947.00'	**4.5' long x 15.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=3.90 cfs @ 12.33 hrs HW=947.47' TW=941.43' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 3.90 cfs @ 1.85 fps)

Pond 2P: Wetland 2P



Summary for Pond 2P-PROP: Wetland 2P

Inflow Area = 1.345 ac, 20.14% Impervious, Inflow Depth = 4.83" for 100-Year event
Inflow = 10.02 cfs @ 12.18 hrs, Volume= 0.541 af
Outflow = 3.89 cfs @ 12.39 hrs, Volume= 0.540 af, Atten= 61%, Lag= 13.2 min
Primary = 3.89 cfs @ 12.39 hrs, Volume= 0.540 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 947.00' Surf.Area= 7,818 sf Storage= 6,322 cf
Peak Elev= 947.95' @ 12.39 hrs Surf.Area= 11,299 sf Storage= 15,369 cf (9,048 cf above start)

Plug-Flow detention time= 207.0 min calculated for 0.395 af (73% of inflow)
Center-of-Mass det. time= 84.4 min (884.8 - 800.3)

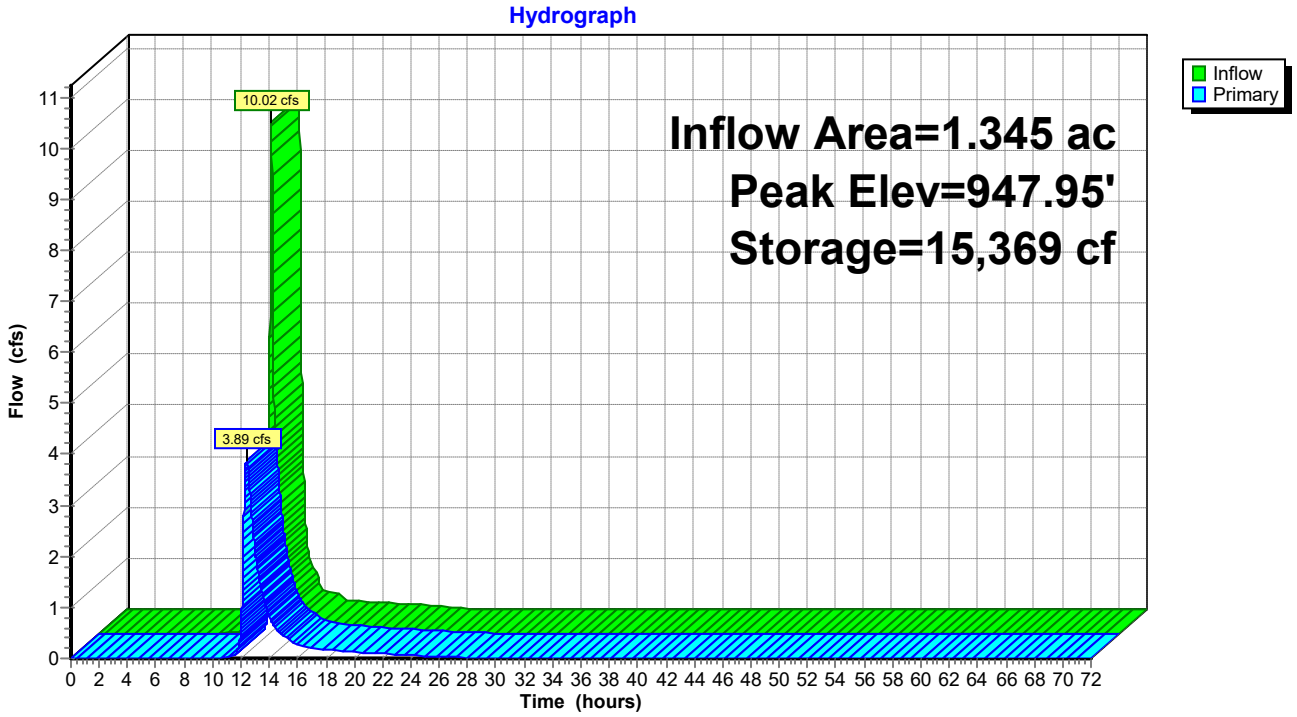
Volume	Invert	Avail.Storage	Storage Description
#1	946.00'	29,308 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
946.00	4,825	0	0
947.00	7,818	6,322	6,322
948.00	11,496	9,657	15,979
949.00	15,162	13,329	29,308

Device	Routing	Invert	Outlet Devices
#1	Device 2	947.00'	**18.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	944.10'	**18.0" Round Culvert** L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 944.10' / 944.00' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.89 cfs @ 12.39 hrs HW=947.95' TW=941.53' (Dynamic Tailwater)
↑**2=Culvert** (Passes 3.89 cfs of 13.21 cfs potential flow)
↑**1=Orifice/Grate** (Orifice Controls 3.89 cfs @ 3.31 fps)

Pond 2P-PROP: Wetland 2P



Summary for Pond 3P: Filtration Basin A

Inflow Area = 0.231 ac, 51.66% Impervious, Inflow Depth = 5.67" for 100-Year event
Inflow = 2.19 cfs @ 12.14 hrs, Volume= 0.109 af
Outflow = 2.17 cfs @ 12.16 hrs, Volume= 0.092 af, Atten= 1%, Lag= 1.0 min
Primary = 2.17 cfs @ 12.16 hrs, Volume= 0.092 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 944.91' @ 12.16 hrs Surf.Area= 931 sf Storage= 942 cf

Plug-Flow detention time= 82.4 min calculated for 0.092 af (84% of inflow)
Center-of-Mass det. time= 28.5 min (807.0 - 778.5)

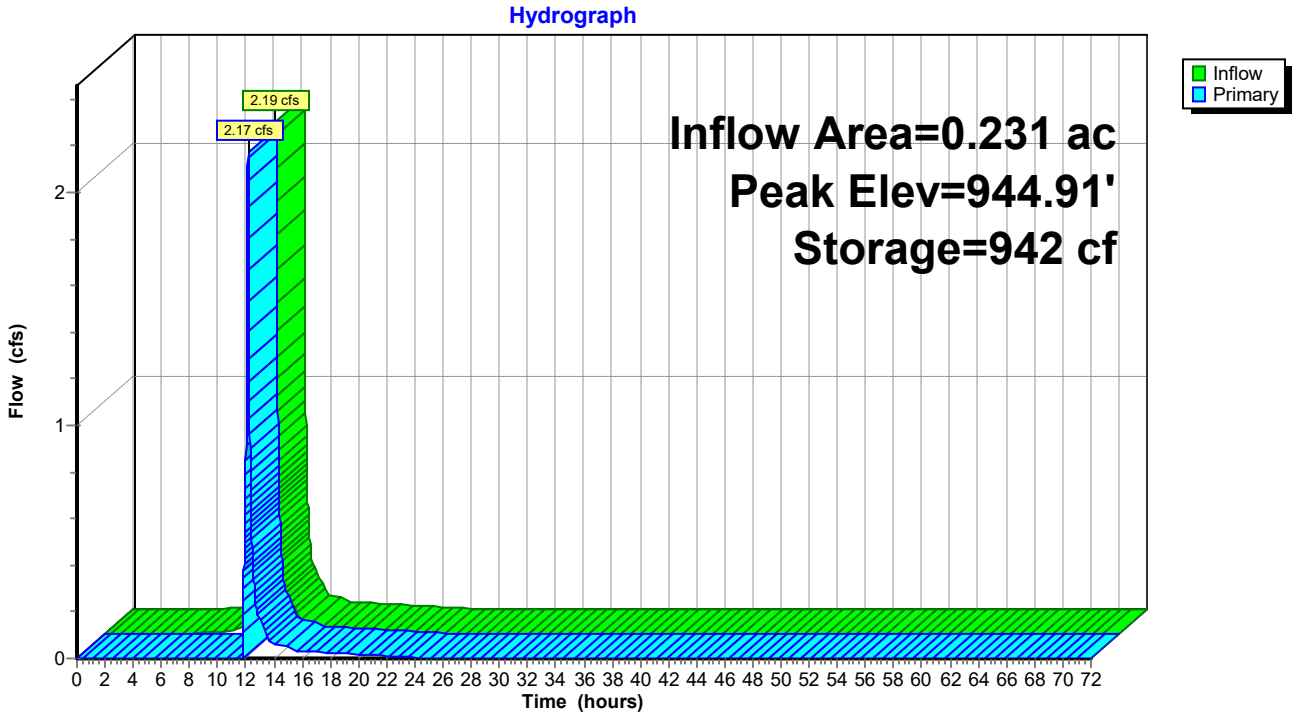
Volume	Invert	Avail.Storage	Storage Description
#1	943.00'	1,032 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
943.00	125	0	0
944.00	480	303	303
945.00	978	729	1,032

Device	Routing	Invert	Outlet Devices
#1	Primary	941.00'	**12.0" Round Culvert** L= 42.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 941.00' / 940.00' S= 0.0238 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	944.70'	**27.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.17 cfs @ 12.16 hrs HW=944.91' TW=941.06' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.17 cfs of 6.16 cfs potential flow)
↑**2=Orifice/Grate** (Weir Controls 2.17 cfs @ 1.49 fps)

Pond 3P: Filtration Basin A



Summary for Pond 4P: Filtration Basin B

Inflow Area = 0.115 ac, 57.29% Impervious, Inflow Depth = 5.90" for 100-Year event
Inflow = 1.12 cfs @ 12.14 hrs, Volume= 0.057 af
Outflow = 1.10 cfs @ 12.16 hrs, Volume= 0.046 af, Atten= 1%, Lag= 1.1 min
Primary = 1.10 cfs @ 12.16 hrs, Volume= 0.046 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 949.70' @ 12.16 hrs Surf.Area= 568 sf Storage= 570 cf

Plug-Flow detention time= 91.5 min calculated for 0.046 af (81% of inflow)
Center-of-Mass det. time= 33.9 min (808.2 - 774.2)

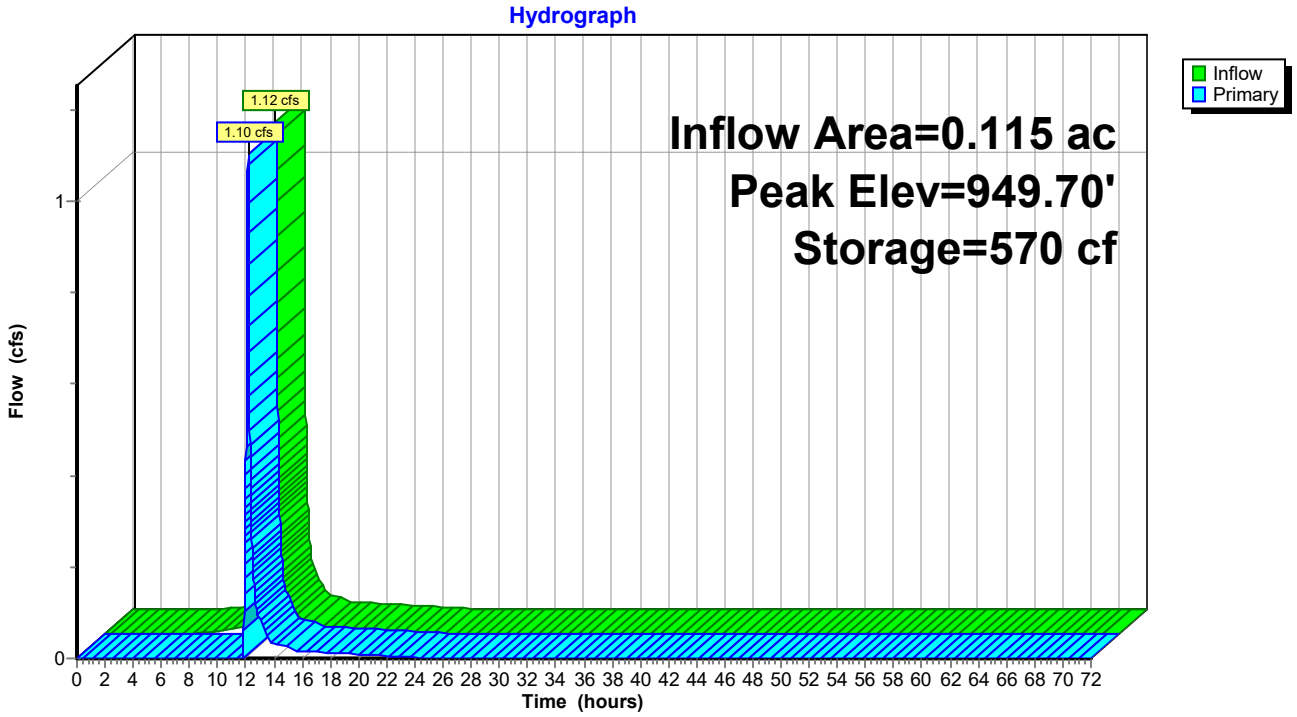
Volume	Invert	Avail.Storage	Storage Description
#1	948.00'	758 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
948.00	138	0	0
949.00	360	249	249
949.50	505	216	465
950.00	665	293	758

Device	Routing	Invert	Outlet Devices
#1	Primary	949.50'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.10 cfs @ 12.16 hrs HW=949.70' TW=941.07' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 1.10 cfs @ 1.12 fps)

Pond 4P: Filtration Basin B



Summary for Pond 5P: Filtration Basin C

Inflow Area = 0.230 ac, 55.80% Impervious, Inflow Depth = 5.79" for 100-Year event
Inflow = 2.21 cfs @ 12.14 hrs, Volume= 0.111 af
Outflow = 2.16 cfs @ 12.16 hrs, Volume= 0.096 af, Atten= 2%, Lag= 1.2 min
Primary = 2.16 cfs @ 12.16 hrs, Volume= 0.096 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 951.80' @ 12.16 hrs Surf.Area= 814 sf Storage= 873 cf

Plug-Flow detention time= 76.2 min calculated for 0.096 af (87% of inflow)
Center-of-Mass det. time= 26.9 min (803.3 - 776.4)

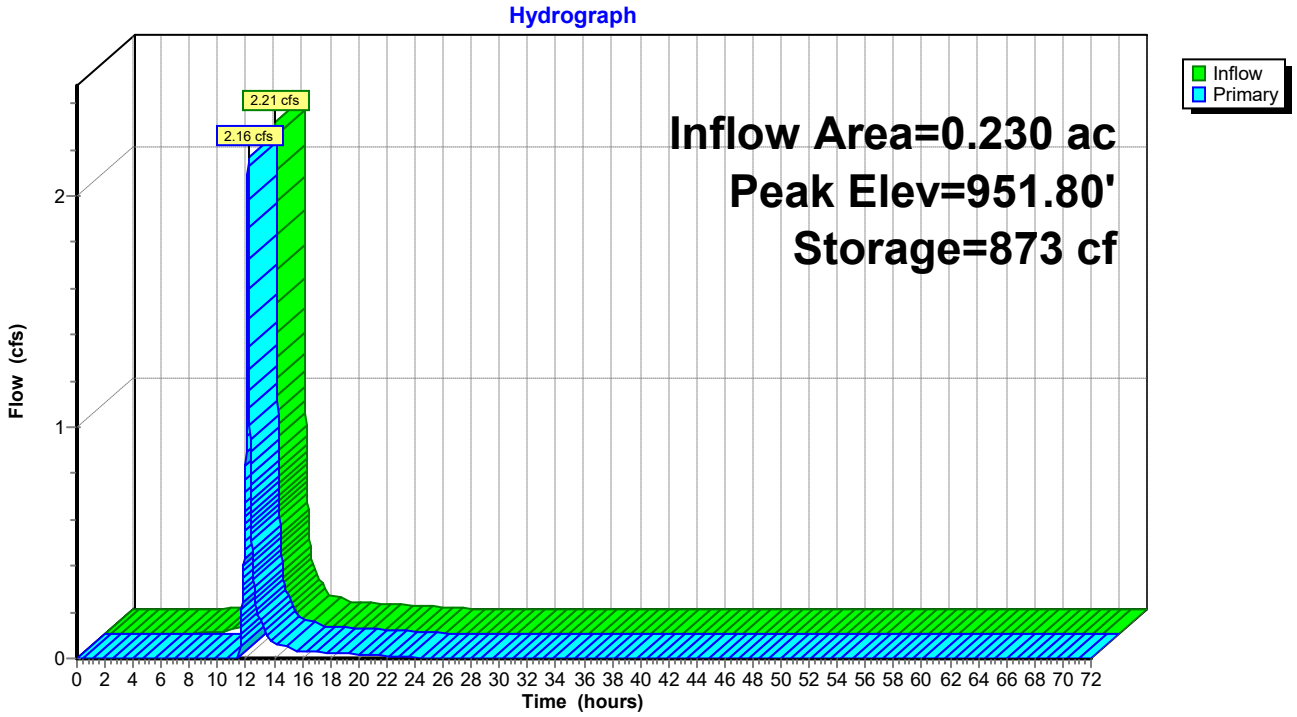
Volume	Invert	Avail.Storage	Storage Description
#1	950.00'	1,040 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
950.00	190	0	0
951.00	500	345	345
952.00	890	695	1,040

Device	Routing	Invert	Outlet Devices
#1	Primary	951.50'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.16 cfs @ 12.16 hrs HW=951.80' TW=947.65' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 2.16 cfs @ 1.42 fps)

Pond 5P: Filtration Basin C



Summary for Pond 6P: Filtration Basin D

Inflow Area = 0.230 ac, 62.20% Impervious, Inflow Depth = 6.02" for 100-Year event
Inflow = 2.26 cfs @ 12.14 hrs, Volume= 0.115 af
Outflow = 2.24 cfs @ 12.16 hrs, Volume= 0.093 af, Atten= 1%, Lag= 1.0 min
Primary = 2.24 cfs @ 12.16 hrs, Volume= 0.093 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 953.00' @ 12.16 hrs Surf.Area= 1,049 sf Storage= 1,153 cf

Plug-Flow detention time= 92.4 min calculated for 0.093 af (81% of inflow)
Center-of-Mass det. time= 34.8 min (806.8 - 772.0)

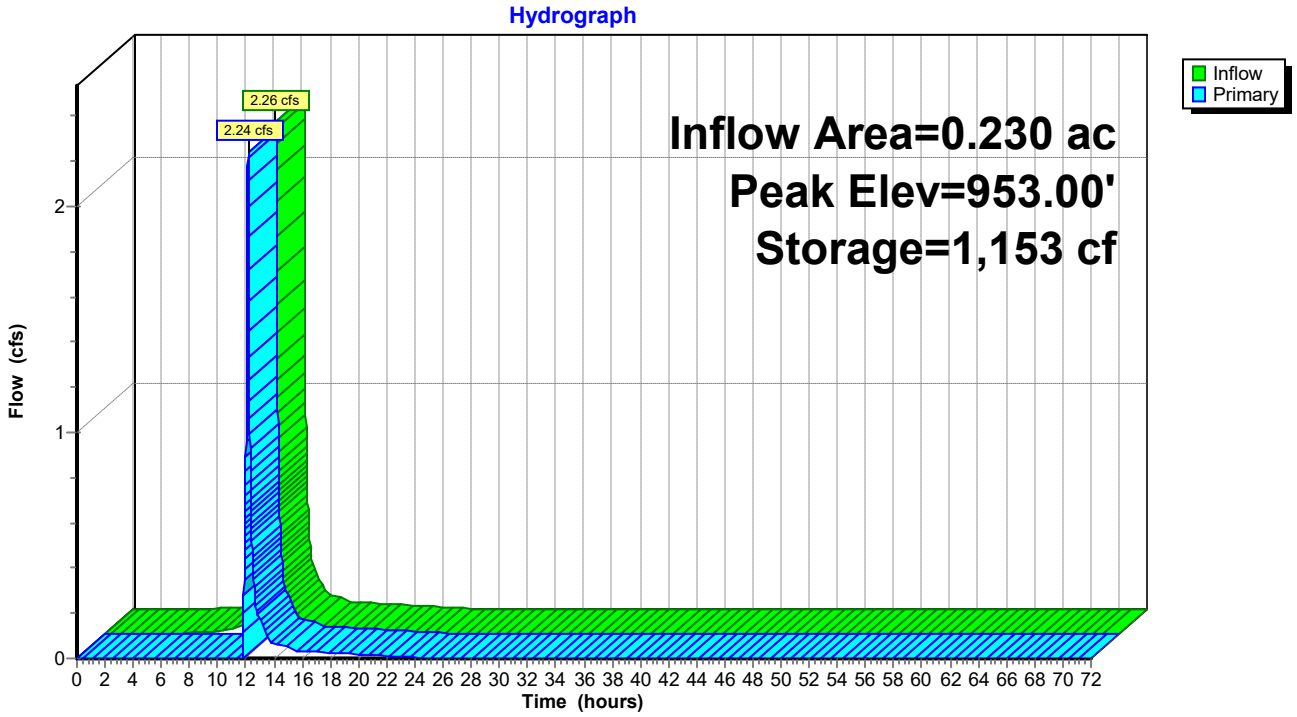
Volume	Invert	Avail.Storage	Storage Description
#1	951.00'	1,155 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
951.00	180	0	0
952.00	540	360	360
953.00	1,050	795	1,155

Device	Routing	Invert	Outlet Devices
#1	Primary	952.80'	**10.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.23 cfs @ 12.16 hrs HW=953.00' TW=947.64' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 2.23 cfs @ 1.13 fps)

Pond 6P: Filtration Basin D



ATTACHMENT C
CHANNEL/PIPE MODELS

Stage-Discharge for Reach 5R: (new Reach)

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
947.00	0.00	0.00
947.01	0.70	0.01
947.02	1.12	0.02
947.03	1.48	0.06
947.04	1.79	0.11
947.05	2.08	0.17
947.06	2.34	0.26
947.07	2.60	0.36
947.08	2.84	0.48
947.09	3.07	0.62
947.10	3.29	0.78
947.11	3.51	0.96
947.12	3.72	1.15
947.13	3.92	1.37
947.14	4.12	1.61
947.15	4.31	1.87
947.16	4.50	2.15
947.17	4.69	2.45
947.18	4.87	2.77
947.19	5.05	3.12
947.20	5.22	3.48
947.21	5.39	3.87
947.22	5.56	4.28
947.23	5.73	4.71
947.24	5.89	5.16
947.25	6.05	5.64
947.26	6.21	6.14
947.27	6.37	6.66
947.28	6.53	7.21
947.29	6.68	7.78
947.30	6.83	8.37
947.31	6.98	8.98
947.32	7.13	9.62
947.33	7.28	10.29
947.34	7.42	10.97
947.35	7.57	11.68
947.36	7.71	12.41
947.37	7.85	13.17
947.38	7.99	13.95
947.39	8.13	14.76
947.40	8.27	15.59
947.41	8.40	16.44
947.42	8.54	17.32
947.43	8.67	18.22
947.44	8.80	19.15
947.45	8.93	20.10
947.46	9.07	21.08
947.47	9.20	22.09
947.48	9.32	23.11
947.49	9.45	24.17
947.50	9.58	25.24
947.51	9.70	26.35
947.52	9.83	27.47
947.53	9.95	28.63
947.54	10.08	29.81
947.55	10.20	31.01
947.56	1	
947.57	1	
947.58	1	
947.59	10.68	36.09
947.60	10.80	37.42
947.61	10.92	38.78
947.62	11.04	40.16
947.63	11.15	41.57
947.64	11.27	43.01
947.65	11.39	44.47
947.66	11.50	45.96
947.67	11.61	47.48
947.68	11.73	49.02
947.69	11.84	50.59
947.70	11.95	52.19
947.71	12.07	53.81
947.72	12.18	55.45
947.73	12.29	57.13
947.74	12.40	58.83
947.75	12.51	60.56
947.76	12.62	62.31
947.77	12.73	64.09
947.78	12.83	65.90
947.79	12.94	67.74
947.80	**13.05**	**69.60**

EXISTING 10-YEAR DISCHARGE = 1.48 CFS
ELEVATION = 947.14

EXISTING 100-YEAR DISCHARGE = 3.90 CFS
ELEVATION = 947.22

Stage-Area-Storage for Reach 5R: (new Reach)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
947.00	0.0	0
947.01	0.0	0
947.02	0.0	1
947.03	0.0	1
947.04	0.1	2
947.05	0.1	3
947.06	0.1	4
947.07	0.1	5
947.08	0.2	6
947.09	0.2	7
947.10	0.2	8
947.11	0.3	9
947.12	0.3	11
947.13	0.3	12
947.14	0.4	13
947.15	0.4	15
947.16	0.5	16
947.17	0.5	18
947.18	0.6	19
947.19	0.6	21
947.20	0.7	23
947.21	0.7	24
947.22	0.8	26
947.23	0.8	28
947.24	0.9	30
947.25	0.9	32
947.26	1.0	34
947.27	1.0	36
947.28	1.1	38
947.29	1.2	40
947.30	1.2	42
947.31	1.3	44
947.32	1.3	46
947.33	1.4	48
947.34	1.5	50
947.35	1.5	52
947.36	1.6	55
947.37	1.7	57
947.38	1.7	59
947.39	1.8	62
947.40	1.9	64
947.41	2.0	67
947.42	2.0	69
947.43	2.1	71
947.44	2.2	74
947.45	2.3	77
947.46	2.3	79
947.47	2.4	82
947.48	2.5	84
947.49	2.6	87
947.50	2.6	90
947.51	2.7	92
947.52	2.8	95
947.53	2.9	98
947.54	3.0	101
947.55	3.0	103
947.56	3.1	106
947.57		
947.58		
947.59		
947.60		
947.61	3.6	121
947.62	3.6	124
947.63	3.7	127
947.64	3.8	130
947.65	3.9	133
947.66	4.0	136
947.67	4.1	139
947.68	4.2	142
947.69	4.3	145
947.70	4.4	148
947.71	4.5	152
947.72	4.6	155
947.73	4.6	158
947.74	4.7	161
947.75	4.8	165
947.76	4.9	168
947.77	5.0	171
947.78	5.1	175
947.79	5.2	178
947.80	**5.3**	**181**

EXISTING 10-YEAR DISCHARGE
ELEVATION = 947.14
STORAGE = 13 CF

EXISTING 100-YEAR DISCHARGE
ELEVATION = 947.22
STORAGE = 26 CF

Stage-Discharge for Reach 6R: (new Reach)

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
944.10	0.00	0.00
944.11	0.23	0.00
944.12	0.40	0.00
944.13	0.54	0.00
944.14	0.65	0.01
944.15	0.75	0.01
944.16	0.85	0.02
944.17	0.93	0.03
944.18	1.02	0.04
944.19	1.10	0.05
944.20	1.18	0.06
944.21	1.25	0.07
944.22	1.33	0.09
944.23	1.39	0.10
944.24	1.46	0.12
944.25	1.53	0.14
944.26	1.59	0.16
944.27	1.65	0.18
944.28	1.71	0.21
944.29	1.77	0.23
944.30	1.83	0.26
944.31	1.89	0.28
944.32	1.94	0.31
944.33	2.00	0.34
944.34	2.05	0.37
944.35	2.10	0.41
944.36	2.15	0.44
944.37	2.20	0.48
944.38	2.25	0.51
944.39	2.30	0.55
944.40	2.34	0.59
944.41	2.39	0.63
944.42	2.43	0.67
944.43	2.48	0.71
944.44	2.52	0.76
944.45	2.57	0.80
944.46	2.61	0.85
944.47	2.65	0.90
944.48	2.69	0.95
944.49	2.73	1.00
944.50	2.77	1.05
944.51	2.81	1.10
944.52	2.85	1.15
944.53	2.88	1.21
944.54	2.92	1.26
944.55	2.96	1.32
944.56	2.99	1.38
944.57	3.03	1.43
944.58	3.06	1.49
944.59	3.10	1.55
944.60	3.13	1.61
944.61	3.16	1.68
944.62	3.20	1.74
944.63	3.23	1.80
944.64	3.26	1.87
944.65	3.29	1.93
944.66	3.32	2.00
944.67	3.35	2.06
944.68	3.38	2.13
944.69	3.41	2.20
944.70	3.44	2.27
944.71	3.47	2.34
944.72	3.49	2.41
944.73	3.52	2.48
944.74	3.55	2.55
944.75	3.57	2.62
944.76	3.60	2.69
944.77	3.62	2.77
944.78	3.65	2.84
944.79	3.67	2.91
944.80	3.70	2.99
944.81	3.72	3.06
944.82	3.74	3.14
944.83	3.77	3.21
944.84	3.79	3.29
944.85	3.81	3.37
944.86	3.83	3.44
944.87	3.85	3.52
944.88	3.87	3.60
944.89	3.89	3.67
944.90	3.91	3.75
944.91	3.93	3.83
944.92	3.95	3.90
944.93	3.97	3.98
944.94	3.99	4.06
944.95	4.00	4.14
944.96	4.02	4.21
944.97	4.04	4.29
944.98	4.05	4.37
944.99	4.07	4.45
945.00	4.09	4.52
945.01	4.10	4.60
945.02	4.12	4.68
945.03	4.13	4.75
945.04	4.14	4.83
945.05	4.16	4.90
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945.09	4.21	5.20
945.10	4.22	5.28
945.11	4.23	5.35
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945.13	4.25	5.49
945.14	4.26	5.57
945.15	4.27	5.64
945.16	4.27	5.71
945.17	4.28	5.78
945.18	4.29	5.84
945.19	4.30	5.91
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945.21	4.31	6.04
945.22	4.32	6.11
945.23	4.32	6.17
945.24	4.33	6.23
945.25	4.33	6.29
945.26	4.33	6.35
945.27	4.34	6.41
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945.30	4.34	6.58
945.31	4.34	6.63
945.32	**4.34**	6.69
945.33	4.34	6.74
945.34	4.34	6.78
945.35	4.34	6.83
945.36	4.34	6.87
945.42	4.31	7.10
945.43	4.30	7.13
945.44	4.29	7.15
945.45	4.28	7.18
945.46	4.27	7.19
945.47	4.26	7.21
945.48	4.25	7.23
945.49	4.23	7.23
945.50	4.22	7.24
945.51	4.20	**7.24**
945.52	4.18	7.24
945.53	4.16	7.23
945.54	4.14	7.21
945.55	4.11	7.19
945.56	4.08	7.15
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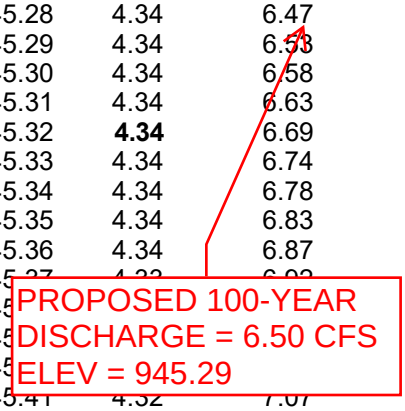
945.58	4.00	7.05
945.59	3.92	6.92
945.60	3.81	6.73



Stage-Area-Storage for Reach 6R: (new Reach)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
944.10	0.0	0
944.12	0.0	0
944.14	0.0	0
944.16	0.0	1
944.18	0.0	1
944.20	0.1	2
944.22	0.1	2
944.24	0.1	3
944.26	0.1	3
944.28	0.1	4
944.30	0.1	5
944.32	0.2	5
944.34	0.2	6
944.36	0.2	7
944.38	0.2	8
944.40	0.3	9
944.42	0.3	9
944.44	0.3	10
944.46	0.3	11
944.48	0.4	12
944.50	0.4	13
944.52	0.4	14
944.54	0.4	15
944.56	0.5	16
944.58	0.5	17
944.60	0.5	18
944.62	0.5	18
944.64	0.6	19
944.66	0.6	20
944.68	0.6	21
944.70	0.7	22
944.72	0.7	23
944.74	0.7	24
944.76	0.7	25
944.78	0.8	26
944.80	0.8	27
944.82	0.8	29
944.84	0.9	30
944.86	0.9	31
944.88	0.9	32
944.90	1.0	33
944.92	1.0	34
944.94	1.0	35
944.96	1.0	36
944.98	1.1	37
945.00	1.1	38
945.02	1.1	39
945.04	1.2	40
945.06	1.2	41
945.08	1.2	42
945.10	1.3	43
945.12	1.3	44
945.14	1.3	44
945.16	1.3	45
945.18	1.4	46
945.20	1.4	47
945.22	1.4	48
945.24	1.4	49
945.26	1.5	50
945.28	1.5	51
945.30	1.5	52
945.32	1.5	52
945.34	1.6	53
945.36	1.6	54
945.38	1.6	55
945.40	1.6	55
945.42	1.6	56
945.44	1.7	57
945.46	1.7	57
945.48	1.7	58
945.50	1.7	58
945.52	1.7	59
945.54	1.7	59
945.56	1.8	60
945.58	1.8	60
945.60	**1.8**	**60**

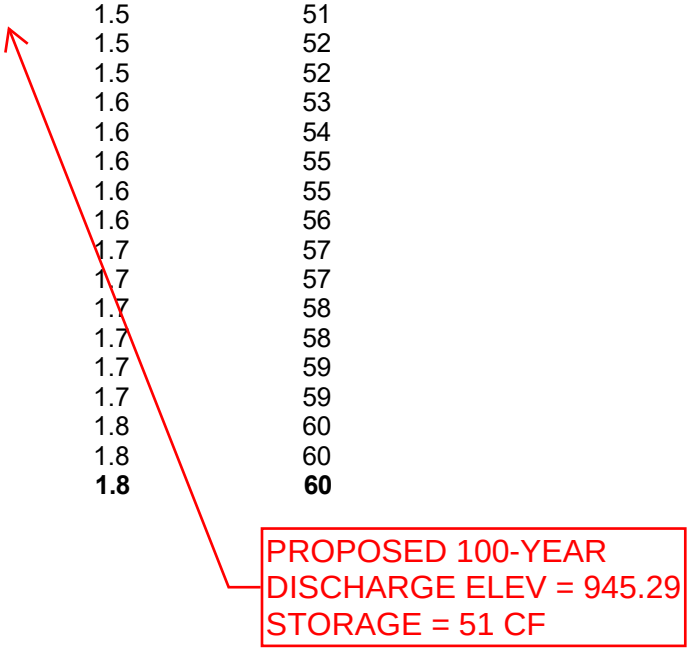


Exhibit J
Email Doerr
RE MCWD rejection of Applicant's Stormwater Calculations

Outlook

RE: Engineering Review Request - Permit 25-522 - Mapleview Court

From Doerr, Sylvia <Sylvia.Doerr@stantec.com>
Date Tue 1/27/2026 11:06 AM
To Abigail Couture <ACouture@minnehahacreek.org>

1 attachment (142 KB)
25-522 MCWD and Stantec Permit Review- Technical Comment Form.docx;

Hi Abigail,

No worries! Please see the attached technical comments for MCWD Permit #25-522.

The applicant's current analysis for high water level impacts and proposed floodplain fill appears to be based on modeling which does not consider the upstream and downstream hydrologic conditions of the site (i.e. wetlands, drainage area, etc.). Our comments intend to provide guidance toward a more accurate representation of the HWL of the channel and to better understand the floodplain impacts within the channel. Given the channel modeling provided to date and interest in the project, it could be beneficial to have a brief meeting with the applicant to ensure the modeling and floodplain analysis expectations are clear. My calendar is generally open this week and next so please feel free to suggest a meeting time that works best for you, if you think a meeting would be helpful.

Otherwise, there are a few minor details and inconsistencies within the plan we have asked the applicant to address. Please let me know if you have any questions or would like to discuss!

Thank you,
Sylvia

Sylvia Doerr
Water Resources EIT

Mobile: 651 242-0109
Sylvia.Doerr@stantec.com

Stantec
2080 Wooddale Drive Suite 100
Woodbury MN 55125-2920

Stantec

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From: Abigail Couture <ACouture@minnehahacreek.org>
Sent: Friday, January 23, 2026 11:18 AM

Exhibit K
Map of Shorewood Development Project Area

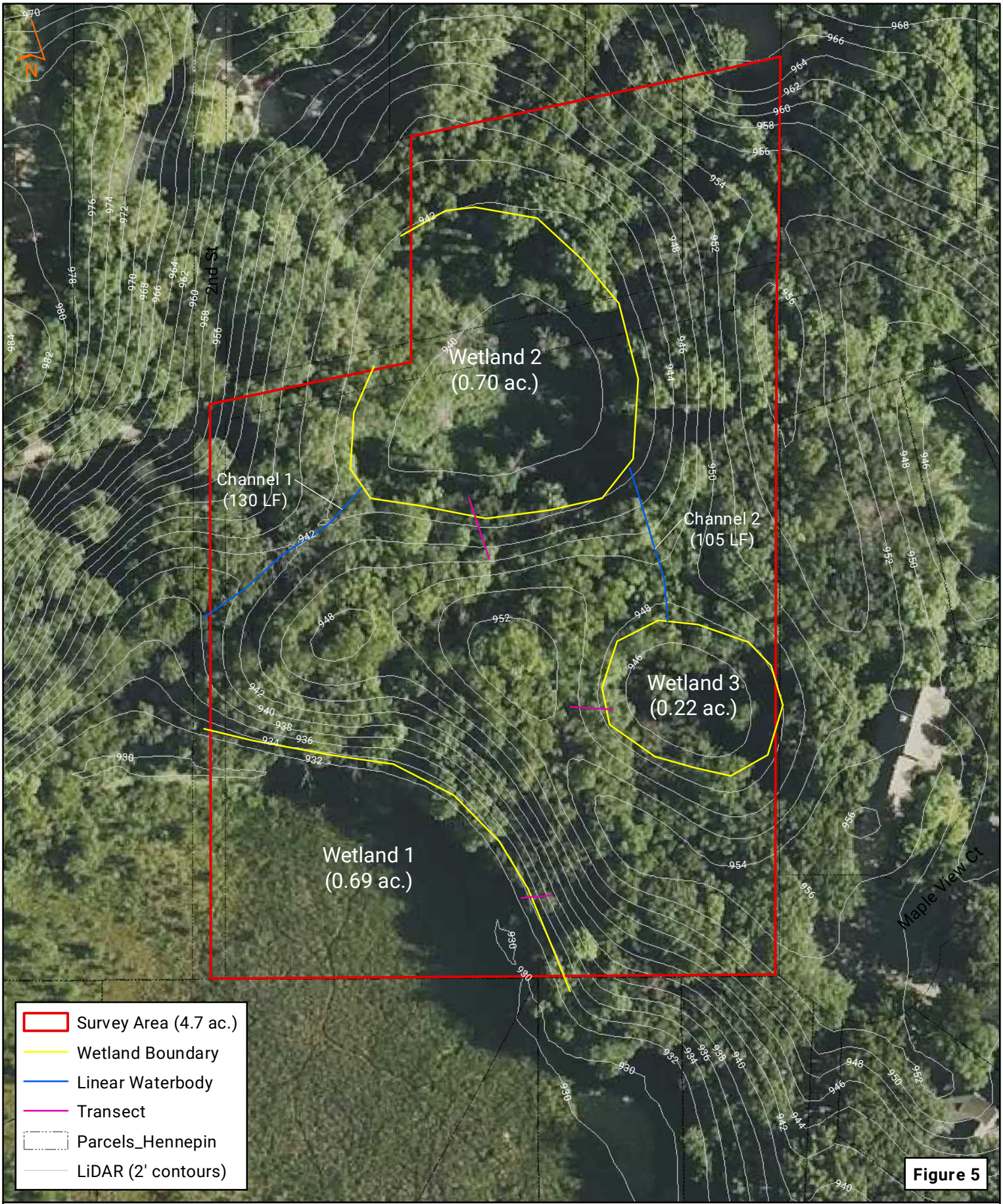


Figure 5

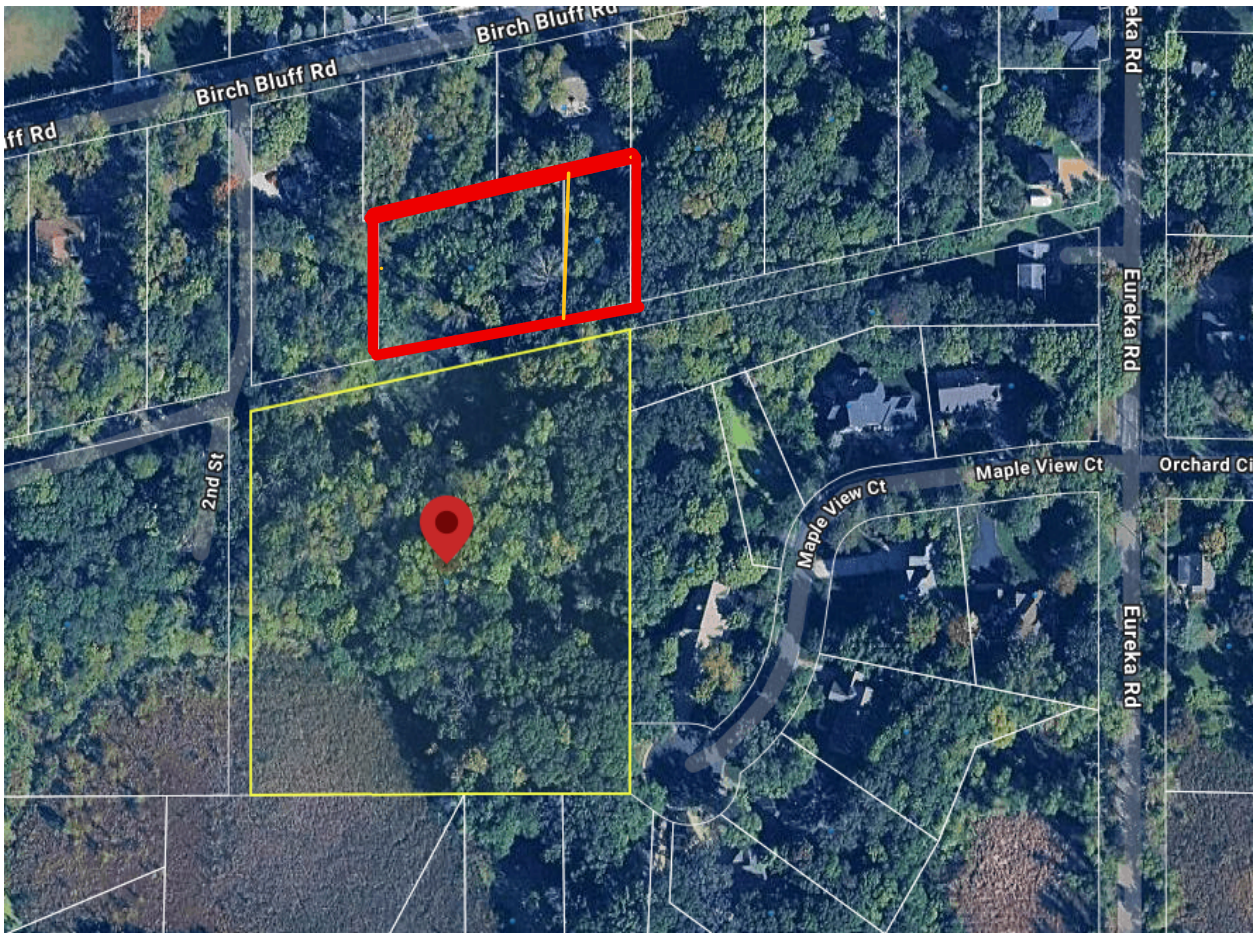
Sources: USDA Farm Service Agency NAIP Imagery, 2023, MnGeo, MN Department of Natural Resources, US Census Bureau, Date: 8/16/2025

0 75 150 Feet

Delineated Aquatic Resources
Chestnut Business Park, LLP
Shorewood Development
Shorewood, MN

Exhibit L

Map of parcels Owned by Developer



Yellow = Watton Ponds 2nd Addition

Red = Additional undeveloped parcels

Exhibit M
2040 Shorewood Comprehensive Plan

SHOREWOOD
2040 Comprehensive Plan

The City of Shorewood wishes to acknowledge and thank the following individuals for their time and dedication in completing the City's 2040 Comprehensive Plan Update.

Their commitment, cooperation and contributions are greatly valued and appreciated.

Mayor

Scott Zerby

City Council

Jennifer Labadie

Debbie Siakel

Kristine Sundberg

Patrick Johnson

Planning Commission

Sue Davis

Todd Eggenberger

Nathaniel Gorham

Dustin Maddy

Marc Riedel

City Staff

Greg Lerud, City Administrator

Marie Darling, Planning Director

Patti Helgesen, Assistant Planner

Larry Brown, Public Works Director

Alyson Fauske, City Engineer

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B. Water Supply Emergency Preparedness
C. Capital Improvement Program
D. Smithtown Crossing Project
E. Local Water Supply Plan Template
F. Local Surface Water Management Plan

INTRODUCTION

The City of Shorewood has undertaken an update of its current 2030 Comprehensive Plan both in response to a mandate received from the Metropolitan Council and to identify community issues and concerns. In part, these considerations will serve to direct and focus the work effort.

As a means of obtaining input and gaining insight into local needs and opinions, a series of interviews were undertaken with City Council members, Planning Commissioners, and City staff. The interviews provided significant and valued perspectives on objectives and needs to be addressed in planning the future of Shorewood. This information is summarized in the "Planning Tactics" section of this document (attached as Appendix A). To be stressed however, is that this initial feedback process does not end, but rather will be a continuing theme of the Plan Update process.

Additionally, the city held three open houses and completed a community survey to allow residents and property owners to voice their opinions on what they desire for the City and their respective areas of interest.

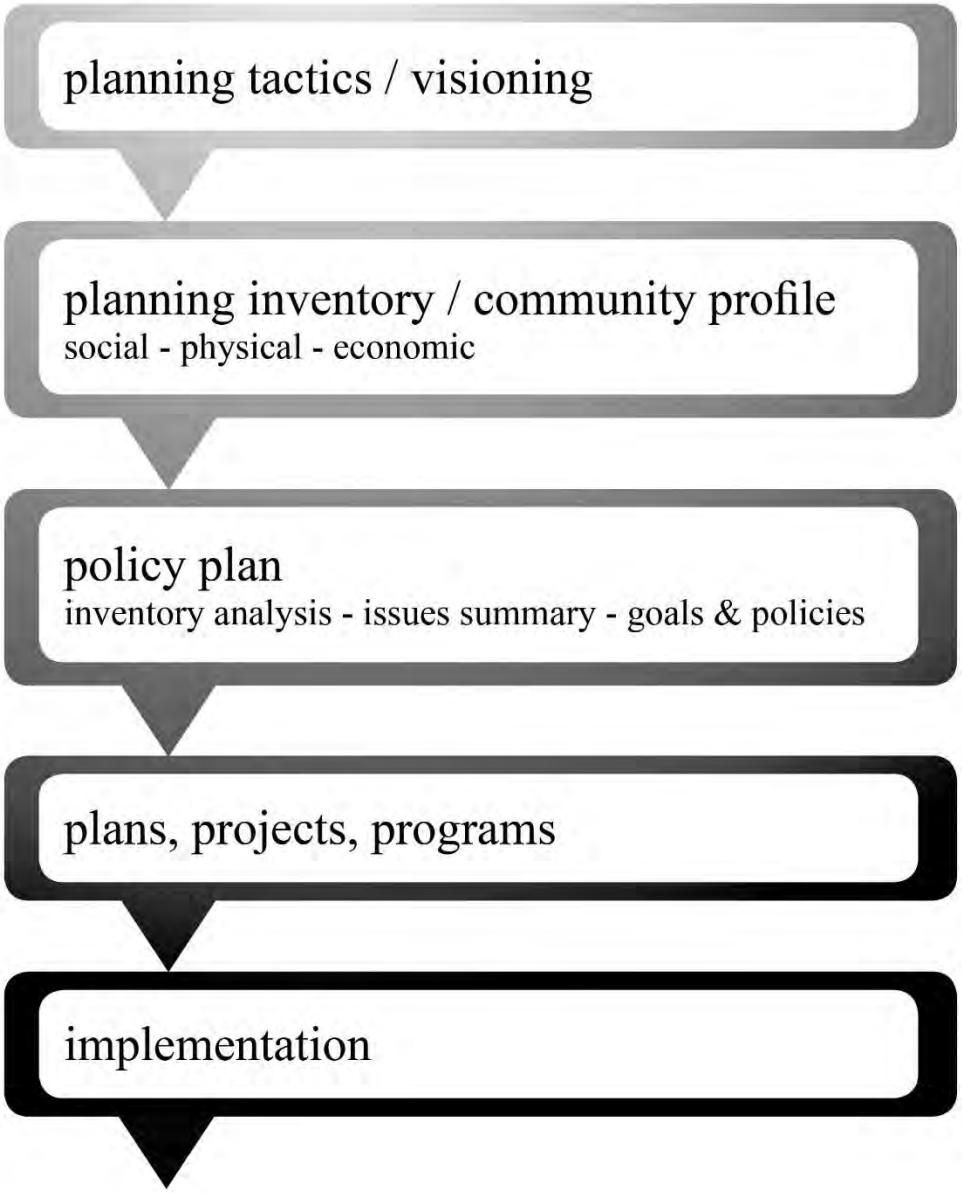
Following this input from citizens and property owners, "draft" materials were presented to the Planning Commission and City Council prior to conducting formal and required public hearings. It is through this participation process that community concerns were raised and addressed.

Beyond the desires and needs of the local representatives, it is important to note that the regional planning directives of the Metropolitan Council will also influence the content of the Comprehensive Plan Update. More specifically, the Metropolitan Council's *Thrive MSP 2040* Regional Development Guide establishes a regional context within which the City of Shorewood must define its role and direct its future. *Thrive MSP 2040* mandates specific regional criteria that must be addressed in the 2040 Comprehensive Plan Update.

In the material that follows, a description of the Comprehensive Plan Update process is provided first. Next, a discussion of local and regional planning history is presented. The major component of this Plan is dedicated to the comments, opinions, needs, and issues that were identified through a series of interviews held to receive input from community officials and City staff. Again, a summary of this information is provided in the "Planning Tactics" report which is attached as Appendix A. The report concludes with a summary of key issues and focus areas that will be further reviewed and refined during the Visioning process of the 2040 Comprehensive Plan Update.

PLANNING PROCESS

Comprehensive planning is a broad base problem solving process. As such, the effort involves well-defined steps, beginning with problem and objective identification and progress to proposed solutions and actions. The diagram on the following page graphically illustrates the general series of stages which have been undertaken in planning for the City's future.



The general comprehensive planning process must, however, be specifically tailored and designed for the jurisdiction it serves. In the case of Shorewood, the 2040 Comprehensive Planning work

program has been divided into five phases with various sub-components intended to cover both macro and micro perspectives of the community.

The first phase was the Planning Tactics which identified local concerns and needs. Through the Tactics interviews, open houses and survey, input was received from City Council members, Planning Commission members, and residents.

The second phase of the planning process involved the assembly of a technical Inventory to document the City and its facilities as they currently exist. The Inventory addresses social, environmental and physical conditions of the City.

Phase three involved the formulation of a Policy Plan. Following the Inventory and Issues Identification, the City defined desired community planning goals that it wishes to accomplish over the next 20-year period. In this regard, policies have been formulated to define actions for accomplishing the desired community goals.

Phase four involved the formulation of the Community Framework guide plan which provides specific plan recommendations for natural resources, land use, housing, transportation, utilities, and community facilities.

The fifth and final stage is Implementation, which involved an analysis of the City's implementation tools (development regulations and capital improvement plans) to ensure that they will effectively serve to implement the Comprehensive Plan goals.

Subsequently, the draft Plan will be sent to adjacent jurisdictions and affected school districts for comment and the Metropolitan Council for review and approval.

To ensure that the City's Comprehensive Plan is truly reflective of the community's interests and objectives and is responsive to constituent concerns, the work must be directed from the outset by the views and opinions of officials, citizens, and property owners. As one of the initial phases of Shorewood's Comprehensive Plan Update, a broad cross-section of individuals was consulted to gain a portion of this local perspective and orientation. Additionally, comments from surrounding and affected units of government will be solicited. This information, when combined with the pending technical community inventory, will establish the basis for Plan formulation.

PLANNING HISTORY

The Lake Minnetonka area, of which the City of Shorewood is a part, was a major tourist destination in the late 19th Century. The area was characterized by luxurious hotels and inns and was accessible via the railroad and State Highway 7.

The City of Shorewood was organized as a village in 1956. Prior to that time, it was part of the former Excelsior Township, as were the nearby Cities of Excelsior, Tonka Bay and Deephaven. The former Village of Shorewood became a statutory City in 1974. Incorporation efforts were

prompted by concerns that remaining property in Excelsior Township would be "lost" by ongoing annexation activities.

Shorewood is primarily a residential community and includes shorelines on Lake Minnetonka, Christmas Lake, Como Lake, Galpin Lake, Silver Lake, Lake Virginia, and Lake William.

The City of Shorewood took its initial steps to control its destiny in 1956 with the development of a Zoning Ordinance. The City adopted its first Comprehensive Plan in 1981, which outlined the type community that the City of Shorewood desired to become. In this regard, the Plan established related goals and policies, as well as a Land Use Plan.

Since 1981, the Plan has undergone several amendments (updates) and, most recently in 2009, as the City's 2030 Comprehensive Plan.

REGIONAL PLANNING

As part of the mandated comprehensive planning process, the City of Shorewood is required to coordinate its Comprehensive Plan in a manner consistent with the *Thrive MSP 2040* Regional Development Guide, as adopted by the Metropolitan Council.

To build the foundation for a prosperous, equitable, livable, and sustainable future, the *Thrive MSP* document identifies seven general policies to guide land use and regional development. These policies are as follows:

Orderly and Efficient Land Use: Align land use, development patterns, and infrastructure to make the best use of public and private investment.

Natural Resources Protection: Conserve, restore, and protect the region's natural resources to ensure availability, support public health, and maintain a high quality of life.

Water Sustainability: Conserve, restore, and protect the quality and quantity of the region's water resources to ensure ongoing availability, support public health, and maintain a high quality of life.

Housing Affordability and Choice: Promote housing options to give people in all life stages and of all economic means viable choices for safe, stable, and affordable homes.

Access, Mobility and Transportation Choice: Sustain and improve a multimodal transportation system to support regional growth, maintain regional economic competitiveness, and provide choices and reliability for the system's users.

Economic Competitiveness: Foster connected land use options to provide businesses and industries with access to materials, markets, and talent.

Building in Resilience: Promote sensitive land use and development patterns to achieve Minnesota's adopted greenhouse gas emissions goals at the regional scale, and to develop local resiliency to the impacts of climate change.

The Metropolitan Council has classified the City of Shorewood as a "Suburban" community. The *Thrive MSP 2040* Regional Development Guide provides the following specific growth strategies for "Suburban" communities to ensure orderly and efficient land use:

- *Plan for forecasted population and household growth at overall average densities of at least five units per acre, and target opportunities for more intensive development near regional transit investments at densities and in a manner articulated in the 2040 Transportation Policy Plan.*

- *Identify areas for redevelopment, particularly areas that are well-served by transportation options and nearby amenities and that contribute to better proximity between jobs and housing.*

- *In collaboration with other regional partners, lead major redevelopment efforts.*

- *Lead detailed land use planning efforts around regional transit stations and other regional investments.*

- *Plan for and program local infrastructure needs (for example, roads, sidewalks, sewer, water, and surface water), including those needed to accommodate future growth and implement local comprehensive plans.*

INVENTORY

2040 Comprehensive Plan

INTRODUCTION

The starting point for the Shorewood Comprehensive Plan Update is to document existing conditions and trends within the City that influence the City's future growth. The purpose of the Shorewood Inventory is to identify the type, amount, and pattern of growth that has taken place within the City. To this end, an inventory of existing conditions has been conducted. This Inventory encompasses seven general categories of information as highlighted below:

Socio-Economic Profile – This profile provides demographic information on population, households, age characteristics, income, and employment.

Natural Resources Profile – This profile identifies the characteristics of Shorewood's natural environment that influence land use development including topography, soils, watersheds, lakes, streams, and wetlands.

Land Use Profile – This profile describes, locates, and quantifies the various land uses within the City of Shorewood.

Housing Profile – This profile describes Shorewood's housing stock by age, tenure, value, and type.

Transportation Profile – This profile describes the transportation infrastructure available in Shorewood. The transportation profile includes functional classification of roadways, traffic volumes, aviation, and transit opportunities.

Utilities Profile – This profile provides insight on public utilities (waste water and municipal water

Community Facilities Profile – This profile provides insight on parks, schools, other utilities and public safety.

The sources of Inventory data have been gathered from a wide range of agencies, printed documents, and interviews. All the maps and tables have been provided with a source. Additional information regarding the source of any of the Inventory data can be obtained by contacting the City.

Together, these categories that make up the Shorewood Inventory provide an informational base which will be used to identify issues and set up a hierarchy of planning policies. These policies will help the community address a broad base of land use and development issues. With the help of a solid information base, decision-makers can evaluate and guide proposals in the short term to benefit the residents Shorewood and the surrounding area, while fulfilling the City's long-term goals and objectives.

POPULATION AND HOUSEHOLD GROWTH TRENDS

The statistics in the following table illustrate the trends in population within Shorewood, surrounding cities, and Hennepin County. Between 2010 and 2020, the City is expected to grow at a rate of 1.3 percent, while Hennepin County is expected to grow at an 8.9 percent rate. From 2020 to 2040, Shorewood is expected to grow at a rate of 1.3 percent, while Hennepin County is expected to grow at a rate of 12.1 percent. The faster growth rate in Hennepin County is due to the amount of undeveloped and vacant land and the amount of redevelopment projects in the County.

The population of Shorewood is projected to stay relatively stable due to the following:

1. With the recent redevelopment of the Minnetonka Country Club property, the City has no large tracts of available vacant land for development and few clustered properties that may be suitable for redevelopment with higher residential densities.

2. An aging population with outmigration of young adults.

3. Impact of the lack of affordable starter homes and ability to "age in place."

4. The impact of shoreland regulations, which restrict development densities within 1,000 feet of a lake.

Population Growth 2000 – 2040								
	2000 Census	2010 Census	2020 Met Council Estimate	2000-2020 % Change	2010-2020 % Change	2030 Met Council Estimate	2040 Met Council Estimate	2020-2040 % Change
Shorewood	7,400	7,307	7,400	0%	1.3%	7,500	7,600	1.3%
Mound	9,435	9,052	9,000	-4.6%	-0.6%	9,300	9,400	4.4%
Tonka Bay	1,547	1,475	1,520	-1.7%	3.1%	1,550	1,560	2.6%
Minnetonka Beach	614	539	520	-15.3%	-3.5%	490	510	-1.9%
Hennepin County	1,116,200	1,152,425	1,255,220	12.5%	8.9%	1,329,580	1,406,640	12.1%
Source: Metropolitan Council, U.S. Census Bureau								

The table below represents the Metropolitan Council's population forecast for Shorewood through 2040. Population is shown to increase by approximately four percent from 2010 to 2040.

Population Projections, 2010 – 2040 City of Shorewood				
	2010 Census	**2020 Forecast**	**2030 Forecast**	**2040 Forecast**
Population	7,307	7,600	7,800	8,000
Households	2,658	2,800	2,910	3,000
Employment	1,113	1,600	1,600	1,600
Source: Metropolitan Council				

The following table indicates that the number of households in Shorewood has increased while the average number of persons per household has slightly decreased (from 2.75 in 2010 to 2.53 persons per household expected in 2040). This is likely reflective of an increase in persons aged 65 and over. It also reflects the natural trend of people having fewer children and the dynamics of the modern family. If this trend is correct, the City will need to encourage additional new housing to accomplish the Metropolitan Council's forecasted population and household growth. However, as the baby boomer generation continues to age and look for alternative housing options, single family homes in Shorewood could be available to younger families, providing more housing options and increasing the average household size. Throughout the next decade, the City of Shorewood should monitor the movement of baby boomers, to help predict future housing needs.

Population and Household Projections, 2010 – 2040 City of Shorewood			
Year	**Population**	**Households**	**Persons Per Household**
2010	7,307	2,658	2.75
2015	7,458*	2,724*	2.74*
2020	7,400	2,800	2.64
2030	7,500	2,910	2.58
2040	7,600	3,000	2.53
*Metropolitan Council Estimates Source: Metropolitan Council, US Census Bureau			

The following table illustrates 2000 and 2010 household type for the City of Shorewood. As the table indicates, the number of family households has increased from 2000 to 2010. In 2000, 83 percent of households were family households. In 2010, the number of family households decreased to 80 percent. The number of non-family households increased from 2000 to 2010, from 423 to 508. The Census does not provide data for non-family households with children in 2000 or 2010.

Household Type City of Shorewood				
Household Type	**Total Number of Households**		**Households With Children**	
	2000	**2010**	**2000**	**2010**
Family-Married Couple	1,914	2,000	1,035	1,000
Family- Male Householder	69	33	20	24
Family- Female Householder	123	58	79	28
Total Family	2,106	2,091	1,134	1,052
Non-Family Households	423	508	-	-
Total Households	2,529	2,599	1,134	1,052

*The U.S. Census Bureau defines a family as two or more people (not necessarily including a householder) residing together and related by birth, marriage, or adoption.
Source: U.S. Census Bureau, 2000 and 2010

AGE CHARACTERISTICS

The following table illustrates Shorewood's population by age group. School-aged population (under 18) decreased between 2000 and 2010 by 4.5 percent. In both 2000 and 2010, the labor force represented the largest age group, at just over 60 percent in each year. The retired age group represented 7.9 percent of the total population in 2000, and 12.5 percent in 2010, an increase of 4.6 percent. It is expected that the retired age group will become the fastest growing segment of the population in the forthcoming decade. Changes in the City's demographics and surrounding areas will have significant planning implications for the future.

Age Characteristics, 2000 – 2010 City of Shorewood				
	2000		2010	
Age Group	**Number**	**%**	**Number**	**%**
Under 5	526	7.1%	354	4.8%
5 to 9	758	10.2%	525	7.2%
10 to 14	712	9.6%	632	8.6%
15 to 19	475	6.4%	643	8.8%
Total: School Aged Children	**2,339**	**31.6%**	**1,977**	**27.1%**
20 to 24	200	2.7%	241	3.3%
25 to 29	168	2.3%	186	2.5%
30 to 34	340	4.6%	209	2.9%
35 to 39	719	9.7%	300	4.1%
40 to 44	870	11.8%	529	7.2%
45 to 49	764	10.3%	744	10.2%
50 to 54	660	8.9%	881	12.1%
55 to 59	339	4.6%	628	8.6%
60 to 64	283	3.8%	523	7.2%
Total: Labor Force	**4,475**	**60.5%**	**4,418**	**60.5%**
65 to 69	194	2.6%	285	3.9%
70 to 74	199	2.7%	237	3.2%
75 to 79	112	1.5%	168	2.3%
80 to 84	58	.80%	147	2.0%
85 to 89	17	.20%	54	.70%
90 +	6	.10%	21	.30%
Total: Retirement Age	**586**	**7.9%**	**912**	**12.5%**
Total	**7,400**	**100.0%**	**7,307**	**100%**
Source: US Census Bureau 2000, 2010				

As shown in the table below, Shorewood has a lower median age than Spring Park, Tonka Bay, and Minnetonka Beach, and a higher median age than Mound. All adjacent communities also have a much higher median age when compared to Hennepin County. The cost of homes in the referenced communities plays a key role in the age of the populations which reside within them.

Median Age of Population Compared to Surrounding Communities (Years), 2010	
Shorewood	45.3
Spring Park	49.2
Mound	42.6
Tonka Bay	47.8
Minnetonka Beach	46.7
Hennepin County	35.9
Source: U.S. Census Bureau, 2010	

EDUCATION

The following table illustrates education levels for residents ages 25 and over in 2010. An overall comparison of Shorewood to Hennepin County illustrates that Shorewood residents have attained a higher level of education than Hennepin County residents as a whole (according to the U.S. Census 2015 estimates). Shorewood has a high percentage of high school graduates or higher, at over 98 percent, compared to Hennepin County's 92.6 percent. Shorewood also has a higher percentage of residents with a Bachelor's degree or higher.

2015 Educational Attainment for Ages 25 and Over Shorewood and Hennepin County				
	Shorewood		**Hennepin County**	
	2015	**Percent**	**2015**	**Percent**
<9th Grade	1	0%	28,166	3.5%
9th to 12th Grade (no diploma)	71	1.4%	32,337	3.9%
High School Graduate	504	10.1%	146,311	17.8%
Some College (no degree)	926	18.5%	160,152	19.5%
Associate Degree	359	7.2%	68,370	8.3%
Bachelor's Degree	2,087	41.7%	249,057	30.3%
Graduate Degree	1,060	21.2%	136,969	16.7%
Total	5,008	100%	821,362	100%
% of High School Graduate (or higher)	98.6%		92.6%	
% of Bachelor's Degree (or higher)	62.8%		47.0%	
Source: U.S. Census Bureau American Community Survey				

EMPLOYMENT

The following table represents the 2010 employment demographics for Hennepin County and the City of Shorewood. The table shows that in 2010, Shorewood had a similar breakdown of jobs as compared to Hennepin County. The biggest occupational sectors in both Hennepin County and Shorewood in 2010 were professional and business services and education/health services. The smallest sectors in both Hennepin County and Shorewood were natural resources and mining occupations.

Occupation by Industry Breakdown, 2010
Shorewood and Hennepin County

	Shorewood		Hennepin County	
	Number	**Percent**	**Number**	**Percent**
Natural Resources and Mining	-	-	823	0.1%
Construction	51	6.2%	18,201	2.4%
Manufacturing	16	1.9%	70,933	9.2%
Trade, Transportation and Utilities, Wholesale Trade	39	4.7%	69,774	9.0%
Information and Retail	70	8.4%	90.752	11.8%
Financial Activities	80	9.7%	86,861	11.3%
Professional and Business Services	155	18.7%	170,201	22.0%
Education and Health Services	199	24.1%	164,310	21.3%
Leisure, Arts, and Hospitality	105	12.7%	59,905	7.8%
Other Services	90	10.9%	23,591	3.1%
Government	22	2.7%	17,235	2.2%
Total	827	100.0%	772,586	100.0%
Source: U.S. Census Bureau 2010, On the Map – QCEW data				

As illustrated in the table below, the Metropolitan Council is predicting that Shorewood will have expanding employment opportunities within the community, increasing almost 70 percent from 2010 to 2040. These estimates appear unrealistic recognizing that Shorewood has limited commercial and industrial land uses within the City. Further, the City of Shorewood is considered fully developed with very few vacant parcels which have the potential to generate new jobs.

Employment Projections
City of Shorewood

	2010 Estimate	**2020 Forecast**	**2030 Forecast**	**2040 Forecast**
Shorewood	827	1,600	1,600	1,600
Source: Metropolitan Council				

TRAVEL TIME TO WORK

As shown in the table below, approximately 36 percent of Shorewood residents have a commute time of 30 minutes or longer. The average (median) travel time to work for Shorewood residents is 26 minutes.

Travel Time to Work, 2015 City of Shorewood		
	Number of Residents	**Percent**
Less than 10 minutes	331	9.7%
10 to 14 minutes	423	12.4%
15 to 19 minutes	468	13.7%
20 to 24 minutes	539	15.8%
25 to 29 minutes	423	12.4%
30 to 34 minutes	509	14.9%
35 to 44 minutes	253	7.4%
45 to 59 minutes	352	10.3%
60 or more	116	3.4%
Total	3,414	100%
Worked at home	321	
Average travel time to work	26.1 minutes	
Source: U.S. Census Bureau, 2015		

HOUSEHOLD INCOME

The U.S Census data regarding median family income for Shorewood and Hennepin County is illustrated in the following tables. The household income table indicates household income ranges for Shorewood. The per capita income and median family income for the City is significantly greater than that of Hennepin County.

Per Capita, Family, and Household Incomes Shorewood and Hennepin County				
	Per Capita Income	**Median Family Income**	**Median Household Income**	**Percent in Poverty**
2000				
Shorewood	$44,425	$104,100	$96,589	1.7%
Hennepin County	$28,789	$65,985	$51,711	8.3%
2010				
Shorewood	$59,861	$134,698	$118,495	2.0%
Hennepin County	$35,902	$81,043	$61,328	12.1%
Source: US Census, ACS 2000, 2010, and 2015 Five-Year Estimates				

Household Income City of Shorewood				
	2000		**2010**	
	Number of Households	**Percent of Households**	**Number of Households**	**Percent of Households**
Less than $10,000	33	1.3%	28	1.1%
$10,000 to $14,999	24	.9%	24	.9%
$15,000 to $24,999	126	5.0%	86	3.3%
$25,000 to $34,999	151	6.0%	96	3.7%
$35,000 to $49,999	168	6.6%	157	6.0%
$50,000 to $74,999	427	16.9%	302	11.6%
$75,000 to $99,999	377	14.9%	424	16.3%
$100,000 to $149,999	555	22.0%	492	18.9%
$150,000 to $199,999	204	8.1%	393	12.4%
$200,000 or more	463	18.3%	597	23.0%
Total	2,528	100.0%	2,599	100.0%
Source: US Census Bureau, 2000, 2010				

LAKES

Lake Minnetonka is the largest natural resource within the City of Shorewood. As a large recreational lake, it is of prime importance to the citizens of the community and their lifestyle. Shorewood has six named lakes (as classified by the Department of Natural Resources, including Christmas Lake, Silver Lake, Lake Como, Lake Virginia, Lake William, and Galpin Lake, which provide recreational opportunities for residents.

All areas of Lake Minnetonka have been classified as impaired by the Minnesota Pollution Control Agency. This classification is a result of development which surrounds the lake and the amount of direct stormwater runoff channeled into the waters.

There are many government agencies that have jurisdiction, in one form or another, over the City's lakes, including: individual municipalities, the Army Corps of Engineers, the Riley Purgatory Bluff Creek Watershed District, the Lake Minnetonka Conservation District, The Minnehaha Creek Watershed District, and the Minnesota Department of Natural Resources. Historically, the City manages its shoreland development while stormwater drainage is reviewed and approved by the Watershed Districts.

TOPOGRAPHY

There are several areas within Shorewood which exhibit slopes in excess of 18 percent. In these areas, there is a cause for concern because disruption of the existing ground cover or unauthorized grading may result in destabilization of the slope and result in erosion and sedimentation into lakes and/or adjacent wetlands. Those areas classified as bluffs within shoreland districts have additional protection.

SOILS

Many areas of Shorewood have been built upon soils that have questionable to moderate limitation in terms of building site suitability. Since Shorewood is fully serviced by sanitary sewer, the primary consideration regarding the soils is their suitability for new and existing building sites. Factors such as slope, depth to water table, bearing capacity, volume change (shrink-swell potential and potential for frost heave have definite influence on the development capability of a given site. In areas of questionable soils, soil testing and special construction techniques will be necessary to overcome the construction limitations.

TREE PRESERVATION

The City of Shorewood contains significant numbers of oak, elm and other deciduous trees which contribute to the aesthetic quality of the community. In addition, these trees play an important role in the function of the City's natural systems. The City Code includes a tree preservation ordinance which is intended to preserve or replace trees in new developments or redevelopments.

WETLANDS

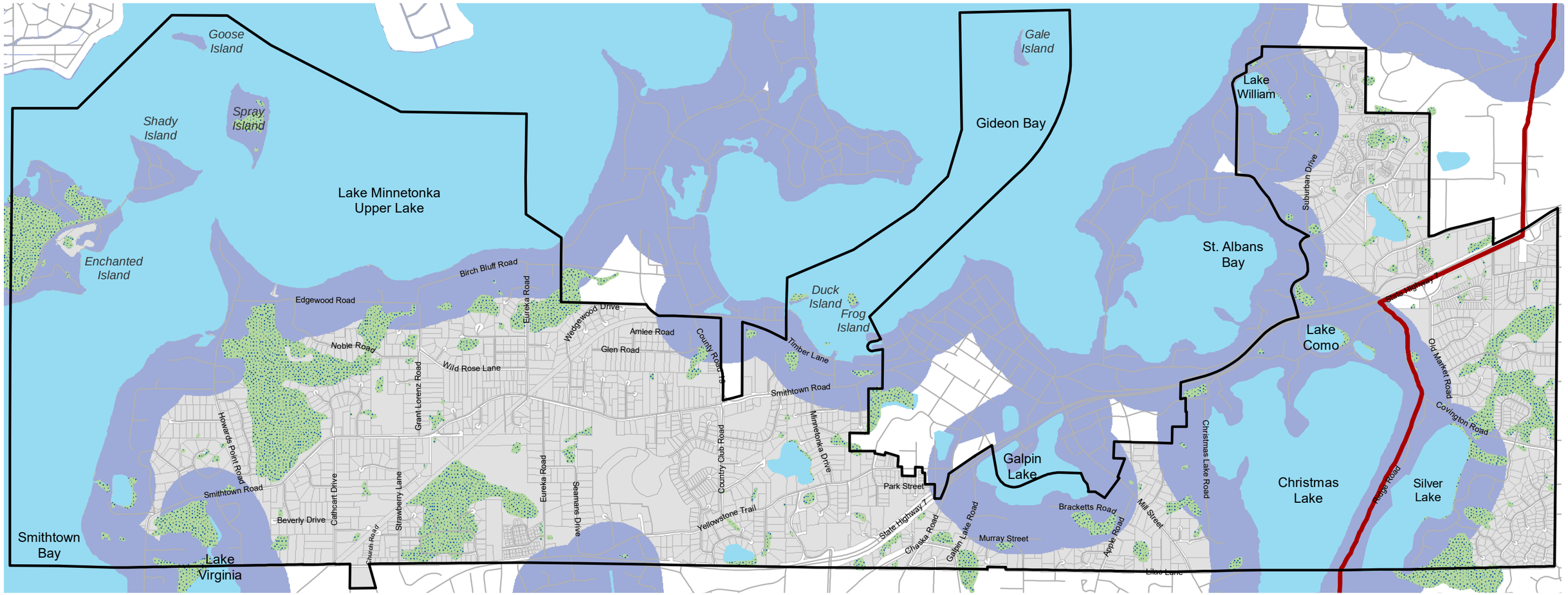
The Water Resources Map on the following page illustrates wetlands and natural buffer areas throughout the City. The wetlands serve an important buffer to the lakes which helps with water quality and preserve the natural environment in the City.

AGGREGATE RESOURCES

According to the Metropolitan Council's aggregate resources inventory contained in Minnesota Geographical Survey Information Circular 46, there are no known viable aggregate resource deposits available for extraction within the City of Shorewood.

Water Resources

City of Shorewood
2040 Comprehensive Plan



Legend

- Shorewood Boundary
- Watershed Boundaries
- Wetlands (National Wetland Inventory)
- Shoreland Protection Zone (1000' from Lake)
- Lakes

Map created: October 2018
Data: NAC, MnDNR, Metropolitan Council

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LAND USE

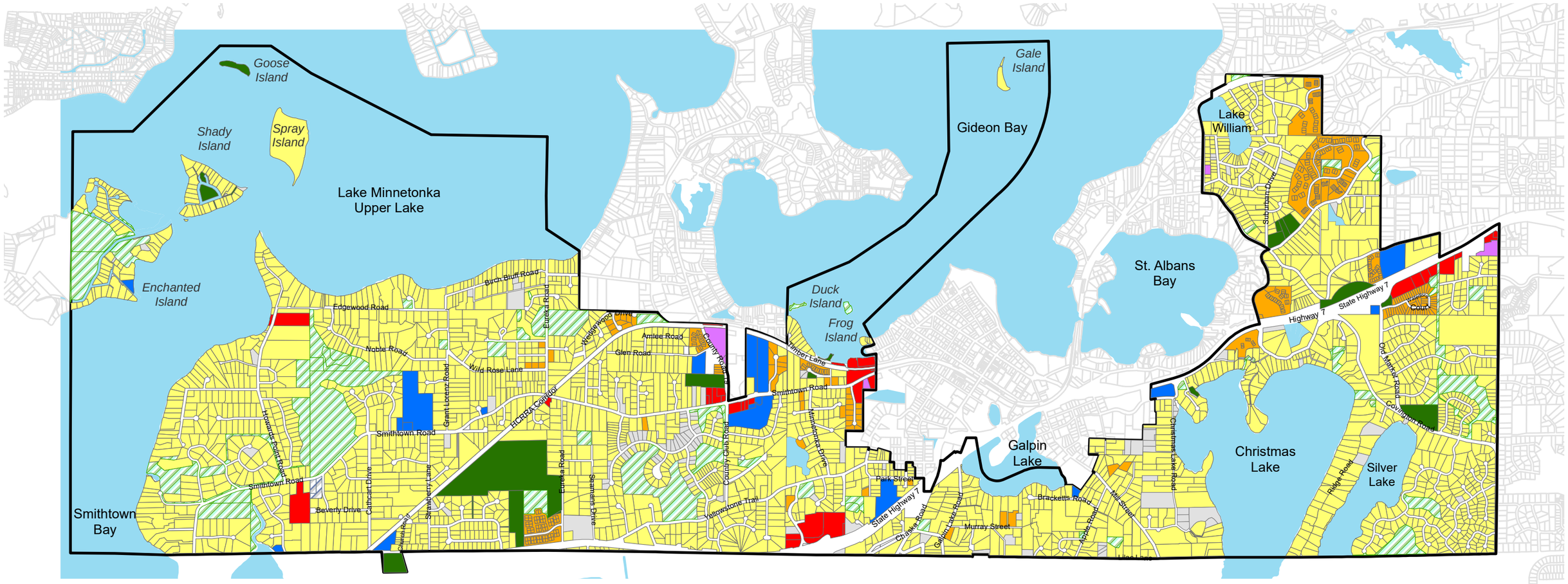
Shorewood is a fully developed City with 100 percent of the land within its municipal boundaries lying within the Metropolitan Urban Service Area (MUSA). The 3,000 acres of City land has an unusual boundary due to numerous abutting cities and lakes. The City boundary touches the cities of Chanhassen, Orono, Mound, Minnetrista, Victoria, Minnetonka, Greenwood, Deephaven, Tonka Bay and Excelsior. Most land use is classified as residential or commercial. There is a very limited amount of vacant land available for development in Shorewood. Most of the residential land is comprised of single-family homes with few other alternatives. A summary of 2017 land uses is provided in the table below.

Existing Land Use - 2017			
Land Use	**Acres**	**Percent of Total**	**Percent of Total without Open Water**
Minimum Density Residential	-	-	
Low Density Residential	2,128	41%	64%
Low to Medium Density Residential	-	-	
Medium Density Residential	137	3%	4%
High Density Residential	5	<1%	<1%
Commercial	55	1%	2%
Industrial	9	<1%	<1%
Public/Semi-Public	67	1%	2%
Parks	95	2%	3%
Cemetery	18	<1%	<1%
Open Space	238	7%	11%
Right of Way	384	7%	11%
Vacant	202	2%	4%
Open Water	1,874	36%	NA
Total	5,212	100.0%	100%
Source: City of Shorewood, Metropolitan Council, analyzed via GIS			

Parks: Public parks only.
Open Space: Land not suitable for development, including ponds, conservation easements, etc.
Vacant land: Includes lands that may be developed in the future or lots within developments that have no structure as of June, 2018.

Existing Land Use

City of Shorewood
2040 Comprehensive Plan



Existing Land Use

- Single-Family Residential
- Two-Family Residential
- Multiple-Family Residential
- Commercial
- Industrial
- Public/Institutional
- Parks
- Open Space
- Cemetary
- ROW
- Vacant
- Open Water
- City Boundary

Map created: December 2020
Data: NAC, MNDNR, Metropolitan Council

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ZONING DISTRICTS

The following summarizes the various districts of the Zoning Ordinance and how they are applied in the City. The zoning map follows these descriptions.

R-1A, Single-Family Residential District. The R-1A District is intended to provide a district which will allow suitable areas of the City to be retained and utilized for low density residential, open space and/or agricultural uses.

R-1B, Single-Family Residential District. The R-1B District is intended to provide a district which will retain a low density residential character, yet enable greater flexibility in design and provide economy in public expenditures for public utilities and service.

R-1C, Single-Family Residential District. The R-1C District is intended to allow a greater concentration of single-family dwellings in areas served by municipal utilities and where appropriate reservations for open space have been established by means other than individual lot areas.

R-1D, Single-Family Residential District. The R-1D District is intended to allow a greater concentration of single-family dwellings in areas served by municipal utilities and where appropriate reservations for open space have been established by means other than individual lot areas. The District also recognizes the existence of older areas of the community in which smaller lots exist.

R-2A, Single and Two-Family Residential District. The R-2A District is intended to provide suitable areas of the City which will allow construction of single-family and two-family homes, yet maintain the character and amenities of low density single-family residential areas.

R-2B, Single and Two-Family Residential District. The R-2B District is intended to provide suitable areas of the community which will allow construction of single-family and two-family homes of a more compact nature, while maintaining the character and amenities of low density single-family residential areas.

R-2C, Single and Two-Family Residential District. The R-2C District is intended to provide suitable areas of the community which will allow construction of single-family and two-family homes of a very compact nature while retaining a low to medium density of approximately five units per acre.

R-3A, Multiple-Family Residential District. The R-3A District is intended to provide a greater variety in the type of housing units available within the community, while retaining the

environment and character of less intensive residential areas through carefully established bulk and lot area requirements.

R-3B, Multiple-Family Residential District. The R-3B District is intended to provide a greater variety in the type of housing units available within the community by allowing construction of two-family, townhouse, quadraminium and apartment dwellings at a density ranging up to ten units per acre.

R-C, Residential/Commercial District. The R-C District is intended for a gradual transition between commercial and residential uses. More specifically, the R-C District is established to buffer residential uses from adjacent high intensity use areas by permitting residentially compatible service- oriented commercial uses and controlling those uses which can be compatible with residential areas given adequate control.

C-1, General Commercial District. The purpose of the C-1, General Commercial District is to provide for low to moderately intense retail or service outlets that deal directly with the customer to whom the goods or services are furnished. The uses allowed in this district are to provide goods and services on a limited community market scale and located in areas that are well served by collector or arterial street facilities.

C-2, Commercial Service District. The C-2 District is intended to recognize areas containing preexisting businesses that provide services primarily for the community and surrounding area. It is further intended that the location of the C-2 District may take advantage of transportation routes with existing high traffic volumes; however, activities allowed in the District will not create additional traffic.

L-R, Lakeshore Recreational District. The L-R District is intended to recognize the desirability for areas to serve the lakeshore recreational needs of the City which of their very nature are by geographic necessity located in proximity and adjacent to residential areas of this community.

Lake Minnetonka is the largest single park and recreational facility available for use by Shorewood's citizens, providing of an opportunity for access to that facility is, in the opinion of the City, an adjunct of zoning by the City. Recognizing the primary residential nature of Shorewood, it behooves the City to subject the possible areas available for access to the lake to close scrutiny and limitation so as to insure that use of the land does not unduly infringe upon property rights and public health, safety and welfare of others residing on nearby residential sites.

PUD, Planned Unit Development District. This District is established to provide comprehensive procedures and standards designed for district planned unit development to allow the development of neighborhoods or portions thereof incorporating a variety of residential types and nonresidential uses. Recognizing that traditional density, bulk, setbacks, use and subdivision regulations which may be useful in protecting the character of substantially developed areas may not be appropriate to control development in less developed areas. Specifically, PUD is intended to encourage:

a. Innovations in residential development to the end that the growing demands for housing at all economic levels may be met by greater variety in tenure, type, design and siting of dwellings and by the conservation and more efficient use of land in the developments;

b. Higher standards of site and building design through the use of trained and experienced land planners, architects and landscape architects;

c. More convenience in location of commercial and service areas within a given project or area, allowing more efficient and desirable transitions between residential and nonresidential land uses;

d. The preservation and enhancement of desirable site characteristics such as natural topography and geologic features and the prevention of soil erosion;

e. A creative use of land and related physical development which allows a phased and orderly transition of land from rural to urban uses;

f. An efficient use of land resulting in smaller networks of utilities and streets thereby lowering housing costs and public investments;

g. A development pattern in harmony with the objectives of the City Comprehensive Plan;

h. A more desirable environment than would be possible through the strict application of zoning and subdivision regulations of the City;

i. To give the landowner and developer reasonable assurance of ultimate approval before expending complete design monies while providing city officials with assurances that the project will retain the character envisioned at the time of concurrence;

j. To allow variation from the provisions of this chapter, including setbacks, height, lot area, width and depth, yards and the like internally within the project. Provisions of this chapter shall generally be maintained at the periphery of the project area.

S, Shoreland District. Shorelands within the City are designated as shoreland districts and the requirements set forth in this chapter shall govern development and other activities within these districts. The classification of the shoreland areas shall govern the use, alteration and development of these areas according to the classification as per M.S., Chapter 105, and Minnesota Regulations parts 6120.2500 - 6120.3900.

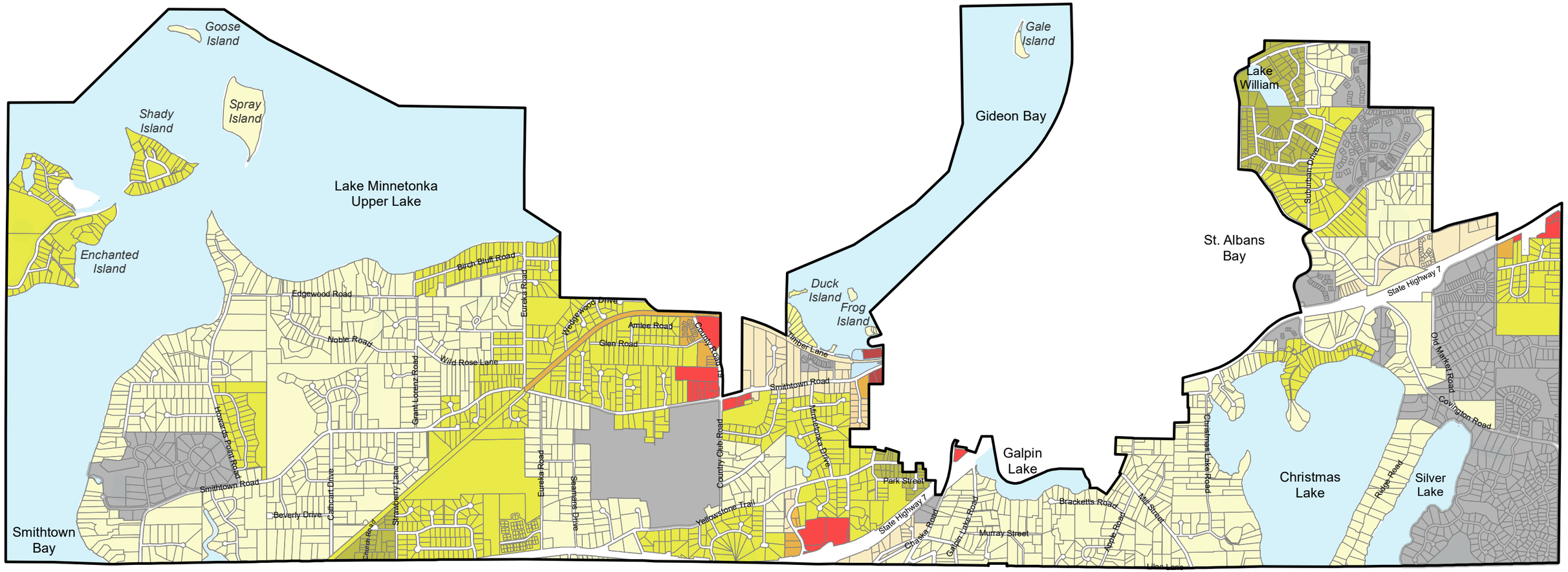
The S District is applied to and superimposed upon all zoning districts as contained herein as existing or amended by the text and map of this chapter. The regulations and requirements imposed by the S District shall be in addition to those established for districts which jointly apply. Under the joint application of districts, the more restrictive requirements shall apply.

HISTORIC PRESERVATION

The City of Shorewood does not contain any buildings or structures which are listed on the National Register of Historic Places or that have been identified by the Minnesota Historical Society as being eligible for the National Register. The City is, however, committed to preservation of its history. As opportunities arise and funding is available, the City will evaluate appropriate steps toward preservation.

Zoning

City of Shorewood
2040 Comprehensive Plan



Legend

- C-1
- C-2
- L-R
- PUD
- R-1A
- R-1B
- R-1C
- R-1D
- R-2A
- R-2B
- R-3A
- R-C
- Shorewood Boundary

Map created: May 2017
Data: NAC, MnDNR, Metropolitan Council

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HOUSING TYPES

As seen in the following table, the City of Shorewood is largely single-family residential, with 94 percent of the total housing units either detached or attached single family homes. Multi-family (medium and high-density units) account for less than 5 percent of the total housing in Shorewood.

Housing Units by Type City of Shorewood			
Type	**Number of Units**	**Percent of Total**	
1 unit, detached	2,373	81.9%	93.9%
1 unit, attached	349	12.0%	
2, 3 or 4 units	81	2.8%	2.8%
5 to 9 units	0	0.0%	3.3%
10 to 19 units	43	1.5%	
20 units or more*	53	1.8%	
Total	2,899	100.0%	
Source: U.S. Census Bureau 2015 ACS estimates			

*The above table represents 2015 estimates from the U.S. Census Bureau. It does not include units from Shorewood Landing, a senior housing development built in 2017 on 3.67 acres with 28 independent living units, 52 assisted living units and 25 memory care units. This will add 105 total units, increasing the total units in buildings with 20 or more units to 158.

As is true in most cities, the majority of the single-family homes in Shorewood are owner occupied and the majority of the multiple family dwellings are renter occupied. Of the existing housing units which exist within the City, 84 percent are owner-occupied, 10 percent are renter-occupied, and 6 percent are vacant. The average rent in 2015 was $978.

Housing Tenure, 2015 City of Shorewood		
	Number	**Percent**
Owner-Occupied	2,455	84.2%
Renter-Occupied	293	10.0%
Total Occupied Housing Units	2,748	94.2%
Vacant Housing Units	168	5.8%
Total Housing Units	2,916	100.0%
Average Household Size of Owner-Occupied Unit	2.79	
Average Household Size of Renter-Occupied Unit	2.25	
Source: U.S. Census Bureau, 2015		

HOUSING COST

The table below illustrates rent rates within the City in 2015.

Gross Rent, 2015 City of Shorewood		
Gross Rent Per Month	**Number of Units**	**Percent of Total**
Less than $500	24	9.8%
$500 to $999	110	44.9%
$1000 to $1,499	52	21.2%
$1,500 to $1,999	29	11.8%
$2,000 to $2,499	10	4.1%
$2,500 to $2,999	8	3.3%
More than $3,000	12	4.9%
Total	245	100.0%
Median Rent	$978	
Source: U.S. Census Bureau, 2015		

The following table illustrates the estimated market value for owner-occupied housing units within Shorewood. The vast majority of these homes are above $300,000 with the median value of homes being $401,400. The City of Shorewood has few options for existing single-family homes to be considered low income housing.

Estimated Market Value of Owner Occupied Housing Units, 2015 City of Shorewood

Value	Properties	Percent
Less than $50,000*	18	.7%
$50,000 to $99,999*	7	.3%
$100,000 to $149,999	15	.6%
$150,000 to $199,999	73	3.0%
$200,000 to $299,999	558	22.7%
$300,000 to $499,999	943	38.4%
$500,000 to $999,999	678	27.6%
$1,000,000 or more	163	6.6%
Total	2,455	100.0%
Median Value	$401,400	

Source: U.S. Census Bureau, 2015 ACS

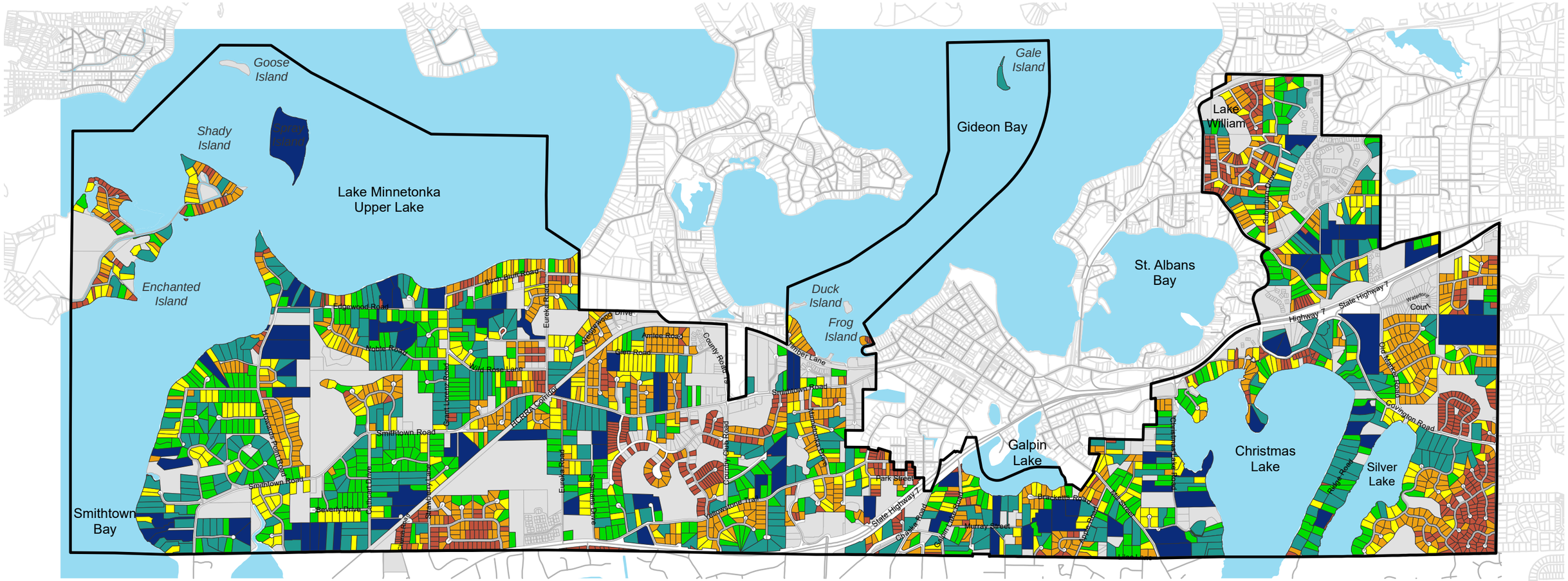
*These numbers are estimates from the Census, and the margin of error for these statistics is +/- 26 properties for those less than $50,000 and +/- 11 properties for those under $99,999. The number of properties in both these categories is likely closer to zero.

The City of Shorewood has a wide range of lot size options for residents. Municipal water supply is not available to all lots in Shorewood, which increases the need for larger lot sizes to accommodate private water supply. The strong demand for new lots has encouraged property owners with existing large lots to subdivide them into smaller lots. The City anticipates this trend will continue in the future. The average lot size (mean) is 38,000 square feet. Average single-family density is 1.31 units per acre (2,736 units on 2,095 acres.)

Area of Single Family Lots (Square Feet) City of Shorewood		
Area	**Properties**	**Percent**
< 20,000 sq. ft.	549	22.7%
20,000 – 30,000 sq. ft.	687	28.4%
30,000 – 40,000 sq. ft.	371	15.3%
40,000 – 50,000 sq. ft.	390	16.1%
50,000 – 100,000 sq. ft.	337	13.9%
> 100,000 sq. ft.	88	3.6%
Total	2422	100.0%
Source: Hennepin County, City of Shorewood, DNR, NAC, analyzed via GIS		

Single Family Lot Sizes

City of Shorewood
2040 Comprehensive Plan


Goose Island
Shady Island
Gray Island
Lake Minnetonka
Upper Lake
Enchanted Island
Gale Island
Gideon Bay
Lake William
St. Albans Bay
Duck Island
Frog Island
Galpin Lake
Christmas Lake
Silver Lake
Smithtown Bay
Birch Bluff Road
Edgewood Road
Eureka Road
Wood Drive
Timber Lane
Smithtown Road
Amlee Road
Glen Road
County Road 19
Wild Rose Lane
Grant Lindsay Road
Hillcrest Point Road
Beverly Drive
Cleveland Drive
Shadow Lane
Church Road
Hidden Point Drive
Park Street
Victoria Drive
Murray Street
Brackett Road
Ann Street
Christmas Lake Road
Ridge Road
Old Market Square
Covington Road
Waterford Court
Highway 7
State Highway 7
Minnetonka Trail
Country Club Road
Oak Shores Drive
Smithtown Bay Park
Shorewood Trail
Shorewood Park
Cleveland Road
Oakland Road
Oakland Terrace
Oakwood Road
Oakwood Terrace
Oakwood Drive
Oakwood Lane
Oakwood Court
Oakwood Circle
Oakwood Place
Oakwood Trail
Oakwood Way
Oakwood Square
Oakwood Plaza
Oakwood Park
Oakwood Heights
Oakwood Hills
Oakwood Meadows
Oakwood Ridge
Oakwood Valley
Oakwood Crest
Oakwood Glen
Oakwood Grove
Oakwood Manor
Oakwood Estates
Oakwood Village
Oakwood Commons
Oakwood Gardens
Oakwood Terrace

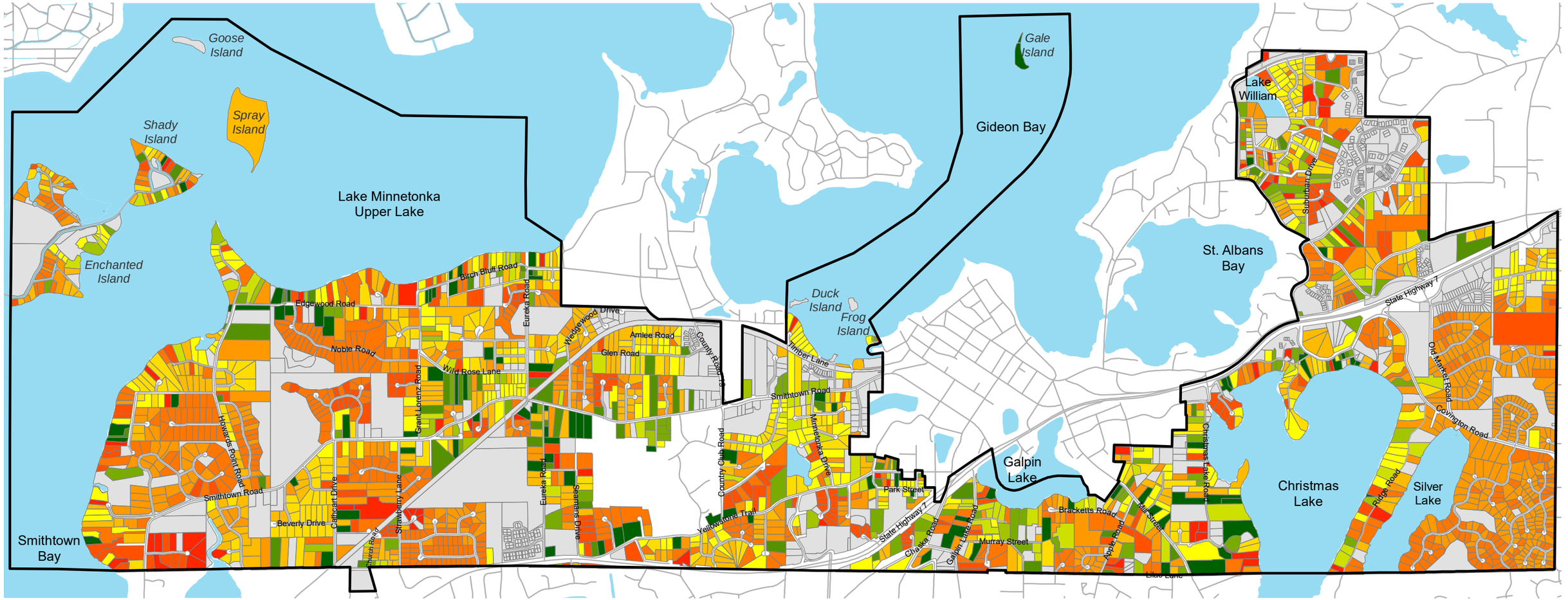
YEAR BUILT

Shorewood is a community with a mix of single-family homes. As shown in the table below, approximately 52% of homes in Shorewood were built since 1980.

Age of Single Family Housing Stock City City of Shorewood		
Year Built	**Number of Units**	**Percent of Total**
Pre-1900	8	0.3%
1900s	89	3.7%
1910s	63	2.6%
1920s	84	3.5%
1930s	45	1.9%
1940s	84	3.5%
1950s	279	11.6%
1960s	237	9.8%
1970s	260	10.8%
1980s	540	22.4%
1990s	471	19.5%
2000s	186	7.7%
Post-2010	66	2.7%
Total	2,412	100.0%
Source: U.S. Census Bureau, 2010		

Single Family Housing Year Built

City of Shorewood
2040 Comprehensive Plan



Legend

Year Built

- Pre 1910
- 1910s
- 1920s
- 1930s
- 1940s
- 1950s
- 1960s
- 1970s
- 1980s
- 1990s
- 2000s
- Post 2010
- Shorewood Boundary
- Non-Residential/No Data Parcels
- Lakes

Map created: October 2018
Data: NAC, MnDNR, Metropolitan Council & Hennepin County

0 0.25 0.5 1
Miles

N

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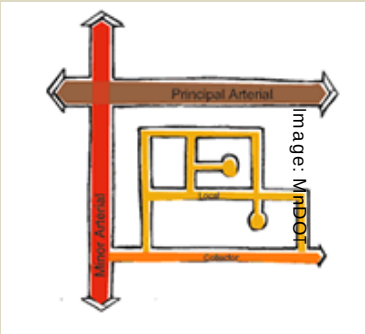
EXISTING ROADWAY SYSTEM

The sections below provide information about the existing roadway system in Shorewood, including existing number of lanes, existing roadway jurisdiction, existing functional classification, existing traffic, existing safety, and access management.

Functional Classification

The **functional classification system** groups roadways into classes based on roadway function and purpose. It organizes the roadway and street network that distributes traffic from local neighborhood streets to collector roadways, then to minor arterials and ultimately the principal arterial system. Roads are placed into categories based on the degree to which they provide access to adjacent land and mobility for through traffic. Functional classification is based on both transportation and land use characteristics, including roadway speeds, access to adjacent land, connection to important land uses, and the length of trips taken on the roadway.



The Seven-County Metropolitan Area's functional classification system includes 4 classifications of roadways: principal arterials, minor arterials, collector streets, and local streets. The figure on the following page shows the existing functional classification of each road in the City of Shorewood.

The following sections describe each functional class in greater detail and indicate which roadways fall into each classification.

Principal Arterials

Principal arterials are roadways that provide the greatest level of mobility and access control. Within the metropolitan area, the great majority of principal arterials are under MnDOT jurisdiction. Principal arterials are typically Interstate highways or other state or US freeways or expressways. These roads are usually for trips greater than 8 miles and express transit trips. Spacing between principal arterials varies within developing areas of the metropolitan area. Typically, these facilities are spaced between two and six miles apart and connect regional business and commercial concentrations, transportation terminals, and large institutions within the metropolitan areas. Principal arterials also connect to other cities, regions, and states outside of the metropolitan area.

These roadways are designed to maintain average speeds of 40 mph during peak traffic periods. To maintain mobility and speeds on principal arterials, driveway and other road connections are limited. There is little to no direct land access from driveways. Connection points are typically grade-separated or controlled with a signal and are spaced approximately one to two miles apart and include intersections with other interstate freeways, other Principal Arterials, and A Minor Arterials.

Within the City of Shorewood, TH 7 is the one existing principal arterial and no others are proposed. TH 7 generally traverses the city from the eastern border with Minnetonka to Chanhassen. TH 7 is an important metropolitan highway that serves east-west vehicular movements throughout the region.

Minor Arterials

Minor arterials maintain a focus on mobility but provide more land access than principal arterials. Within Shorewood, all minor arterials are under the jurisdiction of Hennepin County. Minor arterials are intended to serve trips of four to eight miles in length. Within developing areas of the metro, these facilities are spaced between one and two miles apart. Minor arterials connect cities and towns within the region and link to regional business and commercial concentrations. Access points along minor arterials are generally at-grade and typically controlled with signals or stop signs.

During peak traffic, minor arterials in developing areas are intended to maintain 30 mph average speeds. As a result, transportation system connections are limited to interstate freeways, other principal arterials, other minor arterials, collectors, and some local streets. Land access is limited to concentrations of commercial and industrial land uses. The Metropolitan Council has established a system of "A" Minor and "B" Minor arterials. "A" Minor arterials are eligible for federal funding administered by the Metropolitan Council. The Metropolitan Council has further split "A" Minor arterials into four types, described below:

- Relievers: Arterials located parallel to congested principal arterials. The purpose of "A" Minor Relievers is to provide additional capacity in congested corridors.
- Augmenters: Arterials that supplement the principal arterials system within urban centers and urban communities.

- Expanders: Arterials that supplement principal arterials in less-densely developed areas of the metro area.
- Connectors: Arterials that provide connections between rural towns and connect rural areas with the principal arterial system.

Given the purpose of "A" Minor Augmenters and Connectors, there are no existing or planned augmenters, connectors or relievers within the city. "A" Minor arterials in Shorewood include the following roadways:

"A" Minor Expanders

- CSAH 82 (Mill Street)
- CSAH 19 (Oak Street and Manitou Road)

"B" Minor arterials have a similar focus on mobility above land access. These roadways connect major traffic generators in the region. "B" Minor arterials are not eligible for federal funding. "B" Minor arterials are also referred to as "Other" arterials in the 2040 Transportation Policy Plan. There are no "B" Minor or "Other" arterials within the City.

Major and Minor Collectors

Major and minor collector roadways provide linkages to larger developments and community amenities. They generally do not link communities to one another. Collector roadways generally favor access to the system over mobility but try to balance the two competing needs. Collector roadways are generally lower speed than the principal or minor arterial routes. Collector roadways are often owned and operated by cities, although counties operate some of these facilities. Collectors link minor arterials, other collectors, and local streets.

Major collectors typically serve higher density residential areas and concentrations of commercial and industrial land uses. These facilities tend to serve longer trips than minor collectors. The Major Collectors in Shorewood include the following roadways:

Major Collector Roadways

- Smithtown Road
- Galpin Lake Road
- Minnetonka Boulevard

There are no minor collectors identified within the City.

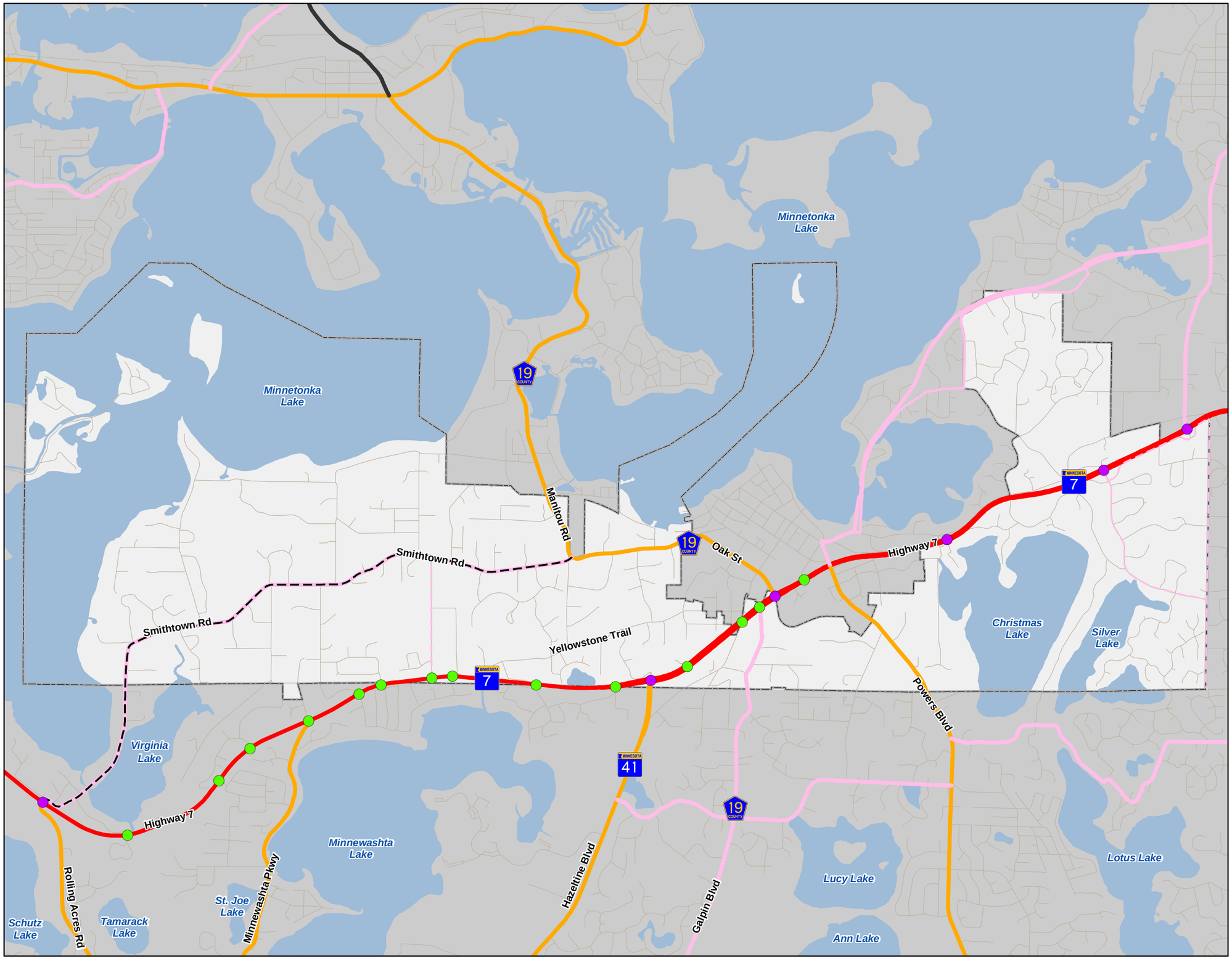
Local Roadways

The primary function of local roadways is land access. Local roadways connect individual land parcels with other local roadways and collectors. Trips on local roadways are typically under two miles. Speeds on local roadways are typically low. Longer trips are facilitated by local roadway connections to the collector and arterial systems. Local roadways are under the jurisdiction of the City of Shorewood. Local roadways are all roadways that are not arterials or collectors.

CITY OF SHOREWOOD

Shorewood Comprehensive Plan

Functional Classification Map
Shorewood, MN



- City Boundary
- Controlled Full Access Intersection
- Uncontrolled Full Access Intersection
- Principal Arterial
- A Minor Expander
- Other Arterial
- Major Collector
- Future Major Collector
- Future Other Arterial

N

0 2,500 Feet

1 inch = 2,500 feet

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Jurisdictional Classification / Municipal State Aid Streets

Roadways are classified on the basis of which level of government owns and has jurisdiction over the given facility. The three levels of government that have involvement are the State of Minnesota (Mn/DOT, Hennepin County, and the City of Shorewood. Mn/DOT owns/maintains the Trunk Highway (TH system and Hennepin County the County State Aid Highway (CSAH and County Road (CR system. The City owns/maintains the local streets, including Municipal State Aid (MSA streets**.**

Cities in Minnesota with populations greater than 5,000 are eligible to receive Municipal State Aid (MSA funding from the state Highway User Tax Distribution Fund. The basic purpose of this program is to help local governments construct and maintain collector and arterial roadways which have consistent design standards, and which are well integrated into the overall network of collector and arterial roadways. The State Aid system typically consists of a maximum of 20% of the City's roadway mileage.

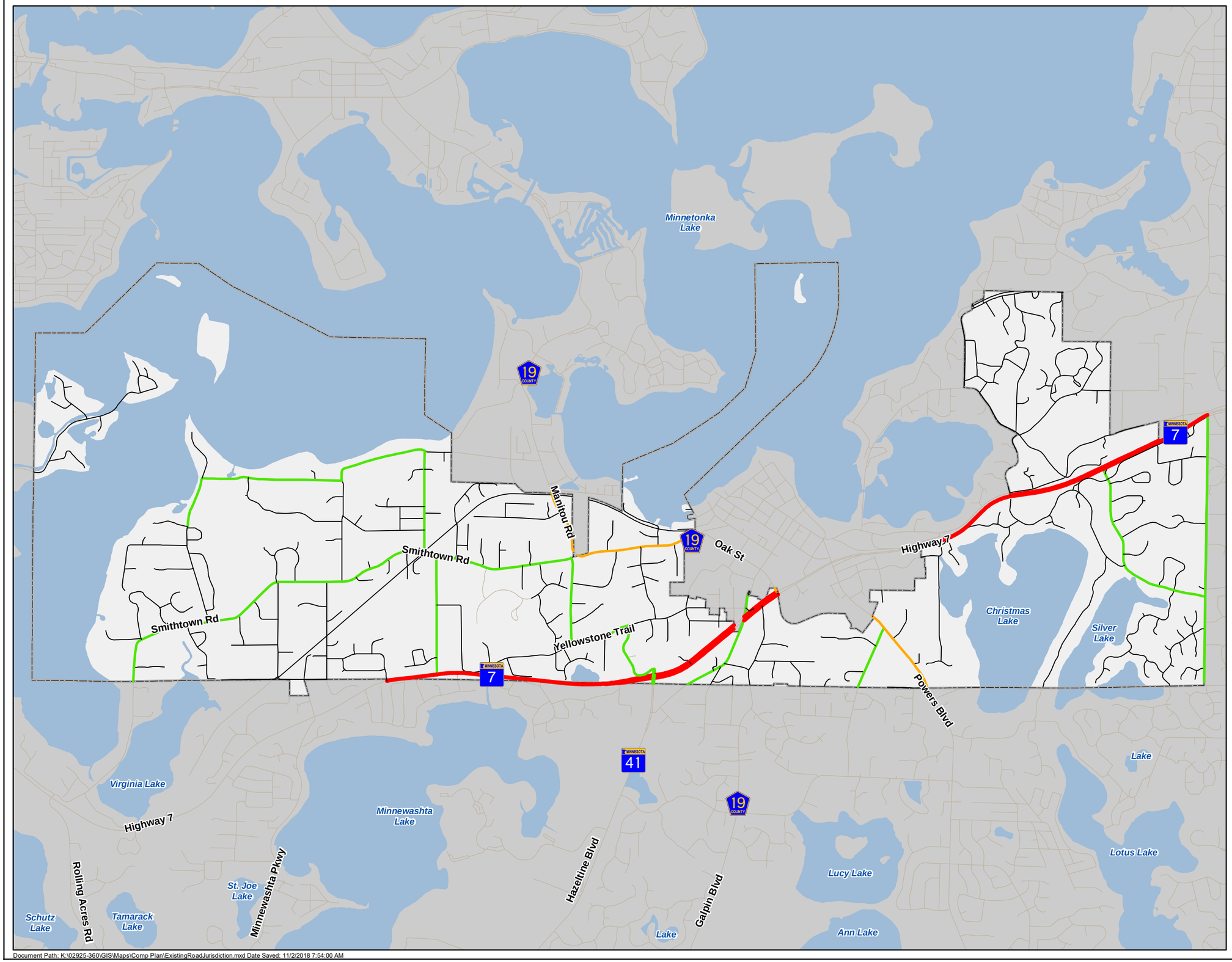
The State Aid office of MnDOT has established clearly defined design requirements for MSA streets. These requirements ensure that capacity, operational, and safety goals are met in a uniform manner from community to community, and that street systems are well coordinated with each other. Based on State Statute, Sections 169.80 and 169.87, MnDOT does not allow cities to restrict truck traffic on MSA streets.

The map on the following page depicts the jurisdictional classification of the overall roadway network serving Shorewood and its residents and businesses.

CITY OF SHOREWOOD

Shorewood Comprehensive Plan

Jurisdictional / MSA Map
Shorewood, MN



- City Boundary

Roadway Jurisdiction

- State Hwy
- Municipal State Aid Roads
- County Road
- Local Road

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0 2,500 Feet

1 inch = 2,500 feet

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MASS TRANSIT

The City of Shorewood is served by Metro Transit bus routes 670 and 671. Route 670 is an express bus that runs to downtown Minneapolis through Hopkins, Minnetonka, and Excelsior; and has 10 morning pickup times and 10 evening pickup times Monday through Friday. There is no weekend service.

The City of Shorewood is also served by route 671, an express bus which runs from Orono to downtown Minneapolis through Tonka Bay, Excelsior, Greenwood, Deephaven, and Minnetonka. The route has 10 morning pickup times and 10 evening pickup times. There is no weekend service.

At present, the City of Shorewood and surrounding communities have sufficient transit stops along main transportation corridors.

PARK AND RIDE

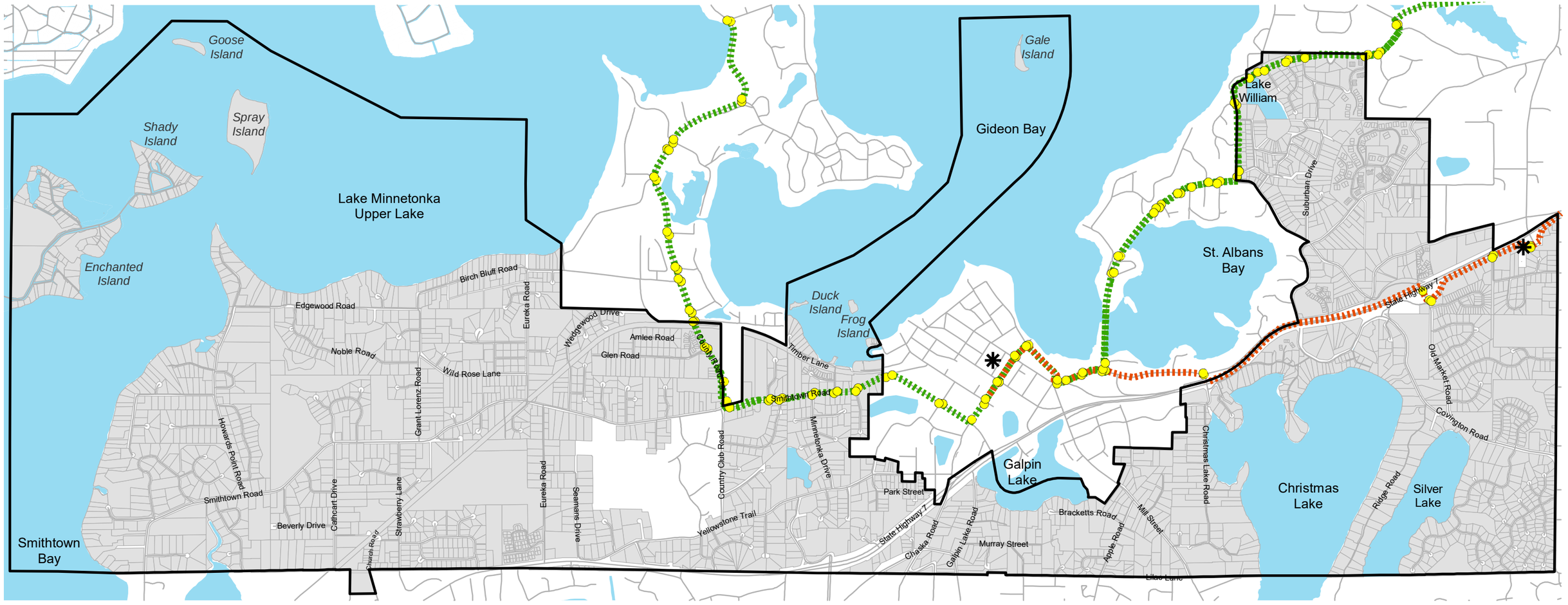
Shorewood has one main bus stop with a Park and Ride, located off Highway 7 on Delton Avenue and Vine Hill Road. The Park and Ride is located at the southwest corner of the intersection. Route 670 serves this station.

AIRPORT TRAFFIC

The Minneapolis-St. Paul International Airport (MSP serves as the area's primary scheduled commercial airline passenger facility. However, MSP does not have any direct effect on the Shorewood community. The Flying Cloud Airport in Eden Prairie is the closest airport to Shorewood and serves small and business aircrafts. Lake Minnetonka is occasionally accessed by sea planes, though these are not of major concern.

Transit

City of Shorewood
2040 Comprehensive Plan



Map created: May 2017
Data: NAC, MnDNR, Metropolitan Council
Metro Transit & Hennepin County

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Miles

N

Legend

Transit Route
- Route 670
- Route 671

Transit Stops
- Park and Ride
- Transit Stop

- Parcels
- Lakes
- Shorewood Boundary

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PEDESTRIAN/BICYCLE TRAILS

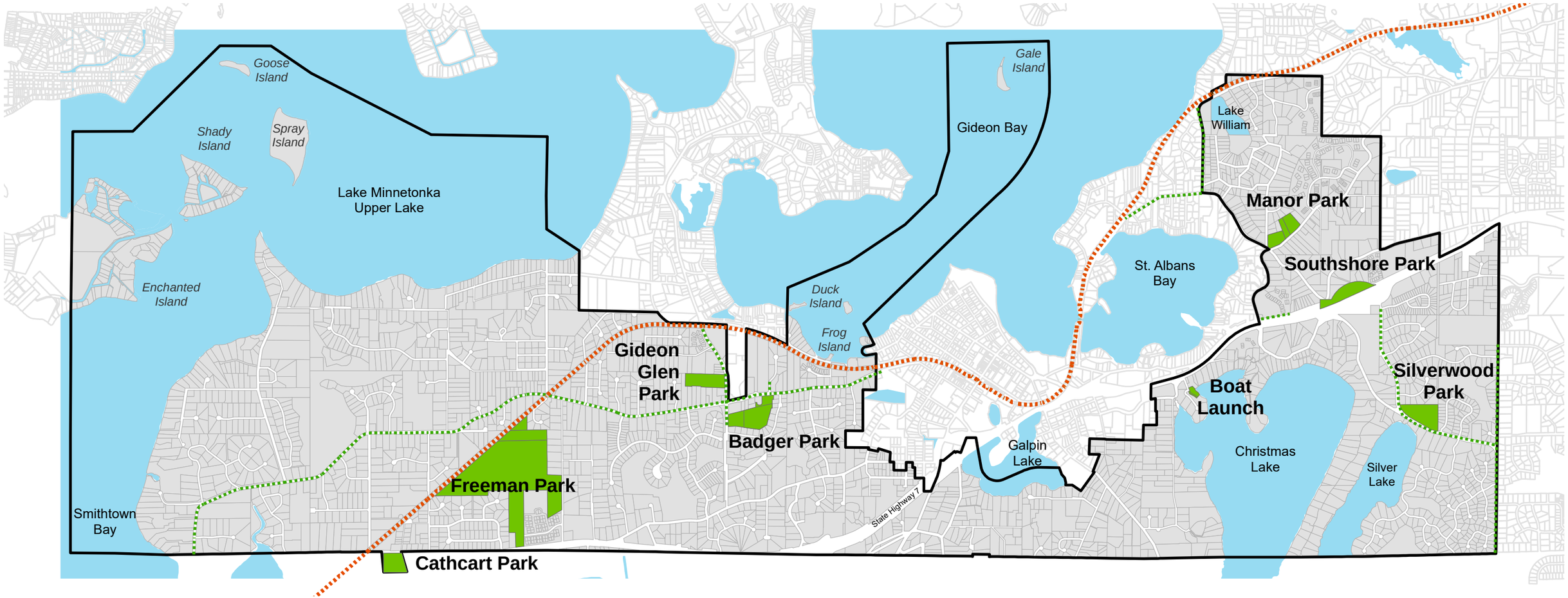
Existing sidewalks and trails in the City are illustrated on the map on the following page.

The Lake Minnetonka Light Rail Transit (LRT) Regional Trail runs east / west through the City of Shorewood. The trail links the City of Hopkins and the Carver Park Reserve and is constructed of crushed stone.

Also, to be noted, is that the Lake Independence Extension Regional Trail search corridor extends through the City of Shorewood. This regional trail search corridor was added to the Regional Parks System as part of the 2040 Regional Parks Policy Plan. The search corridor travels through Orono, Tonka Bay, and Shorewood as it extends the Lake Independence Regional Trail south connecting Luce Line State Trail, Dakota Rail Regional Trail, Lake Minnetonka LRT Regional Trail and Highway 41 Regional Trail Search Corridor in Chanhassen. Three Rivers Park District will lead a planning process in the future to determine the alignment of the regional trail.

Local Park and Trail System

City of Shorewood
2040 Comprehensive Plan



Local Park and Trail System

- Local Trail
- Lake Minnetonka LRT Regional Trail
- Parks
- City Boundary

Map created: December 2020
Data: NAC, MNDNR, Metropolitan Council

0 0.275 0.55 1.1
Miles

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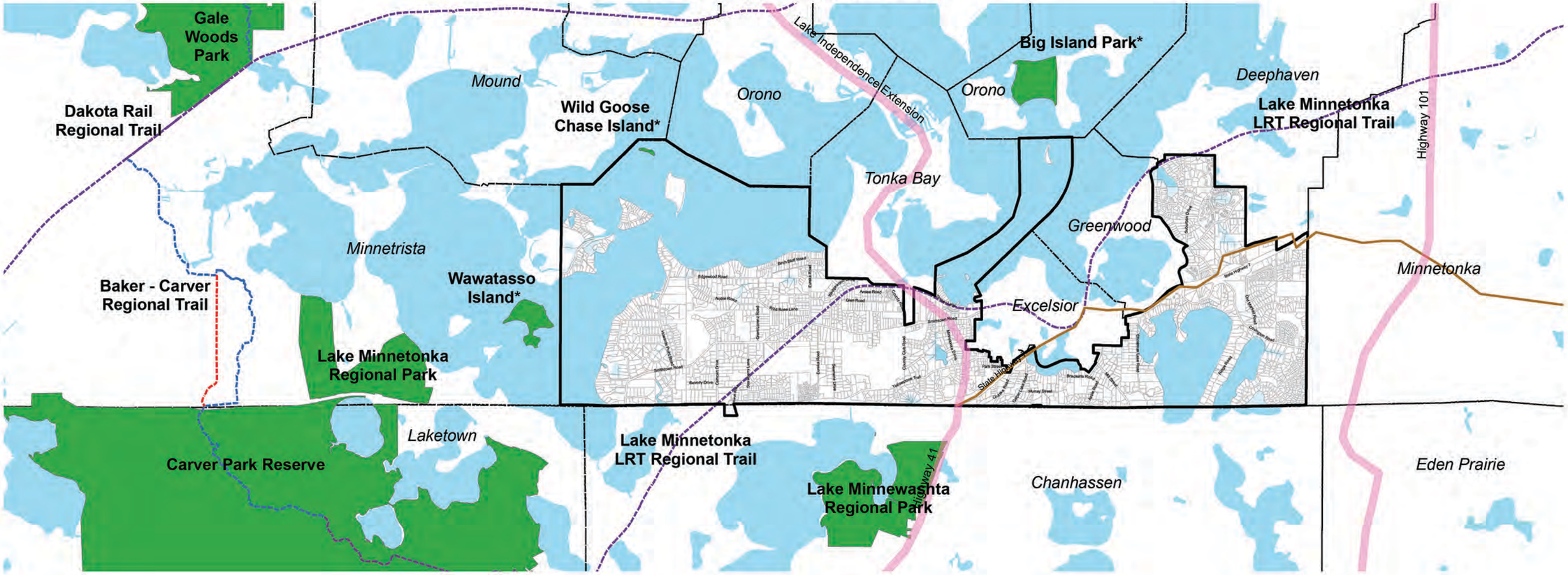
Regional Parks and Trails

City of Shorewood

2040 Comprehensive Plan



Legend

Regional Trails

Status

- Alternate
- Existing
- Planned

RBTN Corridor

- Tier 1 Corridor
- Tier 2 Corridor
- Regional Trail Search Corridors

* RBTN: Regional Bicycle and Transportation Network

- Regional Parks
- Lakes And Rivers
- Municipal Boundaries
- Shorewood Boundary

* Part of the Lake Minnetonka Islands Regional Park

Map created: May 2021
Data: NAC, Hennepin County, Metropolitan Council

0 0.5 1 2
Miles

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WATER SUPPLY

About half of the homes are currently served by municipal water; the other half, including the islands, are served by private wells. Shorewood's water distribution system provides approximately 145 million gallons of water each year to nearly 1,500 service connections.

The existing water distribution system is shown on the following page. The overall system includes 30 miles of main and includes two separate water distribution systems (known as the West and East systems) operated by the City, and three small service areas supplied by the cities of Chanhassen, Excelsior, and Tonka Bay. Shorewood's west system provides service primarily to the developments to the west of Excelsior and the east system provides service to the developments to the east of Excelsior.

Each of Shorewood's two distribution systems is served by three groundwater wells and one water tower.

The population of the City has increased over the last ten years but the average daily water demand and the per capita water demand are decreasing as indicated below**.** Improved appliances, reduced irrigation, general attitudes toward conservation, and rainfall likely all play a role in this reduction.

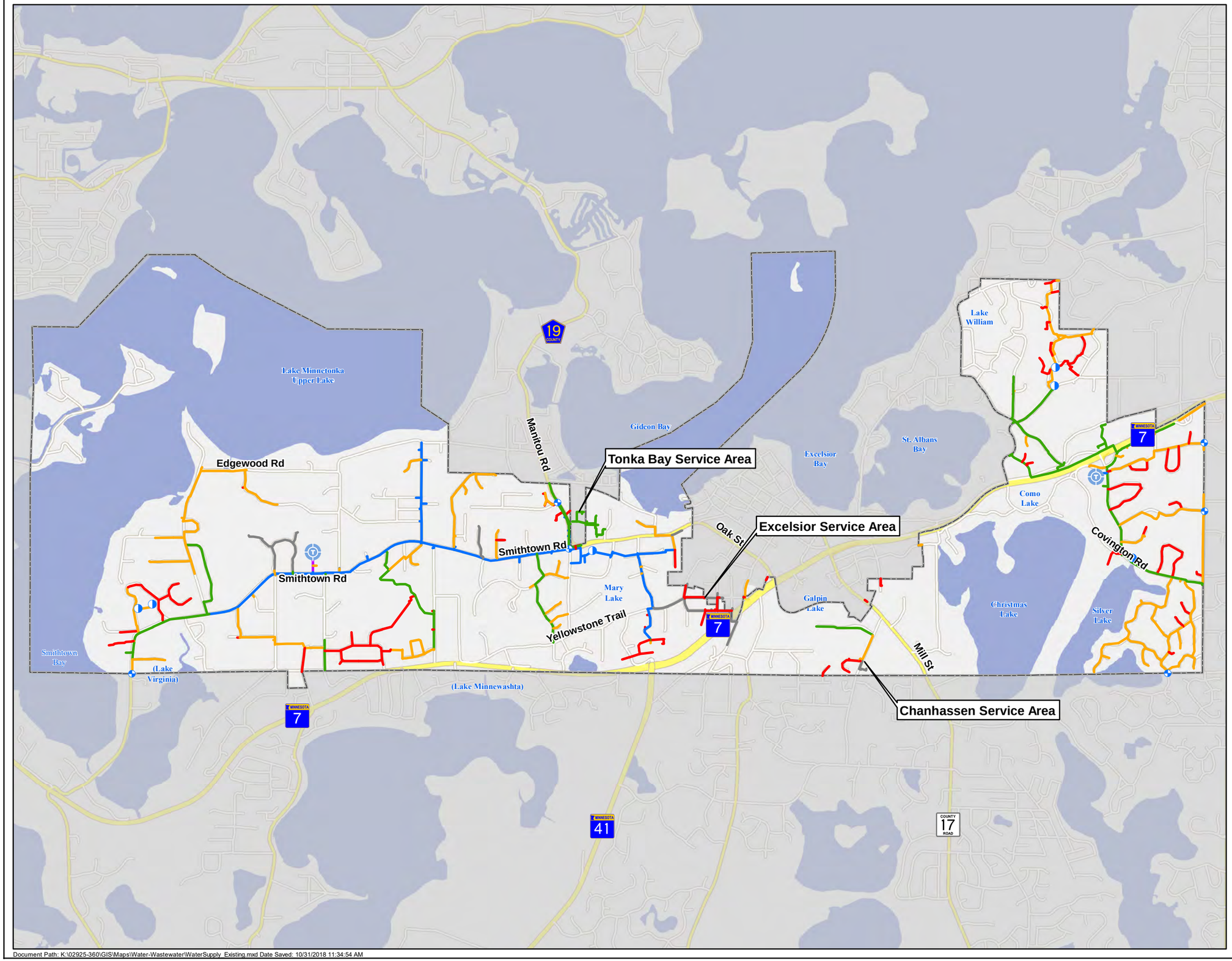
Year	Pop. Served	Total Connections	Total Water Use (MG)	Total Water Pumped (MG)	Percent Unmetered/ Unaccounted	Average Daily Demand (MGD)	Max. Daily Demand (MGD)	Date of Max. Demand	Residential Per Capita Demand (GPCD)	Total Per Capita Demand (GPCD)
2005	3,463	1,195	154.4	152.3	-	0.42	-	-	110	120
2006	3,423	1,195	191.2	180.1	-	0.49	-	-	131	144
2007	3,383	-	-	-	-	-	-	-	-	-
2008	3,343	1,221	176.7	176.2	-	0.48	-	-	139	144
2009	3,751	1,320	170.7	177.7	3.9%	0.49	4.30	5/26/2009	118	130
2010	3,721	1,329	136.0	141.1	3.6%	0.39	0.62	7/16/2010	89	104
2011	3,721	1,332	162.7	164.4	1.0%	0.45	1.04	7/5/2011	104	121
2012	3,634	1,300	182.3	187.9	2.1%	0.51	1.40	7/11/2012	126	140
2013	3,562	1,374	156.0	156.0	0.0%	0.43	1.19	8/14/2013	109	120
2014	3,853	1,372	145.3	145.3	0.0%	0.40	1.40	8/7/2014	99	103
2015	3,865	1,388	130.2	133.2	2.2%	0.37	0.59	7/23/2015	79	94
2016	3,870	1,400	111.6	123.8	0.0%	0.34	0.85	8/3/2016	73	88
Avg. 2012-2016	3,757	1,367	145.1	148.9	0.9%	0.41	1.09	-	97	109

MG = million gallons **MGD** = million gallons per day **GPCD** = gallons per capita per day

CITY OF SHOREWOOD

Shorewood Comprehensive Water Supply Plan

Existing Water Supply System



City Boundary
Interconnection
Production Well
Water Tower

Watermain Diameter

6"
8"
12"
16"
20"
Unknown

N

0 2,500 Feet

1 inch = 2,500 feet

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Water Conservation Policies

Although Minnesotans benefit from the state's abundant water supplies, those supplies are finite and potential threats exist that could impact the quality of our drinking water. Factors that can potentially limit water supply include population increases, economic trends, uneven statewide availability of groundwater, climate change, and degraded water quality. There are many benefits to enacting water conservation policies and many practical, feasible objectives the City has already and will continue to pursue.

The Minnesota DNR has established eight water conservation objectives and strategies. These are listed below with comments on the City of Shorewood's progress towards the completion of each.

1. Reduce unaccounted (non-revenue) water loss to less than 10%.
    - The City's average unaccounted water use from 2012 to 2016 was 0.9%, which is well below the recommended target of 10%. The City has an automated meter system to notify the City of leaky fixtures, and leak detection surveys are performed as needed.
    - There are a total of over 1,400 metered connections in Shorewood. The City completed meter replacement projects in 2007 and 2009. Meter replacement efforts consisted of converting the majority of the meters (1,393 or 99.5%) into automatic meters. Residential and commercial meters are tested as requested by the owner.
2. Achieve residential demand of less than 75 gallons per capita per day.
    - The average residential per capita water demand for the City of Shorewood from 2012 to 2016 was 97 gallons per capita per day (gpcd), which is greater than the DNR's 75 gpcd target. Data from the DNR and the City indicates that residential water demand has been decreasing since 2012. As previously discussed, the decrease in residential per capita demand may be attributed to improved appliances, reduced irrigation, general attitudes toward conservation, and rainfall.
    - In order to continue reducing residential demand, the City will review its ordinances on water efficient landscaping and water reuse annually, consider revising its ordinance to limit irrigation in 3-6 years, continue to make water system improvements, provide incentives for installing water efficient appliances and fixtures in 1-3 years, and provide incentives to reduce outdoor water use in 1-3 years following adoption of this plan. The City will also continue water conservation education and outreach.
3. Achieve at least a 15% reduction in per capita daily demand across all customer categories over the next 10 years.
    - The City of Shorewood will conduct facility water use audits annually, install enhanced water meters capable of automated readings to detect spikes in consumption,

install conservation fixtures and appliances, repair leaking system components, investigate water reuse, and reduce outdoor water use.

4. Achieve a decreasing trend in total per capita demand.
    - Residential water usage shows a fluctuating trend, although it has steadily decreased since 2012. Commercial, institutional, and industrial (C/I/I) water use follows a similar trend. Decreases in water usage since 2012 may be attributed to water efficient fixtures and public education on the importance of water conservation.
5. Reduce peak day demand so that the ratio of maximum to average day demand is less than 2.6.
    - The City's ten-year average (2005-2014) ratio of maximum to average day demand is 3.3. The position of the DNR has been that a peak day/average day ratio that is above 2.6 indicates that the volume of water being used for irrigation in a community is too high and that efforts should be made to reduce the peak day use by the community.
    - The City limits which hours of the day water may be used for irrigation in the summer to reduce peak day demand
6. Implement a conservation water rate structure
    - The water rates in Shorewood are based on an increasing block rate structure. This rate structure promotes water conservation because the price is volume-tiered. Water billing in Shorewood is on a quarterly schedule.
    - The City has also implemented restricted summertime lawn watering hours to reduce peak day demands during months of high water usage.
7. Additional strategies to reduce water use and support wellhead protection planning
    - The City of Shorewood will consider implementing a rebate program for water efficient appliances and fixtures.
8. Tracking success
    - The City will continue to monitor water usage by customer category, including the City's regular maintenance activities (hydrant flushing, street sweeping, etc.).

The following table lists the top water users by volume, from largest to smallest, for the City of Shorewood.

Large Volume Users

Customer	Category	Use (gallons per year)	Percent of Total Water Use
Kraus-Anderson, Inc.	Commercial	1,600,000	1.29%
Cub Foods	Commercial	1,096,000	0.89%
Minnetonka School District No. 276	School	1,052,900	0.85%
Shorewood Ponds Homeowners Association	Residential	715,262	0.58%
Shorewood Oaks Partnership	Residential	677,000	0.55%
Waterford Center LLP	Commercial	504,000	0.41%
New Horizon Academy	Commercial	484,102	0.39%

Water Sources and Treatment

Well information by system is provided in the following table. The total well pumping capacities in the west and east systems are 1,750 gpm and 1,850 gpm, respectively. The west system has a firm capacity (capacity with the largest well out of service) of 1,000 gpm, and the east system has a firm capacity of 850 gpm.

Well Name and ID	System	Year Installed	Capacity (gpm)	Depth (feet)	Aquifer	Status	Treatment
Well 1 #232331	East	1973	750	528	Prairie du Chien - Jordan	Active	Chlorine & Fluoride
Well 3 #161414	West	1981	750	359	St. Peter - Jordan	Active	Chlorine & Fluoride
Well 4 #171020	West	1981	500	640	Tunnel City - Wonewoc	Active	Chlorine & Fluoride
Well 5 #171023	West	1981	500	640	Tunnel City - Wonewoc	Active	Chlorine & Fluoride
Well 6 #122298	East	1982	100	280	Prairie du Chien Group	Active	Chlorine & Fluoride
Well 7 #416160	East	1986	1,000	415	Prairie du Chien - Jordan	Active	Chlorine, Fluoride, & Iron Removal

Chemicals are applied to the raw water in each well house. Chlorine is applied for disinfection, and fluoride is applied to prevent tooth decay. Well House No. 7 also has filters for iron removal.

A city's treatment or production capacity should be equal to at least the maximum day demand with the largest well out of service (firm capacity). Since the City has two separate systems, each should be able to satisfy this constraint individually.

- The west system's firm capacity is 1,000 gpm. The daily demand for this system is projected to reach a maximum of 366 gpm by the year 2040. Thus, maximum day demand for this system is not projected to exceed its firm capacity by the end of the planning period.

- The east system's firm capacity is 850 gpm. The daily demand for this system is projected to reach a maximum of 414 gpm by the year 2040. Thus, maximum day demand for this system is not projected to exceed its firm capacity by the end of the planning period.

Water Storage/Distribution

The west system has one 500,000 gallon steel elevated storage tank located on Smithtown Road beside the Minnewashta Elementary School that was constructed in 1995. Pipe diameters in this half of the system range from 6-inch to 20-inch of ductile iron watermain, with most mains between 6 and 12 inches.

The east system has one 400,000 gallon steel elevated storage tank located on Old Market Road where it meets MN State Highway 7 that was constructed in 1986. This half of the system includes pipe diameters from 6-inches to 16-inches of ductile iron watermain, with most mains between 6 and 8 inches.

A system's total storage capacity should equal or exceed its average day demand.

- The west system's storage capacity of 500,000 gallons exceeds its projected 2040 average day demand of 203,000 gallons.
- The east system's storage capacity of 400,000 gallons also exceeds its projected 2040 average day demand of 229,000 gallons.

SANITARY SEWER SERVICES

The City's sanitary sewer system was first installed in the early 1970's. Capacity limitations in the Metropolitan Council Environmental Services (MCES) sewer system created service issues for Shorewood in the mid 1980's, but improvements to the regional interceptor system resolved those issues. Today, Shorewood is fully built-out and is served completely by the municipal sanitary sewer system. Given that no further expansion of the system is required, the City currently focuses on system maintenance and upgrades.

The City of Shorewood's existing sanitary sewer system collects and conveys wastewater to ten MCES interceptors and eight MCES meters. It includes fourteen local lift stations, see below. In this report, the system has been divided into service areas based on the receiving lift stations and MCES interceptors. A map of the existing sanitary sewer system and service areas is shown on the following pages.

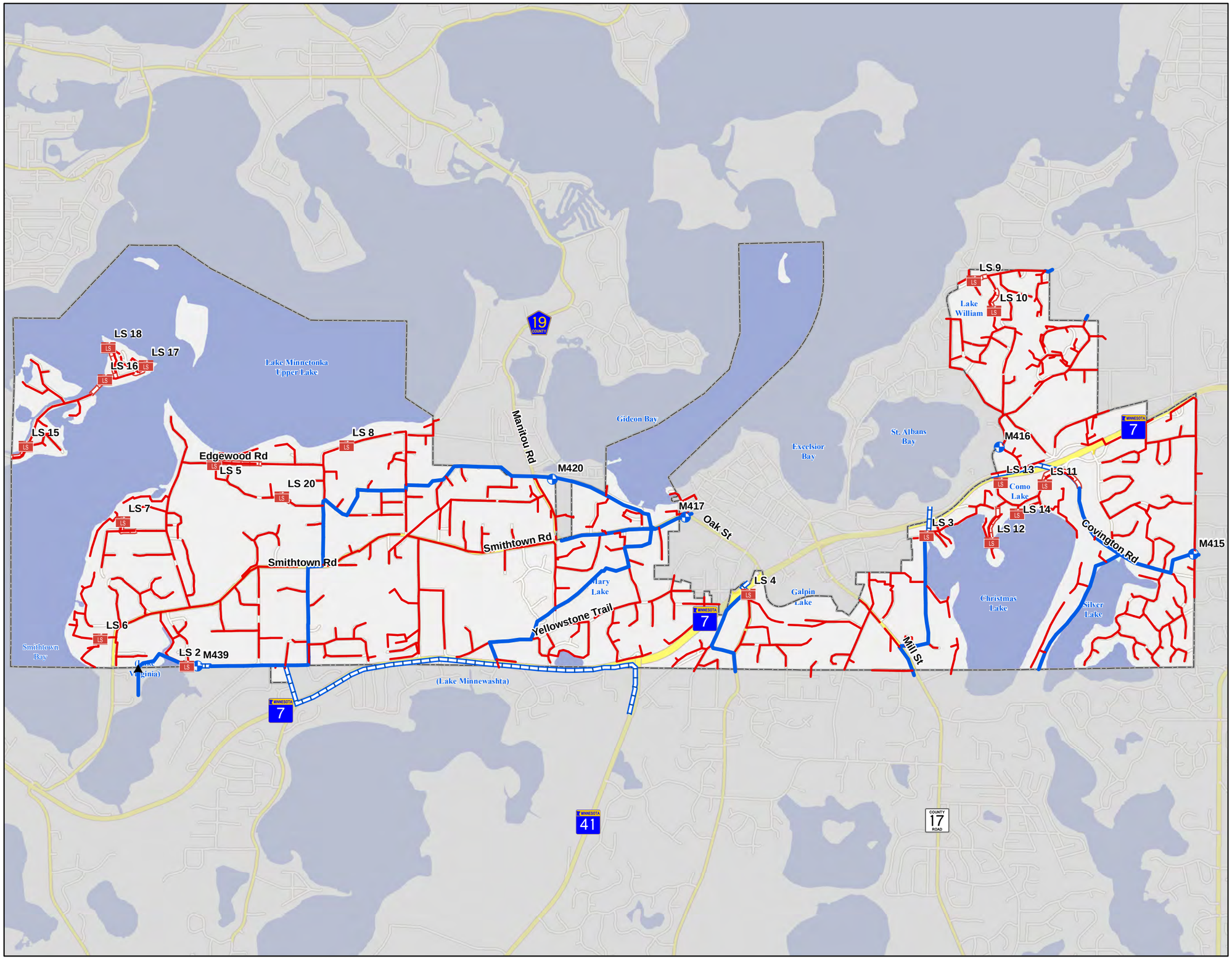
Lift Station No.	Lift Station Location	Year Constructed	Year Rehabilitated	Pumping Capacity (gpm)
5	Edgewood Road	1970	2012	250
6	Smithtown Road	1972	2012	90
7	Woodside Road	1972	-	90
8	Birch Bluff Road	1972	2004	250
9	Minnetonka Boulevard	1972	-	92
10	Lakeway Terrace	1972	-	150
11	Radisson Road	1972	-	200
12	Christmas Lake Point	1972	2007	95
13	Radisson Entrance	1972	-	30
15	Enchanted Lane	1973	2010	135
16	Shady Island Road	1973	2008	110
17	Shady Island Circle	1973	-	100
18	Shady Island Point	1973	2004	110
20	Noble Road	1994	-	80

All wastewater collected in the City of Shorewood is conveyed through the MCES system to the MCES Blue Lake Wastewater Treatment Plant (WWTP) in the City of Shakopee. The Blue Lake WWTP has a capacity of 38 MGD, provides primary and secondary treatment, and discharges treated effluent to the Minnesota River.

CITY OF SHOREWOOD

Shorewood Comprehensive Sanitary Sewer Plan

Figure 1: Existing Sanitary Sewer System



- City Boundary
- MCES Meter
- Lift Station

Forcemain

- City Owned
- MCES Owned

Gravity Sewer

- City Main
- MCES Interceptor

N

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1 inch = 2,500 feet

WSB

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CITY OF SHOREWOOD

Shorewood Comprehensive Sanitary Sewer Plan

Figure 2: Sanitary Sewer Districts

Lake Minnetonka
Upper Lake
Gideon Bay
Excelsior Bay
St. Albans Bay
Lake William
Como Lake
Christmas Lake
Silver Lake
Galpin Lake
Mary Lake
Smithtown Bay
(Lake Virginia)
(Lake Minnewashta)

Edgewood Rd
Smithtown Rd
Manitou Rd
Oak St
Yellowstone Trail
Mill St
Covington Rd

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34

MINNESOTA 7
MINNESOTA 41
COUNTY 19
COUNTY 17 ROAD

City Boundary	**MCES Meter**
MCES Meter	M412
Lift Station	M415
Forcemain	M416
City Owned	M417
MCES Owned	M420
Gravity Sewer	M424
City Main	M439
MCES Interceptor	M455
	Sewer Sub-District

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1 inch = 2,500 feet

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Individual Sewage Treatment Systems

The City of Shorewood requires that all new development connect to the sanitary sewer system and prohibits the installation of new individual sewage treatment systems (ISTS), or septic systems. The only ISTS that remain in use are on the following properties

- 6185 Mill Street
- 26750 Smithtown Road
- Gale Island
- Spray Island

The islands are not served by the public system. The section of Shorewood City Code regarding ISTS, Chapter 904: Sewer Code, is consistent with Minnesota Pollution Control Agency (MPCA) regulations (Minnesota Rules Chapters 7080-7083). The provisions, excerpted below, specify connection to the public sewer and abandonment of ISTS.

> *Subd. 3. Connection to public sewer, abandonment of systems.*
>
> *a. The owners of all houses, buildings or properties which abut upon or are served by a public sewer and where cesspools and septic tanks have been in existence prior to the construction of the sanitary sewer shall connect with the public sewer when public sewer becomes available to the property. Shoreland property shall be further governed by Minn. Rules § 6120.3400. Any septic tanks and cesspools and private sewage disposal facilities then existing shall be abandoned and filled with suitable material.*
>
> *b. At the time as a public sewer becomes available to a property served by a private sewage disposal system, as provided in § 904.05 of this chapter, a direct connection shall be made to the public sewer in compliance with this chapter. Any septic tanks, cesspools and similar private sewage disposal facilities then existing shall be abandoned and filled with suitable material.*

The City of Shorewood has delegated the responsibility of permitting, inspecting, maintenance management, and compliance enforcement of remaining ISTS in the City in accordance with Hennepin County Ordinance 19. Therefore, Hennepin County actively oversees the City's subsurface sewage treatment system program.

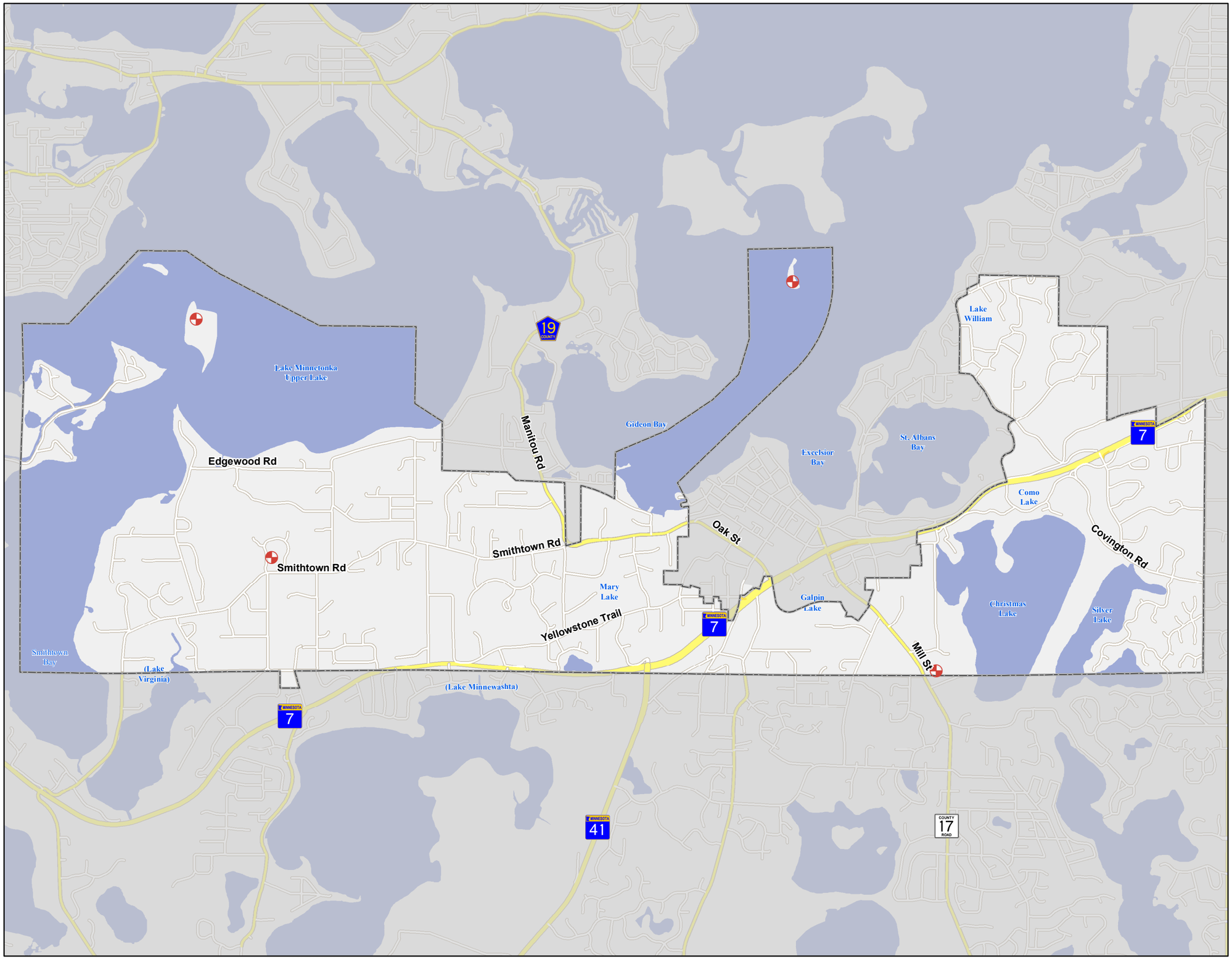
Community Treatment Systems

There are no public or private community treatment systems within the City of Shorewood. All of the properties within the City are served by the public collection system or by individual sewage treatment systems, as described above.

CITY OF
SHOREWOOD

Shorewood Comprehensive Sanitary Sewer Plan

Individual Sewage Treatment Systems (ISTS)



ISTS

City Boundary

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1 inch = 2,500 feet

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INFLOW AND INFILTRATION

Inflow is water, typically stormwater, which enters the sewer system through broken manhole covers, sewer cleanouts, sump pumps, foundation drains, and rain leaders. ***Infiltration*** is water, typically groundwater, which leaks into the sewer system through cracks in the sewer mains, laterals, joints, and manholes.

Water from inflow and infiltration (I/I can consume available capacity in the wastewater collection system and increase the flow into treatment facilities. In extreme cases, the added flow can cause bypasses or overflows of raw wastewater. This extra flow also requires a larger capacity in the city's collection and treatment components, which results in increased capital, operation and maintenance, and replacement costs. As a sewer system ages and deteriorates, I/I can become an increasing burden on a City's system. Therefore, it is imperative that I/I be reduced whenever it is cost effective to do so.

In 2006, the MCES began an Ongoing I/I Program which requires communities within their service area to eliminate excessive I/I. The MCES establishes annual I/I goals for each community discharging wastewater into the Metropolitan Disposal System (MDS based on average daily flows, adjustments for community growth, and I/I mitigation peaking factors.

Flow metering data is available for the metersheds within Shorewood, and an analysis of this data as it relates to I/I is presented on the following page. The City completed a three-year I/I reduction program in the early 1990's which included the televising, sealing, and repair of older sections of the system located in wet soils. In the 1990's, the City also began an aggressive sump pump inspection program to eliminate the discharge of stormwater from private properties to the sanitary sewer system. In the 2000's and 2010's, several segments of the sanitary sewer system were rehabilitated or replaced as part of the City's regular street and utility improvement projects. More information on these projects and the City's strategies, programs, investments, and goals for reducing I/I are listed in Chapter 3 (Community Framework.

Community facilities include those lands and buildings required to support suburban development and densities. They are essential for establishing and sustaining a quality life style in a suburban environment.

MUNICIPAL BUILDINGS

City Hall. First built in 1981, then expanded in 1988, the City's Administrative Offices were renovated and expanded in 2008. The renovation/expansion project included accessibility upgrades, increased office space and a new City Council Chambers. No expansion of the facility is anticipated at this time.

Public Works Facility. The City completed construction of the public works facility in 1992. The facility has more and better space for outdoor storage which is screened from view of nearby residential properties. The facility was designed to be expanded and that expansion is anticipated to occur prior to 2040, but an exact timeframe has yet to be determined.

Shorewood Community and Event Center. The facility was first constructed as joint venture between the cities of Shorewood, Tonka Bay, Excelsior, Greenwood and Deephaven in 1996. The City of Shorewood purchased the Center in 2017 and now owns and runs facility. The facility continues to provide meeting space for community groups, private events, and activities for area seniors.

PUBLIC SAFETY

The communities along the south shore of Lake Minnetonka realized the benefit of combining resources for provision of public safety services. Shorewood receives police service from the South Lake Minnetonka Police Department (SLMPD through a joint powers agreement between four communities - Shorewood, Tonka Bay, Excelsior and Greenwood. Cost sharing is based on a formula that includes demand, population, and tax capacity. The City intended to continue its joint powers agreement with the three above-mentioned communities in the foreseeable future.

The Excelsior Fire District (EFD is provided through a joint powers agreement between five communities – Shorewood, Deephaven, Excelsior, Greenwood, and Tonka Bay. The department has a full-time fire chief and 45 paid on call firefighters and operates out of two stations. Station 1 is located in Shorewood and Station 2 is located in the City of Deephaven. Fire Station 1 and South Lake Minnetonka Police Department occupy the South Lake Public Safety building located in Shorewood. The EFD provides service to all of the mainland portion of the City.

Shorewood's islands (Enchanted and Shady are protected by the Mound Fire Department. To enhance protection on the Enchanted Island and Shady Island, a system of dry hydrants has been installed which utilizes lake water and pumper trucks. Placement of three hydrants, as shown on the following page, is intended to reduce the need to backtrack to Mound to fill tank trucks.

The City considers the intergovernmental cooperation for public safety a models for exemplary intergovernmental cooperation and intends no change to these services for the foreseeable future.

PARKS AND RECREATION

At present, Shorewood's park system contains approximately 110 acres or one percent of total land, with 100 acres of usable recreation land. Existing parks include Freeman Park, Manor Park, Badger Park, Gideon Glen Park, Silverwood Park, Cathcart Park, South Shore Park, Crescent Beach (shared with Tonka Bay and one public boat launch (Christmas Lake and 10 public lake access points (called fire lanes to Lake Minnetonka and Lake William. There are also numerous privately-owned facilities throughout the City including homeowners association facilities, two

yacht/sailing clubs, and a marina. These private park facilities are not identified as parks on the Existing Land Use map nor included in the calculation of total land area for parks.

Classification System

Shorewood has a variety of park types which are components of the City's overall park system. As a basis for examining existing parks and projecting future park needs, a regional system of park classification is utilized. The classification table from the Metropolitan Council's Thrive 2040 Regional Parks Policy Plan is provided in Appendix D and provides a description of various types of regional and local park facilities.

Existing System Analysis

Shorewood is fully developed. Given the fact that the City is not expected to see significant additional residential growth and that few vacant land parcels remain in the community, Shorewood is not expected to add new park sites. The City's existing parks are considered adequate in size and location to meet the future needs of the community, as shown in Figure XX.

Shorewood residents are generally well-served by the existing park system. With the exception of the islands and a small pocket south of Galpin Lake, most areas of the community are within a one-half to one-mile radius of neighborhood park facilities. As a result, the focus of future park planning will be on developing existing parks, as opposed to acquiring more land, with one possible exception. The City remains open to considering organization-supported expansion of Freeman Park as well as other existing sites. Also, as land becomes available through tax forfeiture, vacation of public right-of-way, donations and/or other means, it will be examined for possible inclusion in the park system.

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CITY OF SHOREWOOD

Shorewood Comprehensive Plan

Local Park and Trail System
Shorewood, MN

Minnetonka Lake
Lake Minnetonka Regional Park
Manor Park
Silverwood Park
Badger Park
Freeman Park
Christmas Lake
Silver Lake
Carver Park Reserve
Virginia Lake
Schutz Lake
Tamarack Lake
St. Joe Lake
Minnewashta Lake
Lake Minnewashta Regional Park
Lucy Lake
Lotus Lake
Ann Lake
Lake

Highway 7
Smithtown Rd
Manitou Rd
Oak St
Yellowstone Trail
Powers Blvd
Rolling Acres Rd
Minnewashta Pkwy
Hazeltine Blvd
Galpin Blvd

19 COUNTY
7 MINNESOTA
41 MINNESOTA

- City Trails
- Regional Trail
- City Parks
- Regional Parks
- City Boundary

N

0 2,500 Feet
1 inch = 2,500 feet

WSB

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Existing Park Classifications

A considerable amount of planning has gone into Shorewood's park system as master plans for each of the City's parks have been developed. These master plans considered the classification system for local and regional parks which were previously identified. The following is an overview of Shorewood's existing park classifications:

Neighborhood Parks. Four of Shorewood's existing parks; Cathcart, Badger, Manor and Silverwood fall into this category. In addition, facilities at Freeman Park also serve the nearby neighborhoods, as do facilities at Minnewashta School.

Community Playfields. The Minnetonka School District has historically been heavily involved in providing playfields for local recreation. Within the City of Shorewood, Minnewashta Elementary School functions in part as a community playfield. Freeman Park is viewed as satisfying the majority of the community's need for playfields, but Badger, Cathcart and Manor Parks also satisfy this need.

Community Park. Besides its neighborhood functions, Freeman Park is the only community park in Shorewood's park system. Given the proximity of various regional parks, the need for an additional community park in Shorewood is not anticipated.

Regional Parks. There are no regional parks in the City of Shorewood.

Conservancy Lands. Shorewood's wetland system, while not suitable for active recreation, is preserved for its aesthetic value, as well as its environmental benefit.

Special Uses. Crescent Beach along Lake Minnetonka and the Christmas Lake access on Merry Lane are essentially single-purpose recreational facilities (or special use parks). Crescent Beach is used exclusively for swimming, while the Christmas Lake access is used for fishing and the launching of boats. Both sites provide winter access to the lakes.

South Shore Community Park was previously used as a skate park, but the community found that purpose was no longer needed. A new master plan should be prepared to determine the appropriate role for such park.

Gideon Glen Park also fulfills a function of a special use park as it serves as a natural / environmental interpretive center.

Linear Park. While not a City-owned park, the Lake Minnetonka LRT Regional Trail fulfills a linear park function by providing walking / bicycle trail linkages within and outside of the City's municipal boundary.

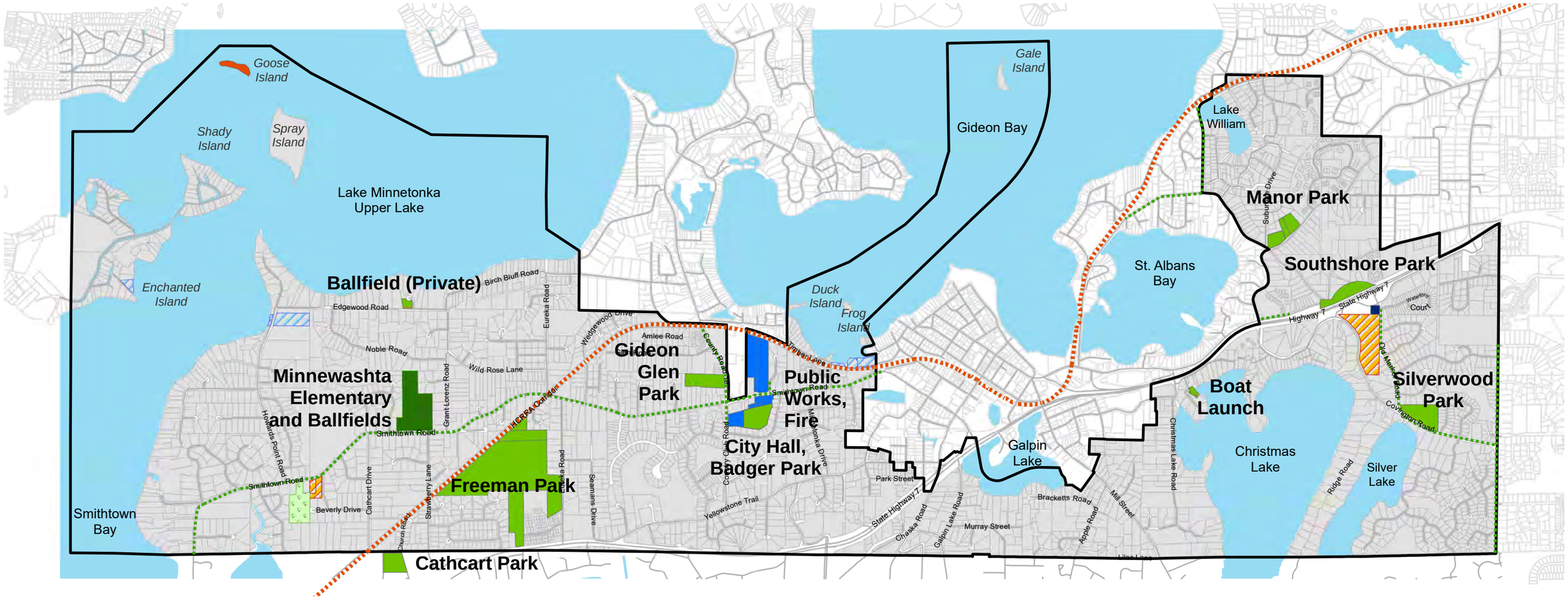
SCHOOLS

Residents of Shorewood are served by two school districts, the Minnetonka School District #276 and Westonka School District #277. Minnetonka School District #276 operates Minnewashta Elementary School in Shorewood and has approximately 9,600 students enrolled district-wide. Westonka School District #277, which serves approximately 2,200 students.

Population growth in the last several years has resulted in the need for expanded facilities throughout District 276. The City of Shorewood has one school located within its boundaries, Minnewashta Elementary School (District 276). The District has expanded Minnewashta Elementary School to meet the needs of the population and has not identified any additional land or locations for new facilities in Shorewood. Given that the city is fully built-out, the need for additional school facilities in Shorewood is considered unlikely.

Community Facilities

City of Shorewood
2040 Comprehensive Plan



Legend

- Regional Trail
- Trails
- Regional Park
- Nursery (Private)
- Marina (Private)
- Cemetery
- City Buildings
- Marina (Private)
- Park
- Public School
- Water Tower
- City Boundary

Map created: December 2020
Data: NAC, MNDNR, Metropolitan Council

0 0.275 0.55 1.1
Miles

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4150 Olson Memorial Highway, Ste. 320, Golden Valley, MN 55422
Telephone: 763.231.2555 Website: www.nacplanning.com

WATERSHED DISTRICTS

The City has two watershed districts that operate within its boundaries, the Minnehaha Creek Watershed District (MCWD) and Riley Purgatory Bluff Creek Watershed District (RPBCWD). The watersheds are shown on the following map.

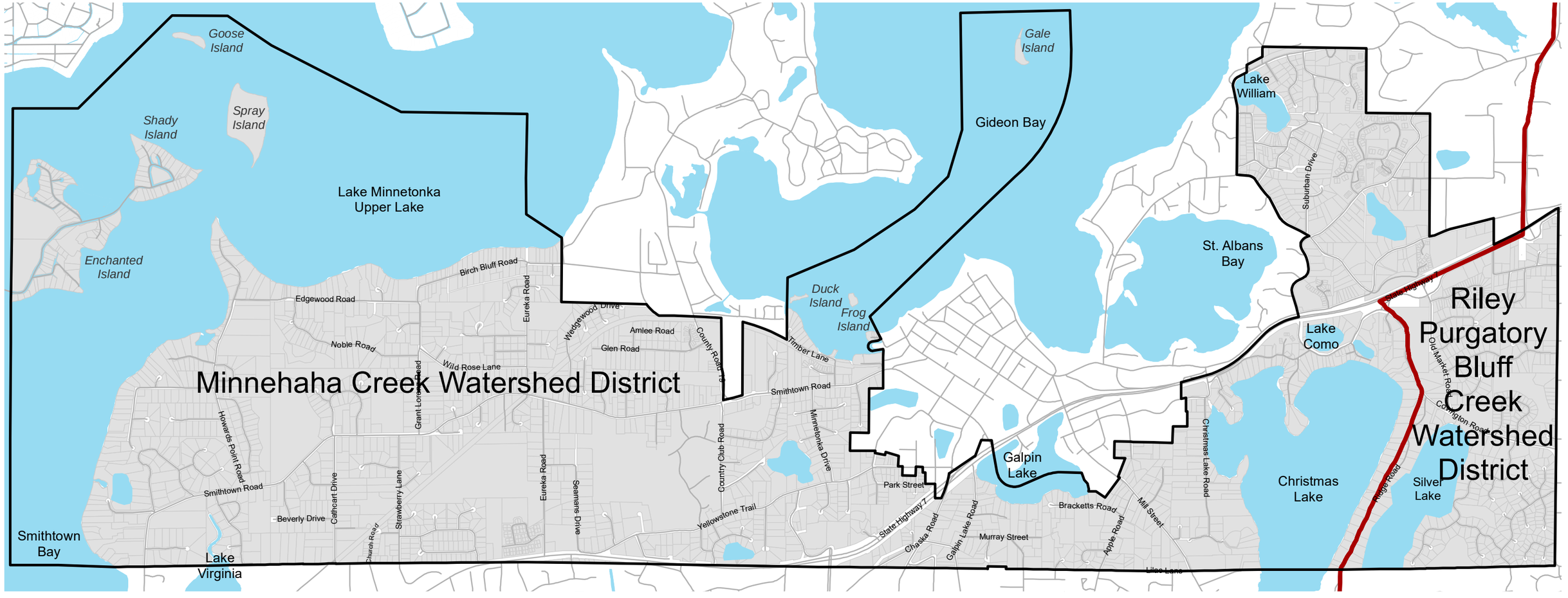
Both watershed districts have permitting jurisdiction over all construction projects within their respective boundaries, including Wetland Conservation Act administration.

If a permit is required for construction projects both the City and the watershed district reviews the permittee's application for compliance with the rules and regulations. The City of Shorewood has adopted the watershed districts' rules and regulations. A City issued building permit requires both City and watershed district approval of the projects stormwater management components.

Construction phase erosion control inspection and enforcement and post construction storm water management facility and erosion control administration duties are shared and coordinated between the City and the watershed.

Watersheds

City of Shorewood
2040 Comprehensive Plan



Map created: October 2018
Data: NAC, MnDNR, Metropolitan Council

Legend

- Lakes
- Parcels
- Watershed Boundaries
- Shorewood Boundary

0 0.25 0.5 1
Miles

N

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POLICY PLAN

2040 Comprehensive Plan

INTRODUCTION

The intent of the Policy Plan portion of the comprehensive planning process is to outline in written form what the community desires to be produced or accomplished relative to the physical environment. Secondly, the Policy Plan is intended to set forth guidelines as to how these desires are to be achieved. This chapter identifies general goals and supporting policies. These elements comprise a review and decision-making process and the basis upon which plans, programs and actions can be formulated and initiated.

It is emphasized that these goals, objectives and policies are the basic and fundamental plan for the development of Shorewood. In this regard, their purpose is to provide a decision-making framework to guide all public and private actions and the development of the City. In addition to the active function of guiding response and action, the goals, objectives and policies also serve the more passive function of establishing evaluation criteria for the development and change which subsequently occurs.

This Policy Plan should not be interpreted as an implementation program of actions and/or responses as no time framework or priority of action is intended or stated. The Policy Plan is a guide which directs action of the part of the public and private sectors of the community when responding to needs, problems and opportunities.

The policies are to be considered and utilized collectively. While in some instances a single policy may define and outline a course of action or decision, it is more commonly the case that several policies apply to a given situation. Reactions to individual policies should therefore be tempered pending consideration of all applicable statements.

Policy plans are used as the basis of graphic plans and decision-making due to their flexibility and adaptability. Policies can be applied and used for the basis of decision-making when unanticipated situations emerge. Such is not the case with a map plan in that it is static and fixed. Further, there may be instances when the policies contained in the Policy Plan do not reflect a change in policy direction or address an unanticipated issue. In such cases, the Plan should be amended to include policy statements which reflect the new direction or issue. Operating in such a fashion, the Comprehensive Plan will retain a current and effective status and will not become outdated.

The term “shall” within the framework of the Policy Plan is not to be considered an absolute regulation such as the case in the City’s Zoning and Subdivision Ordinances.

The Policy Plan portion of the Comprehensive Plan is based upon an analysis of the preceding Planning Tactics and Inventory Chapters. To ensure that the Policy Plan reflects the desired ends

of the local community and that such ends are to be accomplished, the Plan has been subjected to detailed and thorough review by the Planning Commission, City Council and City Staff.

To ensure a proper understanding and clarification, the terms utilized are defined as follows:

Goals: The generalized end products which ultimately result in achieving the kinds of living, working and play areas that are desired.

Objectives: Conditions which must be attained in order to accomplish a particular goal.

Policies: Definite courses of action which lead toward goal achievement.

Many goals, objectives, and policy statements are generalized in nature and are directed simply toward community health and welfare. In this regard, many of the policies of the City's 2030 Comprehensive Plan remain valid and have been reiterated in this 2040 Plan. Certain Comprehensive Plan policies are more specific in nature and reflect different courses of action than those contained in the 2030 Plan. In those instances, specific policies have been added in response to new and/or higher priority issues raised as part of the community engagement process.

NATURAL RESOURCES

Goal:

The City will update (amend) its guidelines and regulations and enforce existing standards to ensure preservation and protection of the natural environment.

Objectives:

1. Development which occurs is to be compatible with features of the natural environment and preserve environmental features and natural amenities.

2. The natural and aesthetic quality of Shorewood's lakeshore is to be maintained and, where feasible, improved through the protection of shoreland impact zones, landscaping and shoreland buffers.

3. Creative development design to ensure the protection and enhancement of those portions of the community containing unique physical features (e.g. topography, woodlands, wetlands, etc.) is to be encouraged.

4. Natural wildlife habitats are to be provided protection to avoid loss where possible.

5. The environmental balance between natural and man-made physical features is to be maintained through land use development policy.

6. Shorewood's trees and vegetation are valuable assets and consideration is to be given to the preservation and protection of significant trees.

7. All environmentally sensitive areas (e.g. wetlands, shorelands and floodplains) are to be protected.

8. Area lakes' ecological systems are to be conserved and protected for future generations.

9. Where feasible, control over natural open space areas shall be obtained through conservation easements, acquisition or development regulation.

Policies:

1. All development in naturally or environmentally sensitive areas shall conform to state and federal regulations.

2. State and federal environmental regulations shall be incorporated into local policy.

3. Environmental regulations shall be formulated, updated and enforced to ensure the proper protection of natural environmental resources.

4. Environmental assessment worksheets and, when required, environmental impact statements, shall be prepared for developments of the type described in Minnesota Environmental Quality Board's Environmental Review Program, as may be amended.

5. The use of planned unit development cluster concepts shall be considered where protection of natural features is important to the community.

6. New development and the expansion of existing activities shall be restricted and regulated where environmental damage may result.

7. Development on or near shorelands, wetlands, floodplains and other natural features which perform important environmental functions in their natural state shall be restricted or prohibited.

8. Natural drainage patterns shall be preserved whenever feasible.

9. Development on, or alteration of, natural drainage system components shall be restricted so that the need for construction of storm sewer will be minimized.

10. Any adverse impact from increased surface water runoff to adjoining properties shall be avoided to the extent possible.

11. A drainage plan shall be established which utilizes intermediate ponding areas and provides municipal procedures for the acquisition, dedication, or control of areas so designated.

12. Environmentally sensitive areas such as wetlands and wooded areas are to be acquired or publicly controlled, when necessary to preserve their integrity as funds are available.

13. Conservation easements and similar methods of preserving open space shall be pursued to ensure that such areas remain in open space indefinitely.

14. Support shall be given to efforts aimed at reducing lake pollution.

15. Protect surface and ground water quality by continuing programs to educate the public and regulate the use of chemical lawn fertilizers.

16. Water bodies and watercourses shall be classified and zoned for specific uses giving due consideration to DNR and LMCD recommended regulations.

17. All reasonable measures shall be taken to mitigate adverse impacts resulting from development on natural wildlife habitats.

18. The location, condition and species of existing significant vegetation shall be indicated in all development requests.

19. Programs designed to protect Shorewood's trees through disease control measures and reforestation shall be encouraged.

20. Preserve existing wooded areas and develop programs and regulations to replace lost tree cover.

21. Incorporate the goals and policies of the Shorewood Surface Water Management Plan into the development review process.

22. Use available natural resources inventories and environmental data.

23. Review existing tree preservation regulations to ensure that such ordinance provisions adequately reflect desired preservation objectives.

24. Consider increased funding for stormwater management efforts in the City.

25. Consider the adoption of regulations which protect bluffs which lie outside of the City's shoreland districts.

LAND USE

Goals:

- The City shall continue a pattern of land uses which is consistent with the residential and recreational functions of the community.

- The land use plan shall promote harmonious relationships between various land uses (e.g. homes, commercial outlets, churches, parks, schools, etc.) through proper development and application of transitions between different land uses.

- Land use regulations shall discourage land uses which are inconsistent with the residential and natural character of the community.

Objectives:

1. A cohesive land use pattern that ensures compatibility and functional relationships among activities is to be formulated and implemented.
2. Community planning and development is to consider the impact to surrounding neighbors, neighborhoods and cities and mitigate the impact with transitions (landscaping, berming, etc.) where possible.

3. Development that is not accompanied by a sufficient level of supportive services and facilities (utilities, parking, access, etc.) is to be prevented.

4. Land uses and environmental quality are to be maintained and, where necessary, upgraded.

5. Community development is to be compatible with features of the natural environment and is to be accommodated without destroying environmental features and natural amenities.

7. Neighborhoods are to be maintained and where necessary, strengthened in character, while at the same time improving and reinforcing community identity.

8. A creative approach to the use of land and related residential development is to be encouraged.

9. Commercial development shall be safe, convenient, attractive, and compatible with the residential character of the community.

10. Establish and maintain a consistent approach to the development of fragmented land parcels (i.e. larger lots having the potential to be subdivided) which encourages cooperation between landowners and provides for access and utility service which complies with City standards.

11. Identify parcels of land with the potential to be set aside as permanent open space and explore means of obtaining conservation easements or financing the acquisition of such parcels.

12. As opportunities present themselves, attempts shall be made to satisfy the Metropolitan Council's minimum residential density directives for "suburban" communities (at least five units per acre for new development and redevelopment).

Policies:

General

1. Whenever possible, the impact of physical barriers shall be reduced in order to increase relationships between isolated areas and reinforce continuity and a sense of community.

2. Major streets are to border, not penetrate, neighborhoods.

3. All development proposals shall be analyzed on an individual basis from a physical, economic and social standpoint to determine the most appropriate uses within the context of the planning district in which it is located and within the community as a whole.

4. Land use development shall be related to and reflect transportation needs, desired development and community priorities.

5. Land use development shall be planned so as not to isolate or create landlocked parcels.

6. The use of easements and private streets for the purpose of lot access is to be discouraged.

7. "Flag lot" development shall not be permitted. Adequate access must be established and provided to avoid creating nonconforming property.

8. Intensification of land use activity and development will only be allowed if accompanied by sufficient corresponding increases in related supportive and service facilities such as parks, off-street parking, fire and police protection, etc.

9. Transitions between distinctly differing types of land uses shall be accomplished in an orderly fashion which does not create a negative (economic, social or physical) impact on adjoining developments.

10. Wherever possible, changes in types of land use shall occur either at center, mid-block points so that similar uses front on the same street, or at borders of areas separated by major manmade or natural barriers.

11. The removal of land from the tax rolls shall be considered only when it can be clearly demonstrated that such removal is in the public interest (e.g. the preservation of greenspace).

12. Programs and incentives for continuing privately initiated maintenance, improvements for energy conservation, and redevelopment of existing land use development shall be created and implemented.

13. Where practical, problems with conflicting and non-complementary uses shall be resolved through removal and relocation.

14. To the maximum extent possible, development policies and regulations shall be applied consistently and uniformly.

16. Shorewood's land planning and development shall be on a cooperative basis with neighboring communities, when consistent with Shorewood's adopted goals.

17. Shorewood's lakeshore shall be protected from over-intensification of use and development.

18. Shorewood shall consistently enforce ordinances related to property (and structure) maintenance.

Residential

1. Low density residential neighborhoods shall be protected from encroachment or intrusion of higher density residential uses and non-residential development via the use of buffering and separation techniques.

2. Residential neighborhoods shall be protected from penetration by through traffic.

3. Access to major streets shall be provided on the periphery of residential neighborhoods.

4. Residential development shall be protected from adverse environmental impacts, including noise, air and visual pollution.

6. Housing styles and development techniques that conserve land and increase energy efficiency shall be encouraged.
7. All new housing shall adhere to the highest community design, planning and construction standards.

8. Innovation in subdivision design and housing development shall be considered through the use of devices such as the cluster and planned unit development concepts.

9. Residential development shall be prohibited on floodplains, bluffs, wetlands and other natural features that perform important protection functions in their natural state.

10. New residential development shall maintain the natural environmental character of Shorewood through the preservation of significant trees, protection of bluffs and wetlands, and maintenance of shoreland impact zones.

11. Integration of housing types or styles within a development shall be allowed when applicable provided the total number of units conforms to the prescribed density for the total development.

12. Shorewood's housing planning and development shall be in cooperation with neighboring south shore communities.

13. City regulations related to “teardowns” and “rebuilds” of single family homes shall be examined, and modified if determined necessary, to ensure that adequate provisions are in place to ensure neighborhood compatibility.

14. In consideration of new or redeveloped housing projects, the minimum density directives of the Metropolitan Council (five units per acre) shall be given due attention.

15. To limit on-street parking and protect adjoining properties from nuisance concerns associated with construction projects, staging plans shall be required for all infill development projects. Minimally, such plans shall address contractor parking locations, construction material storage, construction hours and keeping the streets clean.

Commercial

1. The City of Shorewood's commercial development shall be oriented towards "convenience" type of shopping geared toward neighborhood or community scale markets.

2. Commercial and service centers shall be developed as cohesive, highly interrelated units with adequate off-street parking.
3. Existing and proposed service and commercial uses shall be adequately and appropriately landscaped according to community requirements as may be amended.

4. All existing and proposed service and commercial uses shall be adequately screened or buffered from any adjacent residential development.

5. Orderly transitions between commercial and residential areas shall be established and maintained.

6. Uncoordinated linear commercial development shall be strongly discouraged in favor of a unified development pattern.

7. Joint utilization of parking, access, and other related supportive services shall be promoted in service and commercial districts and individual developments.

8. Safe and convenient pedestrian movement shall be provided within service and commercial developments.

9. When possible or when opportunities arise, major street access for service and commercial development shall be at the periphery of the area.

10. Locate neighborhood convenience centers along minor arterial or major collector streets.

11. Commercial development at street intersections shall be limited and restricted. Development of one quadrant does not indicate or dictate commercial use of the remaining quadrants.

12. Ensure that neighborhood convenience centers are provided with safe and convenient accessibility for both motorists and pedestrians.

13. It shall be the responsibility of higher density residential and non-residential developments to buffer or provide transitions to protect lower density residential uses.

14. Redevelopment of the Smithtown Crossings commercial area shall occur in a manner which promotes Shorewood's community identity.

15. Future commercial development in the City shall consider the character of the community and adhere to the highest possible standards of quality (in terms of both design and finish materials).

Commercial Services

1. The existing commercial service development in Shorewood shall be upgraded and improved to the highest possible standards of operation.

2. It shall be the responsibility of existing commercial service developments to assume the burden of making necessary improvements to ensure compatibility with surrounding residential uses.

HOUSING

Goals:

- Healthy and quality housing shall respect the natural environment of the community.

- Maintain the present variety of housing options and provide sufficient housing types, sizes and values to meet the needs of varying segments of the population.

- Maintain and strengthen, where necessary, the character of individual neighborhoods within the community.

- Address local and sub-regional housing issues through cooperative efforts with neighboring communities.

- The City shall promote safe, healthy and affordable housing options.

Objectives:

1. Review local development regulations, and amend as necessary, to promote a balanced housing supply.

2. As opportunities present themselves, attempts shall be made to satisfy the Metropolitan Council's affordable housing directives (48 new units between 2021 and 2030).

3. Identify locations for alternative residential housing types and densities.

4. Make available to residents and property owners educational programs on such topics as renter/landlord rights, home buying, home maintenance, etc.

5. Continue the City's rental housing license program to maintain current standards for rental housing.

6. Promote private sector maintenance, rehabilitation and redevelopment of existing properties through improved communication of available community services and financial assistance programs.

7. Continue to allow accessory apartments to allow seniors to remain in their single family homes.

8. Encourage housing types that are designed to appeal to senior citizens to allow existing residents to downsize and remain in the City of Shorewood.

Policies:

<u>Maintenance, Rehabilitation and Redevelopment</u>

1. Programs for housing structural condition maintenance shall be pursued to protect the health and safety of residents and ensure stability of neighborhoods within the community.

2. Maintenance problems and code violations shall be addressed to improve and strengthen the character of neighborhoods and avoid spreading the impact of deterioration.

3. Substandard housing units shall be rehabilitated whenever possible.

4. Work with Hennepin County to administer programs which provide financial assistance for the rehabilitation of substandard housing units within the community (as funding sources and market conditions permit).

5. Residential redevelopment of substandard housing within the community shall be encouraged whenever compatible with adjacent land uses and economically feasible.

6. Appropriate regulations shall be established for development upon lawful nonconforming lots.

7. Staging plans shall be required for all residential infill projects. Minimally, such plans shall address contractor parking locations, construction material storage and construction hours.

Compatibility

1. Low density residential neighborhoods within the community shall be protected from encroachment or intrusion of incompatible higher density residential land uses, as well as nonresidential use categories, through adequate buffering and separation.

2. The character of individual residential neighborhoods shall be respected and maintained.

3. Residential developments shall be protected from and located away from sources of adverse environmental impacts including noise, air and visual pollution.

4. Home occupations, commercial and other nonresidential activities shall be minimized and are not to be evident within residential neighborhoods.

5. Accessory buildings within the community shall be of a compatible design and size to maintain a residential character. These buildings shall be limited exclusively to residential use related activities.

6. Outdoor storage is to be minimized and, in those instances, when it is acceptable, it shall be conducted in an orderly, confined and limited fashion which is consistent with City Code requirements.

7. Violations of property maintenance standards that infringe upon residential neighborhood quality, pose public health and safety problems and threaten neighboring property values shall be aggressively eliminated.

Variety of Housing

1. Owner occupied housing shall be encouraged.

2. Shorewood's housing needs, as well as the needs of the overall Lake Minnetonka sub-region, shall be addressed by providing and maintaining a variety of housing types, styles and values.

3. The emergence of a polarizing age distribution within the Lake Minnetonka sub-region is to be prevented through the provision of diverse housing that reflects life-cycle stages and economic considerations.

4. A range of property values and rent rates within the Lake Minnetonka sub-regional housing stock shall be encouraged as a means of diversifying the population and sustaining individual communities in the area.

5. Adequate living space and fully utilized housing are to be encouraged and promoted through the provision of a range of choices among housing types and values throughout the Lake Minnetonka sub-region.

6. The development of housing for special needs populations (e.g., elderly, physically challenged) within the Lake Minnetonka sub-region shall be supported by financial assistance programs that may be available as funding sources and market conditions allow.

7. In consideration of new or redeveloped housing projects, the affordable housing directives of the Metropolitan Council (48 units by 2040) shall be given due attention.

TRANSPORTATION

Goals:

- The City shall provide and maintain a safe and efficient system of transportation, sensitive to the needs of residents and the environment of the community.

- The City should establish a plan for an interconnected system of trails, enhancing the safe movement of pedestrians, bicyclists and other modes of non-motorized travel.

Objectives:

1. Reduce the need for transportation facilities by combining or concentrating various land use activities, when and where feasible.

2. Promote regional transportation facilities that are safe, direct, convenient and environmentally sound and coordinate plans with other jurisdictions.

3. Design safe, efficient and economical local transportation facilities based upon the needs of neighborhoods, integrating these facilities into the community and regional systems.

4. Utilize a comprehensive system and approach to transportation, giving due attention to all modes and related facilities.

5. Assign priorities to various travel routes, modes and programs, then formulate and implement a corresponding action and development effort.

6. Provide safe trail connections to points of interest in the community and link to trails provided by Hennepin County and adjacent municipalities.

7. Implement trail segments on an incremental basis consistent with an overall plan.

8. Explore all outside funding resources to implement local transportation plans.

9. Address automobile traffic, pedestrian movements, on-street parking and stormwater management within local street right-of-way improvements, where feasible.

Policies:

General

1. Transportation facilities shall be planned and improved to function in a manner compatible with adjacent land use.

2. All means of transportation and related facilities shall be considered as one system and therefore coordinated and related comprehensively.

3. Transportation facilities shall be planned and designed to conserve natural resources and minimize ongoing public investment.

4. The transportation system shall be developed to focus on activity centers of Shorewood and neighboring south shore communities, and to promote safe and efficient movement of traffic through and out of the city to the Metro Area.

5. Transportation planning and implementation shall be coordinated with neighboring and affected jurisdictions.

6. Special consideration and attention shall be given to persons who must rely on means other than the automobile for transportation.

7. Dependency upon automobile-oriented transportation shall be reduced where feasible, and where possible higher priorities shall be assigned to pedestrian/bicycle and mass transit travel.

8. The State and County highway systems shall complement and facilitate local movements provided by local streets, bicycle trails and pedestrian facilities. A line of communication shall be maintained with County and State highway officials in order to ensure that planned improvements are consistent with the goals and objectives of the community.

9. Early and continuing citizen involvement shall be provided for and encouraged in transportation planning and implementation projects.

Streets

1. A functional classification system for the street system in Shorewood has been established and shall be maintained, giving due consideration to the Metropolitan Council's Functional Classification System for streets and highways, as may be amended.

2. The classification system should be monitored as needed to revise the classification of streets as traffic and land use patterns evolve.

3. All local or residential streets shall be designed to limit penetration of through traffic and shall direct traffic to collector or arterial streets.

3. Land access onto expander and arterial streets shall be limited or prevented wherever possible.

4. Vehicular access onto arterials~~s~~ streets shall be minimized and limited to points of adequate distances between intersections with proper signalization and/or merging.

5. Street parking shall be prohibited or limited on arterial streets.

6. All intersections shall have proper visibility, design, and control to prevent accidents and violations.

7. Service roads paralleling major arterials shall be controlled to reduce traffic conflicts, hazards and resulting accidents.

8. Single-loaded frontage roads shall be discouraged in the future.

9. Street improvement shall be related to, and phased with, area land development to avoid interrupted or inadequate access.

10. Curb and gutter shall be required in new development and reconstruction of existing streets. Other drainage solutions may be considered where more economical and practical.

11. In those areas where incomplete street facilities exist, action shall be taken to plan, design and develop a street system that reflects the highest standards and relates land use to transportation needs and policies. Action shall be taken immediately to reserve required rights-of-way to prevent redundant additional cost and difficulties.

12. Where feasible and practical, provisions for other transportation modes (i.e. pedestrian, bicycles, etc.) shall be included in street and highway improvement plans.

13. The City shall strive to minimize damage to City streets and prevent premature street decay by enforcing seasonal weight restrictions and by considering options to reduce the number of regularly scheduled heavy vehicles on such streets, including, but not limited to, those utilized for organized trash collection.

14. The City shall work with State and/or County officials to explore possible solutions to ongoing traffic congestion issues at Highway 7 access points.

15. Maintain a system of evaluating street conditions and prioritizing street maintenance/improvement efforts.

16. Timeframes for street improvement/replacement efforts shall be identified within the City's capital improvement program (CIP).

17. A design template for local street right-of-way improvements shall be developed which addresses automobile traffic, pedestrian movements, on-street parking and stormwater management.

18. As opportunities present themselves, existing unpaved public streets shall be paved in compliance with City street standards.

Parking

1. No development or expansion of activities and uses shall be permitted unless adequate off-street parking is provided.

2. Parking requirements imposed by the City shall be periodically reviewed and studied to ensure supply is reflective of demand.

3. Parking shall be developed in a fashion that conserves land, allows joint utilization and minimizes conflicts with moving vehicular traffic, pedestrians and cyclists.

4. Parking lot access to public streets shall be limited to the functional minimums.

5. The City shall enforce standards for parking lot landscaping.

6. The City shall seek reduction in the demand and resulting space requirements for parking through improved pedestrian and transit facilities and land use development coordination.

7. Consideration shall be given to limiting on-street parking to one side of the street in areas determined by the City to address problematic parking conditions on narrow streets. Alternatively, staggered parking on alternating sides of a street may also be considered.

Mass Transit

1. Increased service and the use of mass transit shall be encouraged by the City of Shorewood.

2. The City shall work with adjacent City of Excelsior, as determined necessary, to ensure that Shorewood residents are provided reasonable access to transit services.

3. Strive to develop transit service for those who do not have other transportation alternatives.

4. Transit service, through related improvements and land use policies, shall be encouraged by the City during non-peak, non-rush hour periods in addition to peak and rush hour periods.

5. Shorewood business districts shall be encouraged to establish themselves as transit "stations" or suburban collection points through provisions for park and ride, transfer routes and direct express service to other commercial and employment activity centers of the metropolitan area and southwestern sub-region.

6. Availability of transit service, notably during rush hours, to activity areas and regional centers in other communities shall be encouraged.

7. All potential means and methods of providing and improving transit service (school buses, taxis, etc.) shall be explored.

Pedestrian/Bicycle

1. Where possible and economically feasible, a separated traveled surface shall be provided for pedestrians and cyclists.

2. Special attention shall be directed toward and facilities provided for pedestrian movement and access in areas in and surrounding schools, churches, parks, commercial and service centers.

3. Pedestrian street crossings on heavily traveled streets shall be clearly marked and lighted.

4. All street improvement programs and projects shall take into consideration facilities for pedestrians and bicycles as identified in the City's Trail Concept Plan.

5. Non-local streets in Shorewood shall be designed to protect pedestrian and bicycle movement paralleling traffic.

6. New development shall be encouraged to respect the pedestrian/bicycle system and, where possible, contribute to the City right-of-way and development costs.

7. Construction and maintenance of trails shall be based on established standards and specifications to ensure safe conditions.

8. Shorewood will establish development standards for the construction of trails, as well as maintenance standards and programs, to ensure safe conditions.

9. Trail segments shall be established within parks to provide connections between various facilities and to accommodate recreational usage.

10. Priorities for the funding of the construction of trails shall be established based on safety concerns, funding conditions and neighborhood acceptance.

11. Shorewood will explore all funding sources, including outside grant funds for the construction of trails, provided that such funding sources accommodate local needs and design criteria.

12. Shorewood will cooperate with other jurisdictions, including the School Districts and Hennepin County, in providing a trail system that meets local and regional needs.

13. Shorewood will work with other area communities to investigate the establishment of a trail network that could provide connections to points of interest and environmental features, including continuous access around Lake Minnetonka.

14. Shorewood will work with other area communities to investigate the establishment of bicycle and mass transit linkages that would serve bicycle commuters.

15. As part of street improvement/reconstruction planning, due consideration shall be given to the construction of trails and/or sidewalks.

16. Shorewood will identify and prioritize incomplete trail links within the City and develop a plan to improve pedestrian trail connections.

17. Shorewood will collaborate with the adjacent City of Excelsior to improve inter-city vehicle and pedestrian connections.

18. As part of the development of the City's trail system, due consideration shall be given to pedestrian and bicyclist safety.

19. Shorewood will strive to implement sidewalk and trail directives of its Transportation Plan and Park and Recreation Plan.

COMMUNITY FACILITIES

Goals:

- The City shall provide those basic facilities and services that ensure the health, safety and general welfare of the public, the cost of which facilities and services are most efficiently shared by the general public.

- The efforts of varying government agencies shall be coordinated to avoid duplication of efforts, unnecessary expense and improper location of public facilities.

- Maintain a sound financial planning program for capital improvements, relating such improvements to actual need, proper location and timing.

Objectives:

1. Existing services are to be maintained and improved where needed.

2. New community facilities and services are to be developed to meet the needs and interests of the Shorewood community.

3. Public facilities and services are to be planned and provided in a comprehensive coordinated and economic fashion.

4. Full utilization of existing facilities and services is to be accomplished prior to additional investment.

5. Implement policies to provide City water service where financially feasible and where demand can be demonstrated.

6. Facilities and services on a joint-use basis between units of government is to be promoted, improved and increased.

7. Each individual in the community is to be assured safe, equitable and easy access to public facilities and services.

8. Shorewood residents are to continue to have safe, reliable energy services to meet their needs.

9. Energy service conservation is to be constantly promoted and facilitated.

10. Efforts shall be made to improve the City's water supply and stormwater management systems.

11. When opportunities arise, efforts shall be made to promote Shorewood's community identity through public improvements.

Policies:

Parks and Recreational Open Space

1. Shorewood's park and recreational open space system shall be classified in accordance with standards established by the Metropolitan Council.

2. Funding for park maintenance and necessary improvements (as determined by the City) shall be considered a community priority.

3. The allocation of funds for park improvements for specific facilities will be made on the basis of balancing overall community park needs of Shorewood residents with the specific needs of each facility.

4. The community shall provide for an appropriate balance among active, passive, and cultural recreational areas and activities, tailored to the needs of the total population.

5. Recreational facilities and a year-round program of activities suited to the varied recreational needs of all age groups within the community shall be provided.

6. Parks and recreational facilities shall be distributed throughout the community, based upon neighborhood needs and characteristics of each planning and development district.

7. Sufficient park land to fulfill the needs of the present and projected future population of the community shall be acquired and reserved. Park development shall be undertaken as residential development demands and as funds are available.

8. Recreational open space improvements shall be programmed in accordance with a capital improvement program, updated on an annual basis.

9. Parks shall be designed and maintained with proper lighting, landscaping, shelter design, etc., to ensure a high degree of public safety and protection of public property.

10. Where necessary parks shall be screened, fenced and/or buffered for the safety and protection of the user as well as adjacent property owners.

11. Parks shall be improved and developed to take maximum advantage of natural features of the Shorewood.

12. Safe and convenient pedestrian, bicycle and vehicular access and adequate parking to serve recreational facilities shall be provided.

13. The use of motorized recreational vehicles shall be limited to designated areas.

14. Park and open space facilities and programming shall be planned and developed in cooperation and coordinated with similar services of surrounding communities, the school district, private organizations and the metropolitan area as a whole.

15. Studies shall be undertaken on a periodic basis to analyze the effectiveness and comprehensiveness of the community recreation program. These studies shall serve as the basis for recreation open space planning and programming.

16. Continual citizen participation in the planning, development and operation of recreational open space shall be maintained.

17. The City shall employ a pro-active approach to park development.

18. When opportunities arise, Shorewood shall consider the acquisition of parcels adjacent to the City's existing public beach (Crescent Beach) and conversion of such parcels to park land.

Lakeshore Use

1. Lake Minnetonka shall be considered a community recreational facility and appropriate actions shall be taken to permit utilization of the lake by all City residents.

2. Regulations shall be enforced to ensure accessibility to area lakes while at the same time minimizing any potential impact on surrounding uses and adjacent property owners.

3. In order to protect and preserve the amenity provided by area lakes, the City shall encourage uniform land use regulation and enforcement of lakeshore use.

Governmental Buildings and Facilities

1. Cooperation and coordination shall be promoted and actively pursued between governmental units in the provision of public facilities and services.

2. The full utilization of investments in public facilities and services shall be achieved prior to making new public investments.

3. Public facilities and services shall be located to the greatest extent possible so as to offer ease of access and minimal response time.

4. All public facilities shall be developed, improved and maintained according to the highest adopted standards of design and performance to serve as examples for private development.

5. All public buildings shall be designed and maintained to be safe, secure and resistant to vandalism while maximizing public and City usability.

6. Those areas, places, buildings, structures and other objects such as Indian mounds having significant architectural, historical, community or aesthetic interests and values shall be restored and preserved, as defined under the Minnesota Historic Sites Act of 1965, as may be amended.

7. Adequate screening, landscaping, and buffering of facilities shall be accomplished in order to minimize their impact on surrounding uses and enhance the community and areas in which they are located.

8. As part of future community facility improvement efforts, consideration shall be given to the creation or establishment of a visible and identifiable physical feature which distinguishes the City of Shorewood from the Cities of Excelsior and Tonka Bay.

9. The City shall examine alternatives and develop a plan for the future use of the Shorewood Community and Event Center.

10. The City of Shorewood shall seek and implement creative ideas for its public spaces which pay homage to the community's history and identity.

11. The City shall strive to make efficient use of its various municipal buildings by evaluating, on a periodic basis, the space needs of various City functions (to ensure adequacy).

Public and Semi-Public Utilities

1. City public utilities will be reviewed at the same time that the Capital Improvement Program (CIP) is reviewed each year.

2. Demand for urban services shall be anticipated, with emphasis to conserving existing facilities, in order to facilitate orderly, fiscally responsible extension of service systems.

3. Easements for utility systems shall be located according to uniform standards, providing for ease of access for maintenance and repair and minimal disruption of other activities or areas.

4. All utility systems and possible utility and service needs shall be periodically monitored, and all existing systems shall be maintained to assure a safe and high quality standard of service on an ongoing basis and to reduce inflow and infiltration into the city's sanitary sewer mains.

5. The impact of required utility facilities and services shall be minimized upon surrounding uses.

6. Underground installation of all new utility services shall be required and when economically feasible, existing overhead systems shall be converted to underground.

7. Coordination among all utility improvement programs shall be constantly pursued.

8. Telecommunication facilities shall utilize existing tower structures where feasible.

9. Gravity sewer systems are to be encouraged, and sewer lift stations should only be allowed when it is technically infeasible to achieve gravity flow.

10. Separate sanitary and storm sewer systems shall be maintained.

11. Run-off shall be managed to protect the groundwater recharge areas.

12. Benefiting property owners shall assume the burden of improvements made by the City in their behalf.

13. Natural drainage shall be preserved to the extent possible in order to minimize storm sewer costs.

14. Commercial development shall provide adequate water systems to insure proper fire protection.

15. To improve stormwater management within the City, Shorewood shall consider installing curb along problematic streets when opportunities arise.

16. Shorewood shall work toward the eventual connection of all properties to the City's municipal water system and all extensions shall be consistent with the overall plan for City water (i.e. pipe sizes).

17. Properties used for commercial purposes or residential uses involving four or more dwellings shall connect to the municipal water system. Residential developments of three or fewer dwellings shall connect to the municipal water system where it is available. The City reserves the right to deny permission for a subdivision development or redevelopment for subdivision if City water is not available at that property.

18. The overall water system is to remain financially self-supporting.

19. Allow water main extensions to provide water to residents where technically and financially feasible and where demand can be demonstrated. A super-majority of residents shall be considered a demand for water extensions.

20. In addition, the City will consider encouraging property owners with private wells to connect to the public system and will review funding mechanisms to assist this transition.

21. When opportunities present themselves, the City will consider the burying of existing and new power lines to reduce the frequency of power loss during storm events.

22. As part of the update of the City's Water Supply Plan and/or Wellhead Protection Plan, various requirements recommended by the Minnesota Department of Health to protect Shorewood's drinking water supply shall be incorporated.

23. Stormwater drainage facilities and underground utilities shall be considered integral elements of the City's street improvement projects.

Energy

1. Encourage use of alternative energy forms in new construction.

2. Continue to disseminate information on governmental energy conservation programs and helpful ideas on personal energy conservation methods.

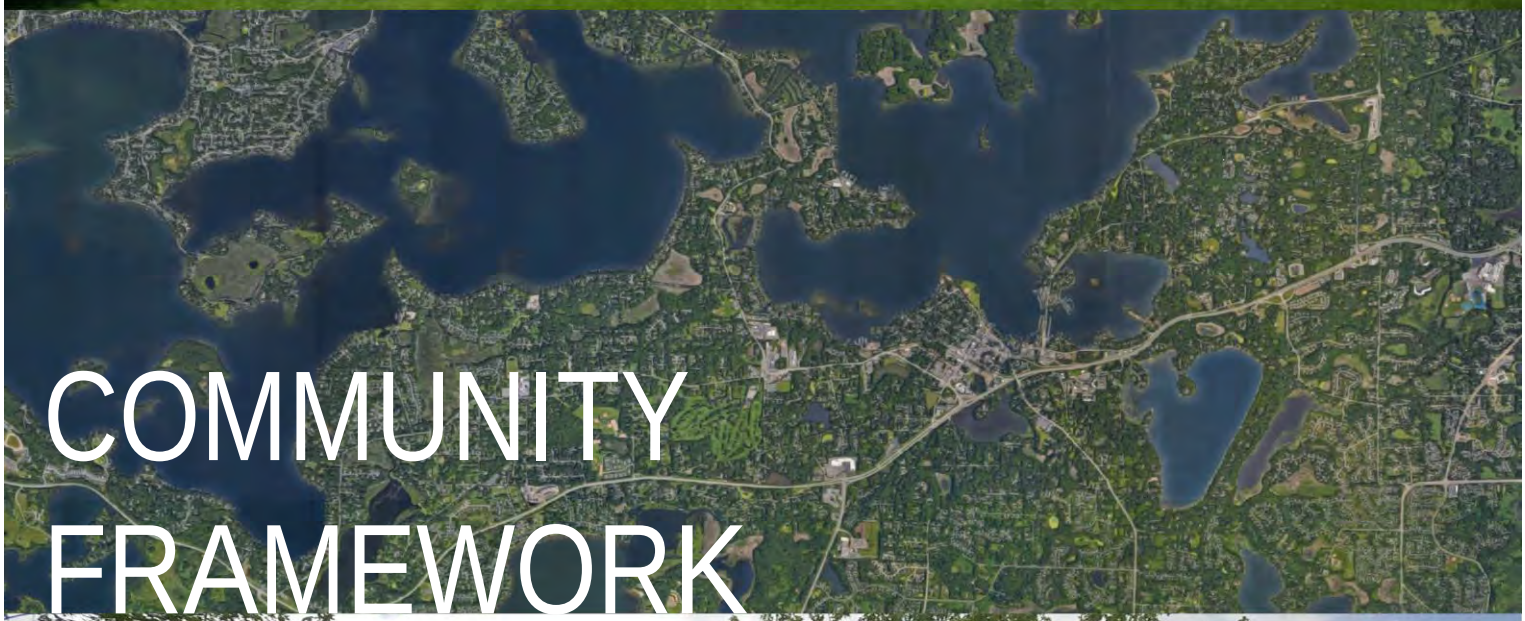
3. Where practical, promote overall energy conservation in the community development process.

4. The City of Shorewood will, by example, attempt to become a more energy efficient community via future investment in such systems.

5. Establish regulations to accommodate the installation of alternative energy systems (solar and geothermal) and clarify procedures.

Collaboration

1. To the extent possible, the City of Shorewood shall collaborate with nearby lake communities in regard to the handling of shared services.



COMMUNITY FRAMEWORK

2040 Comprehensive Plan

INTRODUCTION

The Metropolitan Council requires that comprehensive plans for cities in the seven-county Metropolitan Area include a Natural Resources Plan. Such plan must address community goals, intentions and priorities concerning preservation, conservation or restoration of natural resources. Goals, objectives and policies related to the natural environment are provided in the Policy Plan chapter of this Plan.

Perhaps above all other characteristics of the community, Shorewood residents value the natural setting in which it is located and have found that protecting sensitive features such as wetlands, shorelands, floodplains and wooded areas has an aesthetic, economic, health and even psychological benefit to the community as a whole.

The natural setting makes Shorewood a very attractive place to live. Ironically, this attraction creates pressure for new development which can threaten natural amenities. Shorewood is committed to maintain its high quality natural environment.

NATURAL RESOURCES PLAN

Soils

Shorewood has numerous areas where poor soil conditions impose limitations on development. As prime land becomes developed, there is increasing pressure to develop on more marginal parcels. Most of the on-site sewer systems which pose environmental problems due to poor soil conditions have been connected to the public sanitary sewer system. Only a few such systems remain out of reach of City sewer, and all new development is required to connect to the City's system.

Bearing capacity for construction has been, and continues to be, an area of concern. The City requires testing in areas known for poor soil conditions or where poor soils are discovered during construction. Areas found to have questionable soils are subject to the recommendations of qualified soils engineers, as well as the requirements of the State Building Code.

The City of Shorewood has adopted standards for the control of erosion and sedimentation. In this regard, the following documents serve as a guide for the development of Shorewood's own local controls:

- MPCA Construction Stormwater Permit (Minnesota Stormwater Manual)
- MCWDs Erosion Control Permit
- MnDOT Erosion Control Handbook
- MS4 SWPPP Program

Going forward, the City will strive to use the most up-to-date standards for erosion control and sedimentation.

Slopes

The protection of the steep slopes and specifically bluffs which lie outside of the City's shoreland districts have been identified as an issue of community importance.

The type of slopes, along with surficial soil types, should be taken into consideration in the review of all development requests. Each site should be examined for problems of this nature, and in identified problem areas, the City will require test soils to determine if soil types are a problem on lesser slopes.

The Metropolitan Council has established two policies relative to development on erodible slopes:

- Slopes which because of their surficial soil type are susceptible to severe erosion should be maintained in a natural state. Counties and municipalities should adopt regulations to maintain or replace vegetative cover of these slopes to reduce erosion and slippage.

- Slopes subject to moderate erosion should be managed to minimize erosion and slippage; management may include special design and construction methods for development or appropriated vegetative or other cover.

Considering the amount of sloping land in Shorewood, 12 percent grades will be considered a "warning flag." While development may be allowed on slopes greater than 12 percent, such development shall be subjected to special scrutiny and examined for any potential environmental impact which might occur as a result of the proposed development. The City shall evaluate grading activities based on the following criteria:

- Development on slopes greater than 12 percent shall be reviewed and approved by the City Engineer. Any documentation needed to evaluate the development shall be provided by the developer.

- On large projects development activities shall be conducted and staged to minimize soil erosion. The smallest practical increment of land shall be developed at any one time; that increment shall be subjected to erosion for the shortest period of time, not to exceed a single construction season.

- Sufficient control measures and retention facilities shall be put in place prior to commencement of each development increment to limit soil loss.

- During construction, wetlands and other water bodies shall not be used as sediment traps.

- Except in extraordinary situations, development which results in disturbed slopes exceeding 3:1 (three horizontal to one vertical) shall not be allowed. Where unavoidable, steeper slopes must be designed by qualified professionals and will be subject to review and approval by the City Engineer.

Tree Preservation and Reforestation

The City of Shorewood recognizes trees and vegetation as valuable assets and that preservation and protective measures are a necessary community standard.

Shorewood's zoning regulations presently contain provisions for limiting the removal of vegetation in shoreland areas and requirements for landscaping of certain new developments. The City has adopted a tree preservation and reforestation policy which establishes the following three-part program:

1. Preservation
    - identifies which developments require tree preservation
    - identifies size and species of trees to be saved
    - adopts construction protection measures
    - considers residential clustering to preserve trees
2. Replacement
    - requires replacement of those trees identified for preservation which must be removed for road and buildings
    - establishes a required ratio between removed and replacement trees
3. Landscaping
    - increases the types of development where landscaping is required
    - increases size specifications for required landscaping
    - establishes minimum quantity requirements
    - amend subdivision regulations to require tree planting for all developments

- provides protection against invasive plant species and species which are susceptible to disease

During the development process, developers are required to submit tree inventories that become the basis for tree preservation and replacement plans. In certain instances where it is impractical or undesirable to replace trees on site, an alternative is provided that would allow developers and builders to contribute to a City fund. This fund would be used for placing trees on public property (e.g. City parks).

To ensure that existing Ordinance provisions adequately reflect desired preservation objectives, it is recommended that a review of existing tree preservation requirements be conducted.

Wetlands

The City of Shorewood has been a leader in preserving its wetlands, having adopted protective regulations in the early 1970's. These rules have been updated to include the provisions of the Wetland Conservation Act (WCA). The City has also adopted regulations protecting natural buffers adjacent to wetlands and establishing building setbacks from these buffers.

As illustrated on the map on the following page, nearly 10 percent (312 acres) of Shorewood's total land area exists as designated wetlands. Also, the City has begun enforcing the no-net-loss requirements of the Wetland Conservation Act of 1991 (WCA91).

The City has taken numerous steps to enhance the wetland protection program:

1. Adoption of the Minnesota Department of Natural Resources wetland classification system.

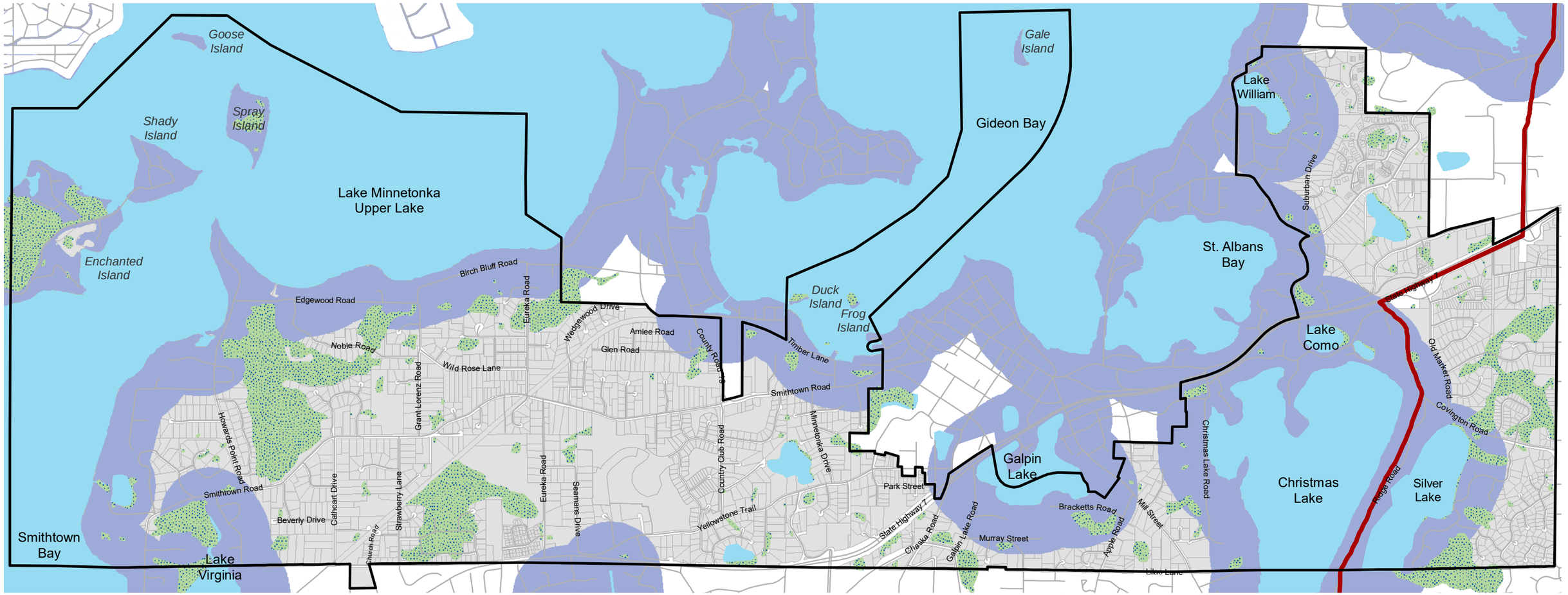
2. Requirement that all development proposals locate, identify and classify both City-designated wetlands and WCA91 wetlands.

3. Wetland delineations must be prepared by professionals certified by the State of Minnesota.

4. The applicable watershed districts will be the local governing unit (LGU) for administering the standards of the WCA91.

Water Resources

City of Shorewood
2040 Comprehensive Plan



Legend

- Shorewood Boundary
- Watershed Boundaries
- Wetlands (National Wetland Inventory)
- Shoreland Protection Zone (1000' from Lake)
- Lakes

Map created: October 2018
Data: NAC, MnDNR, Metropolitan Council

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Miles

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NORTHWEST ASSOCIATED CONSULTANTS, INC.
4150 Olson Memorial Highway, Ste. 320, Golden Valley, MN 55422
Telephone: 763.231.2555 Website: www.nacplanning.com

5. The City will continue to work with the applicable watershed district and the Department of Natural Resources to enforce wetland protection laws.

6. The City may consider establishing minimum setbacks for construction adjacent to wetlands where no buffer has been dedicated. Shorewood's wetland regulations include a 35-foot natural buffer adjacent to wetlands in new development, plus a 15-foot building setback from the natural buffer area.

7. Requirement of retention ponds upstream of wetlands to collect and filter pollutants in storm water runoff before it reaches the wetlands.

Surface Water Quality

The management of surface water in the City has been highlighted by community residents as a high priority issue. The City of Shorewood partners extensively with other local, regional, and state agencies to ensure the protection of surface water quality.

The City of Shorewood contains portions of two watershed districts, Minnehaha Creek Watershed District (MCWD) and the Riley-Purgatory Bluff Creek Watershed District (RPBCWD). Each watershed district has various programs and permitting related to managing and improving surface water quality. The City also works with the Minnesota Department of Natural Resources (DNR), the Minnesota Pollution Control Agency (MPCA), and various other jurisdictions to maintain and improve surface water quality and flooding control where possible.

The City of Shorewood's Local Surface Water Management Plan (Appendix B) includes the following goals, strategies, and policies for the management of stormwater within the City and to complement those of our partners at other local, county, regional, or the state agencies. The goals of the City are as follows:

1. Minimize public capital expenditures needed to correct flooding and water quality problems.
2. Identify and plan for means to effectively protect and improve surface and groundwater quality.
3. Prevent erosion of soil into surface water systems.
4. Promote groundwater recharge.
5. Protect and enhance fish and wildlife habitat and water recreational facilities.
6. Secure the other benefits associated with the proper management of surface and ground water.

To implement these goals, the Local Surface Water Management Plan also includes an assessment of existing and potential water resource-related problems and corrective actions, including storm

water pond maintenance, discharging to impaired waters and aquatic invasive species. Specifically the problems and proposed corrective actions include:

Problem	Corrective Action
Needed stormwater pond maintenance for improved water quality treatment, flood control, and aesthetics at Manor Park Pond.	The City, in cooperation with MCWD, will complete a feasibility study to identify methods to improve Manor Park Pond as funds are available.
Storm water discharge to the following impaired waters: Lake Minnetonka, Christmas Lake, Lake Virginia, Silver Lake, and Lake Minnewashta	The City will work with MCWD and RPBCWD to develop and implement any necessary total maximum daily loads for the impaired waters within its boundaries.
A stream in the upper Christmas Lake subwatershed that is not listed as impaired for nutrients but has a total phosphorus concentration significantly higher than state river eutrophication standards.	The City will work with MCWD to look into potential projects to reduce the total phosphorus concentration of the stream by improving the water quality of the runoff entering the stream.
An established zebra mussel population in Christmas Lake and Lake Virginia.	The City will work with MCWD to continue to educate its residents on the importance of proper boat maintenance and boat draining to reduce the spread of invasive species. The City will also consider continuing to help the Christmas Lake association fund the inspection of boats entering and leaving the Lake.
Silver Lake has been identified as an impaired water for nutrients/eutrophication due to a high phosphorus load.	The City will work with RPBCWD to implement projects to reduce the phosphorus load concentration entering the lake.

The Local Surface Water Management Plan also includes numerous goals and detailed policies relative to review of development proposals regarding stormwater runoff. All new developments are required to construct sedimentation ponds designed to National Urban Runoff Program (NURP) standards or contribute toward the construction of sub-regional NURP facilities. Because the majority of Shorewood developed prior to the adoption of these standards and because of the number of wetland and shoreland areas in Shorewood, the City has adopted impervious surface requirements for all lots. Shorewood limits the amount of hardcover on all non-shoreland residential properties to 33 percent with nonresidential properties limited to 66 percent. Redevelopment within the City, such as tear-down and rebuilds and additions, require an infiltration feature, if the soils are conducive.

Shorewood has also committed to assisting in greater education relative to stormwater runoff. The Local Surface Water Management Plan includes an education strategy to foster responsible

water quality management practices by educating residents, business owners, City staff, City Council, and developers about proper stormwater management. Strategies include the following:

- Implementing a public education program as part of the National Pollutant Discharge Elimination System (NPDES) Phase II program.
- Updating the City's website for water resource management information.
- Developing and distributing an annual newsletter in other City mailings aimed at fostering responsible water quality management practices. Topics may include, but are not be limited to, wetland buffers, groundwater quality and protection, controlling invasive species, water conservation and the water cycle, proper hazardous waste disposal, yard waste management, the importance of pet waste disposal, and illicit discharge.
- Collaborating with MCWD, RPBCWD, and Lake Minnetonka Conservation District (LMCD) in stormwater management education efforts.
- Providing annual training opportunities to City staff regarding maintenance and construction of best management practice (BMP) and the NPDES permit requirement.
- Conducting pre-construction meetings with contractors to review erosion control methods and inspections for projects that disturb one acre or more for City projects.
- Encouraging programs aimed at fostering responsible water quality management practices by its residents, including educating residents on the proper use of fertilizer as identified in the City's NPDES Storm Water Pollution Prevention Plan.
- Submitting a public notice 30 days in advance for an annual public meeting to review the storm water pollution prevention plan (SWPPP), SWMP, and BMPs.
- Maintaining a means to report (by phone and/or website) construction site erosion control concerns and waste disposal infractions.
- Working with landowners through public education efforts to reduce the amount of animal or pet waste entering local water bodies.
- Preparing and distributing information on pertinent water management issues to residents at least once per year, as required as part of the NPDES Phase II program, in the City's newsletters. This would include providing an opportunity for residents to participate in watershed management activities.

Shorelands and Floodplains

A primary objective of this Comprehensive Plan is the maintenance and, where feasible, improvement of Shorewood's lakeshore through the protection of shoreland impact zones, landscaping and shoreland buffers.

Shorewood first adopted shoreland regulations consistent with Minnesota Department of Natural Resources standards in 1985 and amended them in 1992 to reflect changes in state guidelines. The City included land within 1000 feet of lakes or 300 feet from Purgatory Creek (see Wetlands and Shorelands map) in the shoreland overlay zoning district. That overlay imposes shoreland

requirements in addition to the underlying zoning requirements. These water bodies have been classified by the Department of Natural Resources as Natural Environment (NE), Recreational Development (RD), or General Development (GD), based upon their development characteristics. Lake Minnetonka, Lake William, Galpin Lake, and Purgatory Creek are all classified GD. The remaining lakes are classified RD with the exception of Silver Lake which has a NE classification.

Having been among the first of the Lake Minnetonka communities to adopt shoreland regulations, Shorewood is committed to keeping the shoreland areas as natural as possible. Development in the shoreland district is closely monitored for compliance with site alteration requirements, hard cover restrictions and building setbacks.

Shorewood's floodplain regulations date back to 1979. These rules are intended to protect life as well as property in areas which are subject to periodic flooding. The most recent amendments were completed in 2016 to reflect changes in Federal requirements.

Air and Noise Pollution

The Minnesota Pollution Control Agency (MPCA) establishes the standards for permissible levels of noise and air pollution. The only source of noise or air quality problems in Shorewood is vehicular traffic. Recorded levels have not exceeded State or Federal standards.

In several cases, air quality standards as set by the State of Minnesota are more restrictive than Federal standards. In this regard, two sets of air quality standards have been adopted. The "primary standards" are those ambient air quality levels necessary to protect public health with an adequate margin of safety. Secondary standards refer to those ambient air quality levels necessary to protect public welfare, such as prevention of air pollution damage to crops, natural vegetation, materials and structures.

Although the sources of noise and air pollution in Shorewood are limited, the City does regulate these pollutants through adoption of Minnesota Pollution Control Agency standards by reference in the Zoning Ordinance.

State standards for noise levels suggest that decibel measures of 65 dBA are the point at which action may be taken to reduce noise. No permit system has been established to control noise resulting from existing or future sources. Within the City of Shorewood, State Highway 7 has been and continues to be a primary source of noise pollution.

The Minnesota Department of Transportation (MnDOT) has two programs under which the construction noise barriers along State highways are studied.

> Major Reconstruction Projects. The first program applies to major reconstruction projects in which roadways are expanded with additional lanes of traffic or are modified to have

significantly changes to the vertical or horizontal alignment of the roadway. This type of project usually requires an in-depth environmental review process in which many issues are examined, one of which is noise and noise mitigation. Under this type of project, existing and future noise levels are modeled and if levels exceed Federal Standards then mitigation is analyzed.

To have an area be eligible for mitigation, it must meet MnDOT criteria of a 5-dBA reduction with at least one home receiving at least a 7-dBA reduction in noise and meet with our cost-effectiveness of $78,500/benefited home. As an example, if a barrier costs $700,000 and would reduce noise levels by 5 decibels for 10 homes, the total calculated cost-effectiveness would be $70,000, which would meet the cost effectiveness criteria and the barrier would be proposed as part of the project. It should be noted that even with a 20' high barrier, noticeable noise reductions are limited to usually 300-400' away from the barrier.

Retro-Fit Projects. The second program is commonly referred to retro-fit projects. It applies to stand-alone noise walls where major reconstruction is not planned in the near future. In this study, highway segments in the Metropolitan Area are ranked by existing noise levels, length of barrier, and number of homes adjacent to the highway. Typically funding for this program allows MnDOT to construct 1-3 sites per year. The most recent priority ranking in the Metropolitan Area was conducted in 2016, the results of which are available on the following website:

https://www.dot.state.mn.us/environment/noise/metro.html

Aggregate Resources

There are no known aggregate resources in the City of Shorewood.

Renewable Energy Systems

It is the intent of the City of Shorewood to provide a sustainable quality of life for its residents, making careful and effective use of available natural, human and economic resources and ensuring that resources exist to maintain and enhance the quality of life for future residents. In accordance with this intent, the City has chosen to encourage and promote, rather than restrict, development of renewable energy sources which have a positive impact on energy production and conservation while not adversely impacting the community or where the economic and social impacts can be mitigated.

While the City's Zoning Ordinance specifically recognizes solar, wind and geothermal (ground source heat pump) energy systems, only solar energy and geothermal systems are currently permitted. Shorewood 2040 Comprehensive Plan

Solar Resources

As noted in the Policy Plan chapter of this document, the City of Shorewood promotes energy conservation and encourages the use of alternative energy systems in new construction. In this regard, it is important on both a regional and local scale that solar resources, and specifically the solar access be protected for the development of solar energy systems.

The City of Shorewood is also committed to becoming a more efficient community via future investment in alternative energy systems.

Recognizing the regional importance of solar energy, the Metropolitan Council requires comprehensive plans for Metropolitan Area communities to include the following information:

1. A map which illustrates the City's gross solar potential.

2. A calculation of the City's solar resources.

3. A policy (or policies) which relate to the development of access to direct sunlight for solar energy systems.

4. Strategies to be applied to implement established solar resource policies.

Solar Potential. The map below, developed by the University of Minnesota and provided by the Metropolitan Council, illustrates annual sun energy dispersed throughout the City with "high end" potential areas shown in yellow and areas having "low end" energy potential illustrated in black. Such information can be used to predict the productivity of solar installations. According to the Metropolitan Council, the primary issue in the consideration of solar energy installations is intermittent shading due to nearby structures and trees. In this regard, areas which are shown to have "high end" potential in the City are those areas with very little tree cover.

Solar Resource Calculations. The following table provides an approximation of Shorewood's solar potential expressed in megawatt hours per year (Mwh/yr). To be noted is that the calculations estimate the current potential resource of the City (prior to the removal of areas considered unsuitable for solar development or factors related to solar efficiency).

Shorewood: Gross Solar Potential (Megawatt Hours per Year)			
Gross Potential (Mwh/yr)	**Rooftop Potential (Mwh/yr**	**Gross Generation Potential (Mwh/yr)**	**Rooftop Generation Potential (Mwh/yr)**
3,156,882	282,655	315,688	28,265

Metropolitan Council Notes:

- In general, a conservative assumption for panel generation is to use 10 % efficiency for conversion of total insolation into electric generation.
- The rooftop generation potential does not consider ownership, financial barriers or building-specific structural limitations.

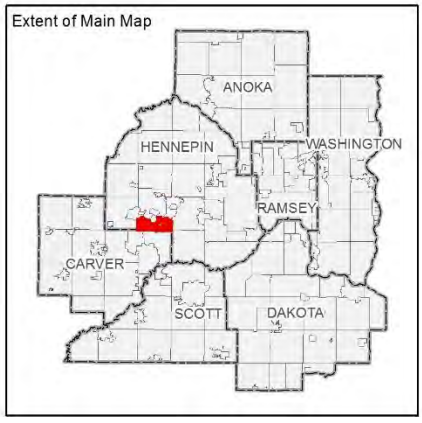
Source: Metropolitan Council, 2017

The estimated gross solar generation potential and gross solar rooftop potential are intended to convey how much electricity could be generated in the City of Shorewood using existing technology and assumptions on the efficiency of conversion. According to the Metropolitan Council, for most cities, the rooftop generation potential is equivalent to between 30 and 60 percent of a community's total electric energy consumption. There is no minimum amount of solar resource development required for cities in the Metropolitan Area.

Gross Solar Potential

City of Shorewood, Hennepin County

1/9/2017



0 0.5 1 2 3

Miles

Gross Solar Potential
(Watt-hours per Year)

High : 1277688

Low : 900001

Solar Potential under 900,000 watt-hours per year

County Boundaries

City and Township Boundaries

Wetlands and Open Water Features

Source: University of Minnesota U-Spatial Statewide Solar Raster.

Policy. The City of Shorewood recognizes that providing adequate solar (sunlight) access to properties is a priority not only for potential solar energy systems, but for the protection of property and aesthetic values as well. In this regard, the City will promote reasonable access to solar energy by controlling artificial blockage of solar radiation for optimum long-term economic and environmental benefits. Related to this issue, it should be recognized that tree preservation is also a considered a community priority.

Implementation. Solar access protection is provided for by the uniform implementation of the City's land management tools. Specifically, such protections are provided via lot and building performance standards contained within Shorewood's Zoning Ordinance. Requirements such as maximum building height and yard setback standards are implemented for the purpose of creating separation between structures and allowing equal sunlight access such that a property is not in the shadow of an adjacent building.

As noted, the City established specific regulations which accommodate solar energy systems. Such systems are a permitted accessory use in all zoning districts subject to various conditions to mitigate adverse impacts (limitations related to height, location, size, aesthetics etc.).

NATURAL RESOURCES PLAN SUMMARY

Shorewood is committed to all efforts at maintaining the high quality of its natural environment. The City's goal in this regard is as follows:

> **The City will update (amend) its guidelines and regulations and enforce existing standards to ensure preservation and protection of the natural environment.**

Shorewood has made considerable progress in natural resource protection. As a supplement to the goals, objectives and policies included in the Policy Plan chapter of this document, the following practices would continue, as indicated below:

1. Soil conditions will continue to be taken into consideration in all types of development proposals.

2. Ordinances incorporating Hennepin Conservation District standards related to filling, grading and excavating will continue to be enforced.

3. The City will continue to enforce standards regulating development on steep slopes. For example, grading or construction which results in disturbed slopes of 3:1 (three horizontal to one vertical) shall be restricted.

4. The City will continue to require tree preservation and replacement and site landscaping for all developments.

5. The requirements of the Wetland Conservation Act will continue to be actively enforced.

6. A 35-foot buffer will continue to be required adjacent to all wetlands in new developments. A 15-foot building setback from the natural buffer shall be required.

7. New developments will continue to be required to construct sedimentation ponds designed to National Urban Runoff Program (NURP) standards.

8. Shorewood will continue to expand its environmental educational programs, such as buckthorn removal, raingardens, organics collection, and recycling.

9. Shorewood's shoreland regulations will continue to be enforced in order to preserve and restore the natural character of area lakes.

10. Shorewood's floodplain regulations will be updated as necessary to reflect any changes in State or Federal requirements.

11. Shorewood will consider the establishment of regulations pertaining to wind energy systems.

INTRODUCTION

The Land Use Plan is formulated to show logical relationships between a variety of major land use types, including residential, public, semi-public, commercial, and undeveloped open space. The locations of various land uses are a result of applying the general planning concepts and the specific policies contained in the Policy Plan. For the most part, land use patterns in the City are well-established. In this regard, it is the City's intention to implement desired future uses through zoning. In deciding the amount which is desired of each land use type, the following factors have been considered:

Community Function. Within the context of the Metropolitan Area, the primary role of Shorewood has been the provision of housing. As such, planning must be geared toward providing a quality living environment with adequate supportive services (i.e. park and recreational facilities, neighborhood convenience commercial areas, etc.).

Community Character. Shorewood's current character is primarily single family residential. Shorewood will strive to maintain its character.

Housing. Current residential development in Shorewood consists mainly of single family units. Few new housing units are available to young singles and newly married couples. While housing opportunities for the elderly have increased over the past decade, demand for such housing types continues to exist. As land becomes increasingly scarce, market forces often conflict with what would be considered affordable housing by Metropolitan Area standards. Given Shorewood's desire to maintain its low density residential character, the Land Use Plan attempts to preserve the community's present variety of housing.

Preservation of Open Space. Past planning efforts in the City assumed that any land that is not set aside for wetland protection or parks will ultimately be developed. This does not necessarily need not be the case. This section of the Comprehensive Plan explores means of establishing permanent green space areas such as the use of zoning tools, assisting neighborhoods in purchasing land, obtaining conservation easements, or outright land acquisition by the City.

Regional Growth Management Objectives. As indicated in the Policy Plan, an established goal of the City of Shorewood is to satisfy the Metropolitan Council's minimum residential density objectives for "suburban" communities. It is further the intent of the City to promote growth strategies for orderly and efficient land use which are consistent with the Metropolitan Council's *Thrive MSP 2040* regional development guide. In this regard, the Metropolitan Council has established certain land use-related expectations for designated "suburban" communities such as the City of Shorewood. These expectations are as follows:

- *Plan for forecasted population and household growth at overall average densities of at least five units per acre.*

- *Target opportunities for more intensive development near regional transit investments at densities and in a manner articulated in the 2040 Transportation Policy Plan.*

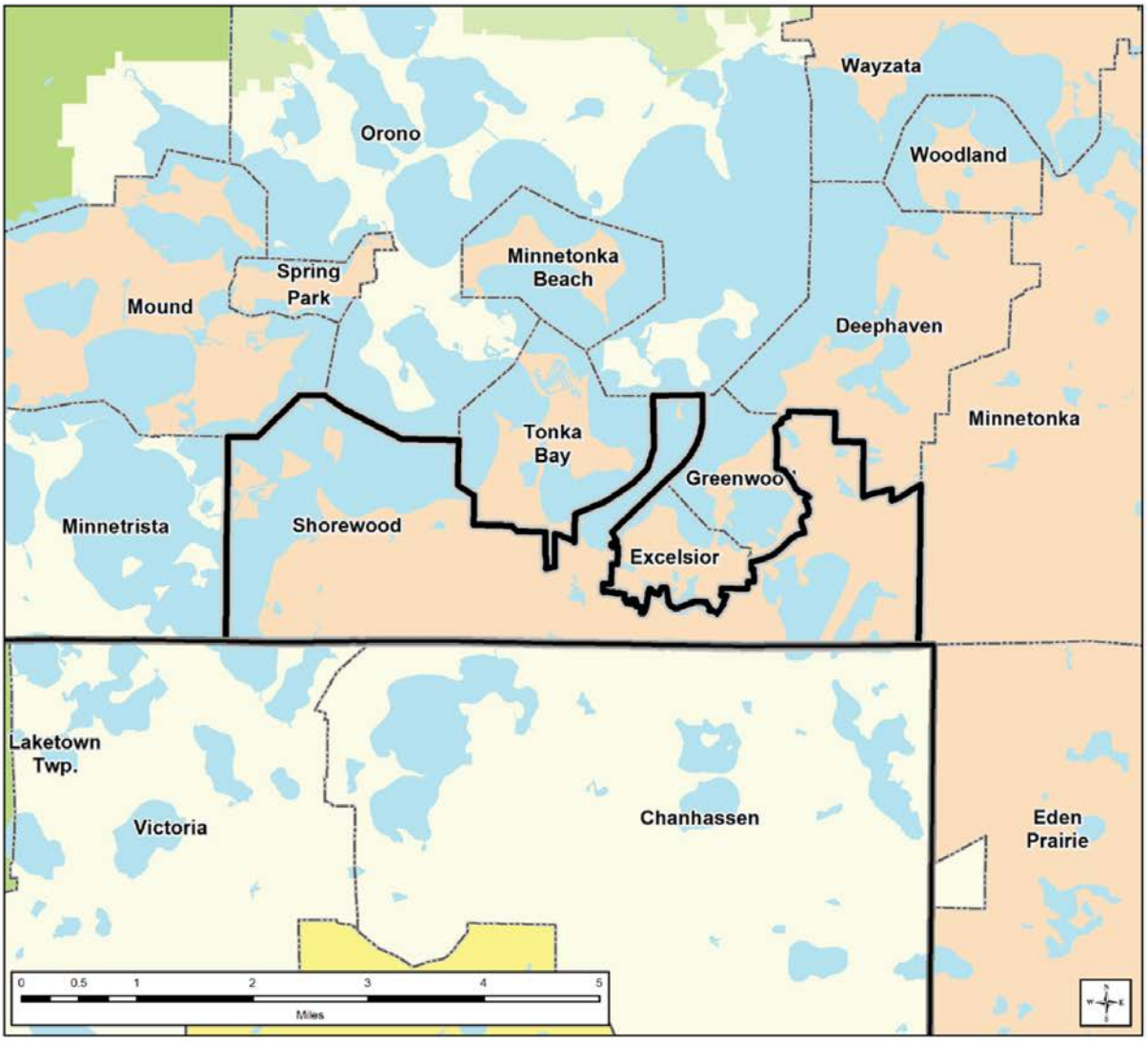
- *Identify areas for redevelopment, particularly areas that are well-served by transportation options and nearby amenities, that contribute to better proximity between jobs and housing.*

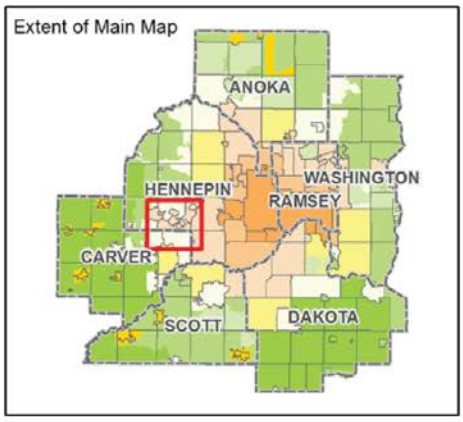
- *In collaboration with other regional partners, lead major redevelopment efforts.*

- *Lead detailed land use planning efforts around regional transit stations and other regional investments.*

- *Plan for and program local infrastructure needs (for example, roads, sidewalks, sewer, water, and surface water), including those needed to accommodate future growth and implement the comprehensive plans.*

Shorewood recognizes its role and responsibility in the attainment of the Metropolitan Council's regional planning objectives.





Community Designations

- Outside Council planning authority
- Agricultural
- Rural Residential
- Diversified Rural
- Rural Center
- Emerging Suburban Edge
- Suburban Edge
- Suburban
- Urban
- Urban Center

- County Boundaries
- City and Township Boundaries
- Lakes and Major Rivers

CONCEPT PLAN

The preceding principles serve as an initial reference guiding community or neighborhood planning and improvement. The next reference point is the Concept Plan. The Concept Plan forms the basis from which categorical elements of the Comprehensive Plan are developed. The plans for environmental protection, land use, transportation and community facilities will relate to the concepts set forth in this section of the document. The physical development and design concepts are derived from the established goals, objectives and policies and an assessment of the community's function within the context of the Metropolitan Area.

Shorewood has adopted as one of its goals the preservation of the community's residential and natural character. For the purpose of this Plan, a community is defined as an entity possessing a common likeness or character. Since the basic character of Shorewood is that of a residential community, it is essential that each residential neighborhood be maintained as a unit with a sense of continuity and focus. Moreover, as certain supportive services and facilities are required in order for a residential community to function properly, nonresidential uses should be likewise maintained. Thus, proper attention to each constituent part of the community is essential to the establishment of an identity or sense of community.

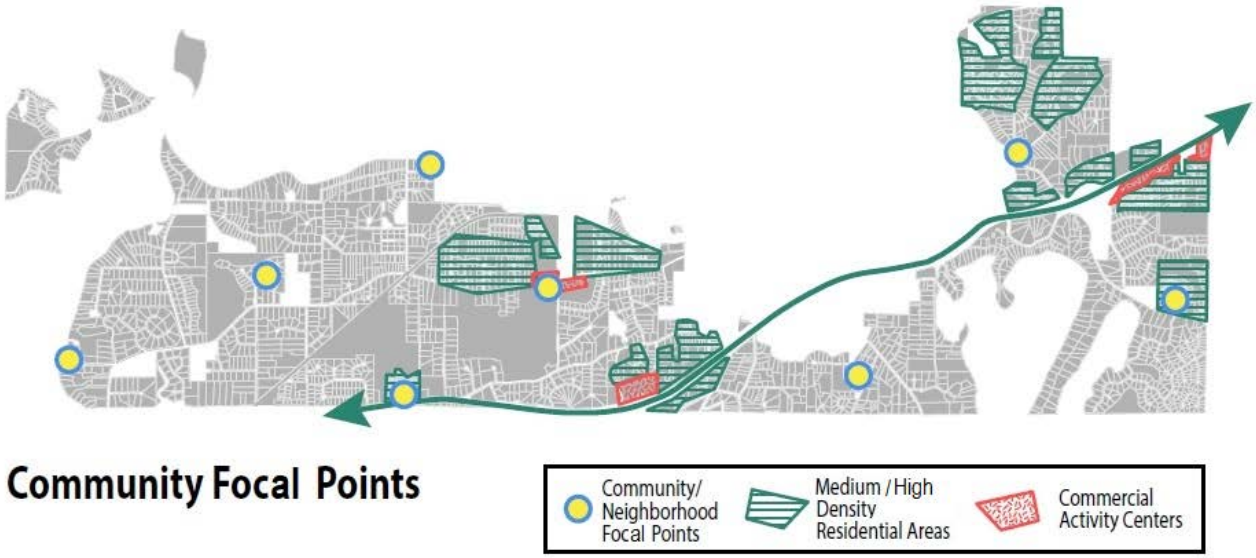
In order to enhance or reinforce the sense of community identity in Shorewood, it is essential that a strong sense of place be provided. In this regard, it is proposed that neighborhood parks ranging in size depending on the circumstance serve as focus or unifying elements. This concept is illustrated on the sketch shown on the following page.

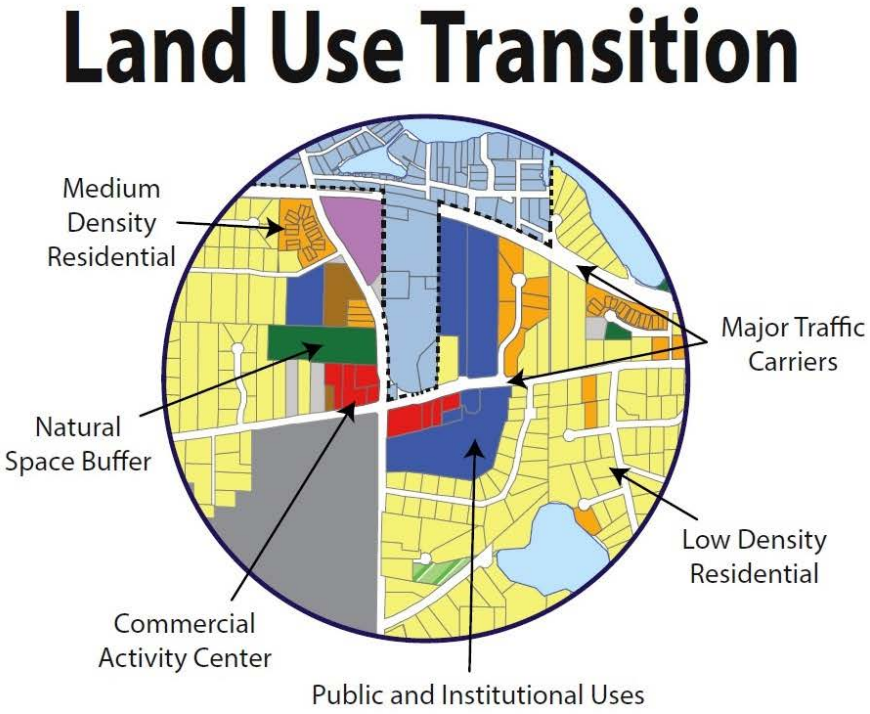
In order to relate neighborhoods on a community scale, community focal points should be developed (see concept plan sketch). Typically, a community would have one central activity center to serve this purpose. However, given the elongated shape of the City of Shorewood, multiple activity centers are proposed. While these focal points already exist to a certain extent, planning for the community should recognize and attempt to enhance these activity centers.

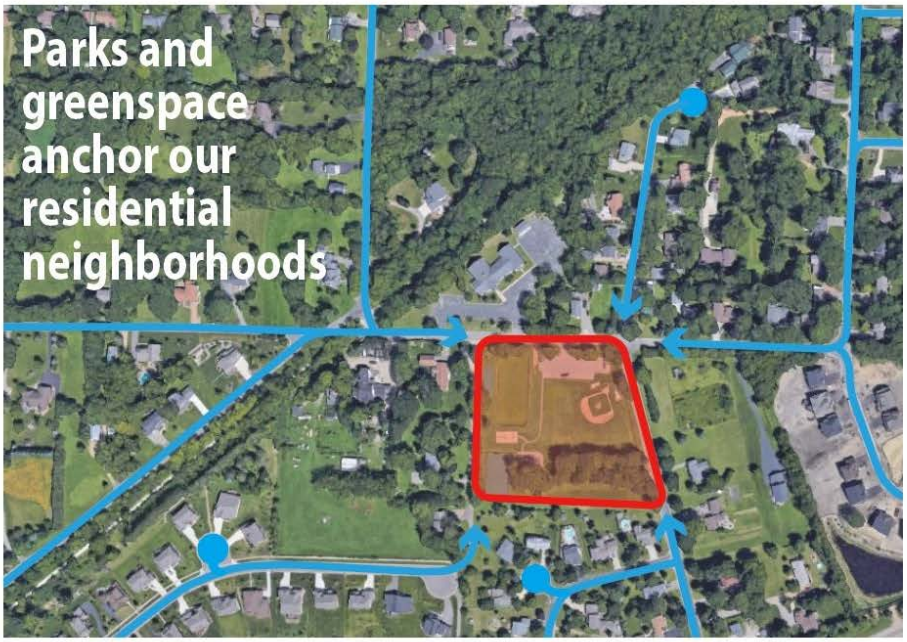
The commercial center should remain easily accessible to all residential districts. The center should also project a unified image with individual components of the center arranged so as to create functional and complementary use relationships. Circulation within the core should be, to the extent possible, largely pedestrian-oriented. In order to increase the continuity of the center, while at the same time increasing pedestrian safety, major traffic flow should be routed around the periphery of the center, penetrating it as little as possible. Finally, commercial property maintenance should represent and reflect the vitality and stability of the entire community.

The shopping center at Lake Linden Drive and Highway 7 is a primary commercial focus for the City. More recently, the commercial areas abutting County Road 19 have come to the forefront. The City's County Road 19 Corridor Study emphasizes the issue of identity, going so far as to identify the corner of Smithtown Road and County Road 19 as "Smithtown Crossing." Smithtown Crossing is another significant entry point into the City and efforts to enhance the area should continue.

The Waterford commercial area located south of Highway 7 between Vine Hill Road and Old Market Road is also considered a commercial focal point. Neighborhood and/or convenience type commercial as well as office uses should continue to be encouraged in this area.




Land Use Transition
Medium Density Residential
Major Traffic Carriers
Natural Space Buffer
Low Density Residential
Commercial Activity Center
Public and Institutional Uses


Parks and greenspace anchor our residential neighborhoods

The City Hall and surrounding City property is another community focal point and serve as the civic center for Shorewood. Development of this area should be representative of community attributes and set an example for private development in the community.

Community parks have been developed within the community to serve the recreational needs of the City. Additionally, trails developed as a result of the trail planning process serve to tie the community together.

Land Use Classifications

The following maps illustrate Existing Land Use in Shorewood and the Land Use Plan for the community. The Land Use Plan map shows the proposed juxtaposition of a variety of land use types and densities. These land uses are described in general below.

Open Space. This category consists primarily of wetlands, conservation areas and other areas set aside from development. Open Space areas are indicated on the Existing Land Use Map. These areas are scattered throughout the community and range in size from small wetlands/ponds to large tracts of land found near Howard's Point Road and east of Christmas Lake. Protection of these natural areas is considered important, both in terms of Shorewood's natural drainage system and retention of community aesthetics.

As undeveloped land in Shorewood becomes scarcer, there is increasing interest in preserving at least some of it as permanent open space. Given the high cost of remaining land in Shorewood, the focus of the City's efforts should be acquisition of conservation easements versus outright purchase of land.

Minimum Density Residential. While the City has recognized a need for providing areas that allow a somewhat higher density than one-acre lots, there is still demand for large lots. The areas indicated on the Land Use Plan map consist of land where such development is already prevalent. Any residential infill development should be compatible with existing neighborhood densities to retain the character of neighborhoods. This is consistent with past City practices and approved comprehensive plans.

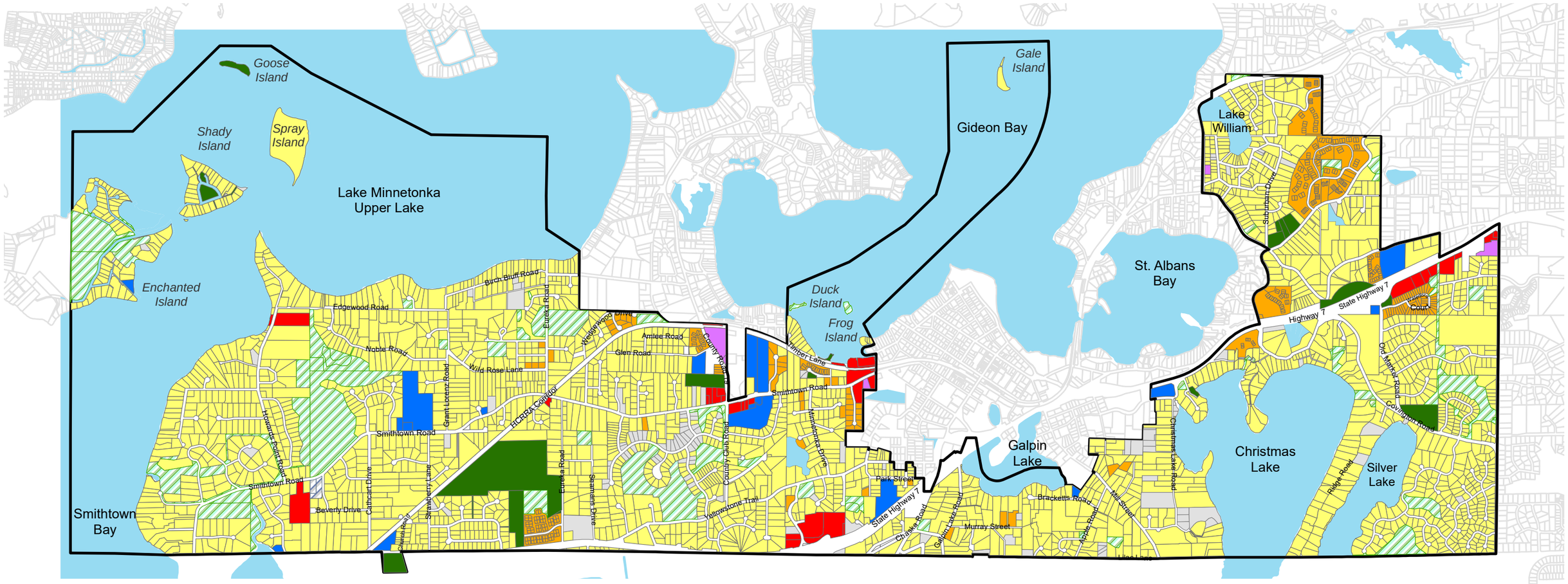
Overall density is proposed at .1 to 1 unit per acre. Most of the areas proposed as minimum density are near natural areas, such as lakes or wetlands. The City must ensure that any changes in density to surrounding areas have a minimum of impact on the lower intensity use.

The following is a summary of the City's single family residential zoning districts and the minimum lot sizes which could be applied within the Minimum Density Residential land use category. The City Council may also find other districts, including the Planned Unit Development district, consistent with the Comprehensive Plan.

R-1A, Single-Family Residential District	40,000 square feet
R-1B, Single-Family Residential District	30,000 square feet

Existing Land Use

City of Shorewood
2040 Comprehensive Plan



Existing Land Use

- Single-Family Residential
- Two-Family Residential
- Multiple-Family Residential
- Commercial
- Industrial
- Public/Institutional
- Parks
- Open Space
- Cemetary
- ROW
- Vacant
- Open Water
- City Boundary

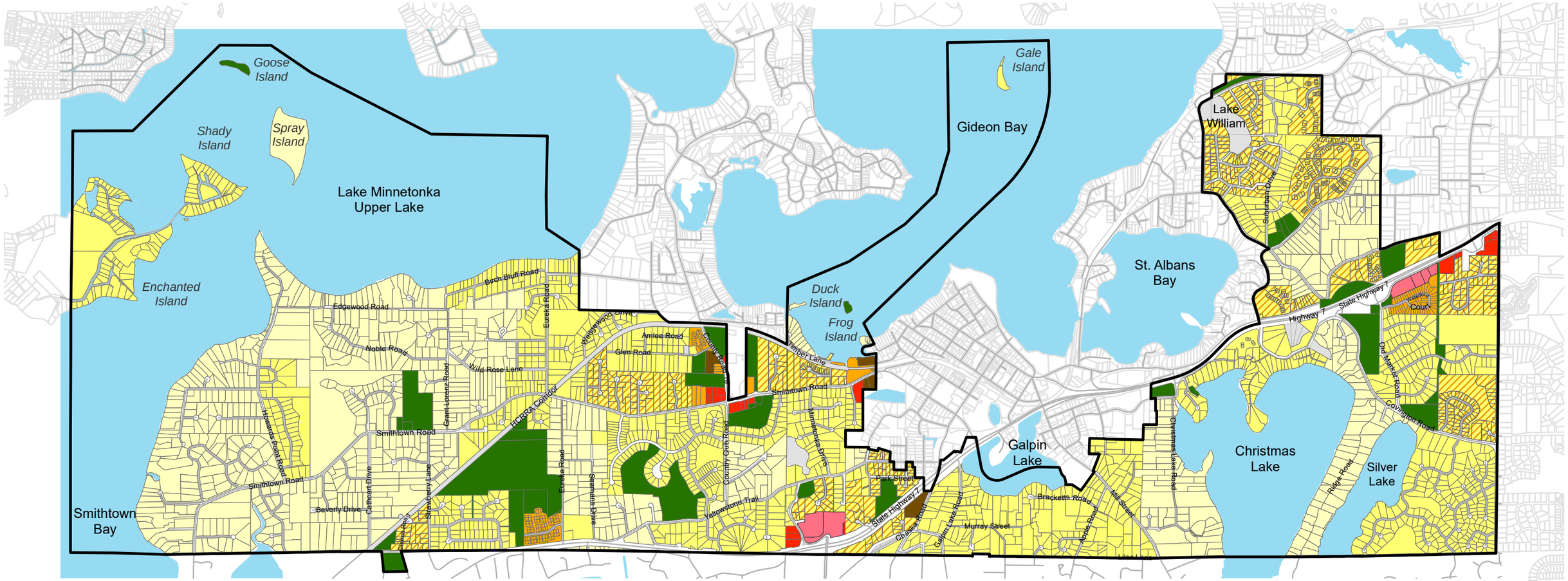
Map created: December 2020
Data: NAC, MNDNR, Metropolitan Council

0 0.275 0.55 1.1
Miles

NORTHWEST ASSOCIATED CONSULTANTS, INC.
4150 Olson Memorial Highway, Ste. 320, Golden Valley, MN 55422
Telephone: 763.231.2555 Website: www.nacplanning.com

Future Land Use

City of Shorewood
2040 Comprehensive Plan



Future Land Use

- Minimum Density Residential
- Low Density Residential
- Low to Medium Residential
- Medium Density
- High Density Residential
- Commercial
- Commercial-Mixed Use
- Public/ Semi- Public; Public/Semi-Public
- City Boundary

Map created: December 2020
Data: NAC, MNDNR, Metropolitan Council

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NORTHWEST ASSOCIATED CONSULTANTS, INC.
4150 Olson Memorial Highway, Ste. 320, Golden Valley, MN 55422
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Low Density Residential. This land use category basically consists of single or two family residential uses at a density of one to two units per acre. Most of the area designated as low density residential on the Land Use Plan is already zoned for this type of development. The following is a summary of the City's single family residential zoning districts and the minimum lot sizes which could be applied within the Low Density Residential land use category. The City Council may also find other districts, including the Planned Unit Development district, consistent with this Comprehensive Plan.

R-1A, Single-Family Residential District	40,000 square feet
R-1B, Single-Family Residential District	30,000 square feet
R-1C, Single-Family Residential District	20,000 square feet
R-2A, Two-Family Residential District	20,000/30,000 square feet
R-2B, Two-Family Residential District	15,000/20,000 square feet

Low to Medium Density Residential. This category of land use is provided to allow residential development at a density of three to six units per acre. This density begins to allow a greater variety of housing types. Small lot single family residential, two-family homes and medium density townhouse development may be permitted in these areas.

Residential development at this density is viewed as serving two purposes: 1) proper location creates a transitional area between lower density residential uses and higher intensity uses such as commercial (see concept plan), and 2) applies the concept of locating a greater density of population nearer to activity centers and major traffic carriers.

The following is a summary of the City's residential zoning districts and the minimum lot sizes which could be applied within the Low to Medium Density Residential land use category. The City Council may also find other districts, including the Planned Unit Development district, consistent with this Comprehensive Plan:

R-1D, Single-Family District	10,000 square feet
R-2A, Single and Two-Family District	20,000/30,000 square feet
R-2B, Single and Two-Family District	15,000/20,000 square feet
R-2C, Single and Two-Family District	10,000/15,000 square feet
R-3A, Multiple Family District	20,000/30,000 square feet
R-3B, Multiple Family District	15,000/20,000 square feet

Medium Density Residential. This land use category directs residential uses at densities of six to eight units per acre. Types of housing allowed in these areas would include medium density townhouse development and potentially small-scale apartment or condominium units.

The areas proposed for medium density residential are relatively limited in area and number so as to have a minimum effect on the overall density of the community. These areas include primarily the properties immediately adjacent to the existing commercial uses. Once again, the concepts of land use transition and higher density near activity centers have been applied.

The following is a summary of the City's residential zoning districts and the minimum lot sizes which could be applied within the Medium Density Residential land use category. The City Council may also find other districts, including the Planned Unit Development district, consistent with this Comprehensive Plan.

R-3A, Multiple Family Residential District (dwellings with up to four units)	20,000/30,000 square feet
R-3B, Multiple Family Residential District (up to 10 dwelling units per acre)	15,000/20,000 square feet

High Density Residential. This land use category represents the highest density residential use proposed within the City of Shorewood. Specifically, the category makes an allowance for residential densities ranging from eight to 30 units per acre. It is anticipated that greater densities could potentially be accommodated via planned unit development for projects which fulfill PUD development objectives and for which adequate services can be provided.

This category is applied to the existing "Shorewood Landing" senior housing facility and Shorewood Place Apartments sites. Additionally, potential redevelopment sites near the intersection of County Road 19 and Smithtown Road may be considered for high density residential use in the future. The Planned Unit Development district would likely be used to implement this district, although other options are also discussed.

Commercial. This land use category includes locations where commercial retail and service uses are desired. As in the case of the City 2030 Comprehensive Plan, the City prefers commercial uses in Shorewood be confined to cohesive, compact activity centers.

Existing commercial development in Shorewood is relatively limited. While Shorewood lacks a traditional downtown commercial center, adjacent commercial centers located in abutting communities supplement the commercial needs of Shorewood residents. Nearby Downtown Excelsior and the Tonka Village commercial strip center located in Tonka Bay are two primary examples. In recognition of such neighboring commercial uses, the demand for additional commercial services in the City of Shorewood may be limited.

The only existing commercial uses shown in the western portion of the community are an existing marina on Howard's Point Road and an auto repair operation on Smithtown Road near Eureka Road. Both uses presently exist as lawful non-conforming activities.

While the City's marinas are lawful non-conforming uses (which lie within residential zoning districts), they are viewed as community amenities. In this regard, the City will investigate zoning mechanisms which make an allowance for the uses in a manner which is compatible with surrounding residential neighborhoods.

Most of the commercial land use in Shorewood is located near the center of the community (along the County Road 19 corridor) and on the east end between Vine Hill Road and Old Market Road. The area near the intersection of Smithtown Road and County Road 19 is devoted primarily to auto-oriented commercial uses. The shopping center lies within the City of Tonka Bay, but serves as a general commercial area for Shorewood residents as well.

Commercial development along the County Road 19 corridor through Shorewood is prime for redevelopment. The City has expressed a strong preference to see the northwest quadrant of Smithtown Road and County Road 19 redeveloped in a unified manner. This may require the assembly of various parcels and is well-suited for a combination of multiple family residential and commercial uses. The auto-oriented strip of commercial uses on the south side of County Road 19, adjacent to Smithtown Crossing, could be redeveloped with more retail or office uses as well.

Shorewood's has a shopping district located on Highway 7 north of the intersection with Highway 41. A portion of this site is guided for future Mixed Use development, and the area surrounding the shopping center has been designated for low to medium density residential use on the Land Use Plan.

The area located on the south side of Highway 7, between Vine Hill Road and Old Market Road is primarily neighborhood and convenience-type commercial. A portion of this area is also guided for future Mixed Use.

Commercial Mixed Use. While the City aims to maintain vibrant commercial areas to serve community residents, certain commercial areas have been identified as being appropriate for the Commercial Mixed Use designation. The City has identified certain key existing commercial areas that are capable of providing for housing units in conjunction with maintaining commercial activity. These housing units would provide adequate density to aid in increasing the commercial customer base while also providing for a greater range of housing choice within the community.

These sites may merit redevelopment into mixed use, provided the development plan is appropriate for the context of the area, traffic issues are properly mitigated, and it fits within the goals and policies of the City. The City requires a minimum of 50% of the site to be maintained as a Commercial land use, to continue the important commercial presence within these areas.

Residential uses with a minimum of 15 units per acre and a maximum of 30 units per acre shall be used for a minimum of 40% of the site, provided it can be established in a manner that is consistent with the character of the immediate vicinity.

Public/Semi-Public. This land use classification includes all existing public buildings, a school, parks and recreational facilities in the community. It also includes semi-public uses like churches, cemeteries and the Xcel property on County Road 19. All areas so designated on the Land Use Plan map are already in existence. No new areas are proposed for semi-public use nor are any existing semi-public uses proposed to be eliminated. Since light rail is not anticipated in the

foreseeable future, the former Chicago and Northwestern rail right-of-way will continue to be operated by Three Rivers Park District and used for regional trail purposes.

Land Use/Zoning Changes

As in the case of the Shorewood's 2030 Land Use Plan, the City's zoning map must be consistent with the proposed 2040 Land Use Plan map. To achieve such consistency, some changes to the zoning map may be necessary to implement the Land Use Plan:

Going forward, it is anticipated that the following issues should be addressed through future Zoning Code amendments:

High Density Residential Zoning District. As previously indicated, the City's zoning ordinance does not presently include a high density residential zoning district. While the City's R-3B, Multiple Family Residential zoning district makes an allowance for apartment buildings, it establishes a density cap of 10 units per acre. Considering that the "High Density Residential" land use category provided on the City's 2040 Land Use Plan makes reference to a density range of eight to 30 units, the following processing alternatives may wish to be considered to accommodate future high density residential housing projects in the City:

1. Amend the City's R-3B, Multiple Family Residential District to accommodate residential densities up to 30 units per acre.

2. Utilize PUD, planned unit development to accommodate residential development densities which exceed those allowed in the City's base zoning districts.

3. Establish a new "High Density Residential" zoning district which corresponds with the density range identified on the 2040 Land Use Plan.

Teardown and Rebuild Regulations. Like many communities throughout the country, Shorewood has become concerned about the construction of very large homes on existing lots in existing neighborhoods. While the City cannot do much about the seemingly increasing market for large homes, it can, through its zoning regulations, attempt to maintain the scale of existing neighborhoods. In this regard, the City could consider incorporating FAR (floor area ratio) into its Zoning Code. This establishes a maximum amount of building area relative to lot area, further addressing the issue of residential scale.

Alternative Energy Regulations. While the City's Zoning Code specifically recognizes solar, wind and geothermal (ground source heat pump) energy systems, specific regulations have only been stablished for solar and geothermal energy systems at this point. In the future, the City may also consider regulations that would allow wind systems.

While the City encourages solar energy systems, it is important that the allowance of such systems be balanced with the community's desire to protect and preserve significant trees. As noted on the

Planning Tactics chapter of this Plan, the preservation of significant trees in the community is considered a community priority.

Construction Staging Plans. As noted in the Policy Plan, efforts should be made to limit on-street parking and protect adjoining properties from nuisance concerns associated with construction projects. In this regard, staging plans should be required for all infill development projects. Minimally, such plans should address contractor parking locations, construction material storage, construction hours, and street cleaning.

Residential Development Density

As previously indicated, the Metropolitan Council's Thrive MSP 2040 regional development guide stipulates that "suburban" communities such as Shorewood should plan for forecasted population and household growth at overall average densities of at least five units per acre. In this regard, such minimum densities apply to new residential subdivisions or redevelopment projects. To the extent possible, densities of new projects will be sensitive to and compatible with surrounding residential densities. The regional development guide also notes that higher densities are expected in locations with convenient access to transportation corridors and adequate sewer and water capacity.

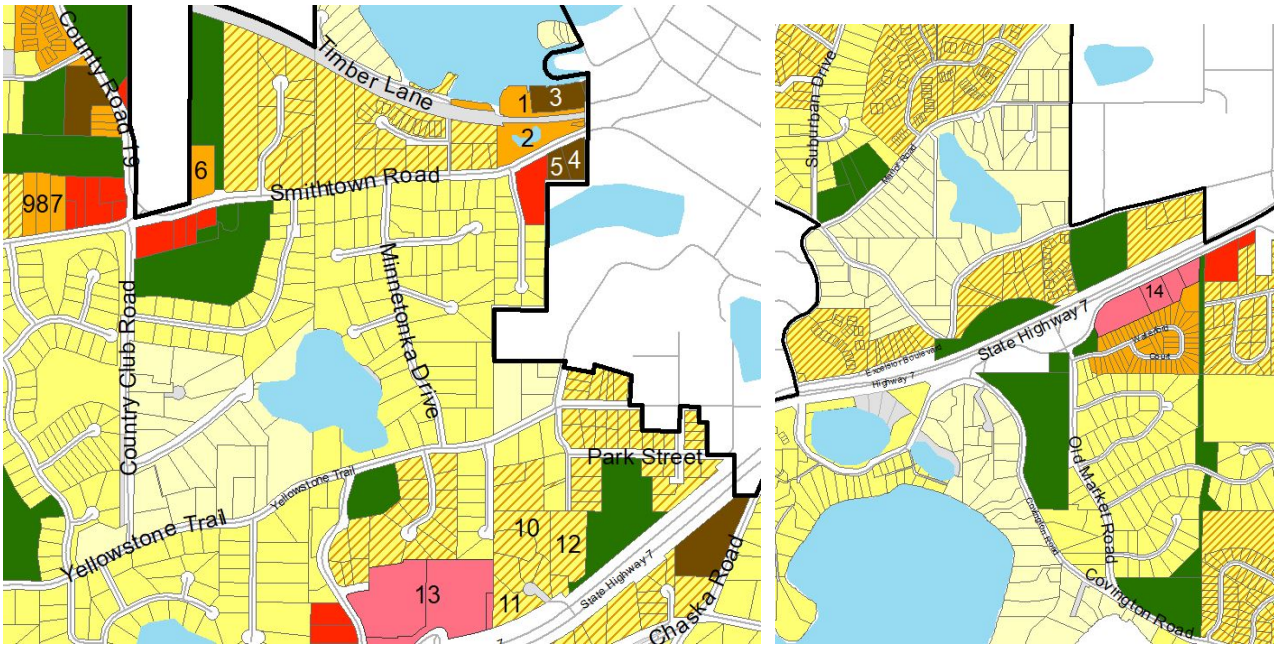
The City has established certain areas for development and redevelopment that will provide additional housing units for the City in this planning period. For this purposes, the areas classified as Commercial Mixed Use are established as 40% residential at 15 units per acre.

Shorewood Staging of Residential Land Use Development				
	2021-2030		2031-2040	
Land Use Category	Units	Acres	Units	Acres
Low-Medium Density Residential	6	1.7	15	4.7
Medium Density Residential	12	2.0	32	5.2
High Density Residential	30	3.7	0	0.0
Commercial Mixed Use	40	2.8	75	5.0
Totals	87	10.2	120	14.9

Shorewood Development Capacity			
Property	Net Acres	Minimum Density	Minimum Units
1	1.7	6	11
2	1	6	6
3	1.7	8	14
4	1	8	8

5	1	8	8
6	1.5	6	9
7	1	6	6
8	1	6	6
9	1	6	6
10	1.8	3	6
11	1.7	3	6
12	2.9	3	9
13	12.5 (5 residential)	15	75
14	7 (2.8 residential)	15	42
Totals	25.1	8.4 units per acre	212

The location of the development sites is noted in the graphics below:



Land Subdivision

Controlling the way land is subdivided goes hand in hand with zoning regulations in ensuring the quality of urban development. As Shorewood's larger tracts become developed, increasing pressure will occur to re-subdivide smaller parcels and land once considered to be marginal. The City's subdivision regulations should periodically be reviewed and updated to better address these situations. Further, all subdivisions of land should be examined for opportunities to preserve open space.

The current Subdivision Code requires developers to extend streets and utilities as necessary to accommodate the development of adjacent properties. Also, the Code prohibits private streets except where determined "to be absolutely essential to the enjoyment of property rights." With these rules in mind, the review of all subdivision requests should consider how nearby land might develop in the future. In all cases, steps should be taken to ensure that new subdivisions do not negatively impact surrounding neighborhoods and street systems.

To address City concerns related to narrow street widths, related on-street parking and sidewalks/trails, Shorewood could develop a local street template.

More often than not, when one landowner is ready to subdivide its property, the adjoining landowner is not. Timing then becomes an obstacle to avoid detrimental, piece-meal development. The City can, in certain instances, overcome such obstacles by carefully crafting development agreements and restrictive covenants that provide for future development. For example, public right-of-way can be required for future streets with provisions that further development will result in street and utility assessments. Also, planned unit development can be used as a tool to accommodate the different timing of various landowners' development requests.

As smaller pieces of land are re-subdivided, lot configurations become a problem. Backlot divisions, flag lots and gerrymandered property lines undermine the benefits of building setbacks and disrupt continuity of open spaces. All subdivisions, regardless of size, should adhere to good planning and design principles. To this end, the use of formal platting procedures will be encouraged, while lot splits with metes and bounds descriptions will be approved only in the very simplest of cases.

Tree Preservation

As previously noted, the preservation of Shorewood's natural features is considered a community priority. With this in mind, the City's should periodically review the Tree Preservation and Reforestation Policy to ensure that existing policies adequately reflect desired preservation objectives.

Presently, the terms and provisions of the Tree Preservation and Reforestation Policy apply to all activities which require the issuance of a Land Disturbance Permit. At some point, the City should

consider formerly incorporating the "policy" provisions into the City's Zoning and Subdivision Codes.

Housing Variety/Affordability

Shorewood's attempts to provide affordable housing have been thwarted in the past by market forces. The desirability of the area, coupled with scarcity of available land make it very difficult to achieve housing that is considered affordable by Metropolitan Area standards. The City's efforts have been focused on preserving the existing housing stock. For example, limitations have been imposed relative to combining small buildable parcels of land into larger lots. With respect to housing variety, the City may consider updating its current zoning regulations to accommodate and encourage senior housing that includes dependent living such as assisted living and dependent care facilities.

The Metropolitan Council has forecast affordable housing needs for all cities and townships within the seven-county Metropolitan Area for the period from 2021-2030. The housing plan element of local comprehensive plans is required to reflect the allocated portion of the forecasted demand for affordable housing. Shorewood's share of this affordable housing allocation is 48 units for the referenced time period.

The City has guided 3.7 acres for development as High Density Residential at 8 units per acre (30 units). The City has guided an additional 19.5 acres as Commercial Mixed Use, which allows for a minimum of 40% and a maximum of 50% residential development at 8 units per acre. This results in a minimum of 7.8 acres for residential uses (64 units). In total these land use designations will provide for 64 units of affordable housing based on density. Of the Mixed Use Areas, 2.8 acres (23 units) are anticipated for redevelopment within the 2021-2030 staging period, which gives the City 53 units of affordable housing based on density.

Programs, initiatives, and actions relative to housing are included in the Housing chapter of this Plan.

Lake Access

In 1988, after considerable study, the City adopted zoning controls that addressed the use of old existing fire lanes within the community. Originally platted as public rights-of-way leading to Lake Minnetonka and Lake William, these lanes have been classified and regulated based upon their historic use. This effort concluded that the fire lanes should not be vacated, but rather should be preserved for public use.

Access to Shorewood's lakes is also provided by a marina and two yacht clubs as described below:

> Howard's Point Marina. While limited in size, Howard's Point Marina is considered a community amenity. In this regard, its continuance as a functional marina is encouraged.

Upper Minnetonka Yacht Club. Like Howard's Point Marina, the Upper Lake Minnetonka Yacht Club located on Enchanted Island is considered a community amenity.

Shorewood Yacht Club. The City recently relaxed a restriction on the mooring of power boats at the Shorewood Yacht Club, located on the north side of County Road 19, east of Timber Lane. Over the next several years, the City will monitor activity at the Yacht Club to determine if such activities are compatible with surrounding residential uses.

While the marina and yacht clubs are lawful non-conforming uses (which lie within residential zoning districts), they are viewed as community amenities. In this regard, they should continue to function as they have in the past, but not be expanded due to their residential neighborhood context and limited accessibility. In this regard, the City will investigate zoning mechanisms which make an allowance for the uses in a manner which is compatible with surrounding residential neighborhoods.

The Minnesota Department of Natural Resources and the LMCD continue to search for lake access parking spaces adjacent to Lake Minnetonka. The City should cooperate with these agencies to provide small, scattered facilities compatible with nearby land uses.

Historic Preservation

From a land use perspective, historic structures oftentimes have not only local significance but regional importance as well. In this regard, The Metropolitan Council suggests that 2040 comprehensive plan updates include a plan for the protection of historic sites.

The City of Shorewood recognizes that historic assets help to promote community pride and create a sense of community. In this regard, the City of Shorewood should consider the creation of an inventory of historically significant features, landmarks and buildings and evaluate tools for preserving these areas and structures. Where feasible, the City could potentially assist with the acquisition of historically significant sites or structures, in order to provide educational or recreational opportunities.

Population and Household Projections Based Upon Land Use Plan

The following table shows the acreages of various categories of land use based upon the Existing Land Use Map and the 2040 Land Use Plan.

Shorewood Forecasts					
	2010 Census	2018 Estimate	2020	2030	2040
Population	7,307	7,693	7,600	7,800	8,000
Households	2,658	2,845	2,800	2,910	3,000
Employment	1,113	1,600	1,600	1,600	1,600
Source: Metropolitan Council					

Shorewood Existing Land Use		
Land Use	Acres	Pct
Single-Family Residential	2169.5	72.86%
Two-Family Residential	137.2	4.61%
Multiple-Family Residential	7.1	0.24%
Commercial	54.7	1.84%
Industrial	8.8	0.30%
Public/Institutional	69.4	2.33%
Parks	99.3	3.33%
Open Space	280.5	9.42%
Cemetery	2.6	0.09%
ROW	35.6	1.20%
Vacant	85.7	2.88%
Open Water	27.2	0.91%
	2977.6	100%

Shorewood Future Land Use		
Land Use	Acres	Pct
Minimum Density Residential	1141.703	38.34%
Low Density Residential	1110.797	37.31%
Low to Medium Residential	349.7	11.74%
Medium Density Residential	37.8	1.27%
High Density Residential	9.7	0.33%
Commercial	18.7	0.62%
Commercial Mixed Use	19.5	0.65%
Public/Semi-Public	226.7	7.61%
ROW	35.6	1.20%
Open Water	27.4	0.92%
	2977.6	100%

The amount of land shown as undeveloped is somewhat deceiving in that there is a considerable amount of land included in developed categories which has potential for additional development. For example, an existing home on a three-acre lot could eventually, and often likely will be, re-subdivided into several residential lots. Therefore, the best way to project future land use, and ultimately population, is by comparing the Vacant and Underdeveloped Land map with the 2040 Land Use Plan. The Vacant and Underdeveloped Land map illustrates not only undeveloped land, but also "underdeveloped" land, that is, land already accounted for in a land use category, but which has potential for further development.

The Metropolitan Council provides forecasts for population, households, and employment which are shown on the table below. The Metropolitan Council forecasts that Shorewood has the potential for 3,000 households (or 155 additional households) by the year 2040.

Population Projections, 2010 – 2040
City of Shorewood

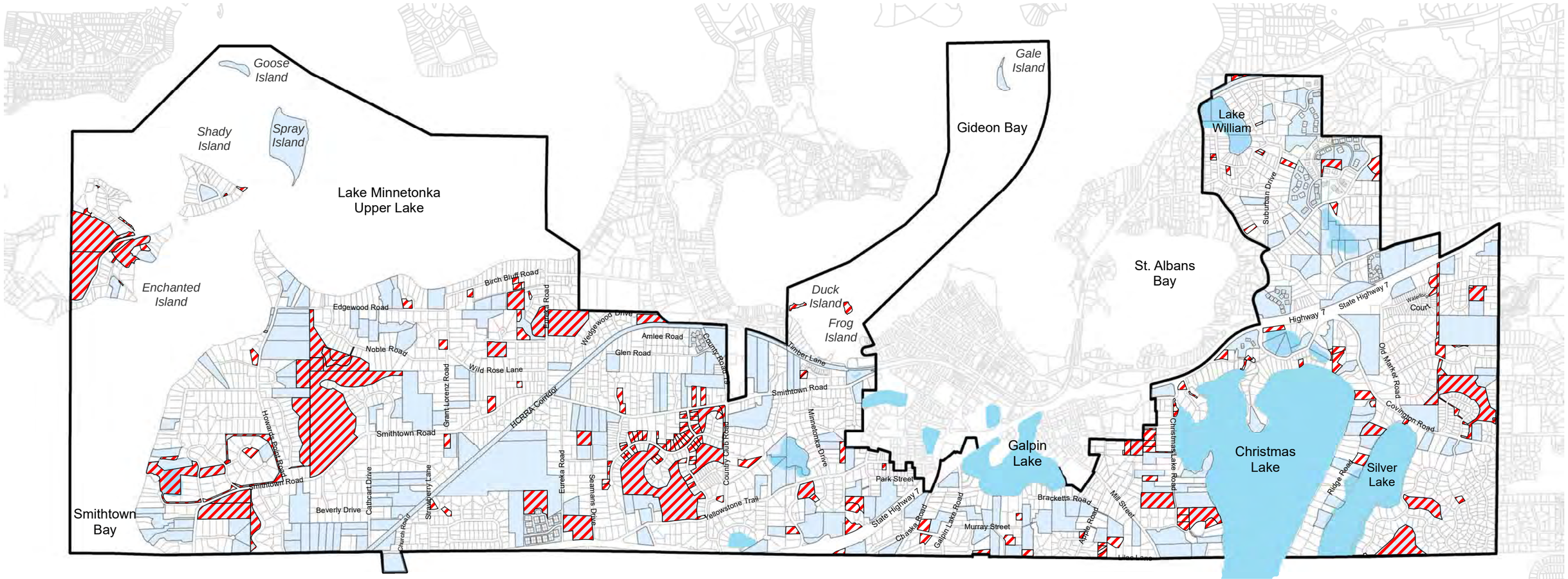
	2010 Census	2018 (estimate)	2020 Forecast	2030 Forecast	2040 Forecast
Population	7,307	7,693	7,600	7,800	8,000
Households	2,658	2,845	2,800	2,910	3,000
Household Size	2.75	2.70	2.71	2.68	2.67
Employment	1,113	1,600	1,600	1,600	1,600
Source: Metropolitan Council					

The Metropolitan Council estimates that the 2018 average household size for Shorewood was 2.70 persons per household. For the seven-county region, the Metropolitan Council projects a decline in household size to 2.46 persons per household in 2020 and 2.43 in 2030 and 2040. While this may be true for the region as a whole, the decline in household size in Shorewood is expected to be less considering the City is predominantly comprised of single-family homes.

The projections referenced above do not account for redevelopment where several existing lots are combined then re-subdivided to create additional lots. While this requires extraordinary cooperation between property owners, it will increasingly occur as land prices continue to outstrip the value of some of the older housing stock.

Vacant and Undeveloped Land

City of Shorewood
2040 Comprehensive Plan



Vacant and Undeveloped

Vacant or Open Space | Parcels over 80,000 SQFT | City Boundary

Map created: December 2020
Data: NAC, MNDNR, Metropolitan Council

0 0.275 0.55 1.1
Miles

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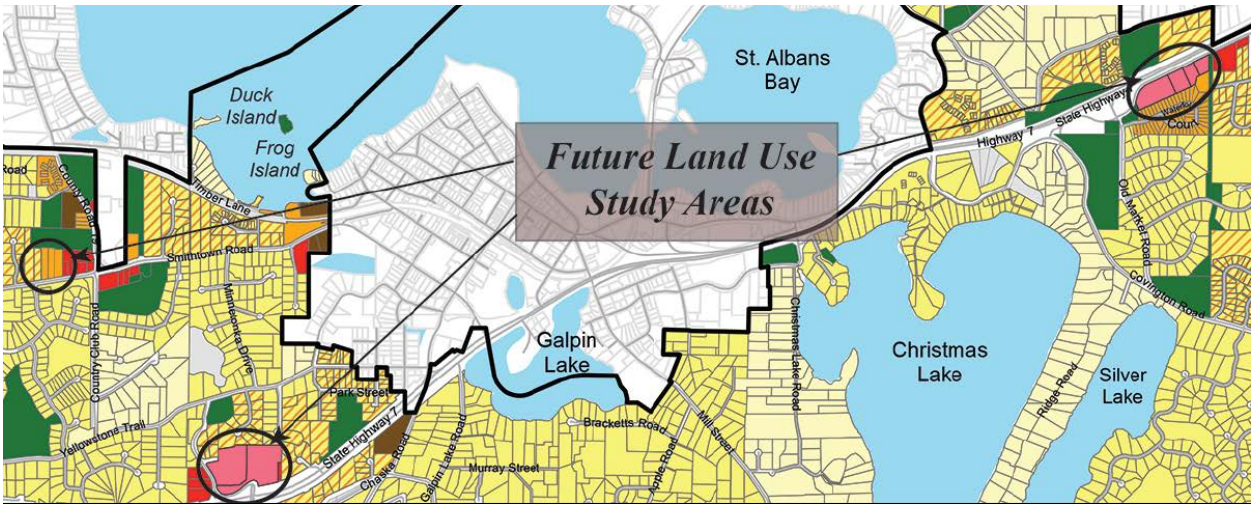
Future Study Areas

Prior to establishing establishing development plans for certain areas, the City may need to conduct specific area plans. The three acre Medium Density area west of County Road 19 needs to be reviewed to confirm the site can accommodate this density due to its location and configuration. Prior to establishing firm controls regarding the Mixed Use areas, the City will need to conduct studies related to land use and traffic.



CHAPTER SUMMARY

The Land Use Chapter sets forth goals, objectives and policies which serve as a guide for how land within the City is to be developed and used. Shorewood has established itself as a predominantly residential community. Any nonresidential activities which are allowed should be located and designed to support a quality living environment. The City's land use goals are as follows:

- **The City shall establish a pattern of land uses which is consistent with the residential and recreational functions of the community.**

- **The land use plan shall promote harmonious relationships between various land uses (e.g. homes, commercial outlets, churches, parks, schools, etc.) through proper development and locational planning.**

- **Land use regulations shall discourage land uses which are inconsistent with the residential and natural character of the community.**

The following summary of recommendations is reflective of the City's goals, objectives and policies:

1. Create and enhance focal points within City neighborhoods.

2. Concentrate commercial development in the following primary locations:

   A. Smithtown Road / County Road 19
   B. Lake Linden Drive / Highway 7
   C. South of Highway 7 between Vine Hill Road and Old Market/Road

3. Require commercial development to be consistent with the residential character of the community.

4. Allow for mixed use development within commercial areas where appropriate for the site.

5. Promote the use of sound planning and design principles, including planned unit development.

5. Coordinate the development of small land parcels to ensure that access and utility service comply with City standards.

6. Maintain a Land Use Plan to illustrate the relationship of various densities of residential development and non- residential uses.

7. Keep the City's land use controls (e.g. Zoning and Subdivision Ordinances) up to date as a means to implement the Land Use Plan.

8. Identify areas which are best suited for planned unit developments.

9. Require formal platting procedures for the subdivision of land, allowing metes and bounds divisions only in the simplest of cases.

10. Establish zoning provisions which are intended to accommodate the continuance of the City’s marinas in a manner which is compatible with surrounding neighborhoods.

11. Promote and implement programs for the preservation of open space.

INTRODUCTION

Shorewood is a suburban, residential community. Less than one percent of the City is devoted to commercial uses. As a predominantly residential community, housing is an important aspect of this Comprehensive Plan.

Past planning efforts in Shorewood have focused on housing quality and maintaining the character of existing neighborhoods. Residential densities have historically been kept low to minimize the demand for public utilities and services. This has also resulted in low traffic volumes relative to other suburban communities in the Metropolitan Area.

Over the past several years, attention has been given to the lack of housing options, particularly to accommodate an increasing elderly population. Shorewood's zoning regulations have been amended to address senior housing.

Also, to be noted is that the City of Shorewood is willing to work with other Lake Minnetonka cities to address housing issues from a sub-regional perspective.

As in the case of other Development Framework chapters of this Plan, the Housing Plan considers housing-related issues identified in the Planning Tactics chapter and the goals, objectives and policies included in the Policy Plan.

HOUSING PLAN

Housing Condition and Maintenance

While some minor housing maintenance issues exist in the City, housing conditions are not considered significant enough to warrant the preparation and adoption of a maintenance code at this time. Nevertheless, the City may want to consider the adoption of a "point of sale" ordinance in the future. This type of regulation attempts to identify certain deficiencies in housing at the time of sale, putting buyers on notice of problems. The objective is to create an incentive for property sellers to improve maintenance conditions prior to the sale.

Often more noticeable than the condition of structures is the outside maintenance of property. Shorewood has historically addressed problem sites on a complaint basis. Although this "neighborhood standard" method has worked reasonably well, it is recommended that local nuisance ordinances be reviewed and periodically updated. The City's annual spring clean-up event is also viewed as an effective tool for encouraging residents to maintain their properties.

In 1993, the City adopted a rental housing code that presently affects approximately 300 rental units in the City. This code establishes standards and a licensing procedure for all types of rental dwellings. The program has been successful in that a number of rental units were improved. The

City has received no tenant complaints since the adoption of the code. Continuation of this effort is recommended.

For many years, Shorewood has allocated a portion of its Community Development Block Grant (CDBG) funds for rehabilitation of substandard housing. The CDBG program is administered by Hennepin County. Since the early 1990's, the City has had seven households which received a total of $90,000 to fund home repairs for persons in need of assistance. Not only is it suggested that the CDBG program be continued, it is recommended that it and other assistance programs be better publicized on the City's website.

Other housing/renovation programs which are available to the City include the following:

- Minnesota Fix Up Fund. Through this statewide program, funds are available to City residents that offer loans at below market interest rates to homeowners. The fix up fund was established to improve the basic livability and/or energy efficiency of the borrower's home. Eligible project included interior or exterior improvements, general remodeling or maintenance items.

- Minnesota Housing Rehabilitation Loan Program. This Statewide program assists low income homeowners in financing basic home improvements that directly affect the safety, habitability, energy efficiency or accessibility of their homes. Eligible improvements include, but are not limited to, electrical wiring, furnace replacement and plumbing repairs.

Variety of Housing Options

Shorewood's housing stock consists primarily of large lot, single-family homes. While the City's development regulations have historically encouraged this type of housing, a strong market for larger single-family homes has had an even greater influence on housing type in Shorewood.

The City has attempted to introduce some variety in lot size, housing type, and value in the past. For example, in the mid 1980's, the Near Mountain development in the southeast area of the City was approved which called for a mixture of single-family homes on lots ranging from one quarter to three-quarters of an acre in size. The project also included quadraminiums and townhouses in the original plan. Citing a very strong market for single-family homes, the developer ultimately requested that the quadraminiums and townhouses be eliminated from the project, resulting in 70 fewer units by the time it was completed. Similarly, houses in the Covington Vine Ridge neighborhood were built larger and were more expensive than originally suggested by the developer, this despite quarter acre lot sizes.

Some variety of housing types was achieved in the 1990's. A number of two-family dwellings were built in the Waterford area and on Lawtonka Drive, west of Timber Lane. The Seasons senior housing project offers low-maintenance twinhomes for residents who qualify under Federal Fair

Housing Act guidelines. Shorewood Ponds provides "step down" single-family, attached cottages in four-unit buildings as an option to seniors 62 years of age and older. This community currently has a waiting list of households eager to purchase dwellings in the subdivision.

More recently, the City approved the Minnetonka Country Club housing project which involved the redevelopment of the former 117-acre Minnetonka Country Club golf course site located south of Smithtown Road and west of Country Club Drive. The project was approved in 2016 and calls for the construction of 142 single family residential homes upon the property. Of the 142 homes, 103 are considered traditional and 39 are targeted toward empty-nesters. Lot sizes within the project range from 7,200 square feet to 45,780 square feet.

Although these projects have increased the variety of housing types in Shorewood to some degree, housing values remain high relative to Metropolitan Area standards, even though higher densities have been allowed. Housing values in Shorewood have risen steadily over the years. In 2014, the median housing value for owner-occupied units was $391,600. In 2015, housing values had risen to $401,400 and by 2017, the median value increased to $428,000. Given the limited amount of land remaining for development in the City, the relatively high cost of utilities and often soil correction, the high value of land in the Lake Minnetonka area, this trend is anticipated to continue.

Future opportunities for increasing housing variety in Shorewood are limited. Consequently, maintenance of the existing mixture of housing will be important. In this regard the City's policy of keeping house sizes proportionate to lot size should continue to be implemented. This simply means that smaller lots will accommodate smaller houses.

The City acknowledges that the City of Shorewood, within its municipal boundaries, is not necessarily consistent with regional housing goals. When the City of Shorewood is viewed as part of a larger South Lake Minnetonka community, a relatively traditional model town emerges. Excelsior serves as the downtown core, with multiple-family housing and small, urban lots. Shorewood, Tonka Bay, Greenwood and Deephaven exist as surrounding suburbs with larger lots and lower densities. Higher density project in any of the adjacent communities, like new proposals in Tonka Bay on County Road 19 directly adjacent to Shorewood properties, also affect the market for higher-density residential in Shorewood.

Senior Housing

In the early 1990's, the City recognized that there was shortage of housing options in Shorewood and that senior citizens who were no longer able remain in their single-family homes, were not able to relocate to a senior housing facility within the Shorewood. In 1991, a study was prepared for the City which demonstrated that a market existed for senior housing in the Lake Minnetonka area. In response to an increasing elderly population and recognizing the importance of keeping senior citizens in the community, the City set a goal to promote the development of safe, healthy and affordable housing options for seniors.

In conjunction with the referenced study, Shorewood updated its zoning regulations to address senior housing. It was determined that the impact of senior housing on streets, parks and utility services was less than that of other types of residential development. Consequently, senior housing is now allowed to be built at somewhat higher densities than otherwise provided by existing zoning. The City also reduced the park dedication fees and sewer connection charges for senior housing in order to minimize development costs.

The City then actively sought developers of senior housing to build in Shorewood. Response was limited, however, due to several factors: 1) limited funding resources; 2) relatively high land costs in the area; 3) lack of municipal water; and 4) conflict with many residents' desire to retain a low-density character throughout the City. Nevertheless, the following senior housing projects presently exist in the City:

- The Seasons (24 units)
- Shorewood Ponds (62 units)
- Shorewood Landing (105 units)

In total, 191 senior housing units are provided within the preceding facilities. This accounts for approximately seven percent of the City's total housing units.

It is important to note that, as part of a recent cooperative effort, land which previously straddled a municipal boundary shared by the Cities of Shorewood and Excelsior was recently conveyed to the City of Excelsior to accommodate *The Waters of Excelsior* senior housing project. *The Waters of Excelsior* project includes 115 units and, due its location adjacent to the City of Shorewood, is expected to supplement the community's senior housing needs.

In administering the current zoning regulations, a number of issues have arisen. For example, there is some question, given land and development costs, as to the feasibility of developing senior housing on land zoned for one-acre lots (R-1A zoning district). Finally, the site analysis used to identify sites suitable for senior housing is considerably outdated. Some land previously considered as suitable has since been developed. New sites for affordable housing will be considered as they become available.

Many seniors wish to stay in their homes as long as possible. Their ability to do so is enhanced by services provided within the community. For example, programs such as "Meals on Wheels" are administered through Senior Community Services. Transit services such as "Metro Mobility" and "Dial-a-Ride" are also available. The City will continue to work with surrounding communities and various agencies to ensure that these services remain available to seniors.

Affordability

The City of Shorewood recognizes its responsibility to provide opportunities for its share of the region's need for low and moderate-income housing. Affordable housing provides housing options for a diverse population.

As noted in the Inventory chapter of this Plan, the Metropolitan Council defines the terms "affordable housing" and "low income" as follows:

> Affordable Housing. *Housing is "affordable" for low and moderate-income households when they pay no more than 30 percent of gross household income on housing.*
>
> Low Income. *A household is considered "low income" if it makes 80% or less of the median income of the seven-county region.*

The tables below depict the number affordable housing units, publicly subsidized units and the number of households burdened by housing costs in the City of Shorewood. Such numbers, as provided by the Metropolitan Council, relate to a 2016 housing count of 2,857 units.

AFFORDABILITY		
Units affordable to households w income at or below 30% of AMI	Units affordable to households with income 31% to 50% of AMI	Units affordable to households with income 51% to 80% of AMI
79	51	306

PUBLICLY SUBSIDIZED UNITS			
All publicly subsidized units	Publicly subsidized senior units	Publicly subsidized units for people with disabilities	Publicly subsidized units – all others
0	0	0	0

HOUSING COSTS BURDENED HOUSEHOLDS		
Income at or below 30% of AMI	Income 31% to 50% of AMI	Income 51% to 80% of AMI
127	93	108

Source: Metropolitan Council 2016 Housing Estimates

The Metropolitan Council's Thrive MSP 2040 Plan (Housing Element) assigns a low and moderate-income housing need for the City of Shorewood for the decade of 2021 through 2030. Specifically, the Council has identified a need for 48 new affordable units within this timeframe. Of these new units, 23 need to be affordable to households earning at or below 30 percent of the area median income, 16 need to be affordable to households earning 31 to 50 percent of the area medium income and 9 need to be affordable to households earning 51 to 80 percent of the area median income. These needs are summarized in the table below:

AFFORDABLE HOUSING NEED ALLOCATION (2021-2030)		
Income at or below 30% of AMI	Income 31% to 50% of AMI	Income 51% to 80% of AMI
23	16	9

The City has guided 3.7 acres for High Density Residential development at a minimum of 8 units per acre or more. This would provide for 30 units of affordable housing by acreage. An additional 19.5 acres are identified as Commercial Mixed Use which requires a minimum of 40% of the property (7.8 acres) to be residential development at a minimum of 8 units per acre. Of this 7.8 acres, 2.8 (23 units) is staged for development within the 2021-2030 time frame. This results in 53 units of affordable housing being provided by density within the 2021-2030 staging period.

In regard to rental units, the definition of an affordable unit varies depending upon the number of bedrooms in the unit. Like owner-occupied housing, the affordability limit for renter-occupied housing is 80 percent of the area median income (AMI). For rental units, affordability is based upon the number of bedrooms in the unit. For the year 2017, the Metropolitan Council's affordability rates were as follows:

Rental Housing Affordability Limits, 2017 City of Shorewood	
Number of Bedrooms	**80 % AMI**
Efficiency	$1,265
1 Bedroom	$1,356
2 Bedroom	$1,627
3 Bedroom	$1,880
4 Bedroom	$2,097
Source: Metropolitan Council	

According to the Metropolitan Council, the median rent paid in the City of Shorewood in 2016 was $1,139. Consequently, most of the rental housing is affordable based on the standards in the above table.

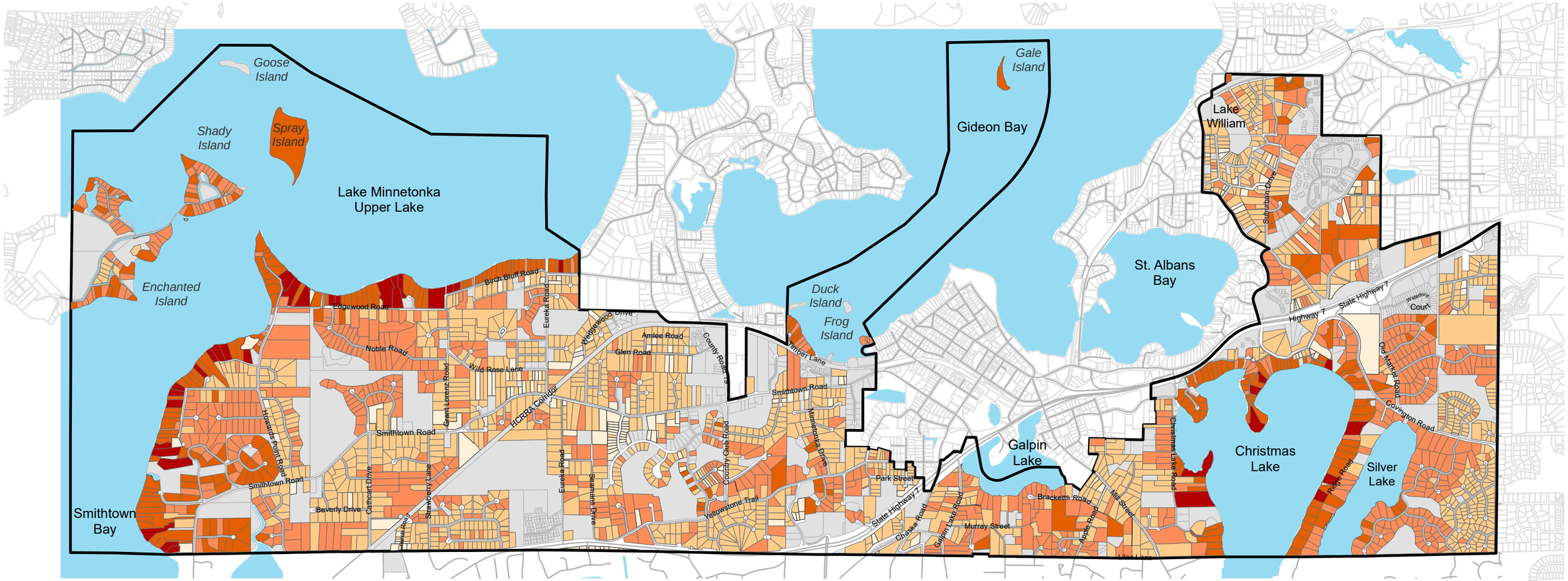
With the preceding Metropolitan Council directives in mind, the City finds it important to understand the number of affordable housing units which presently exist in the City. For 2017, the Metropolitan Council has determined that homes with a purchase price of $243,500 or less are considered "affordable" in the seven-county metropolitan area. According to the Metropolitan Council, 2,770 housing units existed in the City in 2016. Of these units, 2,527 were owner-occupied. Of these, 478 units had a value of $243,500 or less. As a result, 17 percent of the City's existing owner-occupied housing stock at that time was considered "affordable."

Between 2008 and 2016, the City added 105 owner-occupied housing units and 105 renter-occupied units. While the owner-occupied units were added at a relatively consistent rate over this time period, all 105 renter-occupied units were added in 2016. Within this time period, none of the added housing units (owner and renter-occupied) were considered affordable.

Housing values within the City are depicted on the map on the following page. The map specifically identifies locations of single family homes which exceed the affordable housing threshold ($243,500) and locations of homes which are considered affordable. The City of Shorewood routinely encounters teardowns of lower value single family homes and replacement with new, higher value homes. This activity results in a reduction in the number of affordable single-family homes in the City. Between 2008 and 2016, 52 units were demolished and new homes built on the lots. Not all of the homes demolished met the criteria for affordable as several were on riparian lots on Lake Minnetonka, but the number of demolitions speaks to a trend to redevelop affordable homes in Shorewood.

Estimated Market Value of Single Family Homes

City of Shorewood
2040 Comprehensive Plan



Estimated Market Values

- $250,000 or Less
- $250,000 - $500,000
- $500,000 - $1,000,000
- $1,000,000 - $2,500,000
- Over $2,500,000
- Parcels
- City Boundary

Map created: December 2020
Data: NAC, MNDNR, Metropolitan Council

0 0.275 0.55 1.1
Miles

NORTHWEST ASSOCIATED CONSULTANTS, INC.
4150 Olson Memorial Highway, Ste. 320, Golden Valley, MN 55422
Telephone: 763.231.2555 Website: www.nacplanning.com

The City of Shorewood understands the intent of the Metropolitan Council's affording housing allocation (48 units between 2021 and 2030) and supports the idea of providing alternative housing choices in the community. There are, however, conditions which are unique to the Shorewood which raise questions related to the ability of the community to realistically reach the noted affordable housing objectives. These include the following:

1. A limited amount of land exists within the City for development (vacant parcels and redevelopment sites).

2. Current market conditions and land values in the City are such that new rental housing would likely demand higher rents.

3. Much of the City of Shorewood is not served by mass transit. This condition is not expected to change in forthcoming years.

4. Presently, the City Shorewood has a limited amount of commercial land. With no plans to increase the amount of land devoted to such uses, minimal employment opportunities exist for persons to live and work in the City.

Housing Programs

To achieve the housing goals of this Plan, the following will be considered:

Programs which provide for the maintenance, management and preservation of existing housing stock:

Rental Licensing and Inspection Program.

The City of Shorewood has an active rental licensing and inspection program to ensure that its rental housing stock is maintained and provides a safe living environment.

City Ordinances. The City's Zoning Ordinance establishes minimum performance standards which are intended to ensure continued property maintenance.

The City of Shorewood will continue to enforce its ordinances which relate to property upkeep/maintenance.

Local Funding Sources. The City of Shorewood may, if deemed appropriate by City Officials, explore programs offered through the Twin Cities Habitat for Humanity and Minnesota Housing and Finance Agency.

Repair and Rehabilitation Support. The Community Action Partnership of Suburban Hennepin (CAPSH) provides home repair and rehabilitation assistance to County residents who meet certain eligibility requirements.

The City of Shorewood recognizes the existence of this program and is supportive of residents who choose to pursue program assistance.

Programs which provide access to public programs and financial programs:

Referrals. One of the simplest and most cost-effective ways to serve households in need of affordable housing is by making effective referrals. Being aware of programs and services or being able to provide appropriate references is considered beneficial.

Shorewood's Planning Department will strive to remain familiar with the relevant programs and provide effective referrals.

Homebuyer Assistance Programs. Homebuyer assistance programs funded directly by Hennepin County HRA are currently not available.

The City of Shorewood encourages residents to contact the Minnesota Homeownership Center regarding homebuyer assistance programs which are currently available.

Foreclosure Prevention. The Community Action Partnership of Suburban Hennepin (CAPSH) provides foreclosure counseling to County residents.

The City of Shorewood recognizes the existence of this service and is supportive of residents who choose to pursue foreclosure counseling.

Energy Assistance. The Community Action Partnership of Suburban Hennepin (CAPSH) administers the energy assistance program for County residents who meet the eligibility requirements.

The City of Shorewood recognizes the existence of this program and is supportive of residents who choose to pursue program assistance.

Programs which support senior housing:

Tax Increment Financing. Cities may create a housing district to create a tax increment financing district. The tax increment financing bonds issued on the district are used to support the construction of affordable housing. Property taxes received above the original tax value (increment) from the development are utilized to finance these bonds.

The property tax revenue that otherwise would be available to pay for City services would be restricted and not available to pay for the services.

Considering that two large senior housing projects have recently opened within or near the City of Shorewood, the market may not support additional senior housing developments at this time. The City may, however, support the use of tax increment financing in the future depending on the project location, the extent of the request, etc.

Referrals. Shorewood's Planning Department will strive to have the ability to refer residents to applicable senior housing programs which are outside of the City's scope of services.

Programs which expand housing options:

Comprehensive Planning. As stated in the Policy Plan, the City of Shorewood will strive to present a variety of housing options which meet the needs of varying segments of its population. In this regard, the Land Use Plan directs a variety of residential densities (housing types) through future development or redevelopment.

Zoning and Subdivision Ordinances. The City's Zoning and Subdivision Ordinances will be used to implement the land use directives of the Comprehensive Plan. In this regard, opportunities for land uses which are promoted in the Plan are provided via the establishment of zoning districts which make an allowance for the directed land uses.

To be noted is that the City has the ability to provide "flexibility" from its zoning and subdivision regulations through planned unit development (PUD). Through PUD, the City specifically has the ability to allow increased residential densities for projects which fulfill a variety of PUD objectives which are intended to result in a higher quality development project than that which would otherwise be allowed through standard zoning.

Land Banking and Site Assembly. Land banks are nonprofit or governmental entities created to acquire, manage, maintain, and repurpose properties that are vacant, abandoned, underutilized, or foreclosed to a productive use. Banking and site assembly can provide an opportunity to ensure that vacant property is maintained and does not negatively impact the area. Such efforts also provide an opportunity to influence the ultimate use of the property.

There is very little vacant or abandoned property within the City of Shorewood which is in need of assembly, holding or maintenance. As a result, the City does not anticipate utilizing land banking and site assembly and cannot anticipate precise circumstances in which it would do so. The City may, however, consider doing so if opportunities arise

and City Officials determine that such an effort is appropriate (to support economic development, including potential opportunities for affordable housing).

Programs which promote affordable housing needs:

Comprehensive Planning. As stated in the Policy Plan, the City of Shorewood will attempt to satisfy the Metropolitan Council's affordable housing directives of 48 new units between 2021 and 20130. The Land Use Plan directs high density residential use upon a number of undeveloped sites and sites which are expected to be redeveloped at some future point. In this regard, the Land Use Plan provides opportunities for future affordable housing.

Zoning and Subdivision Ordinances. As previously indicated, the City's zoning and subdivision regulations will be used to implement the land use directives of the Comprehensive Plan. As a result, uses directed for high density residential use by the Plan, will be implemented via the application of corresponding zoning districts.

Development Authorities. The Hennepin County Housing and Redevelopment Authority (HRA) provides services for affordable housing and redevelopment.

While the City of Shorewood has not utilized such services in the recent past, it would consider partnering with the HRA in the future.

Tax Abatement. Local governments are permitted to offer tax abatement for a public benefit, including the creation of housing which is affordable to low and moderate-income households. If a portion of the tax collected from a property is abated, such amount would need to be offset through increased taxes levied on other properties.

Recognizing the of administrative needs and potential impacts on the City's remaining tax capacity, the City of Shorewood does not anticipate using tax abatement.

Livable Communities Act Programs. Livable Communities Act programs are intended to provide incentives for addressing various issues facing the seven-county Metropolitan Area. Metropolitan Area municipalities which elect to participate in the Livable Communities Program are eligible to compete for funding for community development activities.

Unlike many other Lake Minnetonka communities, the City of Shorewood does not participate in the Livable Communities Program. Such current exclusion is based upon Shorewood's lack of available building sites. The City may, however, consider the possible benefits of program participation at some future date.

Minnesota Housing Consolidated Request for Proposals. The Minnesota Housing Finance Agency provides a request for proposal (RFP) on an annual basis whereby developers of affordable housing projects can apply for funding to construct such housing.

The City of Shorewood is supportive of developers who apply for funds to support the development of housing units which meet the City's needs for affordable housing.

Community Development Block Grants (CDBG). The U.S. Department of Housing and Urban Development (HUD) provides CDBG funds to communities with over 45,000 residents for the use of providing and maintaining affordable housing. Hennepin County HRA administers these CDBG funds through a pool with various communities. The City of Shorewood pools its Community Development Block Grant funds into the Hennepin County program for housing rehabilitation assistance.

The City of Shorewood believes that addressing housing issues in a cooperative manner with other Hennepin County communities is worthwhile and is therefore willing to participate in such cooperative efforts.

Home Investment Partnerships Program (HOME). The HOME is a flexible federal grant program that allows Hennepin County to fund affordable housing activities for very low and low-income families or individuals, homeless families, and persons with special needs.

The City of Shorewood recognizes the importance of this program and is supportive of residents who choose to pursue program assistance.

Affordable Housing Incentive Funds (AHIF). AHIF funds are administered by the Hennepin County Housing and Redevelopment Authority. This loan program funds the development of affordable housing units for very low-income households.

The City of Shorewood recognizes the existence of AHIF funds and is supportive of developers who apply for such funds to support development of housing units which meets the City's affordable housing needs.

4(d) Tax Program. The 4(d) Tax Program provides a property tax rate reduction for rental properties which include affordable housing units. This program is administered through the Minnesota Housing Finance Agency.

The City of Shorewood encourages owners of eligible rental properties which include affordable housing units to seek 4(d) Tax program assistance.

Fee Waivers or Adjustments. Cities have the ability to waive or reduce fees to reduce the cost of construction of affordable housing. Conversely, State rules require that city fees must correlate to the cost of providing the services.

Fee waivers or reductions could create a deficiency in the funding for services, causing the City to rely on general funds to make up the deficiency. For this reason, the City of Shorewood will not consider a fee waivers or reduction for affordable housing projects.

West Hennepin Affordable Housing Land Trust. The mission of the West Hennepin Affordable Housing Land Trust (dba Homes Within Reach) is to use the Community Land Trust practice to provide permanently affordable homeownership for low to moderate income working families that would otherwise be unable to purchase a home in the suburban communities of Hennepin County; offering both communities and homebuyers the ability to sustain long-term affordable homeownership. The Land Trust service area is the 44 communities of suburban Hennepin County and is currently active in twelve (12) suburban communities in Hennepin County.

If approached, the City Shorewood will evaluate and determine if joining the West Hennepin Affordable Housing Land Trust is an appropriate partnership (to meet the City's housing affordable housing objectives).

Educational Programs:

Organizations, Partnerships and Initiatives. Participation in housing-related organizations, partnerships and initiatives with other stakeholders provides learning opportunities. In this regard, discussions of housing needs with other cities, counties, the Metropolitan Council is considered beneficial for all involved. Recognizing the value of such collaborations, the City of Shorewood has taken the following steps:

- The City of Shorewood partners with the Hennepin County Housing and Redevelopment Authority.
- City Staff are members of various professional organizations which provide resources and educational opportunities related to housing including the Minnesota Chapter of the American Planning Association.
- City Officials routinely take part in trainings related to land use and housing and are active in groups with other city officials.

CHAPTER SUMMARY

As a predominantly residential community, housing and issues related to housing are an important aspect of Shorewood's Comprehensive Plan. Following are the City's goals relative to housing:

- **Provide safe, healthy and quality housing that respects the natural environment of the community.**
- **Maintain the present variety of housing options and provide sufficient housing types, sizes and values to meet the needs of varying segments of the population.**
- **Maintain and strengthen, where necessary, the character of individual neighborhoods within the community.**
- **Address local and sub-regional housing issues through cooperative efforts with neighboring communities through organizations such as the Lake Minnetonka Area Cooperating Cities.**
- **Promote safe, healthy and affordable housing options.**

Following are recommendations intended to achieve these goals:

1. Review local development regulations, and amend as necessary, to promote a balanced housing supply.
2. As opportunities present themselves, attempts shall be made to satisfy the Metropolitan Council's affordable housing directives (48 new units between 2021 and 2030).
3. Identify locations for alternative residential housing types and densities.
4. Make available to residents and property owners educational programs on such topics as renter/landlord rights, home buying, home maintenance, etc.
5. Continue the City's rental housing license program to maintain current standards for rental housing.
6. Consider the adoption of a "point of sale" ordinance to address housing maintenance issues.
7. Promote private sector maintenance, rehabilitation and redevelopment of existing properties through improved communication of available community services and financial assistance programs.

8. Continue to allow accessory apartments to allow seniors to remain in their single family homes.

9. Encourage housing types that are designed to appeal to senior citizens to allow existing residents to downsize and remain in the City of Shorewood.

10. Maintain programs for housing condition to protect the health and safety of residents and ensure stability of neighborhoods.

11. Maintain code enforcement programs to improve and strengthen the character of neighborhoods.

12. Undertake both proactive and reactive code enforcement to maintaining the City's existing housing stock.

13. Rehabilitate substandard housing units whenever possible.

14. Work with Hennepin County to administer programs which provide financial assistance for the rehabilitation of substandard housing units within the community (as funding sources and market conditions permit).

15. Redevelop of substandard housing whenever compatible with adjacent land uses and economically feasible.

16. Establish and maintain regulations for development upon lawful nonconforming lots.

17. Require construction management plans for all residential infill projects. Minimally, such plans shall address contractor parking locations, construction material delivery and storage, street cleaning and construction hours.

18. Protect lower density residential neighborhoods from encroachment or intrusion of incompatible land uses as well as nonresidential use categories, through adequate buffering and separation.

19. Respect and maintain the character of individual residential neighborhoods.

20. Protect residential developments from and locate them away from sources of adverse environmental impacts including noise, air and visual pollution.

21. Minimize home occupations, commercial and other nonresidential activities so as to be invisible within residential neighborhoods.

22. Accessory buildings within the community shall be of a compatible design and size to maintain a residential character. These buildings shall be limited exclusively to residential uses and related activities.

23. Minimize outdoor storage where possible and allow it only conducted in an orderly, confined and limited fashion which is consistent with City Code requirements.

24. Aggressively eliminate violations of property maintenance standards that infringe upon residential neighborhood quality, pose public health and safety problems and threaten neighboring property values.

25. Encourage owner occupied housing.

26. Address Shorewood's housing needs, as well as the needs of the overall Lake Minnetonka sub-region, by providing and maintaining a variety of housing types, styles and values.

27. Prevent polarizing age distribution within the Lake Minnetonka sub-region through the provision of diverse housing that reflects life-cycle stages and economic considerations.

28. Encourage a range of property values and rent rates within the Lake Minnetonka sub-regional housing as a means of diversifying the stock and sustaining individual communities in the area.

29. Develop housing for special needs populations (e.g., elderly, physically challenged) within the Lake Minnetonka sub-region and provide financial assistance programs as funding sources and market conditions allow.

30. Give due attention to the directives of the Metropolitan Council for new or redeveloped housing projects.

INTRODUCTION

The purpose of the Transportation Plan is to set a multimodal transportation vision through the year 2040. The City's multimodal transportation system includes facilities for vehicles, freight, walking, bicycling and transit. Facilities are operated by a number of agencies, including the City of Shorewood, Hennepin County and the Minnesota Department of Transportation (MnDOT).

As the owners of the transportation network in Shorewood (i.e. City of Shorewood, Hennepin County and MnDOT) advance their respective Capital Improvement Programs (CIPs), this Plan is intended to serve as an important resource and reference in establishing priorities and advancing transportation projects for implementation. Advancing these projects from a planning to implementation phase will require collaborative discussions among the City, County, MnDOT, adjacent communities, Metropolitan Council, residents and others to conduct traffic studies, finalize designs, preserve rights-of-way, obtain environmental clearances and leverage necessary financial resources.

Effective transportation planning is an important part of the City's Comprehensive Plan. Residents must be provided with transportation facilities and services which meet mobility needs in an efficient and safe manner. Transportation facilities, at the same time, need to be planned and constructed so as to limit negative social, environmental, and aesthetic impacts to the greatest degree feasible. In addition, residents who cannot or choose not to drive need to have transportation options to meet their daily needs.

This transportation chapter has been prepared in compliance with State of Minnesota Statutes and applicable Metropolitan Council guidelines. As part of this Plan, the City has reviewed existing and future conditions for each mode and identified safety, operations, and network improvements that will be important to address over the 2040 planning horizon. Goals, objectives and specific strategies have been identified collaboratively by the City, Hennepin County, MnDOT and citizens within the framework of Metropolitan Council requirements.

Although emphasis in this element of Shorewood's Comprehensive Plan is placed on the street circulation plan, there are a number of other transportation related components that deserve consideration. They include mass transit, pedestrian/bicycle circulation, freight, railroads and aviation.

The vision and associated strategies outlined in this Plan were established by considering existing and forecasted conditions, City of Shorewood priorities and regional travel patterns.

Objectives

There are three primary objectives of this Transportation chapter:

- To provide guidance for City staff and elected officials regarding the planning and implementation of effective transportation facilities and systems.
- To give private citizens and businesses background on transportation issues and allow them to be better informed regarding the City's decision-making on transportation issues.
- To communicate Shorewood's perspectives and intentions regarding transportation planning issues to other government agencies.

The preparation of the document also has provided stakeholders with the opportunity to have input into the transportation planning process.

Transportation Glossary

CIP: Capital Improvement Program – five-year plan for capital investments in the transportation system and in other capital assets owned by the City (equipment, buildings, etc.).
CR: County Road – county-owned roadway that does not receive State funding.
CSAH: County State Aid Highway – county-owned roadway that receives State Aid funding.
LRT: Light Rail Transit – public transportation mode consisting of rolling train stock on an exclusive right-of-way
MnDOT: Minnesota Department of Transportation.
RBTN: Regional Bicycle Transportation Network – existing and planned regional bicycle network established by the Metropolitan Council.
TH: Trunk Highway – State highway owned and operated by MnDOT.
TPP: Transportation Policy Plan – Regional transportation plan for the Twin Cities metropolitan region, developed by the Metropolitan Council.

SUMMARY OF REGIONAL STRATEGIES

This plan has been prepared to be consistent with the regional transportation strategies outlined in the Metropolitan Council 2040 Transportation Policy Plan (TPP). The TPP is a regional plan that evaluates the existing transportation system, identifies transportation challenges to the region, and sets regional goals, objectives, and priorities to meet the transportation needs of current residents while accommodating the region's anticipated growth. The TPP also guides local agencies in coordinating land use and transportation and established regional performance measures and targets.

The TPP is guided by the following goals:

- **Transportation system stewardship:** Sustainable investments in the transportation system are protected by strategically preserving, maintaining, and operating system assets.
- **Safety and Security:** The regional transportation system is safe and secure for all users.
- **Access to Destinations:** People and businesses prosper by using a reliable, affordable, and efficient multimodal transportation system that connects them to destinations throughout the region and beyond.
- **Competitive Economy:** The regional transportation system supports the economic competitiveness, vitality, and prosperity of the region and State.
- **Healthy Environment:** The regional transportation system advances equity and contributes to communities' livability and sustainability while protecting the natural, cultural, and developed environments.
- **Leveraging Transportation Investment to Guide Land Use:** The region leverages transportation investments to guide land use and development patterns that advance the regional vision of stewardship, prosperity, livability, equity, and sustainability.

The TPP acknowledges funding is a key constraint. Current transportation revenue will not meet the region's transportation needs through 2040. As a result, the TPP includes two long-term investment scenarios: a fiscally-constrained scenario that identifies projects anticipated to be

funded based on current revenue projections, and an increased revenue scenario that identifies project priorities should additional transportation funding become available.

Under the current fiscally constrained revenue scenario, the TPP is focused on operations and maintenance of the existing transportation system. Investments in highway mobility and access are limited to those that address multiple TPP goals and objectives.

The increased revenue scenario would allow additional investments in operations and maintenance, as well as regional mobility, access, safety, and bicycle/pedestrian improvements. However, congestion cannot be greatly reduced under even the increased revenue scenario. Under both scenarios, proposed investments are focused on areas of the metro with the greatest existing and future challenges and anticipated growth.

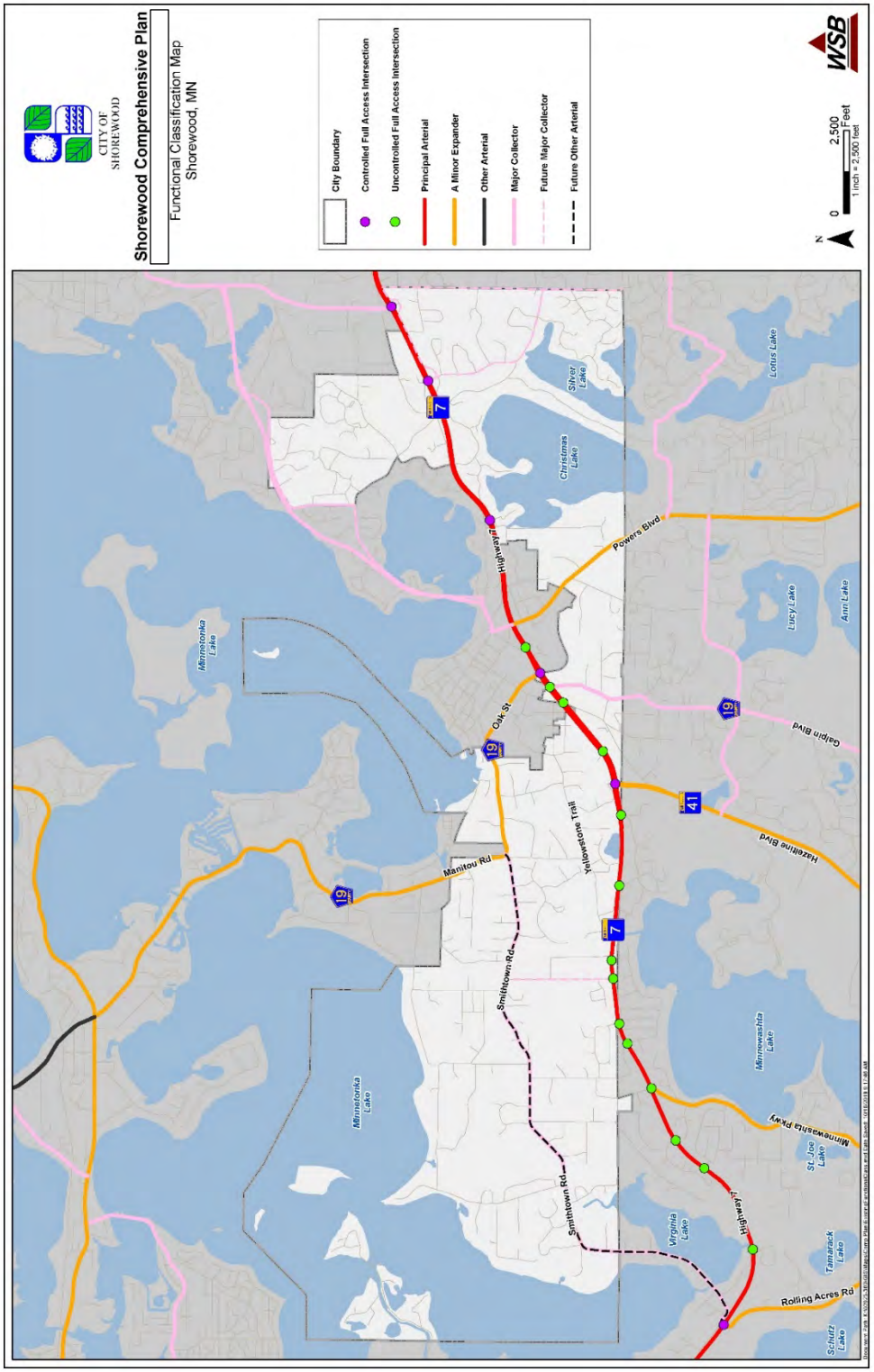
The Metropolitan Council classifies Shorewood under the Suburban Community Designation. Based on *Thrive MSP 2040*, Suburban areas are expected to plan for forecasted population and household growth at average densities of at least five units per acre for new development and redevelopment. These communities are also expected to target opportunities for more intensive development near regional transit investments. The TPP does not include any planned regional investments in Shorewood.

Planned Functional Classification

Recommended changes to the functional classification system will be adopted by the City as part of the adoption of the overall Comprehensive Plan Update. Changes that involve "Other" Minor arterials, Major Collectors or Minor Collectors may be made without the approval of another agency, provided these changes are consistent with State and County Plans. However, the changes and the resulting functional classification should be officially reported to the Metropolitan Council under separate communication to ensure that the Metropolitan Council has the opportunity to update their records. The City is proposing the following changes:

- Smithtown Road: CASH 19 to City Limits – Major Collector to "Other" Arterial
- Vine Hill Road: TH 7 to City Limits - Local Street to Major Collector
- Old Market Road: TH 7 to Vine Hill Road – Local Street to Major Collector
- Eureka Road: Smithtown Road to TH 7 – Local Street to Major Collector
- Delton Avenue: Minnetonka City limits to Old Market Road – Local Street to Major Collector

Any proposed change to a Principal Arterial or 'A' Minor Arterial designation will need to be approved by the Transportation Advisory Board (TAB) of the Metropolitan Council. Since these changes are likely to involve either State or County roadways, the City should work closely with these agencies to ensure that the process of approval is carried forward. No functional classification changes are recommended within the city at this time.


Shorewood Comprehensive Plan
Functional Classification Map
Shorewood, MN
CITY OF SHOREWOOD
WSB
City Boundary
Controlled Full Access Intersection
Uncontrolled Full Access Intersection
Principal Arterial
A Minor Expander
Other Arterial
Major Collector
Future Major Collector
Future Other Arterial
0
2,500 Feet
1 inch = 2,500 feet
N
Highway 7
Powers Blvd
Oak St
Manitou Rd
Yellowstone Trail
Smithtown Rd
Smithtown Rd
Dalpin Blvd
Hazeltine Blvd
Minnewashta Pkwy
Highway 7
Rolling Acres Rd
Minnetonka Lake
Minnetonka Lake
Minnetonka Lake
Short Lake
Christmas Lake
Lotus Lake
Lucy Lake
Ann Lake
Minnewashta Lake
St Joe Lake
Virginia Lake
Tamarack Lake
Schutz Lake
7
19
41

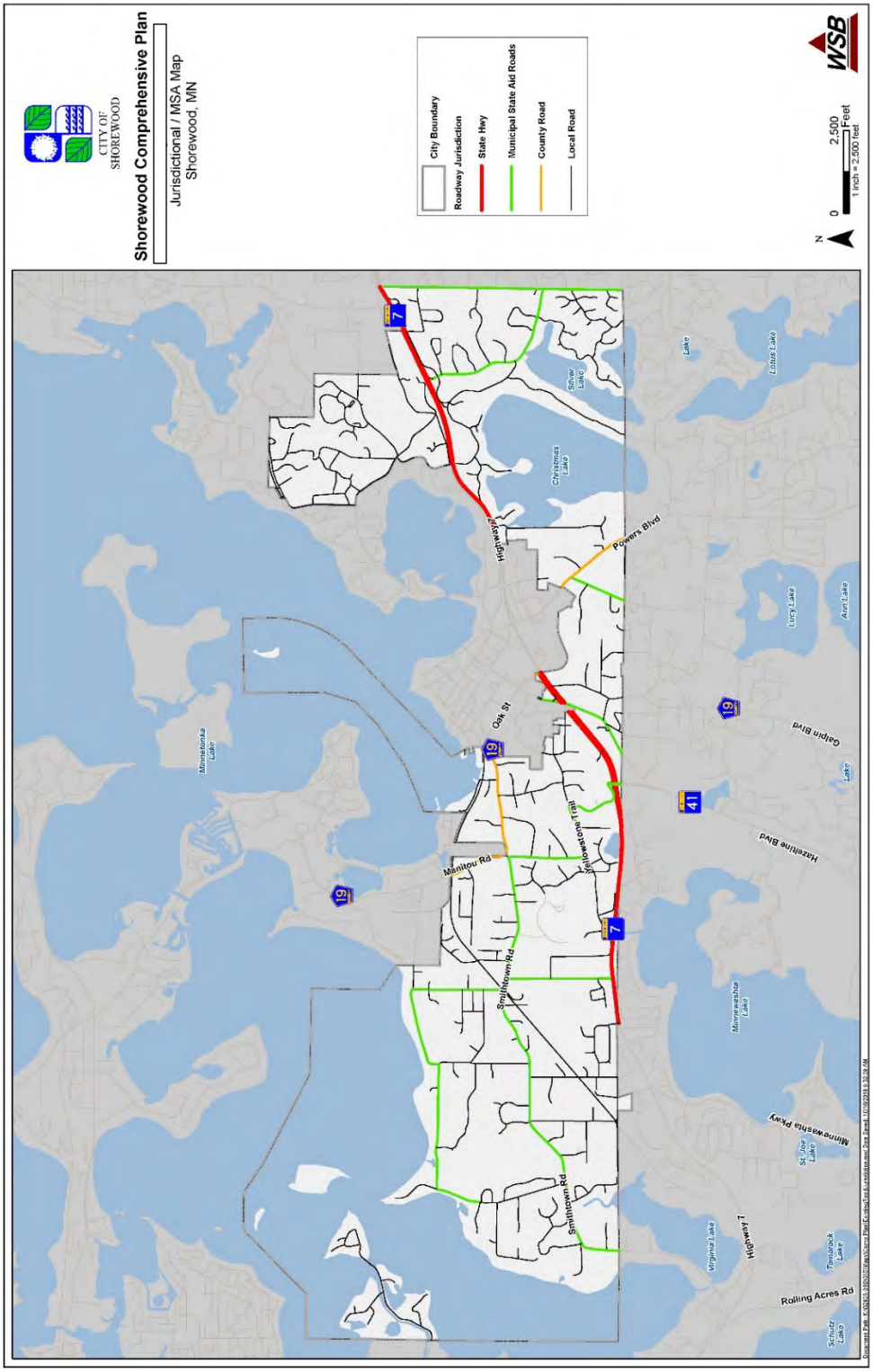
Jurisdictional Classification / Municipal State Aid Streets

Roadways are classified on the basis of which level of government owns and has jurisdiction over the given facility. The three levels of government that have involvement are the State of Minnesota (Mn/DOT), Hennepin County, and the City of Shorewood. Mn/DOT owns/maintains the Trunk Highway (TH) system and Hennepin County the County State Aid Highway (CSAH) and County Road (CR) system. The City owns/maintains the local streets, including Municipal State Aid (MSA) streets**.**

Cities in Minnesota with populations greater than 5,000 are eligible to receive Municipal State Aid (MSA) funding from the state Highway User Tax Distribution Fund. The basic purpose of this program is to help local governments construct and maintain collector and arterial roadways which have consistent design standards, and which are well integrated into the overall network of collector and arterial roadways. The State Aid system typically consists of a maximum of 20% of the City's roadway mileage.

The State Aid office of MnDOT has established clearly defined design requirements for MSA streets. These requirements ensure that capacity, operational, and safety goals are met in a uniform manner from community to community, and that street systems are well coordinated with each other. Based on State Statute, Sections 169.80 and 169.87, MnDOT does not allow cities to restrict truck traffic on MSA streets.

Figure 2 provides a map depicting the jurisdictional classification of the overall roadway network serving Shorewood and its residents and businesses


Shorewood Comprehensive Plan
Jurisdictional / MSA Map
Shorewood, MN
CITY OF SHOREWOOD
City Boundary
Roadway Jurisdiction
State Hwy
Municipal State Aid Roads
County Road
Local Road
WSB
0
2,500 Feet
1 inch = 2,500 feet
N
Highway 7
Powers Blvd
Oak St
Manitou Rd
Smithtown Rd
Minnetonka Blvd
Gaylin Blvd
Hazeline Blvd
Rolling Acres Rd
Minnetonka Lake
Christmas Lake
Lucy Lake
Ann Lake
Minnewashta Lake
St. Joe Lake
Virginia Lake
Tanadoca Lake
Schultz Lake

Existing Roadway Capacity and Safety

Roadway capacity and roadway safety are two key indicators of how well the roadway system is meeting the city's transportation needs. The sections below provide information to better understand capacity and safety issues within Shorewood.

Existing Roadway Capacity

A roadway's capacity indicates how many vehicles may use a roadway before it experiences congestion. Capacity is largely dependent upon the number of lanes. The table below lists planning-level thresholds that indicate a roadway's capacity (measured in annual average daily traffic, AADT). Additional variation (more or less capacity) on an individual segment is influenced by a number of factors including: amount of access, type of access, peak hour percent of traffic, directional split of traffic, truck percent, opportunities to pass, and amount of turning traffic, the availability of dedicated turn lanes, parking availability, intersection spacing, signal timing and a variety of other factors.

Planning-level Urban Roadway Capacities

Arterial Roadways	Daily Two-way Volume	
	Lower Threshold	Higher Threshold
Two-lane Undivided	10,000	12,000
Two-lane Divided or Three-lane Undivided	15,000	17,000
Four-lane Undivided	18,000	22,000
Four-lane Divided or Five-lane Undivided	28,000	32,000

Source: FHWA Highway Capacity Manual and WSB Experience from Previous Projects

Existing Capacity Problems on Arterial Roads

At the planning level, capacity problems are identified by comparing the existing number of lanes with current traffic volumes. The table on the following page shows existing number of lanes on collector and arterial roadways within the city.

Daily traffic volumes are based on 2016 conditions from the MnDOT State Aid traffic volume maps supplemented with 2017 data from the City of Shorewood and Hennepin County.

As shown in the table, TH 7 has either four or five lanes (with turn lanes) and CSAH 19 has 2 or 3 lanes (with turn lanes) throughout the City. All other Arterial or Major Collector roadways have two lanes.

Existing number of lanes on arterial roads

Functional Classification	Roadway Name	Location	Number of Lanes
Principal Arterial	TH 7	Minnetonka Border to Chanhassen Border	4 / 5
"A" Minor Expander	CSAH 82 (Mill St)	Chanhassen Border to Excelsior Border	2
	CSAH 19 (Oak St/Smithtown Rd/Manitou Rd	Excelsior Border to Tonka Bay Border	2 / 3
Major Collector	Smithtown Road	CSAH 19 to Victoria Border	2
	Galpin Lake Road	Chanhassen Border to TH 7	2
	Minnetonka Blvd	Deephaven Border to Greenwood Border	2

The only roadway that is approaching capacity is CSAH 19 north of Smithtown Road. All other Arterials and Major Collectors in Shorewood currently exhibit traffic volumes below or within the range of the planning level capacity thresholds shown in the previous table. This indicates that these roadways are typically not experiencing high levels of congestion.

The methodology described above is a planning-level analysis that uses average daily traffic volumes and is not appropriate for all traffic conditions. Traffic conditions that do not fit the average daily traffic criteria (i.e., weekend travel, holiday travel, special events, etc.) are likely to produce different levels of congestion. Further, this methodology does not take into account specific geometric conditions that exist at the intersection nodes, potential peaking characteristics of these roadways or directional flow disparities, which can greatly impact the order of magnitude of the deficiency (either meaning there is not a deficiency, or it is more significant than what is indicated by the ADT alone). However, for purposes of the transportation planning process, this volume to capacity (v/c) methodology is widely accepted and applicable. For detailed design consideration of access management, intersection traffic control and congestion

mitigation, the city may require a traffic study providing detailed operational analysis for specific developments.

Identified Capacity and Safety Concerns

The primary issue locations are identified below:

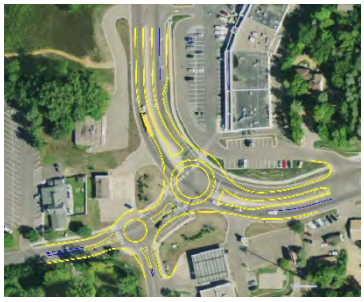
1. **Trunk Highway System Congestion:** Peak-period congestion occurs on the Trunk Highway segments passing or adjacent to the City including TH 7 and TH 41.

   Current traffic volume on TH 7 ranges from 20,000 to 35,000. With the number of streets and access locations, together with the traffic volume levels, the mainline congestion and queuing at existing signalized and un-signalized intersections provides a source of localized congestion on the City street system.

   The City will continue to work with MnDOT, Hennepin County and adjacent Cities in reviewing and improving traffic flow on TH 7. Specific intersections that the City will continue to monitor and support future improvements include:

   - TH 7 at Minnewashta Parkway/Church Road
   - TH 7 at Vine Hill Road

2. **Traffic Committee:** In 2015 and 2017 the City Council established a "Traffic Committee" to advise the City Council on traffic issues, with an initial focus on the review of the Smithtown Rd., Country Club Road, Yellowstone Trail and Lake Linden Drive corridors. A summary of the findings and improvement alternatives include:

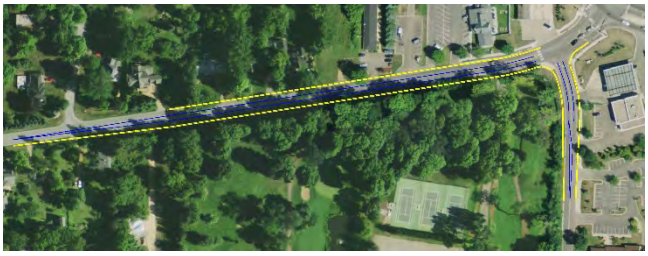


<u>Smithtown Road at County Club Road</u>
Dual Roundabout (Country Club Road and CSAH 19) - Includes reconstruction of both CSAH 19 and County Club Rd with two interconnected roundabouts. This improvement would involve significant design, right of way impacts and coordination with Hennepin County.

Signalized intersection coordinated with CSAH 19 - Includes a traffic signal at the intersection of Smithtown Road and Country Club Road with additional lanes on Country

Club Road and Smithtown Road. Signal coordination with CSAH 19 intersection would require review and approvals with Hennepin County.

Smithtown Road



Widen roadway from Wooden Cleek to Country Club Road - Includes addition of a left turn lane, a through/right turn lane and a separated bike/pedestrian path without addition of any traffic control at Country Club Road.

Country Club Road

Widen roadway approaching Smithtown Rd - Includes addition of a left turn lane and right turn lane without addition of any traffic control at Country Club Rd.

Widen add bike lanes with 25 mph Speed Limit - Includes widening Country Club Road to provide a through lane in each direction with a minimum 6 foot on road bike lanes with a 25mph speed limit. An off road bike trail was added adjacent to County Club Road from Smithtown Road to Lake Mary Trail as part of the Mattamy development.

Yellowstone Trail – County Club Rd to Lake Linden Drive

Stop Sign Enhancements - Change existing stop signs to Blinker Stop signs at County Club Road and Lake Linden Drive intersections

Improve Sight Lines - Cut back trees along corridor especially at intersections

Intersection Improvements - At the Lake Linden Drive intersection add a street light, a pedestrian crosswalk, and pedestrian crossing signs.

Yellowstone Trail – West of Lake Linden Drive

Improve Sight Lines - Trim trees and add additional curve signing at Seamans Drive (delineate curve).

Improve Sight Lines - Realign Yellowstone Trial at Seamans Drive to a 90 degree intersection with Blinker Stop signs.

Lake Linden Drive

Improve Sight Lines - Fix grade changes north of Cub development access for left turning vehicles.

Lake Linden Drive at Cub Entrance/TH 7/TH 41

Access Improvements - Close Cub development exit from the east at frontage road (Lake Linden Drive) maintaining inbound movement.

Roadway Improvement - Widen Lake Linden Drive eastbound to two approaching lanes (one right turn/through to westbound TH 7 and to TH 41 and one left turn to eastbound TH 7) and one exiting lane westbound.

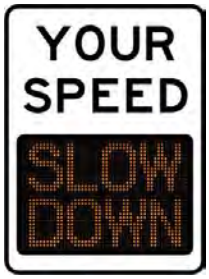
Roadway Realignment - Move the westbound right turn lane from the intersection at TH 41 to a free right with acceleration lane at approximately the existing Lake Linden Drive extended. (Movement would be removed from the TH 7/TH 41 intersection)

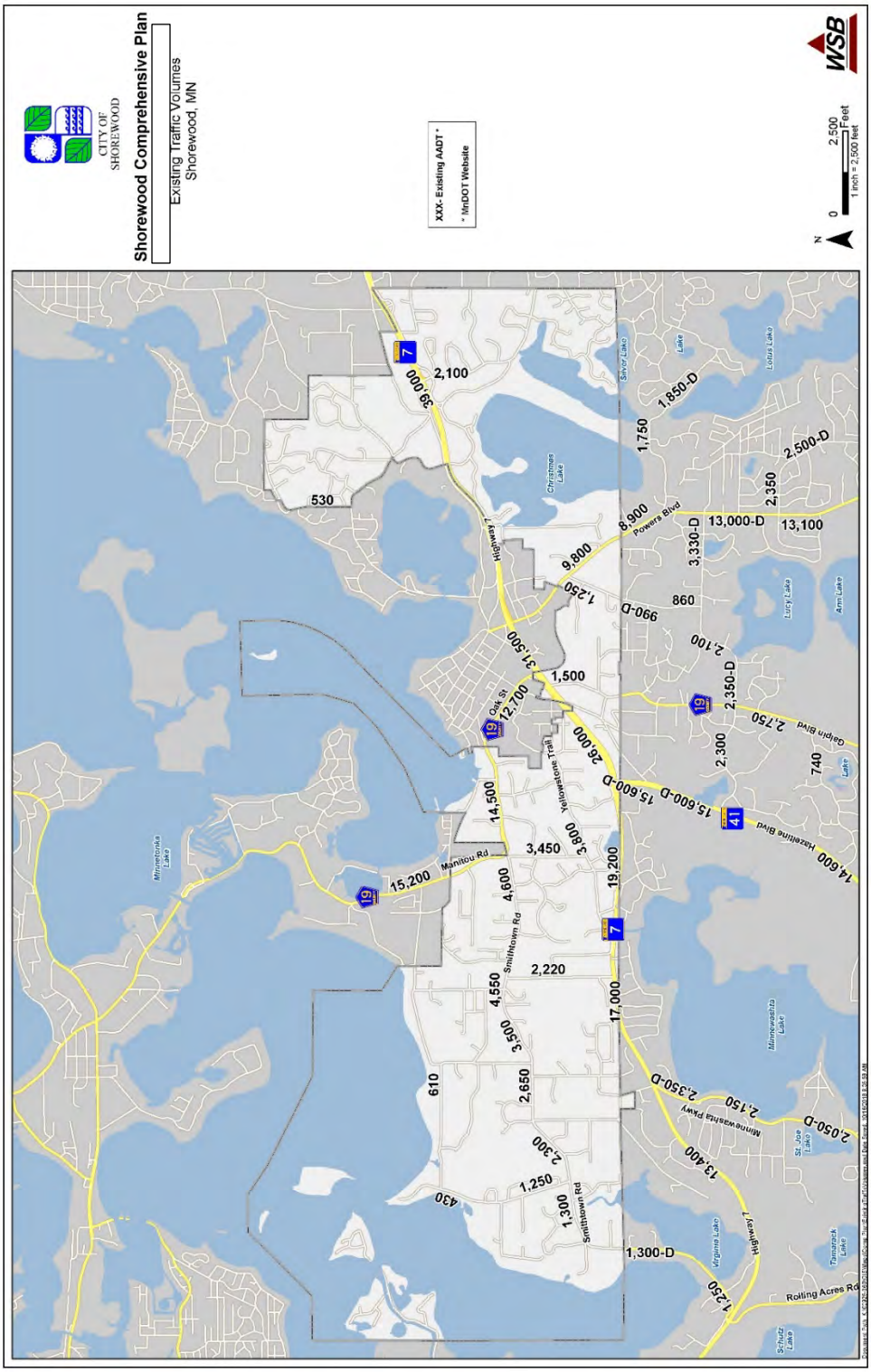
Miscellaneous

Technology Improvements - Remove use of Country Club Road, Yellowstone Trail and Lake Linden Drive from Google Maps directions.

Enforcement - Improve/Enhance enforcement of speeding and traffic control on area roadways.

Traffic Calming - Add Driver Feedback speed control signs at selected locations on Yellowstone Trail and Lake Linden Drive




Shorewood Comprehensive Plan
Existing Traffic Volumes
Shorewood, MN
CITY OF SHOREWOOD
XXX- Existing AADT *
* MnDOT Website
WSB
N
0
2,500 Feet
1 inch = 2,500 feet
39,000
2,100
530
1,850-D
1,750
2,500-D
2,350
8,900
Powers Blvd
13,000-D
13,100
3,330-D
9,800
1,250
860
990-D
2,100
2,350-D
1,500
12,700
Oak St
2,750
Galpin Blvd
26,000
2,300
740
15,600-D
14,500
3,800
3,450
Manitou Rd
15,200
19,200
14,600
Hazeltine Blvd
4,600
Smithtown Rd
2,220
4,550
17,000
3,500
610
2,650
2,350-D
2,150
2,050-D
Minnewashta Pkwy
13,400
2,300
1,250
430
1,300
Smithtown Rd
1,300-D
Highway 7
1,250
Rolling Acres Rd
Yellowstone Trail
Highway 7
Minnetonka Lake
Christmas Lake
Lucy Lake
Ann Lake
Minnewashta Lake
St. Joe Lake
Virginia Lake
Tanamack Lake
Schutz Lake

Access Management

The purpose of access management is to provide adequate access to adjacent land development while maintaining acceptable traffic flow on higher level roadways. Access management consists of carefully controlling the spacing and design of public street intersections and private access points to the public roadway system. Arterials, being designed for higher speed and longer distance trips, generally have reduced or restricted access while local streets can accommodate much greater access. Collector roadways fall in between arterials and local roadways regarding the amount of access that is permitted.

The agency with jurisdiction over a roadway sets access management guidelines. Access to TH 7 must meet MnDOT access management guidelines and is permitted subject to conditions. See the table on the following page for MnDOT Access Management Guidelines.

Hennepin County has established access management guidelines for urban areas (within the 20-year MUSA boundary) and rural areas (outside the MUSA boundary). Hennepin County access management guidelines are displayed in the table on page 148. Hennepin County requires permits for new driveway access to county roads and when land uses change at a site adjacent to a county road. Hennepin County typically requires that new access points meet its guidelines; however, the county can make exceptions to the guidelines with sufficient justification.

Driveway Access on City Streets (Collectors and Local Roads)

Driveways contribute to accidents and reduced traffic flow on major streets in municipalities because they add to the number of locations where vehicle conflicts can occur. Hence, it is desirable to have guidelines in place that:

- Limit the number of driveways to those that are actually needed to safely accommodate the traffic generated by each development.
- Provide adequate spacing between driveways so conflicts (and resulting accidents) between vehicles maneuvering at adjacent driveways do not arise.
- Ensure proper design to accommodate driveway traffic and minimize vehicle conflicts without significantly reducing roadway capacity.

Occasionally topographic features of a particular site or the needs of a particular land use may require special access features in a proposed development. The City may wish to withhold approval of these developments or site changes until a study has been made of the potential

impacts on the affected roadways and the adequacy of the proposed access design is determined. The City may require that the following steps be included in the traffic study for the site:

- Estimate site traffic generation and future non-site traffic.
- Determine directional distribution of trips.
- Estimate turning movements at driveway and the resulting level of service.
- Analyze current and future access requirements.
- Provide necessary geometric and operational improvements to safely accommodate the site's access requirements without negative impacts to traffic operation on the adjoining roadways

MnDOT Access Management Manual

Summary of Recommended Street Spacing for IRCs

Category	**Area or Facility Type**	**Typical Functional Class**	**Public Street Spacing**		**Signal Spacing**
			Primary Full-Movement Intersection	**Secondary Intersection**	
3	**Regional Corridors**				
3AF	Non-Interstate Freeway	Principal and Minor Arterials	Interchange Access Only (see Section 3.2.7 for interim spacing)		Interim
3A	Rural		1 mile	1/2 mile	See Section 3.2.5
3B	Urban/Urbanizing		1/2 mile	1/4 mile	1/2 mile
3C	Urban Core		300-660 feet, dependent upon block length		1/4 mile

Hennepin County Access Spacing Guidelines

Access Type	Movements Allowed	Rural Arterial			Urban and Urbanizing Arterial		
		Greater than 7,500 ADT	Less than 7,500 ADT	Collector	Undivided	Divided	Collector
Single family residential driveway or farm field entrance	Full movements allowed	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/8 mile (660 feet)	Not allowed	Not allowed	1/8 mile (660 feet)
	Limited access	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed	1/16 mile (330 feet)
Low Volume Driveway (less than or equal to 500 trips per day)	Full movements allowed	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/8 mile (660 feet)	Not allowed	Not allowed	1/8 mile (660 feet)
	Limited access	Not allowed	Not allowed	Not allowed	Not allowed	1/8 mile (660 feet)	1/16 mile (330 feet)
High Volume Driveway (greater than 500 trips per day)	Full movements allowed	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/8 mile (660 feet)
	Limited access	Not allowed	Not allowed	Not allowed	Not allowed	1/8 mile (660 feet)	Not allowed
Low Volume Public Street (less than or equal to 2,500 ADT)	Full movements allowed	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/8 mile (660 feet)
	Limited access	Not allowed	Not allowed	Not allowed	Not allowed	1/8 mile (660 feet)	Not allowed
High Volume Public Street (greater than 2,500 ADT)	Full movements allowed	1/2 mile (2,640 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)
	Limited access	Not allowed	Not allowed	Not allowed	Not allowed	1/8 mile (660 feet)	Not allowed

FUTURE ROADWAY SYSTEM

This section addresses future roadway improvement needs and roadway design guidelines.

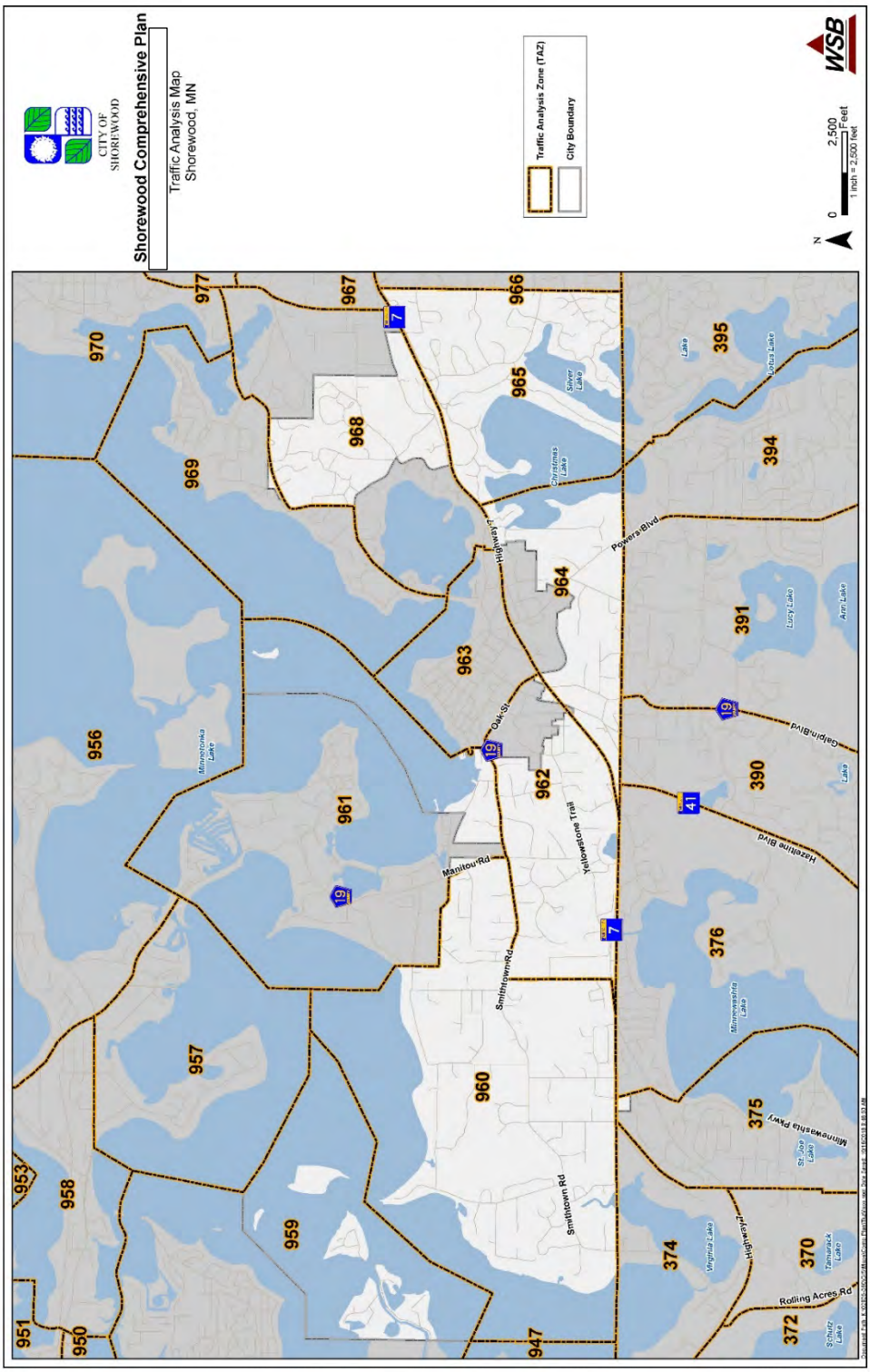
Roadway Capacity – Traffic Forecasting

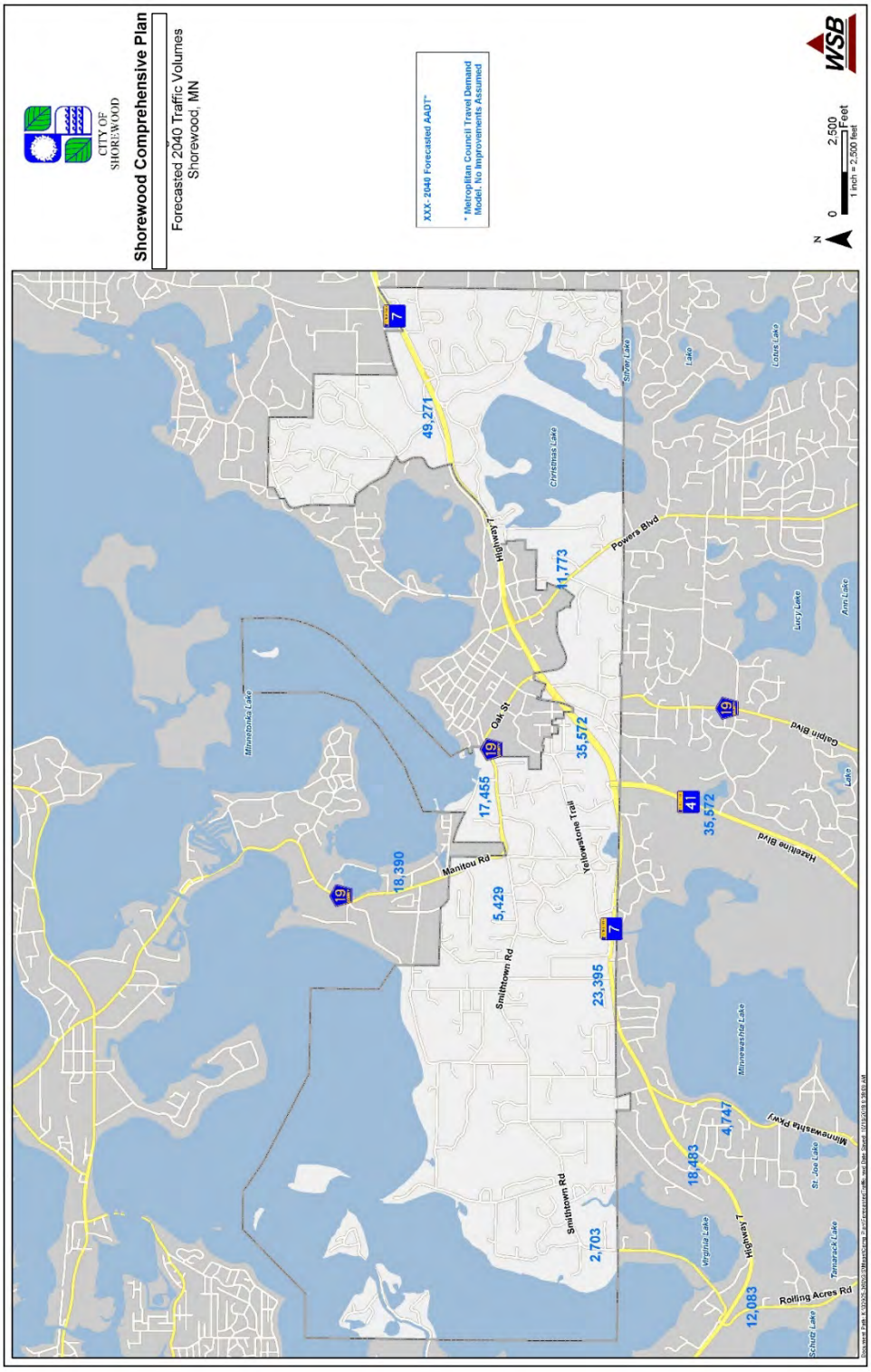
To determine future roadway capacity needs, year 2040 traffic forecasts were prepared using the Metropolitan Council travel demand model. The model was refined for application specifically for Shorewood. The 2040 projections were compared against the assumed 2040 roadway network to see where roadway segment capacity deficiencies may result. The 2040 roadway network assumed for this analysis is the same as the current roadway network, as the City and County Capital Improvement Programs (CIPs) do not include any projects that add significant capacity to the roadway network.

While the travel demand model is a valuable tool for identifying future traffic based on the proposed land use impacts, it is not meant for use in detailed traffic operations studies. For a more accurate representation of the transportation impacts from specific developments, detailed traffic studies should be conducted to determine the operational impacts on adjacent roadways and intersections.

A central concept of travel demand forecasting is the use of Transportation Analysis Zones (TAZs). Each forecast study area, in this case the City of Shorewood, is divided into a series of TAZs. Each TAZ has land use data which indicates trip generation and trip attraction including population, household, and employment data. The map on the next page displays Metropolitan Council TAZs within Shorewood.

The results of the Shorewood modeling process are summarized on page 151, which displays 2040 projected average daily traffic volumes. The table on page 152 provides the initial population, household, and employment allocations by TAZ assumed in the Metropolitan Council model.


Shorewood Comprehensive Plan
Traffic Analysis Map
Shorewood, MN
CITY OF SHOREWOOD
Traffic Analysis Zone (TAZ)
City Boundary
WSB
0
2,500
Feet
1 Inch = 2,500 feet
N
970
977
967
966
965
968
969
964
963
956
961
962
960
957
958
953
959
951
950
947
395
394
391
390
376
375
374
370
372
Powers Blvd
Highway 7
Manitou Rd
Smithtown Rd
Yellowstone Trail
Rolling Acres Rd
Gabrin Blvd
Hazeltine Blvd
Minnewashta Pkwy


CITY OF SHOREWOOD
Shorewood Comprehensive Plan
Forecasted 2040 Traffic Volumes
Shorewood, MN
XXX: 2040 Forecasted AADT*
* Metroplitan Council Travel Demand Model. No Improvements Assumed
WSB
N
0
2,500 Feet
1 inch = 2,500 feet
49,271
11,773
35,572
17,455
18,390
5,429
23,395
35,572
18,493
4,747
2,703
12,083
Powers Blvd
Oak St
Manitou Rd
Yellowstone Trail
Smithtown Rd
Smithtown Rd
Highway 7
Highway 7
Rolling Acres Rd
Hazeltine Blvd
Oxbow Blvd
Minnewashta Pkwy
Christmas Lake
Minnetonka Lake
Lucy Lake
Ann Lake
Minnewashta Lake
St. Joe Lake
Virginia Lake
Tamarack Lake
Schutz Lake

Metropolitan Council Current TAZ Data - City of Shorewood (Raw Data - Unadjusted)

	2010 Census			2020 Forecast			2030 Forecast			2040 Forecast		
TAZ	Population	Households	Employment	Population	Households	Employment	Population	Households	Employment	Population	Households	Employment
959	184	72	33	213	82	50	237	94	47	262	107	45
960	2920	1012	262	2797	1046	223	2796	1066	227	2791	1079	224
961	116	49	5	131	53	11	134	56	31	138	59	74
962	892	341	533	937	351	471	937	358	476	936	363	466
964	616	226	51	607	234	194	595	233	173	588	231	164
965	1688	580	142	1725	626	214	1835	680	252	1928	725	296
968	891	378	87	988	407	138	965	422	133	957	435	130
Totals	7307	2658	1113	7398	2799	1301	7499	2909	1339	7600	2999	1399

2040 Future Roadway Capacity Improvement Needs

To identify the need for potential future capacity improvements, Metropolitan Council 2040 forecasts were compared to planning-level roadway capacities for Principal and A-Minor Arterial Roadways. Planning-level roadway capacities used for this analysis were discussed previously. Based on this comparison, the only roadways that will be experiencing congestion are: TH 7 east of TH 41 and CSAH 19 through the City. All other local City roadways have adequate capacity to accommodate forecasted Metropolitan Council 2040 travel demands.

As noted previously, this methodology is a planning-level analysis and some traffic conditions do not fit the average daily traffic criteria (i.e., weekend travel, holiday travel, special events, etc.) and are likely to produce different levels of congestion. For detailed design consideration of access management, intersection traffic control and congestion mitigation, the city may require a traffic study providing detailed operational analysis for specific developments.

Roadway Design and Right of Way Standards

This Transportation Plan does not attempt to show locations of new local streets other than those that exist currently. Location of new local streets would be determined with the development. However, in reviewing development requests, the City should carefully consider the following recommendations:

1. In new subdivisions, as opposed to simple re-subdivisions, all lots should abut on a publicly dedicated street. Exceptions should only be approved by PUD or Variance, subject to the following criteria. While it is the City's policy to discourage private streets, in certain limited cases of lot re-subdivision, the City has adopted the policy that as many as three lots may be allowed access by private easement, subject to the following criteria:

    a. The land to be subdivided is not capable of being divided into more than three lots.
    b. Consideration is given to surrounding undeveloped property.
    c. A 50-foot easement and adequate turn-around must be provided.
    d. Legal provisions are made for the use and maintenance of the road.
    e. Where private roads are approved, protective covenants will be required stating that the City will not take over or maintain them.

f. The minimum width of the paved surface for private streets shall be 20 feet where adequate off-street parking is provided. Where the potential exists for on-street parking the minimum shall be 24 feet.

2. Subdivision circulation patterns should be examined from a broader perspective than just the individual site. In this regard, consideration must be given to surrounding undeveloped property as well as existing street patterns to ensure that the most efficient transportation network is achieved.

3. All streets should meet the minimum design standards established by the City. Existing standards such as minimum road width and length of cul-de-sac streets have been evaluated in terms of safety (emergency vehicles access) and street maintenance (snowplowing). The minimum right-of-way width for local streets is 50 feet and that the maximum length for cul-de-sac streets should be 700 feet.

4. In areas where existing streets have substandard right-of-way widths, the City shall acquire, to the extent possible, additional right-of-way through the subdivision process

For local streets the following criteria should be used to evaluate appropriate pavement widths:

<u>24-foot street</u>

- use in areas where zoning requires lots to be 20,000 square feet in area or larger
- on-street parking restricted to one side
- consider additional parking restrictions for through streets

<u>28-foot street</u>

- use in areas where zoning allows lots smaller than 20,000 square feet in area
- on-street parking restricted to one side

<u>32-foot street</u>

- use in areas where abutting properties are occupied or zoned for two-family or multiple-family dwellings or on through streets where on-street bicycle/pedestrian traffic is a factor
- if on-street parking is allowed on both sides of street, consider separated bicycle/pedestrian facilities

It should be noted that streets currently exist which are less than 24 feet in width. While substandard streets may be maintained at their current design, in no case shall streets be reconstructed at width less than 20 feet. Substandard streets shall be evaluated based on their use characteristics (i.e. land use intensity, on-street parking, bicycle/pedestrian traffic, etc.).

The City recognizes that it may not be feasible to reconstruct existing streets to the preceding standards. Specifically, existing streets may be rebuilt to their existing width (but not less than 20 feet). Curb and gutter will be installed where necessary for drainage purposes or where traffic dictates.

The City has completed a long-term pavement inventory which quantifies and prioritizes improvements and establishes a long-term strategy for financing those improvements. The plan includes a process for evaluating reconstruction projects, including early identification of project obstacles (i.e. lack of right-of-way) and early neighborhood involvement. In this regard, the City's standard Planning Process of strategy, inventory, policy planning, project planning, and implementation should be employed.

Based on the City's Subdivision Regulation minimum street right of way width has been established as follows:

- Arterial Street = 100 feet
- Collector Street = 60 feet
- Local Street = 50 feet

Traffic Calming

Traffic calming is an approach which is generally used to accomplish one or more of the following primary objectives:

- Reduce speeds on local streets.
- Reduce cut-through (non-local) traffic levels on local streets.
- Improve safety and usability for non-motorized traffic.

Under certain circumstances, traffic calming can be used on collector level roadways to reduce speeds, primarily at intersections. However, the focus is on "returning neighborhood streets to the neighborhood."

Traffic calming measures are best evaluated and implemented within the context of the overall transportation network serving the City. However, the types of measures identified below should be kept in mind as possible "tools in the toolbox:"

- Traffic circles/roundabouts

- Lateral lane shifts – roadway striping

- Curb extensions/neckdowns at intersections

- Raised crosswalks

- Diverters – close access to street

- Driver feed-back (dynamic) speed signs

Traffic calming measures should be reviewed on a case-by-case basis but should be evaluated within the context of the overall street network and from the perspective broad based policy objectives.

The City has developed and adopted an evaluation process to document processes and procedures for locating and installing traffic devices, to include: signage, pavement markings and traffic calming devices specifically within neighborhoods to address speeding, traffic control (stop signs) and cut through traffic issues.

EXISTING AND PLANNED NON-MOTORIZED TRANSPORTATION NETWORK

This section addresses network needs for walking and bicycling within the City of Shorewood. This section also addresses the needs of people using wheelchairs and assistive mobility devices such as mobility scooters, as they are considered pedestrians.

Enhancing the non-motorized elements of Shorewood's transportation system is a key goal in terms of improving transportation sustainability in the city and in the region. This approach gives residents an alternative to driving, supports transportation options for people who do not have consistent access to a personal vehicle, and encourages healthy activities and lifestyles

Complete streets are a process for developing a transportation network that best accommodates all modes of transportation. Planners and designers must systematically consider all modes when developing their long-range plans and short-term maintenance and construction projects. The City of Shorewood supports considering implementing a complete street process in roadway reconstruction projects where appropriate and feasible.

"**Complete Streets**" are **streets** that are designed, built and operated to enable safe access for all users, in that pedestrians, bicyclists, motorists and public transportation users of all ages and abilities are able to safely move along and across the street right-of-way.

Existing and Planned Non-Motorized Transportation Network

The non-motorized transportation network in Shorewood consists of sidewalks and multi-use paved trails. Sidewalks are located along selected local streets, providing connections to the trail system. Multi-use paved trail segments are also located along several key roadways. Existing Bicycle and Pedestrian Network facilities are illustrated on page 160**.**

Sidewalks and/or trails are recommended to be located adjacent to all new roadways within Shorewood to accommodate pedestrian and other non-motorized movement in a safe manner, separate from vehicular traffic. The City supports completing gaps in the system network when consistent with the City's trail plan as funding is available.

Planned Regional Non-Motorized Transportation Network

The Metropolitan Council 2040 TPP encourages the use of bicycles as a mode of transportation and establishes a Regional Bicycle Transportation Network (RBTN) to establish an integrated network of on street bikeways and off-road trails that complement each other to improve conditions for bicycle transportation at the regional level. The RBTN identifies Tier 1 and Tier 2 alignments where existing regional or other trails exist or where a specific alignment has been identified. The RBTN also identifies Tier 1 and Tier 2 corridors where specific alignments have not yet been defined.

Within Shorewood, the RBTN includes two Tier 1 RBTN corridors and one Tier 2 RBTN corridor. The Tier 1 corridors include: The Lake Minnetonka LRT Regional Trail running east/west through the City, linking the City of Hopkins and Carver Park Reserve, and; CSAH 19 north of Lake Minnetonka LRT Regional trail to the City of Tonka Bay. The Tier 2 corridor generally extends east-west along the TH 7 corridor and is consistent with planned improvements identified in Hennepin County's 2040 Bicycle Transportation Plan. With both of these corridors, existing land use patterns and major roadway barriers do not provide other opportunities for an efficient and successful bikeway route.

Non-Motorized Transportation Design Considerations

Design dimensions for sidewalks are recommended to be five-feet or wider, with a minimum of a four-foot wide boulevard between the sidewalk and the curb. Increased separation improves pedestrian comfort and provides space for street signs and snow storage.

Several types of bicycle facilities exist within the metropolitan area, with each having its own benefits and limitations depending on the surrounding environment and intended audience. Bicycle facilities include: off-street facilities, protected bikeways, buffered bicycle lanes, conventional bicycle lanes, bicycle boulevards, and wide paved shoulders.

Multi-use trails are recommended to be a minimum of eight-feet wide. Regional trails are recommended to be a minimum of ten-feet wide due to higher use and the design requirements to comply with federal funding. Trails must have a two-foot wide clear zone on either side to reduce hazards for bicyclists and provide a recovery zone if a bicyclist leaves the edge of the trail. The clear zone can be paved or turf surface. No signs, furnishings, trees, or other obstructions can be in the clear zone.

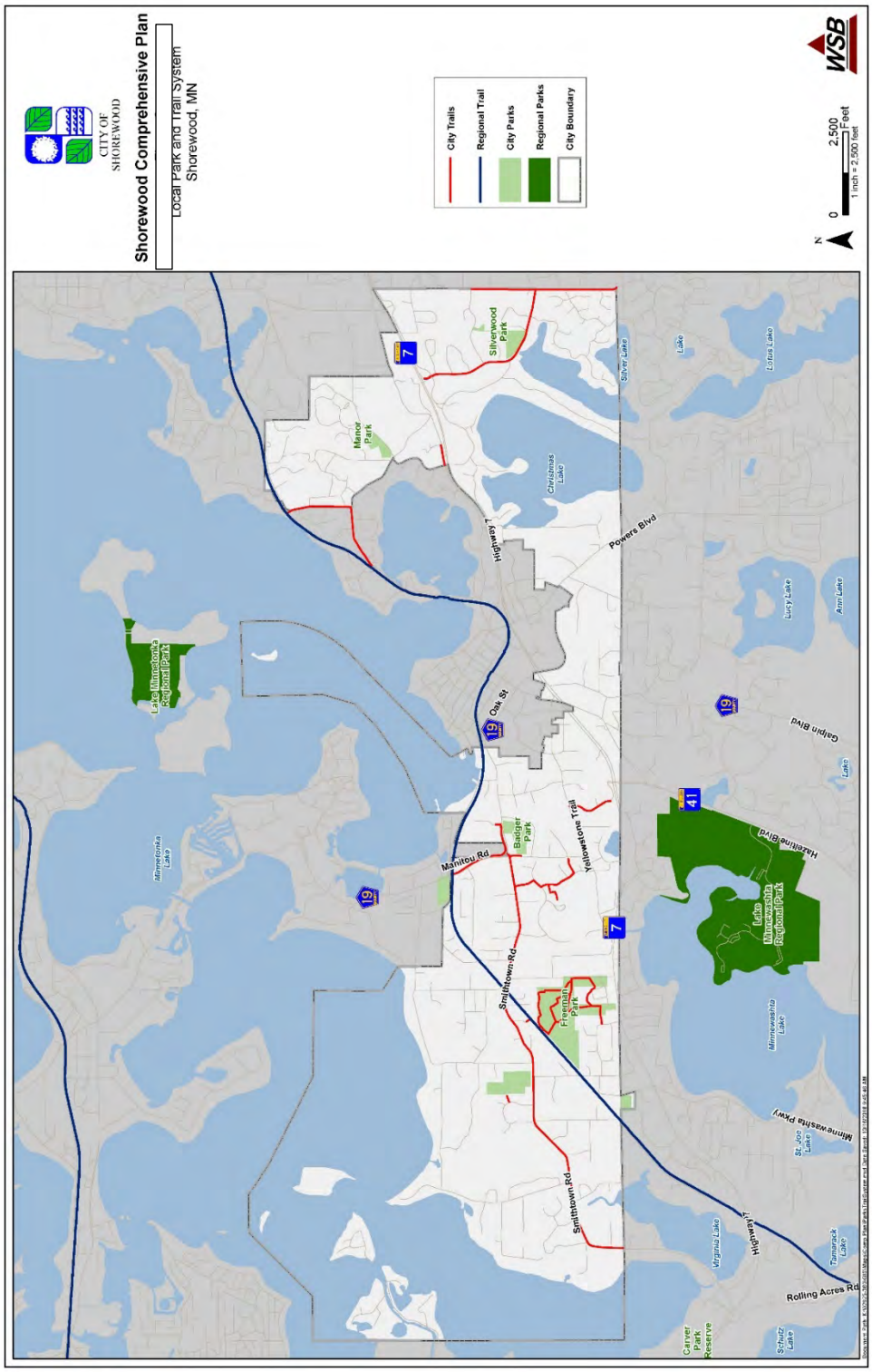
Paved shoulders should be a minimum of four-feet wide if intended for bicycle and pedestrian use. Four-foot wide shoulders are adequate on streets with traffic volumes below 1,000 vehicles per day. Six- to eight-foot shoulders are recommended when traffic volumes exceed 1,000 vehicles per day. A wider shoulder improves pedestrian and bicyclist safety and comfort when vehicle traffic speeds and volumes are higher.

As non-motorized facilities are planned and designed, the City should consult additional planning and design resources, including:

- Hennepin County Bicycle Transportation Plan
- Hennepin County Pedestrian Plan
- Hennepin County Bottineau LRT/Metro Blue Line Extension Bicycle Study
- MnDOT Bikeway Facility Design Manual
- MnDOT Complete Streets Implementation Resource Guide
- Minnesota Manual on Uniform Traffic Control Devices
- Guide for the Development of Bicycle Facilities – American Association of State Highway and Transportation Officials
- Guide for the Planning, Design, and Operation of Pedestrian Facilities – American Association of State Highway and Transportation Officials
- Public Rights of Way Accessibility Guidelines (PROWAG) – US Access Board

Accessibility is a very important consideration for non-motorized design. All new pedestrian and bicycle facilities must meet the ADA (Americans with Disabilities Act) accessibility guidelines established in PROWAG. The guidelines in PROWAG address the design needs of people with physical and/or visual impairments. Accessibility will become increasingly important over the next 20 years due to demographic changes. Baby boomers are aging and the population over age 65 is increasing. People over 65 are more likely to have physical and/or visual impairments that affect their ability to get around. To address accessibility issues, it is recommended that the City

develop and implement an ADA transition plan to bring sidewalks, trails, and intersections into compliance with ADA.


Shorewood Comprehensive Plan
Local Park and Trail System
Shorewood, MN
CITY OF SHOREWOOD
City Trails
Regional Trail
City Parks
Regional Parks
City Boundary
N
0
2,500
Feet
1 inch = 2,500 feet
WSB
Silverwood Park
Manor Park
Christmas Lake
Silver Lake
Lotus Lake
Highway 7
Powers Blvd
Lake Minnetonka Regional Park
Oak St
Lucy Lake
Ann Lake
Galpin Blvd
Minnetonka Lake
Manitou Rd
Badger Park
Yellowstone Trail
Hazeltine Blvd
Lake Minnewashta Regional Park
Freeman Park
Smithtown Rd
Minnewashta Lake
Minnewashta Pkwy
St. Joe Lake
Highway 7
Virginia Lake
Tamarack Lake
Rolling Acres Rd
Carver Park Reserve
Schultz Lake

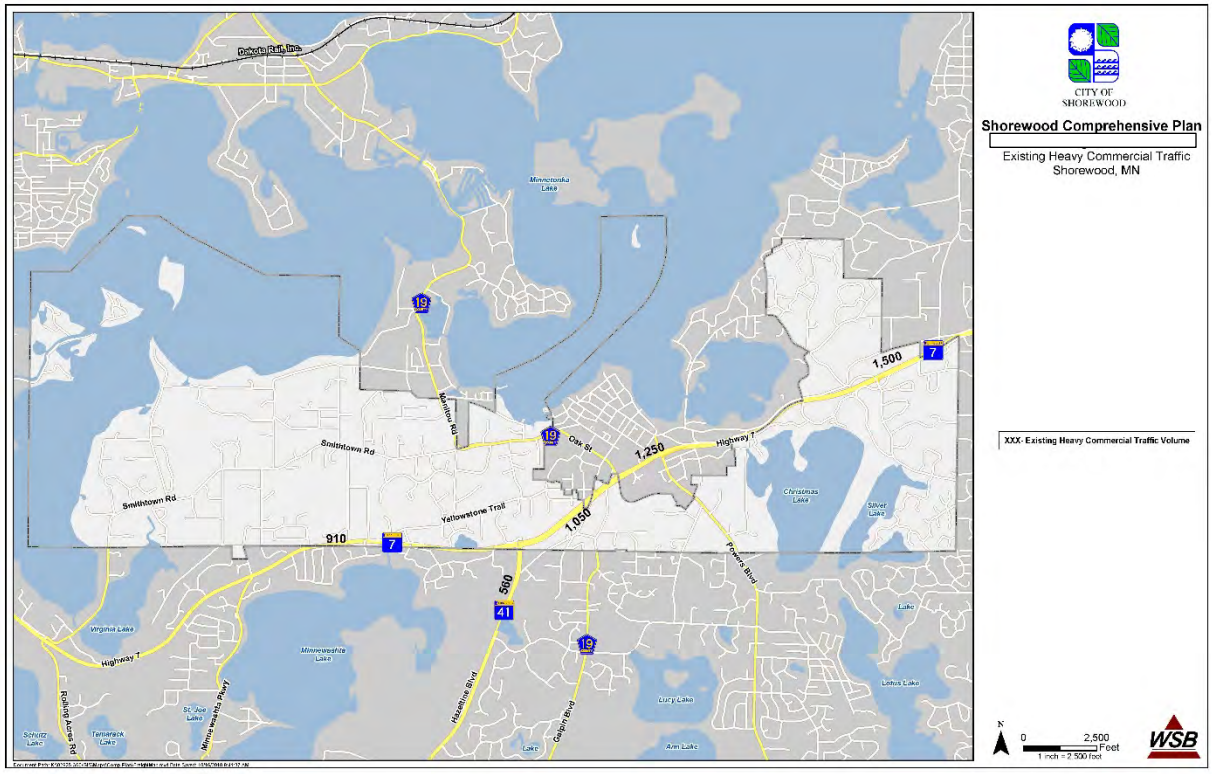
FREIGHT

Freight transportation in Shorewood is primarily served by arterial roadways. The graphic below shows the City's freight system and potential freight generators.

There are no large freight traffic generators or intermodal facilities within the city. Most truck is passing through Shorewood on trips to, from, and through the Twin Cities. Freight traffic generators within Shorewood are located along the TH 7. Freight generators include concentrations of commercial land uses along TH 7.

The graphic below also shows Heavy Commercial Average Annual Daily Traffic (HCAADT) within the City of Shorewood. TH 7 carries a number of heavy commercial vehicles (1250/1500 east of TH 41 and 910 west of TH 41).

The Metropolitan Council 2040 TPP acknowledges several freight challenges that impact the city and the region. Freight traffic is expected to increase and place pressure on the region's highway and rail systems. While land use adjacent to the city's primary freight routes is generally compatible with these uses (industrial, commercial, etc.), there are several areas of existing and planned single-family residential housing or mixed use that lie adjacent to the arterial roadways.



TRANSIT

Existing Transit Service

The City of Shorewood is located within Transit Market Areas 4 and 5 in the Transit Capital Levy District, as shown in the 2040 Transportation Policy Plan (TPP). Dial-a-ride services from Metro Mobility and Transit Link are both available in Shorewood.

Scheduled transit service for Shorewood residents is currently provided by Metro Transit (a division of the Metropolitan Council). The table below outlines the existing transit service in the City of Shorewood.

Existing Transit Serving Shorewood

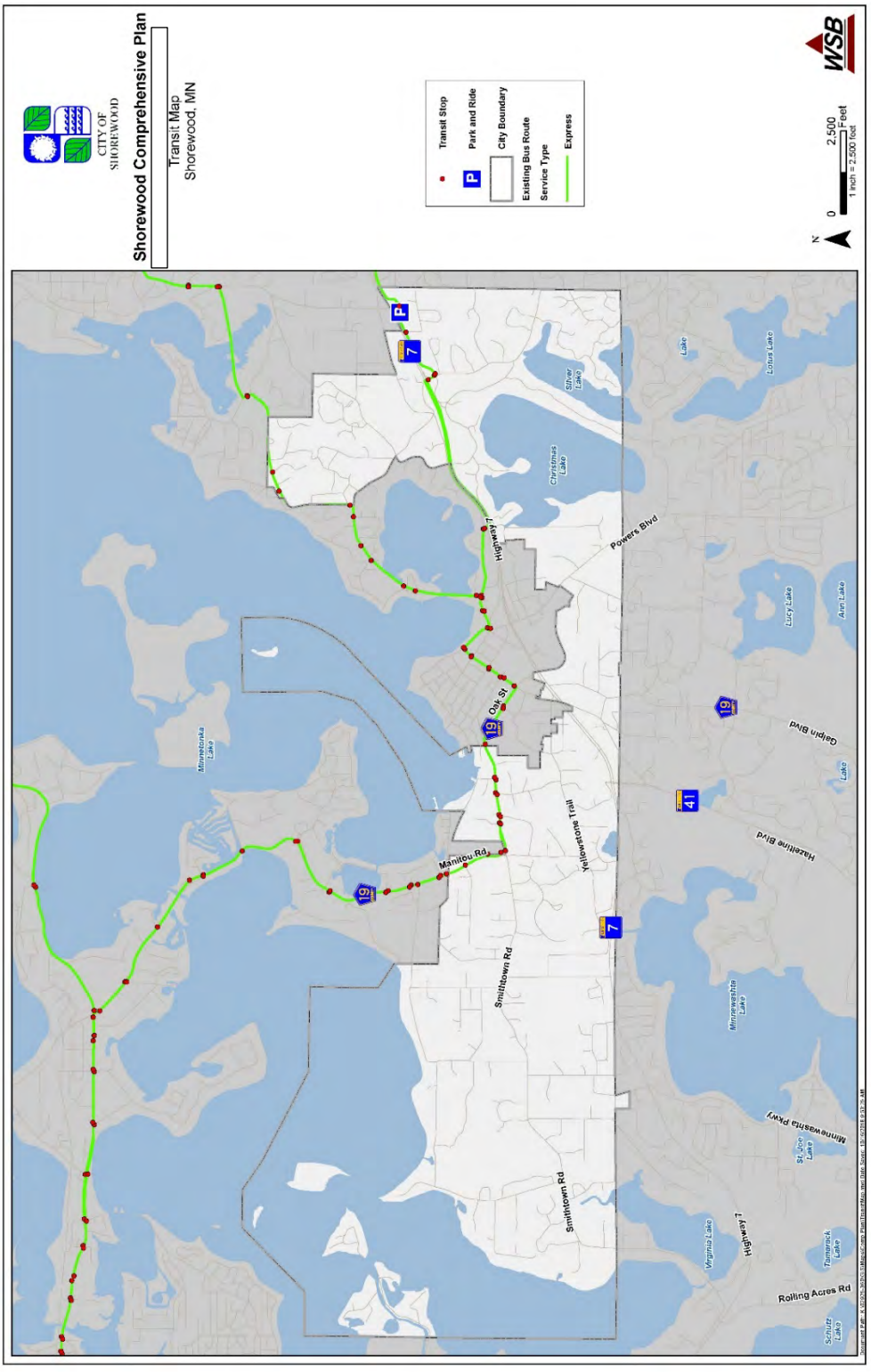
Route Number	Service Route/Area	Service Description
670	Minnepolis, Hopkins, Minnetonka and Excelsior	Express
671	Minneapolis, Tonka Bay, Excelsior, Greenwod, Deephaven and Minnetonka	Express

One Park and Ride facility is located within the City of Shorewood. The facility is located off of TH 7 on Denton Avenue and Vine Hill Road. shows the existing Transit Facilities in and adjacent to the City of Shorewood.

Transitway Service

LRT projects are very capital intensive because they require dedicated right-of-way with rail and electric power installations, and the cars themselves are expensive. Due to the costs involved, LRT corridors generally need to be on a regional scale to justify the necessary investments. Therefore, the planning and implementation of LRT systems are primarily the responsibility of the Metropolitan Council and the metro-area counties. Because of their size, the cities of Minneapolis and St. Paul have also been very involved in the planning process for certain corridors.

The TPP's transit investment plan does not show any transitway investments planned for the City of Shorewood in the current revenue scenario. The transitway corridor which has the most relevance for City of Shorewood is the Green Line Extension (Southwest Light Rail Corridor). This corridor is a 15-mile route between Eden Prairie and downtown Minneapolis that passes through Minnetonka, Hopkins and St. Louis Park approximately 7 miles from the City of Shorewood.


Shorewood Comprehensive Plan
Transit Map
Shorewood, MN
CITY OF SHOREWOOD
WSB
Transit Stop
Park and Ride
City Boundary
Existing Bus Route
Service Type
Express
0
2,500
Feet
1 inch = 2,500 feet
N
Powers Blvd
Oak St
Manitou Rd
Yellowstone Trail
Smithtown Rd
Gaylin Blvd
Hazeltine Blvd
Minnewashta Pkwy
Rolling Acres Rd
Minnetonka Lake
Christmas Lake
Lucy Lake
Virginia Lake
Tamarack Lake
Schultz Lake
St Joe Lake

AVIATION

Cities are responsible for airspace protection to reduce hazards to air travel within its part of the region. There are no existing or planned aviation facilities within the City of Shorewood. The closest airport to Shorewood is the Flying Cloud Airport; one of seven publicly owned airports in the Metropolitan Airports Commission (MAC) system. The airport's role in the MAC system is to serve as a reliever to the Minneapolis-St. Paul International Airport, and serve personal, recreational, and some business aviation users in the northwest metropolitan area. MAC is updating the airport's long-term comprehensive plan to align with existing and forecasted activity levels. Due to the distance from Shorewood, no existing or future impacts from the airport are forecasted that may otherwise affect the City of Shorewood.

Given the distance to the nearest airports, there are no radio beacons or other air navigation aids located in off-airport locations in Shorewood. The city is not within the area of influence of any of the airports identified above, and is therefore not subject to associated land use restrictions.

Any proposed structure over 200 feet shall require notification to the Federal Aviation Administration (FAA) at least 30 days prior to construction, using FAA Form 7460-1 "Notice of Proposed Construction or Alteration," as defined under code of federal regulations CFR - Part 77. The City's zoning code limits structure height; therefore, it is unlikely that any structures in the city will require FAA notification. The City will support, as necessary, compliance with FAA and Metropolitan Council requirements concerning visual and/or electronic interference with airport communications, air traffic operations, and other aviation land-use capability guidelines. There are currently no heliports in Shorewood any known plans to construct one.

Seaplane and ultra-light operations are allowed on the surface water of Lake Minnetonka. Seaplane traffic in Shorewood has not been identified as a problem at the present time. However, as use of Lake Minnetonka increases, the potential for problems to arise also increases. This use of the lake should be monitored and at such time it is determined to be a problem, a regional study on the topic should be conducted to determine if there is a need for a specialized area of the lake to handle seaplane operations. This study should be a joint effort between all lake communities and may best be handled by the Lake Minnetonka Conservation District.

CONCLUSION AND NEXT STEPS

The purpose of this Transportation Plan is to set a multimodal transportation vision for the City of Shorewood through the year 2040. Goals and specific strategies have been identified

collaboratively by the City, Hennepin County, MnDOT and citizens within the framework of Metropolitan Council requirements. The vision and associated strategies outlined in this plan were established by considering existing and forecasted conditions, City of Shorewood priorities, regional travel patterns and a variety of other factors.

As the owners of the transportation network in the City of Shorewood (i.e. City of Shorewood, Hennepin County and MnDOT) advance their respective Capital Improvement Programs (CIPs), this plan is intended to serve as an important resource and reference in establishing priorities and advancing transportation projects for implementation. Advancing these projects from a planning to implementation phase will require collaborative discussions among the City, County, MnDOT, adjacent communities, Metropolitan Council, residents and others to conduct traffic studies, finalize designs, preserve rights-of-way, obtain environmental clearances and leverage necessary financial resources. The following are key objectives the City should consider with this transportation plan:

1. Revise the existing roadway Functional Classification system as follows:
    a. Smithtown Road: CASH 19 to City Limits – Major Collector to "Other" Arterial
    b. Vine Hill Road: TH 7 to City Limits - Local Street to Major Collector
    c. Old Market Road: TH 7 to Vine Hill Road – Local Street to Major Collector
    d. Eureka Road: Smithtown Road to TH 7 – Local Street to Major Collector
    e. Delton Avenue: City of Minnetonka Boarder to Old Market Road – Local Street to Major Collector

2. The only roadway that is approaching capacity is CSAH 19 north of Smithtown Road. All other Arterials and Major Collectors in Shorewood currently exhibit traffic volumes below or within the range of the planning level capacity thresholds. The City should work with Hennepin County on future design considerations for CSAH 19.

3. As development or re-development continues, the City should determine detailed design consideration of access management, intersection traffic control and congestion mitigation, the City should require a traffic study providing detailed operational analysis be completed.

4. The City should continue to work with MnDOT, Hennepin County and adjacent Cities in reviewing and improving traffic flow on TH 7. Specifically at Minnewashta Parkway/Church Road and at Vine Hill Road.

5. The conclusions and recommendations identified by the "Smithtown Rd., Country Club Road, Yellowstone Trail and Lake Linden Drive" Traffic Committee should continue to be implemented.

6. Roadway design and right of way standards will follow the requirements outlined in the City's Subdivision Ordinance.

7. Traffic calming can be used on some local and collector level roadways to reduce speeds, primarily at intersections. Traffic calming measures should be reviewed on a case-by-case basis but should be evaluated within the context of the overall street network and from the perspective broad based policy objectives.

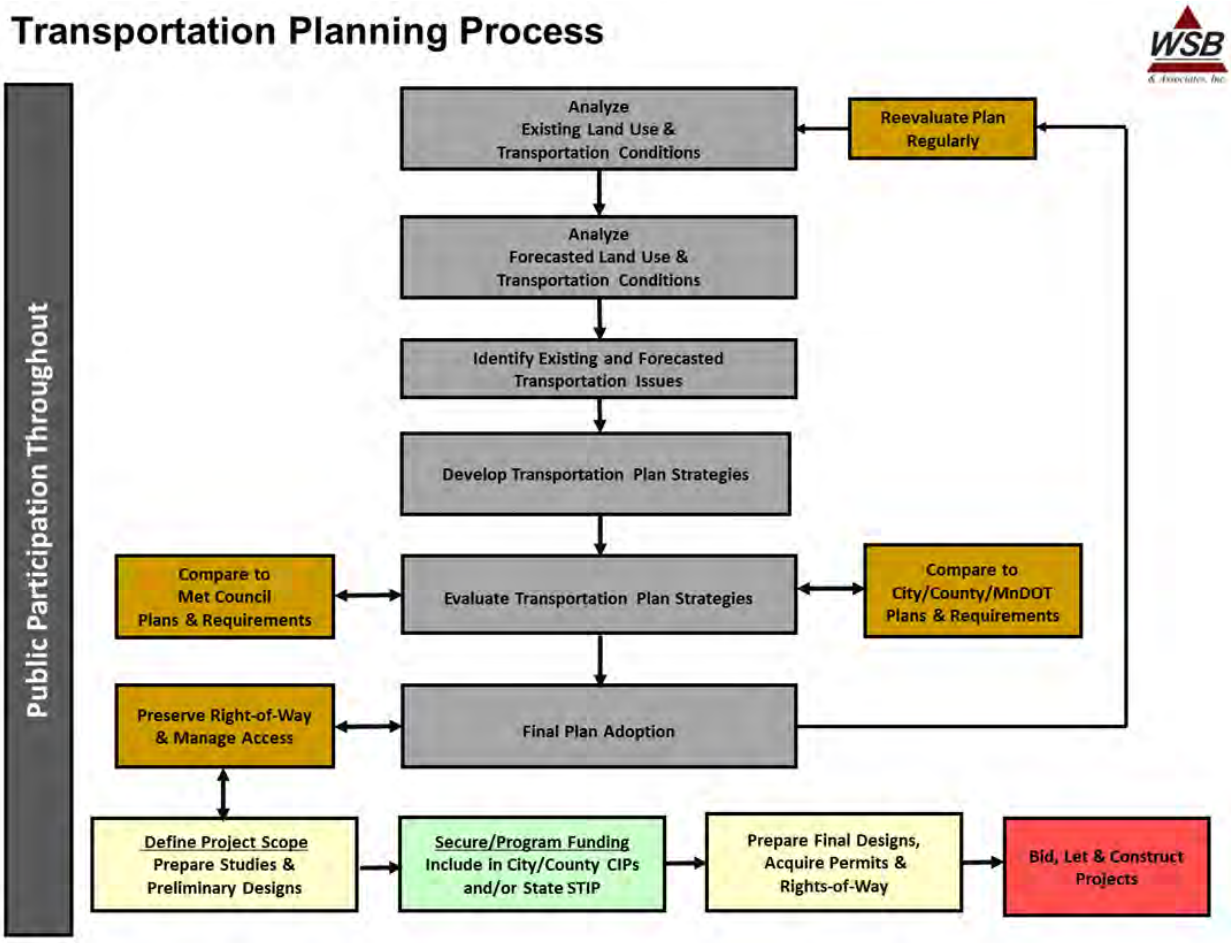
8. The City has developed and adopted an evaluation process to document processes and procedures for locating and installing traffic devices, to include: signage, pavement markings and traffic calming devices specifically within neighborhoods to address speeding, traffic control (stop signs) and cut through traffic issues.

9. The City of Shorewood supports considering implementing a complete street process in roadway reconstruction projects where appropriate and feasible.

10. Sidewalks and/or trails should to be located adjacent to all new roadways within Shorewood to accommodate pedestrian and other non-motorized movement in a safe manner, separate from vehicular traffic when consistent with the City's trail plan as funding is available.

11. Design and construction for sidewalks and trails will follow City, Hennepin County and MnDOT standards.

The figure below outlines the entire planning and project development process required for transportation projects from concept plans to construction implementation.


Transportation Planning Process
WSB & Associates, Inc.
Public Participation Throughout
Analyze Existing Land Use & Transportation Conditions
Reevaluate Plan Regularly
Analyze Forecasted Land Use & Transportation Conditions
Identify Existing and Forecasted Transportation Issues
Develop Transportation Plan Strategies
Compare to Met Council Plans & Requirements
Evaluate Transportation Plan Strategies
Compare to City/County/MnDOT Plans & Requirements
Preserve Right-of-Way & Manage Access
Final Plan Adoption
Define Project Scope
Prepare Studies & Preliminary Designs
Secure/Program Funding
Include in City/County CIPs and/or State STIP
Prepare Final Designs, Acquire Permits & Rights-of-Way
Bid, Let & Construct Projects

INTRODUCTION

Purpose

The Water Plan describes the City's existing water distribution system and water demand, projects future water demand through the year 2040, and proposes infrastructure improvements to accommodate that demand. This Plan has been prepared according to the guidelines established by the Metropolitan Council and the Minnesota Department of Natural Resources (DNR). The Water Supply Plan (included here by reference) follows the template provided by the DNR, while this Comprehensive Water Plan expands upon the template and provides further information for City and Metropolitan Council planning.

This Comprehensive Water Supply Plan has been prepared according to the guidelines established by the Metropolitan Council and the Minnesota Department of Natural Resources (DNR) per Minnesota Statute 473.859, which requires water supply plans to be completed by all local units of government in the seven-county Metropolitan Area. The Shorewood Water Supply Plan is included by reference and conforms to the template provided by the DNR, while this Comprehensive Plan expands upon the template and provides further information for City and Metropolitan Council planning.

Background

The scope of this study includes the population projections from the City's overall Comprehensive Plan, consistent with the Metropolitan Council Environmental Services (MCES) City System Statement, to project water system demands for the City of Shorewood through the year 2040. The 2040 service area was defined based on the Land Use Plan prepared for the City's 2040 Comprehensive Plan. Existing and future water demands were calculated for the City based on the historical data and the Thrive MSP 2040 Plan population projections.

Data Available

The following sources of information were used to prepare this report:

- Water Supply Plan for the City of Shorewood, prepared by WSB & Associates, Inc.
- MCES System Statement for the City of Shorewood
- Water usage data as reported by the City to the DNR's Minnesota Permitting and Reporting System (MPARS)

- Wellhead Protection Plan for the City of ShorewoodWater Use Categories and Definitions

General water use categories and definitions used in this report, as defined by the Department of Natural Resources, are as follows:

- ***Residential*** uses consist of water being used for normal household purposes, such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens.
- ***Institutional*** uses consist of those for hospitals, nursing homes, day care centers, and other facilities that use water for essential domestic requirements. This includes public facilities and public metered uses. Institutional water-use records are typically maintained for emergency planning and allocation purposes.
- ***Commercial*** uses consist of water used by motels, hotels, restaurants, office buildings, and commercial facilities.
- ***Industrial*** uses consist of water used for thermoelectric power (electric utility generation) and other industrial uses such as steel, chemical and allied products, food processing, paper and allied products, mining, and petroleum refining.
- ***Wholesale deliveries*** consist of bulk water sales to other public water suppliers.
- ***Unaccounted water*** is the volume of water withdrawn from all sources minus the volume sold.
- ***Non-essential water uses*** as defined by Minnesota Statutes 103G.291, include lawn sprinkling, vehicle washing, golf course and park irrigation, and other non-essential uses. Some of the above categories also include non-essential uses of water.

Community Engagement

The City of Shorewood has implemented regulation to reduce demand and improve efficiency in its water system. During May 1st through September 30th each year, residents can water lawns only before 11:00 a.m. and after 4:30 p.m. per Shorewood City Code, Chapter 9: Section 903.12 Subd. 2. This regulation helps prevent wasteful irrigation and reduces summer season water demands. A critical water deficiency ordinance has also been established in Shorewood City Code, Chapter 9: Section 903.12 Subd. 1.

The Minnehaha Creek Watershed District (MCWD) provides education about rain gardens and native and drought tolerant landscaping and has a cost share program to encourage clean-water landscaping.

The City has implemented the following education and outreach programs:

- Consumer Confidence Reports prepared annually
- Shore Report, the City newsletter, prepared each month
- Information available at utility and public buildings and on the City website (http://www.ci.shorewood.mn.us/)

Wellhead Protection

Long-term preventative programs and measures for the City's existing water system will help reduce the risk of emergency situations. The City of Shorewood has a number of programs to help reduce these risks. This includes a Wellhead Protection Plan (WHPP) that was adopted in December of 2015 and is due to be updated in 2025. It lists the following goals:

1. Maintain or improve the current level of water quality so that the municipal water supply will continue to meet or exceed all applicable state and federal water quality standards.
2. Continue to supply sufficient water quantity for system users and emergency needs.
3. Provide and promote activities that protect the source water aquifer that provides water to the municipal system. This will include increased public awareness of the Wellhead and Source Water Protection Program and groundwater-related issues as well as management of the identified potential contaminant sources and conveyance mechanisms within the Drinking Water Supply Management Area (DWSMA).
4. Continue to collect data to support future wellhead and source water protection efforts.

In order to achieve these objectives, the WHPP lists the following measures to be implemented:

- Well Management
    - Promote proper sealing of abandoned, unused, unmaintained, or damaged wells
    - Identify remaining unlocated wells within the DWSMA
    - Educate the public about proper well management
    - Identify new high-capacity wells within the DWSMA
    - Continue to monitor the water quality from the City's wells
    - Update the Inner Wellhead Management Zone (IWMZ) surveys
    - Monitor and work to minimize impacts within the IWMZ area
- Public Education
    - Foster public support for and understanding for the WHPP
    - Develop an understanding for the location of the gas and oil pipelines within the DWSMA

- Storage Tank Management
  - Educate owners of the nine (9) storage tanks greater than 1,100 gallons within the moderate vulnerability area of the DWSMA on the importance of spill prevention
- Data Collection
  - Continue to collect and maintain local geologic and hydrogeologic data
  - Evaluate the water quality monitoring strategy and results
  - Maintain up to date information about wells and potential contaminant sources within the DWSMA
- Land Use Planning and Zoning
  - Consider the location of the DWSMA during land use planning and zoning
- Implementation
  - Track and report WHPP activities
- Evaluation
  - Evaluate the WHPP

GROWTH AND DEMAND PROJECTIONS

The City of Shorewood is projected to experience gradual growth and development. The City's projected population and water demands are listed in the following table. The population projections were calculated using the Metropolitan Council estimated rate of growth through the year 2040 for the City of Shorewood and the known population and population served values from 2016. As of 2016, any new population growth will be serviced by the municipal water system. The total per capita water demand of 109 gallons per capita per day was calculated from the average 2012-2016 demand. A peaking factor of 2.6, which is the City's average 2012-2016 peaking factor, was applied to calculate maximum day demand. The maximum day demand is expected to reach 1.165 million gallons per day by the year 2040.

It is important to note that there are several connections located in the south-central part of Shorewood that receive water from the Cities of Chanhassen, Excelsior, and Tonka Bay. The City estimates that 151 persons are served by intercommunity connections. Given the peaking factor and the total per capita water demand used in this study, the connections supplied by neighboring communities require an estimated maximum day demand of 0.043 million gallons per day. This maximum demand flow was removed from the City-wide maximum demand displayed in the table on the following page, prior to distributing total maximum demand between the East and West systems based on historical water pumping data.

The expected increase in demand through the year 2040 was assigned to each system based on the location of expected development or redevelopment.

Projected Annual Water Demand

Year	Projected Population Served	Projected Per Capita Water Demand (GPCD)	Projected Average Demand (MGD)	Total Projected Maximum Demand (MGD)	East System Projected Maximum Demand (MGD)	West System Projected Maximum Demand (MGD)
2017	3,880	109	0.423	1.100	0.591	0.465
2018	3,890	109	0.424	1.102	0.592	0.468
2019	3,900	109	0.425	1.105	0.592	0.471
2020	3,910	109	0.426	1.108	0.592	0.473
2021	3,920	109	0.427	1.111	0.592	0.476
2022	3,930	109	0.428	1.114	0.592	0.479
2023	3,940	109	0.429	1.117	0.592	0.481
2024	3,950	109	0.431	1.119	0.593	0.484
2025	3,960	109	0.432	1.122	0.593	0.487
2030	4,010	109	0.437	1.136	0.594	0.500
2040	4,110	109	0.448	1.165	0.596	0.

GPCD = gallons per capita per day **MGD** = million gallons per day

PROPOSED IMPROVEMENTS

The City of Shorewood's water system will require maintenance and trunk watermain expansions through the year 2040. The next table lists the improvements proposed, along with estimated dates of implementation and costs, in order to maintain the City's system. The City will consider expanding its water distribution system where feasible and where additional looping will improve distribution.

Proposed Capital Improvements

Year	Improvement	Estimated Cost*
2018	Boulder Bridge Building	$60,000
	Boulder Bridge Well Motor Control Center	$200,000
	Well House Water Meters	$6,000
	SE Area Well Residing	$45,000
	Water Mains	$750,000
2019	Amesbury Well Anti-Corrosion and Pipe Coatings	$30,000
	Well House Water Meters	$12,000
	Boulder Bridge Dehumidifier	$5,000
2020	Boulder Bridge Well Motor	$45,000
	Boulder Bridge Anti Corrosion and Pipe Coatings	$30,000
	Well House Water Meters	$6,000

**Values listed include both direct and indirect costs.*

Proposed Distribution

To provide service to future and existing developments, the City will need to expand trunk watermain in several areas. Areas in need of expansion through the year 2031 were identified in the 2012 Water Distribution Plan Update, included with this report by reference. The main goal of the 2012 Water Distribution Plan was to provide recommendations for the City's water system expansion including a Capital Improvement Plan cost forecast for watermain segments, alternative construction methods to reduce overall project costs, policy alternatives to encourage residents to connect to the City's distribution system, and alternatives for funding the expansion of the system. The plan projected a $26 million investment to expand the water distribution network over a twenty-year time span. The majority of the plan focused on the expansion of the system by proposing the addition of lateral watermain (8-inch diameter and smaller) to provide general distribution of water to properties, with a few trunk mains (10-inch diameter and greater) to provide water distribution to networks of lateral watermain.

The City of Shorewood anticipates expansion of the water distribution system by neighborhood request and where needed to provide looping for the existing system.

INTRODUCTION

The Sanitary Sewer Plan projects future wastewater flows, and outlines the timing and sequence of future improvements to accommodate those flows. It also allows the City and the Metropolitan Council to build and improve their sanitary sewer collection and treatment systems so that development can occur in the most efficient and cost-effective manner.

The City of Shorewood's Sanitary Sewer Plan was developed to align with the Metropolitan Council's Thrive MSP 2040 Water Resources Policy Plan. The Thrive MSP 2040 Plan was approved in May 2015 and outlines regional goals for the wastewater system, including environmental sustainability, water reuse, and water conservation. Additionally, the Thrive MSP 2040 Plan includes population, household, and employment projections, and projected wastewater flows.

Despite projected population increases, the Metropolitan Council forecasts that sanitary sewer flows from the City of Shorewood will decrease by approximately 5% by the year 2040 due to decreasing water use trends. This Sanitary Sewer Plan outlines the locations in which the Metropolitan Council can expect to see changes in wastewater flows, allowing the Council to determine if capacity upgrades will be required at regional wastewater treatment plants and interceptors. This plan also serves as a guiding document for City infrastructure improvements and expansion.

FORECASTS

Population

The Metropolitan Council publishes population and sewer usage forecasts for each city in the Metropolitan Area. These forecasts help cities prepare infrastructure for growth and promote continued maintenance of municipal infrastructure. The forecast data in the Population Projections table is from the Metropolitan Council's Local Planning Handbook Community Page for Shorewood. Nearly the entire population of Shorewood is served by the public sanitary sewer system, save the few Individual Sewage Treatment Systems (ISTS) described in Chapter 3. For the purposes of this analysis, the City assumed that the entire population is sewered.

Population Projections

	Total (Entirely Sewered)		
Year	Population	Households	Employment
2010	7,307	2,658	1,113
2020	7,400	2,800	1,300
2030	7,500	2,910	1,340
2040	7,600	3,000	1,400

Population, households, and employment are all projected to increase gradually over the next few decades. The population of the City is projected to increase by approximately three percent between now and the year 2040. The following table shows estimates of which MCES Meters and Interceptors can expect to see growth and an increase in sanitary flow, based on existing land use and potential for development/redevelopment.

Household and Employment Projections by MCES Meter & Interceptor

		2020		2030		2040	
Meter	Interceptor	Households	Employment	Households	Employment	Households	Employment
M412	7016	157	322	157	330	157	339
M415	7017	1,144	275	1,162	284	1,178	301
	7017-1	271	589	339	592	388	601
	7017-2	117	34	122	41	127	54
	7017-3	223	11	228	22	233	33
	7017-4	52	0	53	0	54	0
M416	6-GW-649	94	0	95	0	97	0
M417	7017	41	46	43	48	45	49
M420	7017	15	0	15	0	15	0
M424	6-DH-645	138	0	140	0	143	0
	6-DH-645A	168	0	170	0	172	0
M439	7017	290	23	294	23	297	23
M455	6-MT-647	90	0	92	0	94	0
Total		2,800	1,300	2,910	1,340	3,000	1,400

Projected Wastewater Flows

The wastewater flow is treated at the Blue Lake WWTP. The Total Wastewater Projections table lists projected total average wastewater flow from Shorewood to the Blue Lake WWTP, as estimated by this Sanitary Sewer Plan and by the MCES Water Resources Policy Plan (WRPP). Note that the projections used in this report, based on MCES meter data and unmetered flow estimates, are different from the flows projected in the WRPP. This is because the MCES WRPP projections were based on flow data from 2010, a year in which the City of Shorewood had uncharacteristically high wastewater flows. The projections used in this report are based on flow data from 2012-2016, which is more recent and captures a wider period of time.

Total Wastewater Projections

	2020 Average Flow (MGD)	2030 Average Flow (MGD)	2040 Average Flow (MGD)
Sanitary Sewer Plan	0.77	0.79	0.81
MCES WRPP	0.93	0.91	0.89

SANITARY SEWER DESIGN CRITERIA

Land Use

Detailed information and figures regarding Shorewood's land use are included in the Land Use Plan. Using existing land use, metering data, and future land use information, current and future flows were calculated and divided by meter service area as described below. This analysis considered the land use designations listed in the Assumed Wastewater Flow by Land Use Type Table. The largest development within Shorewood is the redevelopment of the Minnetonka Country Club site into 142 single-family residential lots, which was approved in 2016.

Estimated Average Flows – Existing

The existing wastewater flows within the City were estimated based on a combination of MCES meter data and land use designations. The MCES meter data provides flow rates for broad metersheds. The City estimated flow rates for the smaller sanitary sewer sub-districts and lift station service areas by calibrating flow estimates based on land use designations and acreages with the MCES meter data.

Estimated Average Flows – 2040 Build Out

Once existing flows were estimated, future flows were projected based on Land Use Plan. Parcels that are planned to be developed were assigned wastewater flow rates in accordance to their land use type. The following table lists the assigned flows, which include design considerations for inflow and infiltration (I/I). More information on I/I and how it relates to the sanitary sewer system is provided later in this section.

Assumed Wastewater Flow by Land Use Type

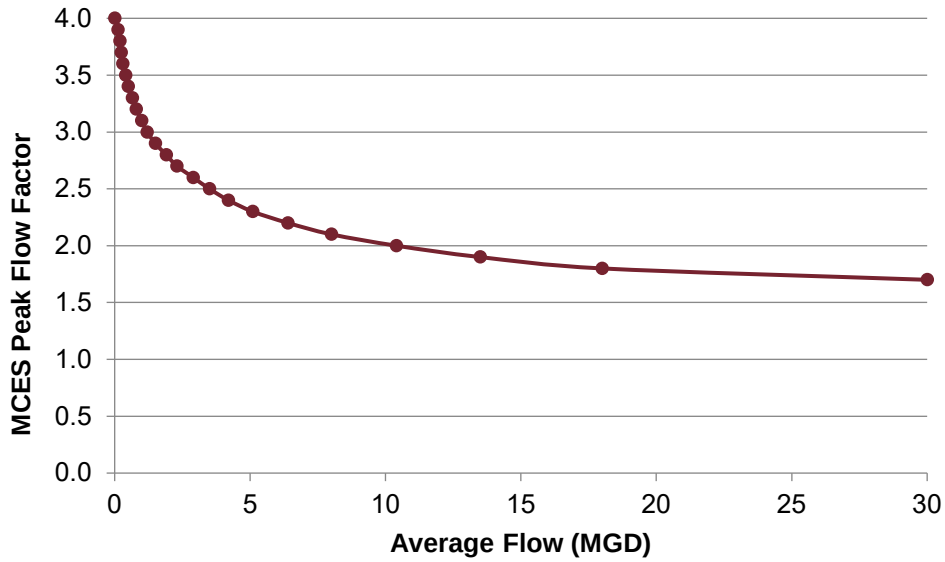
Land Use	Daily Flow (gallons/acre)
Minimum Density Residential	99
Low Density Residential	270
Low to Medium Density Residential	450
Medium Density Residential	810
High Density Residential	1,440
Public/Institutional	600
Commercial	800
Office	800
Industrial and Utility	800
Park	0

Future flows were added to existing flows to determine if existing pipe capacities will be sufficient. Recommendations are provided later in this section to address locations where development will lead to pipes that are under capacity.

Peak Flow Factors

To ensure that the sanitary sewer system is capable of handling flow fluctuations throughout the day, peak flows are calculated using peak factors based on average flows. The peak factors are provided by the Metropolitan Council and scale based on average flows. Pipes that serve small generator customers are more likely to experience large fluctuations in flows. Therefore, the peak factor decreases as average flow increases. The Metropolitan Council peak flow factors for sanitary sewer design used in this report are shown in the graphic below. Note that historical peak factors calculated from MCES meter data, as available, are used in lieu of the standard peak factors to calculate existing peak flows.

MCES Peak Factors for Sanitary Sewer Design



Intercommunity Flows

The City of Shorewood has several intercommunity flows, as listed in the Intercommunity Flows table below and indicated previously.

Intercommunity Flows

Inflow to Shorewood		Outflow from Shorewood	
From	Metershed	To	Metershed
Chanhassen	M415	Minnetrista	M455
Greenwood	M424	Victoria	M439
		Tonka Bay	M420
		Excelsior	M417
		Greenwood	M416
		Deephaven	M424
		Minnetonka	M412

SANITARY SEWER TRUNK RECOMMENDATIONS

The firm capacity, existing flow, projected flow, and projected residual capacity for each of the City's lift stations are listed in the table below. The existing wastewater flows were estimated based on metering

and billing data from MCES for 2012-2016 and the land use designations within each lift station's service area. The increase in projected flows was estimated based on the land use designations of areas that are expected to develop or redevelop by 2040. Standard MCES peak factors for sanitary sewer design were used to calculate peak flows, except for those lift stations located within metershed M415, where a historical peak factor calculated from MCES meter data was used to calculate existing peak flows. The standard peak factors were applied to calculate all 2040 peak flows.

Lift Station Capacity Analysis

LS No.	Lift Station Location	Firm Capacity (gpm)	Existing Average Flow (gpm)	Existing Peak Flow (gpm)	2040 Average Flow (gpm)	2040 Peak Flow (gpm)	2040 Residual Capacity (gpm)
5	Edgewood Rd	250	28.6	192	28.6	137	113
6	Smithtown Rd	90	7.8	32	7.8	32	58
7	Woodside Ln	90	5.5	31	5.5	22	68
8	Birch Bluff Rd	250	5.7	33	5.8	24	226
9	Minnetonka Blvd	92	1.3	5.4	1.3	5.4	87
10	Lakeway Terrace	150	7.8	32	8.3	34	116
11	Radisson Rd	200	8.4	60	8.4	44	156
12	Christmas Lake Point	95	2.2	13	2.2	9.0	86
13	Radisson Entrance	30	0.1	0.7	0.2	0.8	29
15	Enchanted Ln	135	7.2	43	7.2	43	92
16	Shady Island Rd	110	0.8	14	0.8	14	96
17	Shady Island Cr	100	1.2	4.9	1.2	4.9	95
18	Shady Island Point	110	1.3	5.2	1.3	5.2	105
20	Noble Rd	80	1.9	11	1.9	7.7	72

The Trunk Sewer Capacity Analysis table lists the capacity, existing wastewater flow, 2040 projected flow, and residual capacity of the City's trunk sewers. The City identified trunk sewers based on the sewer mains that convey the majority of the wastewater flow generated in each metershed. Peak factors used to calculate peak flows are based on the recommended MCES factors displayed in the graphic on the previous page. This report does not analyze the capacity of the MCES interceptor sewers that pass through the City of Shorewood.

Trunk Sewer Capacity Analysis

Location	Diameter	Trunk Capacity (gpm)	Existing Average Flow (gpm)	Existing Peak Flow (gpm)	2040 Average Flow (gpm)	2040 Peak Flow (gpm)	2040 Residual Capacity (gpm)
Enchanted Ln	9”	532	11	42	11	42	488
Grant Lorenz Rd	15”	1,130	43	174	43	174	953
W 62nd St	10”	679	56	224	56	225	488
Vine Hill Rd	9”	562	35	140	35	140	419
Minnetonka Blvd	9”	562	21	84	22	86	474

As seen in the two tables above, there are no required upgrades to the existing list stations and trunk sewers to provide service through the specified planning period. Additionally, no new trunk sewers and lift stations will be needed. Lateral sewers may be extended as development or redevelopment occur.

MCES Interceptor Facility Forecasts

The MCES interceptors used by each meter service area, as well as the 2040 forecasted flow to those interceptors, are listed in the following table. Note that the total flow listed may not correspond to the flow at every point along the interceptor, as the flow may accumulate along the interceptor path through the metershed. Also, note that the flow listed is only the flow generated in Shorewood and does not include any flows from neighboring communities that may also discharge into the metershed.

Projected 2040 MCES Interceptor Use

Meter	Interceptor	2040 Average Flow (MGD)	2040 Peak Flow (MGD)
M412	7016	0.050	0.202
M415	7017	0.319	1.149
	7017-1	0.119	0.463
	7017-2	0.031	0.124
	7017-3	0.061	0.245
	7017-4	0.014	0.054
M416	6-GW-649	0.023	0.092
M417	7017	0.020	0.079
M420	7017	0.002	0.009
M424	6-DH-645	0.036	0.143
	6-DH-645A	0.042	0.167
M439	7017	0.081	0.324
M455	6-MT-647	0.015	0.061

I/I Analysis

Shorewood's sanitary sewer system currently consists of approximately 60 miles of sanitary main, fourteen lift stations, and 2.6 miles of forcemain**,** which were installed from the early 1970's onward. Those lift stations that have not been rehabilitated since the early 1970's, and the surrounding sanitary sewers, are more susceptible to I/I. An estimated 29% of the residential housing within the City was built before 1970. Of the pre-1970 era private services, none have been evaluated for I/I aside from the sump pump inspections mentioned previously.

The amount of clearwater flow generated within the City was estimated by calculating the average annual and peak quarter I/I rates, equal to the average wastewater flow minus the base wastewater flow, using data from 2012-2016. The average flow, both annual and quarterly, was calculated from MCES meter data. Because much of the wastewater flow in the City of Shorewood is unmetered, the finest time scale for which flow estimates are available is quarterly. The peak quarter flow was determined for each year from 2012-2016 and those five values were averaged to give the peak quarter flow listed in the following table. The base flow was approximated as the winter water usage, which was calculated as the average water pumped in December through February from 2012-2016 times a historical ratio of water used to water pumped (presented as Total Water Delivered divided by Total Water Pumped in the City's Water

Supply Plan). Because the City has two separate water systems, West and East, a separate I/I estimate was made for each system based on the corresponding sanitary sewer districts.

I/I Estimate

	West System	East System
Average Annual Flow (MGD)	0.207	0.161
Peak Quarter Flow (MGD)	0.245	0.195
Base Sanitary Flow (MGD)	0.101	0.129
Average Annual I/I Rate (MGD (%))	0.106 (51%)	0.032 (20%)
Peak Quarter I/I Rate (MGD (%))	0.144 (59%)	0.066 (34%)

I/I Reduction

The City's strategy for preventing excess I/I includes requiring all development to conform to City standards. City code prohibiting the discharge of storm water to the sanitary sewer system and requiring the disconnection of existing I/I sources is excerpted below.

> ***904.09 PROHIBITED DISCHARGES INTO THE SANITARY SEWER SYSTEM.***
>
> *Subd. 1. Prohibited connections. No person shall discharge or cause to be discharged, directly or indirectly, any storm water, surface water, ground water, roof runoff, subsurface drainage or cooling water to any sanitary sewer. Any person having a roof drain, sump pump, unauthorized swimming pool discharge, cistern overflow pipe or surface drain connected and/or discharging into the sanitary sewer shall disconnect and remove any piping or system conveying the water to the sanitary sewer system.*

In addition, the City has routine activities directed at recognizing and correcting I/I. The City's annual Street Improvement Projects include sewer televising, chimney seal installation, pipe lining, and manhole grouting. Some of the specific projects completed by the City of Shorewood to reduce I/I are shown in the next table. The costs listed only include sanitary sewer improvements.

I/I Activities Completed

Project	Cost
2007 Wedgewood Dr, Teal Cir, Mallard Ln Improvements	$7,369
2009 Reconstruction of Lift Station 16	$85,594
2010 Smithtown Ln, Harding Ln, Harding Ave Rehabilitation	$5,014
2014 Utility & Street Improvements – Sunnyvale Ln	$66,413
2014 Mill and Overlay Improvement Project (chimney seals)	$4,375
2015 Mill and Overlay Improvement Project (chimney seals)	$4,288
2015 Star Ln, Star Cir Improvements	$14,026
2016 Mill and Overlay Improvement Project (chimney seals)	$4,950

Given the public sanitary sewer and lift station improvements that have been completed to date, it is estimated that the majority of the remaining I/I in the system is from private sources. The City uses the sewer televising completed as part of its annual Street Improvement Projects to identify properties contributing I/I to the public system and works with property owners to remedy or eliminate these sources.

Although the rehabilitation that has been completed to date resulted in a reduction, the remaining I/I continues to be a concern and will be addressed. The City will continue to proactively identify I/I sources and take corrective actions. The City has budgeted $70,000 annually for I/I reduction projects in addition to its other sanitary sewer improvement projects.

COST ESTIMATES AND FINANCING

The Capital Improvements table, below, lists the proposed capital improvements and their estimated costs. Because the City of Shorewood sanitary sewer system is largely built out, the capital improvements consist of maintaining and rehabilitating the existing system.

Capital Improvements

Year	Description	Location	Estimated Cost
Annual	I/I Reduction	-	$70,000
2019	Lift Station 20 Rehabilitation	Noble Road	$135,000
2020	Lift Station 7 Rehabilitation	Woodside Road	$120,000
2021	Lift Station 10 Rehabilitation	Lakeway Terrace	$140,000

SUMMARY AND OUTCOMES

The analysis is intended to provide assistance in planning for wastewater collection and treatment. The City anticipates that the design flows and criteria outlined will be used for utility planning as development continues. Tables and figures can be used to create budget-level estimates and schematic representations of infrastructure improvements, with specific sizing and routing to be determined during the design phase.

INTRODUCTION

Community facilities and services include lands, buildings, services and systems. The condition and availability of community facilities and services enhance the quality of life in the City. Community facilities should be well-planned and developed in a manner which serves as a good example for private development.

The purpose of this chapter is to present plans for the type and location of various community facilities. The Community Facilities Plan is not concerned with detailed schemes of development, operation, or programs of the various uses, rather, this Plan is offered as a general framework within which detailed plans and specific decisions regarding community facilities can be made and identify any future land needs. Many community facilities and services are most efficiently and economically provided on a joint basis with other nearby jurisdictions.

To be noted is that plans related to transportation, water supply, sanitary sewer and surface water management are technically considered "community facilities." Due to the amount of detail provide in such plans, they are provided as independent chapters of this Plan, or in the case of the Local Surface Water Management Plan, as an appendix. In this regard, plans for the following community facilities are provided in this chapter:

- Parks and Recreation
- Public Safety
- Solid Waste
- Natural Gas, Electrical Service, Cable Television and Street Lighting
- Municipal Buildings
- Schools

PARKS AND RECREATION PLAN

Introduction

At present, Shorewood's park system contains five major park facilities and a number of smaller areas which provide additional recreational opportunities. The City's park system contains approximately 100 acres of usable recreational land. Additional land exists which is part of the park system but is not considered suitable for active development. These areas, which contain wetlands or steep terrain, compliment the overall active park system by providing substantial areas of open space.

Classification System

Shorewood has a variety of park types which are components of the City's overall park system. As a basis for examining existing parks and projecting future park needs, a regional system of park classification is utilized. The following table, provided for reference in the Metropolitan Council's Thrive 2040 Regional Parks Policy Plan, provides a description of various types of regional and local park facilities.

Component	Use	Service Area	Size	Site Attributes	Site Location
Local Facilities					
Mini-park	Specialized facilities that serve a concentrated or limited population or specific group such as tots or senior citizens.	Less than 1/4-mile radius	< 1 acre		May be publicly or privately owned and/or incorporated into a development site, such as apartment,
Neighborhood park/playground	Area for intense recreational activities such as field games, court games, crafts, apparatus area, skating, and neighborhood centers.	¼ to ½ mile radius to serve a population of 4,000 – 5,000 (one neighborhood)	< 25 acres	Physical geography suited for intense development.	Proximity to elementary schools or residential neighborhoods.
Community playfield	Area for intense recreational facilities such as athletic fields and swimming pools; could include a neighborhood use.	3 - 5 neighborhoods or one community	25 - 50 acres	Physical geography suited for intense development.	Proximity to secondary schools and other public facilities.
Community park	Area of natural or ornamental quality for outdoor recreation such as walking, viewing, sitting, picnicking; could have some field and court games.	3 - 5 neighborhoods or one community	25 - 100 acres	Affords natural features with varied physical geographic interest.	Proximity to community facilities and resources.
County park	Area of natural or ornamental quality for outdoor recreation such as walking, viewing, sitting, picnicking; could have some field and court games.	County	25 - 100 acres	Affords natural features with varied physical geographic interest.	Proximity to community facilities and resources and/or where resource occurs
Conservancy lands	Area of natural quality such as watercourses and wetlands that are preserved for environmental or aesthetic benefits to the community and/or because of the negative environmental or economic effects of development in them.	Municipality, township, county	Variable, based on extent of resources.	Natural resources that merit preservation and that would be negatively affected by development	Where resource occurs.

Component	Use	Service Area	Size	Site Attributes	Site Location
Local Facilities					
Local linear parks, trail, corridors and parkways	Area developed for one or more varying modes of recreational travel such as hiking, biking, snowmobiling, horseback riding, cross-country skiing, canoeing and driving.	A neighborhood or several neighborhoods in a city or township	Contained within one city or township. Width and length minimums vary by locality.	On- or off-road trails that may or may not traverse scenic areas while assuring the trail treadway has no adverse effect on the natural resource base	Where needed to link neighborhoods to components of the local or regional recreation system and/or community facilities such as schools, libraries, commercial areas and to link to adjacent municipalities.
County linear parks, trail, corridors and parkways	Area developed for one or more varying modes of recreational travel such as hiking, biking, snowmobiling, horseback riding, cross-country skiing, canoeing and driving.	Several cities and/or townships in a county	Traverses one or more municipalities. Width and length minimums vary by county.	On- or off-road trails that may or may not traverse scenic areas while assuring the trail treadway has no adverse effect on the natural resource base	Often found adjacent to major roadways within the county. Other locations where needed to link cities to components of the local or regional recreation system and/or community facilities such as schools, libraries, commercial areas and to link to adjacent counties.
Regional Facilities					
Regional park	Area of natural or ornamental quality for nature-oriented outdoor recreation such as picnicking, boating, fishing, swimming, camping and trail uses.	3 - 5 communities	200 - 500 acres (100 minimum)	Complete natural setting contiguous to water bodies or watercourses where possible.	Where natural resource occurs particularly water
Regional park reserve	Area of natural quality for nature-oriented outdoor recreation such as viewing and studying nature, wildlife habitat, conservation, swimming, picnicking, hiking, boating, camping and trail uses.	County, multicounty area	1000+ acres; sufficient area to encompass the resource envisioned for preservation	Diversity of unique resources, such as topography, lakes, streams, marshes, flora, fauna.	Where natural resource occurs.

Component	Use	Service Area	Size	Site Attributes	Site Location
Regional Facilities					
Regional destination trail	Area developed for one or more varying modes of nonmotorized recreational travel such as hiking, biking, horseback riding, cross country skiing, and canoeing.	The entire metropolitan region	Sufficient corridor width to protect natural resources and can safely accommodate trail use. Sufficient length to be a destination itself, or to serve as a link between regional parks system units.	When feasible, off-road trails that utilize human made and/or natural linear resources such as utility corridors, railroad and highway rights of way, stream / river valleys, or at the edges of forest or prairie. On-road trails are acceptable when off-road trails are not feasible.	Preferably adjacent to high-quality natural areas. The trail treadway should be placed where it has no adverse impact on the natural resource base.
Regional linking trail	Area developed for one or more varying modes of nonmotorized recreational travel such as hiking, biking, horseback riding, cross country skiing, and canoeing.	The entire metropolitan region	Sufficient corridor width to protect natural resources and can safely accommodate trail use. Sufficient length to link regional parks system units.	When feasible, off-road trails that utilize human made and/or natural linear resources such as utility corridors, railroad and highway rights of way, stream / river valleys, or at the edges of forest or prairie. On-road trails are acceptable when off-road trails are not feasible.	Linkages between components of the regional parks system. When feasible, linking trails should attempt to connect to population, economic and social centers along its route. The trail treadway should be placed where it has no adverse impact on the natural resource base.

Component	Use	Service Area	Size	Site Attributes	Site Location
Regional Facilities					
Special recreation feature	Area that preserves, maintains, and provides specialized or single purpose recreational activities, such as nature center, marina, zoo, conservatory, arboretum, display gardens, hunter training education facilities, downhill ski area, sites of historic or archeological significance, and bridging facilities. Bridging facilities are specialized or single-purpose facilities that are intended to attract and introduce new outdoor recreation users to the Regional Parks System.	Regional metropolitan area	Specific standard applicable to desired feature.	Appropriate to particular special recreation feature.	Where most advantageous for the special recreation feature and the overall park system.

Existing System Analysis

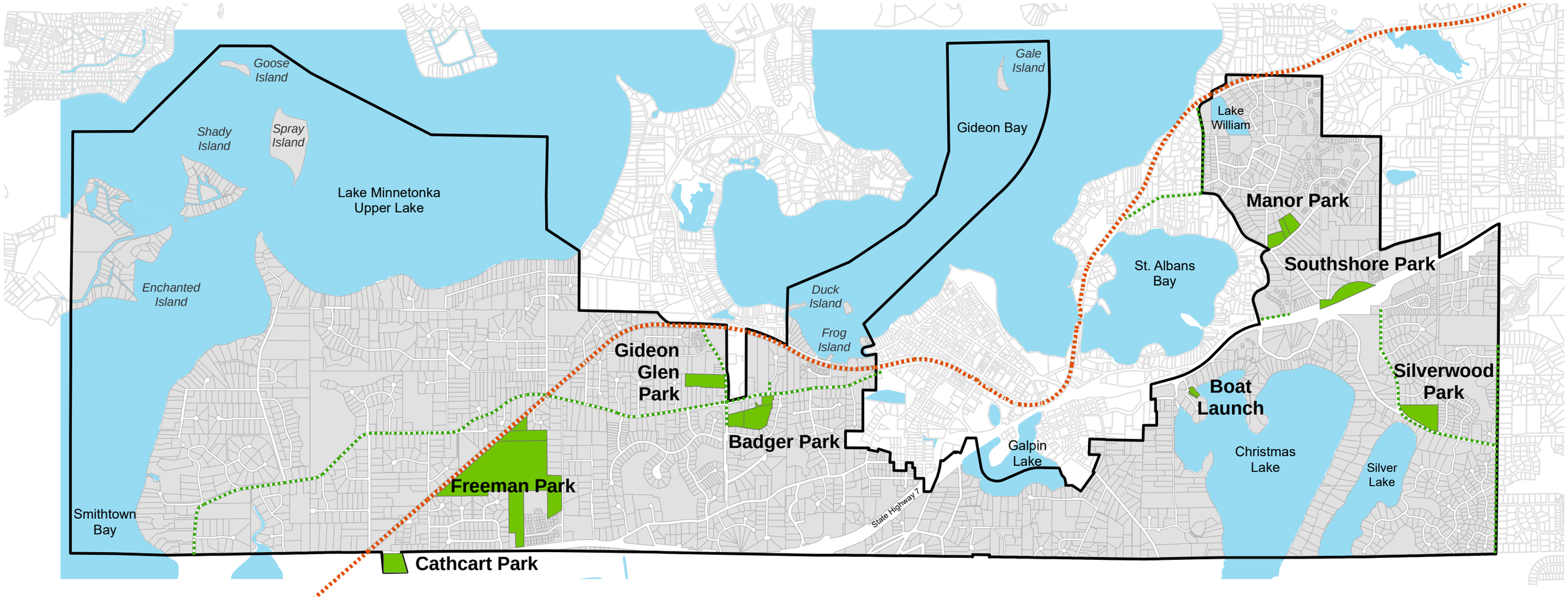
Shorewood is approaching full development. In their preliminary 2017 population estimates, the Metropolitan Council references a City of Shorewood population of 7,708 persons. Of interest is that such estimate exceeds the Metropolitan Council's 2040 population forecast for the City (7,600 persons) as provided in the City's system statement. Given the fact that the City is not expected to see significant additional residential growth and that few vacant land parcels remain in the community, Shorewood is not expected to add new park sites. The City's existing parks are considered adequate in size and location to meet the future needs of the community.

Shorewood residents are generally well-served by the existing park system. With the exception of the islands and a small pocket south of Galpin Lake, most areas of the community are within a one-half to one-mile radius of neighborhood park facilities. As a result, the focus of future park planning will be on developing existing parks, as opposed to acquiring more land, with one possible exception.

The City remains open to considering organization-supported expansion of Freeman Park as well as other existing sites. Also, as land becomes available through tax forfeiture, vacation of public right-of-way, donations and/or other means, it will be examined for possible inclusion in the park system.

Local Park and Trail System

City of Shorewood
2040 Comprehensive Plan



Local Park and Trail System

- Local Trail
- Lake Minnetonka LRT Regional Trail
- Parks
- City Boundary

Map created: December 2020
Data: NAC, MNDNR, Metropolitan Council

0 0.275 0.55 1.1
Miles

Existing Park Classifications

A considerable amount of planning has gone into Shorewood's park system as master plans for each of the City's parks have been developed. These master plans considered the classification system for local and regional parks which were previously identified. The following is an overview of Shorewood's existing park classifications:

Neighborhood Parks. Four of Shorewood's existing parks; Cathcart, Badger, Manor and Silverwood fall into this category. In addition, facilities at Freeman Park also serve the nearby neighborhoods, as do facilities at Minnewashta School.

Community Playfields. The Minnetonka School District has historically been heavily involved in providing playfields for local recreation. Within the City of Shorewood, Minnewashta Elementary School functions in part as a community playfield. Freeman Park is viewed as satisfying the majority of the community's need for playfields, but Badger, Cathcart and Manor Parks also satisfy this need.

Community Park. Besides its neighborhood functions, Freeman Park is the only community park in Shorewood's park system. Given the proximity of various regional parks, the need for an additional community park in Shorewood is not anticipated.

Conservancy Lands. Shorewood's wetland system, while not suitable for active recreation, is preserved for its aesthetic value, as well as its environmental benefit.

Special Uses. Crescent Beach along Lake Minnetonka and the Christmas Lake access on Merry Lane are essentially single-purpose recreational facilities (or special use parks). Crescent Beach is used exclusively for swimming, while the Christmas Lake access is used for fishing and the launching of boats. Both sites provide winter access to the lakes.

South Shore Community Park was previously used as a skate park, but the community found that purpose was no longer needed. A new master plan should be prepared to determine the appropriate role for such park.

Gideon Glen Park also fulfills a function of a special use park as it serves as a natural / environmental interpretive center.

Linear Park. While not a City-owned park, the Lake Minnetonka LRT Regional Trail fulfills a linear park function by providing walking / bicycle trail linkages within and outside of the City's municipal boundary.

Existing Parks and Plan Recommendations

Ten sites constitute the core of the Shorewood's park system. They include the following:

Cathcart Park	4.8 acres
Freeman Park	67.8 acres
Badger Park (including City Hall)	10.2 acres
Crescent Beach (joint use with Tonka Bay)	.4 acres
Manor Park	4.5 acres
Silverwood Park	8.1 acres
South Shore Community Park	3.4 acres
Merry Lane Access	.5 acres
Gideon Glen	5.8 acres
Total	**105.5 acres***

* Land area devoted to LRT Trail not included in acreage calculation

Lake Minnetonka LRT Regional Trail	2.7 lineal miles

In addition to the preceding parks, Minnewashta Elementary School also has a playground. Ten fire lanes, which have been held by the City, provide lake access and limited recreational opportunities to various neighborhoods. The City has also adopted a Trail Plan (as provided in the Transportation Chapter of the Comprehensive Plan). Recently, a trail segment was constructed along Smithtown Road which extends from the City's southern boundary (in the southeast corner of the City) to Country Club Road.

The following is an overview of each of the primary parks and recommendations for future improvements:

Badger Park (10.2 Acres). Badger Park is a neighborhood park which functions as part of the "City Campus" and is integral to the community services provided at City Hall and the Shorewood Community and Event Center. The park focuses on organized sports, with limited individual/pick-up opportunities and is currently undergoing renovations.

The park serves both the surrounding neighborhood and the Shorewood Community Center. The park is currently undergoing renovations (as shown below) which are scheduled to be completed in 2019.

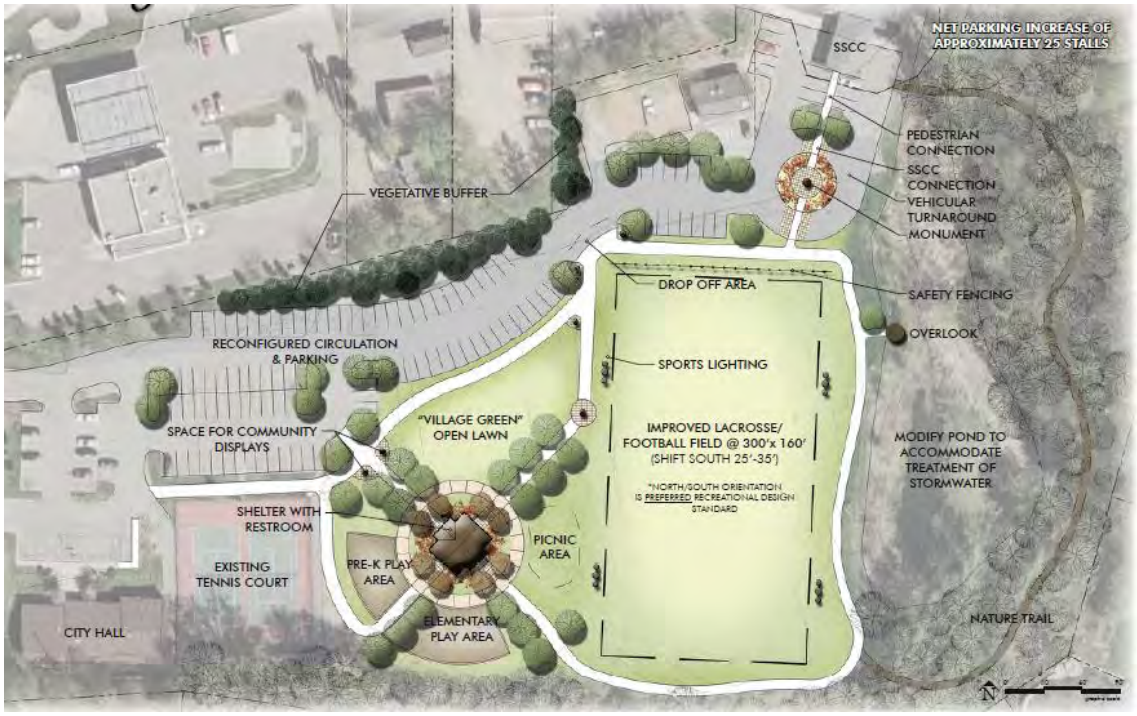
Facilities include:

- Multi-purpose field for lacrosse, soccer and football
- Playground equipment
- Tennis/pickle ball courts
- Picnic tables
- Open space, mowed and natural wooded area with a short nature trail by a stream
- Permanent restrooms and water-fountain (to be completed by 2019)
- Paved parking shared with Shorewood Community and Event Center and City Hall, short nature trail looping through wooded area on the east edge of the park
- Short paved looped trail (to be completed in 2019)
- Shelter (to be completed in 2019)

Population served: Badger Park serves persons of all ages.

Recommendation for further action:

- Increase programming within the Shorewood Community and Event Center which takes advantage of the facilities in Badger Park.



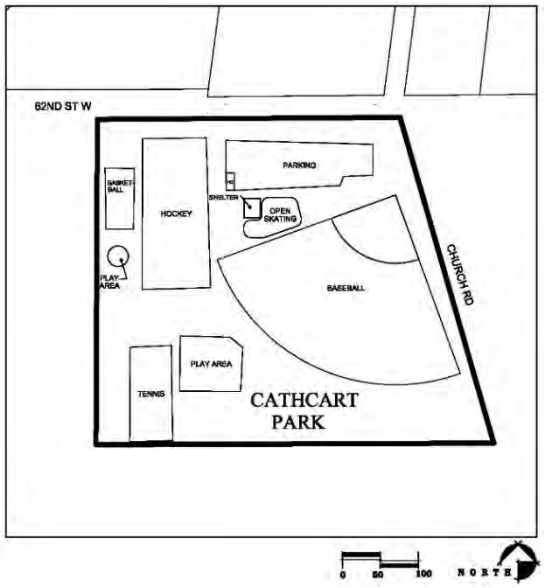
The Shorewood Community and Event Center

Badger Park Playground (pre-renovation)

Cathcart Park (4.8 acres). Cathcart Park is a neighborhood park with a mixture of uses, including organized sports and individual/pick-up opportunities.

Facilities include:

- Little League baseball field
- Hockey rink and seasonal warming house
- Family skating rink
- Basketball court
- Playground equipment
- Tennis court
- Picnic tables
- Open space
- Community adopt-a-garden
- Portable restrooms (no running water)
- Paved parking for 38 vehicles



Population served:

- Cathcart Park focuses primarily on the activities of youth and young adults, i.e., hockey, Little League and soccer.
- It serves the neighborhood and, through organized sports, a wider range of youth in the community.
- While the park's tennis court offers a recreational opportunity to adults, it is uncertain to what extent the court is used.

Recommendations for further action:

- Add pickle ball striping to the tennis court (as a recreational opportunity for seniors).
- Add additional parking.
- Pave the hockey rink for street hockey.

Manor Park (4.5 acres). Manor is a neighborhood park focusing on informal activities, with limited organized sports opportunities.

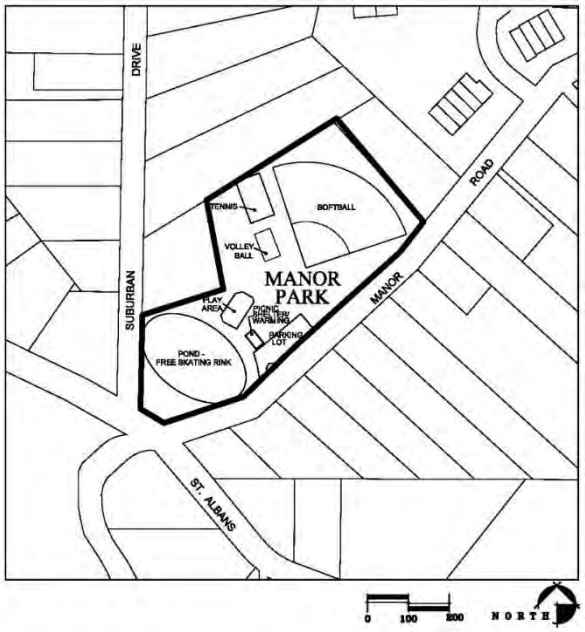
Facilities include:

- Pond skating rink/warming house
- Playground equipment
- Tennis/pickle ball court
- Picnic tables and shelter
- Open space
- One community adopt-a-garden
- Restrooms/water fountain
- Parking for 23 vehicles
- Softball field/multi-purpose field
- Shirley Rice Memorial Garden
- Sand volleyball court

Population served: Manor Park serves persons of all ages.

Recommendations for further action:

- Explore installation of horseshoe pits and bocce ball.
- Explore installation of perimeter walking trail.
- Provide needed dredging of the pond.
- Consider amphitheater or another central park feature.



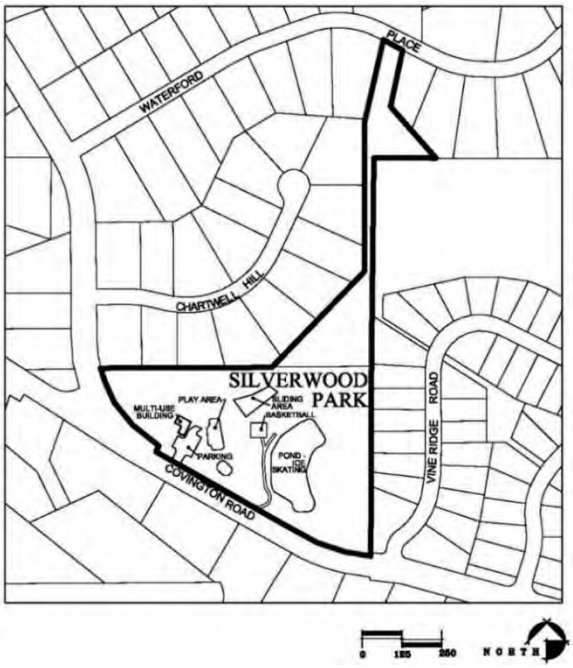
Shirley Rice Memorial Garden

Silverwood Park (8.1 acres). Silverwood is a small neighborhood park utilized by young children and their families.

Facilities include:

- Playground equipment
- Slide
- Sledding hill
- Free skate on the pond
- Community adopt-a-garden
- Portable restrooms (no running water)
- Picnic shelter, tables and grills
- Practice tennis court
- Half basketball court with practice wall for tennis
- Trail
- Paved parking for 11 vehicles

Population served: Silverwood Park can serve all ages but primarily serves families with young children.



Silverwood Park playground and slide

Freeman Park (67.8 acres). Freeman Park is Shorewood's principal community park. It measures 68 acres in size and accommodates a wide variety of both active and passive recreational activities. The park's north fields in particular provide an opportunity for a variety of organized sports.

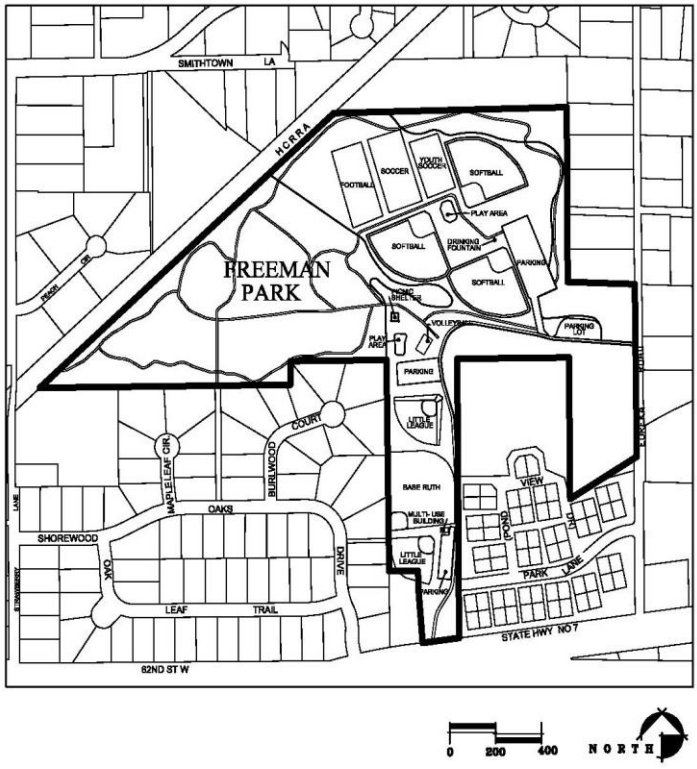
Facilities include:

- Softball fields (3)
- Baseball fields (2)
- Babe Ruth baseball field
- Soccer fields (6+ - depending on field layout)
- Volleyball courts (2)
- Multi-use building (Eddy Station) with warming house, restrooms and concessions
- South concessions building
- Portable restrooms
- Free skating rink
- Picnic shelter
- Playground (2)
- Picnic tables
- Trails
- Off-street parking for approximately 390 vehicles
- Community gardens

Population served: Reflective of its diverse range of active and passive recreational opportunities, Freeman Park caters to persons of all ages. The park hosts baseball, softball and soccer games which are part of organized leagues, functions as a neighborhood park for the immediate area and provides open space and wooded walking trails for passive park uses. Freeman Park serves approximately 140,000 users on an annual basis. The park is adjacent to the Lake Minnetonka LRT Regional Trail.

Recommendations for further action:

- Expand parking facilities near the south end of the park or work with sports organizations to provide off-site parking.
- Provide signage for the connection to the adjacent Lake Minnetonka LRT Regional Trail and directional signage on the trails.
- Replace the south playground and consider equipment options for different age groups.



North Fields

Freeman Park multi-use building

Freeman Park playground

South Shore Community Park (3.4 acres). South Shore Community Park is as unique a recreational facility as the process that led to its creation. The park was previously used as a skate park, but due to aging infrastructure and lack of use, the City removed the skate park facilities. Future use of the park will require study by the City Council, Parks Commission and residents.

Facilities include:

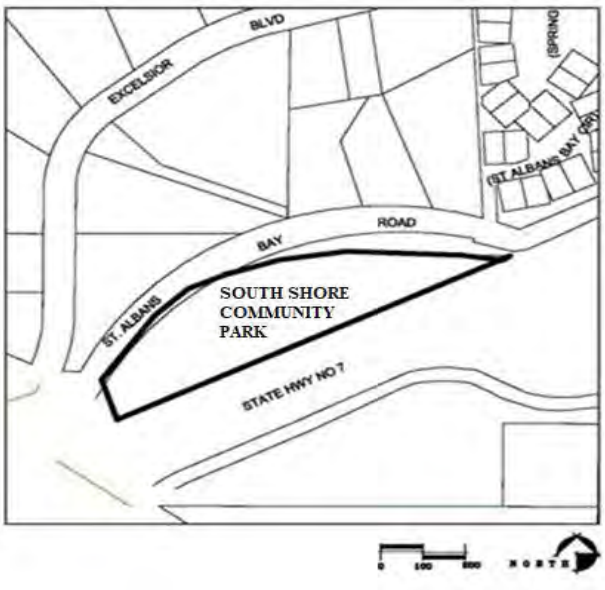
- Open space
- Community Gardens
- Water fountain

Population Served:

The South Shore Community Park primarily serves adults.

Recommendations for further action:

- Investigate potential future uses and facilities within the park which are compatible with its size and location next to State Highway 7.
- Develop a new park master plan to determine the appropriate role of the park.
- Consider a name change with the new master plan.
- Increase the size of the community gardens.



Gideon Glen Park (5.8 Acres). Gideon Glen Park overlays 5.8 acres of land and features native trees, shrubs, grasses and wildflowers and a maple basswood forest, all of which are remnants of the "big woods" that once covered the Lake Minnetonka region of the State. Owned by the City of Shorewood, the park site was restored in 2005 in partnership with the Minnehaha Creek Watershed District (MCWD), Hennepin County, Metropolitan Council and Lake Fellowship of Unitarian-Universalists.

Facilities include:

- An approximate 600-foot crushed rock walking trail
- Overlook locations with benches
- Educational opportunities
- Restored wetlands
- A stormwater pond (which captures pollutants)

Population served: Gideon Park serves persons of all ages.

Recommendations for further action:

- Increase public education and learning opportunities.
- Seek out additional research projects.
- Add more interpretive signage.

Gideon Glen Park Photograph Source: Lake Minnetonka Magazine - April 2015

Lake Minnetonka LRT Regional Trail (2.7 lineal miles). In total, the Lake Minnetonka LRT Regional Trail stretches 15 miles between the City of Hopkins and the Carver Park Reserve with 2.7 lineal miles located within the City of Shorewood. More specifically, the trail passes through the communities of Shorewood, Minnetonka, Deephaven, Greenwood, Excelsior, and Victoria. The aggregate trail offers scenic views and a convenient transportation route for pedestrians and bicyclists.

The trail is managed by the Three Rivers Park District.

Recommendations for further action:

- Investigate means with the Three Rivers Park District to improve the upkeep of lands which flank the Lake Minnetonka LRT Regional Trail (within the trail trial right-of-way) and recommend removal of invasive species.
- Encourage adjacent communities to provide winter trail maintenance.
- Encourage the Three Rivers Park District to consider paving the trail with public input from the citizenry of the affected cities.

General Recommendation

The City should continue to work with adjacent communities and the School District to maintain a clear understanding of the total recreational needs of the area. The South Shore area has a highly cooperative recreational and transportation system that will continue to require constant coordination (playfields, parks, and trails). The Park Commission and City Council should continue to monitor the needs of area residents in implementing the City's park and recreation plan. The City will also need to continue responding to the strong local interest for the expansion of the Shorewood trail system.

The City should also study whether additional parks are needed or desired on Shady or Enchanted Islands.

SOLID WASTE

As mentioned in the Transportation Chapter, garbage trucks have been identified as inflicting more damage to City streets than any other type of vehicle. In response to this issue, the City is examining the current solid waste collection system and considering options to improve collection.

The City presently licenses refuse haulers and limits pickup activities to one specified day of the week, thus eliminating the presence of curbside refuse on the remaining days. The City has a contract with a single hauler to pick up recycling City-wide. In the future, the City should explore organized hauling to further reduce the number of trash collection vehicles on City streets and in neighborhoods.

NATURAL GAS, ELECTRICAL SERVICE, CABLE TELEVSION AND STREET LIGHTING PLANS

All areas of the community are currently serviced by natural gas, electricity and cable television service, or have such services available. As such, provision of these services will not influence development in Shorewood. The thrust of these efforts should be concentrated toward the elimination of overhead wiring. The City requires the underground placement of all utilities where practical. In previously developed areas, plans for placement of underground utilities should be incorporated with future roadway improvements. The City may also want to initiate a more aggressive program for systematically eliminating overhead wiring within the next 10 to 15 years.

Residents appear to be split on the issue of street lighting. Consequently, no comprehensive program of installing street lights is suggested. The City has adopted the following policies in response to neighborhood demands for street lighting:

1. Location. The City recognizes that street lighting in certain locations is necessary to promote safe travel for vehicular and pedestrian traffic. However, it is not the intent of the City to install street lights for the purpose of deterring criminal activity. Based on this the City will consider the authorization of placing street lights on City streets only at: 1) intersections; 2) the ends of cul-de-sacs; 3) sharp turns; and 4) steep grades.

2. Requests for Street Lighting. While requests will be considered from any resident, it is recommended that a petition of neighboring residents be submitted with the request.

3. Cost of Street Lighting. The City agrees to pay the cost of monthly electric service for an authorized street light. It will not pay for the installation of the light or for extending power to the proposed location of the light, or for any light other than a standard street light.

CHAPTER SUMMARY

Community facilities and services include lands, buildings, services and systems which are provided on a public or semipublic basis. The City's goals in this regard are as follows:

- The City shall provide those basic facilities and services which ensure the health, safety and general welfare of the public, the cost of which facilities and services are most efficiently shared by the general public.

- The efforts of varying government agencies shall be coordinated to avoid duplication of efforts, unnecessary expense and improper location of public facilities.

- Maintain a sound financial planning program for capital improvements, relating such improvements to actual need, proper location and timing.

The following is a summary of recommendations intended to achieve the preceding goals.

Parks and Recreational Open Space

1. Shorewood's park and recreational open space system shall be classified in accordance with standards established by the Metropolitan Council.

2. Funding for park maintenance and necessary improvements (as determined by the City) shall be considered a community priority.

3. The allocation of funds for park improvements for specific facilities will be made on the basis of balancing overall community park needs of Shorewood residents with the specific needs of each facility.

4. The community shall provide for an appropriate balance among active, passive, and cultural recreational areas and activities, tailored to the needs of the total population.

5. Recreational facilities and a year-round program of activities suited to the varied recreational needs of all age groups within the community shall be provided.

6. Parks and recreational facilities shall be distributed throughout the community, based upon neighborhood needs and characteristics of each planning and development district.

7. Sufficient park land to fulfill the needs of the present and projected future population of the community shall be acquired and reserved. Park development shall be undertaken as residential development demands and as funds are available.

8. Recreational open space improvements shall be programmed in accordance with a capital improvement program, updated on an annual basis.

9. Parks shall be designed and maintained with proper lighting, landscaping, shelter design, etc., to ensure a high degree of public safety and protection of public property.

10. Where necessary, parks shall be screened, fenced and/or buffered for the safety and protection of the user as well as adjacent property owners.

11. Parks shall be improved and developed to take maximum advantage of natural features of Shorewood.

12. Safe and convenient pedestrian, bicycle and vehicular access and adequate parking to serve recreational facilities shall be provided.

13. The use of motorized recreational vehicles shall be limited to designated areas.

14. Park and open space facilities and programming shall be planned and developed in cooperation and coordinated with similar services of surrounding communities, the school district, private organizations and the metropolitan area as a whole.

15. Studies on a periodic basis shall be undertaken to analyze the effectiveness and comprehensiveness of the community recreation program. These studies should serve as the basis for recreation open space planning and programming.

16. Continual citizen participation in the planning, development and operation of recreational open space shall be maintained.

17. The City shall employ a pro-active approach to park development.

18. When opportunities arise, Shorewood shall consider the acquisition of parcels adjacent to the City's existing public beach (Crescent Beach) and conversion of such parcels to park land.

19. The City shall investigate means with the Three Rivers Park District to improve the upkeep of lands which flank the Lake Minnetonka LRT Regional Trail (within the trail trial right-of-way).

Lakeshore Use

1. Lake Minnetonka shall be considered a community recreational facility and appropriate actions shall be taken to permit utilization of the lake by all City residents.

2. Regulations shall be enforced to ensure accessibility to area lakes while at the same time minimizing any potential impact on surrounding uses and adjacent property owners.

3. In order to protect and preserve the amenity provided by area lakes, the City shall encourage uniform land use regulation and enforcement of lakeshore use.

Governmental Buildings and Facilities

1. Cooperation and coordination shall be promoted and actively pursued between governmental units in the provision of public facilities and services.

2. The full utilization of investments in public facilities and services shall be achieved prior to making new public investments.

3. Public facilities and services shall be located to the greatest extent possible so as to offer ease of access and minimal response time.

4. All public facilities shall be developed, improved and maintained according to the highest adopted standards of design and performance to serve as examples for private development.

5. All public buildings shall be designed and maintained to be safe, secure and resistant to vandalism while maximizing public and city usability.

6. Those areas, places, buildings, structures and other objects such as Indian mounds having significant architectural, historical, community or aesthetic interests and values shall be restored and preserved, as defined under the Minnesota Historic Sites Act of 1965, as may be amended.

7. Adequate screening, landscaping, and buffering of facilities shall be accomplished in order to minimize their impact on surrounding uses and enhance the community and areas in which they are located.

8. As part of future community facility improvement efforts, consideration shall be given to the creation or establishment of a visible and identifiable physical feature which distinguishes the City of Shorewood from the Cities of Excelsior and Tonka Bay.

9. The City shall examine alternatives and develop a plan for the future use of the Shorewood Community and Event Center which compliments the adjacent park use.

10. The City of Shorewood shall seek and implement creative ideas for its public spaces which pay homage to the community's history and identity.

11. The City shall strive to make efficient use of its various municipal buildings by evaluating, on a periodic basis, the space needs of various City functions (to ensure adequacy).

Public and Semi-Public Utilities

1. City public utilities will be reviewed with the Capital Improvement Program each year.

2. Demand for urban services shall be anticipated, with emphasis to conserving existing facilities, in order to facilitate orderly, fiscally responsible extension of service systems.

3. Easements for utility systems shall be located according to uniform standards, providing for ease of access for maintenance and repair and minimal disruption of other activities or areas.

4. All utility systems and possible utility and service needs shall be periodically monitored and all existing systems shall be maintained to assure a safe and high-quality standard of service on an ongoing basis.

5. The impact of required utility facilities and services shall be minimized upon surrounding uses.

6. Underground installation of all new utility services shall be required and when economically feasible, existing overhead systems shall be converted to underground.

7. Coordination among all utility improvement programs shall be constantly pursued.

8. Telecommunication facilities shall utilize existing tower structures where feasible.

9. Benefiting property owners shall assume the burden of improvements made by the City in their behalf.

10. When opportunities present themselves, the City will consider the burying of existing and new power lines to reduce the frequency of power loss during storm events.

Energy

1. Encourage use of alternative energy forms in new construction.

2. Continue to disseminate information on governmental energy conservation programs and helpful ideas on personal energy conservation methods.

3. Where practical, promote overall energy conservation in the community development process.

4. The City of Shorewood will, by example, attempt to become a more energy efficient community via future investment in such systems.

5. Create a program to encourage installation of alternative energy systems (solar and geothermal) and clarify procedures.

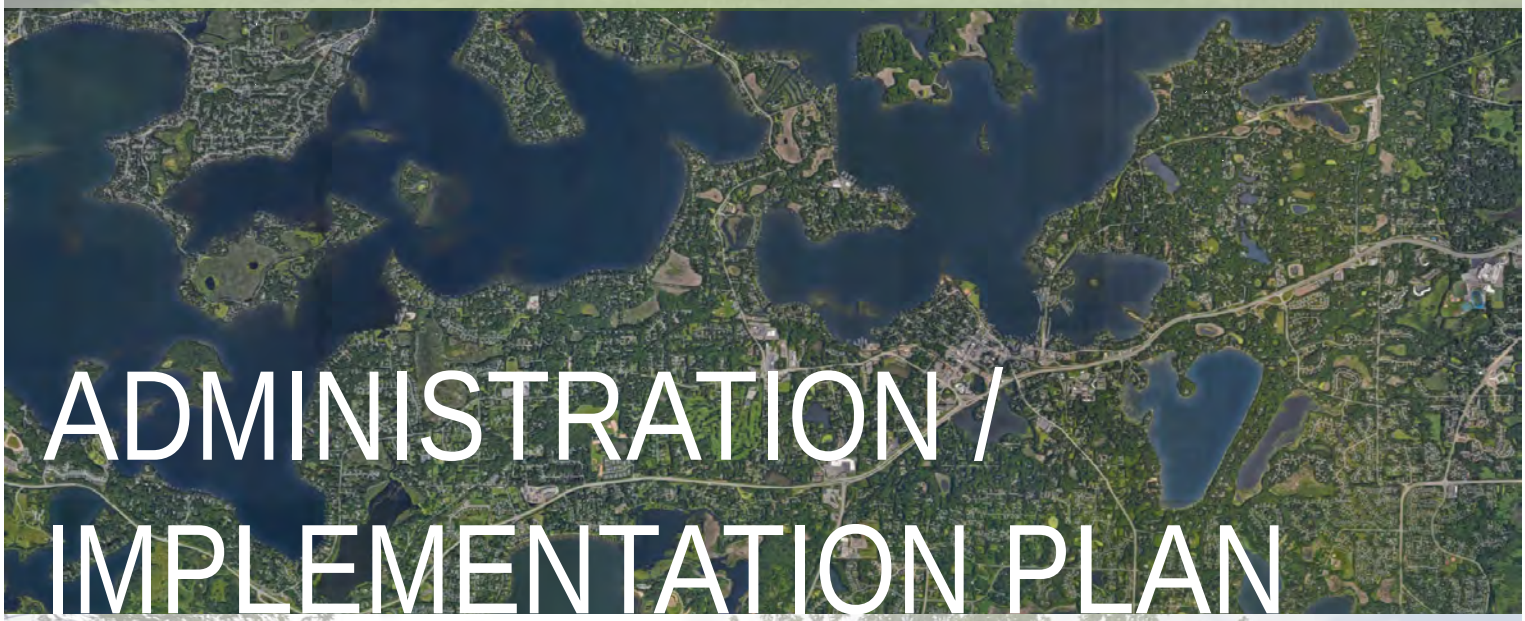
Solid Waste

1. The City of Shorewood shall continue to evaluate its solid waste collection system and consider options to improve collection services.

2. The City shall explore organized solid waste hauling to further reduce the number of collection vehicles on City streets and neighborhoods.

Collaboration

1. To the extent possible, the City of Shorewood shall collaborate with nearby lake communities in regard to the handling of shared services.



ADMINISTRATION / IMPLEMENTATION PLAN

2040 Comprehensive Plan

INTRODUCTION

Administration and implementation of the Comprehensive Plan and related supportive ordinances are equally as important as the development of the Plan itself. Only through the proper coordination of the Comprehensive Plan with the City's related development tools can the City fulfill its development and redevelopment vision and goals.

BUDGETING AND FINANCE

The Comprehensive Plan recognizes Shorewood as a fully developed, mature community. The recommendations of the Plan emphasize the need for the preservation of the City's environmental features and natural amenities, encouragement of land uses which are compatible with the residential and natural character of the City and provision of quality public services in a cost-effective manner.

In regard to future public expenditures, the City will implement the following strategies:

1. Continue monitor and maintain public facilities to avoid significant disrepair or breakdown.

2. Continue to maintain an annual Capital Improvement Plan which identifies needed public capital improvements, assigns costs and schedules implementation based on project priority and funding availability.

3. Continue to pursue intergovernmental cooperation for sharing public services and facilities to avoid duplication and economize on City investments.

4. Promote the maintenance, modernization and expansion of local land uses to preserve and expand the City's tax base and revenues.

5. Pursue available Federal, State and County grants and aids, as appropriate, to facilitate community improvements and programs.

6. Utilize cost-effective financing programs when authorized to encourage development and re-development projects.

7. Manage City budgets and spending in order to maintain a healthy reserve fund as a means to respond to unexpected expenses or emergency improvement projects.

COMMUNITY SERVICES

Through good communication with the public and responsiveness to residents' needs, the City administration has been cited as a community strength. High quality service to Shorewood residents will continue to be the standard for City operations in the future.

The City will continue to take a proactive approach to ensure a high level of community services in a fiscally responsible manner. These efforts include:

1. Conduct regular inspections of streets, utilities, parks and facilities to identify areas of disrepair, or facility replacement to ensure that City maintenance or capital improvement funds are properly planned and utilized.

2. Utilize available new technologies to assist in the delivery of services in an efficient and cost-effective manner.

3. Maintain active communication with City residents and businesses through direct contact, open meetings, television, newsletters, media releases, the City's website and project bulletins.

4. Periodically utilize community surveys to solicit resident perceptions, issues, or comments on community concerns and/or operations.

ORDINANCES / CODES / GUIDELINES

As a means of implementing the stated land use goals for Shorewood, the City will investigate the following potential changes to City ordinances, codes and guidelines:

1. Following the adoption of the 2040 Comprehensive Plan, the City's Zoning Ordinance, including the zoning map, will be reviewed, and if necessary updated, to ensure consistency with the City's Land Use Plan.

2. Continue (and create as determined necessary) programs and incentives for privately initiated maintenance efforts, improvements for energy conservation and redevelopment of existing land uses.

3. Ensure that sufficient setback requirements exist for new development to prevent problems associated with street upgrades, including, but not limited to, the widening of narrow streets.

4. Examine City regulations related to "teardowns" and "rebuilds" of single family homes and modify, if determined necessary, to ensure that adequate provisions are in place to ensure neighborhood compatibility.

5. Consider zoning ordinance and zoning map modifications which could accommodate the achievement of higher residential densities (as promoted by the Metropolitan Council).

6. Require staging plans for all infill development projects to minimize impacts upon existing surrounding neighborhoods. Minimally, such plans shall address contractor parking locations, construction material storage and construction hours.

7. Ensure that commercial development standards take into account the character of the community and promote the highest possible standards of quality (design and finish materials).

8. Review development regulations, and amend if necessary, to promote a balanced housing supply in the City.

9. Establish appropriate regulations for lawful nonconforming lots.

10. Within the context of residential neighborhoods, establish a design template for local streets which considers right-of-way and travel lane widths, pedestrian/bicycle components, stormwater management and on-street parking.

HOUSING

As a means of maintaining the City's housing stock, the City will investigate the following implementation strategies:

1. Consider the adoption of a "point of sale" ordinance which identifies certain housing deficiencies at the time of sale, putting buyers on notice of problems.

2. Continue to work with surrounding communities and various agencies to ensure that services are provided which allow seniors to stay in their homes as long as possible.

3. Continue to enforce the City's rental housing code.

4. Publicize available assistance programs geared toward the rehabilitation of substandard housing in the City.

5. Examine home improvement programs through Metro HRA, Hennepin County, the Greater Metropolitan Housing Corporation, or Minnesota Housing Finance Agency to identify finance programs which may assist Shorewood property owners in housing improvement loans.

6. Consider the use of tax increment financing (TIF) to assist in housing redevelopment projects which involved the elimination of blighted properties. The use of TIF funding will be evaluated on a project-by-project basis and weighed against the goals of the City's Comprehensive Plan.

INTERGOVERNMENTAL COOPERATION

The City of Shorewood receives police services from the South Lake Minnetonka Police Department (SLMPD). All of Shorewood, including the islands are serviced by SLMPD.

The mainland area of the City of Shorewood receives fire service from the Excelsior Fire District. Service to its islands is however, provided by the Mound Fire Department.

The City of Shorewood will continue to explore opportunities for shared services where it provides a high level of community service to its residents in a cost-effective manner.

SOLAR ACCESS PROTECTION

The City of Shorewood will continue to promote reasonable access to solar energy by controlling artificial blockage of solar radiation for optimum long-term economic and environmental benefits. Related to this issue, it should be recognized that tree preservation is also a considered a community priority. Thus, a desire for solar access must be balanced with the City's a desire to preserve a community amenity which contributes greatly to its community character.

Solar access protection is provided for by the uniform implementation of the City's land management tools. In this regard, solar energy systems are a permitted accessory use in all zoning districts subject to various conditions which are intended to mitigate adverse impacts (limitations related to height, location, size, aesthetics etc.).

Specifically, protections are provided via lot and building performance standards contained within Shorewood's Zoning Ordinance. Requirements such as maximum building height and yard setback standards are implemented for the purpose of creating separation between structures and allowing equal sunlight access such that a property is not in the shadow of an adjacent building.

RENEWABLE ENRGY SYSTEMS

The City of Shorewood has chosen to encourage and promote, rather than restrict, development of renewable energy sources which have a positive impact on energy production and conservation while not adversely impacting the community or where the economic and social impacts can be mitigated.

While the City's Zoning Ordinance specifically recognizes solar, wind and geothermal (ground source heat pump) energy systems, only solar energy and geothermal systems are currently permitted. The City will consider the establishment wind energy system requirements and the periodic updating of solar and geothermal energy system regulations (to adequately respond to changing technologies) as determined necessary.

APPENDICES
2040 Comprehensive Plan

APPENDIX A

Planning Tactics (Issues Identification)

INTRODUCTION

This section of the Comprehensive Plan is the Planning Tactics effort, which is devoted to the summary of comments and concerns raised in the Tactics interviews conducted with Planning Commission members, City Council members, and City staff.

To be noted is that identification of each and every issue raised in the interview process was not attempted. Rather, issues presented herein represent a broad categorization of topics raised.

CITY PERCEPTIONS

Generally, there was a strong consensus on many topics, however, where opinions differ, both sides of the issue are presented. The following perceptions and issues represent topics which require specific attention throughout the comprehensive planning process. The following interview responses are numbered for ease of reference and are in no particular order of priority.

Opportunities and/or Strengths

Most of the interview/survey participants have a very positive image of the City of Shorewood, describing it as a community that offers desirable residential neighborhoods within a natural setting. The following opportunities and/or strengths were identified as contributing to Shorewood's quality of life and public image:

1. The most common interview response related to Shorewood's natural amenities. Specifically, the lakes, trees, and open space were referenced as highly desirable environmental features of the community.

2. Interviewees were highly complementary of Shorewood's parks and highlighted such facilities as a positive aspect of the City.

3. Somewhat related to the City's environmental features, large residential lots (which commonly include significant vegetation) were often highlighted as a positive aspect of the City which contributes greatly to its desirable atmosphere.

Marina and Lakefront

City Park

4. Trails and sidewalks were identified as a desirable community feature, and particularly the recently constructed sidewalk along Smithtown Road.

5. Many interviewees consider the City's proximity to Lake Minnetonka to be a community strength and stressed a need to protect its water quality.

6. Specially highlighted as a community strength is the Lake Minnetonka LRT Regional Trail, which provides recreational opportunities for both pedestrians and bicyclists.

7. A number of interviewees identified the City's location within Minnetonka School District 276 as a desirable community feature.

Large Single Family Home

8. Several interviewees highlighted the quality of residential housing in the City as a distinct community strength.

9. Many interviewees view the City of Shorewood as a financially strong community with high level services and a quality City staff.

10. Many interviewees conveyed their belief that the City is occupied by "nice" people and that neighborhoods feel "closely knit."

Large Single Family Home

11. Interviewees also noted Shorewood's proximity to the City of Excelsior as a positive community feature. Specifically, convenient access to Excelsior's commercial services was referenced.

12. Also highlighted as a positive City feature is that Shorewood is fully developed and thus, negative aspects

Single Family Home

commonly associated with urban growth are not an issue.

13. On a broader scale, interviewees highlighted the City of Shorewood's proximity to the Minneapolis and St. Paul Metropolitan Areas as a positive community feature.

14. The size (population) of the City was identified as a positive feature of the City which contributes to its "small town" feel.

15. Interviewees were generally complimentary of City government operations and delivery of services. Most were particularly satisfied with the accessibility of City staff.

Issues and /or Concerns

While interview respondents characterize the City of Shorewood as a desirable place to live, respondents also identified some community weaknesses. The following were viewed as issues and/or concerns:

1. In terms of weaknesses, most interview respondents cited water infrastructure as a common community concern. Specific concern relates to water supply infrastructure, although stormwater management was also identified as a community issue which needs to be addressed.

Shorewood Water Tower

2. Traffic was also highlighted as a primary City concern. Specifically, highlighted was traffic congestion throughout the City but primarily at various Highway 7 access points. It was noted that such traffic congestion poses safety concerns for both motorists and pedestrians.

Commercial Strip Center

3. Incomplete trails were also cited as a community weakness. It was specifically noted by several interviewees that a lack of trail connections throughout the City forces pedestrians to use City streets as walkways which, in turn, creates safety concerns.

4. Several interviewees expressed concern over the City of Shorewood's working relationships with neighboring Lake Minnetonka communities. Specifically highlighted was a concern over the cost / benefit of shared Police services.

5. A lack of commercial services in Shorewood was frequently identified as a community drawback.

6. A number of interviewees expressed a desire for more housing choices within the City. Specific concern was cited over a lack of multiple family housing options and a lack of single family residential homes which are "affordable" to young families. Also conveyed is a belief that most persons who work in Shorewood cannot afford to live in the City (as a result of housing costs).

7. A few persons interviewed feel that the City presently lacks a community identity. Specifically noted was a lack of an identifiable physical feature which serves to distinguish the City of Shorewood from the City of Excelsior.

8. Many persons highlighted storm drainage as a significant community problem. Opinions were commonly expressed that curb and gutter along City streets may help address the issue.

9. Some interviewees expressed concern over the condition of Shorewood's streets. An opinion was expressed that

Multiple Family Residential Property

Single Family Home

On-Street Parking

City Baseball Field

the use of local streets by several different garbage haulers has contributed to the premature decay of City streets.

10. On-street parking was identified as a significant problem in the City. Interviewees feel the issue is primarily a result of the narrowness of local streets within the City and is compounded during the winter months when on-street parking opportunities are minimized due to snow storage needs.

11. While interviewees were generally complimentary of the City's efforts to preserve trees in the City, one respondent expressed a belief that greater preservation efforts are needed.

12. A few interviewees cited the City's haphazard municipal boundaries as a negative aspect of the City.

13. Many interviewees feel strongly that additional funding is needed for park improvements.

14. Several interviewees expressed concern over single family home teardowns and rebuilds and the potential loss of historic character which could result.

House Under Construction

Challenges

Interviewees were asked to identify what they perceive to be the biggest challenges facing the City of Shorewood in the next 20 years (the approximate term of the Comprehensive Plan Update). In this regard, the following views were expressed in order of popularity (the most popular response being listed first):

1. Upgrading of the City's aging infrastructure including water supply, stormwater management, and streets.

2. Funding desired for City improvements including projects related to infrastructure, parks, and trails.

3. Providing additional multiple family housing choices in the City in a manner which will preserve Shorewood's unique character.

4. Providing additional housing opportunities for seniors who wish to continue to reside in the City.

5. Examining alternatives and developing a creative plan for the future use of the Shorewood Community and Event Center.

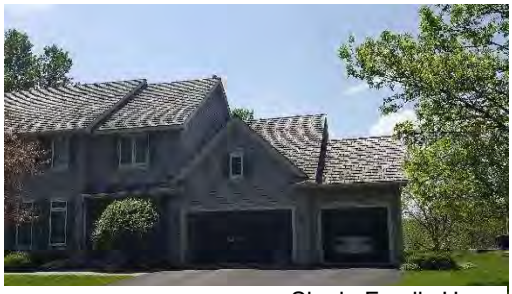
6. Promoting commercial redevelopment in the City which responds to the needs of Shorewood residents and is consistent with the desired community character.

7. Managing and/or improving vehicular traffic in a safe and functionally efficient manner, which considers the needs of pedestrian and bicyclists.

8. Striving to improve relationships with nearby lake communities in regard to the handling of shared services.

9. Improving connections (vehicular and pedestrian) between the Cities of Shorewood and Excelsior.

City Hall and Community Center Sign


Single Family Home

10. Redeveloping the Smithtown Crossing commercial area in a manner which promotes the City's identity.

11. Establishing appropriate zoning regulations for development upon legal non-conforming lots and single family residential teardowns.

2040 Vision

Persons interviewed/surveyed were asked to convey their 2040 vision of the City. In this regard, the following "visions" where conveyed:

1. Most persons interviewed do not expect to see any significant physical changes to the City by 2040. In this regard, a continuance of the City's residential/recreational character is considered their "vision" of the City for the year 2040.

2. Several interviewees did, however, convey their "vision" of the City moving forward. In this regard, the following changes are envisioned:

    a. Shorewood will become a more energy efficient City.

    b. The City will seek and implement creative ideas for the City's public spaces.

    c. Infrastructure systems within the City will be much improved and all properties will be connected to City water service.

    d. A greater mix of housing choices, including places which are affordable to young families and available to seniors will be provided.

    e. Better (improved) vehicular and pedestrian linkages between the Cities of Shorewood and Excelsior will be provided.

    f. City parks will be upgraded to respond to the recreational needs of Shorewood residents.

    g. Shorewood will be a more "pedestrian friendly" City.

    h. The City's population will be more diverse.

    i. Traffic patterns within the City will be functionally improved (for vehicle movements and pedestrian safety).

j. The City will promote the establishment a facility which pays homage to Shorewood's history (i.e., a history center or a museum).

Immediate Needs

Persons interviewed were asked to identify projects they feel are an immediate need in the City and should be addressed in the near term (next five years). In this regard, the following projects were identified:

1. Improvement of the Highway 7 /Vine Hill Road intersection.
2. City investments in alternative energy systems.
3. Trail system expansion (improved connections).
4. Shorewood Community and Event Center improvement.
5. Build-out of the Minnetonka Country Club single family residential subdivision.
6. General street improvements/ upgrades (including, but not limited to, features for improved stormwater management).
7. City-wide water service.
8. Redevelopment of the Smithtown Crossing commercial area.
9. Expansion of the City's Public Works building and/or relocation of impounded vehicle parking (to provide additional space for public works-related storage).
10. Park improvements (consistent with long term plans).
11. Improved maintenance of properties along the Lake Minnetonka LRT Regional Trail.

Country Club Subdivision

Public Works Building

Residential Land Uses

Persons interviewed were asked for their opinions related to existing and future residential uses in the City. In this regard, the following issues were identified:

1. Regarding the physical condition of the City's existing housing stock, most interviewees feel that such housing stock is either "good" or "very good."

2. Many interviewees expressed concern over a lack of residential housing choices in the City. In regard to planning for future residential uses, most interviewees feel it is important to consider a variety of housing options which cater to different age and income groups, but which would be consistent with the character of the City.

3. Several interviewees cited the two recently approved senior housing projects as being a benefit to the City (as such facilities provide an opportunity for long-time, elderly residents to stay in the community). A belief was also conveyed that a market for additional senior housing will likely exist in the future.

4. A number of interviewees expressed concern over the teardown of small, older housing and replacement with larger homes. It was suggested that appropriate zoning regulations should be in place to manage such activities and minimize potential adverse impacts.

5. Most interviewees do not feel there are significant property maintenance issues in the City. It was suggested, however, that the City undertake a pro-active approach related to code enforcement.

Single-Family Neighborhood

Single-Family Neighborhood

Commercial Land Uses

Interviewees expressed the following opinions regarding commercial land uses within the City:

1. Nearly all interviewees acknowledge there is a present lack of basic commercial services in the City, and that it is necessary to travel outside the City to obtain such services. Most interviewees do not, however, view this condition as a problem and cite the adjacent City of Excelsior as a convenient location for basic commercial goods.

2. Several interviewees expressed a belief that the redevelopment of the Smithtown Crossing area would be positive and would provide an opportunity for the City to establish a needed community identity.

3. One interviewee expressed an opinion that additional small office space is needed in the City.

4. A number of interviewees expressed an opinion that an assurance should be made that the physical appearance of new commercial development in the City should be of high quality (in terms of both design and finish materials).

5. A few interviewees suggested that the City should take steps necessary to ensure that new commercial buildings exhibit high quality finish materials and exhibit an architectural character which is consistent with an established vision for the community.

Existing Commercial Center

Transportation

Through the Tactics interviews, respondents offered several transportation-related comments. The following is a summary of comments and/or identified issues which were received:

1. The majority of interviewees indicated that roadway maintenance in the City is an issue. In this regard, it was suggested that funding for such efforts should be a community priority.

2. General concern was raised by interviewees regarding the ability of the City's collector streets to accommodate existing and future traffic volumes. Of primary concern are volumes on County Road 19. Most respondents acknowledge that such excessive traffic volumes are difficult to address.

Motorcycle Traffic

3. Specific concern was cited over excessive traffic volumes which presently exist on Country Club Road, a designated minor collector street. In this regard, it was suggested that improvements are needed at the adjacent Smithtown Road/ County Road 19 intersection.

3. Most interviewees raised concern over congestion and unsafe intersections along Highway 7. To be noted is that unsafe conditions were referenced not only for vehicles but pedestrians and bicyclists as well.

Narrow Residential Street

4. Bicycle safety was highlighted by interviewees as a major problem. It was noted that roadways and crossings are not equipped to manage the present volume of bicycle traffic encountered in the City. It was specifically noted that bicycle connections between commercial areas are needed.

5. A difference of opinion was expressed by interviewees regarding the long-term need for mass transit in the City. Many interviewees believe that existing and future residential densities cannot justify such service and thus, mass transit is not considered feasible.

Others expect mass transit to be a community need in the future. One interviewee specifically suggested that mass transit opportunities would be better located in the adjacent City of Excelsior.

6. The City of Shorewood is characterized by narrow streets, many of which lack curb and gutter. Most interviewees consider the City's narrow streets to be a desirable community feature which contributes to the character of the City. Several Interviewees, however, expressed concern that many local streets create circulation problems and are in need of repair/improvement.

7. A number of interviewees feel that the use of local streets by multiple garbage haulers has contributed to the degradation of the City's local streets.

8. In was noted by one interviewee that a number of dirt (gravel) roads presently exist within the City. It was suggested that all City roads should be hard surfaced.

9. Without exception, all interviewees oppose a proposed closure of Pleasant Avenue in Tonka Bay. Interviewees believe that the City is presently lacking in street connections/ linkages and that the closure of such street (to eliminate a City access to County Road 19) would be contrary to the City's transportation objectives.

10. One interviewee indicated that guardrails in certain areas of the City need to be replaced.

11. Also noted was a concern over vegetative "overgrowth" at certain street intersection limits vehicular visibility to oncoming traffic.

12. Several comments were received related to sidewalks and trails. These comments are summarized below:

    a. Nearly all persons interviewed feel that sidewalks and trails in the City are a great community amenity.

    b. Most interviewees feel the City's sidewalk and trail system is improving. The recently constructed sidewalk alongside Smithtown Road was highlighted as a significant system improvement.

    c. While the system is perceived as improved, most interviewees believe that more sidewalk/trail connections are needed in the City. Of specific note was an expressed desire to provide sidewalk/trail connections to the City of Excelsior.

Existing Sidewalk

d. Many interviewees feel that sidewalks and trails should be made a higher priority in the City. It was specifically indicated that walking paths (sidewalks and/or trails) are needed alongside City streets such that street surfaces are not utilized for pedestrian travel.

e. Several interviewees feel additional funding should be provided to maintain existing sidewalks/trails in the City and to implement Shorewood's Trail Plan.

f. Many interviewees consider pedestrian street crossings in the City to be unsafe. Interviewees suggested that additional attention be given to such crossings to ensure pedestrian safety. Specific safety concerns were cited along Strawberry Lane near the Minnewashta Elementary School, the Pleasant Avenue/County Road 19 intersection, and the Cathcart Drive/62nd Street intersection.

g. Considering the volume of bicycle use in the City, an interviewee suggested that specific trails intended for use by bicyclists should be considered.

h. One interviewee suggested that consideration be given to the construction of a pedestrian crossing of Highway 7.

i. Also related to Highway 7, some concern was expressed related to traffic noise and impacts upon abutting neighborhoods. In this regard, it was suggested that the noise issue and the need for buffering be addressed at some future point.

Highway 7 Conditions

Community Facilities

Parks. As part of the interview process, the following comments and/or opinions were received which relate to parks:

1. Most persons interviewed consider Shorewood's existing park system to be "good" or "excellent."

2. Several interviewees feel that efforts should continue to be made to improve the City's park system including a response to the changing recreational needs of residents and providing necessary financial investments.

3. It was suggested that the park system lacks a "vision" and that the City should be more "proactive" in the development of its parks.

4. Many interviewees made note of the fact that Shorewood's parks are routinely used by residents of neighboring communities.

5. Several interviewees cited a City need to take a more pro-active approach (rather than reactive) to park development.

6. Through the interview process, the following park-related projects were highlighted as areas of need:

    a. A storage building for park equipment.

    b. A passive park.

    c. General "facelifts" to several existing parks (park equipment upgrades).

d. Recreational facilities which respond to community desires (i.e., a pickle ball court).

Badger Park

UtilitySystems. As part of the interview/survey process, the following comments and/or opinions were received which relate to the City's utility systems:

1. Regarding the City's existing utility systems, municipal water service and stormwater drainage were highlighted by nearly all interviewees as areas of concern. Most expressed their opinion that City water service should be provided to all residents in the City and that efforts need to be made to improve stormwater management.

2. Other utility-related comments included the following:

   a. A desire to bury power lines to reduce the frequency of power loss in the City (as a result of storm events). Related to this comment was a concern over a common need for backup generators in the City.

   b. A need for a new water treatment plant.

   c. The City's well houses are in need of upgrades.

   d. Water pressure in the City is adequate but not great. It was suggested that the City consider water system improvements which will increase water pressure.

   e. In regard to stormwater management, concern was cited over "rural" (ditch) systems which are currently in place. It was suggested that the City consider the hiring of a "stormwater specialist" to assist in addressing stormwater issues.

MunicipalBuildings. As part of the interview process, the following comments and/or opinions were received which relate to the City's municipal buildings:

1. In general, most interviewees believe the City's municipal buildings are satisfactory. The City Hall, in particular, was highlighted as a source of community pride.

2. Most interviewees expressed interest in the future use of the Shorewood Community and Event Center. It was particularly noted that the facility needs rehabilitation. A few interviewees suggested that a study be conducted to determine the most feasible long-term use of the building.

3. A number of interviewees noted that the Public Works building needs to be expanded to accommodate equipment storage needs.

City Hall

City Park Building

Shorewood Community and Event Center

Environmental Issues

Interviewees offered several comments related to environmental issues. The following is a summary of comments and/or identified issues which were received:

1. While interviewees recognize that the waters of Lake Minnetonka are not under City jurisdiction, concerns over lake water quality were commonly identified. Specifically, concern was raised over invasive species and related lake impacts. Also, in regard to Lake Minnetonka, concerns were raised related to boat traffic (power boats) and lake refuse/garbage.

2. It was suggested by one interviewee that the City of Shorewood should strive to be a leader in environmental stewardship. Related to this comment was a desire by several interviewees to ensure that the City's ordinances strive to protect Shorewood's natural resources and promote alternative energy systems.

3. Several interviewees voiced concern over the private wells which exist in the City and the quality of the water extracted from such wells.

4. Drainage problems along the Lake Minnetonka LRT Regional Trail were highlighted as an environmental concern by several interviewees.

5. The quality of City water was raised as an environmental concern. Of specific issue is the "hardness" of the water and related sediment. In this regard, it was suggested that treatment (or additional treatment) of City water be considered.

6. Several interviewees suggested that greater funding for stormwater management efforts in the City needs to be provided.

7. It was also suggested that the City needs to continue to educate the general public on environmental issues.

8. It was indicated by one interviewee that a number of homes in the City were constructed upon hydrologic soil (prior to existing wetland regulations). Concern was raised regarding City responsibilities in the event of the structural failure of such homes.

Lake Access

Interviewees offered several comments related to lake access. A summary of received comments and/or identified issues is provided below:

1. Most interviewees believe existing lake access in the City (to Lake Minnetonka and Christmas Lake) is satisfactory.

2. A number of interviewees indicated that a future public access at the Howard's Point Marina property would be desirable.

3. A minority opinion expressed a desire to eliminate the existing public access on Christmas Lake.

4. Concern was expressed over "public" versus "private" boat launches on Lake Minnetonka in that "private" launches are typically less strict in regard to zebra mussel inspections (than "public" launches).

5. Also noted is a desire for a larger public beach on Lake Minnetonka. In this regard, it was suggested that the City consider the acquisition of parcels adjacent to the existing public beach when opportunities arise.

6. Related to Lake Minnetonka access, a desire was expressed to provide a bike path connection to Crescent Beach.

Boat Dock

Christmas Lake Access Area

CONCLUSION

The preceding comments are intended to help establish the basic direction of the 2040 Comprehensive Plan Update. In no order of priority, these comments identify a variety of community issues related to the following:

- Opportunities and/or Strengths
- Issues and/or Concerns
- Challenges
- 2040 Vision
- Immediate Needs
- Residential Land Uses
- Commercial Land Uses
- Transportation
- Community Facilities
- Environmental Issues
- Lake Access

The extent and scope of received comments speaks to the desirable features of Shorewood, while recognizing that many concerns/issues exist which should be addressed in the future. In this regard, there is an evident appreciation of the various issues which confront the City. Simultaneously, there appears to be an equal commitment to resolving those issues and preparing for an improved future.

To be stressed is that the provided views and opinions have not been prioritized nor do they include any positions or responses by appropriate professional staff. At this stage in the Plan Update process, only the directions desired by community representatives are a matter of concern. As may

be appropriate in future policy and plan discussions, professional staff recommendations and alternatives will be offered for consideration.

Ultimately, it will be the jurisdiction of City Officials to resolve the content and the direction of the Plan Update. In this regard, attempts will be made to build consensus on priority issues facing the City of Shorewood (as identified in the Tactics interviews) and the general direction of the Plan.

APPENDIX B

Emergency Preparedness Procedures

EMERGENCY PREPAREDNESS PROCEDURES

Water emergencies can occur as a result of vandalism, sabotage, accidental contamination, mechanical problems, power failures, drought, flooding, and other natural disasters. The purpose of emergency planning is to develop emergency response procedures and to identify actions needed to improve emergency preparedness. In the case of a municipality, these procedures should be in support of, and part of, an all-hazard emergency operations plan.

Federal Emergency Response Plan

Section 1433(b) of the Safe Drinking Water Act, as amended by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-188, Title IV – Drinking Water Security and Safety), requires community water suppliers serving over 3,300 people to prepare an Emergency Response Plan. The City of Shorewood's Federal Emergency Response Plan was revised and adopted in 2011.

Operational Contingency Plan

The State recommends that all utilities develop an operational contingency plan that describes measures to be taken for water supply mainline breaks and other common system failures, as well as for routine maintenance. The City maintains a contact list for contractors and suppliers and a water emergency telephone list that act as an Operational Contingency Plan.

Emergency Response Procedures

Quick access to concise and detailed information on water sources, water treatment, and the distribution system may be needed in an emergency. System operation and maintenance records should be maintained in secured central and back-up locations so that the records are accessible for emergency purposes. A detailed map of the system showing the water sources, treatment plant, storage facilities, supply lines, interconnections, and other information that would be useful in an emergency should also be readily available. It is critical that public water supplier representatives and emergency response personnel communicate about the response procedures and be able to easily obtain this kind of information both in electronic and hard copy formats (in case of a power outage).

The City of Shorewood maintains records and maps of the water system. City staff can access these resources from a central secured location in the event of an emergency, and appropriate staff know where these resources are located.

Procedures for Augmenting Water Supplies

The City of Shorewood has six interconnections with four neighboring communities, to be used only in the event of an emergency. Each interconnection has a capacity of 1,000 gpm. The interconnections are with Minnetonka at Vine Hill Road and Shady Hills Road and at Vine Hill

Road and Waterford Place; with Chanhassen at Silver Lake Trail; with Victoria at Smithtown Road; and with Tonka Bay at CSAH 19 and Glen Road and at CSAH 19 and Smithtown Road. The City is exploring a possible interconnection with the City of Excelsior and has identified potential locations for that interconnection.

In the case of a short-term emergency, the City would need to obtain and distribute bottled water. For a long-term emergency, the City will evaluate the cause of service disruption and will determine if a new water source or improved water treatment is necessary. The scale of the response will depend on the cause of the disruption. In this case, a feasibility study will be conducted to determine the most cost-effective solution to the issue.

Allocation and Demand Reduction Procedures and Triggers

The City must prepare procedures to address gradual decreases in water supply, as well as emergencies and the sudden loss of water due to line breaks, power failures, sabotage, etc. These allocation and demand reduction procedures must be consistent with Minnesota State Statute 103G.261 that identifies and defines the priorities in which water usage will be allocated in the event of an emergency. They are defined as follows:

1. Domestic water supply only, excluding industrial and commercial uses of municipal water supply. The first priority also includes uses for power production that meet contingency requirements. Domestic use is defined by MN Rules 6115.0630, Subp. 9, as use for general household purposes for human needs such as cooking, cleaning, drinking, washing, and waste disposal, and uses for on-farm livestock watering excluding commercial livestock operations which use more than 10,000 gallons per day or one million gallons per year.
2. Consumption of less than 10,000 gallons per day.
3. Agricultural irrigation and processing of agricultural products of more than 10,000 gallons per day.
4. Power production in excess of the use provided for in the contingency plan.
5. All other water use of more than 10,000 gallons per day.
6. Non-essential uses. These uses are defined by Minnesota Statutes 103G.291 as lawn sprinkling, vehicle washing, golf course and park irrigation, and other non-essential uses.

The table below lists the priority ranking, average day demand, and demand reduction potential for each customer category in the City.

Customer Category	Allocation Priority	Average Day Demand (GPD)	Short-Term Emergency Demand Reduction Potential (GPD)
Residential	1	357,500	*
Commercial	2	22,100	*
Irrigation	3	6,800	*
Non-Essential	4	-	263,500
Total	**-**	**386,400**	**263,500**

GPD = gallons per day

*Non-essential use calculated as increased summer demand across all customer categories.

The City of Shorewood will use the following conditions to trigger an emergency response:

- Contamination
- Loss of Production
- Infrastructure Failure
- Governor's Executive Order

The City of Shorewood has identified the following short-term and long-term actions to be implemented as part of an emergency response:

Short-term Actions

- Supply augmentation through interconnection(s)
- Enforce its critical water deficiency ordinance
- Allocate water through emergency action of the City Council

Long-term Actions

- Supply augmentation through interconnections
- Enforce its critical water deficiency ordinance
- Allocate water through emergency action of the City Council
- Meet with large water users to discuss their contingency plan

Notification Procedures

The City of Shorewood has developed the following plan to inform customers regarding conservation requests, water use restrictions, and suspensions; with the support of City staff, neighboring communities, and local news outlets:

Short-term demand reduction declared (within one year)	Long-term demand reduction declared (over one year)	Governor's Critical water deficiency declared
Frequency: Monthly	Frequency: Annually	Frequency: As Needed
▪ Website ▪ Social media (e.g. Twitter, Facebook) ▪ Direct customer mailing ▪ Press release (TV, radio, newspaper) ▪ Public alert community notification system	▪ Website ▪ Social media (e.g. Twitter, Facebook) ▪ Direct customer mailing ▪ Press release (TV, radio, newspaper)	▪ Website ▪ Social media (e.g. Twitter, Facebook) ▪ Direct customer mailing ▪ Press release (TV, radio, newspaper)

Enforcement

Minnesota Statutes require public water supply authorities to adopt and enforce water conservation restrictions during periods of critical water shortages. As stated in Minnesota Statutes 103G.291, Subdivision 1, regarding public water supply appropriation during deficiency, if the governor determines and declares by executive order that there is a critical water deficiency, public water supply authorities appropriating water must adopt and enforce water conservation restrictions within their jurisdiction that are consistent with rules adopted by the commissioner. The restrictions must limit lawn sprinkling, vehicle washing, golf course and park irrigation, and other nonessential uses, and have appropriate penalties for failure to comply with the restrictions.

The City has a critical water deficiency ordinance defined in Shorewood City Code, Chapter 9: Section 903.12 Subd.1. This section authorizes the City Council to have the authority to implement water restrictions, which improves response times for dealing with water emergencies.

APPENDIX C

Capitol Improvement Program

City of Shorewood, Minnesota

Capital Improvement Program

2021 thru **2030**

PROJECTS BY FUNDING SOURCE

Source	#	Priority	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
201 - Community & Event Center													
SCEC - Mechanical Systems	*SCEC-19-01*	n/a	10,000	10,000	10,000								*30,000*
SCEC - Doors, Exterior	*SCEC-21-01*	n/a	14,500										*14,500*
SCEC - Windows	*SCEC-22-01*	n/a		10,000									*10,000*
SCEC - Fire Suppression Attic System	*SCEC-22-02*	n/a		23,000									*23,000*
SCEC - Kitchen Exhaust System	*SCEC-23-01*	n/a			30,000								*30,000*
201 - Community & Event Center Total			24,500	43,000	40,000								*107,500*
402 - Park Improvements													
Freeman Park Overlay Trails	*P0105*	n/a			200,000								*200,000*
Freeman Park Fence Repair	*P0109*	n/a			50,000								*50,000*
Freeman Park North Playground - Hand Rails	*P0110*	n/a			25,000								*25,000*
Cathcart Park Resurface Tennis Court	*P0200*	n/a				15,000				18,000			*33,000*
Cathcart Park Hockey Boards	*P0201*	n/a							150,000				*150,000*
Cathcart Park Playground Equipment	*P0202*	n/a				150,000							*150,000*
Badger Park Tennis Courts	*P0301*	n/a						30,000					*30,000*
Manor Park Outdoor Ampitheatre & Perimeter Trail	*P0403*	n/a								150,000			*150,000*
Silverwood Park Playground Equipment	*P0501*	n/a	240,000										*240,000*
Silverwood Park Retaining Walls Replacement	*P0502*	n/a							27,900				*27,900*
South Shore Park Master Plan	*P0700*	n/a								10,000			*10,000*
South Shore Park Reconstruction Project	*P0701*	n/a								90,000			*90,000*
402 - Park Improvements Total			240,000		275,000	165,000		30,000	177,900	268,000			*1,155,900*

Source	#	Priority	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
403 - Equipment Replacement Fund													
Dump Truck - Freightliner	004	n/a										233,500	*233,500*
Truck - Ford 550 w/crane, tool box	007	n/a									152,700		*152,700*
Pickup - 4 x 4 Ford F250	010	n/a										46,700	*46,700*
Pickup - 4 x 4 Ford F150	011	n/a									41,400		*41,400*
Mower - Toro Groundsmaster 7210	012b	n/a				30,000							*30,000*
Trailer 24' - Felling Galvanized	022	n/a		18,800									*18,800*
Sand Pro 3000	064	n/a	15,200										*15,200*
Pickup - 4 x 4 Ford F250	078	n/a	35,400										*35,400*
Pickup - 4 x 4 Ford F150	080	n/a	32,300										*32,300*
Pickup - 4 x 4 Ford F350	081	n/a										49,400	*49,400*
Mower - Toro Groundsmaster 7210	084	n/a			29,000							36,000	*65,000*
Pickup - 4 x 4 Ford F350	090	n/a										49,400	*49,400*
Truck - Ford 550 One Ton Dump Truck	091	n/a				94,300							*94,300*
Mower - Toro Groundsmaster 7210	091b	n/a			29,000			31,900					*60,900*
Dump Truck - Freightliner	092	n/a					200,200						*200,200*
Skid Steer - Case SV185	097	n/a	42,000								53,700		*95,700*
Dump Truck - Freightliner	098	n/a							212,900				*212,900*
Sweeper	099	n/a								235,900			*235,900*
Attach Skid Steer - Blower	A03	n/a						10,000					*10,000*
Attach Skid Steer - V Plow	A04	n/a			6,700								*6,700*
Attach Skid Steer - snow bucket	A08	n/a							6,800				*6,800*
Attach MultiOne - Dirt Bucket	A10	n/a							11,000				*11,000*
Engine Analysis station & software	A13	n/a	4,900										*4,900*
Asphalt hot box insert for truck	A14	n/a	9,000										*9,000*
Attach skid steer broom	A15	n/a		7,300									*7,300*
Attach skid steer leveling bar	A16	n/a	3,100										*3,100*
Color Copier Replacement	T-13-03	n/a		10,000									*10,000*
800 Mhz Radio Replacement	T-19-01	n/a							36,000				*36,000*
Computer Upgrades	T-99-99	n/a	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	*100,000*
403 - Equipment Replacement Fund Total			151,900	46,100	74,700	134,300	210,200	51,900	276,700	245,900	257,800	425,000	*1,874,500*
404 - Street Reconstruction Fund													
Maintenance-Bituminous Roadway	LR-99-100	n/a	2,060,000	472,101	0	512,107	0	555,234	0	601,716	0	649,853	*4,851,011*
Strawberry Ln ROW acquisition	ST-19-02	n/a	150,000										*150,000*

Source	#	Priority	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Glen Rd, Amlee Rd, Manitou Ln reconstruction	ST-20-01	n/a	1,978,947										*1,978,947*
Edgewood Rd reconstruction	ST-21-01	n/a				2,774,610							*2,774,610*
Excelsior Blvd reclamation	ST-21-02	n/a								919,420			*919,420*
Minnetonka Blvd & St. Albans Rd w/ Greenwood	ST-21-05	n/a	210,000										*210,000*
Strawberry Ct	ST-22-01	n/a		209,000									*209,000*
Peach Circle	ST-22-02	n/a		332,000									*332,000*
Strawberry Ln reconstruction	ST-23-01	n/a		1,896,238									*1,896,238*
Grant Lorenz Rd reconstruction	ST-23-02	n/a						2,136,427					*2,136,427*
Eureka Rd N reconstruction	ST-23-03	n/a									2,129,076		*2,129,076*
Birch Bluff Rd reconstruction	ST-23-99	n/a			2,071,008								*2,071,008*
Noble Rd recon	ST-24-01	n/a				1,168,500							*1,168,500*
Noble Rd Reclaim	ST-24-02	n/a				478,744							*478,744*
Sweetwater Curve reclamation	ST-25-01	n/a							1,347,682				*1,347,682*
2030 Street Reconstruction	ST-30-01	n/a										2,000,000	*2,000,000*
Mill Street Trail Construction	T004	n/a				110,000							*110,000*
Mill Street Trail ROW	T017	n/a			105,000								*105,000*
Smithtown Pond Trail Connection	T018	n/a	154,500										*154,500*
404 - Street Reconstruction Fund Total			4,553,447	2,909,339	2,176,008	5,043,961	0	2,691,661	1,347,682	1,521,136	2,129,076	2,649,853	*25,022,163*
405 - MSA Road Reconstruction Fun													
Hwy 7/Old Market Rd Signal	ST-21-03	n/a	100,000										*100,000*
05 - MSA Road Reconstruction Fund Total			100,000										*100,000*
406 - Trails													
Galpin Lake Rd Sidewalk	T003	n/a		500,000									*500,000*
406 - Trails Total				500,000									*500,000*
601 - Water Fund													
Air Compressor - Ingersall Rand 185	038	n/a	20,700										*20,700*
Freightliner Water Truck 50%	085	n/a		57,350									*57,350*
Glen Rd, Amlee Rd, Manitou Ln reconstruction	ST-20-01	n/a	693,311										*693,311*
Edgewood Rd reconstruction	ST-21-01	n/a				540,244							*540,244*
Excelsior Blvd reclamation	ST-21-02	n/a								1,008,349			*1,008,349*
Sweetwater Curve Watermain	ST-21-04	n/a	270,000										*270,000*

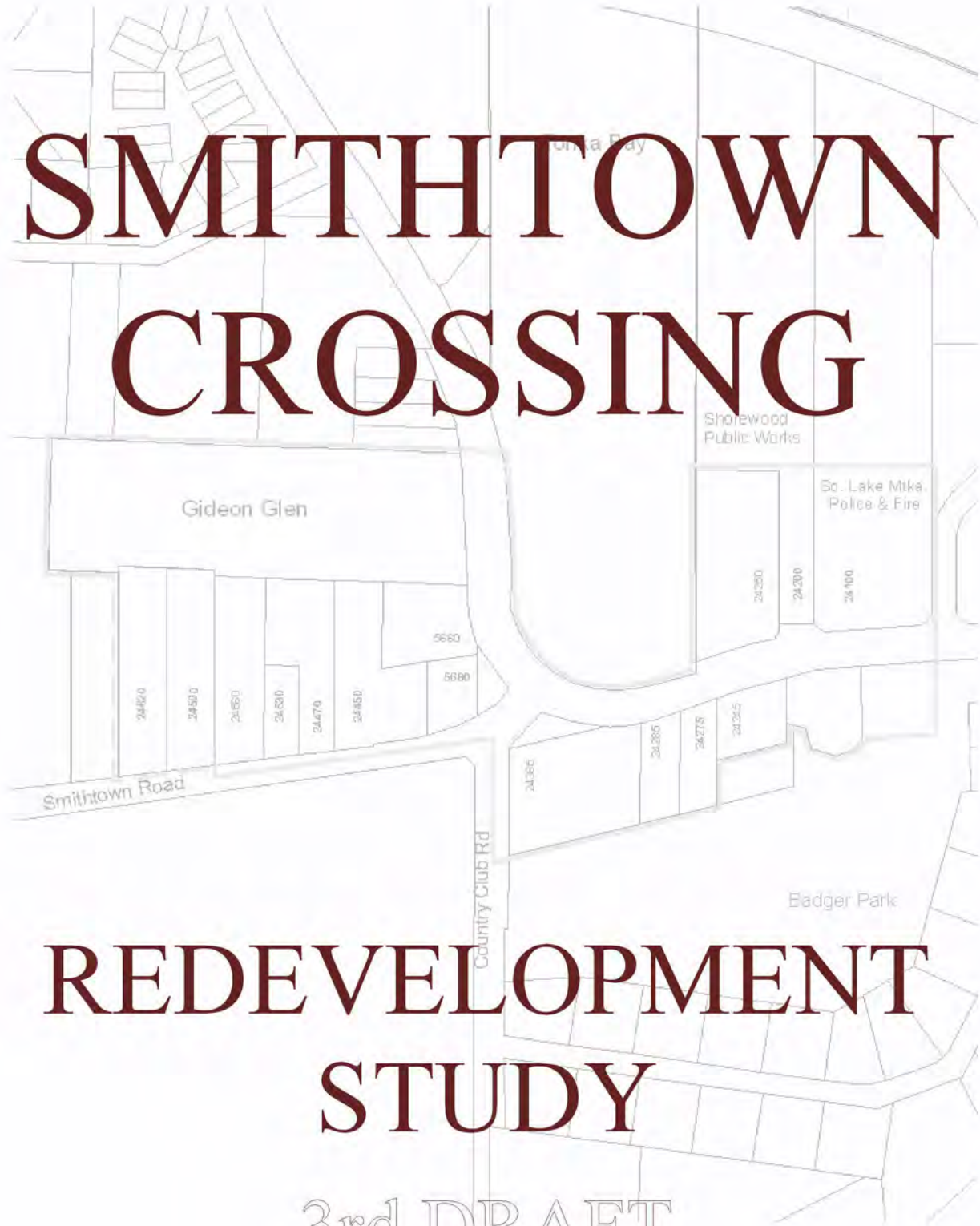
Source	#	Priority	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Minnetonka Blvd & St. Albans Rd w/ Greenwood	ST-21-05	n/a	0										*0*
Strawberry Ct	ST-22-01	n/a		265,000									*265,000*
Peach Circle	ST-22-02	n/a		103,000									*103,000*
Strawberry Ln reconstruction	ST-23-01	n/a		489,075									*489,075*
Grant Lorenz Rd reconstruction	ST-23-02	n/a						797,627					*797,627*
Eureka Rd N reconstruction	ST-23-03	n/a									6,524		*6,524*
Birch Bluff Rd reconstruction	ST-23-99	n/a			866,533								*866,533*
Noble Rd recon	ST-24-01	n/a				372,543							*372,543*
2030 Street Reconstruction	ST-30-01	n/a										600,000	*600,000*
Boulder Bridge VT Well Motor Replace	W-18-01	n/a		35,000									*35,000*
Amesbury Well Pipe Coatings and Corrosion Prev	W-19-02	n/a	25,000										*25,000*
Rebuild Well Pump SE VT Well	W-19-05	n/a					25,000						*25,000*
SE Area Well Motor Replace	W-20-03	n/a		45,000									*45,000*
Rebuild Well Pump Amesbury VT Well	W-20-05	n/a						25,000					*25,000*
Rebuild Well Pump Badger VT Well	W-21-02	n/a	30,000						35,000				*65,000*
SE Area Well & Iron Plant LED Light Conversion	W-21-03	n/a	12,000										*12,000*
Badger Field Well LED Light Conversion	W-21-04	n/a	6,000										*6,000*
Rebuild Well Control Valve SE Well	W-21-05	n/a	15,000										*15,000*
SE Area Well Pipe Coatings and Corrosion Prev	W-22-01	n/a		25,000									*25,000*
Rebuild Well Pump Boulder Bridge VT Well	W-22-02	n/a		30,000						35,000			*65,000*
FilterMediaChangeout/RehabIronRemovalFilterSEPlant	W-22-03	n/a		40,000									*40,000*
Rebuild Well Pump Amesbury Submersible Well	W-23-01	n/a			30,000						36,000		*66,000*
Rebuild Well Pump Boulder Bridge Submersible Well	W-24-01	n/a				30,000							*30,000*
East Water Tower Paint & Reconditioning	W-24-02	n/a				380,000							*380,000*
Replace VFD SE Area Well	W-24-03	n/a				10,000							*10,000*
Replace VFD Badger Well	W-26-01	n/a						12,000					*12,000*
Watermain Reconstruction Activity	W-99-01	n/a				150,000	150,000	150,000	150,000	150,000	150,000	150,000	*1,050,000*
601 - Water Fund Total			1,072,011	1,089,425	896,533	1,482,787	175,000	984,627	185,000	1,193,349	192,524	750,000	*8,021,256*

Source	#	Priority	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
611 - Sanitary Sewer Fund													
Freightliner Water Truck 50%	*085*	n/a		57,350									*57,350*
Lift Station 11 Rehab - 20465 Radisson Rd.	*SS-13-01*	n/a			240,000								*240,000*
Lift Station 9 Rehab - 20995 Minnetonka Blvd	*SS-14-01*	n/a		240,000									*240,000*
Lift Station 7 Rehab - 5600 Woodside Road	*SS-16-02*	n/a	240,000										*240,000*
CIP Sewer Repairs Assoc with Roadway Reconstr	*SS-99-01*	n/a	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	*500,000*
Televising & Cleaning	*SS-99-02*	n/a	0	0	0	0	0	0	0	0	0	0	*0*
Sewer Additional	*SS-99-04*	n/a				25,000	25,000	25,000	25,000	25,000	25,000	25,000	*175,000*
Infiltration and Inflow Reduction	*SS-99-05*	n/a	70,000	70,000	70,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	*770,000*
Glen Rd, Amlee Rd, Manitou Ln reconstruction	*ST-20-01*	n/a	110,326										*110,326*
Edgewood Rd reconstruction	*ST-21-01*	n/a				185,709							*185,709*
Excelsior Blvd reclamation	*ST-21-02*	n/a								139,345			*139,345*
Strawberry Ln reconstruction	*ST-23-01*	n/a		175,049									*175,049*
Grant Lorenz Rd reconstruction	*ST-23-02*	n/a						131,346					*131,346*
Eureka Rd N reconstruction	*ST-23-03*	n/a									143,525		*143,525*
Birch Bluff Rd reconstruction	*ST-23-99*	n/a			120,200								*120,200*
Noble Rd recon	*ST-24-01*	n/a				185,709							*185,709*
2030 Street Reconstruction	*ST-30-01*	n/a										200,000	*200,000*
611 - Sanitary Sewer Fund Total			470,326	592,399	480,200	526,418	155,000	286,346	155,000	294,345	298,525	355,000	*3,613,559*
631 - Stormwater Management Fund													
Pump - 4' Discharge Trailer Mtd	*050*	n/a			62,400								*62,400*
Culvert Replace - Galpin Lake Rd and Mayflower Rds	*CR-21-01*	n/a	9,000										*9,000*
Culvert Replace - 22630/22695 Murray St	*CR-21-02*	n/a	8,000										*8,000*
Culvert Replace - 22535 Murray St/6180 Cardinal Dr	*CR-22-01*	n/a		11,000									*11,000*
Glen Rd, Amlee Rd, Manitou Ln reconstruction	*ST-20-01*	n/a	819,867										*819,867*
Edgewood Rd reconstruction	*ST-21-01*	n/a				678,682							*678,682*
Excelsior Blvd reclamation	*ST-21-02*	n/a								157,828			*157,828*
Strawberry Ct	*ST-22-01*	n/a		40,000									*40,000*
Peach Circle	*ST-22-02*	n/a		25,000									*25,000*
Strawberry Ln reconstruction	*ST-23-01*	n/a		469,066									*469,066*

Source	#	Priority	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Grant Lorenz Rd reconstruction	*ST-23-02*	n/a						435,150					*435,150*
Eureka Rd N reconstruction	*ST-23-03*	n/a									457,557		*457,557*
Birch Bluff Rd reconstruction	*ST-23-99*	n/a			410,866								*410,866*
Noble Rd recon	*ST-24-01*	n/a				467,086							*467,086*
Sweetwater Curve reclamation	*ST-25-01*	n/a							61,494				*61,494*
2030 Street Reconstruction	*ST-30-01*	n/a										500,000	*500,000*
Shorewood Oaks Drainage	*STM-20-04*	n/a	190,000										*190,000*
Grant Street Drainage	*STM-20-05*	n/a	250,000										*250,000*
2021 Mill & Overlay - Drainage Improvements	*STM-21-01*	n/a	100,000										*100,000*
Noble Road Channel Widening	*STM-24-01*	n/a				247,612							*247,612*
Smithtown Pond	*STM-24-02*	n/a	3,065,280										*3,065,280*
Freeman Park Outlet	*STM-24-03*	n/a				96,794							*96,794*
Strawberry Lane Drainage (North)	*STM-25-01*	n/a		1,071,509									*1,071,509*
Strawberry Lane Drainage (South)	*STM-25-02*	n/a		381,924									*381,924*
Grant Lorenz Channel	*STM-26-01*	n/a						262,692					*262,692*
Shorewood Lane Ravine	*STM-26-02*	n/a		280,000									*280,000*
Catch Basin Reconstruction	*STM-99-01*	n/a	30,000	30,000	35,000	35,000	35,000	35,000	35,000	35,000	40,000	40,000	*350,000*
Disposal of Street Sweepings	*STM-99-02*	n/a	36,400	37,100	37,800	38,600	39,400	40,200	41,000	41,800	42,600	42,750	*397,650*
Storm Water Additional	*STM-99-03*	n/a				100,000	100,000	100,000	100,000	100,000	100,000	100,000	*700,000*
Storm Pond Sediment Cleaning & Disposal	*STM-99-04*	n/a	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	*1,500,000*
631 - Stormwater Management Fund Total			4,658,547	2,495,599	696,066	1,813,774	324,400	1,023,042	387,494	484,628	790,157	832,750	*13,506,457*
GRAND TOTAL			11,270,731	7,675,862	4,638,507	9,166,240	864,600	5,067,576	2,529,776	4,007,358	3,668,082	5,012,603	*53,901,335*

APPENDIX D

Smithtown Crossing Project



SMITHTOWN CROSSING

REDEVELOPMENT STUDY

3rd DRAFT

June 2012

Smithtown Crossing Redevelopment Study

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Smithtown Crossing

Executive Summary

While readers are encouraged to read the entire Study, following is a summary of the recommendations included therein:

- Encourage unified/coordinated redevelopment versus a piece-meal/individual approach.
- Consider various incentives to achieve coordinated and higher quality development.
- Utilize Planned Unit Development (P.U.D.) and establish parameters for mixed use (residential and commercial).
- Incentives and rewards will be tied to compliance with the City's redevelopment "guiding principles".
    - Consider use of Tax Increment Financing (TIF) to encourage land assembly, common open area and high quality architecture and landscaping.
    - Consider City acquisition of land as it becomes available to help facilitate land assembly.
- Require marketability and traffic studies for proposed activities.
- Provide for bicycle/pedestrian connections and circulation within the Study Area.
- Require substantial, natural, low maintenance landscaping in order to create buffers and achieve incentives.
- Include public/common open space internal to the project.
- Encourage well articulated architecture with pitched rooflines, tiered levels, interesting shadowing and natural materials.

Smithtown Crossing Redevelopment

Vicinity

Glen Road

TONKA BAY

Co Rd. 19

Shorewood Lane

Gideon Glen

Road

Christopher

County Road 19

Smithtown Road

Smithtown Crossing Study Area

Badger Park

Country Club Road

Minnetonka Country Club (Golf Course)

Echo Road

N

0 120 240 480 Feet

Shorewood Planning Department
04/12

Figure 1

Introduction

Geographically, the intersection of Smithtown Road and County Road 19 (Smithtown Crossing) is relatively centered in the City of Shorewood. The City considers the area surrounding the intersection to be somewhat of a northern gateway to the community. As such, considerable time, energy and money have been invested to enhance the area. The City has developed a "civic campus" including the Shorewood Public Works Facility, the South Lake Public Safety Building, the South Shore Community Center, and a newly remodeled City Hall. Badger Park and the Gideon Glen Conservation Open Space area provide active and passive recreational opportunities for the area, and proximity to the Lake Minnetonka Regional LRT Trail provides pedestrian and bicycle access for South Lake Minnetonka residents. Finally, the intersection itself was redesigned and reconstructed in 2005.

To date, private investment adjacent to Smithtown Crossing has not kept up with public investment. Commercial properties in the area are characterized as disjointed, with buildings that are low-valued and underutilized and, in many cases do not comply with current Shorewood zoning standards. In this regard, the Shorewood Comprehensive Plan has identified the area as being prime for redevelopment.

In order to facilitate redevelopment that makes better use of land, better serves the residents of the community, enhances tax base, reflects the quality and character of the community, and is commensurate with the highly desirable, highly visible Smithtown Crossing area, the City has begun exploring options and incentives to assist the area in realizing its true potential.

The Planning Commission began working on the Smithtown Crossing Redevelopment Study in early 2010. The study area boundary was established as shown on Figure 1, preceding, and Figures 2 and 3 in the following pages. The study area contains a total of 10.9 acres and consists of three locations: 1) the northwest quadrant of the intersection; 2) the southeast quadrant of the intersection; and 3) the area north of County Road 19, just west of Shorewood Lane. The study focused primarily on the northwest quadrant of the intersection, which contains anywhere from 4.52 to 6.56 acres, depending on how far west a project might extend. The southwest quadrant of the intersection contains another 2.74 acres. The area to the north of County Road 19 has 1.59 acres.

A brief planning inventory, examining the various uses in the district, property ownership, zoning and values was prepared and is contained in the Appendix of this report. With the exception of the American Legion, a retail/office building and a small, nonconforming apartment building, the area is predominantly occupied by auto-oriented uses (sales, auto repair, fuel station, car wash, etc.). Two single-family homes are also included in the study area.

Smithtown Crossing Redevelopment

Study Area

(See Appendix for detailed lot information)

Gideon Glen
(Conservation Open Space)

Tonka Bay

Shorewood Public Works

South Lake Public Safety

24620
24590
24560
24530
24470
24450
5660
5680
24250
24245
24275
24285
24365

(.73 ac.)
(.36 ac.)
(1.18 ac.)
(.97 ac.)
(.33 ac.)
(.95 ac.)
(1.05 ac.)
(.99 ac.)
(1.59 ac.)
(.46 ac.)
(.41 ac.)
(.42 ac.)
(1.45 ac.)

Co. Rd. 19

SouthShore Community Center

Smithtown Road

Country Club Rd

Badger Park

0 60 120 240 Feet

Shorewood Planning Department
06/12

Figure 2

Smithtown Crossing Redevelopment
Aerial View

Shorewood Public Works

South Lake Public Safety

Tonka Bay

Gideon Glen

5660

24250

Co. Rd. 19

24620

24590

24560

24530

24470

24450

5680

SouthShore Community Center

24245

24275

24285

24365

Country Club Rd

Smithtown Road

Badger Park

N

0 60 120 240 Feet

Shorewood Planning Department
06/12

Figure 3

Planning Issues

One of the first steps taken by the Planning Commission in its study was to identify planning issues associated with the study area. Following are a list of issues identified to date. These are also illustrated on Figure 2 on the following page.

- Study Area west boundary (it was decided that this edge of the study area could remain somewhat flexible, in the event a developer chooses to acquire one or more of the single-family residential lots that lie west of the commercial area)
- Land uses (considerable interest has been expressed in exploring mixed use for the Study Area
- Buffering and land use transitions
- Taking advantage of views into Gideon Glen while preserving natural views from across and within Gideon Glen
- Access (vehicular) – to and from County Road 19 and to and from Smithtown Road
- Internal circulation – vehicular and pedestrian
- Phasing
- Redevelopment of lots on an individual basis versus unified/coordinated development*
- Future development of golf course property
- Land use and zoning of single-familly residential property at 24250 Smithtown Road
- Pedestrian connection from Badger Park to north side of Smithtown Road
- Drainage**

*The table on the following page sets forth the advantages of unified/coordinated redevelopment versus a piece-meal approach.

**Note. This is a significant issue and supports the concept of a unified development effort. The City Engineer advises us that properties within the study area not only need to address rate control, but also the new volume of water that comes from redevelopment. This supports the concept of a coordinated redevelopment scenario versus piece-meal redevelopment of individual sites. Individually, the properties would have to come up with their own ponding for each site.

Unified/Coordinated versus Piece-meal Redevelopment
Smithtown Crossing

Unified/Coordinated	Piece-meal
Maximize exposure to County Rd 19	Only two properties front on County Rd 19
Maximize view of Gideon Glen	Two properties - no view
Efficient drainage	Each site provides its own seperate pond for rate control and volume storage; more land consumed by ponding
P.U.D. provides flexibility relative to internal setbacks - more efficient use of land	Strict adherence to setback requirements
Opportunity for joint-use parking	Each site provides its own parking, resulting in less efficient land use and circulation
Opportunity for 75% hardcover (site is large enough for on-site treatment)	Maximum 66% hardcover (individual sites too small for treatment solutions)
Consolidated access	Potential congestion from multiple access points
Project identity - "Smithtown Crossing"	Each business on its own
Possibility of City assistance (e.g. T.I.F.)	Each owner on its own
Pedestrian access/circulation	Less attractive to pedestrians (crossing driveways and parking lots
Efficiency of landscaping	Each site on its own

Smithtown Crossing Redevelopment

Planning Issues

- Study Area Boundary
- Buffer
- Transition
- Buffer/Views
- Phases?
- Internal Circulation
  - veh.
  - ped.
- Access
- Access
- Future Development
- Land Use/ Zoning
- Ped. Connection

Gideon Glen
Tonka Bay
Shorewood Public Works
South Lake Public Safety
SouthShore Community Center
Badger Park
Smithtown Road
Country Club Rd
Co. Rd. 19
5660
5680
24620
24590
24560
24530
24470
24450
24250
24245
24275
24285
24305

0 60 120 240 Feet

Shorewood Planning Department
04/12

Figure 4

Redevelopment Guiding Principles

Having identified issues associated with the study area, it was determined that a clear picture of what the City hopes to see for the subject area should be formulated – for lack of a better term, we will use "redevelopment guiding principles". This is the point where we step back and view the area as we would like to see it, say in the next 10-15 years. The redevelopment guiding principles should be a positive expression of what the City wants, rather than a list of what we don't want to see.

The proposed redevelopment guiding principles starts with the Shorewood Comprehensive Plan, which identified an interest in the following:

- Unified/coordinated development; assembly of land parcels
- Planned unit development
- Possible mixed use – commercial/residential
- Opportunity for additional senior housing
- Predominant retail and office uses versus service commercial*

*Since this was written, the Planning Commission held a meeting with real estate development professionals, the consensus of whom indicated that there may not be a strong market for retail. It was suggested that a stronger market may exist for personal service commercial (i.e. banking, health and beauty services, etc.).

In addition to the above, the Planning Commission discussed other factors such as pedestrian/bicycle circulation and connectivity, architectural treatment (e.g. residential character and natural materials), natural landscaping, and compatibility with surrounding land use activities as parameters for the redevelopment of the area. From this, the following was derived:

Redevelopment Guiding Principles – Smithtown Crossing

1. The project will result in a unified/coordinated pattern of development.

2. The use or mixture of uses of property in the study area shall be based on market needs and analysis of detailed traffic study.

3. Site design should take advantage of views afforded by existing natural areas and parks.

4. Uses within the study area shall be arranged to create a transition between higher intensity commercial development and surrounding lower density housing. Any use of land not currently zoned for commercial development shall be limited in building height to 35 feet or two and a half stories. The westerly edge of the project area shall be densely landscaped to enhance the transition.

5. Any housing component should add to and enhance the variety of housing choices in the community.
6. Commercial activities should serve not only the residents of the project area, but the community as a whole.

7. Access to and egress from, and circulation within Smithtown Crossing must be pedestrian/bicycle friendly.

8. Useable, inviting outdoor spaces shall be integrated into the development.

9. Landscaping will be natural and substantial, diminishing parking lot massing and softening and framing buildings on the site.

10. Attractive and articulated architecture with pitched rooflines and natural materials will reflect the residential character and quality of the community.

11. Reduction of building mass may be achieved by using a combination of the following techniques:

    a. Variations in roofline and form.
    b. Use of ground level arcades and covered areas.
    c. Use of protected and recessed entries.
    d. Inclusion of windows on elevations facing streets and pedestrian areas.
    e. Retaining a clear distinction between roof, body and base of building.

Smithtown Crossing – Plan

From the very beginning of this study, it has been realized that properties within the study area may develop or redevelop individually. It is not the City's intent to stand in the way of property owners wishing to improve their land. Individual site development will be expected to adhere to the development regulations currently in place.

What is the intent of this study is to encourage a higher level of quality than might occur with piecemeal development under the current rules. In this regard, there are a number of ways that the City can reduce regulatory obstacles and even incite or reward development built to the higher standards envisioned by this study. The greater a project complies with the City's vision for the area, the greater the incentive with respect to zoning flexibility and even City participation in the project.

Zoning Parameters

With the exception of the public facilities located north of County Road 19 and the three residential properties in the study area, all of the subject lots are zoned C-1, General Commercial (see Figure 4). Individual lots must adhere to the standard of that zoning district, including height limitations. Any coordinated development of several or all of the subject properties should be done by Planned Unit Development (P.U.D.), using the C-1 District and the R-3B, Multiple-Family Residential District as the underlying standards for the project. Any use of currently zoned residential lots shall be residential with building heights not exceeding 35 feet and two and a half stories.

The single-family residential property on the north side of County Road 19 is surrounded by commercial development in Tonka Bay and public facilities (public works, police and fire). The City should be open to a rezoning of this site to R-C, Residential/Commercial.

Update Regulations

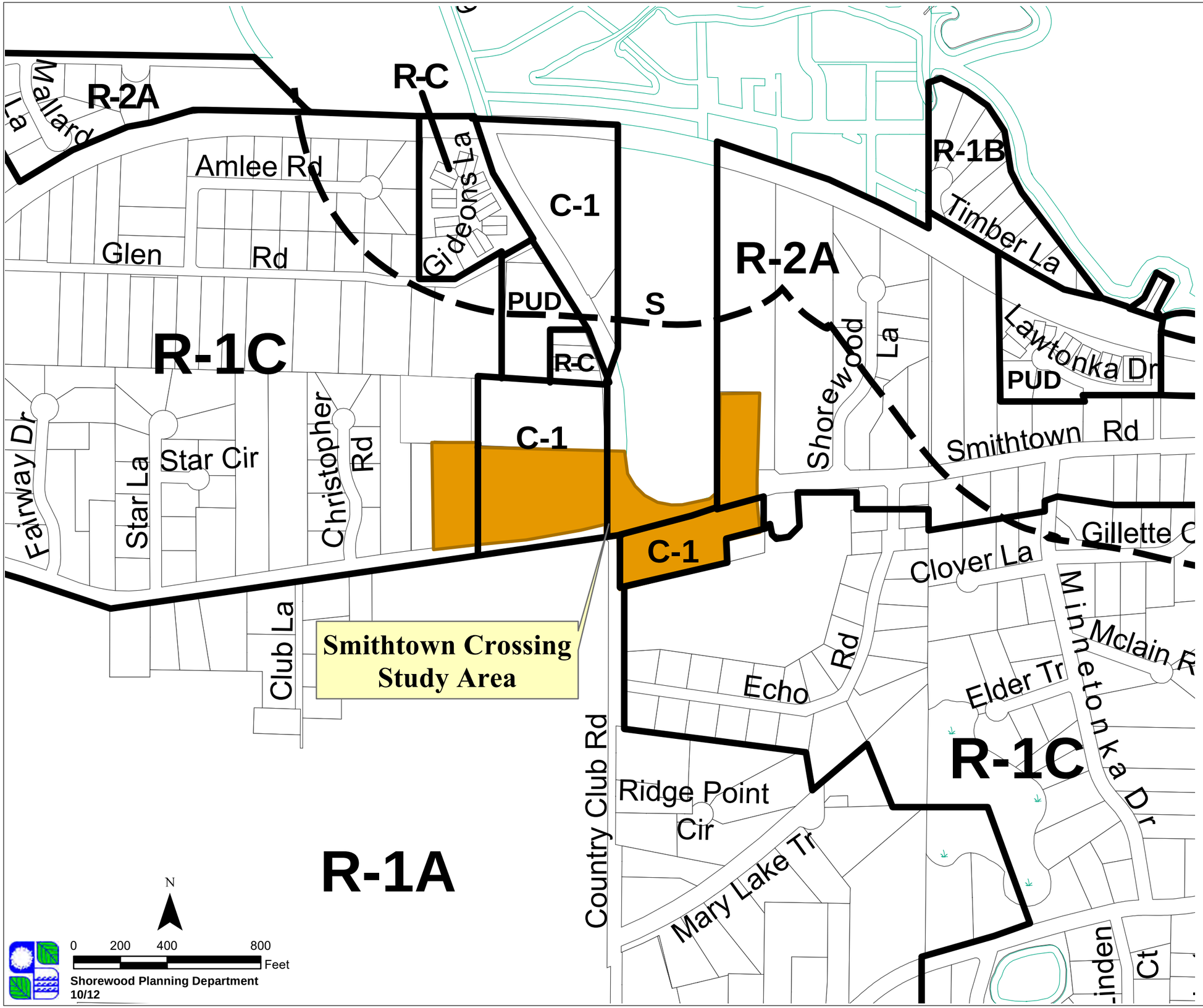
While the City's current P.U.D. provisions could be used to process a mixed use type of project, involving a mixture of commercial and residential development, it is recommended that the Shorewood Zoning Code be amended to specifically address mixed use. This update of the Code would include provisions tying flexibility and reward to the level of compliance with City's vision for the area. One such provision might include an allowance for additional building height based on architectural design and extent and type of landscaping. For certain types of housing in a mixed use project, higher densities than what current regulations allow might be considered where it could be demonstrated that the density would be compatible with surrounding uses and where resulting traffic volumes would not adversely affect existing streets. In this regard, a mixed use project would be required to submit a traffic study as part of its application submittals.

Design Criteria

Inherent to any mixed use development project is attention to pedestrian and bicycle circulation. Site planning should include both internal circulation as well as connections to existing and

Smithtown Crossing Redevelopment

Zoning Districts



RESIDENTIAL DISTRICTS

R-1A	*Single-Family (40,000 sq. ft.)*
R-1B	*Single-Family (30,000 sq. ft.)*
R-1C	*Single-Family (20,000 sq. ft.)*
R-1D	*Single-Family (10,000 sq. ft.)*
R-2A	*Single/Two-Family (20,000/30,000 sq. ft.)*
R-2B	*Single/Two-Family (15,000/20,000 sq. ft.)*
R-2C	*Single/Two-Family (10,000/15,000 sq.ft.)*
R-3A	*Two-Family/Multiple (20,000/30,000 sq. ft.)*
R-3B	*Two-Family/Multiple (15,000/20,000 sq. ft.)*

COMMERCIAL DISTRICTS

C-1	*General Commercial*
C-2	*Service Commercial*

SPECIAL DISTRICTS

L-R	*Lakeshore-Recreational*
PUD	*Planned Unit Development*
S	Shoreland
GD	*General Development*
RD	*Recreational Development*
NE	*Natural Environment*
* FL	*Fire Lane*

Figure 5

future trails and sidewalk systems. Sidewalks built with the reconstruction of the intersection in 2005 will ultimately provide connection with the LRT Trail to the north and to the City Hall/Badger Field complex south and east of the intersection. The County Road 19 Corridor Study illustrates an entire network of pedestrian/bicycle segments to the east of the study area. Smithtown Crossing should link to that system as well as extend west along Smithtown Road to the westerly extent of the project.

Landscaping has long been recognized as an effective means of creating buffers, diminishing the impact of building massing, enhancing architecture and screening and cooling of parking lots. The County Road 19 Corridor Study, adopted in 2003 sets forth concepts for streetscaping along the corridor as it passes through Shorewood. These concepts should be implemented on both the County Road 19 and Smithtown Road sides of the project, converging at the northwest corner of the intersection. This public right-of-way area should be redone and incorporated into the Smithtown Crossing design. Current landscape practice focuses on natural designs that require low to no maintenance, minimizing sprinkling and conserving water. Developers hoping to achieve additional density or building height will want to substantially exceed the minimum landscaping requirements currently found in the City's zoning regulations, both in terms of size and quantities of plant materials.

Example: Landscaping, screening/cooling parking lots

Example: Landscaping, public space

Site planning and landscaping for Smithtown Crossing should incorporate some sort of public space or common area that invites visitors to spend a little more time in the area, relaxing or connecting with others.

It is not the intent of this report to dictate a certain type of architecture. This does not, however, diminish the importance of this critical design element. Shorewood has in the past placed great value on buildings that are in keeping with the residential character of the community. While no formal definition of "residential character" exists, certain characteristics have been identified that begin to describe what the City is looking for. Well articulated buildings with pitched rooflines, tiered levels and interesting shadowing go far in mitigating the visual impact of larger, taller buildings. Similarly, features such as awnings, natural building materials, balconies and lighting help to diminish building masses and create a human scale for the project. And, as mentioned in the previous section, nothing does more to soften and enhance a building than landscaping.

Example: Architecture—pitched roofs, natural materials, shadow, articulation

At present, the C-1 zoning district allows buildings to be three stories or 40 feet in height, whichever is least. The visual impact of such a building can be mitigated by the means discussed above as well as by building placement on the property and use of the natural terrain. For example, the topography found in the northwest quadrant of the intersection may lend itself to partially below-grade levels or underground parking.

Example: Architecture—diminish visual impact of building height with construction materials, landscaping

Smithtown Crossing Redevelopment Concept

From the beginning of this study the City has deliberately avoided trying to dictate the design of the site or the buildings to be located within the project area. Rather, this plan is intended to convey the character of development the City wishes to see in the Study Area. During various public meetings at which the study was presented, it became clear that those interested in the project wanted more visual depictions of what was being described. Preceding pages include photographic examples of the types of buildings and landscaping the City desires. While no attempt has been made to produce an illustrative site plan for the Study Area, the Concept Sketch on the following page attempts to show the potential functional relationships of the various elements of future development.

Smithtown Crossing Redevelopment

Concept Sketch

N

0 60 120 240 Feet

Gideon Glen

Common/Open Space

Pond

Housing

24620

24590

24560

Joint Common Parking

24530

24470

Commercial

5660

5680

24450

Bicycle/Pedestrian

Tonka Bay

Shorewood Public Works

South Lake Public Safety

24250

24200

24100

Co. Rd. 19

24285

24275

24245

24365

Country Club Rd

Smithtown Road

Badger Park

Figure 6

City Participation

While the plan for the redevelopment of Smithtown Crossing includes reducing regulatory obstacles, that alone may not be enough to entice the type of development envisioned in this study. Since the City's vision for the area requires development to substantially exceed current regulations (e.g. extra landscaping, architectural standards, acquisition and combination of land parcels), it will likely take some investment on the City's part. The greater the City's involvement, the greater say the City has in how the property develops. Following are possible ways in which the City can be involved.

Tax Increment Financing

Early on in the conversations about redeveloping the Smithtown Crossing area, tax increment financing (TIF) was mentioned as a possible tool for enticing developers to invest in a project. TIF is a financing tool that uses future gains in tax revenues to finance the cost of current improvements, including - in some cases- writing down the cost of land. Shorewood has used TIF successfully in the past when building the intersection at Old Market Road and Highway 7. In that case, the City opted for a "pay-as-you-go" method where any future risk is assumed by the developer. This is what is recommended for Smithtown Crossing. While there are projects done involving cities assuming some or all of the risk, this method is not recommended for the Smithtown Crossing redevelopment project.

Acquisition of Land

One of the most difficult obstacles to overcome in a redevelopment project is assembling land for a unified, cohesive development. It is strongly suggested that, as parcels within the redevelopment area become available on the market, the City consider acquiring them. These properties should be viewed as an investment in the redevelopment and could be sold to an ultimate developer "at cost" as a demonstration of the City's commitment to the project. This would also provide leverage toward the City having more input on the type, quality and design of the project.

Economic Development Authority

Shorewood already has an Economic Development Authority (EDA) which has been used successfully in the redevelopment of the property currently occupied by the South Lake Public Safety facility. The EDA can be useful with regard to tax increment financing as well as in the acquisition of property. Assisting in the correction of problem soils is yet another function of an EDA.

Appendix

Smithtown Crossing Planning Inventory.xls

Prop. Address	Owner	Use	Zoning	Area (Sq.Ft.)	Area (Ac.)	Land Val.	Struct. Val.	Tot. Val.	Notes
24620 Smithtown Rd	City of Shorewood	Vacant	R-1C	45731	1.05	$150,000		$150,000	
24590 Smithtown Rd	Hirsch	S.F. Res	R-1C	43303	0.99	$115,000	$186,000	$301,000	
24560 Smithtown Rd	American Legion	Vacant	C-1	42107	0.97	$200,000	n/a	$200,000	
24530 Smithtown Rd	Femrite	M.F. Res	C-1	14632	0.33	$90,000	$295,000	$385,000	Nonconforming use
24470 Smithtown Rd	Triple B Equities (Bury)	Auto Sales	C-1	41258	0.95	$410,000	$190,000	$600,000	Substandard building
24450 Smithtown Rd	American Legion	Bar/Rest.	C-1	51431	1.18	$264,000	$136,000	$400,000	
5680 County Rd 19	American Legion	Fuel Station	C-1	15804	0.36	$195,000	$105,000	$300,000	
5660 County Rd 19	HopHerr Props (Heartbr)	Ret./Office	C-1	31694	0.73	$355,000	$45,000	$400,000	
			Subtotals	285960	6.56	$1,744,000	$1,017,000	$2,761,000	
24365 Smithtown Rd	T C Stores (Oasis)	C Store/Fuel	C-1	62970	1.45	$770,000	$170,000	$940,000	
24285 Smithtown Rd	Moore	Auto Sales	C-1	18199	0.42	$171,000	$169,000	$340,000	
24275 Smithtown Rd	Howe	Auto Repair	C-1	17871	0.41	$166,000	$154,000	$320,000	
24245 Smithtown Rd	Wash N Roll	Car Wash	C-1	20218	0.46	$177,000	$138,000	$315,000	
			Subtotals	119258	2.74	$1,284,000	$631,000	$1,915,000	
24250 Smithtown Rd	Justinak	S.F.Res	R-2A	69154	1.59	$216,000	$243,000	$459,000	
24200 Smithtown Rd									

Smithtown Crossing Meetings

The Shorewood Planning Commission has spent many months preparing the Smithtown Crossing Redevelopment Study. Following is a list of Planning Commission meetings at which the Study was discussed. Some of the "milestone" meetings have been highlighted and summaries of selected meetings are provided below. It is worth noting that some of the early discussions referred to Planning District 3 from the Shorewood Comprehensive Plan.

February 17, 2009	
April 7, 2009	
January 19, 2010	
February 16, 2010	
March 2, 2010	
March 16, 2010	
April 6, 2010	Tax Increment Financing (T.I.F.)
April 20, 2010	Vision Statement
May 4, 2010	Joint Meeting with City Council
May 18, 2010	Meeting with Landowners *
June 29, 2010	Meeting with Developers (Forum) **
July 20, 2010	
August 17, 2010	Discussion of Mobile Tour ***
September 14, 2010	Mixed Use
February 15, 2011	
March 1, 2011	

*The Planning Commission met with a number of owners of land within the study area. The purpose of the meeting was to get feedback from them on issues related to redevelopment and to illustrate to them the advantages of a unified, cohesive redevelopment versus a piecemeal approach. The consensus of those attending the meeting appeared to agree with the direction the Commission was proposing.

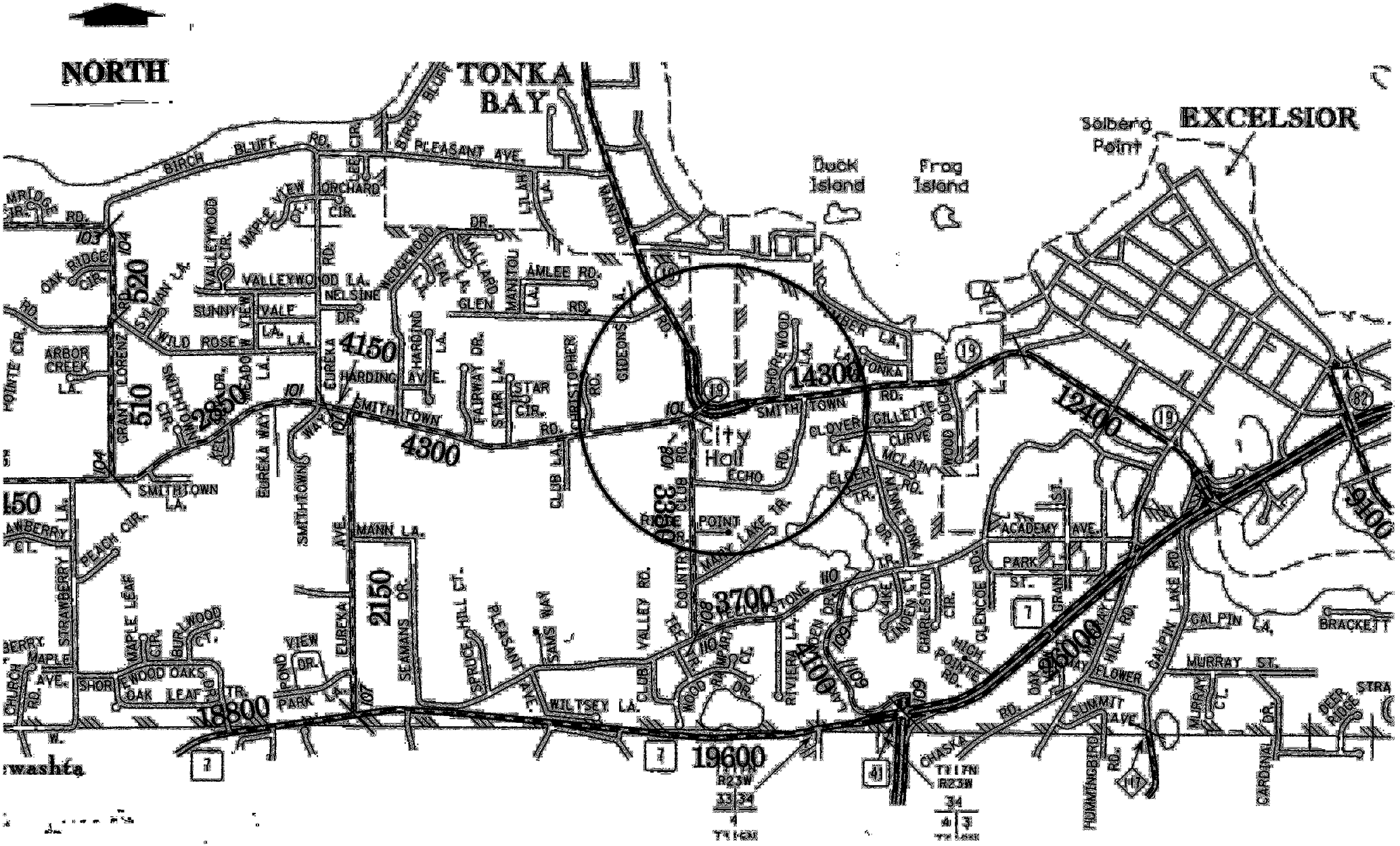
**Early on it was determined that input from people who actually do projects was important to the ultimate success of the project. A panel of development professionals was asked to comment on the Vision Statement and the concept drawings that had been reviewed by the Commission. The panel members all commented on the materials and then answered questions from the

Meetings (continued)

Commission. The general consensus of the panel was that Shorewood's development regulations are in need of revision in order to make a redevelopment project viable. Four key points were made:

1) The site is not well suited for retail commercial. Rather, some sort of service commercial development (e.g. banking, personal services, possibly office, etc.) should be expected.
2) The City should consider allowing something higher than the three stories allowed under the current regulations.
3) Whether the housing element was market or senior, Shorewood's current density limits are too low.
4) In this economy, redevelopment may not occur for some time.

***The Commission spent an evening visiting mixed use and senior housing projects. There was consensus that two projects in Golden Valley, Town Square and the Commons, contained elements that would be desirable for Smithtown Crossing. A mixed use redevelopment project in Glen Lake (Minnetonka) illustrated how the impact of building height could be mitigated with construction materials, siting, and landscaping. Some of the photographs used in this report came from the mobile tour.



2009 Traffic Volumes

Source: Minnesota Department of Transportation

APPENDIX E

Local Water Supply Plan

APPENDIX F

Local Surface Water Management Plan

Exhibit N

SuperAmerica Grp., Inc., v. City of Little Canada, 539 N.W.2d 264, 268 (Minn. Ct. App. 1995)

JUSTIA

SUPERAMER. GRP. v. City of Little Canada

539 N.W.2d 264 (1995)

SUPERAMERICA GROUP, INC., A DIVISION OF ASHLAND OIL, INC., Appellant, v. CITY OF LITTLE CANADA, Respondent.

No. C6-95-802.

Court of Appeals of Minnesota.

November 7, 1995.

Review Denied January 5, 1996.

*265 Gary A. Van Cleve, Timothy J. Keane, Larkin, Hoffman, Daly & Lindgren, Ltd., Bloomington, for Appellant.

Paul T. Ostrow, Sweeney, Borer & Ostrow, St. Paul, for Respondent.

*266 Considered and decided by SHORT, P.J., and PARKER and KLAPHAKE, JJ.

OPINION

SHORT, Judge.

This zoning dispute involves an application for a conditional use permit to operate a gas station and convenience store facility at the intersection of Little Canada Road and Country Drive in the City of Little Canada (the city). When the city denied the permit, SuperAmerica Group, Inc., a division of Ashland Oil, Inc., sued to declare the city's action illegal and to mandate issuance of the conditional use permit. On appeal from the trial court's grant of

summary judgment in favor of the city, SuperAmerica argues the record does not support denial of its application. We affirm.

FACTS

SuperAmerica applied for a conditional use permit to construct a facility overlooking Interstate 35E. While the area is zoned for commercial business, the proposed use requires the city's consent under Little Canada, Minn., Mun.Code § 912.040.C, in part, to regulate and avoid conflict between vehicular access points and through traffic movement.

After conducting a study of the roadway system's capacity to accommodate additional traffic, an independent traffic consultant testified it would be difficult to complete left turns during peak traffic, but the amount of traffic generated by the proposed use would be "relatively small, especially compared to the total volumes already on Little Canada Road." The traffic consultant hired by SuperAmerica supported these conclusions and submitted a technical memorandum reporting that the site was capable of supporting the proposed use. The city's planning commission considered the application and, by a split vote, recommended approving the permit because the "traffic issue is a pre-existing condition and data suggests that the development of a SuperAmerica will not exacerbate conditions." At a public hearing, numerous residents and local business owners testified against issuance of the permit due to probable traffic aggravation and concerns relating to crime and pollution. The public meeting was recorded and summarized in prepared minutes.

Following the public hearing, the city council denied SuperAmerica's application. The city concluded issuance of the conditional use permit was inconsistent with its comprehensive land use plan.

ISSUE

Did the city act unreasonably, arbitrarily, or capriciously in denying SuperAmerica's application for a conditional use permit?

ANALYSIS

Land use decisions are entitled to great deference and will be disturbed on appeal only in instances where the city's decision has no rational basis. Carl Bolander & Sons Co. v. City of Minneapolis, 502 N.W.2d 203, 207 (Minn.1993); White Bear Docking & Storage v. City of White Bear Lake, 324 N.W.2d 174, 176 (Minn.1982). In a zoning action, we review directly the proceedings before the zoning authority, not the trial court's findings. Bolander, 502 N.W.2d at 207. Where the municipal proceedings are fair and complete, review is on the

record before the municipal authority. Swanson v. City of Bloomington, 421 N.W.2d 307, 313 (Minn.1988).

A zoning ordinance should be construed (1) according to the plain and ordinary meaning of its terms, (2) in favor of the property owner, and (3) in light of the ordinance's underlying policy goals. Frank's Nursery Sales, Inc. v. City of Roseville, 295 N.W.2d 604, 608-09 (Minn.1980); Medical Servs., Inc. v. City of Savage, 487 N.W.2d 263, 266 (Minn.App.1992). General rules of statutory construction may also aid interpretation. See Batalden v. County of Goodhue, 308 N.W.2d 500, 501 (Minn.1981) (interpreting a zoning ordinance using canons of statutory construction).

A city's comprehensive plan contains objectives, policies, standards, and programs to guide public and private land use. Minn.Stat. § 473.859, subd. 1 (1994). Cities adopt zoning ordinances to execute the policies *267 and goals of their land use plan. Minn. Stat. § 462.357, subd. 1 (1994). While expressly authorized by a zoning ordinance, "conditional uses" require the zoning authority's consent because of inherent hazards or location problems. Zylka v. City of Crystal, 283 Minn. 192, 195, 167 N.W.2d 45, 48-49 (1969). Despite this discretion, a city council may deny a conditional use permit only for reasons relating to the public health, safety, and general welfare or for incompatibility with a city's land use plan. Hubbard Broadcasting, Inc. v. City of Afton, 323 N.W.2d 757, 763 (Minn.1982); C.R. Investments, Inc. v. Village of Shoreview, 304 N.W.2d 320, 324-25 (Minn.1981).

The city will issue a conditional use permit for the construction and operation of a convenience gas, grocery, and food operation provided, in part, that:

Vehicular access points shall create a minimum of conflict with through traffic movement * * *.

Little Canada, Minn., Mun.Code § 912.040.C.9 (1995). SuperAmerica does not challenge the city's authority to require a conditional use permit under Minn.Stat. § 462.3595, subd. 1 (1994). Rather, SuperAmerica argues the city's comprehensive land use plan provides a legally insufficient basis for denying SuperAmerica's conditional use permit. See C.R. Investments, 304 N.W.2d at 327-28 (holding a plan's requirements that a proposed use constitute "an `improvement' on the plan" and be "consistent with the plan's general intent and purpose" are unreasonably vague and subjective and, thus, are a legally insufficient basis for denial of a permit).

The city's comprehensive plan specifically calls for restriction of commercial development at street intersections and prevention of overcrowding and overintensification of land use. Those established standards are not vague or subjective requirements. By adopting Little Canada, Minn., Mun.Code § 912.040.C.9, the city implemented its legitimate land use objective of avoiding additional traffic congestion.

The record demonstrates: (1) the gas station and convenience store facility would be located at the intersection of Little Canada Road and Country Drive; (2) the site already experiences heavy traffic congestion; (3) left turns at the site are extremely difficult during peak periods; and (4) the west ramp on Little Canada Road is currently operating at an estimated 90 percent traffic capacity. Because the city council could rationally conclude the proposed use is inconsistent with definite and objective guidelines provided in the city's comprehensive land use plan, the city council lawfully denied SuperAmerica's application. See, e.g., Hubbard Broadcasting, 323 N.W.2d at 762-63 (holding inconsistency with plan based on "intention to preserve and enhance the low-density residential-agricultural character of the community and its scenic beauty" a legally sufficient reason to deny permit); Barton Contracting Co. v. City of Afton, 268 N.W.2d 712, 717-18 (Minn.1978) (upholding denial of special use permit because plan was "permeated with evidence of a strong desire to preserve the rural character and unique scenic beauty").

SuperAmerica also argues the city arbitrarily rejected the uniform conclusions of all expert witnesses in favor of neighbors' opposition to the issuance of the permit. While a city may not reject expert testimony without adequate supporting reasons, those reasons need not be based on expert testimony. See Chanhassen Estates Residents Ass'n v. City of Chanhassen, 342 N.W.2d 335, 340 (Minn.1984) (holding denial of permit must be based on something more concrete than "non-specific" neighborhood opposition); BBY Investors v. City of Maplewood, 467 N.W.2d 631, 635 (Minn.App.1991) (holding city may rebut expert testimony with nonexpert testimony), review denied (Minn. May 23, 1991); Scott County Lumber Co. v. City of Shakopee, 417 N.W.2d 721, 728 (Minn.App. 1988) (finding city could not prefer landowners' opinions, without a concrete basis, over experts' conclusions), review denied (Minn. Mar. 23, 1988). A city may deny a conditional use permit if the proposed use would adversely affect the general welfare. Zylka, 283 Minn. at 197, 167 N.W.2d at 49-50. Further, a city may consider neighborhood opposition if based on concrete information. See Scott County Lumber, 417 N.W.2d at 728 (holding community opposition insufficient *268 without concrete supporting evidence); see also Swanson, 421 N.W.2d at 313 (acknowledging city may consider neighborhood opposition).

In the present case, residents expressed more than a vague concern about future neighborhood problems. Numerous business owners and residents of neighboring apartment buildings testified about "current congestion" and specifically that "it takes three to four light changes just to get through the intersection." These nonexpert witnesses spoke of existing, daily traffic problems. See Corwine v. Crow Wing County, 309 Minn. 345, 361, 244 N.W.2d 482, 491 (1976) (noting status as area residents is sufficient "to establish competency and personal knowledge" of many alleged facts), overruled in part on other grounds by Northwestern College v. City of Arden Hills, 281 N.W.2d 865 (Minn.1979); St. Croix Dev., Inc. v. City of Apple Valley, 446 N.W.2d 392, 399 (Minn.App.1989) (finding citizen complaints concerning road with pre-existing traffic problem well-founded based on record), review denied (Minn. Dec. 1, 1989). While expert witnesses testified an increase in traffic due to SuperAmerica's use would be "relatively small," they also testified that: (1) making a left turn from the site onto Little Canada Road was extremely difficult, and often impossible, due to traffic congestion; (2) many vehicles had to wait two cycles at the stoplight before completing a turn; (3) the proposed use would cause three times as much (from 800 trips to 2,500) traffic as the operation of a restaurant during peak times; (4) the restaurant currently occupying the site closes at 3:00 p.m. so there is no reliable traffic data on peak hours; and (5) during peak hours, between 5 and 17 cars typically are waiting at the stoplight on Country Drive. The zoning authority properly considered all testimony, including the experts' acknowledgement of existing traffic congestion and the neighbors' concrete, current observations. The experts' testimony did not mandate issuance of the permit.

DECISION

The city denied SuperAmerica's application for a conditional use permit because the proposed use was inconsistent with definite and objective requirements contained in the city's comprehensive land use plan and would adversely affect the general welfare. The city did not act arbitrarily or capriciously because it had a rational basis for denying the conditional use permit.

Affirmed.

Some case metadata and case summaries were written with the help of AI, which can produce inaccuracies. You should read the full case before relying on it for legal research purposes.

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Exhibit O
RDNT, LLC v. City of Bloomington, 861 N.W.2d 71, 77 (Minn. 2015)

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RDNT LLC v. CITY OF BLOOMINGTON (2015)

Supreme Court of Minnesota.

RDNT, LLC, Appellant, v. CITY OF BLOOMINGTON, Respondent.

No. A13–0310.

Decided: March 18, 2015

Tamara O'Neill Moreland, Larkin, Hoffman, Daly & Lindgren, Ltd., Bloomington, MN, for appellant. Paul D. Reuvers, Stephanie A. Angolkar, Iverson Reuvers Condon, Bloomington, MN, for respondent. Jonathan W. Lips, Natalie Wyatt–Brown, Halleland Habicht P.A., Minneapolis, MN; and Benjamin T. Peltier, Saint Paul, MN, for amicus curiae Aging Services of Minnesota. John M. Baker, Katherine M. Swenson, Greene Espel PLLP, Minneapolis, MN, for amicus curiae Minnesota Chapter of the American Planning Association. Mark R. Whitmore, Daniel R. Olson, Bassford Remele, P.A., Minneapolis, MN, for amicus curiae Ebenezer Society. Susan L. Naughton, League of Minnesota Cities, Saint Paul, MN, for amicus curiae League of Minnesota Cities. Terrance W. Moore, Carol R.M. Moss, Hellmuth & Johnson, PLLC, Edina, MN, for amicus curiae LifeSpan of Minnesota, Inc. Kyle D. White, Saint Paul, MN, for amicus curiae National Alliance on Mental Illness of Minnesota.

OPINION

RDNT, LLC asks us to hold that the City of Bloomington's decision to deny RDNT's conditional use permit application was unreasonable, arbitrary, and capricious, and to hold that the City did not properly consider RDNT's proposed traffic-mitigating conditions. We hold that the City's decision was not unreasonable, arbitrary, or capricious, as the City based its decision on a legally and factually sufficient ground: that the proposed use would be injurious to the surrounding neighborhood or otherwise harm

the public health, safety, and welfare. We also hold that the City's determination that RDNT's proposed efforts to mitigate traffic were insufficient was not unreasonable, arbitrary, or capricious.

I.

RDNT, LLC ("RDNT") owns the Martin Luther Care Campus ("Campus"), located in Bloomington. The Campus consists of two buildings: the Martin Luther Care Center and Meadow Woods Assisted Living. The Campus provides a variety of services, including assisted living, memory care, skilled nursing, adult day care, and transitional care.

On September 27, 2011, RDNT submitted an application to the City for a conditional use permit. In its application, RDNT sought to expand its existing assisted living services by adding a third building to the Campus. RDNT stated that the expansion would allow those served by its existing transitional care unit to transfer into the assisted living units, thereby allowing them to "age in place."

At the time, the Campus consisted of 137 units in its skilled nursing facility and 117 units in its assisted living facility. The proposed addition would be three stories tall and contain 67 "catered living units," increasing the total units from 254 to 321: a 26 percent increase. It would also increase the staff from 186 to 202 employees: an 8 percent increase. And it would increase the total building square footage from 198,209 square feet to 321,264 square feet: a 62 percent increase.

On November 3, 2011, RDNT presented its application to the Bloomington Planning Commission in a meeting open to public comment. Numerous citizens spoke about the proposed expansion, with many voicing concerns about increased traffic. The Planning Commission unanimously voted to recommend denial of the conditional use permit application. The Planning Commission adopted the view of its staff report that the proposed expansion would violate the City's comprehensive plan because: 1) it is not adjacent to an arterial or collector street; 2) it is not in close proximity to transit, amenities, and services; and 3) it would not preserve the character of the surrounding low density, single family neighborhood. The Planning Commission also adopted the staff's view that the proposed use would violate the City's conditional use permit ordinance because it would be injurious to the surrounding neighborhood or otherwise harm the public health, safety, and welfare. The staff based its views on estimated increases in traffic and on the size, density, and design of the proposed building.

The City Council met on November 21, 2011, to consider the application. Among other materials, the City Council reviewed traffic studies from two different experts estimating the future traffic volume that would be generated by the proposed expansion.

SRF Consulting Group, Inc. ("SRF"), hired by the City, conducted the first study. Using data collected on its own and by City staff, SRF calculated that the Campus generated 1,145 trips on an average day, resulting in 4.50 trips per bed. That figure exceeded the standard trip generation rate for similar facilities,

which is 2.66 trips per bed. SRF relied on the 4.50 trips per bed rate in order to provide a "conservative estimate." SRF then examined the extent to which the proposed expansion would increase traffic. Using the "actual (collected) trip generation rates," SRF determined that the expansion would increase the daily number of trips from 1,145 to 1,447: a 26 percent increase. SRF concluded that the Campus generated trips on the higher end compared to similar facilities. SRF also concluded that "existing neighborhood roadways and intersections have sufficient capacity to accommodate the additional vehicles expected from the . expansion and no additional roadway improvements would be necessary to accommodate the expansion as proposed." SRF noted that delays at East Old Shakopee Road and East 98th Street would likely increase, but the increase would be "minimal."

URS Corporation ("URS"), retained by RDNT, conducted the second study. In evaluating the effect of the expansion on the number of trips generated, URS acknowledged that SRF's collected trip generation rate was calculated using an "accepted method." However, URS contended that SRF based its rate on incorrect assumptions. URS contended that the new addition would share trips with the current site and would thus not increase traffic at the same rate that the existing use generated. URS further asserted that because the new facility would offer a "lower intensity of care," similar to the existing assisted living facility, it would require fewer employees and trips than a more intensive-care facility, like the existing skilled nursing facility. Instead, URS determined that the industry standard rate of 2.74 trips per bed should apply to the new expansion. This would result in an additional 184 daily trips, for a total of 1,329 daily trips: a 16 percent increase. URS also evaluated the Campus's existing Transportation Demand Management Program ("TDMP"), which included a variety of measures designed to reduce the number of new and existing trips generated by the Campus. URS concluded that a more robust TDMP could further reduce the number of trips generated by the Campus by up to 70 trips per day. URS also determined that working with major vendors could reduce truck trips by six to eight trips per day.

In addition to the expert studies, the City Council received information from the neighborhood. Those in favor of the expansion highlighted the individual and community benefits of assisted living for the elderly. Those in opposition focused primarily on the effect that the Campus's existing traffic had on noise, safety, home values, and the general character of the neighborhood. Public comments given at the City Council meeting echoed the written concerns, with the primary emphasis on traffic issues.

By a vote of four to three, the City Council passed a resolution to deny RDNT's application for a conditional use permit. The resolution set forth four reasons for the denial. The first three reasons related to conflicts with different comprehensive plan provisions. The fourth reason related to the City conditional use permit ordinance, which requires that the "proposed use will not be injurious to the surrounding neighborhood or otherwise harm the public health, safety and welfare." Bloomington, Minn., Code of Ordinances ch. 21, art. V, div. A, § 21.501.04(e)(5) (2014).[1] The City Council found that the increase in square footage rendered the expanded Campus "incompatible with the scale and character of

the surrounding low density, single family neighborhood." The City Council found that most structures in the neighborhood would be one-fifth or less than the size of the new addition. It also cited increased traffic volumes, projected to total between 1,377 and 1,447 daily trips, as injurious or otherwise harmful. The City Council further found that the traffic volume would be "over three and one half times the average daily trips" than if the 13–acre site were instead developed to a low density of three units per acre. And it found the various traffic concerns submitted by the public to be "credible and consistent with the traffic studies presented and staff analysis of the application." Finally, the City Council found RDNT's TDMP to be insufficient to avoid the injury, given the location and nature of the Campus.

RDNT filed a complaint and petition for alternative writ of mandamus with the Hennepin County District Court. On cross-motions for summary judgment, the district court granted summary judgment to RDNT and reversed the denial of RDNT's application. The district court held that, for each of the four reasons given, the City "misapplied certain standards, misrepresented the impact of certain studies, and appeared to ignore evidence to the contrary." Specifically, as to the fourth reason, the district court held that the record was insufficient to support a finding that the proposed use would injure the neighborhood or harm the community. The district court criticized the City's reliance on the SRF study and the generalized neighborhood opposition.

The City appealed. In an unpublished opinion, the court of appeals reversed, holding that the City appropriately exercised its discretion. RDNT, LLC v. City of Bloomington, No. A13–0310, 2014 WL 30382 (Minn.App. Jan.6, 2014). Of the four reasons given by the City for its decision, the court of appeals held that three were factually and legally sufficient.[2] Id. at *2–9. On the fourth reason identified by the City, involving injury to the neighborhood and harm to the public health, safety, and welfare, the court of appeals held that the City ordinance from which that standard was derived was legally sufficient, and that the City was within its discretion in finding that the proposed use violated this ordinance, based on the square-footage and traffic evidence. Id. at *9.

We granted RDNT's petition for review.

II.

RDNT argues that each of the City's four reasons for denying RDNT's conditional use permit application was arbitrary and capricious. We limit our consideration to the City's fourth reason: that the proposed use would violate subdivision (e)(5) of the City's conditional use permit ordinance.[3]

"[T]he interpretation of an existing ordinance is a question of law for the court." Frank's Nursery Sales, Inc. v. City of Roseville, 295 N.W.2d 604, 608 (Minn.1980). We review a question of law de novo. Alpha Real Estate Co. of Rochester v. Delta Dental Plan of Minn., 664 N.W.2d 303, 311 (Minn.2003).

We will reverse a governing body's decision regarding a conditional use permit application if the governing body acted unreasonably, arbitrarily, or capriciously. Schwardt v. Cnty. of Watonwan, 656 N.W.2d 383, 386 (Minn.2003).[4] There are two steps in determining whether a city's denial was unreasonable, arbitrary, or capricious. First, we must determine if the reasons given by the city were legally sufficient. C.R. Invs., Inc. v. Vill. of Shoreview, 304 N.W.2d 320, 325 (Minn.1981). Second, if the reasons given are legally sufficient, we must determine if the reasons had a factual basis in the record. Id.

A.

We first address whether the City's conditional use permit ordinance is legally sufficient. The City's ordinance states in relevant part: "The following findings must be made prior to the approval of a conditional use permit: . (5) The proposed use will not be injurious to the surrounding neighborhood or otherwise harm the public health, safety and welfare." Bloomington, Minn., Code of Ordinances ch. 21, art. V, div. A, § 21.501.04(e)(5) (2014). We have long held that a city may deny a conditional use permit application if the proposed use endangers "the public health or safety or the general welfare of the area affected or the community as a whole." Zylka v. City of Crystal, 283 Minn. 192, 196, 167 N.W.2d 45, 49 (1969). However, we have also held that the "absence of more express standards makes denial of a special-use permit more, not less, vulnerable to a finding of arbitrariness." Hay v. Twp. of Grow, 296 Minn. 1, 6, 206 N.W.2d 19, 22–23 (1973).

Thus, we hold that the City ordinance is legally sufficient, but will examine the factual basis for the City's findings more closely than we would under a less subjective standard.

B.

Second, we address whether the City had a reasonable factual basis to determine that the proposed use would injure the surrounding neighborhood or otherwise harm the public health, safety, and welfare. We hold that it did.

The City and RDNT offer conflicting evidence about the effect the proposed use would have on traffic. Upon review of a city's decision, our function is "not to weigh the evidence, but to review the record to determine whether there was legal evidence to support the zoning authority's decision." Barton Contracting Co. v. City of Afton, 268 N.W.2d 712, 718 (Minn.1978). With expert witnesses, we do not "attempt to weigh the credibility of conflicting experts, but instead review the record to ensure that the decision . had support in the record." Billy Graham Evangelistic Ass'n v. City of Minneapolis, 667 N.W.2d 117, 124 (Minn.2003). In other words, courts should ordinarily defer to a city's judgment on conflicting evidence. See White Bear Docking & Storage, Inc. v. City of White Bear Lake, 324 N.W.2d 174, 176 (Minn.1982).

Even so, it is not necessary for us in this case to defer to the City's projections to determine whether it had a reasonable factual basis. The City estimated that the daily number of trips would increase after the expansion from 1,145 to somewhere between 1,377 and 1,447, while RDNT estimated that the number of trips would be 1,259, taking the TDMP into account. Even by RDNT's projection, the expansion would add over 100 daily trips. Further, the City's engineer estimated that average traffic counts for a residential street were between 300 to 500 trips, and that the public tends to complain once traffic increases to 1,000 trips per day on such a street. Thus, regardless of which estimate is more accurate, there is a factual basis in the record for the City to find that the proposed expansion would increase traffic on already busy streets.

The evidence relied on by the City to find that the increase would injure the neighborhood is distinguishable from the evidence we held to be insufficient in C.R. Investments v. Village of Shoreview, 304 N.W.2d 320, 325 (Minn.1981). In that case the only evidence of a traffic control problem on a certain road was "the statement of one council member that he had been told of a problem existing at one intersection and his opinion that additional housing units might aggravate that problem." Id. Here, neighbors gave concrete testimony about how the increase would exacerbate existing traffic conditions. For instance, one neighbor wrote about vehicles driving through crosswalks near the school, even though the crossing guards had their flags out. Another neighbor wrote about observing vehicles that sped and made U-turns. Yet another neighbor wrote about the incredible amount of "traffic and noise" due to the large number of delivery trucks, emergency vehicles, shuttle buses, passenger cars, and garbage vehicles. Thus, RDNT's argument that the City relied on vague concerns for public health and welfare is simply unfounded: the City had in hand multiple traffic studies, the City engineer's testimony regarding specific data, and detailed factual complaints from the neighborhood.

Still, RDNT argues that because the streets are not near capacity, as both the City's engineer and SRF acknowledge, the City had no factual basis to deny the application. For this argument, RDNT relies on Chanhassen Estates, in which we held that the evidence was insufficient to reverse the grant of a conditional use permit where the neighborhood organization only offered "non-specific testimony that the proposed [use] poses potential traffic hazards at the intersection," while the city offered "the city engineer's testimony that the intersection could handle the anticipated traffic." Chanhassen Estates Residents Ass'n v. City of Chanhassen, 342 N.W.2d 335, 340 (Minn.1984). Chanhassen Estates is distinguishable. In that case, the city engineer concluded that the intersection could handle the traffic, and we deferred to that conclusion in declining to reverse the city's decision to grant a conditional use permit. Id. Here, although the City's engineer concluded the streets were not at capacity, the City relied on specific evidence—traffic studies, average street numbers, and neighborhood testimony—to conclude that the proposed use would nonetheless injure or otherwise harm the neighborhood. Not unreasonably, the City determined that street capacity alone was not dispositive as to whether an increase in traffic injures the neighborhood or otherwise harms the public health, safety, and welfare. The fact that a street

could physically handle more traffic does not determine whether the neighborhood or the public could handle more traffic. To paraphrase one of the City's planners: this is not a capacity issue, it is a livability issue. On that issue, we cannot say the City acted unreasonably, arbitrarily, or capriciously.

Because of the traffic studies, the City engineer's testimony, and the neighborhood testimony, we hold that the City had a sufficient factual basis to determine that the increase in traffic would injure the neighborhood or otherwise harm the public health, safety, and welfare.[5]

III.

RDNT also contends that the City unreasonably, arbitrarily, and capriciously determined that RDNT's proposed mitigation efforts would be insufficient to alleviate the traffic issue. We disagree.

Minnesota Statutes § 462.3595 provides: "Conditional uses may be approved by the governing body . by a showing by the applicant that the standards and criteria stated in the ordinance will be satisfied." Minn.Stat. § 462.3595, subd. 1 (2014) (emphasis added). Thus, the burden was on RDNT to show that it could satisfy the standards specified by ordinance. If a conditional use permit applicant demonstrates to the governing body that imposing a reasonable condition would eliminate any conflict with the ordinance's standards and criteria, it follows that the governing body's subsequent denial would be arbitrary. See Zylka v. City of Crystal, 283 Minn. 192, 196, 167 N.W.2d 45, 49 (1969) ("A denial would be arbitrary . if it was established that all of the standards specified by the ordinance as a condition to granting the permit have been met." (footnote omitted)).

RDNT argues that the City should have suggested or imposed mitigating conditions. We have held that a city's decision to deny a conditional use permit was arbitrary in part because "there was no attempt made, either by the opponents or the council, to suggest or impose conditions" that would mitigate problems with the development. Minnetonka Congregation of Jehovah's Witnesses, Inc. v. Svee, 303 Minn. 79, 85–86, 226 N.W.2d 306, 309 (1975). But we decided Svee before the Legislature enacted section 462.3595, Act of Mar. 22, 1982, ch. 507, § 24, 1982 Minn. Laws 587, 594 (codified at Minn.Stat. § 462.3595 (2014)), which places the burden on the applicant to satisfy the standards and criteria in the ordinance. To the extent there is any conflict between Svee and the later-enacted statute, the plain language of the statute controls.

Regardless of Svee, RDNT relies on C.R. Investments to argue that the City did not adequately consider RDNT's proposed mitigating conditions. See C.R. Invs., Inc. v. Vill. of Shoreview, 304 N.W.2d 320 (Minn.1981). In that case, the village council had been informed that a traffic hazard could be eliminated by furnishing turn-around areas in the driveways. Id. at 325. The village council ignored that proposed reasonable condition. Id. Taking the ignored reasonable condition into consideration, we found no

evidence warranting an inference that the traffic aggravation would be "substantial," and thus held the village's decision to be arbitrary. Id.

Unlike the village in C.R. Investments, which ignored the applicant's reasonable proposal, see id., the record before us shows that the City adequately considered the proposed mitigating conditions in several ways. In rejecting RDNT's application, the City concluded that the "minimization of the trip volume by the proposed Traffic Demand Management Plan is insufficient to avoid injury to the public health, welfare and safety of the residential neighborhood." In SRF's expert report, heavily relied on by the City, SRF considered the TDMP. SRF admitted, taking the addition into account, that the TDMP had "the potential to reduce the facility trips by approximately 70 trips per day." However, SRF cautioned that the "effectiveness of these strategies is difficult to quantify without post implementation data to support this forecast reduction; caution should be demonstrated when estimating the actual impact to trip reduction." SRF also warned that "TDMPs typically tend to be the most effective in central business districts or in heavily transit-oriented developments versus the suburb-type development that this is."[6] Even if URS's estimates regarding traffic generation and the TDMP's effectiveness were accurate, the expansion would still add over 100 daily trips. Thus, the City had a reasonable factual basis to determine that the proposal would not alleviate the traffic concerns.

Accordingly, based on the record, the City did not act unreasonably, arbitrarily, or capriciously when it denied RDNT's conditional use permit application.

Affirmed.

CONCURRENCE

I agree with the majority's conclusion that the City did not act arbitrarily or capriciously by denying the conditional use permit as "injurious to the surrounding neighborhood or otherwise harm[ful to] the public health, safety and welfare." I am not impressed with the strength of the City's argument, and am particularly struck by the willingness of the City to ignore the long-standing use of the property by RDNT, a use that predates the arrival of the neighbors now complaining about traffic. That said, given our deferential standard of review, I would affirm on the grounds advanced by the majority opinion.

I write separately, however, to address an alarming argument advanced by the City that the majority, properly, does not reach in affirming the court of appeals. That argument is that the City may properly deny a conditional use permit when the proposed use is in conflict with its comprehensive plan. My concurring opinion is prompted by significant uncertainty in our statutory framework and confusion in our case law concerning the role of comprehensive plans. Although not addressed by the parties here, there are also constitutional implications lurking behind the insistence of the City that a conditional use permit may be denied for any comprehensive plan violation.

I.

To understand why we should be concerned with the City's argument, some history of land use planning is necessary. Early zoning lacked a formal planning element.[1] Although comprehensive planning was advocated as early as the 1920s, modern planning did not exist until the 1940s. 4 Kenneth H. Young, Anderson's American Law of Zoning § 23.02 (4th ed.1996). Early state zoning enabling acts were generally enacted without corresponding planning legislation, and zoning regulations were carried out with no large-scale plan. Id. § 23.01. Even when planning became a standard part of zoning statutes, its function was not fully explained. The Standard Zoning Enabling Act, which formed the basis of many state zoning acts, stated that zoning regulations "shall be made in accordance with a comprehensive plan" with the goal of preventing "haphazard or piece-meal zoning." Advisory Comm. on Zoning, U.S. Dep't of Commerce, A Standard State Zoning Enabling Act 6 & n. 22 (rev. ed.1926). Although the Act required a "comprehensive study," id. at 6 n. 22, it provided no other guidance on what should be included in the plan, or how it should be implemented. Another early model law provided that the comprehensive plan exists "solely to aid the planning board in the performance of its duties." Edward M. Bassett et al., Model Laws for Planning Cities, Counties, and States 40 (1935). This general framework has been retained in some modern planning statutes. See, e.g., 65 Ill. Comp. Stat. Ann. 5/11–12–6 (West 2012) (providing that a comprehensive plan "shall be advisory and in and of itself shall not be construed to regulate or control the use of private property in any way" unless implemented by enactment into an ordinance).

Under this traditional approach, and in my view, the better approach, courts have construed comprehensive plans as advisory documents that cannot guide specific land-use decisions. See, e.g ., City of Gainesville v. Cone, 365 So.2d 737, 739 (Fla.Dist.Ct.App.1978) ("[The comprehensive plan was] to serve merely as a guide for future decisions relating to rezoning petitions and growth and development of the City."); Urrutia v. Blaine Cnty., 134 Idaho 353, 2 P.3d 738, 742–43 (Idaho 2000) ("[A] comprehensive plan does not operate as legally controlling zoning law, but rather serves to guide and advise the governmental agencies responsible for making zoning decisions."); Borsuk v. Town of St. John, 820 N.E.2d 118, 121 (Ind.2005) ("A comprehensive plan is 'a guide to community development rather than an instrument of land-use control.' " (quoting 4 Young, supra, § 23.15)); Iverson v. Zoning Bd., 22 Md.App. 265, 322 A.2d 569, 571 (Md.Ct.Spec.App.1974) ("A master or general plan . is but a guide or scheme recommended to the legislative branch in order to enable them to make intelligent decisions with respect to the adoption of zoning classifications." (citing Pattey v. Bd. of Cnty. Comm'rs, 271 Md. 352, 317 A.2d 142, 147 (Md.1974))); Forks Twp. Bd. of Sup'rs v. George Calantoni & Sons, Inc., 6 Pa.Cmwlth. 521, 297 A.2d 164, 166–67 (Pa.Commw.Ct.1972) ("The comprehensive plan is a general guideline to the legislative body of the municipality for its consideration of the municipality's program of land utilization and the needs and desires of the community.").

A modern trend, however, is to give greater legal effect to the comprehensive plan. See, e.g., Baker v. City of Milwaukie, 271 Or. 500, 533 P.2d 772, 779 (Ore.1975) (concluding the comprehensive plan "is the controlling land use planning instrument for a city"); Town of E. Greenwich v. Narragansett Elec. Co., 651 A.2d 725, 727 (R.I.1994) (stating the comprehensive plan "establishes a binding framework or blueprint that dictates town and city promulgation of conforming zoning and planning ordinances"). But notwithstanding the increased prominence of the comprehensive plan, most courts have refrained from allowing municipalities to use comprehensive plans to make specific land-use decisions.[2] Instead, these courts view zoning ordinances and other specific regulations—which are adopted in accordance with the comprehensive plan—as giving legal effect to the comprehensive plan's general goals. See, e.g., Forks Twp. Bd. of Sup'rs, 297 A.2d at 167 ("[A] comprehensive plan is abstract and recommendatory; whereas the zoning ordinance is specific and regulatory."); cf. Baker, 533 P.2d at 777 ("[U]pon adopting a comprehensive plan, [a city] ha[s] a duty to implement that plan through the enactment of zoning ordinances in accordance therewith.") The Washington Supreme Court explains this distinction in Shelton v. City of Bellevue, 73 Wash.2d 28, 435 P.2d 949, 953 (Wash.1968):

Municipal "zoning" . is, in effect, a part of and an end result or product of effective municipal "planning," for it is through the medium of enacted and enforceable zoning regulations that the aims and objectives of the land-use-classification facet of over-all municipal "planning" may be carried to fruition. Because an ad hoc, piecemeal approach to municipal "zoning" lends itself more readily to arbitrary, capricious, unreasonable, or spot zoning situations, it follows that there must be a direct and tangible link between over-all municipal "planning" and over-all municipal "zoning."

Under this view, a municipality may not deny a permit merely because the proposed use is contrary to the comprehensive plan. See City of Louisville v. Bd. of Educ., 343 S.W.2d 394, 395 (Ky.1961) ("The Master Plan authority deals with the general character and location of buildings and not with specific uses to which a building may be put."); Platt v. City of New York, 276 A.D. 873, 93 N.Y.S.2d 738, 739 (App.Div.1949) (stating that a city may not deny building permits merely because a property is located on land designated as a proposed roadway on the city's master plan); see also Metro. Hous. Dev. Corp. v. Vill. of Arlington Heights, 469 F.Supp. 836, 867 (N.D.Ill.1979) ("[A] zoning decision inconsistent with the comprehensive plan does not make the rezoned property inconsistent with surrounding uses."), aff'd, 616 F.2d 1006 (7th Cir.1980). The Idaho Supreme Court warned of the danger of allowing such overreach:

In determining whether the land "conforms to the comprehensive plan" for the purposes of a subdivision application, the Board is simply required to look at all facets of the comprehensive plan and assure that the land fits within all of the various considerations set forth in the plan. It is to be expected that the land to be subdivided may not agree with all provisions in the comprehensive plan, but a more specific analysis, resulting in denial of a subdivision application based solely on non-compliance with the comprehensive plan elevates the plan to the level of legally controlling zoning law. Such a result affords

the Board unbounded discretion in examining a subdivision application and allows the Board to effectively re-zone land based on the general language in the comprehensive plan.

Urrutia, 2 P.3d at 743–44 (emphasis added). Using the comprehensive plan as a tool for specific zoning decisions invites, rather than minimizes, arbitrary and discriminatory municipal practices. Thus, the history of American municipal planning provides little support, and properly so, for use of the comprehensive plan as a vehicle for denying conditional use applications.

II.

Historical and current planning legislation in Minnesota also counsels against using comprehensive plans to make specific land-use decisions. The Legislature has never made clear the legal effect of comprehensive plans and has equivocated on the issue on several occasions. In 1929 the Legislature authorized municipalities to adopt zoning ordinances, and also stated that municipalities "may acquire or prepare and adopt a comprehensive plan for the future physical development and improvement of such city or village, in accordance with the [zoning] regulations made as aforesaid." Act of April 12, 1929, ch. 176, § 1, 1929 Minn. Laws 172, 172 (repealed 1965). The comprehensive plan was subordinate to zoning regulations because the plain language of the statute required the plan to be adopted "in accordance with" those regulations.

In 1965, noting that "municipalities are faced with mounting problems in providing means of guiding future development of land," the Legislature enacted a more extensive municipal planning act. Act of May 22, 1965, ch. 670, 1965 Minn. Laws 995 (codified as amended at Minn.Stat. §§ 462.351–.365 (2014)). The act authorizes "comprehensive municipal planning activities for guiding the future development and improvement of the municipality." Minn.Stat. § 462.353, subd. 1. Unlike the 1929 legislation, the 1965 act seemingly envisions that zoning regulations will conform to the comprehensive plan. The act provides that after completion of the comprehensive plan, the municipality may "put[ ] the plan . into effect" by enacting zoning ordinances or other regulations. Minn.Stat. § 462.356, subd. 1; see also Minn.Stat. § 462.357, subd. 2(a) (stating that the planning agency may propose zoning ordinances based on a "land use plan," which may be included within the comprehensive plan, see Minn.Stat. § 462.352, subd. 5). The act also notes that "[m]unicipal planning . enables other public and private agencies to plan their activities in harmony with the municipality's plans." Minn.Stat. § 462.351. But the act does not establish the comprehensive plan as a binding legal document; a municipality outside the purview of the metropolitan planning act, Minn.Stat. §§ 473.851–71 (2014), is not required to create a comprehensive plan, and most references to the comprehensive plan are accompanied by the permissive "may" rather than the mandatory "shall." See, e.g., Minn.Stat. § 462.353, subd. 1 ("A municipality may carry on comprehensive municipal planning activities ." (emphasis added); see also Minn.Stat. § 462.352, subd. 5 (defining "comprehensive municipal plan" as a tool for "guiding" private and public development). The

1965 act also requires the municipality to comply with the comprehensive plan but is silent on whether the plan is legally binding on property owners (suggesting it is not). See Minn.Stat. § 462.356, subd. 2.

The 1976 metropolitan planning act went a step further, mandating comprehensive plans for municipalities (including the City of Bloomington) within the seven-county metropolitan area. Minn.Stat. § 473.858, subd. 1; see also Minn.Stat. § 473.859, subd. 1 (outlining comprehensive plan requirements). The 1976 act also requires metropolitan-area municipalities to adopt and implement "official controls"—including zoning ordinances—to carry out the comprehensive plan. Minn.Stat. §§ 473.859, subd. 4, 473.865; see Minn.Stat. § 473.852, subd. 9 (defining "Official controls"). Importantly, the act prohibits official controls that conflict with the comprehensive plan. Minn.Stat. § 473.865, subd. 2. These provisions suggest that the comprehensive plan may carry more legal significance in the metropolitan area than it does in greater Minnesota.

But the Legislature has continued to vacillate as to the legal weight accorded to comprehensive planning, both in Minnesota Statutes chapter 462 (greater Minnesota) and chapter 473 (metropolitan area). In 1985 the Legislature amended Minn.Stat. §§ 462.357, subd. 2, and 473.858, subd. 1, to include: "[i]f the comprehensive municipal plan is in conflict with the zoning ordinance, the zoning ordinance supersedes the plan." Act of May 6, 1985, ch. 62, §§ 3–4, 1985 Minn. Laws 160, 161–62.[3] This formulation seemingly answered the question of legal significance: the zoning ordinance, not the comprehensive plan, is the legally operative document because it "codifies" the comprehensive plan. This makes sense given the generic, goal-oriented nature of the comprehensive plan and the specific nature of zoning ordinances, and because zoning-ordinance superiority is broadly consistent with jurisprudence elsewhere.

These amendments, however, were short lived. In 1995, the amendment to Minn.Stat. § 473.858 was replaced with the following: "If the comprehensive municipal plan is in conflict with the zoning ordinance, the zoning ordinance shall be brought into conformance with the plan ." Act of May 17, 1995, ch. 176, § 5, 1995 Minn. Laws 593, 594–95 (emphasis added). The Legislature also replaced the 1985 amendment to section 462.357, subdivision 2, with a provision that is remarkably vague: "The plan must provide guidelines for the timing and sequence of the adoption of official controls to ensure planned, orderly, and staged development and redevelopment consistent with the plan."[4] Act of May 30, 1997, ch. 202, art. 4, § 11, 1997 Minn. Laws 1493, 1574–75 (codified as amended at Minn.Stat. § 462.357, subd. 2(c)).

Not only do the 1995/1997 amendments suggest once again that the comprehensive plan supersedes zoning regulations, but they also eliminate the guidance provided by the 1985 amendments as to how comprehensive plans should be used.[5] The American Planning Association has noted a "significant gap" between Minnesota's statutes authorizing or mandating a comprehensive plan and the controls afforded

to municipalities in order to implement the plan. Am. Planning Ass'n, Minnesota's Planning and Zoning Enabling Laws: Analysis and Options for Reform 1 (rev. draft 2013).[6] The unclear relationship between the authorization and implementation statutes creates "ambiguity and uncertainty." Id. At least some Minnesota practitioners agreed when evaluating the 1995 amendments to the Metropolitan Planning Act, and noted the potential for municipal overreach:

Applications for subdivisions, conditional use permits, variances, and other flexible devices will most likely be evaluated to determine if they are consistent with the comprehensive plan. Because many portions of comprehensive plans are generally loosely drafted, and can be interpreted to mean almost whatever the city wishes to argue, the reference to the comprehensive plan as a reason for denial is often difficult to overcome.

Michael S. Dove, Steven J. Vatndal & Bruce D. Malkerson, Whose Land Is It Anyway? Zoning and Land Use Regulations, app. at 5 (Minn. State Bar Ass'n Continuing Legal Educ., June 1998).

Even under the current legislative framework, neither the municipal nor the metropolitan planning act supports using a comprehensive plan to grant or deny a conditional use application. Although the Legislature has given municipalities broad authority to create "standards and criteria" for granting or denying a conditional use, Minn.Stat. § 462.3595, subd. 1, the comprehensive plan may be used only in specific ways under the planning acts. The plan must contain "objectives, policies, standards and programs to guide public and private land use, development, redevelopment and preservation." Minn.Stat. § 473.859, subd. 1; see Minn.Stat. § 462.352, subd. 5 (providing similar requirements for comprehensive plans in greater Minnesota). The generality of the comprehensive plan belies the notion that it is legally controlling when making specific land-use decisions. Additionally, the plan may be implemented only by adopting zoning ordinances and other regulations that conform with the plan. Minn.Stat. § 473.865; see Minn.Stat. § 462.356, subd. 1. Neither planning act provides or even implies that the comprehensive plan may be implemented in the way done by the City here.

III.

Unfortunately, it is not only the Legislature that has made hash out of the intersection of comprehensive planning, zoning, and property rights law; our case law is similarly equivocal on what standard should be used to grant or deny a conditional use permit in this context. In Zylka v. City of Crystal, we established two scenarios under which a city council's decision to deny a conditional use permit is arbitrary and must be reversed: (1) when all the standards prescribed by the ordinance have been met; or (2) if the ordinance presents no standards, when the "requested use is compatible with the basic use authorized within the particular zone and does not endanger the public health or safety or the general welfare of the area affected or the community as a whole." 283 Minn. 192, 196, 167 N.W.2d 45, 49 (1969) (affirming the district court's invalidation of the city's denial of the permit because the plaintiff complied with all

construction regulations; the city's conditional use ordinance provided no standards; and the city council did not demonstrate a danger to public health, safety, or general welfare). A conditional use ordinance does not provide standards if it merely supplies various factors for the city council's consideration. Metro 500, Inc. v. City of Brooklyn Park, 297 Minn. 294, 300, 211 N.W.2d 358, 362 (1973).[7] While reasons for denying a permit need not necessarily be "precise and specific," they may not be "so general as to compel an inference that the board was evading its responsibility to give reasons." Corwine v. Crow Wing Cnty., 309 Minn. 345, 353, 244 N.W.2d 482, 486 (1976).

The City claims that because its local ordinances require adherence to the comprehensive plan, violations of the comprehensive plan are sufficient to support a denial of a conditional use permit. This reasoning invites a host of practical and legal issues. For one thing, comprehensive plans are too long and too general (too "comprehensive") to provide a reasonable standard. Cf. Place v. Hack, 34 Misc.2d 777, 230 N.Y.S.2d 583, 587 (Sup.Ct.1962) ("It is easier to determine what a comprehensive plan is not, than to define what it is." (internal quotation marks omitted) (quoting Note, Spot Zoning and the Comprehensive Plan, 10 Syracuse L.Rev. 303, 304 (1959))). This is certainly true of the City of Bloomington Comprehensive Plan, which is almost 200 pages long. City of Bloomington, Minn., Comprehensive Plan 2008 (adopted 2009).[8]

Additionally, a conditional use ordinance does not create a "standard" by requiring compliance with the entire comprehensive plan as a prerequisite to obtaining a permit, because a comprehensive plan does not provide sufficiently specific standards to measure compliance. Three of the four grounds relied on by the City for the denial issued here are found in its comprehensive plan; the City cited a need to (a) locate "[l]arger traffic generators . adjacent to arterial or collector streets"; (b) "channel most high and medium density residential and mixed use growth to locations near transit, services, amenities and employment"; and (c) "preserve the character of low density neighborhoods."[9] Id. at 2.15, 2.19, 230 N.Y.S.2d 583. But the City could have conceivably sought to rely on less traditional but also dubious reasons, such as whether the proposed use will (1) permit "solar access for adjacent properties"; (2) encourage "a sufficiently diverse employment base"; (3) allow for "pedestrian and cycle connections between adjacent properties"; (4) utilize "transit equipment to shuttle residents/customers to and from areas not well served by transit"; (5) "incorporate transit, pedestrian and cycle friendly design features"; (6) promote "development of complementary uses within walking distance of one another"; (7) encourage "low impact development practices . to reduce pollutant loading to surface waters"; or (8) "[c]reate linkages between the private sector, high schools, and post-secondary institutions." Id. at 2.13, 2 .19, 4.52, 4.54, 4.55, 4.59, 6.23. 7.18, 230 N.Y.S.2d 583. The meaning of at least some of these guidelines is unclear at best and it is a complete mystery how the City would measure compliance. It is also a safe bet that the next generation of comprehensive plans will place more ill-defined and nonspecific burdens on property owners. I have no difficulty envisioning a comprehensive plan that, depending on the political or

ideological inclinations of the drafters, could include buzzwords such as "low carbon footprint" or "environmental sensitivity," or vague references to the promotion of economic development or any similar formulation. See, e.g., id. at 2.1–2 .2 (promoting "sustainable development").

What is difficult to envision is how any applicant could comply with the entire comprehensive plan. The effect of relying on comprehensive plans to deny conditional use permits, and to control individual development, is to empower arbitrary and capricious decision-making by cities and to increase the likelihood that developers that enjoy political favor will be successful and those out of favor will not. The traditional deferential standard of review compounds this problem.[10]

Furthermore, and as noted above, a comprehensive plan is a broad, forward-looking document that is not designed to support specific land-use decisions. The City of Bloomington Comprehensive Plan uses headings such as "Goals," "Vision," "Intent," and "Strategies ." See id. at 2.1, 2.19. Like the ordinance in Metro 500, comprehensive plans do not mandate requirements but rather create a general framework that supports specific zoning ordinances. See Metro 500, 297 Minn. at 300, 211 N.W.2d at 362 (stating that a zoning ordinance must "make the issuance of a [conditional]-use permit mandatory upon the meeting of certain standards"). RDNT also notes that its proposed use would in fact further the City's "intent" to "[a]djust to an aging population." See Bloomington Comprehensive Plan, supra, at 2.1. RDNT could have equally relied on the City's goals of "encourag[ing] the development of housing to serve each stage of life," and constructing "500 affordable senior units." Id. at 3.10, 3.17, 211 N.W.2d 358. The fact that the City, looking for any port in the storm to deny the RDNT application, now weighs these goals as less important than other goals demonstrates the poor standard the comprehensive plan provides and the inherent arbitrariness that exists when the plan is relied upon to make these types of decisions.

In addition to these practical problems, use of the comprehensive plan in this fashion creates a higher burden on conditional use applicants. As a matter of law, an applicant's burden for proving compliance with an ordinance is much lower for a conditional use than a variance because " 'the former is legislatively permitted in a zone subject to controls whereas the latter is legislatively prohibited but may be allowed for special reasons.' " Westling v. City of St. Louis Park, 284 Minn. 351, 356, 170 N.W.2d 218, 221 (1969) (quoting Verona Inc. v. Mayor of W. Caldwell, 49 N.J. 274, 229 A.2d 651, 655 (N.J.1967)); see also Zylka, 283 Minn. at 196, 167 N.W.2d at 49 ("[P]rovisions authorizing the issuance of [conditional]-use permits are intended to provide more flexibility in land-use control than provisions authorizing a variance."). For example, in Inland Construction Co. v. City of Bloomington, the applicant "more than sustained the burden of proof" merely by providing evidence that the proposed use would not cause traffic congestion or be a nuisance to adjacent residents. 292 Minn. 374, 387–89, 195 N.W.2d 558, 567–68 (1972). By requiring a conditional use applicant to comply with the entire comprehensive plan, a municipality can deny the application for countless reasons, which effectively eviscerates the lower

burden that should be afforded to such applicants. This creates a presumptive prohibition on conditional uses and essentially puts a conditional use on the same level as a variance.

Our more recent cases have further confused matters by explicitly authorizing use of comprehensive plans when making decisions on conditional use applications, demonstrating an increased deference to municipalities that is seemingly at odds with our holding in Zylka. In Barton Contracting Co. v. City of Afton, we affirmed the city's denial of a conditional use permit for gravel mining because, inter alia, the use was contrary to the comprehensive plan, which was "permeated with evidence of a strong desire to preserve the rural character and unique scenic beauty of Afton and the St. Croix Valley." 268 N.W.2d 712, 717 (Minn.1978). We acknowledged a municipality's " 'broad discretionary power to deny [a conditional use] application,' " id. (quoting Zylka, 283 Minn. at 196, 167 N.W.2d at 49), but we did not analyze the Zylka factors. Instead, we held that a municipality merely must provide "stated reasons for its decision" to deny the permit and may consider "whether the proposed use is consistent with its land-use plan." Id. In C.R. Investments v. Village of Shoreview, we again allowed a municipality to rely on its comprehensive plan to deny a conditional use permit, although we nevertheless invalidated the permit denial because the village relied on provisions in the comprehensive plan that were "unreasonably vague and subjective." 304 N.W.2d 320, 326–28 (Minn.1981); see also Hubbard Broad. Co. v. City of Afton, 323 N.W.2d 757, 763 (Minn.1982) (affirming permit denial for same reasons as in Barton).[11]

Our holdings in Barton, C.R. Investments, and Hubbard Broadcasting are troubling for several reasons. Citing no authority, these cases contradict our holding in Zylka that a municipality must either rely on the specific standards in the ordinance or demonstrate that the use endangers the public health, safety, or welfare. Zylka, 283 Minn. at 196, 167 N.W.2d at 49. The ordinances in question in these cases provided no specific standard, and we did not consider whether the city made findings that the proposed use was hazardous to the community. See, e.g., Barton, 268 N.W.2d at 719–20 (Iverson, J., dissenting). As demonstrated above in Part I, these cases are at odds with a majority of jurisdictions around the country. The cases suggest a function of comprehensive plans that is contrary to their intended and historical use. Finally, the original holding in Barton is called into considerable question because, less than 1 month after deciding Barton, we stated that when considering a conditional use application, a municipal council "has the function . of applying specific use standards set by the zoning ordinance to a particular individual use and must be held strictly to those standards." State, by Rochester Ass'n of Neighborhoods v. City of Rochester, 268 N.W.2d 885, 889 (Minn.1978) (emphasis added).

IV.

Property rights enjoy protection under both the federal and state constitutions. The effect, if not the purpose, of modern-day municipal, regional, and state land-use regulation is to prohibit property owners from using their property as they wish and to do so without compensating the owner for the lost use. Of course, given that the constitutionality of zoning, for good or ill, is no longer in dispute, some regulation,

and some lost use, is permissible. But I write separately to highlight the challenges, and dangers, presented by use of comprehensive planning as a prohibitory tool and to specifically reject the approach taken by the City here. The difficulties and contradictions associated with the current state, regional, and municipal planning statutes necessitate that the Legislature construct a rational statutory framework that begins with a recognition of the constitutional rights of property owners and then sets out the permissible limits for land-use planning beneficial to the community as a whole. For our part, we may well have to consider whether our current deferential standard in land-use regulatory matters remains constitutionally viable; this issue is best left for another day.

In Zylka v. City of Crystal, 283 Minn. 192, 196, 167 N.W.2d 45, 49 (1969), we held that when denying a conditional use permit, a municipality must either (1) rely on specific standards outlined in the zoning ordinance, or (2) demonstrate that the proposed use endangers the public health, safety, or general welfare. I conclude that Zylka is the best expression of the standard that must be met to uphold the denial of a conditional use permit. Because I also conclude that the City has met the second of the two Zylka requirements, I join the majority opinion.

LILLEHAUG, Justice.

DIETZEN, J., took no part in the consideration or decision of this case.

Was this helpful? Yes No

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Exhibit P
May 2025 Pavek Email with MCWD

From: Matt Pavek <Mpavek@civilsitegroup.com>
Sent: Thursday, May 22, 2025 3:28 PM
To: Veronica Sannes <vsannes@minnehahacreek.org>; ryan@quickhouses.biz
Cc: Abigail Couture <ACouture@minnehahacreek.org>
Subject: RE: Maple View Ct Pre-App Meeting

Veronica,

Thanks for the meeting summary and additional research on the site.

After meeting with the City it was determined per their requirements that only 1 lot is possible in that location without the extension of a public street. Due to site constraints and cost, street extension is not feasible, so the project is likely not moving forward.

Thanks again and have a great holiday weekend!!

Matt Pavek P.E. | Principal Civil Engineer
e: mpavek@civilsitegroup.com
c: 763-213-3944 | o: 612-615-0060 x 701 |
5000 Glenwood Avenue, Golden Valley, MN 55422

CivilSite GROUP

Exhibit Q
Minnesota Administrative Rules 4410.0200

4410.0200 DEFINITIONS AND ABBREVIATIONS.

Subpart 1. **Scope.** For the purpose of parts 4410.0200 to 4410.6500, the following terms and abbreviations have the meanings given them, unless otherwise provided.

Subp. 1a. [Repealed, 31 SR 539]

Subp. 1b. **Acute hazardous waste.** "Acute hazardous waste" has the meaning given in part 7045.0020.

Subp. 2. **Agricultural land.** "Agricultural land" means land that is or has, within the last five years, been devoted to the production of livestock, dairy animals, dairy products, poultry and poultry products, fur bearing animals, horticultural and nursery stock, fruit, vegetables, forage, grains, or bees and apiary products. Wetlands, naturally vegetated lands, and woodlands contiguous to or surrounded by agricultural land shall be considered agricultural lands if under the same ownership or management as that of the agricultural land during the period of agricultural use.

Subp. 3. **Animal units.** "Animal units" has the meaning given in part 7020.0300, subpart 5.

Subp. 4. **Approval.** "Approval" means a decision by a unit of government to issue a permit or to otherwise authorize the commencement of a proposed project.

Subp. 5. **Attached units.** "Attached units" means in groups of four or more units each of which shares one or more common walls with another unit.

Subp. 5a. **Auxiliary lane.** "Auxiliary lane" means the portion of the roadway that:

A. adjoins the through lanes for purposes such as speed change, turning, storage for turning, weaving, or truck climbing; and

B. supplements through-traffic movement.

Subp. 6. **Biomass sources.** "Biomass sources" means animal waste and all forms of vegetation, natural or cultivated.

Subp. 6a. **Capacity.** "Capacity," as used in parts 4410.4300, subpart 17, and 4410.4400, subpart 13, means the maximum daily operational input volume a facility is designed to process on a continuing basis.

Subp. 7. **Class I dam.** "Class I dam" has the meaning given in part 6115.0340.

Subp. 8. **Class II dam.** "Class II dam" has the meaning given in part 6115.0340.

Subp. 9. **Collector roadway.** "Collector roadway" means a road that provides access to minor arterial roadways from local streets and adjacent land uses.

Subp. 9a. **Common open space.** "Common open space" means a portion of a development permanently set aside to preserve elements of the natural landscape for public or private use, which will not be developed or subdivided and is either owned in common by the individual owners in the development or by a permanently established management entity. Common open space does not include the area within 25 feet of any structure, any impervious surface, or the area between

buildings within an individual cluster of buildings when the development is designed using clustered compact lots or clustered units or sites to create and preserve green space, such as in a conservation subdivision, planned unit development, or resort.

Subp. 9b. **Compost facility.** "Compost facility" has the meaning given in part 7035.0300.

Subp. 9c. **Connected actions.** Two projects are "connected actions" if a responsible governmental unit determines they are related in any of the following ways:

A. one project would directly induce the other;

B. one project is a prerequisite for the other and the prerequisite project is not justified by itself; or

C. neither project is justified by itself.

Subp. 10. **Construction.** "Construction" means any activity that directly alters the environment. It includes preparation of land or fabrication of facilities. It does not include surveying or mapping.

Subp. 11. **Cumulative impact.** "Cumulative impact" means the impact on the environment that results from incremental effects of the project in addition to other past, present, and reasonably foreseeable future projects regardless of what person undertakes the other projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Subp. 11a. **Cumulative potential effects.** "Cumulative potential effects" means the effect on the environment that results from the incremental effects of a project in addition to other projects in the environmentally relevant area that might reasonably be expected to affect the same environmental resources, including future projects actually planned or for which a basis of expectation has been laid, regardless of what person undertakes the other projects or what jurisdictions have authority over the projects. Significant cumulative potential effects can result from individually minor projects taking place over a period of time. In analyzing the contributions of past projects to cumulative potential effects, it is sufficient to consider the current aggregate effects of past actions. It is not required to list or analyze the impacts of individual past actions, unless such information is necessary to describe the cumulative potential effects. In determining if a basis of expectation has been laid for a project, an RGU must determine whether a project is reasonably likely to occur and, if so, whether sufficiently detailed information is available about the project to contribute to the understanding of cumulative potential effects. In making these determinations, the RGU must consider: whether any applications for permits have been filed with any units of government; whether detailed plans and specifications have been prepared for the project; whether future development is indicated by adopted comprehensive plans or zoning or other ordinances; whether future development is indicated by historic or forecasted trends; and any other factors determined to be relevant by the RGU.

Subp. 12. **Day.** "Day" in counting any period of time shall not include the day of the event from which the designated period of time begins. The last day of the period counted shall be included, unless it is a Saturday, Sunday, or a legal holiday, in which event the period runs until the end of the next day that is not a Saturday, a Sunday, or a legal holiday. When the period of time prescribed

or allowed is 15 days or less, intermediate Saturdays, Sundays, and legal holidays shall be excluded in the counting of days.

Subp. 13. [Repealed by amendment, L 1983 c 289 s 115 subd 1]

Subp. 14. **Disposal facility.** "Disposal facility" has the meaning given in Minnesota Statutes, section 115A.03, subdivision 10.

Subp. 15. **DNR.** "DNR" means Department of Natural Resources.

Subp. 16. **DOT.** "DOT" means Department of Transportation.

Subp. 17. **EAW.** "EAW" means environmental assessment worksheet.

Subp. 18. **EIS.** "EIS" means environmental impact statement.

Subp. 19. [Repealed, 21 SR 1458]

Subp. 20. [Repealed, 21 SR 1458]

Subp. 21. [Repealed, 21 SR 1458]

Subp. 22. **Emergency.** "Emergency" means a sudden unexpected occurrence, natural or caused by humans, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes fire, flood, windstorm, riot, accident, or sabotage.

Subp. 22a. **Energy recovery facility.** "Energy recovery facility" means a facility used to capture the heat value of solid waste for conversion to steam, electricity, or immediate heat by direct combustion or by first converting the solid waste into an intermediate fuel product. It does not include facilities that produce, but do not burn, refuse-derived fuel.

Subp. 23. **Environment.** "Environment" means physical conditions existing in the area that may be affected by a proposed project. It includes land, air, water, minerals, flora, fauna, ambient noise, energy resources, and artifacts or natural features of historic, geologic, or aesthetic significance.

Subp. 24. **Environmental assessment worksheet.** "Environmental assessment worksheet" means a brief document which is designed to set out the basic facts necessary to determine whether an EIS is required for a proposed project or to initiate the scoping process for an EIS.

Subp. 25. **Environmental document.** "Environmental document" means EAW, draft EIS, final EIS, substitute review document, and other environmental analysis documents.

Subp. 26. **Environmental impact statement.** "Environmental impact statement" means a detailed written statement as required by Minnesota Statutes, section 116D.04, subdivision 2a.

Subp. 27. **EQB.** "EQB" means Environmental Quality Board.

Subp. 28. **Expansion.** "Expansion" means an extension of the capability of a facility to produce or operate beyond its existing capacity. It excludes repairs or renovations that do not increase the capacity of the facility.

Subp. 29. **First class city.** "First class city" has the meaning given in Minnesota Statutes, section 410.01.

Subp. 30. **Floodplain.** "Floodplain" has the meaning given in Minnesota Statutes, section 103F.111.

Subp. 31. [Repealed, 21 SR 1458]

Subp. 32. **Fourth class city.** "Fourth class city" has the meaning given in Minnesota Statutes, section 410.01.

Subp. 33. **Governmental action.** "Governmental action" means activities including projects wholly or partially conducted, permitted, assisted, financed, regulated, or approved by governmental units, including the federal government.

Subp. 34. **Governmental unit.** "Governmental unit" means any state agency and any general or special purpose unit of government in the state, including watershed districts organized under Minnesota Statutes, chapter 103D, counties, towns, cities, port authorities, housing authorities, and the Metropolitan Council, but not including courts, school districts, the Iron Range Resources and Rehabilitation Board, and regional development commissions.

Subp. 35. **Gross floor space.** "Gross floor space" means the total square footage of all floors but does not include parking lots or approach areas.

Subp. 35a. **Genetically engineered organism.** "Genetically engineered organism" has the meaning given in part 4420.0010, subpart 14.

Subp. 35b. **Genetic engineering.** "Genetic engineering" has the meaning given in part 4420.0010, subpart 15.

Subp. 36. **Ground area.** "Ground area" means the total surface area of land that would be converted to an impervious surface by the proposed project. It includes structures, parking lots, approaches, service facilities, appurtenant structures, and recreational facilities.

Subp. 36a. **Hazardous material.** "Hazardous material" has the meaning given in Code of Federal Regulations, title 49, section 171.8.

Subp. 37. **Hazardous waste.** "Hazardous waste" has the meaning given in parts 7045.0129 to 7045.0141.

Subp. 38. **High voltage transmission line.** "High voltage transmission line" has the meaning given in part 7849.1100.

Subp. 39. **Highway safety improvement project.** "Highway safety improvement project" means a project designed to improve safety of highway locations that have been identified as hazardous or potentially hazardous. Projects in this category include the removal, relocation, remodeling, or shielding of roadside hazards; installation or replacement of traffic signals; and the geometric correction of identified high accident locations requiring the acquisition of minimal amounts of right-of-way.

Subp. 40. **HVTL.** "HVTL" means high voltage transmission line.

Subp. 40a. **Incinerator.** "Incinerator" means any furnace used in the process of burning solid waste for the purpose of reducing the volume of waste by removing combustible matter.

Subp. 40b. **Institutional facility.** "Institutional facility" means a land-based facility owned or operated by an organization having a governmental, educational, civic, or religious purpose such as a school, hospital, prison, military installation, church, or other similar establishment or facility.

Subp. 41. **Large electric power generating plant; LEPGP.** "Large electric power generating plant" or "LEPGP" has the meaning given in part 7849.1100.

Subp. 42. **LEPGP.** "LEPGP" means large electric power generating plant.

Subp. 42a. **Light industrial facility.** "Light industrial facility" means a subcategory of industrial land use with a primary function other than manufacturing and less than 500 employees.

Subp. 43. **Local governmental unit.** "Local governmental unit" means any unit of government other than the state or a state agency or the federal government or a federal agency. Local governmental unit includes watershed districts established according to Minnesota Statutes, chapter 103D, soil and water conservation districts, watershed management organizations, counties, towns, cities, port authorities, housing authorities, and the Metropolitan Council. Local governmental unit does not include courts, school districts, and regional development commissions.

Subp. 44. **Marina.** "Marina" has the meaning given in part 6115.0170.

Subp. 45. **MDA.** "MDA" means Minnesota Department of Agriculture.

Subp. 46. **MDH.** "MDH" means Minnesota Department of Health.

Subp. 47. **Mineral deposit evaluation.** "Mineral deposit evaluation" has the meaning given in Minnesota Statutes, section 103I.605, subdivision 2.

Subp. 48. **Minnesota River Project Riverbend area.** "Minnesota River Project Riverbend area" means an area subject to the comprehensive land use plan of the Project Riverbend Board established under Minnesota Statutes, chapter 103F.

Subp. 49. **Mississippi headwaters area.** "Mississippi headwaters area" means an area subject to the comprehensive land use plan of the Mississippi River Headwaters Board established under Minnesota Statutes, chapter 103F.

Subp. 50. **Mississippi headwaters plan.** "Mississippi headwaters plan" means the comprehensive land use plan of the Mississippi River Headwaters Board established under Minnesota Statutes, chapter 103F.

Subp. 51. **Mitigation.** "Mitigation" means:

A. avoiding impacts altogether by not undertaking a certain project or parts of a project;

B. minimizing impacts by limiting the degree of magnitude of a project;

C. rectifying impacts by repairing, rehabilitating, or restoring the affected environment;

D. reducing or eliminating impacts over time by preservation and maintenance operations during the life of the project;

E. compensating for impacts by replacing or providing substitute resources or environments; or

F. reducing or avoiding impacts by implementation of pollution prevention measures.

Subp. 52. **Mixed municipal solid waste.** "Mixed municipal solid waste" has the meaning given in Minnesota Statutes, section 115A.03, subdivision 21.

Subp. 52a. **Mixed municipal solid waste land disposal facility.** "Mixed municipal solid waste land disposal facility" has the meaning given in part 7035.0300.

Subp. 53. **Natural watercourse.** "Natural watercourse" has the meaning given in Minnesota Statutes, section 103G.005, subdivision 13.

Subp. 54. **Negative declaration.** "Negative declaration" means a written statement by the RGU that a proposed project does not require the preparation of an EIS.

Subp. 55. **Open space land use.** "Open space land use" means a use particularly oriented to and using the outdoor character of an area including agriculture, campgrounds, parks, and recreation areas.

Subp. 55a. **Ordinary high water level.** "Ordinary high water level" has the meaning given in Minnesota Statutes, section 103G.005, subdivision 14.

Subp. 55b. **Organism.** "Organism" has the meaning given in part 4420.0010, subpart 18.

Subp. 56. **PCA.** "PCA" means Minnesota Pollution Control Agency.

Subp. 56a. **PCB.** "PCB" has the meaning given in Minnesota Statutes, section 116.36, subdivision 4.

Subp. 57. **Permanent conversion.** "Permanent conversion" means a change in use of agricultural, naturally vegetated, or forest lands that impairs the ability to convert the land back to its agricultural, natural, or forest capacity in the future. It does not include changes in management practices, such as conversion to parklands, open space, or natural areas.

Subp. 58. **Permit.** "Permit" means a permit, lease, license, certificate, or other entitlement for use or permission to act that may be granted or issued by a governmental unit, or the commitment to issue or the issuance of a discretionary contract, grant, subsidy, loan, or other form of financial assistance, by a governmental unit.

Subp. 59. **Person.** "Person" means any natural person, state, municipality, or other governmental unit, political subdivision, other agency or instrumentality, or public or private corporation, partnership, firm, association, or other organization, receiver, trustee, assignee, agent, or other legal representative of the foregoing, and any other entity.

Subp. 59a. **Petroleum refinery.** "Petroleum refinery" has the meaning given in Minnesota Statutes, section 115C.02, subdivision 10a.

Subp. 60. **Phased action.** "Phased action" means two or more projects to be undertaken by the same proposer that a RGU determines:

A. will have environmental effects on the same geographic area; and

B. are substantially certain to be undertaken sequentially over a limited period of time.

Subp. 61. **Positive declaration.** "Positive declaration" means a written statement by the RGU that a proposed project requires the preparation of an EIS.

Subp. 62. **Potentially permanent.** "Potentially permanent" means a dwelling for human habitation that is permanently affixed to the ground or commonly used as a place of residence. It includes houses, seasonal and year round cabins, and mobile homes.

Subp. 63. **Preparation notice.** "Preparation notice" means a written notice issued by the RGU stating that an EIS will be prepared for a proposed project.

Subp. 64. **Processing.** "Processing," as used in parts 4410.4300, subpart 16, items B and C, and 4410.4400, subpart 12, item C, has the meaning given in Minnesota Statutes, section 115A.03, subdivision 25.

Subp. 65. **Project.** "Project" means a governmental action, the results of which would cause physical manipulation of the environment, directly or indirectly. The determination of whether a project requires environmental documents shall be made by reference to the physical activity to be undertaken and not to the governmental process of approving the project.

Subp. 66. [Repealed, 13 SR 1437]

Subp. 67. **Project Riverbend plan.** "Project Riverbend plan" means the comprehensive land use plan of the Project Riverbend Board established under Minnesota Statutes, chapter 103F.

Subp. 68. **Proposer.** "Proposer" means the person or governmental unit that proposes to undertake or to direct others to undertake a project.

Subp. 69. **Public waters.** "Public waters" has the meaning given in Minnesota Statutes, section 103G.005.

Subp. 70. **Public waters wetland.** "Public waters wetland" has the meaning given in Minnesota Statutes, section 103G.005, subdivision 15a.

Subp. 70a. **PUC.** "PUC" means the Minnesota Public Utilities Commission.

Subp. 71. **Recreational development.** "Recreational development" means facilities for temporary residence while in pursuit of leisure activities. Recreational development includes, but is not limited to, recreational vehicle parks, rental or owned campgrounds, and condominium campgrounds.

Subp. 71a. **Refuse-derived fuel.** "Refuse-derived fuel" has the meaning given in Minnesota Statutes, section 115A.03, subdivision 25d.

Subp. 71b. **Release.** "Release" has the meaning given in part 4420.0010, subpart 19.

Subp. 72. [Repealed, 13 SR 1437]

Subp. 73. **Resource recovery.** "Resource recovery" has the meaning given in Minnesota Statutes, section 115A.03, subdivision 27.

Subp. 74. [Repealed, 13 SR 1437]

Subp. 75. **Responsible governmental unit.** "Responsible governmental unit" means the governmental unit that is responsible for preparation and review of environmental documents.

Subp. 76. **RGU.** "RGU" means responsible governmental unit.

Subp. 77. **Scientific and natural area.** "Scientific and natural area" means an outdoor recreation system unit designated pursuant to Minnesota Statutes, section 86A.05, subdivision 5.

Subp. 78. **Scram mining operation.** "Scram mining operation" has the meaning given in part 6130.0100.

Subp. 79. **Second class city.** "Second class city" has the meaning given in Minnesota Statutes, section 410.01.

Subp. 79a. **Sensitive shoreland area.** "Sensitive shoreland area" means shoreland designated as a special protection district pursuant to part 6120.3200 or shoreland riparian to any of the following types of public waters:

A. lakes or bays of lakes classified as natural environment pursuant to part 6120.3000;

B. trout lakes and streams designated pursuant to part 6264.0050;

C. wildlife lakes designated pursuant to Minnesota Statutes, section 97A.101, subdivision 2;

D. migratory waterfowl feeding and resting lakes designated pursuant to Minnesota Statutes, section 97A.095, subdivision 2; or

E. outstanding resource value waters designated pursuant to part 7050.0335.

Subp. 80. **Sewage collection system.** "Sewage collection system" means a piping or conveyance system that conveys wastewater to a wastewater treatment plant.

Subp. 81. **Sewered area.** "Sewered area" means an area:

A. that is serviced by a wastewater treatment facility or a centralized septic system servicing the entire development; or

B. that is located within the boundaries of the metropolitan urban service area, as defined pursuant to the development framework of the Metropolitan Council.

Subp. 81a. **Shore impact zone.** "Shore impact zone" has the meaning given in part 6120.2500, or in a local ordinance, if the ordinance specifies a greater size for the zone.

Subp. 82. **Shoreland.** "Shoreland" has the meaning given in part 6120.2500, subpart 15, of the Department of Natural Resources.

Subp. 82a. **Silica sand.** "Silica sand" has the meaning given in Minnesota Statutes, section 116C.99, subdivision 1.

Subp. 82b. **Silica sand project.** "Silica sand project" has the meaning given in Minnesota Statutes, section 116C.99, subdivision 1.

Subp. 83. [Repealed, 21 SR 1458]

Subp. 84. **Solid waste.** "Solid waste" has the meaning given in Minnesota Statutes, section 116.06, subdivision 22.

Subp. 84a. **Sports or entertainment facility.** "Sports or entertainment facility" means a facility intended for the presentation of sports events and various forms of entertainment or amusement. Examples include sports stadiums or arenas, racetracks, concert halls or amphitheaters, theaters, facilities for pageants or festivals, fairgrounds, amusement parks, and zoological gardens.

Subp. 85. **State trail corridor.** "State trail corridor" means an outdoor recreation system unit designated pursuant to Minnesota Statutes, section 86A.05, subdivision 4.

Subp. 86. **Storage.** "Storage," as used in part 4410.4300, subpart 16, item D, has the meaning given in Code of Federal Regulations 1980, title 40, section 260.10 (a)(66).

Subp. 87. **Third class city.** "Third class city" has the meaning given in Minnesota Statutes, section 410.01.

Subp. 88. **Tiering.** "Tiering" means incorporating by reference the discussion of an issue from a broader or more general EIS. An example of tiering is the incorporation of a program or policy statement into a subsequent environmental document of a more narrow scope, such as a site-specific EIS.

Subp. 89. **Transfer station.** "Transfer station" has the meaning given in Minnesota Statutes, section 115A.03, subdivision 33.

Subp. 89a. **Warehousing facility.** "Warehousing facility" means a subcategory of industrial-commercial land use that has as its primary function the storage of goods or materials. Warehousing facilities may include other uses, such as office space or sales, in minor amounts.

Subp. 90. **Waste.** "Waste" has the meaning given in Minnesota Statutes, section 115A.03, subdivision 34.

Subp. 91. **Waste facility.** "Waste facility" has the meaning given in Minnesota Statutes, section 115A.03, subdivision 35.

Subp. 92. **Wastewater treatment facility.** "Wastewater treatment facility" means a facility for the treatment of municipal or industrial waste water.

Subp. 92a. **Water-related land use management district.** "Water-related land use management district" includes:

A. shoreland areas;

B. floodplains;

C. wild and scenic rivers districts;

D. areas subject to the comprehensive land use plan of the Project Riverbend Board under Minnesota Statutes, chapter 103F; and

E. areas subject to the comprehensive land use plan of the Mississippi River Headwaters Board under Minnesota Statutes, chapter 103F.

Subp. 92b. **Water-related land use management district ordinance or plan, approved.** "Water-related land use management district ordinance or plan, approved" means:

A. a state-approved shoreland ordinance;

B. a state-approved floodplain ordinance;

C. a state-approved wild and scenic rivers district ordinance;

D. the comprehensive land use plan of the Project Riverbend Board under Minnesota Statutes, chapter 103F; or

E. the comprehensive land use plan of the Mississippi River Headwaters Board under Minnesota Statutes, chapter 103F.

Subp. 92c. **Waters of the state.** "Waters of the state" has the meaning given in Minnesota Statutes, section 103G.005, subdivision 17.

Subp. 93. **Wetland.** "Wetland" has the meaning given wetlands in Minnesota Statutes, section 103G.005, subdivision 19.

Subp. 94. **Wild and scenic rivers district.** "Wild and scenic rivers district" means a river or a segment of the river and its adjacent lands that possess outstanding scenic, recreational, natural, historical, scientific, or similar values and has been designated by the commissioner of the DNR or by the legislature of the state of Minnesota for inclusion within the Minnesota wild and scenic rivers system pursuant to Minnesota Statutes, sections 103F.301 to 103F.345, or by Congress for inclusion within the national wild and scenic rivers system pursuant to United States Code 1976, title 16, sections 1274 to 1286.

Subp. 95. **Wild and scenic rivers district ordinances, state approved.** "Wild and scenic rivers district ordinances, state approved" means a local governmental unit ordinance implementing the state management plan for the district. The ordinance must be approved by the commissioner

of the DNR pursuant to parts 6105.0220 to 6105.0250 or 6105.0500 to 6105.0550 of the Department of Natural Resources.

Subp. 96. **Wilderness area.** "Wilderness area" means an outdoor recreation system unit designated pursuant to Minnesota Statutes, section 86A.05, subdivision 6.

Statutory Authority: *MS s 14.388; 116C.94; 116C.991; 116D.04; 116D.045; L 2013 c 114 art 4 s 105; L 2015 1Sp4 art 4 s 121; art 5 s 33*

History: *L 1983 c 289 s 115; 11 SR 714; 13 SR 1437; 17 SR 139; 17 SR 1279; 21 SR 1458; 28 SR 951; 31 SR 539; 31 SR 646; 34 SR 721; 37 SR 820; 41 SR 545; 44 SR 691*

Published Electronically: *December 21, 2023*

Exhibit R
Definition of Connected Action

Subp. 9c. **Connected actions.** Two projects are "connected actions" if a responsible governmental unit determines they are related in any of the following ways:

A. one project would directly induce the other;

B. one project is a prerequisite for the other and the prerequisite project is not justified by itself; or

C. neither project is justified by itself.

Exhibit S
Definition of Phased Action

Subp. 60. **Phased action.** "Phased action" means two or more projects to be undertaken by the same proposer that a RGU determines:

A. will have environmental effects on the same geographic area; and

B. are substantially certain to be undertaken sequentially over a limited period of time.