



City of Inver Grove Heights
Meeting Via In Person or Virtual Zoom

City Council Work Session
Monday, March 1, 2021 at 6:00 p.m.

NOTICE TO RESIDENTS: If you are interested in participating, please contact Rebecca Kiernan prior to this meeting via telephone (651) 450-2513 or email (rkiernan@ighmn.gov) to inform her - your name, address and to what you wish to speak on. Individuals may submit written public comments in advance of the meeting by emailing comments to Rebecca Kiernan (rkiernan@ighmn.gov). Comments received prior to 4:00 p.m. on Monday March 1, 2021, will be provided to the Council at or before the March 1, 2021 Work Session.

A G E N D A

A. Call to Order - Mayor Bartholomew

1. Partners in Energy, IGH Energy Action Plan
2. Fire Department Response Study
3. Review Draft Feasibility Study for Water Level Management on Basin IGT-B-3 (CPN 2021-06)
4. Bee Elite Gymnastics Lease
5. Selection of Professional Recruitment Service Firm Per RFP Process
6. Meeting Management
7. Telework Policy Discussion
8. IGH Mutual Aid

B. Adjourn

**Request for Council Action****TITLE:** Partners in Energy, Inver Grove Heights Energy Action Plan

		Fiscal/FTE Impact	Mark all that apply
Meeting Date:	March 1, 2021	None	
Item Type:	Work Session	Amount included in current budget	
Contact:	Ally Sutherland, 651-604-8511	Budget amendment requested	
Prepared by:	Ally Sutherland	FTE included in current complement	
Reviewed by:	Heather Rand	New FTE requested - N/A	
	Partners in Energy Facilitators	Other	

PURPOSE/ACTION REQUESTED:

The Council is to provide comment on the draft City of Inver Grove Heights' Energy Action Plan and Memorandum of Understanding (MOU) prior to final approval.

PROJECT BACKGROUND:

In February 2020, the City of Inver Grove Heights applied and was selected to participate in Xcel Energy's Partners in Energy, a two-year collaboration to develop and implement a community's energy goals. The City has now joined more than 30 Minnesota and Wisconsin communities to provide residents and businesses targeted education to help save energy, lower energy bills, and support renewable energy.

Through Partners in Energy, our community is creating a draft strategic energy plan built upon existing sustainability goals and a stakeholder engagement process to guide energy planning within the city.

Over a seven-month process, a community stakeholder team completed five workshops and published a community survey to assist with the development of an Energy Action Plan. To form an Energy Action Team ("Team"), the City convened 22 community members, including representatives from various City commissions and committees, City Council, local educational institutions, businesses, service organizations, utility representatives, and many residents.

The attached draft Energy Action Plan ("Plan") is the result of the planning workshops. This Plan will be the guiding document to assist our community in making energy choices that conserve both natural and financial resources.

This Plan builds off and supports existing related City programming, including Minnesota's GreenStep Cities programming and the municipal facilities sustainable maintenance and operations plans. Through implementing this Plan, the City will have new resources available to educate community members on how to practice energy conservation, use renewable energy, and align with the City's environmental commitments. Additionally, the City is committed to implementing the municipal operations actions identified in this Plan to increase energy and cost savings in our buildings, resulting in responsible management of taxpayer dollars and demonstrating leadership in sustainability in our community.

The attached Memorandum of Understanding (MOU) formalizes the agreement between Xcel Energy and the City of Inver Grove Heights to implement the plan. Xcel Energy's Partners in Energy will directly support the City in the first phase of implementation for 18-months, providing project management, marketing and outreach, data tracking and reporting support to ensure the City is equipped to successfully implement the Plan.

After the first phase of implementation, the City will continue to have access to Partners in Energy resources, including monthly informational workshops, engagement events, a network of peer communities and can request additional support for strategies as needed from Xcel Energy.

RECOMMENDATION:

The Environmental Commission will review the draft Energy Action Plan on Thursday, February 25 to consider a recommendation for City Council approval. Staff will inform City Council of the Commission's recommendation at the March 1, 2021 City Council Meeting.

Staff requests City Council provide comment on the draft Energy Action Plan and MOU prior to final approval. Staff will make requested changes as needed and will place items on the March 8, 2021 City Council Meeting agenda for final review and consideration of approval.

ATTACHMENTS:

Draft Resolution

Draft Memorandum of Understanding (MOU)

Draft Executive Summary, Energy Action Plan

Draft Energy Action Plan

**CITY OF INVER GROVE HEIGHTS
DAKOTA COUNTY, MINNESOTA**

RESOLUTION NO. _____

**RESOLUTION APPROVING INVER GROVE HEIGHTS ENERGY ACTION PLAN
AND PARTNERS IN ENERGY PHASE TWO MEMORANDUM OF UNDERSTANDING**

WHEREAS, the City is committed to demonstrating leadership in sustainability in our community;

WHEREAS, the City recognizes Partners in Energy will assist the city in achieving existing environmental programming goals;

WHEREAS, the City sees value in leveraging no-cost external partnerships, such as Partners in Energy, to support existing city programming;

WHEREAS, the City submitted an application and was selected to participate in Partners in Energy in February 2020,

WHEREAS, the City convened a stakeholder team, developed an Energy Action Plan and is prepared to move to Phase 2, Implementation;

NOW, THEREFORE, BE IT RESOLVED the City Council of Inver Grove Heights adopts the Inver Grove Heights Energy Action Plan and authorizes the execution of the Partners in Energy Phase Two Memorandum of Understanding.

Adopted by the City Council of Inver Grove Heights this _____ day of March, 2021.

Ayes:

Nays:

SIGNED:

Tom Bartholomew, Mayor

(Date)

WITNESSED:

Rebecca Kieran, City Clerk

(Date)

Memorandum of Understanding Phase 2 – Plan Implementation

Mayor Tom Bartholomew
City of Inver Grove Heights
8150 Barbara Avenue
Inver Grove Heights, MN 55077

The intent of this Memorandum of Understanding is to recognize the achievement of Inver Grove Heights in developing an Energy Action Plan. Northern States Power Company doing business as Xcel Energy, through its Partners in Energy offering, has supported the development of this Energy Action Plan. This document outlines how the City of Inver Grove Heights and Xcel Energy will continue to work together to implement this Energy Action Plan. The term of this joint support, as defined in this document, will extend from April 1, 2021 through December 31, 2022.

Xcel Energy will support the City of Inver Grove Heights in achieving the goals of its Energy Action Plan in the following ways:

Residential Community Engagement

A. Education and outreach to increase energy efficiency among residents

- Create content for outreach campaign, including social media, newsletter copy, flyers and postcards, talking points and scripts, and copy or media for short videos.
- Incorporate city branding into materials and facilitate review by city and Xcel Energy communications.
- Identify Xcel Energy programs and energy saving behaviors to promote in materials.
- Create content and develop testimonials for efficiency guide for both print and online versions.
- Connect City staff with Home Energy Squad® representatives to facilitate buy-down if City chooses to do this.
- Connect City staff with other Partners in Energy communities for best practices.
- Create surveys, content, or workshop preparations for annual engagement opportunities for feedback. Support with translation of materials, as needed.
- Support recognition program with decal and sharing best practices from other Partners in Energy communities.

B. Decrease energy burden for under-resourced households

- Support outreach to partner organizations with talking points.
- Design outreach materials promoting resources and programs targeted to under-resourced and high-energy burden households.
- Support the translation of promotional materials if identified as a need to reach target audiences.

Memorandum of Understanding
Implementation Phase*C. Provide targeted education & outreach to multi-family properties and senior living facilities to increase energy efficiency*

- Create outreach script for multi-family property management engagement, including overview flyer.
- Design overview flyers to target different types of buildings, such as senior and affordable.
- Create renter energy savings tips to engage renters.
- Support recognition program with decal and sharing best practices from other Partners in Energy communities.

D. Education & outreach to increase renewable energy support and adoption among residents

- Identify renewable energy programs for Inver Grove Heights and guides for how to enroll in each program based on resident goals.
- Create outreach materials identify renewable energy opportunities and programs.
- Work with City staff to identify permitting and land use guidelines for on-site solar to document in guide.
- Share best practices and connect City staff to peer communities to examine opportunities for community solar gardens or solar group buys.

E. Support efficient transportation options for businesses, schools, nonprofits, and places of worship

- Create outreach materials aimed at reducing barriers to electric vehicle ownership and development.
- Share information about electric-vehicle ready development that can be used in development review process.
- Connect city staff with resources, including Xcel Energy staff who can help promote electric vehicles.

Support funded by Xcel Energy for this strategy is not to exceed 145 hours. These hours will include those provided through the Partners in Energy team from Center for Energy and Environment and do not include support provided by Xcel Energy internal program staff.

Businesses, Schools, Nonprofits, and Places of Worship*A. Education & outreach to increase energy efficiency among industry and large businesses*

- Create flyers and postcards to distribute at peer-sharing events.
- Create recognition decal or other material.
- Connect team with Partners in Energy communities who have recognition programs.
- Create testimonials and case studies to include in recognition program.
- Create guide for forming green teams with copy and design support.
- Create outreach scripts for volunteers.

Memorandum of Understanding
Implementation Phase

- Create surveys or content for annual engagement opportunities for feedback. Provide translation support if identified as an effective way to gather more community output.
- Support recognition program with decal and sharing best practices from other Partners in Energy communities.
- B. *Education & outreach to increase energy efficiency among small businesses***
 - Update designed materials from strategy A with small business messaging and programs.
 - Help design outreach campaign with multiple touch points for small businesses, such as a door-to-door campaign in commercial areas of the community.
 - Create outreach scripts and talking points for events, 1:1 outreach, and other small business engagement.
 - Create surveys or content for annual engagement opportunities for feedback. Provide translation support if identified as an effective way to gather more community output.
 - Support recognition program with decal and sharing best practices from other Partners in Energy communities.
- C. *Education & outreach to increase energy efficiency among local schools, nonprofits, and places of worship***
 - Update designed materials from strategy A to include messaging for schools, nonprofits, and places of worship.
 - Identify Xcel Energy and Dakota Electric programs targeted to this audience.
 - Create campaign with multiple touch points.
 - Create surveys or content for annual engagement opportunities for feedback. Provide translation support if identified as an effective way to gather more community output.
 - Support recognition program with decal and sharing best practices from other Partners in Energy communities.
- D. *Education & outreach to increase renewable energy adoption and support among businesses and institutions***
 - Identify Xcel Energy and Dakota Electric renewable energy programs.
 - Create guides on how to sign up for different programs.
 - Connect City with other communities, utility contacts, and other renewable energy experts to discuss hosting community solar on-site.
- E. *Support efficient transportation options for businesses, schools, nonprofits, and places of worship***
 - Create outreach materials aimed at reducing barriers to electric vehicle ownership and development.
 - Share information about electric-vehicle ready development that can be used in development review process.

Connect city staff with resources, including Xcel Energy staff who can help promote electric vehicles. Support funded by Xcel Energy for this strategy is not to exceed 135 hours. These

Memorandum of Understanding
Implementation Phase

hours will include those provided through the Partners in Energy team from Center for Energy and Environment and do not include support provided by Xcel Energy internal program staff.

Municipal Leadership

- A. *Demonstrate leadership in sustainability*
 - Connect City with Xcel Energy and Dakota Electric account managers and program managers, and with Partners in Energy Communities for peer-sharing.
 - Support GreenSteps and SolSmart designation activities.
 - Write case studies about projects completed at City facilities to showcase leadership.
 - Share New Construction Toolkit and create materials for development review.
- B. *Increase energy efficiency in municipal operations and buildings*
 - Connect City with Xcel Energy and Dakota Electric account managers and program managers for upgrades.
 - Identify energy saving behaviors for employees and building occupants.
- C. *Explore renewable energy for municipal operations and buildings*
 - Connect City with Xcel Energy and Dakota Electric account managers and program managers about renewable energy options.
 - Connect City with Partners in Energy Communities for peer-sharing.
 - Provide information on best practices for municipal renewable energy development.
- D. *Examine and implement efficient transportation and fleet electrification*
 - Connect City with resources for ride and drive events.
 - Connect City with Xcel Energy and Dakota Electric account managers and program managers about EV resources.
 - Connect City with Partners in Energy Communities for peer-sharing.

Support funded by Xcel Energy for this strategy is not to exceed 45 hours. These hours will include those provided through the Partners in Energy team from Center for Energy and Environment and do not include support provided by Xcel Energy internal program staff.

Project Management and Reimbursed Expenses

- A. Provide presentation content outlining Partners in Energy process, identified focus areas and goals, and benefits to community to be presented to Council as part of update process.
- B. Facilitate regular check-in meetings, track and report energy impacts and activities (process annual data from Xcel Energy) and help coordinate implementation kick-off activities.
- C. Provide up to \$2,500 for reimbursed expenses related to printing and distribution of co-branded marketing materials, venue fees, food, and other related needs associated with outreach and education. Xcel Energy funding will not be provided for the purchase of alcohol.

Memorandum of Understanding
Implementation Phase

- D. Support funded by Xcel Energy for this strategy is not to exceed 105 hours. These hours will include those provided through the Partners in Energy team from Center for Energy and Environment and do not include support provided by Xcel Energy internal program staff.

City of Inver Grove Heights commits to supporting the Energy Action Plan to the best of its ability by:

Achieving the energy savings impacts outlined in the energy action plan and shown in the table below:

(2021 – 2022)	Electricity Savings (in kWh)	Natural Gas Savings (in therms)
Baseline Historic Energy Savings	6,053,200	452,600
Incremental Plan Energy Savings	1,643,500	61,700
Total Plan Energy Savings (baseline + plan energy savings)	7,696,700	514,300

Performing the coordination, tracking, and outreach duties as outlined in the Energy Action Plan that include but are not limited to the following:

Residential Community Engagement

- A. Education and outreach to increase energy efficiency among residents*
- Leverage communication channels to promote and share calls to action and materials created by Partners in Energy.
 - Create Energy Savings Corner for newsletter.
 - Promote tools and resources on communication channels and with partner networks.
 - Support creation of videos and other flyers by reviewing content and providing communications support to host and publish content.
 - Collect testimonials from residents to feature in outreach.
 - Develop a green recognition program for residents, including eligibility requirements and structure for awarding recognition to residents.
 - Host annual engagement opportunities to collect feedback on energy related needs, such as surveys, open houses, or workshops.
- B. Decrease energy burden for under-resourced households*
- Establish partnerships with service organizations and leverage existing relationships to garner support for the Energy Action Plan and to support under-resourced households.
 - Share outreach materials with partner organizations.

Memorandum of Understanding
Implementation Phase

- Leverage relationships with manufactured home parks to conduct outreach about resources.
 - Leverage community channels to share messaging and resources.
 - Identify and coordinate home financing options to offer low-interest financing opportunities.
- C. Provide targeted education & outreach to multi-family properties and senior living facilities to increase energy efficiency*
- Create list of multi-family buildings in Inver Grove Heights using city and public data.
 - Leverage recycling outreach relationships to share energy efficiency program materials.
 - Work with existing communication channels and property managers to share renter energy savings tips.
 - Develop recognition program for multi-family buildings, including eligibility and structure for recognition.
- D. Education & outreach to increase renewable energy support and adoption among residents*
- Leverage communication channels to promote and share calls to action and materials created by Partners in Energy.
 - Explore opportunities for on-site solar gardens by connecting with peer communities and utility experts.

Businesses, Schools, Nonprofits, and Places of Worship

- A. Education & outreach to increase energy efficiency among industry and large businesses*
- Create dedicated webpage to host information about energy opportunities for businesses.
 - Research best practices for recognition programs and establish a large business category.
 - Gather testimonials from businesses to share with outreach.
 - Leverage city relationships and communication channels to share outreach materials.
 - Identify volunteers and champions to help with 1:1 outreach.
 - Host annual engagement opportunities to collect feedback on energy related needs, such as surveys, open houses, or workshops.
- B. Education & outreach to increase energy efficiency among small businesses*
- Leverage city relationships and communication channels to share outreach materials, including Chamber of Commerce relationships.
 - Identify civic organizations and other groups to help share outreach materials and garner support for the Energy Action Plan.
 - Gather testimonials from businesses to share with outreach.
 - Identify opportunities to speak at Chamber events to co-host energy-specific event.

Memorandum of Understanding
Implementation Phase

- Identify volunteers and champions to help with 1:1 outreach to small businesses.
 - Establish recognition process for small businesses to accompany other recognition programs.
 - Use city relationships and other public sources to identify buildings that are owned by commercial property groups to facilitate direct engagement with decision makers.
 - Host annual engagement opportunities to collect feedback on energy related needs, such as surveys, open houses, or workshops.
- C. Education & outreach to increase energy efficiency among local schools, nonprofits, and places of worship*
- Partner with Chamber to create peer-sharing events about energy.
 - Leverage city relationships and communication channels to share outreach materials.
 - Establish recognition process for schools, nonprofits, and places of worship to accompany other recognition programs.
 - Host annual engagement opportunities to collect feedback on energy related needs, such as surveys, open houses, or workshops.
- D. Education & outreach to increase renewable energy adoption and support among businesses and institutions*
- Leverage city relationships with external partners, plus city-based communication channels to share outreach materials.
 - Help identify sites that may serve as good sites for community solar gardens.
 - Host annual engagement opportunities to collect feedback on energy related needs, such as surveys, open houses, or workshops.

Municipal Leadership

- A. Demonstrate leadership in sustainability*
- Showcase the city's journey related to energy efficiency, renewable energy and sustainability through demonstrating past progress as well as greenhouse gas and cost impacts.
 - Highlight clean energy projects completed by the city, residents and businesses through written case studies, social media posts, tours, etc.
 - Provide education to developers on grants available for clean energy projects, energy efficiency projects, water conservation projects, etc.
 - Educate City Council, leadership, and commissions about Energy Action Plan goals and strategies and initiate call to action for support.
 - Update City code as needed to make develop standards friendly for renewable energy use and development.
 - Establish an internal Green Team including representatives of City divisions such as community development, finance, fleet management, parks and operations and maintenance to guide municipal sustainability efforts.
 - Create an environmental purchasing policy.

Memorandum of Understanding
Implementation Phase

- Continue to make progress towards GreenStep City goals related to energy conversation, renewable energy and collection of baseline and annual reporting metrics.
- B. Increase energy efficiency in municipal operations and buildings*
 - Educate employees and other building occupants about recommended sustainable behaviors at municipal facilities.
 - Explore cost-effective options to maximize efficiency and sustainability in major municipal development and construction projects.
- C. Explore renewable energy for municipal operations and buildings*
 - Explore renewable energy options, including on-site and subscription programs, to cover municipal operations.
 - Examine municipal properties for opportunities to host solar gardens, including community solar gardens, following the best practices of peer communities.
- D. Examine and implement efficient transportation and fleet electrification*
 - Consider right-sizing or down-sizing the city fleet with vehicles that are more fuel efficient and an optimal size for their intended functions (GreenStep Cities Best Practice #13.2).
 - Consider purchasing alternative fuel vehicles, such as electric vehicles, during fleet vehicle replacement process (GreenStep Cities Best Practice #13.2).
 - Review FleetCarma analysis for vehicle replacement recommendations.
 - Replace high-use light-duty vehicles with electric vehicles.
 - Seek and apply for grant funding opportunities for electric vehicle charging infrastructure for public or fleet use.
 - Host ride-and-drive education events for staff, residents, and businesses.
 - Educate staff on efficient use of city fleet vehicles, such as carpooling, video conferencing, and no idling when feasible (GreenStep Cities Best Practice #13.3).

Project Management

- Participate in coordination and tracking of scheduled check-ins, activities, and events.
- Provide Xcel Energy an opportunity to review marketing materials to assure accuracy when they incorporate the Xcel Energy logo or reference any of Xcel Energy's products or services.
- Share the plan document, supporting work documents, collateral, and implementation results from the Energy Action Plan with the public. The experience, successes, and lessons learned from this community will inform others looking at similar or expanded initiatives.
- Share progress on upcoming sustainability planning as it relates to activities outlined in the Energy Action Plan.

Legal Applicability and Waiver

This is a voluntary agreement and not intended to be legally binding for either party. This Memorandum of Understanding has no impact, nor does it alter or modify any existing

Memorandum of Understanding
Implementation Phase

Franchise Agreement or other existing agreements between Xcel Energy and Inver Grove Heights. Parties agree that this Memorandum of Understanding is to memorialize the intent of the Parties regarding Partners in Energy but does not create a legal agreement between the Parties. It is agreed by the Parties that nothing in this Memorandum of Understanding will be deemed or construed as creating a joint venture, trust, partnership, or any other legal relationship among the Parties. This Memorandum of Understanding is for the benefit of the Parties and does not create third party rights. Nothing in this Memorandum of Understanding constitutes a waiver of Inver Grove Heights ordinances, Inver Grove Heights regulatory jurisdiction, or Minnesota's utility regulatory jurisdiction.

Single Points of Contact

All communications pertaining to this agreement shall be directed to Ally Sutherland on behalf of Inver Grove Heights and Tami Gunderzik on behalf of Xcel Energy.

Xcel Energy is excited about this opportunity to support Inver Grove Heights in advancing its goals. The resources outlined above and provided through Partners in Energy are provided as a part of our commitment to the communities we serve and Xcel Energy's support of energy efficiency and renewable energy as important resources to meet your future energy needs.

Memorandum of Understanding
Implementation Phase

For Inver Grove Heights:

For Xcel Energy:

Signature:

Signature:

Name:

Name:

Title:

Title:

Date:

Date:



INVER GROVE HEIGHTS ENERGY ACTION PLAN

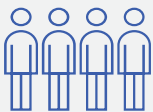
Our Energy Action Plan, approved by the City Council in March 2021, seeks to address and engage our diverse community on energy issues. We will improve economic vitality and sustainability for all who call Inver Grove Heights home.

Our Vision

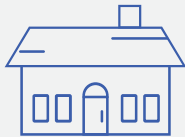
Inver Grove Heights will be an innovative and engaged community where energy choices conserve both our natural and financial resources.

Our Goals and Impacts

Between 2021 and 2022, we will...



Engage **2,000** residents and **250** businesses, schools, nonprofits, and places of worship.

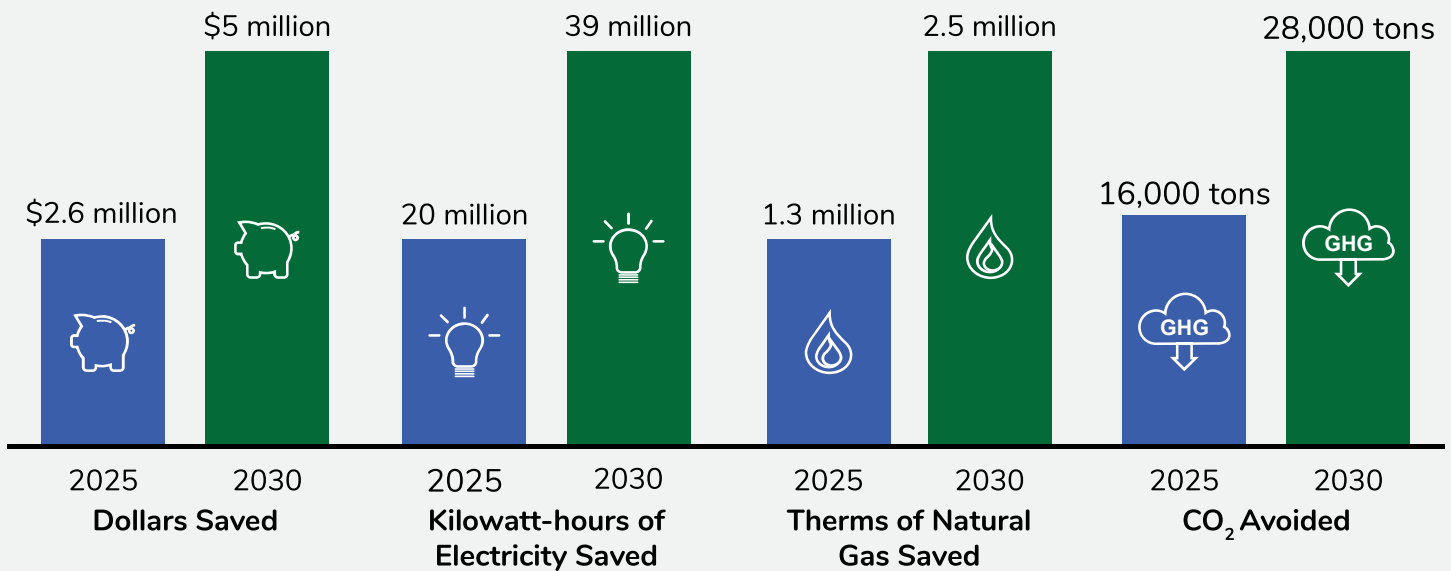


Support **80** under-resourced households with energy costs.



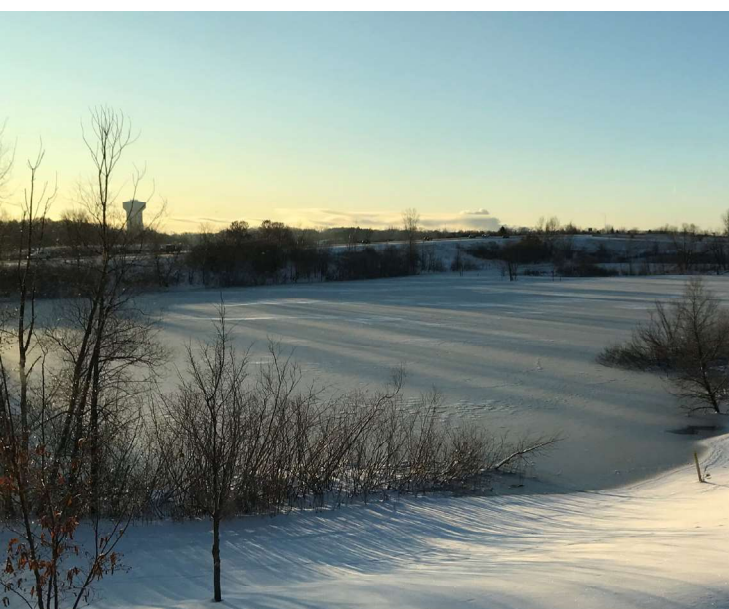
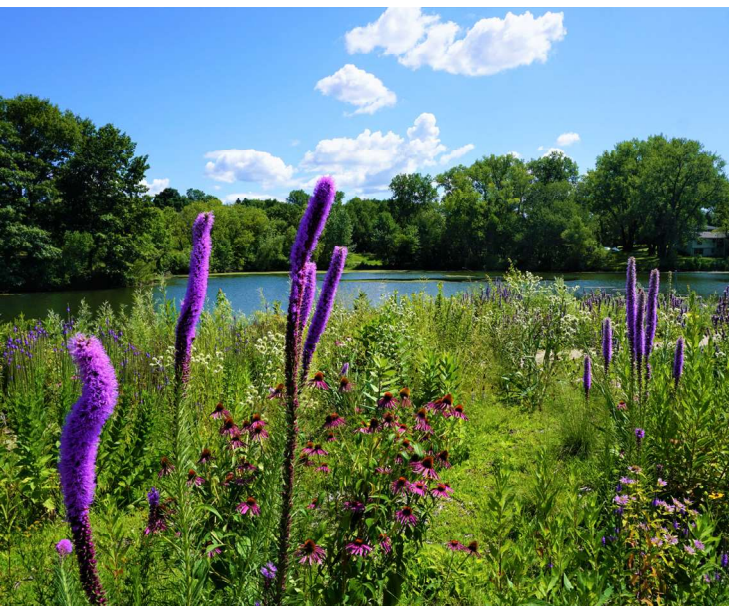
Increase renewable energy support by **250** residents and **12** businesses. Add **10** residential on-site solar installations.

Estimated Savings and Changes in the Inver Grove Heights Community



The content of this plan is derived from a series of planning workshops hosted by Xcel Energy's Partners in Energy. Thank you to the Inver Grove Heights Energy Action Team who contributed many hours of service to creating our vision, goals, and strategies for this plan.





How We Are Going to Get There

We've identified three focus areas and 14 strategies to focus our resources and targets to achieve our goals:

Residential Community Engagement

- Education & outreach to increase energy efficiency among resident.
- Decrease energy burden for underserved households
- Saving energy for multi-family properties
- Education & outreach to increase renewable energy support and adoption among residents
- Longer term: Support efficient transportation options for residents

Businesses, Schools, Nonprofits, and Places of Worship

- Education & outreach to increase energy efficiency among:
 - Small businesses
 - Industry and large businesses
 - Local schools, nonprofits, and places of worship
- Education & outreach to increase renewable energy support and adoption among businesses
- Longer term: Support efficient transportation options for businesses, schools, nonprofits, and places of worship

Municipal Leadership

- Demonstrate leadership in sustainability
- Increase energy efficiency in municipal operations
- Explore renewable energy for municipal operations and buildings
- Examine & implement efficient transportation and fleet electrification options

Get Involved

Visit ighmn.gov/Energy to read more about our Energy Action Plan and find ways you can support our work.

Please contact Environmental Specialist Ally Sutherland to learn how you can help Inver Grove Heights achieve our energy vision at asutherland@ighmn.gov.



AN ENERGY ACTION PLAN FOR INVER GROVE HEIGHTS

DRAFT February 2021



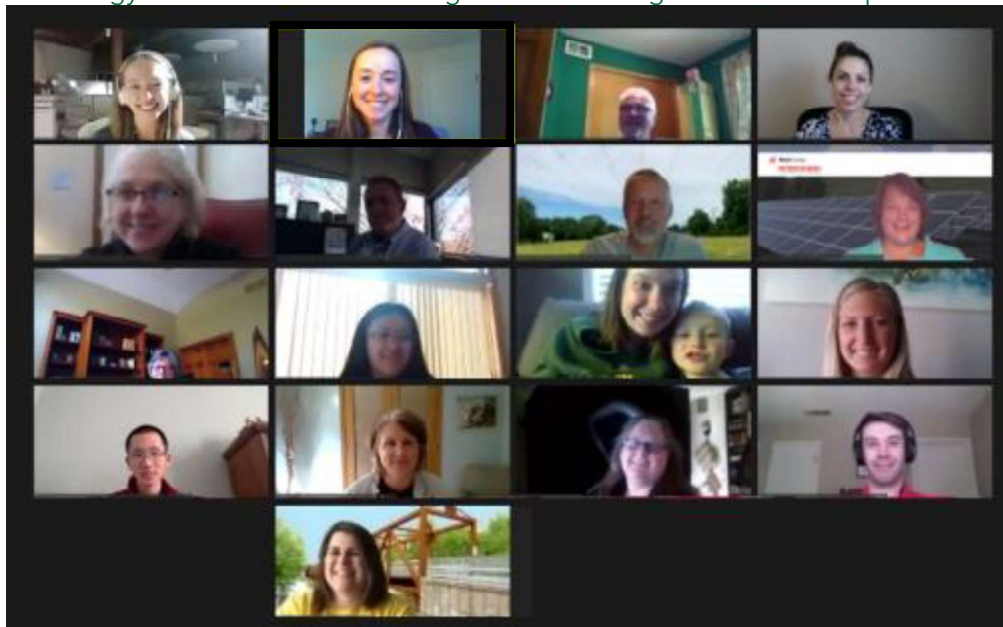
This page is intentionally left blank.



ACKNOWLEDGEMENTS

The content of this plan was derived from a series of planning workshops hosted the City of Inver Grove Heights and facilitated by Xcel Energy's Partners in Energy. Partners in Energy is a two-year collaboration to develop and implement a community's energy goals. For more information about the planning workshops, see *Appendix 3*.

Figure 1: The Energy Action Team met over digital conferencing for five workshops to create our plan.



The Energy Action Team

Thank you to the following community members who contributed many hours of service to developing our Energy Action Plan.

Team Members and Affiliations	
<i>Municipal Staff, City of Inver Grove Heights</i>	
Heather Rand	Director of Community Development and Director of the Economic Development Authority
Ally Sutherland	Environmental Specialist
<i>Elected and Appointed City Officials, City of Inver Grove Heights</i>	
Sue Gliva	City Council Member
Annette Maggi	Planning Commission Chair
Kara Perry	Former City Council Member
Katherine Teiken	Environmental Commission Member
Mary T'Kach	Housing Committee Member
Ted Trenzeluk	Environmental Commission Chair
<i>Business and Nonprofit Community Representatives</i>	
Charlie Thompson	Neighbors Inc. CEO and President and Resident
Ben Van Straten	CHS Inc.
<i>School Representatives</i>	
Heather Aune	ISD 199 Director of Business Services
Quennel Cooper	ISD 199 Pine Bend Elementary Principal
Randi Goettl	Inver Hills Community College
Shannon Williams	Inver Hills Community College
<i>Resident Representatives</i>	
Jake Berg	Resident
Tenzin Dolkar	Resident
Dawn Gaetke	Resident
<i>Utility Representatives</i>	
Tami Gunderzik	Program Manager, Xcel Energy's Partners in Energy
Ashley Haung	Marketing Assistant, Xcel Energy's Partners in Energy
Patrick Mathwig	Energy Services Representative, Dakota Electric
Yvonne Pfeifer	Community Energy Efficiency Manager, Xcel Energy
Jake Sedlacek	Community Relations Manager, Xcel Energy and Resident
<i>Partners in Energy Facilitators</i>	
Marisa Bayer	Partners in Energy Community Facilitator
Jamie Johnson	Partners in Energy Community Facilitator



This Energy Action Plan was funded by and developed in collaboration with Xcel Energy's Partners in Energy.

Table of Contents

Acknowledgements	iii
Executive Summary	1
Introduction	3
Why the City is Bringing an Energy Action Plan to Our Community	3
Our Engagement Process.....	5
Energy Utilities in Our Community	5
Baseline Energy Data, 2017-2019.....	6
Our Energy Future, 2021 and beyond.....	15
Energy Vision Statement.....	15
Goals.....	15
Implementation Work Plan.....	19
Our Focus Areas	20
Focus Area: Residential Community Engagement.....	21
Focus Area: Businesses, Schools, Nonprofits, and Places of Worship	30
Focus Area: Municipal Leadership	39
Measuring Success	44
Energy Action Plan Impacts – Near Term.....	44
Long-Term Impacts.....	47
Support and Commitments.....	48
Data and Reporting	48
Project Management and Tracking	49
Other Commitment and Engagements	49
Appendix 1: Baseline Energy Data Analysis, 2017-2019	50
Appendix 2: Methodology for Measuring Success.....	59
Appendix 3: Xcel Energy’s Partners in Energy Planning Process.....	67
Appendix 4: Glossary of Terms.....	71
Appendix 5: Implementation Memorandum of Understanding	74

This page is intentionally left blank.



INVER GROVE HEIGHTS ENERGY ACTION PLAN

Our Energy Action Plan, approved by the City Council in March 2021, seeks to address and engage our diverse community on energy issues. We will improve economic vitality and sustainability for all who call Inver Grove Heights home.

Our Vision

Inver Grove Heights will be an innovative and engaged community where energy choices conserve both our natural and financial resources.

Our Goals and Impacts

Between 2021 and 2022, we will...



Engage **2,000** residents and **250** businesses, schools, nonprofits, and places of worship.

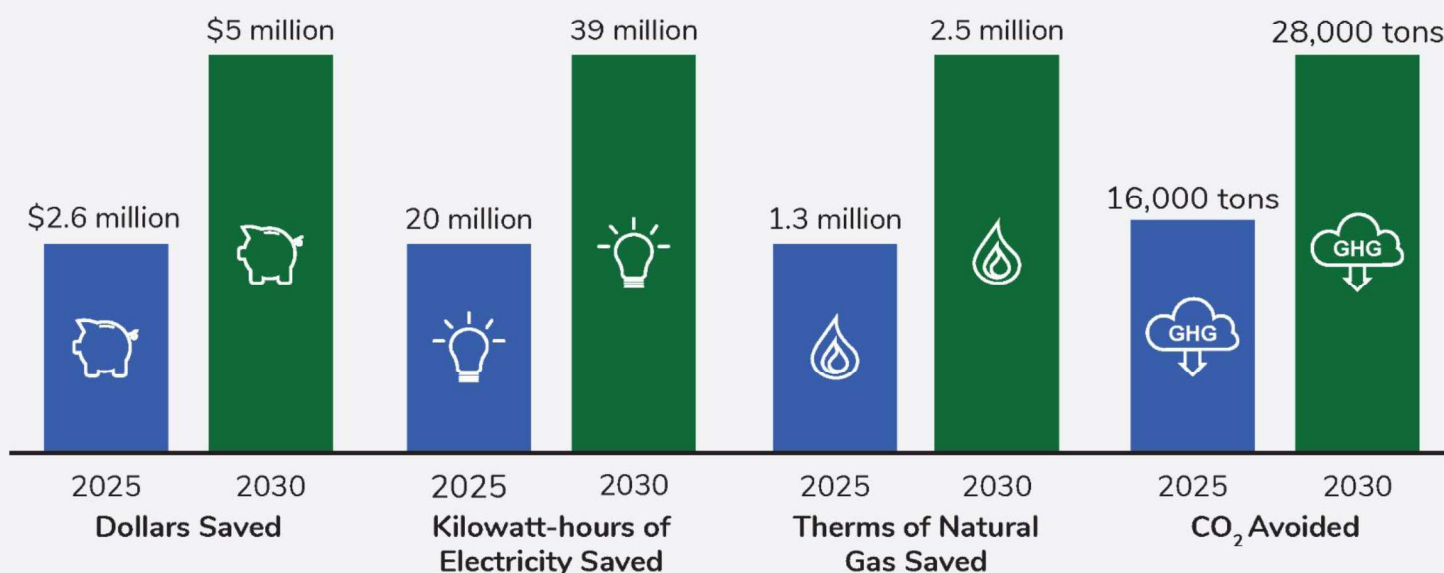


Support **80** under-resourced households with energy costs.



Increase renewable energy support by **250** residents and **12** businesses. Add **10** residential on-site solar installations.

Estimated Savings and Changes in the Inver Grove Heights Community



The content of this plan is derived from a series of planning workshops hosted by Xcel Energy's Partners in Energy. Thank you to the Inver Grove Heights Energy Action Team who contributed many hours of service to creating our vision, goals, and strategies for this plan.





How We Are Going to Get There

We've identified three focus areas and 14 strategies to focus our resources and targets to achieve our goals:

Residential Community Engagement

- Education & outreach to increase energy efficiency among resident.
- Decrease energy burden for underserved households
- Saving energy for multi-family properties
- Education & outreach to increase renewable energy support and adoption among residents
- Longer term: Support efficient transportation options for residents

Businesses, Schools, Nonprofits, and Places of Worship

- Education & outreach to increase energy efficiency among:
 - Small businesses
 - Industry and large businesses
 - Local schools, nonprofits, and places of worship
- Education & outreach to increase renewable energy support and adoption among businesses
- Longer term: Support efficient transportation options for businesses, schools, nonprofits, and places of worship

Municipal Leadership

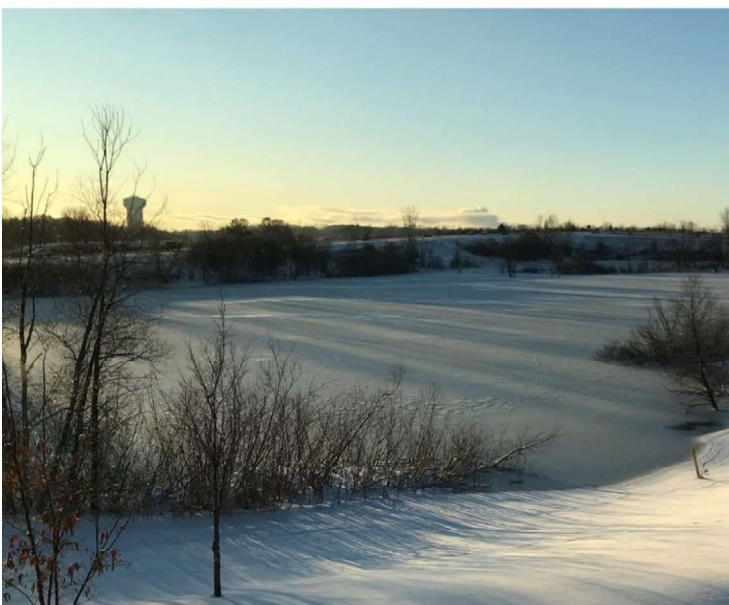
- Demonstrate leadership in sustainability
- Increase energy efficiency in municipal operations
- Explore renewable energy for municipal operations and buildings
- Examine & implement efficient transportation and fleet electrification options



Get Involved

Visit ighmn.gov/Energy to read more about our Energy Action Plan and find ways you can support our work.

Please contact Environmental Specialist Ally Sutherland to learn how you can help Inver Grove Heights achieve our energy vision at asutherland@ighmn.gov.





INTRODUCTION

Inver Grove Heights is a second-ring suburban community, nestled along the banks of the Mississippi River, mixed with developing suburban and rural land. The community is known for its quiet, small-town feel, while being seated only 10 short minutes from downtown Saint Paul and closely connected to neighboring suburban communities. The city is home to residents, commercial and industrial businesses, nonprofits, and K-12 and higher education institutions.

Our energy action plan seeks to address and engage this diverse community on energy issues with the mission to enhance economic vitality and conservation of natural resources in Inver Grove Heights.

Why the City is Bringing an Energy Action Plan to Our Community

The City of Inver Grove Heights applied to Xcel Energy's Partners in Energy to further the work we have been doing on environmental and sustainability programming, and to connect everyone in the community with the same environmental and financial benefits. The City entered this planning process to develop a community-driven Energy Action Plan that we and our partners may fully embrace.

As the city continues to grow, ensuring development meets the needs of the present and future is a top priority. This includes ensuring access to resources, such as energy, that are reliable and affordable for all community members. Through

Who are we talking about?

We, Our, and the City refer to the City of Inver Grove Heights.

Community refers to the broader Inver Grove Heights community.

Energy Action Team is the group of individuals whose input created our energy action plan.

Energy Action Plan refers to this document for the City of Inver Grove Heights.

developing and implementing this plan, the City will have the resources available to educate community members on how to reduce their energy costs through practicing energy conservation, use renewable energy, and align with the City's environmental commitments.

The work of this Energy Action Plan builds off past work by the City, including its work in Minnesota's GreenStep Cities program and the energy efficiency work the City is pursuing in its own facilities.

Figure 2: Volunteers help beautify one of Inver Grove Heights' many parks and green spaces.



Our plan is primarily concerned with grid energy use, including electricity and natural gas. It also begins to address the growing area of electric vehicles and works to support related initiatives, including transportation initiatives, in our 2040 Comprehensive Plan.¹

Economic Benefits to Our Community

The economic benefits of energy efficiency are well-documented and wide-ranging. Perhaps the most direct economic benefit is lowered energy costs from reduced energy use. Typically, when a home or business reduces energy it lowers monthly energy bills, enabling more funds to put back into the local economy. Energy efficiency also stimulates the local economy by supporting local jobs, like construction workers and heating, cooling, and ventilation technicians.² In implementing our plan, we will be bringing these economic benefits to our community.

Health Benefits to Our Community

Energy efficiency, renewable energy, and sustainable transportation each drive local health benefits for those who live, work, and visit Inver Grove Heights. Using less energy means burning fewer fossil fuels and reducing air pollution that can be damaging to human health.³

¹ For more information about Inver Grove Heights' 2040 Comprehensive Plan, visit the City's [website](#).

² Environmental Protection Agency, Quantifying the Multiple Benefits of Energy Efficiency and Renewable Energy: A Guide for State and Local Governments, 2018 Edition, https://www.epa.gov/sites/production/files/2018-07/documents/epa_slb_multiple_benefits_508.pdf.

³ *Ibid*.

Our plan will also seek to improve our community's residential and commercial building stock by supporting energy efficiency. In addition to making a building more comfortable and durable, efficiency can also contribute to health and safety benefits in several ways. Increased ventilation can improve indoor air quality by reducing problems with moisture, pollutants, or pathogens. Improving water and space heating systems can reduce the risk of interior hazardous gas leaks. Air sealing and insulation can reduce drafts and ice dams – helping to keep buildings cool in the summer and warm in the winter.

By pursuing efficiency alongside clean and sustainable energy, the actions of this plan will contribute to the physical health and well-being of all who call Inver Grove Heights home.

Our Engagement Process

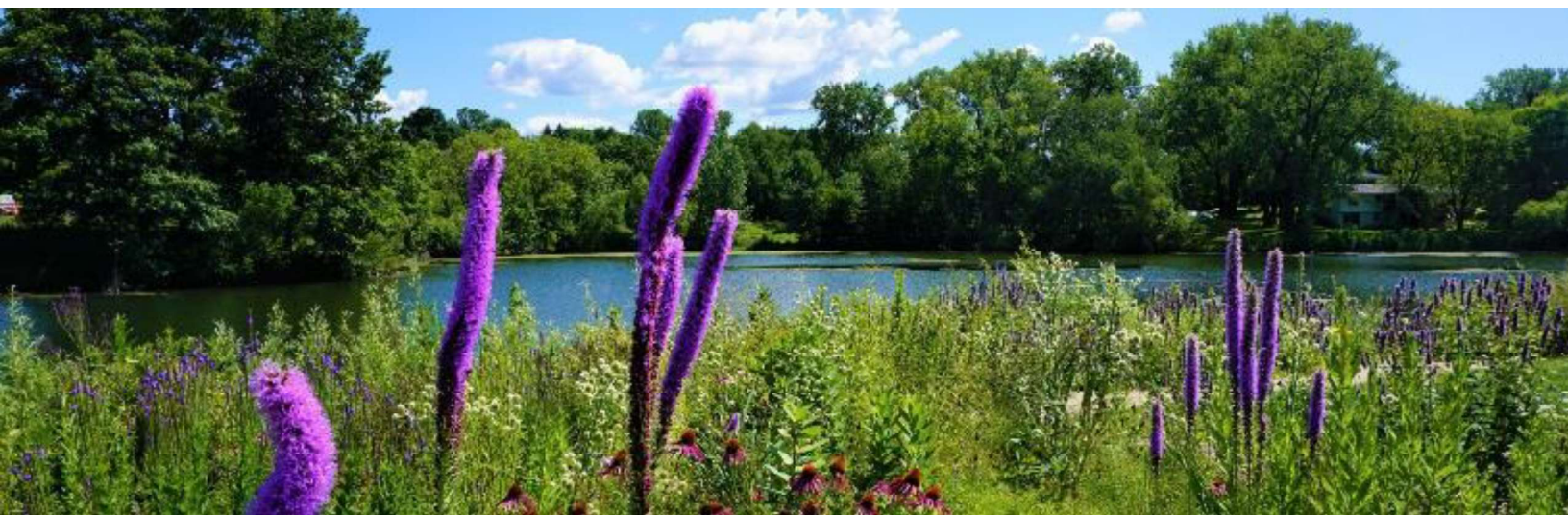
This Energy Action Plan was created over a seven-month process that helped our community characterize its energy use, identify energy-related goals, and develop engagement strategies to guide us toward our energy future. The following content was created through a series of planning workshops that started in June 2020 and were held digitally over video conferencing with a planning team committed to representing local priorities in collaboration with City of Inver Grove Heights and Xcel Energy's Partners in Energy.

Over five workshops, we engaged 22 community members, including representatives from various City commissions and committees, City Council, local educational institutions, businesses, service organizations, utility representatives, and many residents. See the *Acknowledgements* section for a list of participating Energy Action Team members. See *Appendix 3* for more information about the planning process and Xcel Energy's Partners in Energy.

Energy Utilities in Our Community

Our Energy Action Plan seeks to address how the community uses energy. The City of Inver Grove Heights is served by two utility energy providers: Xcel Energy and Dakota Electric Association (Dakota Electric).⁴ This plan includes baseline data for each utility. The action and work of this plan seeks to engage residents served by each of these utilities by connecting community members with their service providers, primarily through outreach and education.

⁴ See [xcelenergy.com](https://www.xcelenergy.com) for more information about Xcel Energy and its programs and services, many of which are addressed in this plan. See [dakotaelectric.com](https://www.dakotaelectric.com) for more information about Dakota Electric Association and its programs and services.



BASELINE ENERGY DATA, 2017-2019

An integral part of the Partners in Energy planning process is reviewing historic energy data that informs our community's energy baseline. Xcel Energy and Dakota Electric provided data on energy use, participation counts, utility energy conservation program savings, and renewable energy support for Inver Grove Heights from 2017-2019, as detailed in the following section. In addition, we analyzed the American Community Survey and other community data to better understand residents' transportation choices, income, and housing stock. See *Appendix 1* for a more in-depth picture of Inver Grove Heights' energy baseline data.

Some common energy units & terms

Kilowatt-hour (kWh) is a unit of electricity consumption.

Therm is a unit of natural gas consumption.

Premise is a unique combination of utility service address and meter.

MTCO_{2e}, or metric tons of carbon dioxide equivalent, is unit of measure for greenhouse gas emissions.

See *Appendix 4: Glossary of Terms* for a glossary of common energy terms used in this plan.

The data we examined for this baseline was broken down into three main sectors:

- **Residential** includes the residents of the Inver Grove Heights community.
- **Commercial and industrial** includes businesses, schools, nonprofits, places of worship, and some multi-family properties.⁵
- **Municipal** refers to buildings and premises owned or operated by the City of Inver Grove Heights.

⁵ Due to 15 x 15 data privacy concerns, one commercial and industrial premise was removed from the data included in the baseline analysis of our plan. See *Appendix 4: Glossary of Terms* for further explanation of 15 x 15.

Energy Utilities Serving Our Community

Xcel Energy provides electricity and natural gas to most of Inver Grove Heights. Dakota Electric provides electric service to the remaining 10%, serving southwest areas of the community. The data below includes electric data for both Xcel Energy and Dakota Electric unless otherwise noted. See Figure 3 for a breakdown of premises by utility. *Figure 4* shows a map of electric utility service area. Xcel Energy is the sole utility provider for natural gas in Inver Grove Heights.

Figure 3: Inver Grove Heights Premises by Utility and by Sector, 2019

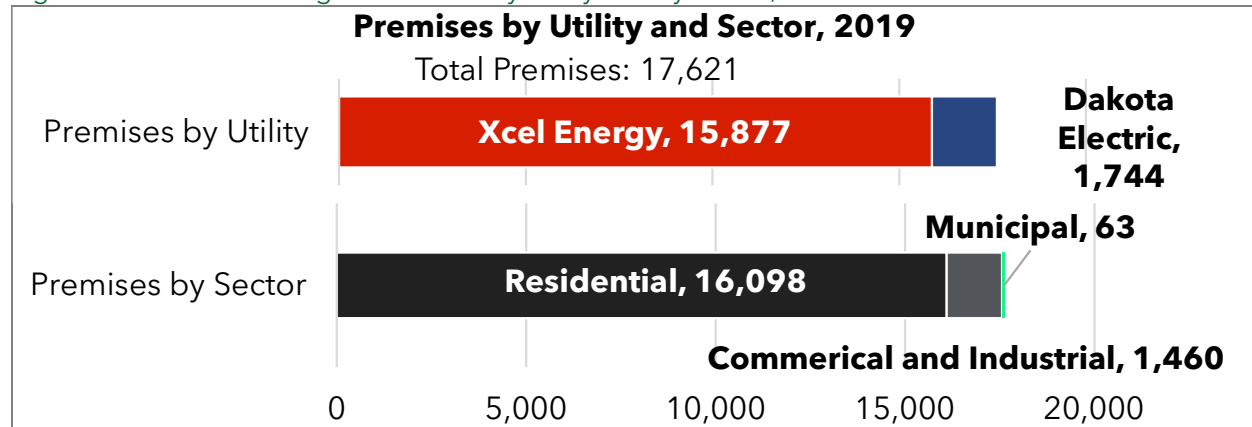
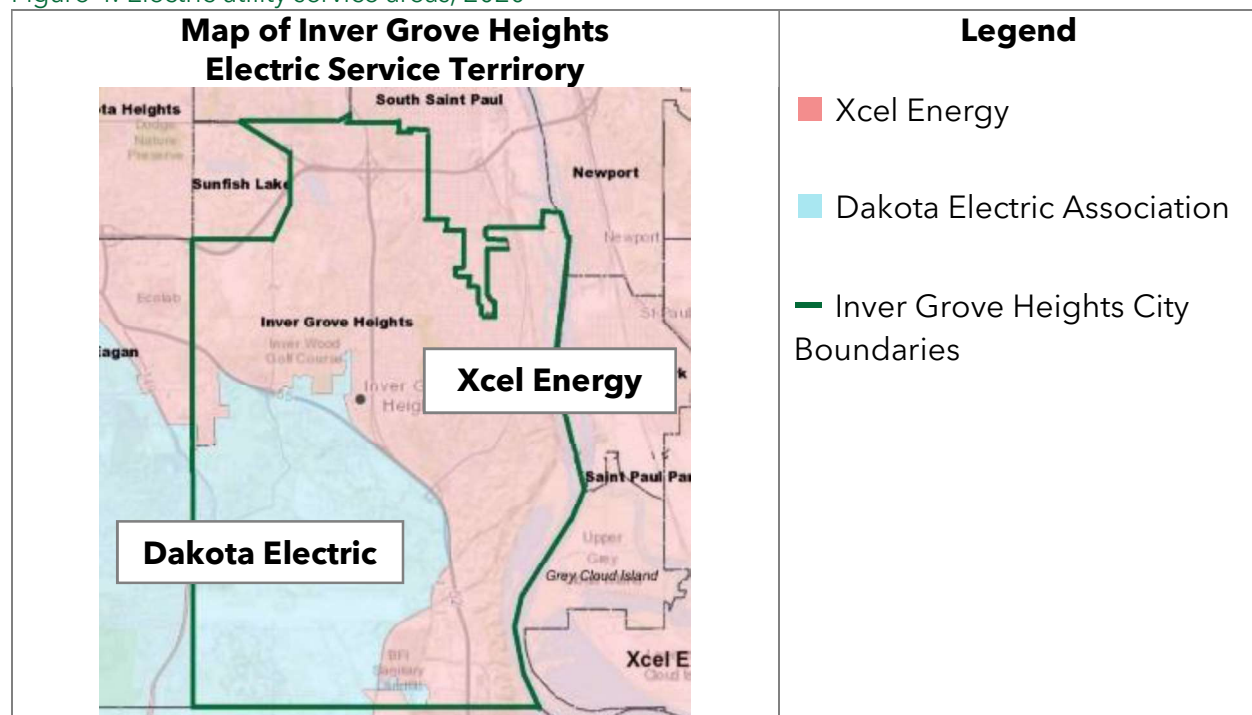


Figure 4: Electric utility service areas, 2020⁶

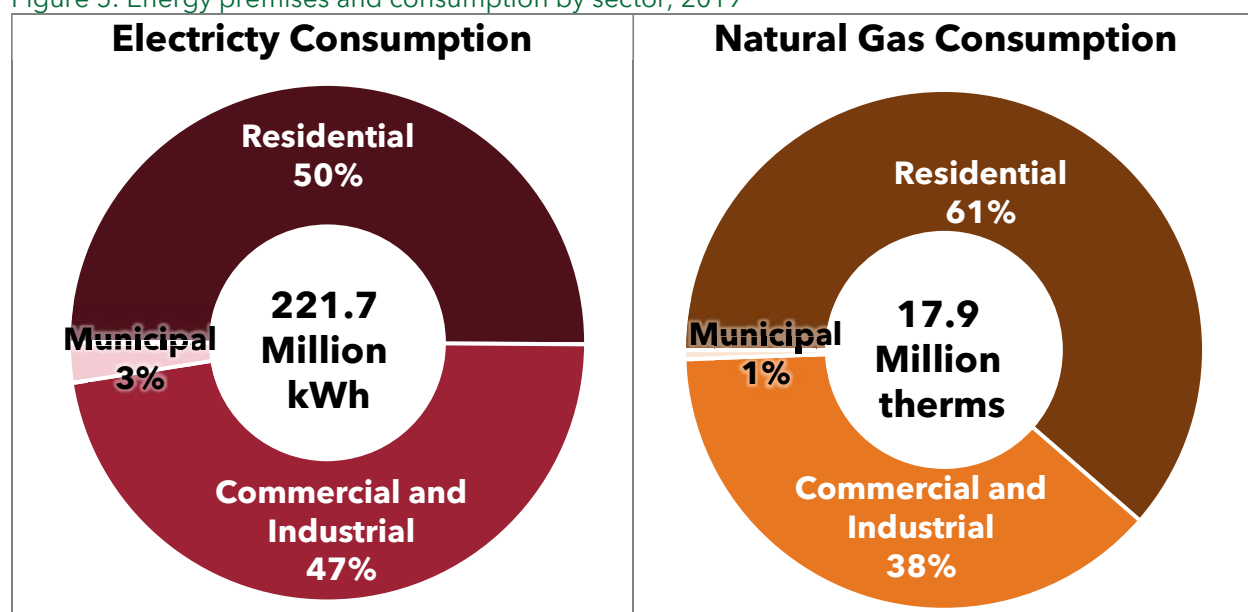


⁶ Source: Minnesota Public Utilities Commission, Electric Service Area Maps. Accessed December 30, 2020. <https://mn.gov/puc/utilities/maps/>.

Grid Energy Use

Overall, residents use slightly more energy than the commercial and industrial sector in the community. Residents consumed 50% of electricity and 61% of natural gas over the baseline period. While electricity has a variety of end uses, in Minnesota, natural gas is primarily used for space heating. Municipal facilities consumed about 2% of energy in the community, and the commercial and industrial sector consumed 48% of electricity and 39% of natural gas over the baseline period. While the commercial and industrial sector consumed less energy in the community than residents, on average, each commercial and industrial property consumed a far greater portion of energy. The commercial and industrial sector makes up about 8% of premises in the community but is responsible for nearly half of all energy consumed.

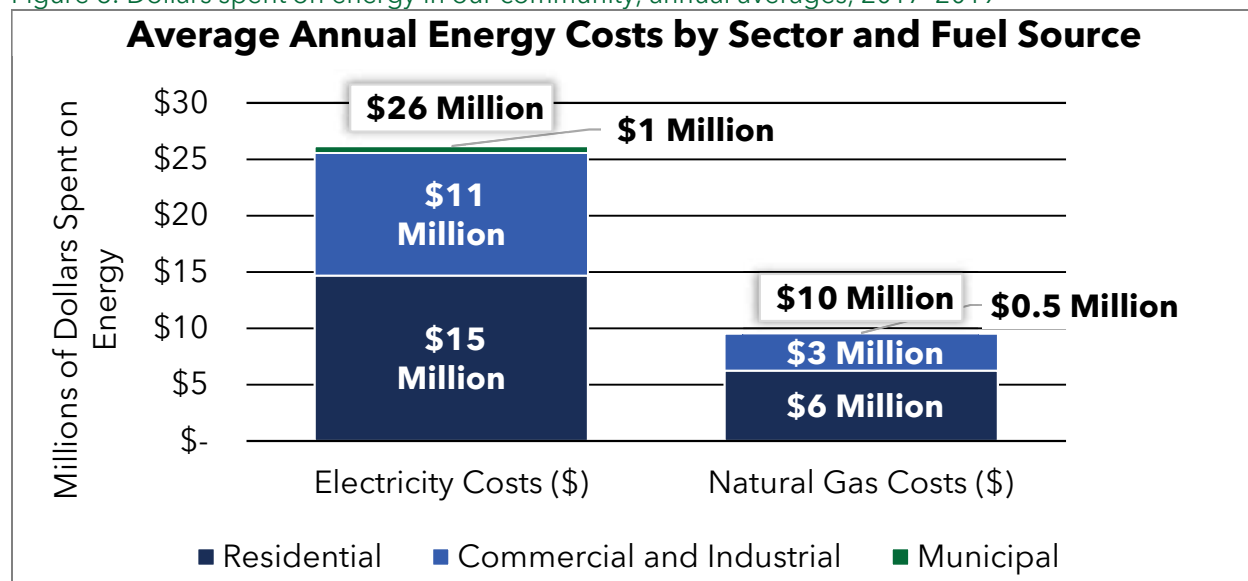
Figure 5: Energy premises and consumption by sector, 2019



Energy Costs

Across the baseline period, the Inver Grove Heights community spent an estimated \$35.5 million dollars annually on energy costs across both electricity and natural gas. About 75% of all energy costs are for electricity, with the residential sector spending an average of \$15 million a year on electric costs.

Figure 6: Dollars spent on energy in our community, annual averages, 2017-2019



The average residential premise spends about \$1,300 on energy each year – or a little over \$100 per month. While costs fluctuate greatly for commercial and industrial premises based on size and industry, these premises on average spent nearly eight times what residents did on energy, just under \$10,000 each year over the baseline period.

Table 1: Average annual energy costs per premise by sector, 2017-2019

Customer Type	Electricity Costs	Natural Gas Costs	Total Costs	Average Monthly Costs
Residential	\$ 917	\$ 391	\$ 1,308	\$ 109
Commercial and Industrial	\$ 7,523	\$ 2,264	\$ 9,787	\$ 816
Municipal	\$ 9,746	\$ 806	\$ 10,551	\$ 879

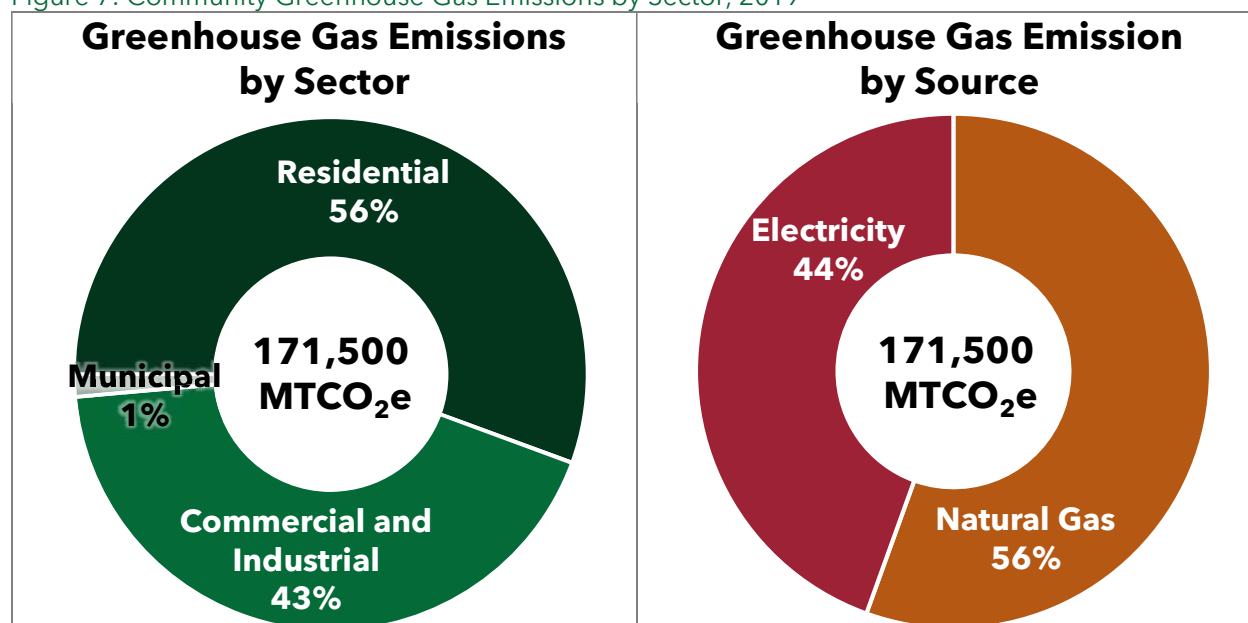
While the average municipal building spends more on energy than the average commercial and industrial building, as a whole, the City is responsible for less than 5% of overall energy costs within the community.

Greenhouse Gas Emissions

Over the three-year baseline period, the community was responsible for an average of 171,000 MTCO_{2e} of emissions annually, which is equivalent to 19.2 million gallons of gasoline consumed.⁷ Residents were responsible for a little more than half – about 56% – of community emissions. Breaking down those emissions by source, just over half were from natural gas.

⁷ Source: U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

Figure 7: Community Greenhouse Gas Emissions by Sector, 2019



Renewable Energy

There are many ways that the Inver Grove Heights community supports renewable energy. This includes renewable energy subscriptions, community solar gardens, and on-site solar.

Renewable energy subscriptions: The most popular renewable energy programs in Inver Grove Heights are subscriptions. Renewable energy subscriptions are structured so that a customer can subscribe part or all their home's electricity to renewable energy produced by their utility provider.

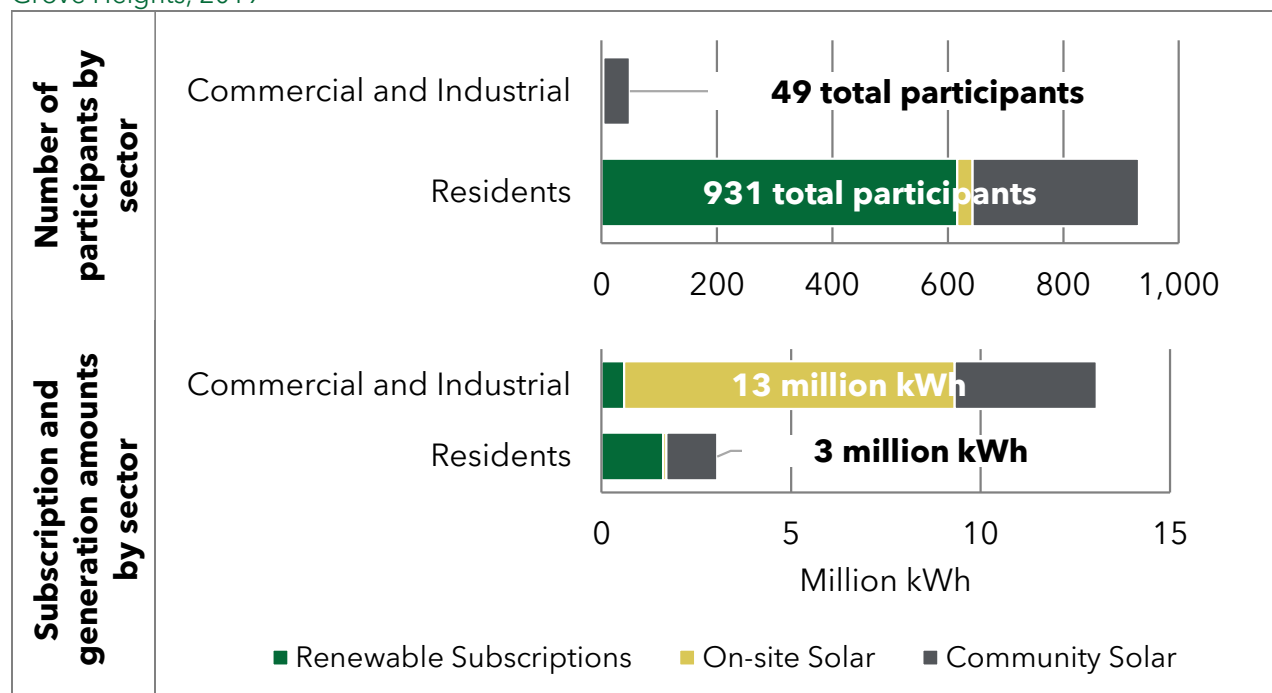
Community solar: Community solar allows for community members to support the development of solar energy produced and sold off-site by an independent developer.

On-site solar: Homeowners or business owners may install solar panels on their houses or facilities to power their building.

Both Xcel Energy and Dakota Electric Association offer programs to support resident and businesses to subscribe to, host, or otherwise support renewable energy. Overall, far more residents than businesses and nonprofits support renewable energy in some way – almost 1,000 residents compared to just under 50 businesses. However, businesses and nonprofits are responsible for supporting more renewable energy development and production – about 13 million kWh in 2019 compared to just 3 million kWh for residents. For businesses, most of this production was from on-site solar installations and tracked through participation in Xcel Energy's Solar*Rewards®. On the residential side, renewable energy subscription programs

were the most popular. See *Figure 8* below for a breakdown of renewable energy and solar development support in the community.

Figure 8: Participation in and electricity generation for renewable energy and solar programs in Inver Grove Heights, 2019⁸



Energy Conservation Program Participation and Savings

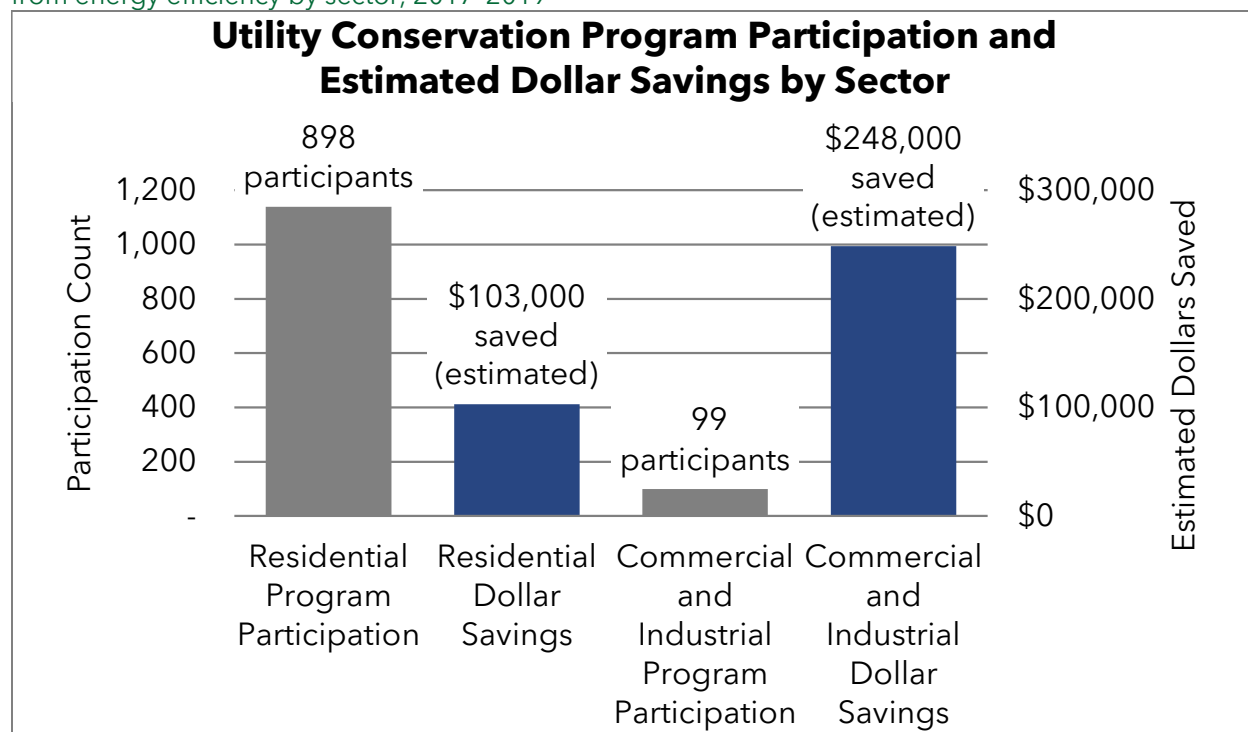
In Minnesota, utilities offer a variety of Conservation Improvement Programs designed to help customers reduce energy use and expenditures. Over the three-year baseline, more than 3,400 residents and 300 businesses participated in these programs from Xcel Energy and Dakota Electric – about 1,100 residents and 100 businesses participated each year. In an average year over the baseline period, the community saved 2.8 million kWh of electricity and 141,000 therms of natural gas. This equates to around \$422,000 in avoided energy costs annually. Through energy conservation, the community also avoided more than 5,300 MTCO₂e, the equivalent of carbon sequestered by 6,900 acres of forest in one year.⁹

For a breakdown of specific programs and savings for the community, see *Appendix 1*.

⁸ Note: “commercial and industrial” in this figure also includes any City of Inver Grove Heights (“municipal”) renewable energy or solar. A more detailed breakdown of customer support and production by program and sector can be found in *Appendix 1*.

⁹ Source: U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

Figure 9: Average annual energy conservation program participation and estimated dollar savings from energy efficiency by sector, 2017-2019¹⁰



Transportation and Electric Vehicles

As of 2019, there were an estimated 70 electric vehicles registered to residents of Inver Grove Heights.¹¹ As of our plan's creation, Inver Grove Heights has two public electric vehicle charging stations, located at car dealerships.¹² For public transportation, our community is primarily served by Metro Transit lines 68, 71, and 75.¹³ Inver Grove Heights is also served by 79 combined miles of trails and sidewalks that provide recreation and transportation options to the area.¹⁴

Figure 10: Community members enjoy the many bike trails spread across Inver Grove Heights.



¹⁰ Note: "commercial and industrial" in this figure also includes any City of Inver Grove Heights ("municipal") program participation and savings.

¹¹ EV Registrations in MN, Drive Electric Minnesota, Accessed December 2020, <https://www.driveelectricmn.org/vehiclesinmn/>.

¹² Source: PlugShare, accessed December 28, 2020. <https://www.plugshare.com/location/192795>

¹³ Metro Transit maintains online updates to route maps and schedules. See <https://www.metrotransit.org/> for more information.

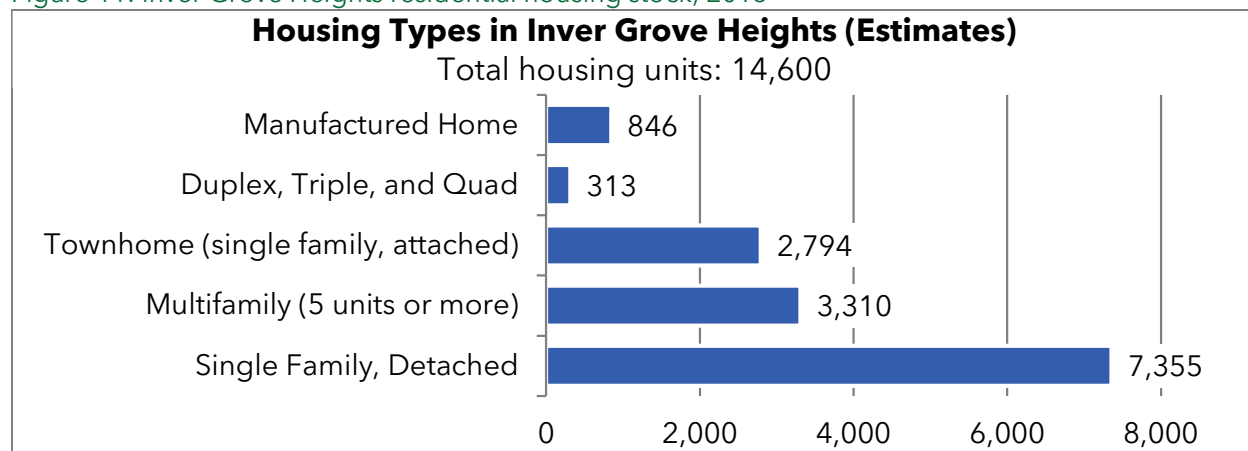
¹⁴ City of Inver Grove Heights 2040 Comprehensive Plan, page 6-146. <https://www.ighmn.gov/DocumentCenter/View/8284/IGH-2040-Comp-Plan>.

Diverse Housing Stock

Inver Grove Heights' housing stock is overall quite diverse, consisting of a wide range and number of housing types. While about half of homes are single-family detached homes, multi-family homes – including both large multi-family buildings and two-to-four-unit homes – make up another quarter of the housing stock. Townhomes make up 20% of the community's housing stock. An estimated 6% of homes are manufactured homes. Understanding our housing stock is important, since our utilities have programs available that target certain home types.

About 35% of housing units in Inver Grove Heights are renter-occupied.¹⁵

Figure 11: Inver Grove Heights residential housing stock, 2018¹⁶



Energy Burden

Energy burden is the percentage of gross household income spent on energy costs.¹⁷ While high energy burden can occur across most incomes, it is the most prevalent among low-income households. Average energy burden in Inver Grove Heights is estimated to be quite low – only about 2%, however, it may be much greater for lower-income households.¹⁸ Figure 12 shows geographic concentration of these households in Inver Grove Heights who may be experiencing greater energy burden. The map shows the percentage of households living below 50% of the state median income. For Inver Grove Heights, most of these households are concentrated in the north and east portions of the community.

¹⁵ Source: Metropolitan Council Community Profile Data, City of Inver Grove Heights 2018.
<https://stats.metc.state.mn.us/profile/>

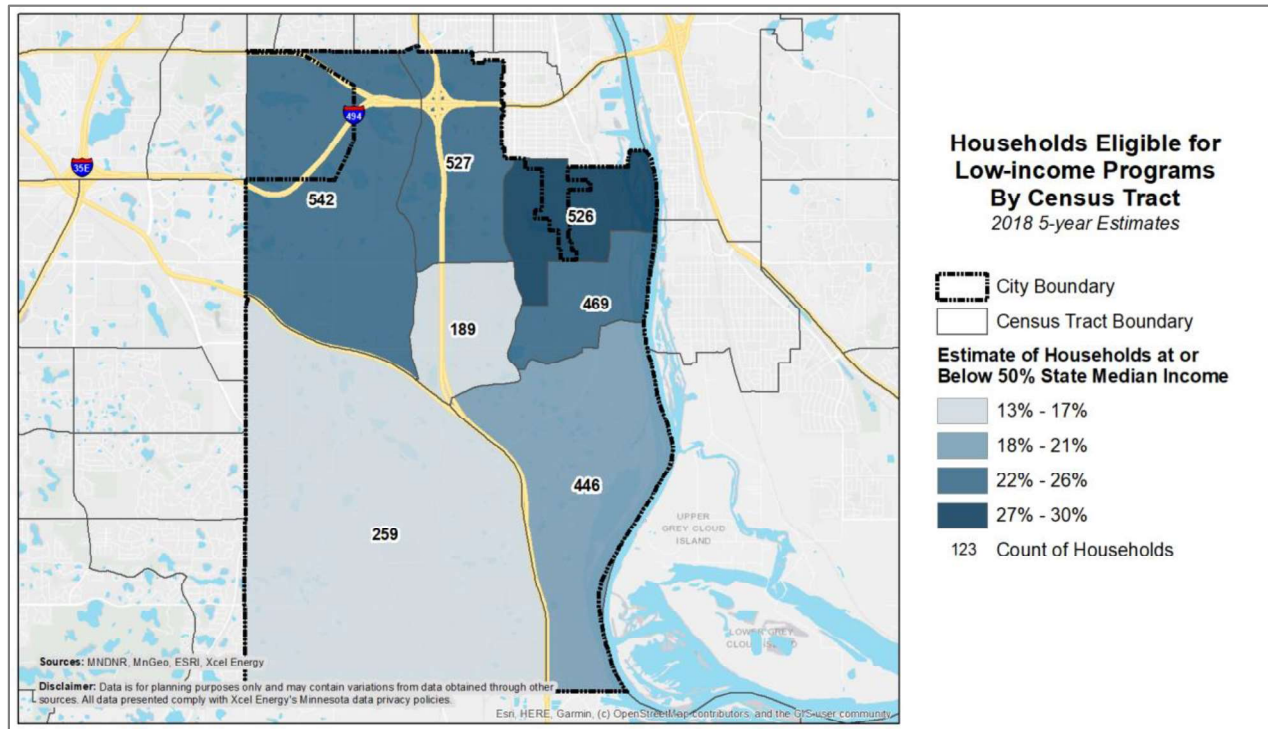
¹⁶ *Ibid.*

¹⁷ Source: <https://www.energy.gov/eere/slsc/low-income-community-energy-solutions>

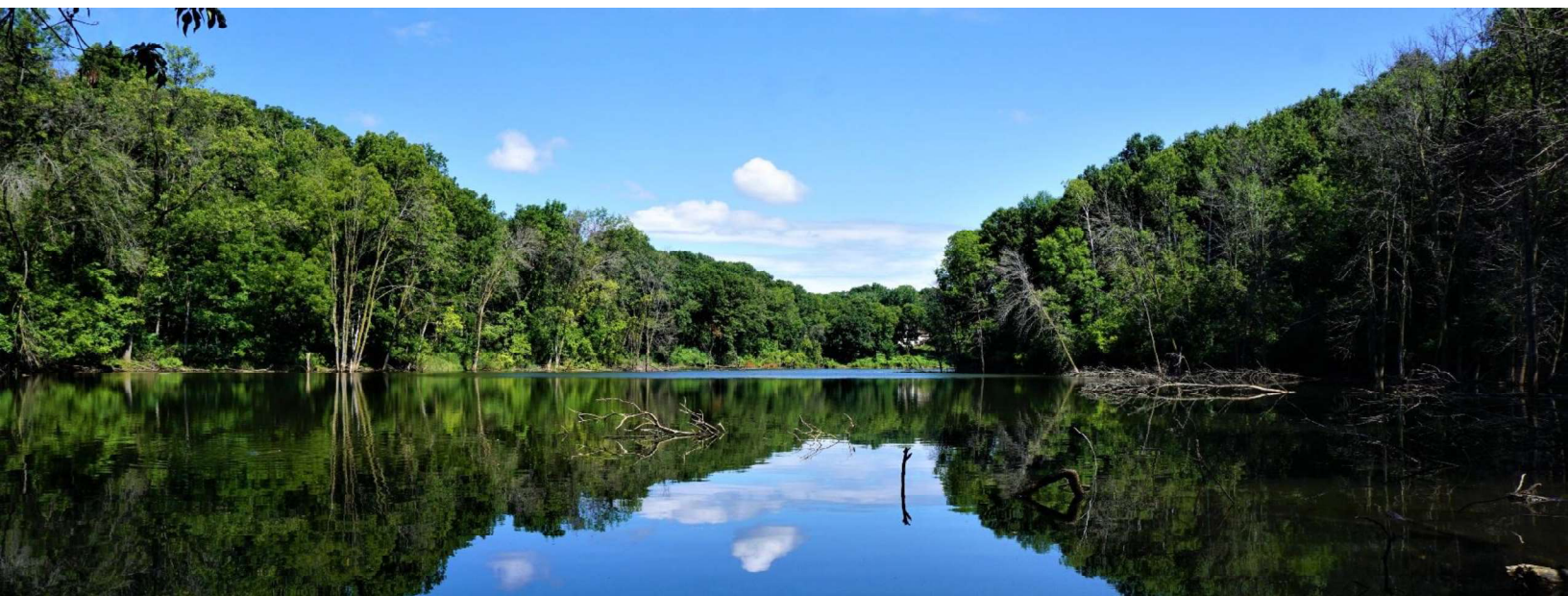
¹⁸ Source: U.S. Department of Energy, Low-Income Energy Affordability Data (LEAD Tool).
<https://www.energy.gov/eere/slsc/maps/lead-tool>.

Our plan seeks to support these residents with resources, especially resources that are free for income-qualifying households. Households with incomes below 50% of the state median income qualify for resources to help lower energy use and bills.

Figure 12: Percentage of households estimated to be eligible from income-qualifying programs, 2018¹⁹



¹⁹ Darker tracts contain a higher percentage of households eligible for free programs. Households with incomes below 50% of the state median income area eligible for free energy programs and utility support. This figure maps out the estimate percent and number of households eligible for such programs by census tract. Source: American Community Survey, 2018, City of Inver Grove Heights.



OUR ENERGY FUTURE, 2021 AND BEYOND

Energy Vision Statement

During the planning process, the Energy Action Team created a vision statement for our Energy Action Plan.

This statement helped guide the planning process and reflects our intention for the community's future:

Inver Grove Heights will be an innovative and engaged community where energy choices conserve both our natural and financial resources.

Goals

The Energy Action Team set goals during the planning process by reviewing the community's energy baseline data and discussing priorities and feasibility of potential goals. Based on group discussions, the team selected goal values above and beyond what was accomplished in the baseline period. We will measure our success against the following goals, which will guide the actions of this plan.

Our Goals

Between 2021 & 2022, we will...



Engage an estimated 2,000 residents and 250 businesses, schools, nonprofits, and places of worship across our community through utility programs



Support 80 under-resourced households with energy costs



Add 250 new residential and 12 new commercial renewable energy subscribers or community solar garden supporters



Support 10 residential on-site solar installations

By 2025, we will cumulatively...



Save an estimated \$2.6 million



Save 20 million kWh of electricity & 1.3 million therms of natural gas



Avoid an estimated 16,000 MTCO₂e*

** Equivalent to the carbon sequestered by 21,000 acres of U.S. forests in one year.²⁰*

By 2030, we will cumulatively...



Save an estimated \$5 million



Save 39 million kWh of electricity & 2.5 million therms of natural gas



Avoid an estimated 28,000 MTCO₂e*

**Equivalent to the carbon sequestered by 37,000 acres of U.S. forests in one year.²¹*

²⁰ Source: U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

²¹ *Ibid.*

Visualizing our Success

The following visuals demonstrate the estimated impacts included over the 10-year course of these goals. These include estimated cost savings from energy conservation efforts for both natural gas and electricity, as well as greenhouse gas savings from energy conservation and renewable energy.

Figure 13: Estimated cumulative dollars of avoided costs over the goal period, 2021-2030

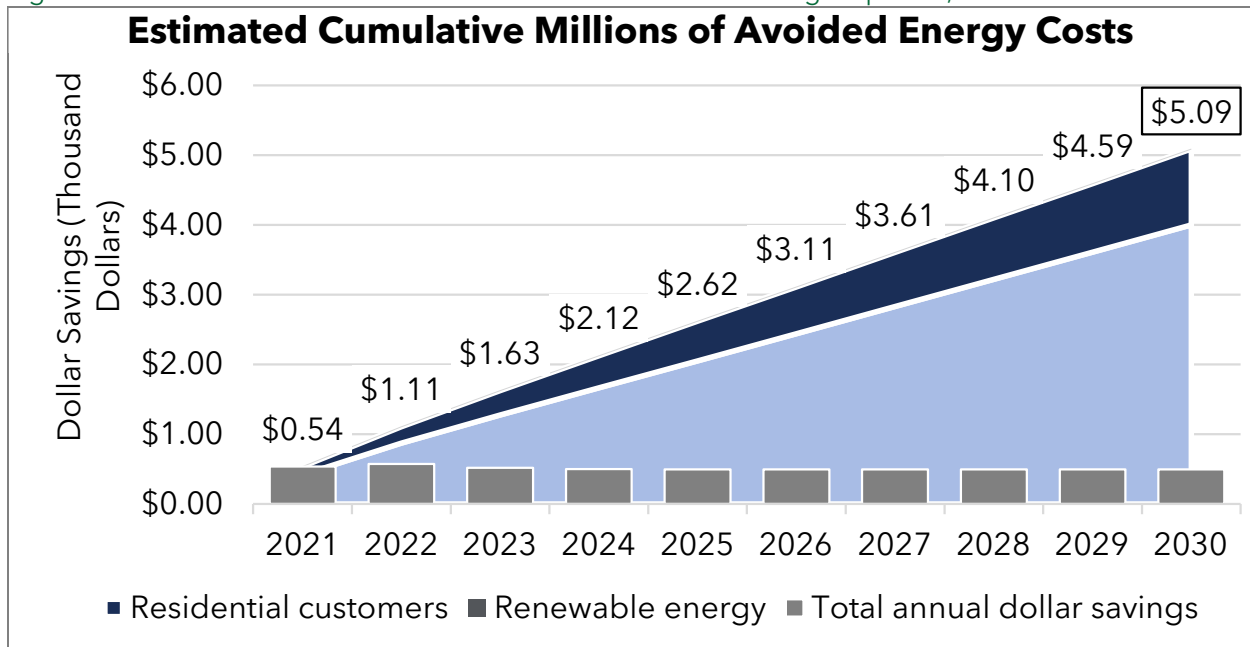
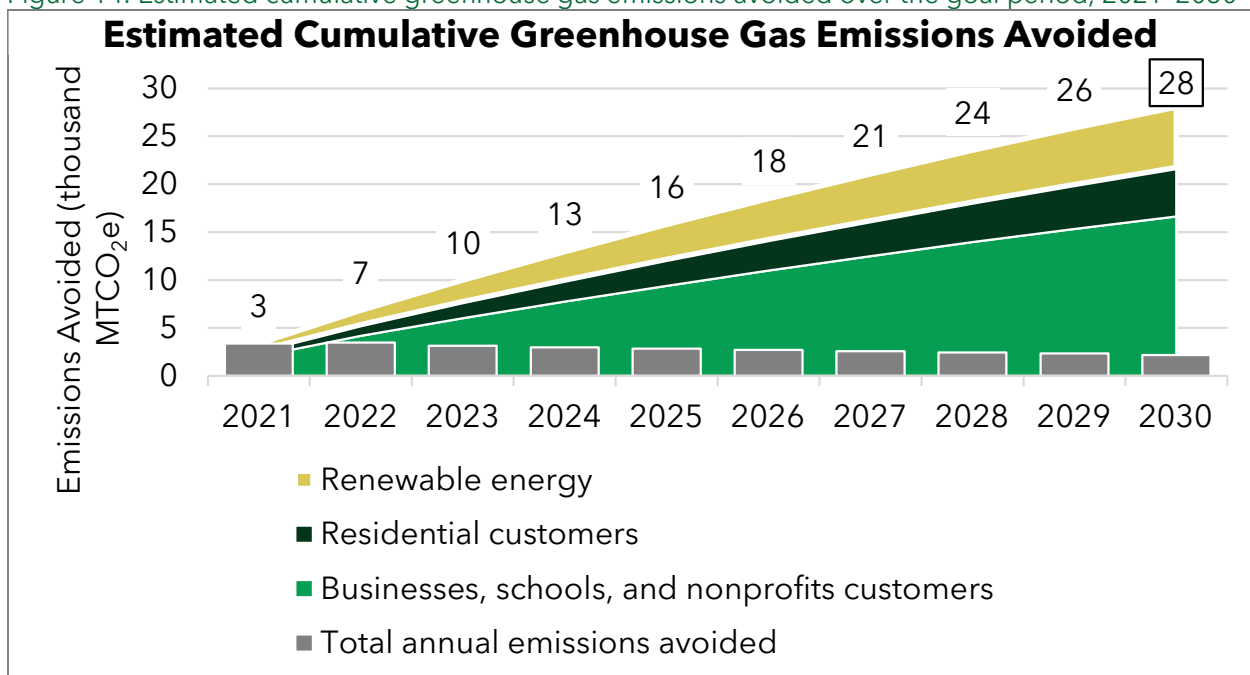


Figure 14: Estimated cumulative greenhouse gas emissions avoided over the goal period, 2021-2030



Our Stretch Goals

In addition to our main goals, the energy action team decided to establish a set of stretch goals that will guide our efforts if we are on track to *meet or exceed our main goals* listed on the previous pages.

Our stretch goals are as follows:

Between 2021 & 2022, we will...

- Engage an estimated 2,150 residents and 300 businesses, schools, nonprofits, and places of worship across our community
- Support 100 under-resourced households with energy costs
- Add 300 new residential and 15 new commercial renewable energy subscribers or community solar garden supporters
- Support 12 residential on-site solar installations

By 2030, we will cumulatively...

- Save an estimated \$5.5 million
- Save 41 million kWh of electricity & 2.7 million therms of natural gas
- Avoid an estimated 30,000 MTCO₂e*

**Equivalent to the carbon sequestered by 39,000 acres of U.S. forests in one year.²²*

²² Source: U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.



IMPLEMENTATION WORK PLAN

The following section outlines the work plan for Inver Grove Heights Energy Action Plan efforts, including focus areas, strategies, tactics, and targets.

These initiatives will be led by the City of Inver Grove Heights Community Development Department and will be supported in partnership with other municipal divisions, including Communications, Public Works, Operations and Maintenance, and Finance.

Xcel Energy's Partners in Energy and Inver Grove Heights Energy Action Team will also be important

contributors to the implementation our Energy Action Plan. Partners in Energy facilitators will provide project management, data reporting, and marketing support. The Energy Action Team will be involved by serving as our community champions—serving as connectors to their network to champion our energy vision and goals. Additional detail on how Partners in Energy and the Energy Action Team will be involved can be found in the section *Support and Commitments*.

Defining terms we use in the work plan:

Focus area refers to the broad areas that this plan is choosing to focus on.

Target audiences are the more specific groups or individuals that may be prioritized in a strategy.

Strategies are broad plans meant to guide action.

Tactics are more specific actions carefully planned to achieve the strategies.

Targets are benchmarks that are meant to guide work and demonstrate progress toward goals.

Our Focus Areas

To achieve a community-wide commitment to energy stewardship, the Energy Action Team identified the following focus areas to prioritize strategies and resources.

These focus areas were chosen to approach energy stewardship holistically, covering a broad swath of the community. More specific target audiences are also outlined within each strategy.



Residential Community Engagement



Businesses, Schools, Nonprofits,
and Places of Worship



Municipal Leadership

Focus Area: Residential Community Engagement

Why is this a priority?

More than 35,000 people call Inver Grove Heights home. According to the American Community Survey, approximately 76% of residents are white, 12% are Hispanic or Latinx, 4% are Black or African American, and 5% are Asian; and approximately 15% of residents speak a language other than English at home.



Energy burden, which measures the amount of monthly income that goes toward energy bills, is relatively low – with an average burden of 2% – but the American Community Survey reports that 28% of Inver Grove Heights households experience housing cost burden, meaning more than 30% of their income is being spent on mortgage or rent.

This plan aims to work with residents across the community to help them to save energy and money using a broad outreach campaign with a clear call to action and messaging that will resonate with them.

Strategies

The following strategies are aimed at engaging Inver Grove Heights residential community on energy issues. Actions, details and partners for each of these are included below.

- A. Education & outreach to increase energy efficiency among residents
- B. Decrease energy burden for under-resourced households
- C. Provide targeted education & outreach to multi-family properties and senior living facilities to increase energy efficiency
- D. Education & outreach to increase renewable energy support and adoption among residents
- E. Support efficient transportation options

Figure 15: Our plan seeks to engage all those who call Inver Grove Heights home.



Near-term strategies

A: Education & outreach to increase energy efficiency among residents

Target Audience: All Inver Grove Heights residents								
Tactic 1: Education and outreach campaign around the benefits and how-tos of energy efficiency for homes Lead Implementer: City of Inver Grove Heights Support: Partners in Energy Actions, Details, and Partners • Use messaging that works for Inver Grove Heights residents, such as “cost savings” • Promote available online tools to monitor household energy use, including My Energy and Dakota Electric’s smart meters • Work with City communications department to create an “Energy Savings Corner” of the City’s quarterly newsletter • Create and share videos highlighting energy efficiency opportunities and how-tos • Communicate return on investment for energy efficiency for homes and how rebates offset costs • Consider strategies to target the largest energy users in the community (e.g., targeted mail to census tracts with highest per-premise residential energy use) • Establish outreach channels to residents on rebates and opportunities beyond contractors Suggested Timeline								
Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
Tactic 2: Create a step-by-step guide to walk residents through home energy efficiency Lead Implementer: Partners in Energy Support: City of Inver Grove Heights Actions, Details, and Partners • Provide educational materials about energy efficiency to new residents using a variety of communication channels including social media, City website, and City newsletters • Gather and share testimonials from families that have taken action to encourage other families to do the same Suggested Timeline								
Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +

Tactic 3: Consider City-sponsored financial incentives for energy efficiency

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy; energy efficiency program implementers

Actions, Details, and Partners

- Consider and evaluate the following options to support reducing barriers to energy efficiency among residents:
 - Buying down up to 100 Home Energy Squad visits annually to \$50 for all residents
 - Buying down the cost of Home Energy Squad visits for those between 50% and 100% of state median income to reach households that don't qualify for the free visits but for whom the \$70-\$100 is cost prohibitive
 - Offering bonus rebates for those who follow through on recommendations from Home Energy Squad visits

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 4: Design competitive ways to generate excitement amongst neighbors about saving energy

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy

Actions, Details, and Partners

- Examine effective ways to generate competition among residents in the community
- Develop recognition strategies such as Green Awards for residents

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 5: Host and publish annual community engagement opportunities to collect community feedback on energy related needs

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy

Actions, Details, and Partners

- Create and promote additional energy surveys, considering promoting in languages other than English, based on community composition
- Work with local community partners & service organizations to survey or gather information about how to continue engaging the community
- Run community workshops to gather input, especially in locations easily accessible for those who may be under-resourced. Consider if translation is needed at these.

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

B: Decrease energy burden for under-resourced households

Target Audience: Households who spend the greatest portion of income on energy costs

Tactic 1: Identify community partners to assist in outreach to under-resourced populations in Inver Grove Heights

Lead Implementer: City of Inver Grove Heights

Support: Energy Action Team; Partners in Energy

Actions, Details, and Partners

- Find and communicate with service and community-based organizations that could act as trusted messengers to under-resourced communities in Inver Grove Heights
- Possible Partners:
 - Neighbors Inc. connection (leverage team member connection)
 - Dakota County resources
 - Three Rivers Community Action Partnership
 - Dakota County CDA
 - Public libraries
 - Scott Carver Dakota County Community Action
 - Manufactured home park managers
 - Existing City relationships

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 2: Work with community partners to sign up eligible under-resourced households for free Home Energy Squad visits

Lead Implementer: Partners in Energy

Support: City of Inver Grove Heights; energy efficiency program implementers

Actions, Details, and Partners

- Develop outreach materials
- Identify if outreach should be done in languages other than English & create materials if needed, with Partners in Energy support for material translation

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 3: Target Inver Grove Heights community members with higher energy burden, such as manufactured home communities, to help residents save money on energy bills

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy; community partners

Actions, Details, and Partners

- Work with community partners including manufactured home park members and managers to conduct outreach to these residents
- Engage owners of older homes to help reduce their energy bills and upkeep housing stock
- Consider ways to compensate partners for support

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 4: Distribute information about energy savings to organizations that serve under-resourced populations, such as at local food shelves

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy; community partners

Actions, Details, and Partners

- Identify local organizations that support under-resourced populations
- Coordinate with partners to design effective outreach materials and methods, considering translation as needed
- Distribute information through existing communication channels

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 5: Consider partnering with home finance providers in the area and region who offer financing for under-resourced households

Lead Implementer: City of Inver Grove Heights

Support: Local financing providers; Partners in Energy

Actions, Details, and Partners

- Identify and coordinate with home finance providers to determine the best methods for providing low-interest financing opportunities and support for under-resourced households

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

C. Save energy in multi-family properties

Target Audience: Multi-family property landlords, property owners, and tenants

Tactic 1: Conduct one-on-one outreach to multi-family properties in Inver Grove Heights to encourage them to sign up for an energy program

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy; Energy Action Team; energy efficiency program implementers

Actions, Details, and Partners

- Continue developing a multi-family inventory for the City to communicate with property manager and owners using the Low Income Rental Classification list as a starting point
- Work with existing contacts from multi-family recycling outreach to target property owners
- Encourage energy efficiency for new multi-family properties, including efficiency in design and electric vehicle-ready development
- Ensure that senior living and congregate care are included, with materials and outreach targeted toward these buildings

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 2: Educate renters about energy and cost saving opportunities unique to being a property renter

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy; local landlords, property owners, and property managers

Actions, Details, and Partners

- Identify unique savings opportunities for property renters, including behavior change
- Customize materials created for residential outreach to fit the needs of renters and multi-family residents
- Work with existing communication channels, including landlords and property managers to distribute information

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 3: Recognition for efficient multi-family buildings in Inver Grove Heights

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy

Actions, Details, and Partners

- Consider the most effective ways to recognize efficient multi-family properties
- Engage the River Heights Chamber of Commerce

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

D: Education & outreach to increase renewable energy support and adoption among residents

Target Audience: All Inver Grove Heights residents																	
Tactic 1: Outreach campaign to increase participation in renewable energy subscription programs Lead Implementer: City of Inver Grove Heights Support: Partners in Energy; Energy Action Team Actions, Details, and Partners • Create messaging highlighting the benefits • Gather and share testimonials from families that have taken action, encouraging others to join in Suggested Timeline <table> <tr> <td>Q1 2021</td><td>Q2 2021</td><td>Q3 2021</td><td>Q4 2021</td><td>Q1 2022</td><td>Q2 2022</td><td>Q3 2022</td><td>Q4 2022</td><td>2023 +</td></tr> </table>									Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +									
Tactic 2: Create a checklist of the on-site solar process for residents Lead Implementer: Partners in Energy Support: City of Inver Grove Heights Actions, Details, and Partners • Explore messaging that works for Inver Grove heights residents, like dollar savings • Use existing resources and share along existing networks Suggested Timeline <table> <tr> <td>Q1 2021</td><td>Q2 2021</td><td>Q3 2021</td><td>Q4 2021</td><td>Q1 2022</td><td>Q2 2022</td><td>Q3 2022</td><td>Q4 2022</td><td>2023 +</td></tr> </table>									Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +									
Tactic 3: Consider feasibility and opportunities to support or initiate solar garden development and on-side solar group buys for residents as a cost-saving opportunity Lead Implementer: City of Inver Grove Heights Support: Partners in Energy Actions, Details, and Partners • Follow examples of peer communities that have implemented this tactic in their communities • Explore ways to support lower-income families with renewable energy access as an energy cost-saving measure Timeline <table> <tr> <td>Q1 2021</td><td>Q2 2021</td><td>Q3 2021</td><td>Q4 2021</td><td>Q1 2022</td><td>Q2 2022</td><td>Q3 2022</td><td>Q4 2022</td><td>2023 +</td></tr> </table>									Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +									

Longer-term strategy

E: Support efficient transportation options for residents

Target Audience: All Inver Grove Heights residents
Tactic 1: Education & outreach to inform residents about the benefits of electric vehicles
Tactic 2: Encourage electric vehicle-ready development through the City's development review process, especially for multi-family housing
Tactic 3: Continue to follow through on the transit recommendations of Inver Grove Heights' 2040 Comprehensive Plan, supporting initiatives with outreach as needed
Tactic 4: Partner with Xcel Energy's dealership contact to encourage local dealerships to stock electric vehicles
Suggested Timeline
Most work on this strategy will occur in 2023 and beyond.

Targets

Through the strategies listed above, this plan hopes to meet the following targets. These targets will contribute to the vision and overall residential goals.

Across 2021 and 2022 combined, we hope to engage our residential community to achieve the following goals:

- ✓ 200 homes receive a home energy assessment or direct-install visit to jump-start energy savings
- ✓ 90 homes are served by programs specifically targeted toward income-qualifying households
- ✓ 180 new home construction or renovation projects complete a utility new home efficiency program
- ✓ 6 multi-family buildings complete an energy assessment
- ✓ 260 new residents supporting renewable energy

Focus Area: Businesses, Schools, Nonprofits, and Places of Worship

Why is this a priority?

Inver Grove Heights is home to a mix of small and large commercial and industrial businesses, nonprofits, places of worship, K-12 and higher-education institutions.



More than 10,000 people are employed in the city, with the top industries in 2019 including retail trade, healthcare and social assistance, education services, manufacturing, and food services. There are also a variety of faith-based organizations and service providers in our community, with 16 places of worship identified during the baseline analysis.

This focus area includes all these buildings, plus their occupants and users, to help them save money on energy bills, identify the best return on investment projects, and make their buildings more comfortable for occupants and users.

Strategies

The following strategies aim to engage Inver Grove Heights businesses, schools, nonprofits, and places of worship on energy issues. Actions, details and partners for each of these are included below.

- A. Education & outreach to increase energy efficiency among industry and large businesses
- B. Education & outreach to increase energy efficiency among small businesses
- C. Education & outreach to increase energy efficiency among local schools, nonprofits, and places of worship
- D. Education & outreach to increase renewable energy adoption and support among businesses and institutions
- E. Support efficient transportation options for businesses, schools, nonprofits, and places of worship

Figure 16: Our community is home to many businesses, schools, nonprofits, and places of worship.



Near-term strategies

A: Education & outreach to increase energy efficiency among industry and large businesses

Target Audience: Inver Grove Heights largest businesses and industries																	
Tactic 1: Create peer-sharing opportunities Lead Implementer: City of Inver Grove Heights Support: local industrial and business leaders Actions, Details, and Partners • Work with communications staff to create an energy opportunities and information page on our website that links to grant opportunities and things of that nature. Business can sign up for email list serve updates • Gather and share testimonials from large businesses that have done energy efficiency work • Engage local business leaders like CHS to share their energy efficiency journeys Suggested Timeline <table> <tr> <td>Q1 2021</td><td>Q2 2021</td><td>Q3 2021</td><td>Q4 2021</td><td>Q1 2022</td><td>Q2 2022</td><td>Q3 2022</td><td>Q4 2022</td><td>2023 +</td></tr> </table>									Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +									
Tactic 2: Develop a recognition program to reward those who have taken action Lead Implementer: Inver Grove Heights Support: Partners in Energy Actions, Details, and Partners • Research best practices for creating a recognition programs • Establish a recognition category for large businesses and industry • Promote success stories and testimonials of completed energy efficiency projects Suggested Timeline <table> <tr> <td>Q1 2021</td><td>Q2 2021</td><td>Q3 2021</td><td>Q4 2021</td><td>Q1 2022</td><td>Q2 2022</td><td>Q3 2022</td><td>Q4 2022</td><td>2023 +</td></tr> </table>									Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +									
Tactic 3: Create and share a guide for forming Green Teams at businesses Lead Implementer: Partners in Energy Support: City of Inver Grove Heights, local businesses Actions, Details, and Partners • Work with local businesses to distribute a guide for forming Green Teams Suggested Timeline <table> <tr> <td>Q1 2021</td><td>Q2 2021</td><td>Q3 2021</td><td>Q4 2021</td><td>Q1 2022</td><td>Q2 2022</td><td>Q3 2022</td><td>Q4 2022</td><td>2023 +</td></tr> </table>									Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +									

Tactic 4: Host and publish annual community engagement opportunities to collect community feedback on energy related needs.

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy

Actions, Details, and Partners

- Create and promote additional energy surveys, considering promoting in languages other than English, based on community composition
- Work with local community partners & service organizations to survey or gather information about how to continue engaging the community
- Run community workshops to gather input.

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

B: Education & outreach to increase energy efficiency among small businesses

Target Audience: Inver Grove Heights small businesses

Tactic 1: Educate small business on the benefits and how-tos of energy efficiency, such as through an educational campaign

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy

Actions, Details, and Partners

- Share information about energy efficiency using communication channels identified, including the River Heights Chamber of Commerce
- Use messaging that works for Inver Grove Heights businesses, like dollar savings and ROI
- Share testimonials and case studies highlighting businesses that have taken action
- Partner with local nonprofits and community partners to support these efforts
- Use concise and consistent communication

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 2: Create peer-sharing opportunities for small businesses

Lead Implementer: Inver Grove Heights

Support: Partners in Energy; River Heights Chamber of Commerce

Actions, Details, and Partners

- Work with River Heights Chamber to host events highlighting businesses that have implemented energy efficiency actions and technologies
- Present on energy-related topics at monthly River Heights Chamber member meetings

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 3: Conduct outreach through the local Chamber of Commerce & door-to-door outreach in Inver Grove Heights commercial areas to encourage businesses to complete an energy efficiency action

Lead Implementer: Partners in Energy, City of Inver Grove Heights

Support: Energy efficiency organizations and program implementers, volunteers

Actions, Details, and Partners

- Determine most effective geographical areas to target based on business makeup
- Identify local partners and volunteers to support outreach
- Collect testimonials from businesses to encourage others to take action

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 4: Develop a recognition program to reward those who have taken action

Lead Implementer: Inver Grove Heights

Support: Partners in Energy

Actions, Details, and Partners

- Research best practices for creating a recognition program
- Establish a recognition category for small businesses
- Promote success stories and testimonials of completed energy efficiency projects

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 5: Conduct targeted outreach to landlords that rent commercial property to small businesses in the Inver Grove Heights community

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy

Actions, Details, and Partners

- Determine effective messaging and design outreach materials
- Identify communication channels to commercial property landlords

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 6: Host and publish annual community engagement opportunities to collect community feedback on energy related needs.

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy

Actions, Details, and Partners

- Create and promote additional energy surveys, considering promoting in languages other than English, based on community composition
- Work with local community partners & service organizations to survey or gather information about how to continue engaging the community
- Run community workshops to gather input, especially encouraging input from small businesses owned by under-resourced groups. Consider if translation is needed at these.

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

C: Education & outreach to increase energy efficiency among local schools, nonprofits, and places of worship

Target Audience: local schools, nonprofits, and places of worship																	
Tactic 1: Create peer-sharing opportunities Lead Implementer: City of Inver Grove Heights Support: Partners in Energy Actions, Details, and Partners Work with River Heights Chamber to host coffee events highlighting those that have implemented energy efficiency actions and technologies Suggested Timeline <table> <tr> <td>Q1 2021</td><td>Q2 2021</td><td>Q3 2021</td><td>Q4 2021</td><td>Q1 2022</td><td>Q2 2022</td><td>Q3 2022</td><td>Q4 2022</td><td>2023 +</td></tr> </table>									Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +									
Tactic 2: Educate local schools, nonprofits, and places of worship on the benefits and how-tos of energy efficiency, such as through an educational campaign Lead Implementer: Partners in Energy Support: City of Inver Grove Heights Actions, Details, and Partners - Develop materials specific to communicating with organizational boards - Use messaging that works to communicate benefits to Inver Grove Heights schools, nonprofits, and places of worship, like dollar savings, return on investment, and triple bottom line (people, planet, profit) - Emphasize the equity and community components of taking action on energy (i.e., reducing greenhouse gas emissions) Suggested Timeline <table> <tr> <td>Q1 2021</td><td>Q2 2021</td><td>Q3 2021</td><td>Q4 2021</td><td>Q1 2022</td><td>Q2 2022</td><td>Q3 2022</td><td>Q4 2022</td><td>2023 +</td></tr> </table>									Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +									
Tactic 3: Develop a recognition program to reward those who have taken action Lead Implementer: City of Inver Grove Heights Support: Partners in Energy Actions, Details, and Partners - Research best practices for creating a recognition program - Establish a recognition category for local schools, nonprofits, and places of worship - Promote success stories and testimonials of completed energy efficiency projects Suggested Timeline <table> <tr> <td>Q1 2021</td><td>Q2 2021</td><td>Q3 2021</td><td>Q4 2021</td><td>Q1 2022</td><td>Q2 2022</td><td>Q3 2022</td><td>Q4 2022</td><td>2023 +</td></tr> </table>									Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +									

Tactic 4: Host and publish annual community engagement opportunities to collect community feedback on energy related needs.

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy

Actions, Details, and Partners

- Create and promote additional energy surveys, considering promoting in languages other than English, based on community composition
- Work with local community partners & service organizations to survey or gather information about how to continue engaging the community
- Run community workshops to gather input. Consider if translation is needed at these

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

D: Education & outreach to increase renewable energy adoption and community solar garden support among businesses and institutions

Target Audience: All businesses and institutions

Tactic 1: Use communication channels like the Chamber of Commerce newsletter to share the benefits of renewable energy and community solar gardens

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy

Actions, Details, and Partners

- Include messaging around cost savings and the environmental benefits

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 2: Create and share a checklist of the on-site solar process for businesses

Lead Implementer: Partners in Energy

Support: City of Inver Grove Heights

Actions, Details, and Partners

- Communicate potential economic and environmental benefits

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 3: Share information about hosting community solar gardens with businesses with viable rooftop space or sites

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy

Actions, Details, and Partners

- Determine which sites may prove viable from a solar potential and grid capacity standpoint using available tools
- Conduct outreach through existing communication channels

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Tactic 4: Host and publish annual community engagement opportunities to collect community feedback on energy related needs.

Lead Implementer: City of Inver Grove Heights

Support: Partners in Energy

Actions, Details, and Partners

- Create and promote additional energy surveys, considering promoting in languages other than English, based on community composition
- Work with local community partners & service organizations to survey or gather information about how to continue engaging the community
- Run community workshops to gather input. Consider if translation is needed at these.

Suggested Timeline

Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2023 +
------------	------------	------------	------------	------------	------------	------------	------------	--------

Longer-term strategy

E. Support efficient transportation options for businesses, schools, nonprofits, and places of worship

<i>Target Audience: All Inver Grove Heights businesses, schools, nonprofits, and places of worship</i>
Tactic 1: Work with large employers in the community to host ride-and-drive or electric vehicle showcase events
Tactic 2: Encourage electric vehicle-ready development through the City's development review process, especially for multi-family housing or new large business development
Tactic 3: Share information about fleet study opportunities for local businesses and institutions with vehicle fleets
Tactic 4: Continue to follow through on the transit recommendations of Inver Grove Heights' 2040 Comprehensive Plan, supporting initiatives with outreach as needed
Suggested Timeline
Most work on this strategy will occur in 2023 and beyond.

Targets

Through the strategies listed above, this plan hopes to meet the following targets. These targets will contribute to the vision and overall goals related to businesses and other organizations.

Across 2021 and 2022 combined, we hope to engage our businesses, schools, nonprofits, and places of worship to achieve the following goals:

- ✓ 95 small business energy assessments for lighting, HVAC, or commercial refrigeration equipment
- ✓ 7 new construction projects that use a program to increase efficiency
- ✓ 5 larger businesses complete a Commercial Streamlined Assessment or recommissioning
- ✓ 12 new businesses, schools, nonprofits, and places of worship supporting renewable energy

Focus Area: Municipal Leadership

Why is this a priority?

Our plan will position Inver Grove Heights as a leader in energy and sustainability. The City of Inver Grove Heights will seek to complement that leadership by building on existing activities and demonstrating a commitment to energy stewardship and taking action in municipal operations.

In 2016, the City of Inver Grove Heights joined the Minnesota GreenStep Cities program, by resolution, to make a formal commitment to pursuing environmental and sustainability initiatives. This free and voluntary program provides technical assistance for over 175 Best Practices actions to help cities achieve their sustainability and quality-of-life goals. The city has been committed to participating in this program and related program's such as Dakota County's Community Waste Abatement grant program, which demonstrates to residents, businesses and city employees that the City of Inver Grove Heights is committed to the environmental, economic and social stewardship of our community.



What is the City already doing?

The City is building off years of work on sustainability initiatives. Here's a highlight of some of our accomplishments:

Achieved Step 4 in the Minnesota GreenStep Cities program in 2020.

Participated in Cities Charging Ahead in 2019 to focus on electric vehicle readiness.

Installed a geothermal energy system in City Hall in 2012.

Supported the development of renewable energy with a rooftop solar array on City Hall and the Veteran's Memorial Community Center in 2017.

Subscribed a portion of the City's electricity to community solar in 2016.

Environmental programs supported by partner agencies provide the city resources to improve city operations that would otherwise be unavailable to staff or require an excessive amount of staff resources. Through partnership, the city can easily access research and information on best practices, technical assistance implementing best practices, free electronic and printed resources for community members, grant resources, a large and well-connected network of peers or assistance organizations, and more.

The City is committed to implementing the actions identified in this plan to increase energy and costs savings in our buildings, resulting in responsible management of taxpayer dollars and demonstrating leadership in sustainability in our community and region. Strategies in this focus area include all city-owned buildings and fleet, and internal city policies and initiatives.

Strategies

The following strategies aim to position the City of Inver Grove Heights as a community and regional leader in sustainability and energy efficiency. We will be building off the work the City has already undertaken in sustainability and energy. Details for each of these are included below.

- A. Demonstrate leadership in sustainability
- B. Increase energy efficiency in municipal operations and buildings
- C. Explore renewable energy for municipal operations and buildings
- D. Examine and implement efficient transportation and fleet electrification

Because the City has already been working on energy and sustainability initiatives, the tactics in this section are broken out into two categories:

Ongoing City initiatives that already exist: Actions that have already begun but will continue to be supported by this plan

New Initiatives for this plan: Ideas generated through this plan that will be supported by the City and partners

Figure 17: Inver Grove Heights' City Hall. This building uses a ground-source heat pump (geothermal) to meet energy needs.



Near-term strategies

A. Demonstrate leadership in sustainability

Ongoing City initiatives that already exist
Demonstrate sustainable leadership by promoting prior and current sustainability actions on City website, newsletter
Continue reporting metrics for GreenStep Cities
Promote low-impact development and water conservation practices

New initiatives for this plan
• Tactic 1: Showcase the city's journey related to energy efficiency, renewable energy and sustainability through demonstrating past progress as well as greenhouse gas and cost impacts • Tactic 2: Highlight clean energy projects completed by the city, residents and businesses through written case studies, social media posts, tours, etc. • Tactic 3: Provide education to developers on grants available for clean energy projects, energy efficiency projects, water conservation projects, etc. • Tactic 4: Educate City Council, leadership, and commissions about Energy Action Plan goals and strategies and initiate call to action for support • Tactic 5: Update City code as needed to make develop standards friendly for renewable energy use and development • Tactic 6: Establish an internal Green Team including representatives of City divisions such as community development, finance, fleet management, parks and operations and maintenance to guide municipal sustainability efforts • Tactic 7: Create an environmental purchasing policy • Tactic 8: Continue to make progress towards GreenStep City goals related to energy conservation, renewable energy and collection of baseline and annual reporting metrics.
Suggested Timeline
Work on these initiatives will begin in 2021

B. Increase energy efficiency in municipal operations and buildings

Ongoing City initiatives that already exist
Prioritizing energy efficiency opportunities in municipal facilities (McKinstry study, recommissioning)
Continue engaging operations and maintenance supervisor on prioritizing energy efficiency in City facilities
Using B3 Benchmarking data (entered data and review in future)
Partnering with City facilities and operations staff to integrate utility programs and rebates into purchasing process
Embarking on a three-year sustainable operations study for municipal buildings
Hiring and training an operations and maintenance supervisor

New initiatives for this plan
• Tactic 1: Educate employees and other building occupants about recommended sustainable behaviors at municipal facilities • Tactic 2: Explore cost-effective options to maximize efficiency and sustainability in major municipal development and construction projects
Suggested Timeline
Work on these initiatives will begin in late 2021

C. Explore renewable energy on solar opportunities for municipal operations and buildings

Ongoing City initiatives that already exist
Continuing to support existing renewable energy and solar contracts and systems covering municipal operations, including a geothermal system, a rooftop solar installation, and a community solar garden.

New initiatives for this plan
• Tactic 1: Explore renewable energy options, including on-site and subscription programs, to cover municipal operations • Tactic 2: Examine municipal properties for opportunities to host solar gardens, including community solar gardens, following the best practices of peer communities
Suggested Timeline
Work on these initiatives will begin in 2021

D. Explore efficient transportation and fleet electrification options for the municipal vehicle fleet

Ongoing City initiatives that already exist

Prioritize fleet electrification for City-owned vehicles based on FleetCarma study completed in 2019

Promote City walkability and public transportation – wayfinding map; new website maps, trails, and sidewalks; park master plan 2021/trail gap study

New initiatives for this plan

- **Tactic 1:** Consider right-sizing or down-sizing the city fleet with vehicles that are more fuel efficient and an optimal size for their intended functions (GreenStep Cities Best Practice #13.2)
- **Tactic 2:** Consider purchasing alternative fuel vehicles, such as electric vehicles, during fleet vehicle replacement process (GreenStep Cities Best Practice #13.2)
 - Review FleetCarma analysis for vehicle replacement recommendations
 - Replace high-use light-duty vehicles with electric vehicles
- **Tactic 3:** Seek and apply for grant funding opportunities for electric vehicle charging infrastructure for public or fleet use
- **Tactic 4:** Host ride-and-drive education events for staff, residents, and businesses
- **Tactic 5:** Educate staff on efficient use of city fleet vehicles, such as carpooling, video conferencing, and no idling when feasible (GreenStep Cities Best Practice #13.3)

Suggested Timeline

Work on these initiatives will begin in 2021

Targets

Through the strategies listed above, this plan hopes to meet the following targets. These targets will contribute to the vision and overall municipal goals.

To measure progress towards these targets, one of the first actions the City of Inver Grove Heights will take will be to establish baselines from which to assess progress. Meeting the targets will mean demonstrating annual increases in the specific areas beyond the baselines.

- ✓ Increase energy efficient at City facilities
- ✓ Increase the number of municipal community solar garden subscriptions
- ✓ Increase the amount of renewable energy used by City facilities
- ✓ Increase fuel efficiency of vehicle fleet
- ✓ Increase the amount of alternative fuel vehicles in the fleet



MEASURING SUCCESS

Energy Action Plan Impacts – Near Term

The combined targets and strategies outlined in this plan will save our community an estimated over \$1.3 million dollars in the near term.

Table 2: Estimated near-term impact of implementation of this plan, 2021 and 2022 combined.

<i>Cumulative Savings</i>	<i>Business as Usual</i>	<i>Our Impacts</i>
Electricity Savings	7 million kWh	8.5 million kWh
Natural Gas Savings	490,000 therms	536,000 therms
Estimated Dollar Savings	\$0.95 million	\$1.35 million
Greenhouse Gas Emissions Avoided	5,800 MTCO ₂ e	6,800 MTCO₂e
Community Members Engaged ²³	1,800 community members	3,500 community members
Renewable Energy Support ²⁴	980 community members	1,252 community members

²³ Includes residents engaged through Xcel Energy conservation programs, renewable energy programs, and other outreach by the City. For further details, see *Appendix 2: Methodology for Measuring Success*. Saver's Switch is not included in business as usual projections.

²⁴ Includes Xcel Energy's Windsource® and Renewable*Connect® Solar*Rewards® (on-site solar); Solar*Rewards Community (community solar gardens); and Dakota Electric's Wellspring.

HOW WILL OUR ACTIONS IMPACT THE COMMUNITY?

Achieving our financial goals, we can save up to **\$1.3 million dollars**, which is equivalent to...



The **energy bills** of **over 1,000 homes** for a year

The **City's energy costs** for two years



Achieving our climate & air quality goals, we can avoid **6,800 MTCO₂**, which is like...



1.5 wind turbines producing electricity for a year

Taking **1,500 vehicles** off the road for a year



Planting **112,000 trees**

Impacts for 2021 & 2022, combined.

Near-term Impacts for Residents

Successful implementation of the near-term strategies of our plan will engage more than 2,200 residents in energy efficiency and almost 1,200 in renewable energy. Residents will save an estimated \$230,000 and help our community avoid the equivalent of 2,800 metric tons of carbon dioxide over this two-year period.

Table 3: Estimated near-term impacts for residents, 2021 and 2022 combined.

<i>Cumulative Savings</i>	<i>Our Impacts</i>
Electricity Savings	1 million kWh
Natural Gas Savings	163,000 therms
Estimated Dollar Savings ²⁵	\$230,000
Greenhouse Gas Emissions Avoided	2,580 MTCO₂e
Community Members Engaged ²⁶	2,280 community members
Renewable Energy Support ²⁷	1,188 community members

Near-term Impacts for Businesses, Schools, Nonprofits, and Places of Worship

Successful implementation of the near-term strategies of our plan will engage more than 250 businesses, schools, nonprofits, and places of workshop in energy efficiency and 60 in renewable energy. These groups will cumulatively save an estimated \$874,000 and help our community avoid the equivalent of 4,600 metric tons of carbon dioxide over this two-year period.

Table 4: Estimated near-term impacts for businesses, schools, nonprofits, and places of worship, 2021 and 2022 combined.

<i>Cumulative Savings</i>	<i>Our Impacts</i>
Electricity Savings	3.9 million kWh
Natural Gas Savings	373,000 therms
Estimated Dollar Savings ²⁸	\$874,000
Greenhouse Gas Emissions Avoided	4,600 MTCO₂e
Community Members Engaged ²⁹	250 community members
Renewable Energy Support ³⁰	60 community members

²⁵ Includes avoided costs through Xcel Energy conservation program participation. For further details on how we measure costs savings, see *Appendix 2*.

²⁶ Includes residents engaged through Xcel Energy conservation programs, renewable energy programs, and other outreach by the City. For further details, see *Appendix 2*.

²⁷ Includes Xcel Energy's Windsource® and Renewable*Connect® Solar*Rewards® (on-site solar); Solar*Rewards Community (community solar gardens); and Dakota Electric's Wellspring.

²⁸ Includes avoided costs through Xcel Energy conservation program participation. For further details on how we measure costs savings, see *Appendix 2*.

²⁹ Includes residents engaged through Xcel Energy conservation programs, renewable energy programs, and other outreach by the City. For further details, see *Appendix 2*.

³⁰ Includes Xcel Energy's Windsource® and Renewable*Connect® Solar*Rewards® (on-site solar); Solar*Rewards Community (community solar gardens); and Dakota Electric's Wellspring.

Long-Term Impacts

Energy and energy efficiency will remain important for our community into the future, beyond the initial implementation of the near-term objectives of our plan. Below are estimates what these long-term impacts will look like, based on the goals of our plan. Major changes to the energy landscape or to the long-term strategies of this plan may affect these impacts.

Our long-term impacts are articulated in our community goals:

By 2025, we will cumulatively...



Save \$2.6 million



Save 20 million kWh of electricity & 1.3 million therms of natural gas



Avoid an estimated 16,000 MTCO₂e*

** Equivalent to the carbon sequestered by 21,000 acres of U.S. forests in one year.³¹*

By 2030, we will cumulatively...



Save \$5 million



Save 39 million kWh of electricity & 2.5 million therms of natural gas

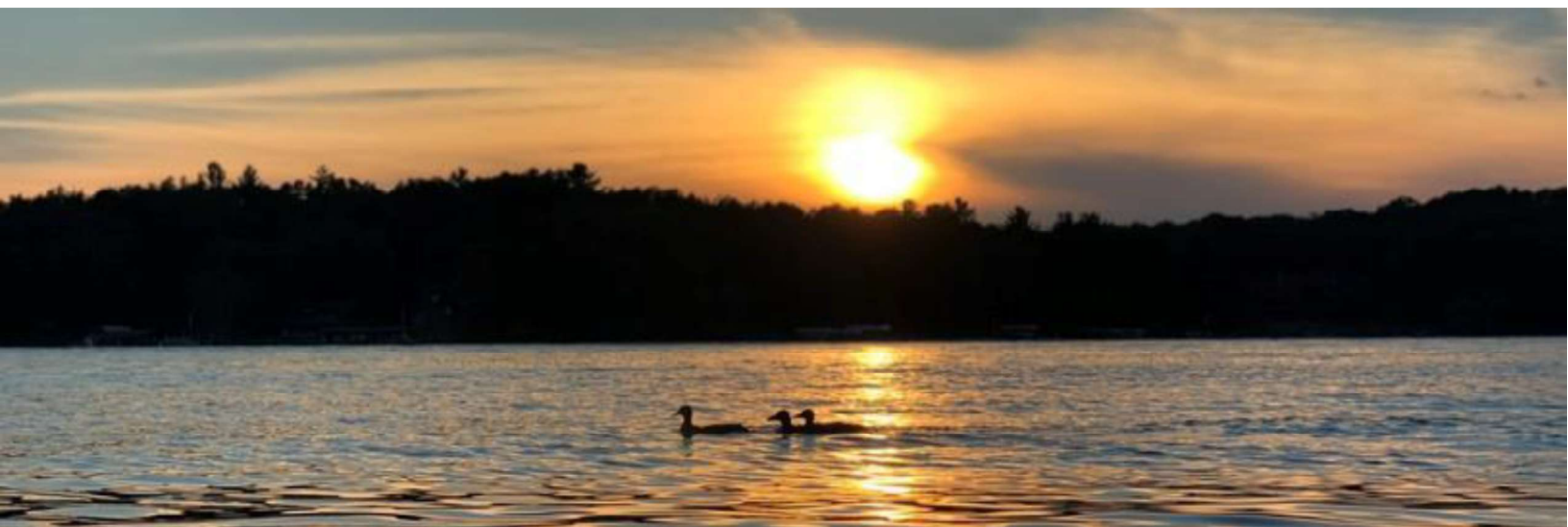


Avoid an estimated 28,000 MTCO₂e*

**Equivalent to the carbon sequestered by 37,000 acres of U.S. forests in one year.³²*

³¹ Source: U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

³² Source: U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.



SUPPORT AND COMMITMENTS

This Energy Action Plan is a living document. Goals and strategies will be assessed and refined as needed based on data and community staff capacity.

Data and Reporting

Data from Xcel Energy

Partners in Energy will provide biannual progress reports with metrics of success and overall progress toward goals for Xcel Energy rebates and programs. These reports will be available publicly and shared with both the community and Energy Action Team.

If available, ad-hoc participation reports for specific Xcel Energy programs (e.g., Home Energy Squad) can be provided to measure success of campaigns and to determine whether we need to change course.

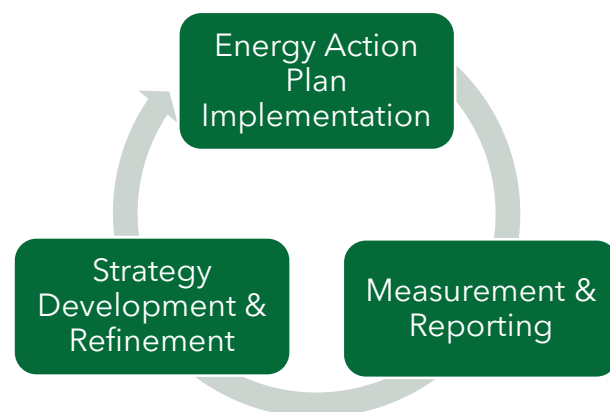
Data from Dakota Electric Association

Dakota Electric was involved in the planning process and has agreed to provide electricity consumption and program participation data directly to the City of Inver Grove Heights when requested to help the City measure progress toward goals.

Regular Reporting

Regular reporting on the success of implementation will be important to generate enthusiasm about our Energy Action Plan, and to keep the City and Energy Action

Figure 18: Actions and Tracking



Team accountable. Progress reports will include data from Xcel Energy and Dakota Electric Association, plus implementation highlights. Reports will be given to the Environmental Commission and City Council with the support of Community Development staff.

Project Management and Tracking

Partners in Energy will host regular project management check-in calls with staff to ensure we stay on course to achieve our goals.

If necessary, an implementation check-in meeting with the Energy Action Team can be convened to assess progress toward goals and discuss strategy refinement at the midpoint of implementation.

Other Commitment and Engagements

Energy Action Team Commitment

The Energy Action Team formed to create this plan will support implementation by serving as community connectors to their networks, promoting our energy vision, encouraging participation in programs and outreach campaigns, and sharing success stories. When available, Energy Action Team members will serve as partners, experts, and leaders in strategies targeting residents, businesses, schools, nonprofits, and places of worship. Partners in Energy facilitators and the City of Inver Grove Heights may invite Energy Action Team leaders to project management calls or other check-in meetings to ensure strategies are implemented successfully.

Xcel Energy's Commitment

In addition to data reporting, project management, and implementation tracking, Xcel Energy commits to 18 months of implementation support, including marketing and communications support and program expertise. They will also provide a dedicated community facilitator to serve as a primary point of contact. Partners in Energy digital resources, including office hours, community portal, and community events will also be available to the Inver Grove Heights team.

Continuing Engagement

The City of Inver Grove Heights will continue to engage its community members on these topics after this plan is adopted by City Council. Ideas for community engagement are outlined in the Implementation Work Plan.

Long-Term Strategies

Strategies identified as long-term will need additional review, including identifying resources and implementation leads. The City of Inver Grove Heights and the Energy Action Team will reconvene at a later date to further specify these long-term strategies as new funding and technology innovations become available.



APPENDIX 1: BASELINE ENERGY DATA ANALYSIS, 2017-2019

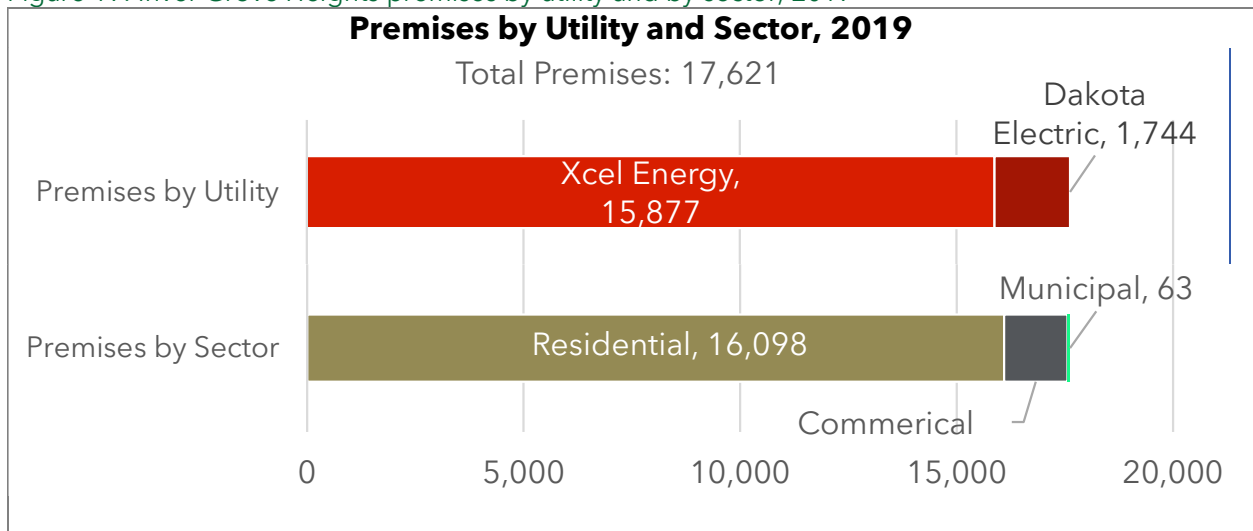
Data was provided by Xcel Energy and Dakota Electric for all Inver Grove Heights premises for 2017-2019. Xcel Energy provides electric and natural gas service to the community, and Dakota Electric provides electric service to the Inver Grove Heights community. The data helped the Energy Action Team understand Inver Grove Heights' energy use and opportunities for energy conservation and renewable energy. Data included in this section establishes a baseline against which progress toward goals will be compared in the future.

Electricity and Natural Gas Premises

Both Xcel Energy and Dakota Electric provide electric service to Inver Grove Heights. Xcel Energy is the community's only utility natural gas provider. The chart below demonstrates a breakdown of utility premises by utility and by customer type.³³ As shown in the chart, most premises in Inver Grove Heights are residential, and the majority are served by Xcel Energy for electricity.

³³ See *Appendix 4: Glossary of Terms* for more information on what each customer type entails.

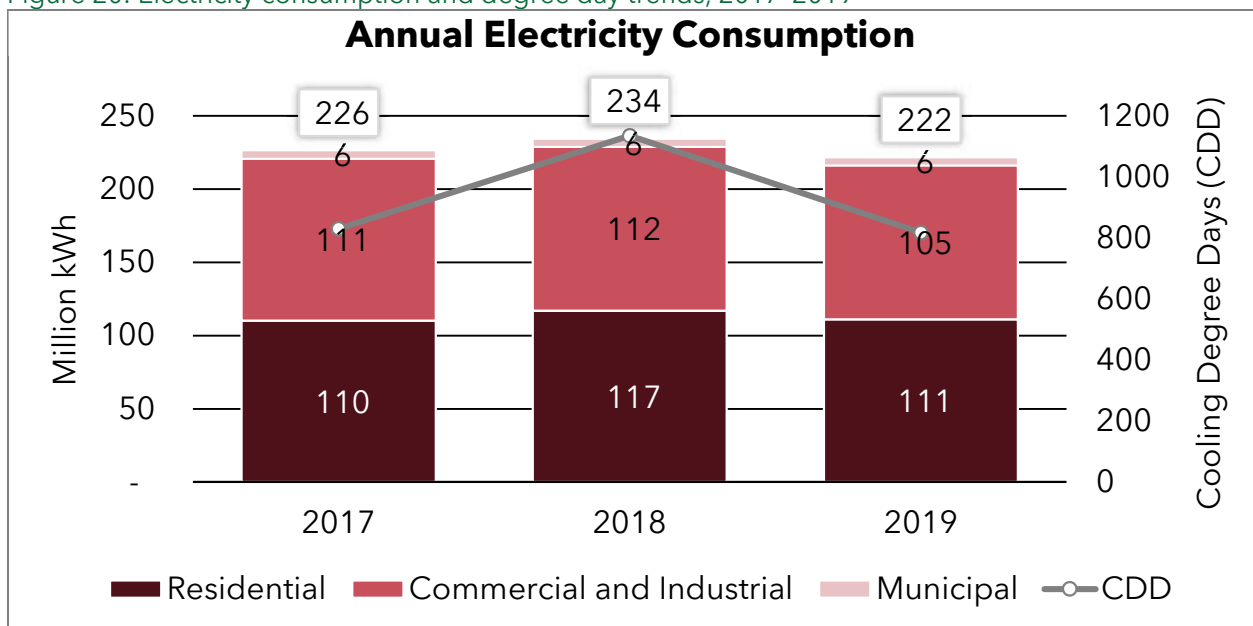
Figure 19: Inver Grove Heights premises by utility and by sector, 2019



Electricity Consumption Trends

On average, Inver Grove Heights consumes 227.4 million kWh and spends \$26.2 million on electricity across all sectors each year. Electricity consumption over the three-year baseline has remained relatively consistent, with a slight increase 2017 to 2018, which aligns with an increase in cooling degree days and the need to air condition homes and businesses.

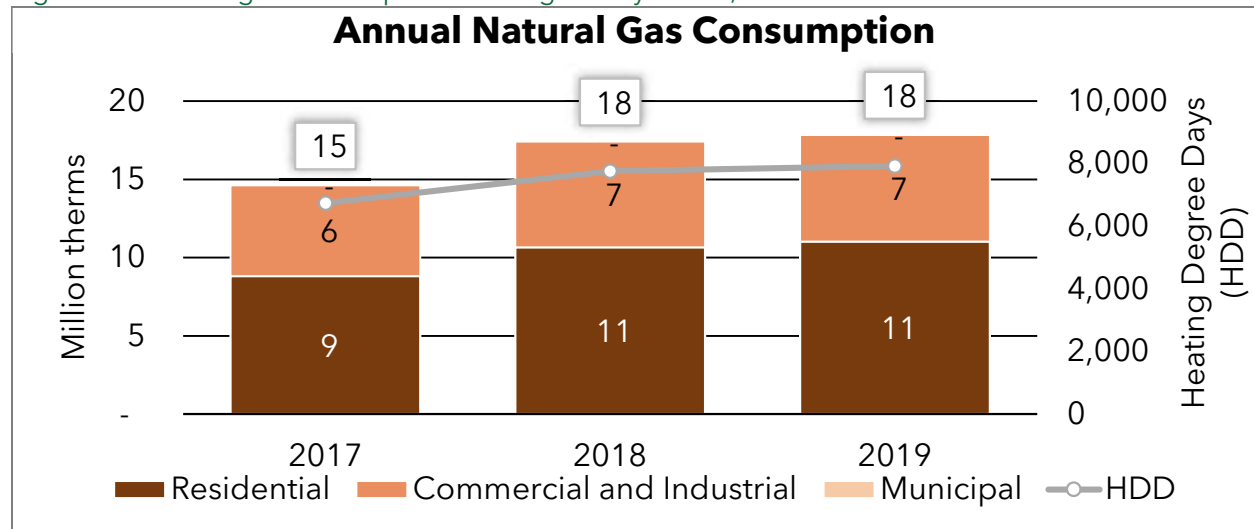
Figure 20: Electricity consumption and degree day trends, 2017-2019



Natural Gas Consumption Trends

On average, Inver Grove Heights consumes 16.7 million therms and spends \$9.6 million on natural gas across all sectors per year. Natural gas consumption over the three-year baseline has increased, which aligns with an increase in heating degree days and the need to heat homes and businesses.

Figure 21: Natural gas consumption and degree day trends, 2017–2019

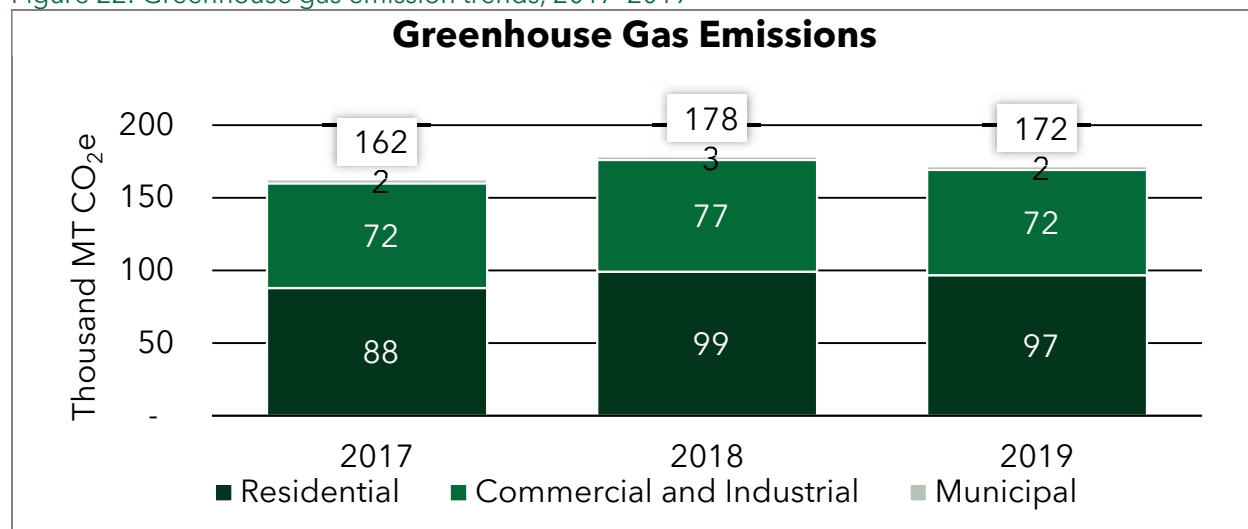


Greenhouse Gas Emissions and Trends

From 2017 through 2019, greenhouse gas emissions averaged 50,300 MTCO₂e. To put that into perspective, that is the equivalent the emissions from 10,867 passenger vehicles driven for one year, or about 55.4 million pounds of coal burned.³⁴

³⁴ U.S. Environmental Protection Agency Greenhouse Gas Equivalencies Calculator. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

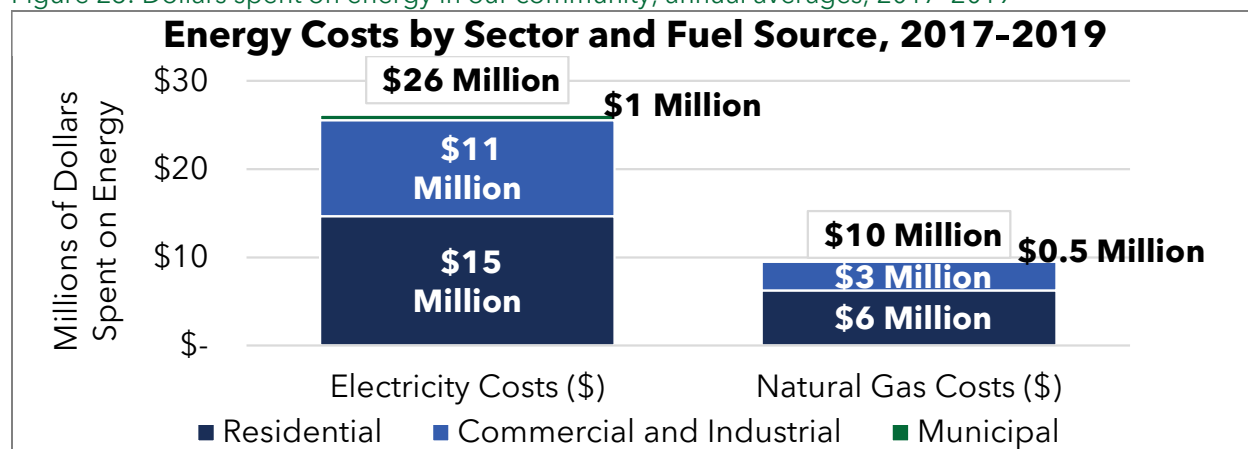
Figure 22: Greenhouse gas emission trends, 2017-2019



Energy Costs

Across the baseline period, the Inver Grove Heights community spent an estimated \$35.5 million dollars annually on energy costs across both electricity and natural gas. Most of that spending was on electricity – about three-quarters.

Figure 23: Dollars spent on energy in our community, annual averages, 2017-2019



The average residential premises spend about \$1,300 on energy each year – or a little over \$100 per month. While costs fluctuate greatly for commercial and industrial premises based on size and industry, these premises on average spent nearly eight times what residents did on energy, just under \$10,000 each year over the baseline period.

Table 5: Average annual energy costs per premise by sector, 2017-2019

Customer Type	Electricity Costs	Natural Gas Costs	Total Costs	Average Monthly Costs
Residential	\$ 917	\$ 391	\$ 1,308	\$ 109
Commercial and Industrial	\$ 7,523	\$ 2,264	\$ 9,787	\$ 816
Municipal	\$ 9,746	\$ 806	\$ 10,551	\$ 879

Program Participation and Savings

In Minnesota, utilities offer an array of Conservation Improvement Programs designed to help customers reduce energy use and expenditures. Below, the historic savings for these programs are shown for each of the utilities serving Inver Grove Heights.

Residential Program Participation and Savings

Over the three-year baseline period, energy savings for residents in Inver Grove Heights averaged around 0.6% of energy use – or about 0.4% of electricity use in the community and 0.7% of natural gas use. Almost 90% of these savings were from Xcel Energy customers. The most popular programs were rebates for heating and cooling equipment – see *Table 6*.

Table 6: Xcel Energy residential conservation program participation counts and savings, 2017-2019

Xcel Energy Program	2017			2018			2019		
	Count	Savings (kWh)	Savings (therm)	Count	Savings (kWh)	Savings (therm)	Count	Savings (kWh)	Savings (therm)
Efficient New Home Construction	65	40,941	12,682	114	109,837	27,238	79	130,732	28,296
Home Energy Audit	40	–	–	46	–	–	58	–	–
Home Energy Savings Program	7	1,212	562	17	5,313	–	26	9,960	750
Home Energy Squad	23	32,812	1,574	26	29,373	1,614	37	38,588	1,786
Insulation Rebate	14	4,973	2,710	17	2,420	4,993	15	2,268	4,332
Low-Income Home Energy Squad	3	1,333	151	13	12,915	802	9	6,383	338
Residential Cooling	201	63,056	–	282	79,460	–	228	59,182	–
Residential Heating	228	110,134	32,533	293	139,891	40,380	242	114,916	35,992
Refrigerator Recycling	60	48,126	–	73	55,230	–	65	51,448	–
Residential Saver's Switch	192	392	–	309	623	–	222	446	–
Smart Thermostat	43	105	56	52	1,322	1,316	31	2,289	1,190
Water Heater Rebate	35	–	1,159	35	–	1,180	29	–	1,262
Whole Home Efficiency	1	–	154	–	–	–	1	792	185
Total	912	303,084	51,581	1,277	436,384	77,523	1,042	417,004	74,131

Table 7: Dakota Electric residential conservation program participation counts and savings, 2017-2019

Dakota Electric Program	2017		2018		2019	
	Count	Savings (kWh)	Count	Savings (kWh)	Count	Savings (kWh)
Recycled Fridge/Freezer	15	15,219	17	16,996	13	13,336
Residential Air Conditioning Programs	33	14,936	31	14,523	40	19,160
Residential Heat Pumps	1	3,555	1	11,742	1	3,555
Energy Star Dehumidifier	5	2,175	7	3,480	7	3,045
Residential Equipment – Other	–	–	4	8,400	–	–
Income-Qualified Programs	–	–	–	–	8	5,919
LED Lights and Holiday Lights	1,769	78,100	1,177	52,671	334	15,030
EV Charger Install	1	–	1	–	5	–
Total	1,824	113,985	1,239	107,812	408	60,045

Commercial & Industrial Program Participation and Savings

Commercial and Industrial premises in Inver Grove Heights saved far more energy over the baseline period than residents saved. In total, they saved an average of 2.4

million kWh and 74,000 therms over the baseline period – or about 2% of total sector use for each of the respective fuel sources. The most popular programs were lighting efficiency programs, followed by heating equipment rebates. Over 97% of savings were from customers served by Xcel Energy.

Table 8: Xcel Energy commercial and industrial conservation program participation counts and savings, 2017-2019³⁵

Xcel Energy Program	2017			2018			2019		
	Count	Savings (kWh)	Savings (therm)	Count	Savings (kWh)	Savings (therm)	Count	Savings (kWh)	Savings (therm)
Cooling	2	394	–	6	2,256	–	6	11,105	–
Custom Efficiency	2	318,831	673	1	–	47,697	2	84,065	5,003
Efficiency Controls	–	–	–	2	67,318	2,447	–	–	–
Electric Rate Savings	3	-21,683	–	1	-212	–	–	–	–
Energy Design Assistance	–	–	–	–	–	–	2	21,028	126,660
Energy Efficient Buildings	–	–	–	–	–	–	2	92,599	-8
Fluid System Optimization	–	–	–	2	36,170	–	4	226,703	–
Foodservice Equipment	–	–	–	–	–	–	1	–	5,319
Heating Efficiency	36	1,261	14,144	9	1,687	9,698	13	2,522	9,048
Lighting Efficiency	25	1,166,788	–	32	1,407,091	–	38	815,286	–
Motor Efficiency	2	83,763	–	4	320,687	–	1	10,466	–
Saver's Switch for Business	–	–	–	3	30	–	1	2	–
Small Business Lighting	39	939,400	–	27	657,049	–	22	657,827	–
Turn Key Services	2	–	–	–	–	–	2	–	–
Total	70	1,549,354	14,817	57	1,834,997	59,842	69	1,263,774	146,022

³⁵ Note: “commercial and industrial” in this table also includes any City of Inver Grove Heights (“municipal”) participation and savings

Table 9: Dakota Electric commercial and industrial conservation program participation counts and savings, 2017-2019

Dakota Electric Program	2017		2018		2019	
	Count	Savings (kWh)	Count	Savings (kWh)	Count	Savings (kWh)
Commercial Lighting	–	–	–	–	6	162,231
Commercial HVAC	–	–	–	–	1	1,458
Commercial Motors and Drives	–	–	–	–	1	10,879
Total	0	0	0	0	8	174,568

Renewable Energy Support

Far more residents than commercial and industrial premises support renewable energy in Inver Grove Heights – nearly 20 times as many, or just under 1,000 premises. Xcel Energy’s Windsource was the most popular program, followed by community solar. Commercial and industrial customers were responsible for supporting the most renewable energy generation through on-site solar rewards or off-site community solar gardens, supporting 13 million kWh of renewable electricity generation in 2019 overall.

Table 10: Total support for renewable energy in Inver Grove Heights, 2019

Total Renewable Energy Support ³⁶	Residential ³⁷	Commercial & Industrial ³⁸
Subscriber Count	931	49
Total Annual Electricity Subscribed (kWh)	3,054,133	13,066,858

³⁶ Includes both programs where the customer can and cannot claim the Renewable Energy Credits for the energy. See Table 11 for program-specific details.

³⁷ Includes all Dakota Electric programs for which sector is unknown. Over 92% of Dakota Electric’s premises in Inver Grove Heights are residential, so this assumes that the renewable energy subscribers are primarily residential.

³⁸ Note: “commercial and industrial” in this figure also includes any City of Inver Grove Heights (“municipal”) renewable energy support.

Table 11: Support for renewable energy in Inver Grove Heights by program, 2019

Renewable Energy or Solar Program		Residential	Commercial & Industrial ³⁹
Off-site / Subscription	Xcel Energy Windsource®		
	Subscriber Count	577	1
	Total Annual Electricity Subscribed (kWh)	1,377,254	600,000
	Percentage of Sector Electricity Use	1.5%	0.6%
	Xcel Energy Renewable*Connect®		
	Subscriber Count	12	–
	Total Annual Electricity Subscribed (kWh)	78,986	–
	Percentage of Sector Electricity Use	0.1%	–
	Dakota Electric Wellspring®⁴⁰		
	Subscriber Count		27
	Total Annual Electricity Produced (kWh)		173,000
	Percentage of Sector Electricity Use		0.2%
	Xcel Energy Solar*Rewards Community* (Community Solar)**		
	Subscriber Count	288	46
On-site	Total Annual Electricity Produced (kWh)	1,339,332	3,749,879
	Percentage of Sector Electricity Use	1%	4%
	Xcel Energy Solar*Rewards®**		
	Installation Count	24	2
	Total Annual Electricity Produced (kWh)	85,561	8,716,979
	Percentage of Sector Electricity Use	0.1%	8.2%
	Dakota Solar Rebate**		
	Installation Count		3

**Indicates a program where the customer does not retain the renewable energy credits. Energy produced or credited through these programs cannot be classified as renewable electricity.

³⁹ Note: “commercial and industrial” in this figure also includes any City of Inver Grove Heights (“municipal”) renewable energy support.

⁴⁰ Numbers for Wellspring are for all customers, including residents and nonresidents.



APPENDIX 2: METHODOLOGY FOR MEASURING SUCCESS

The following section defines the ways that we will be measuring progress towards our goals and targets, including the Xcel Energy and Dakota Electric program(s) that were part of the baseline.

As part of implementation support, Partners in Energy will provide biannual progress reports for Xcel Energy participation and savings data. Goals are measured using projected savings impacts from achieving the targets of this plan. The assumptions that were used in modeling these goals are outlined below.

Community Goals

The goals of this plan are nonbinding and are designed to guide our implementation efforts and help measure our success.

The City established the following goals:

Between 2021 & 2022, we will...

- Engage an estimated 2,000 residents and 250 businesses, schools, nonprofits, and places of worship across our community
- Support 80 under-resourced households with energy costs
- Add 250 new residential and 12 new commercial renewable energy subscribers or community solar garden supporters
- Support 10 residential on-site solar installations

By 2025, we will cumulatively...

- Save an estimated \$2.6 million
- Save 20 million kWh of electricity & 1.3 million therms of natural gas
- Avoid an estimated 16,000 MTCO_{2e}

By 2030, we will cumulatively...

- Save an estimated \$5 million
- Save 39 million kWh of electricity & 2.5 million therms of natural gas
- Avoid an estimated 28,000 MTCO_{2e}

How to Measure

The following table outlines how to measure various aspects of the goals outlined above and articulated elsewhere in this plan. This includes details of what programs and activities may be included and any assumptions used to measure the goals.

Xcel Energy data will be provided through Partners in Energy. Dakota Electric data will be provided directly to the community by the utility.

<i>Timeline</i>	<i>How to measure</i>
Between 2021 & 2022	January 2021 to December 2022
Goal	How to Measure
Engage an estimated 2,000 residents and 250 businesses, schools, nonprofits, and places of worship across our community	Participation in all utility energy Conservation Improvement Programs from Xcel Energy and Dakota Electric
Support 80 under-resourced households with energy costs	Participation in utility programs targeted toward income-qualifying households, including: • Low Income Home Energy Squad • Home Energy Savings Program
Add 250 new residential and 12 new commercial renewable energy subscribers or community solar garden supporters	Participation in renewable energy subscription programs, including: • Xcel Energy's Windsource • Xcel Energy's, Renewable*Connect • Dakota Electric's Wellspring As well as participation in Xcel Energy's community solar program, Solar*Rewards Community
Support 10 residential on-site solar installations.	Participation in on-site renewable energy programs, including: • Xcel Energy's Solar*Rewards. • Dakota Electric's Solar Rebates Other on-site solar as documented by the City

Timeline	How to measure
By 2025	January 2021 to December 2025
By 2035	January 2021 to December 2030
Goal	How to Measure
- Save an estimated \$2.6 million (2025) - Save an estimated \$5 million (2030)	Dollar savings are estimated based on the energy savings listed below and an estimated average cost of energy by source and sector. See "Metric: Costs" below for more details.
- Save 20 million kWh of electricity & 1.3 million therms of natural gas (2025) - Save 39 million kWh of electricity & 2.5 million therms of natural gas (2030)	Energy savings are based on savings from participation in utility programs as reported by the utilities. See "Metric: Energy Savings" below for more details.
- Avoid an estimated 16,000 MTCO₂e (2025) - Avoid an estimated 28,000 MTCO₂e (2030)	Greenhouse gas emissions avoided are estimated based on future projected emissions for energy from the electricity grid and from natural gas. Xcel Energy's emission factors were used for all energy. See "Metric: Greenhouse Gas Emissions Avoided" below for more details.

Metric: Costs

All costs and dollar savings estimates are based on Xcel Energy averages for the baseline period. Changes in the costs of electricity and natural gas may impact the dollars saved, and therefore also this plan's impact. Costs in this goal do not account for delivered fuels, costs or savings from renewable energy, or demand charges for commercial customers.

Table 12: Cost assumptions for the goals, by customer and fuel type

Customer	Residential	Commercial & Industrial
Electricity, Dollars per kWh	\$0.113	\$0.087
Natural Gas, Dollars per kWh	\$0.09	\$0.5

Table 13 outlines which sectors we assumed savings would be sourced from.

Table 13: Cumulative estimated dollars saved (\$) by sector by goal years 2025 and 2030

Estimated Dollars Saved by Sector	By 2025	By 2030
Residential Energy Efficiency	\$564,942	\$1,088,947
Business Energy Efficiency	\$2,053,183	\$3,998,908
Total Estimated Dollars Saved	\$2,618,125	\$5,087,855

Metric: Energy Savings

Energy savings are provided by utilities based on participation in programs. Our goals hope to achieve the following savings by sector and utility.

Table 14: Cumulative estimated energy savings by sector by goal years 2025 and 2030

Estimated Dollars Saved by Sector	By 2025	By 2030
Xcel Energy Program Savings		
Electric (kWh)		
Residential Energy Efficiency	2,266,238	4,331,803
Business Energy Efficiency	17,388,365	33,719,516
Total Estimated Electricity Saved	19,654,603	38,051,319
Natural Gas (therms)		
Residential Energy Efficiency	395,772	766,180
Business Energy Efficiency	904,166	1,782,051
Total Estimated Natural Gas Saved	1,299,938	2,548,231
Dakota Electric Program Savings		
Residential Energy Efficiency	211,522	423,043
Business Energy Efficiency	90,128	180,257
Total Estimated Electricity Saved	301,650	603,300
Total Goal Electricity Saved, All Utilities (kWh)	20 million	39 million
Total Goal Natural Gas Saved, All Utilities (therms)	1.3 million	2.5 million

Metric: Greenhouse Gas Emissions Avoided

To estimate avoided emissions, projections of emissions factors were applied to the electricity savings. Avoided emissions for these goal years are based off Xcel Energy's 2019 Carbon Emissions Reporting,⁴¹ as well as Xcel Energy's electricity carbon goals of an 80% reduction in emissions by 2030 and a 100% reduction in emissions by

⁴¹ Energy and Carbon Emissions Reporting 2019 Summary by Xcel Energy.
<https://www.xcelenergy.com/staticfiles/xcel-responsive/Environment/Carbon/Xcel-Energy-Carbon-Dioxide-Emission-Intensities.pdf>.

2050.⁴² Differences between projections based on these goals and the actual emissions will impact progress toward the specific carbon estimates articulated for this plan.

The goal for greenhouse gas emissions avoided also included emissions avoided with renewable energy. Carbon impacts for renewable energy are only counted for renewable energy programs where the customer retains the Renewable Energy Credits (RECs). This includes Xcel Energy's Windsource and Renewable*Connect. The following table outlines the assumptions for renewable energy.

Table 15: Cumulative estimated greenhouse gas emissions avoided (MTCO_{2e}) by sector by goal years 2022 and 2030

Estimated Emissions Avoided by Sector	By 2025	By 2030
Residential Energy Efficiency	2,752	5,077
Business Energy Efficiency	9,396	16,648
Renewable Energy ⁴³	3,640	6,339
Total Greenhouse Gas Emissions Avoided	15,787	28,064

Greenhouse gas emissions avoided from other energy and non-energy sources, including transportation, are not measured in our plan.

Focus Area Targets

In addition to the overarching goals, this plan established targets in each focus area. Targets outline a framework and direction of how the community can contribute toward the bigger goals.

Focus Area: Residential Community Engagement

Targets: Across 2021 and 2022 combined, we hope to engage our residential community to achieve the following:

- ✓ 200 homes receive a home energy assessment or direct-install visit to jump-start energy savings
- ✓ 90 homes are served by programs specifically targeted toward income-qualifying households
- ✓ 180 new home construction or renovation projects complete a utility new home efficiency program
- ✓ 6 multi-family buildings complete an energy assessment
- ✓ 260 new residents supporting renewable energy

⁴² Xcel Energy's Clean Energy Goals. https://www.xcelenergy.com/carbon_free_2050.

⁴³ Includes only energy efficiency from renewable energy from Xcel Energy's Windsource and Renewable*Connect. This only includes residential participation because commercial participation is targeted to only include programs where the customer does not retain the RECs.

The following table outlines the targets that the community hopes to achieve for energy efficiency programs.

<i>Target Identified (Total, 2021-2022)</i>	<i>What's Included</i>	<i>How It's Measured</i>
200 homes receive a home energy assessment or direct-install visit to jump-start energy savings	Xcel Energy's Home Energy Squad, home energy audits, including those from Dakota Electric	Counts of program participation
90 homes are served by programs specifically targeted toward income-qualifying households	Xcel Energy's Low-Income Home Energy Squad, Home Energy Savings Program, Dakota Electric's low-income programs, others as requested	
180 new home construction or renovation projects complete a utility new home efficiency program	Xcel Energy's Efficient New Home Construction	
6 multi-family buildings complete an energy assessment	Xcel Energy's Multi-Family Building Efficiency Program, others targeted toward multi-family buildings as requested	
260 new residents supporting renewable energy	Participation in any renewable energy or community solar program. Other renewable energy as documented by the City. Measured from the 2019 baseline.	Counts of program participation or City permitting records.

Partners in Energy will be responsible for tracking and reporting participation from Xcel Energy. The City of Inver Grove Heights will be responsible for tracking programs from other utilities or providers.

Focus Area: Businesses, Schools, Nonprofits, and Places of Worship

Targets: By 2022, we will strive to engage the following numbers of businesses, schools, nonprofits, and places of worship:⁴⁴

⁴⁴ Business engagement will be measured by number of engagements and program participation, rather than by unique businesses or buildings reached.

- ✓ 95 small business energy assessments for lighting, HVAC, or commercial refrigeration equipment
- ✓ 7 new construction projects that use a program to increase efficiency
- ✓ 5 larger businesses completing a Commercial Streamlined Assessment or recommissioning
- ✓ 12 new businesses, schools, nonprofits, and places of worship supporting renewable energy

<i>Target Identified (Total, 2021-2022)</i>	<i>What's Included</i>	<i>How It's Measured</i>
95 small business energy assessments for lighting, HVAC, or commercial refrigeration equipment	Xcel Energy's Commercial Refrigeration Efficiency program, One-Stop Efficiency Shop, and other small-business-focused programs, including Energy Smart ⁴⁵	Counts of program participation
7 new construction projects that use a program to increase efficiency	Xcel Energy's Energy Efficiency Buildings and Energy Design Assistance Programs, other programs from Dakota Electric as requested	
5 larger businesses completing a Commercial Streamlined Assessment or recommissioning	Xcel Energy's Commercial Streamlined Assessment and Recommissioning, other programs as requested	
12 new businesses, schools, nonprofits, and places of worship supporting renewable energy	Participation in any renewable energy or community solar program. Other renewable energy as documented by the City. Measured from the 2019 baseline	Counts of program participation or City permitting records.

Focus Area: Municipal Leadership

The City established the following targets. As part of this plan's implementation, the City will work to establish baselines against which to measure progress.

- ✓ Increase energy efficient at City facilities

⁴⁵ Energy Smart is a program through the Minnesota Chamber of Commerce available to all utility customers. <https://www.mnchamber.com/your-opportunity/energy-smart>.

- ✓ Increase the number of municipal community solar garden subscriptions
- ✓ Increase the amount of renewable energy used by City facilities
- ✓ Increase fuel efficiency of vehicle fleet
- ✓ Increase the amount of alternative fuel vehicles in the fleet

Measuring our Stretch Goals

Our plan established stretch goals to work towards if we are on track to meet or exceed our main goals listed above. The metrics of these goals are the same as those listed above, only with higher values. Our stretch goals can be found on *page 18*.



APPENDIX 3: XCEL ENERGY'S PARTNERS IN ENERGY PLANNING PROCESS

About Xcel Energy's Partners in Energy

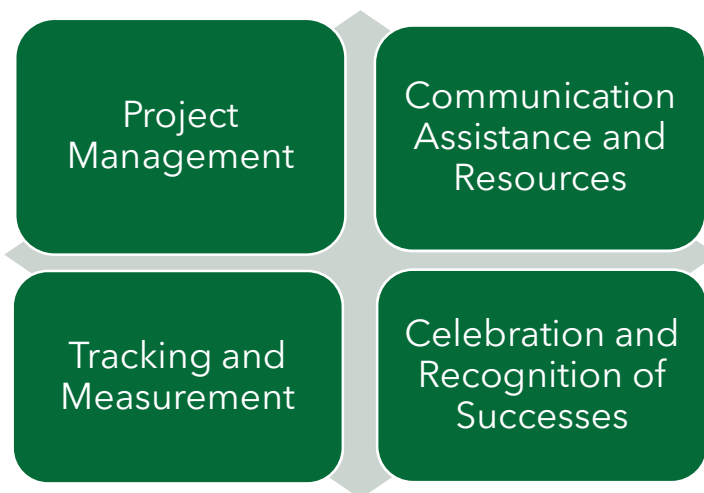
Xcel Energy is an electric and natural gas utility that provides the energy that powers millions of homes and businesses across eight western and midwestern states. Each community Xcel Energy serves has its own unique priorities and vision for its energy future. The energy landscape is dynamically changing, with communities leading the way in setting energy and sustainability goals. To continue to innovatively support their communities, Xcel Energy launched Partners in Energy in the summer of 2014 as a collaborative resource with tailored services to complement each community's vision. The program offerings include support to develop an energy action plan or electric vehicle plan, tools to help implement the plan and deliver results, and resources designed to help each community stay informed and achieve their outlined goals.

Plan Development Process

The content of this plan is derived from a series of workshops with a planning team committed to representing local priorities and implementing plan strategies.



Partners in Energy Process for Success

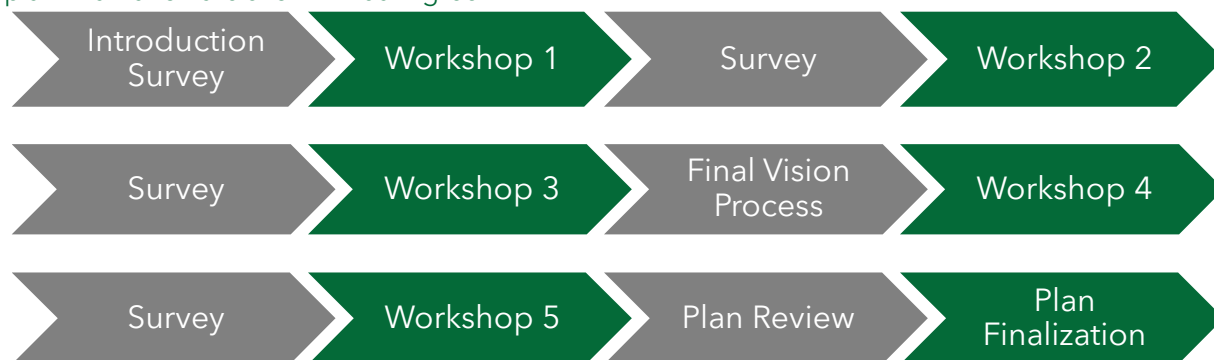


Resources from Xcel Energy for Implementation

Partners in Energy Engagement Process

The engagement process included both a series of five workshops, all hosted online through video conferencing, as well as multiple surveys and assignments between workshops.

Figure 24: A visualization of the engagement steps throughout the planning process. Workshops and plan finalization are shown in dark green.



Introduction Survey

July 2020

Before kicking off the planning process, the Energy Action Team completed an introduction survey, which both provided background on the Partners in Energy process and gathered input from the team.

In the survey, Energy Action Team members were asked to share a little bit about themselves, prioritize energy issues for the community, and react to a draft energy vision statement.

Workshop 1

July 22, 2020

Inver Grove Heights first planning workshop was centered around establishing a groundwork for the plan through data and a shared energy vision. The team received an introduction to the Partners in Energy planning process, gained an understanding of Inver Grove Heights through data, learned about how their community uses and saves energy, and discussed a shared energy vision for this process.

Survey and preparation for Workshop 2

August 2020

In preparation for the second workshop, the energy action team reviewed a revised version of the vision statement and provided input on a selection of draft focus areas.

Workshop 2

September 1, 2020

Inver Grove Heights' second planning workshop resulted in the team prioritizing near-term and long-term focus areas. After learning about energy opportunities for different focus areas, the team brainstormed community assets and voted on near-term focus areas for the plan.

Survey and preparation for Workshop 3

October 2020

Before Workshop 3, the team completed a survey to provide feedback on a draft vision statement, identify goal metrics that would resonate with the community, share their preferred time horizon and ambition level, and finalize focus areas.

Workshop 3

October 6, 2020

At Workshop 3, the Energy Action Team finalized their focus areas and vision statement. They also brainstormed communication channels to support implementation, worked in small groups to identify barriers and benefits to taking action for each focus area group, and discussed preferred goal metrics.

Final vision process

October–November 2020

A small group of Energy Action Team members volunteered to workshop the vision statement to create a short, concise statement. This small group worked separately from the workshop process to create Inver Grove Heights vision statement.

Workshop 4

November 17, 2020

The Energy Action Team spent the majority of the fourth workshop in small groups, refining strategies and tactics for each focus area. In addition, the group reacted to different goal scenarios, including an achievable and an ambitious scenario, to help refine their community-wide goal.

Survey and preparation for final workshop

December 2020

In preparation for the final workshop, the Energy Action Team completed an online survey to provide feedback on strategies, tactics, and targets discussed at Workshop 4. This was an opportunity for team members to give feedback on strategies not discussed in their small group and an opportunity to contribute more to the strategies and tactics they had already discussed.

Workshop 5

January 6, 2021

At the final workshop, the Energy Action Team reviewed the status of the Energy Action Plan and their role during the review process. The Energy Action Team prioritized strategies for implementation to help identify what strategies should be tackled first. The team also discussed implementation support opportunities, defining what success would look for them. Finally, the workshop wrapped up by generating excitement for the plan and the transition to implementation in 2021.

Plan Review

February 2021

Before the plan was finalized, the Energy Action Team had a chance to review the plan and provide input.

Plan Finalization

February-March 2021

The final plan was presented to Inver Grove Heights' Environment Commission and to City Council prior to approval. City staff and the Xcel Energy Partners in Energy team presented to Environment Commission on February 25, 2021, and to the City Council on March 1, 2021.



APPENDIX 4: GLOSSARY OF TERMS

15 x 15: Xcel Energy's privacy rule, which require all data summary statistics to contain at least 15 premises, with no single premise responsible for more than 15% of the total. Following these rules, if a premise is responsible for more than 15% of the total for that data set, it is are removed from the summary.

British Thermal Unit (BTU): the amount of heat needed to raise one pound of water at maximum density through one degree Fahrenheit

Carbon-free: Carbon-free refers to sources of energy that will not emit additional carbon dioxide into the air. Wind, solar and nuclear energy are all carbon free sources but only wind and solar are renewable.

Carbon-neutral: Carbon-neutral, also described as "net zero" could include carbon free sources but is broader and refers to energy that removes or avoids as much carbon dioxide as is released over a set period of time. Carbon-neutral is sometimes used to describe a site that produces an excess amount of electricity from a renewable energy source, such as solar, compared to what it consumes. That excess energy is put back into the grid in an amount that offsets the carbon dioxide produced from the electricity it draws from the grid when it is not producing renewable energy.

Community Data Mapping: A baseline analysis of energy data in a geospatial (map) format across the community.

Conservation Improvement Programs (CIP): Portfolio of approved utility energy efficiency and demand management programs. Minnesota electric utilities have a

goal of saving 1.5% of their total energy sales each year via customer conservation efforts. Minnesota natural gas utilities have a goal of saving 0.5% of their total energy sales each year via customer conservation efforts.

Demand Side Management (DSM): Modification of consumer demand for energy through various methods, including education and financial incentives. DSM aims to encourage consumers to decrease energy consumption, especially during peak hours or to shift time of energy use to off-peak periods, such as nighttime and weekend.

Direct Installation: Free energy-saving equipment installed by Xcel Energy or other organization for program participants that produces immediate energy savings.

Energy Burden: Percentage of gross household income spent on energy costs.

Energy Reduction: The result of behavior changes that cause less energy to be used. For example, setting the thermostat lower *reduces* the energy used in your home during the winter. Since energy reductions can be easily reversed, they are not accounted for when calculating changes in energy usage.

Energy Savings: Comes from a permanent change that results in using less energy to achieve the same results. A new furnace uses X% less to keep your home at the same temperature (all things being equal), resulting in energy *savings* of X%. For accounting purposes, energy savings are only counted in the year the new equipment is installed.

Greenhouse Gases (GHG): Gases in the atmosphere that absorb and emit radiation and significantly contribute to climate change. The primary greenhouse gases in the earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

Grid Decarbonization: The current planned reduction in the carbon intensity of electricity provided by electric utilities through the addition of low- or no-carbon energy sources to the electricity grid.

Kilowatt-hour (kWh): A unit of electricity consumption.

Million British Thermal Units (MMBtu): A unit of energy consumption that allows both electricity and natural gas consumption to be combined.

Metric Tons of Carbon Dioxide Equivalent (MTCO_{2e}): A unit of measure for greenhouse gas emissions. The unit "CO_{2e}" represents an amount of a greenhouse gas whose atmospheric impact has been standardized to that of one unit mass of carbon dioxide (CO₂), based on the global warming potential (GWP) of the gas.

Megawatt (MW): A unit of electric power equal to 1 million watts.

Premise: A unique identifier for the location of electricity or natural gas service. In most cases it is a facility location. There can be multiple premises per building, and multiple premises per individual debtor.

Renewable Energy Certificate (REC): For every megawatt-hour of clean, renewable electricity generation, a renewable energy certificate (REC) is created. A REC embodies all of the environmental attributes of the generation and can be tracked and traded separately from the underlying electricity. Also known as a Renewable Energy Credit.

Resilience: The ability to prepare for and adapt to changing conditions and withstand and recover rapidly from disruptions. Resilience includes the ability to withstand and recover from deliberate attacks, accidents, or naturally occurring threats or incidents.

Recommissioning: An energy efficiency service focused on identifying ways that existing building systems can be tuned-up to run as efficiently as possible.

Solar Garden: Shared solar array with grid-connected subscribers who receive bill credits for their subscriptions.

Solar Photovoltaic (PV): Solar cells/panels that convert sunlight into electricity (convert light, or photons, into electricity, or voltage).

Subscription: An agreement to purchase a certain amount of something in regular intervals.

Therm (thm): A unit of natural gas consumption.

Trade Partner: Trade Partners, also known as Trade Allies or Business Trade Partners, are vendors and contractors who work with business and residential customers servicing, installing, and providing consulting services regarding the equipment associated with utility rebate programs. Their support for utility programs can range from providing equipment and assisting with rebate paperwork, to receiving rebates for equipment sold.

APPENDIX 5: IMPLEMENTATION MEMORANDUM OF UNDERSTANDING

A Memorandum of Understanding (MOU) between the City of Inver Grove Heights and Xcel Energy will be included as an appendix of this plan. This MOU will outline support and commitments from both the City and Xcel Energy to support the implementation of this plan for the 18 months following passage of this plan.

The signed MOU will be included when approved and available.



Memorandum

TO: Mayor and City Council

FROM: Judy Thill, Fire Chief

SUBJECT: March Work Session Discussion

DATE: March 1, 2021

BACKGROUND:

The Inver Grove Heights Fire Department (IGH FD) is at a crossroads in how it staffs for emergency response. Although they have tried various “fixes” to help maintain the present paid-on-call model, there continues to be recruitment and retention concerns, which in turn affects staffing levels and emergency response. These recruitment and retention issues are not specific to the IGH FD as this is a national crisis for volunteer/non-career fire departments throughout the nation.

OVERVIEW:

Fire Department Service Delivery Study Discussion

The following is an outline of discussion items to determine if the Council wishes the IGH FD to seek out consultants for conducting a study that will look at the present service delivery and staffing model and make recommendations for future needs

- A. Need for study
- B. Potential scope
- C. Finding a consultant
- D. Cost
- E. Timeframe

**Request for Council Action****Review Draft Feasibility Study for Water Level Management on Basin IGT-B-3 - City Project No. 2021-06**

		Fiscal/FTE Impact	Mark all that apply
Meeting Date:	March 1, 2021	None	
Item Type:	Work Session	Amount included in current budget	
Contact:	Thomas J. Kaldunski 651-315-6336	Budget amendment requested	
Prepared by:	Thomas J. Kaldunski City Engineer	FTE included in current complement	
Reviewed by:		New FTE requested - N/A	
		Other	Stormwater Utility Fund, Assessments, Taxing District

PURPOSE/ACTION REQUESTED

Review draft Feasibility Study for Water Level Management on Basin IGT-B-3 – City Project No. 2021-06.

SUMMARY

On June 22, 2020, Barr Engineering was hired to conduct stormwater modeling on Regional Basin IGT-B-3. On August 10, 2020, Barr Engineering presented a storm water modeling report to City Council. Staff has held three neighborhood meetings with the affected homeowners and received their comments and input. A meeting with residents will occur in the coming weeks.

The hydrologic study conducted by Barr Engineering presents seven potential options for managing water levels in the basin or reducing the impacts of high-water levels on shoreline properties. Staff has requested Barr Engineering to conduct a feasibility study to compare potential options for managing water levels in the IGT-B-3 basin. The attached Feasibility Study outlines the alternatives reviewed and related project cost. The City Council will review the report at this worksession and provide guidance. Funding will be provided with a fiscal review and creation of a watershed tax district.

Barr Engineering has recommended to gather data identified in the report, approach the DNR to seek an option to go 1.5 feet below the ordinary high-water level, and propose action to establish a watershed taxing district on the IGT-B-3 watershed, after the fiscal review establishes a financing plan. It is also important to recognize the City is in the process of establishing policies and guidelines for landlocked basins before the Council authorizes construction.

TJK/kf

Attachment: Feasibility Study



IGT-B-3 Basin Water Level Management

City Project No. 2021-06

Feasibility Study

Prepared for
City of Inver Grove Heights

February 2021

IGT-B-3 Basin Water Level Management

(City Project No. 2021-06)

February 2021

Contents

1.0	Introduction and Background.....	1
2.0	Data Collection and Review	3
3.0	Existing Conditions Evaluation	4
3.1	Basin Management Elevations.....	4
3.2	Existing Water Management Issues	4
3.3	Long-term Existing Conditions Hydrologic Simulation	7
3.3.1	Methodology	7
3.3.2	Simulation Results.....	10
4.0	Alternatives Evaluation	13
4.1	Alternative Descriptions	13
4.1.1	Alternative 1 – Re-grade Concord Hills Rainwater Garden.....	13
4.1.2	Alternative 2 – Reroute 87 th Street Stormwater Runoff from IGT-B-3 Basin to IGT-A-5-02 Basin	13
4.1.3	Alternative 3 – Construct a Gravity Outlet from IGT-B-3 Basin to IGT-B-2 Basin	15
4.1.4	Alternative 4 – Construct a Gravity Outlet from IGT-B-3 Basin to DP-66 Basin	15
4.1.5	Alternative 5 – Construct Permanent Pump Station and Force Main from IGT-B-3 Basin to DP-66 Basin.....	15
4.1.6	Alternative 6 – Temporary Pumping to DP-66 Basin	16
4.2	Alternative Modeling Summary	16
4.3	Concept-Level Opinion of Probable Construction Cost.....	19
5.0	Financing	21
6.0	Recommendations	23
7.0	References	25

List of Tables

Table 3-1	Modeled Basins and Drainage Areas	7
Table 3-2	Modeled Basin Seepage Rates	8
Table 3-3	Existing Conditions Simulation Summary	12
Table 4-1	Water Management Alternative Modeling Summary for IGT-B-3 Basin	17
Table 4-2	Water Management Alternative Modeling Summary for IGT-B-2 Basin	17
Table 4-3	Water Management Alternative Modeling Summary for IGT-5-A-01 Basin	18
Table 4-4	Water Management Alternative Modeling Summary for IGT-5-A-02 Basin	18
Table 4-5	Concept-Level Opinion of Probable Construction Cost	19
Table 5-1	Benefitted Area Property Ownership	20

List of Figures

Figure 1-1	Study Location.....	2
Figure 3-1	Management Elevations.....	5
Figure 3-2	Recent Basin Elevations	6
Figure 3-3	Existing Drainage Areas.....	9
Figure 3-4	Simulated and Observed IGT-B-3 Basin Water Elevations (Water Years 1980-2019).....	10
Figure 3-5	Simulated IGT-A-5-01 Basin Water Elevations (Water Years 1980-2019).....	11
Figure 3-6	Simulated IGT-A-5-02 Basin Water Elevations (Water Years 1980-2019).....	11
Figure 3-7	Simulated IGT-B-2 Basin Water Elevations (Water Years 1980-2019).....	12
Figure 4-1	Alternative Overview.....	14

List of Appendices, Attachments, or Exhibits

Appendix A	Concord Hills Record Plans
Appendix B	Planning-Level Opinion of Probable Construction Cost

Certifications

I hereby certify that this 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.

Karen L. Chandler

Karen Chandler
PE #: 19252

February 24, 2021

Date

Abbreviations

CB	catch basin
CBMH	catch basin manhole
cfs	cubic feet per second
GIS	geographic information system
gpm	gallons per minute
HDPE	high density polyethylene
HWL	high water level
MDNR	Minnesota Department of Natural Resources
NAVD 88	North American Vertical Datum of 1988
NWL	normal water level
OCS	outlet control structure
OHWL	ordinary high water level
RWG	rainwater garden
WRMP	water resource management plan

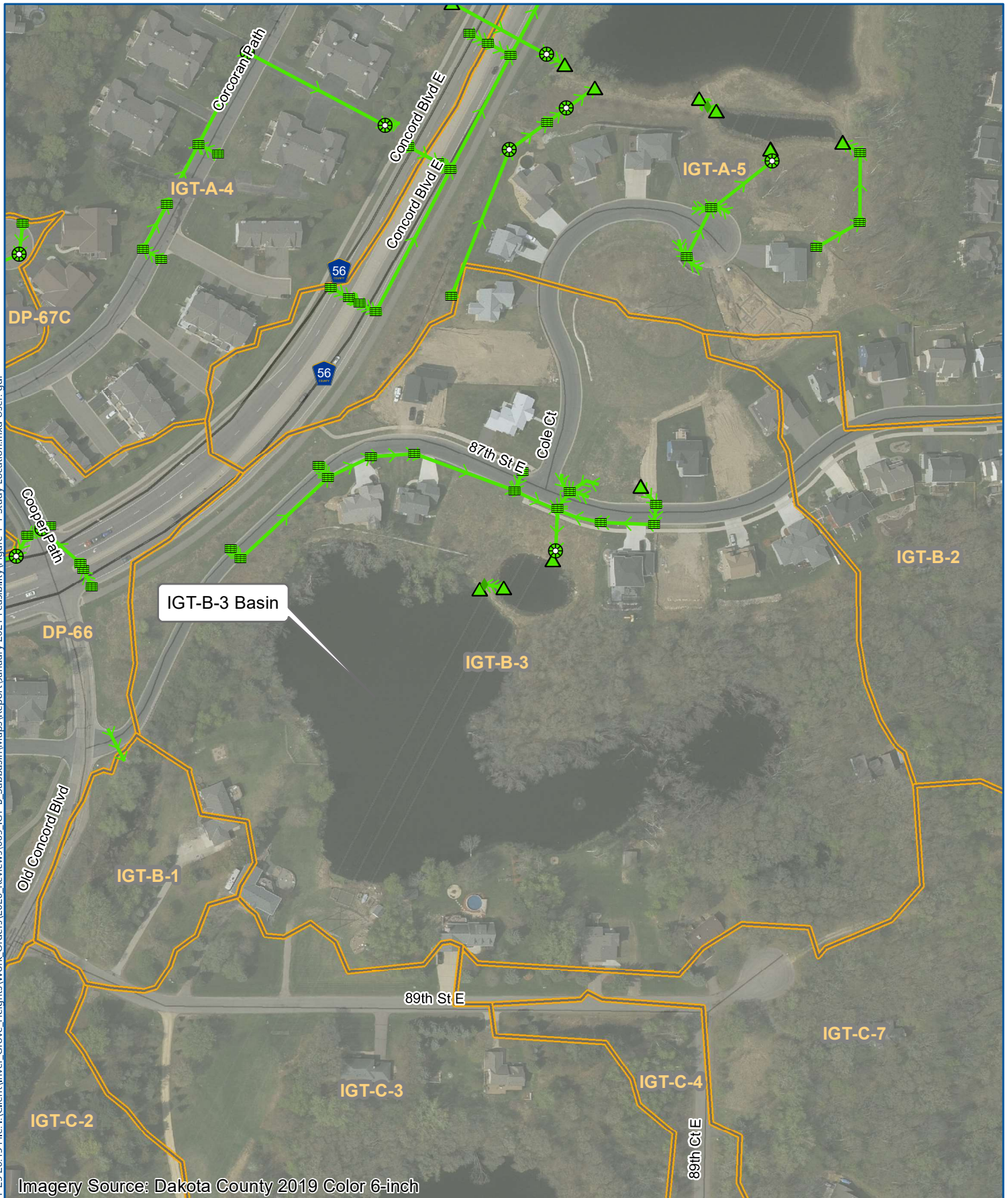
1.0 Introduction and Background

The IGT-B-3 basin is an open water wetland located just east of Concord Boulevard between 87th Street and 89th Street, in subwatershed IGT-B-3 of the Inver Grove Trail Drainage Basin in southeastern Inver Grove Heights, Minnesota (Figure 1-1).

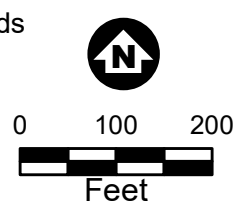
During recent years, property owners along the south shoreline of the IGT-B-3 basin experienced persistent high water elevations, which resulted in tree die-off, inundated lawns, and flooding near a backyard storage building located at 3905 89th Avenue. Several homeowners also expressed concerns that their septic systems could be impacted.

At the request of the City of Inver Grove Heights (City), Barr Engineering Co. (Barr) performed a hydrologic analysis of the IGT-B-3 basin to determine the likely causes of the persistent high water. Barr's study findings identified a recent six-year period (2014-2019) of above average annual precipitation as the primary cause of persistent high-water elevations in the IGT-B-3 basin [1]. In the same analysis, Barr identified six water level management alternatives with the potential to mitigate future impacts of high water on shoreline property.

This project evaluates the water level management alternatives in more detail. The evaluation provides planning level costs and anticipated benefits for each alternative to help the City determine whether it is practical and advisable to implement one or more of the alternatives.



- Storm Catch Basin
- Storm Manhole
- Storm Apron
- Storm Pipes
- WRMP Subwatersheds



STUDY AREA
IGT-B-3 Basin Feasibility Study
City Project No. 2021-06
City of Inver Grove Heights

FIGURE 1-1

2.0 Data Collection and Review

The City provided information regarding the existing drainage area, stormwater system, and grading plans for recent projects. Review of available information guided the evaluation of potential system modifications to reduce the recurrence and persistence of high water in the IGT-B-3 basin. All elevations cited in this report are referenced to the North American Vertical Datum of 1988 (NAVD 88).

The following information was provided by the City:

- Geographic information systems (GIS) data for sanitary, storm sewer, and drinking water systems
- Grading and utility record plans for the Concord Hills housing development (see Appendix A)
- Grading and utility record plans for the Summit Pines housing development
- A hydrologic review of the Summit Pines Development [2]
- Surveyed water elevations from April 2019 to December 2020
- Resident reports and photographs of recent basin conditions

3.0 Existing Conditions Evaluation

3.1 Basin Management Elevations

The City established 100-year high water levels (HWLs) for individual basins within the Inver Grove Trail Drainage Basin, based on modeling (performed by Barr) of a 100-year, 10-day snowmelt event of 7.2 inches that begins with each basin at its estimated normal water level (NWL). The 100-year HWL for the IGT-B-3 basin is 894.2 feet (NAVD 88), based on a NWL of 891.1 feet. These management elevations were established in 2008 in the Inver Grove Heights 2nd Generation Water Resources Management Plan [3].

The IGT-B-3 basin is classified by statute as a Public Waters Wetland. Therefore, the Minnesota Department of Natural Resources (MDNR) has jurisdiction of the basin area below its ordinary high-water level (OHWL). The MDNR determined by desktop analysis that the IGT-B-3 basin OHWL is 893.0 feet. The NWL, 100-year HWL, and OHWL extents are shown on Figure 3-1.

3.2 Existing Water Management Issues

Single family homes border the south and north shores of the IGT-B-3 basin. Homes along the south shore were constructed between 1985 and 1989 with individual septic systems that drain towards the basin. Homes along the north shore were constructed between 2013 and 2020 and are connected to City sanitary sewer.

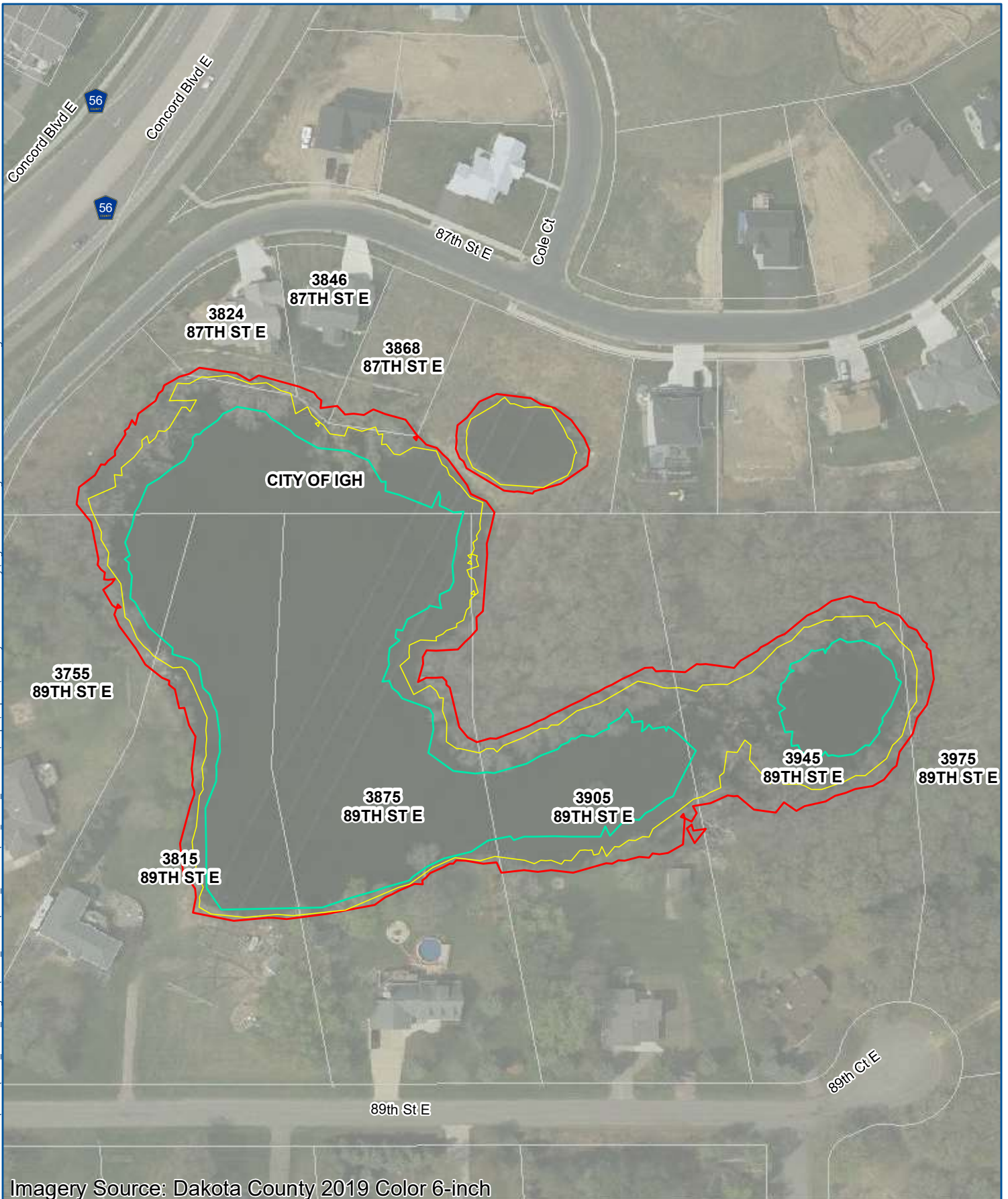
In April 2017, residents of homes on the southeast shore of the IGT-B-3 basin contacted the City Engineering Department to report sustained above-normal water elevations in the basin that they suspected were causing the die-off of trees located on their property. Residents submitted additional reports of above-normal water elevations to City staff during 2019 and 2020.

City staff surveyed the IGT-B-3 basin water elevation at 894.8 feet on April 24, 2019, or 0.6 feet above the 100-year HWL. At that time, City staff determined that no habitable structures were impacted, and no water level management actions were taken. On June 30, 2020, one day after an approximately 5-inch rainfall event, the IGT-B-3 basin water elevation rose to a record surveyed high of 896.5 feet, or 2.3 feet above the 100-year HWL established by the City.

To address homeowner concerns, the City authorized a temporary pumping project to lower the water elevation of the IGT-B-3 basin. The City obtained a temporary water appropriation general permit authorization from the MDNR, which allowed the City to lower the IGT-B-3 basin to its OHWL of 893.0 feet by pumping water from the IGT-B-3 basin to the DP-66 basin, located to the southwest across Old Concord Boulevard. Pumping began on July 17, 2020 and ended on July 23, 2020, when the IGT-B-3 basin water elevation reached 893.0 feet.

A pronounced dry period of lower than average precipitation occurred during late summer and fall of 2020. From mid-August to early December, the IGT-B-3 basin water elevation fell by just over 1 foot, from 892.9 feet to 891.8 feet. This is 0.7 feet above the basin's NWL, and 2.4 feet below its 100-year HWL.

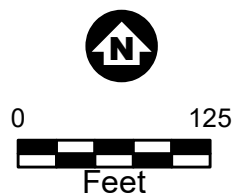
Figure 3-2 shows the extents of recent recorded water elevations.



Imagery Source: Dakota County 2019 Color 6-inch

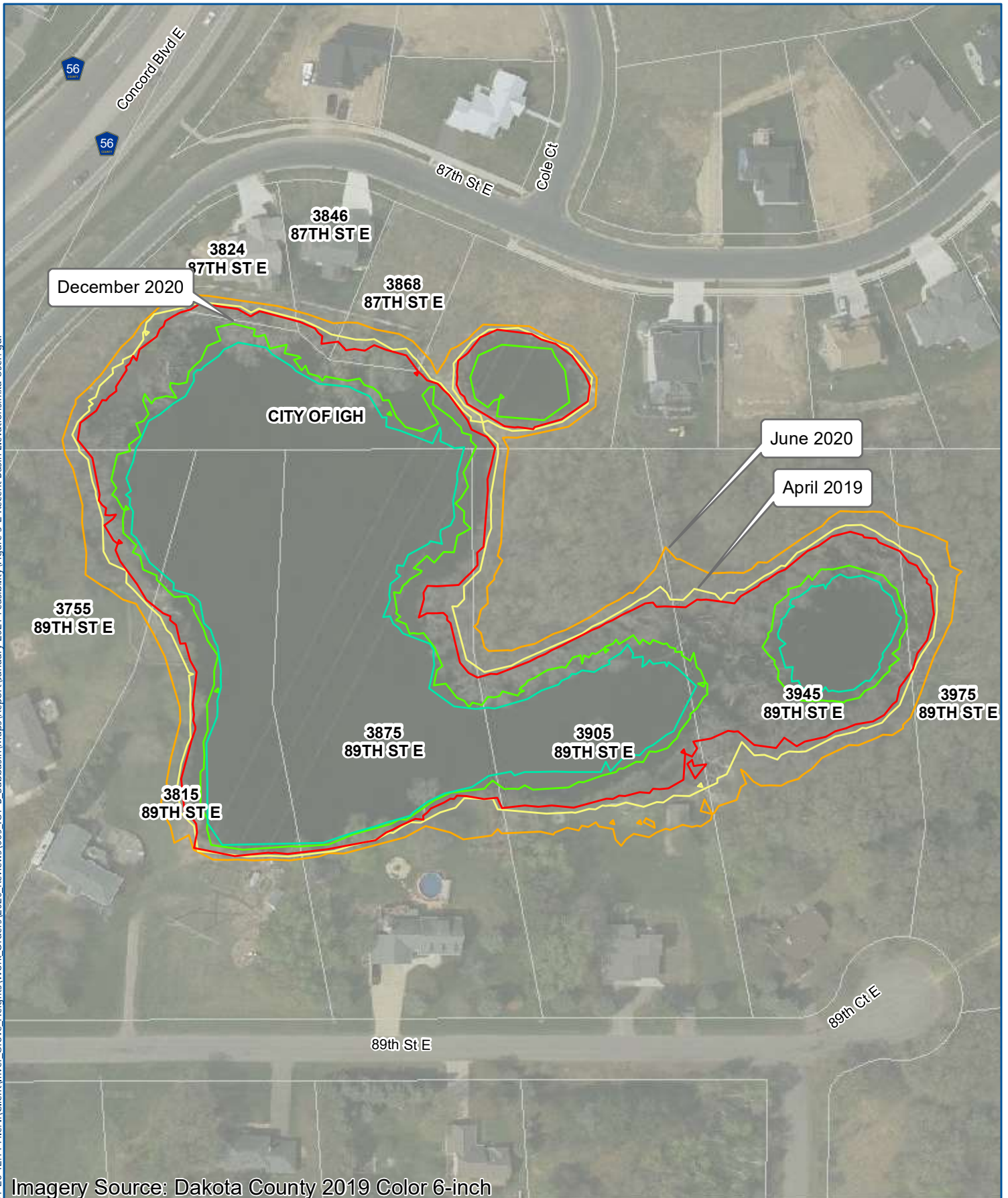


-  Normal Water Level (City WRMP)
-  Ordinary High Water Level (MDNR)
-  100-year High Water Level (City WRMP)
-  Parcels



MANAGEMENT ELEVATIONS
IGT-B-3 Basin Feasibility Study
City Project No. 2021-06
City of Inver Grove Heights

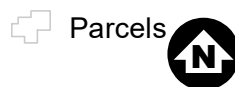
FIGURE 3-1



Imagery Source: Dakota County 2019 Color 6-inch



- Normal Water Level (City WRMP)
- 100-year High Water Level (City WRMP)
- April 2019 (City Survey)
- June 2020 (City Survey)
- December 2020 (City Survey)



0 125
Feet

RECENT BASIN ELEVATIONS
IGT-B-3 Basin Feasibility Study
City Project No. 2021-06
City of Inver Grove Heights

FIGURE 3-2

3.3 Long-term Existing Conditions Hydrologic Simulation

Barr performed a long-term hydrologic simulation of the IGT-B-3 basin and nearby basins to establish baseline conditions for comparing the impacts of water management alternatives. The existing (2020) land use conditions were used as the inputs for a hydrologic model that simulated 40 years of historic daily precipitation and temperature records.

3.3.1 Methodology

Barr used P8 software [4] to perform the existing conditions hydrologic analysis. The model was based on a P8 model that was previously created for the IGT-B-3 Basin Hydrologic Analysis [1]. Barr modified the model by adding additional watersheds to account for the contributing areas to nearby basins. The subwatershed divides and drainage areas are shown in Figure 3-3 and summarized in Table 3-1.

Table 3-1 Modeled Basins and Drainage Areas

Basin Name	Drainage Area (acres)	Total Impervious (%)	Directly Connected Impervious (%)	Comments
IGT-A-5-01	54.347	45.8	44.2	Eastern portion of the IGT-A-5 basin. Can overflow to the east through twin culverts at Inver Grove Trail.
IGT-A-5-02	30.667	36.6	32.1	Western portion of the IGT-A-5 basin. Can overflow to IGT-A-5-01.
IGT-B-2	16.940	10.7	7.0	Includes IGT-B-4 drainage area
IGT-B-3	23.458	33.5	31.3	Includes IGT-B-1 drainage area

The P8 model was used to simulate rainfall and temperature conditions recorded by the National Weather Service monitoring station at the Minneapolis-St Paul Airport for 40 years, beginning October 1, 1979 and ending September 30, 2019 (water years 1980-2019). This timespan includes both extended dry periods and extended wet periods, as well as extreme events such as the July 1987 “superstorm”.

The P8 modeling software does not include routines to simulate evaporation from water surfaces. Therefore, daily surface water inflows to each modeled basin were exported from P8 and used as inputs to a spreadsheet-based water balance model that accounted for evaporation, inflows, outflows, and changes in storage on a daily timestep.

Groundwater interaction with the IGT-B-3 basin was estimated in the hydrologic analysis [1] as a calibration factor; that is, the rate of seepage from the IGT-B-3 basin to groundwater was adjusted to achieve a good “fit” of the simulated IGT-B-3 water elevations to observed data. Barr adjusted the seepage rates slightly compared to the previous study to account for minor changes in model parameters.

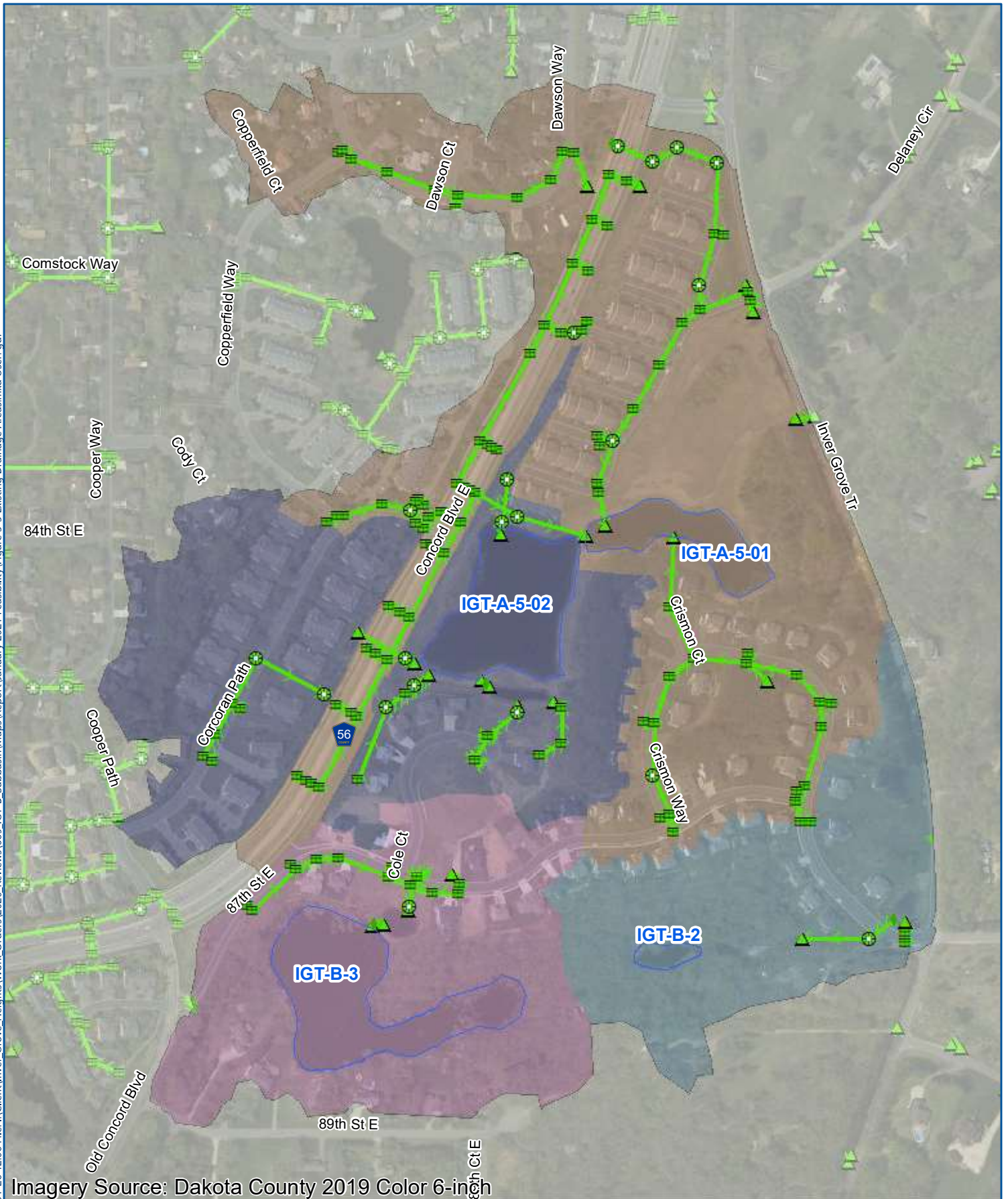
Barr found that applying uniform seepage rates to all the modeled ponds did not produce reasonable results. Therefore, seepage rates for the other ponds were empirically estimated to achieve a reasonable

fit to gross observations based on recent aerial photos. In the absence of detailed monitoring data, accurate seepage rates are difficult to estimate and simulation results should be used with caution. However, these empirical estimates are based on the best available data and are useful for this comparative feasibility study.

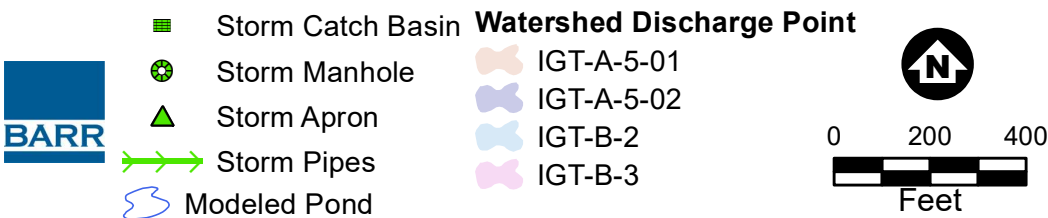
The basin seepage rates are summarized in Table 3-2. As shown in Table 3-2, the seepage rates were reduced to simulate the period after March 31, 2016 to account for higher shallow groundwater conditions during the recent wet period that began in 2014. This assumption was based on model calibration for the IGT-B-3 basin.

Table 3-2 Modeled Basin Seepage Rates

Basin Name	Seepage rate until March 31, 2016 (inches per hour)	Seepage Rate After March 31, 2016 (inches per hour)
IGT-A-5-01	0.100	0.080
IGT-A-5-02	0.015	0.010
IGT-B-2	0.050	0.040
IGT-B-3	0.007	0.004



Imagery Source: Dakota County 2019 Color 6-inch



EXISTING DRAINAGE AREAS
 IGT-B-3 Basin Feasibility Study
 City Project 2021-06
 City of Inver Grove Heights
FIGURE 3-3

3.3.2 Simulation Results

The results for the 40-year existing conditions simulation of the IGT-B-3 basin are shown in Figure 3-4. The simulated water elevations prior to 2011 are consistently higher than the corresponding elevations estimated using aerial photos because the drainage area modeled using 2020 conditions has more impervious surface than was present before 2009, when 87th Street and the Concord Hills development were constructed.

The simulation results for the IGT-A-5-01 basin, the IGT-A-5-02 basin, and the IGT-B-2 basin are shown in Figure 3-5, Figure 3-6, and Figure 3-7, respectively. As shown in the simulation results for all four basins, the 2014-2019 wet period resulted in steadily rising water elevations in all basins compared to the previous years. This is mostly due to the increased precipitation and associated runoff, and partially due to the decreased simulated seepage rates. The July 1987 “superstorm” resulted in a distinct peak water elevation in all four basins. For the two IGT-A-5 basins and the IGT-B-2 basin, the 1987 peak represented the maximum water elevation for the simulation period. For the IGT-B-3 basin, the 1987 peak was equaled near the end of the 2014-2019 wet period.

While the peak water elevation is the critical factor for determining impacts to buildings and infrastructure, the duration of high water is equally important for determining impacts to vegetation such as trees and lawns. Prolonged periods of inundation and soil saturation can kill vegetation that is not adapted for wetland survival by limiting the flow of oxygen to plant roots. Table 3-3 summarizes the peak simulated water elevation, the average simulated water elevation, and the total number of days the water elevation was above the OHWL or the 100-year HWL for the existing conditions simulation.

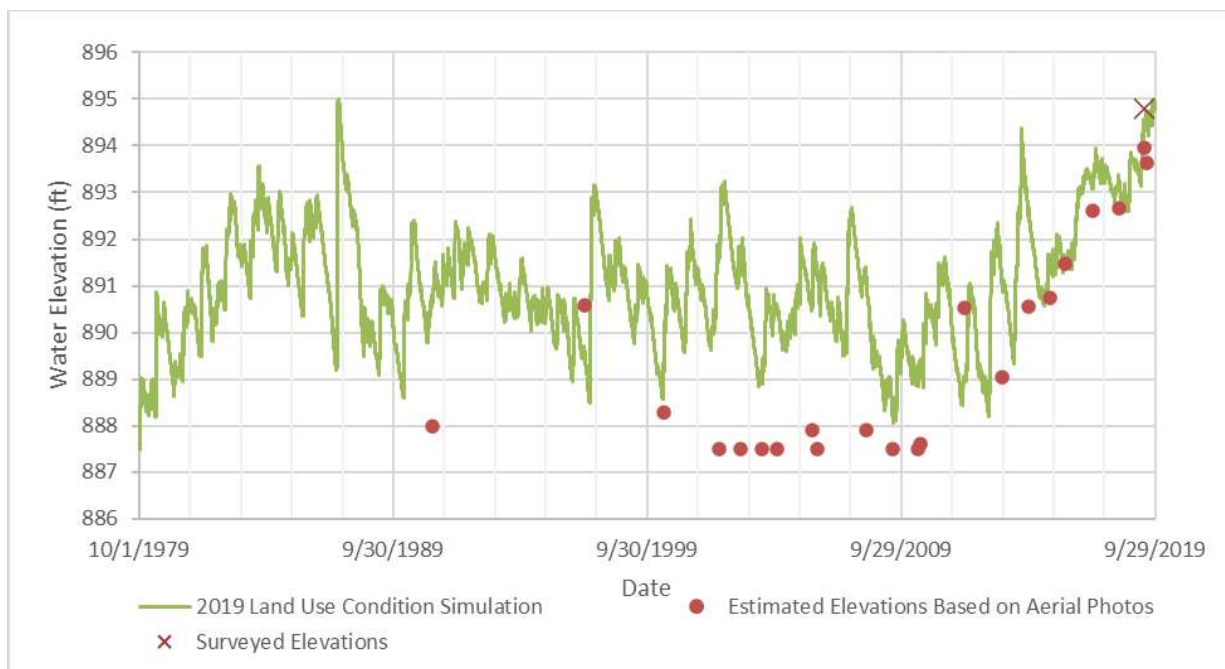


Figure 3-4 Simulated and Observed IGT-B-3 Basin Water Elevations (Water Years 1980-2019)

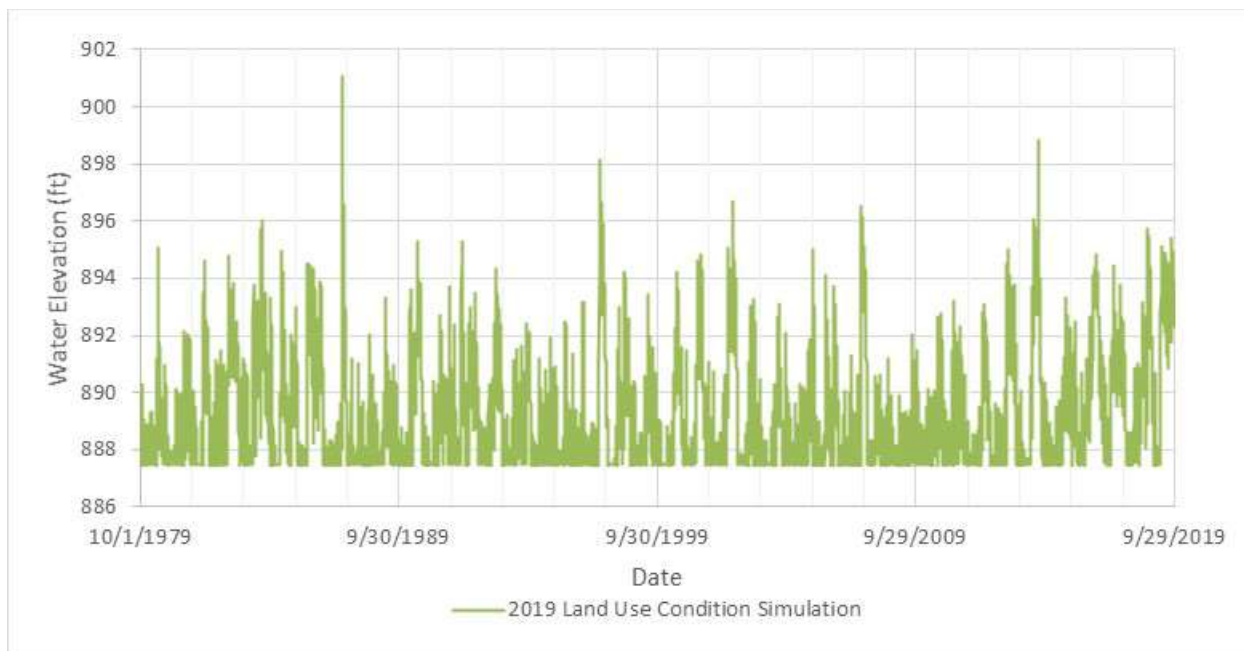


Figure 3-5 Simulated IGT-A-5-01 Basin Water Elevations (Water Years 1980-2019)

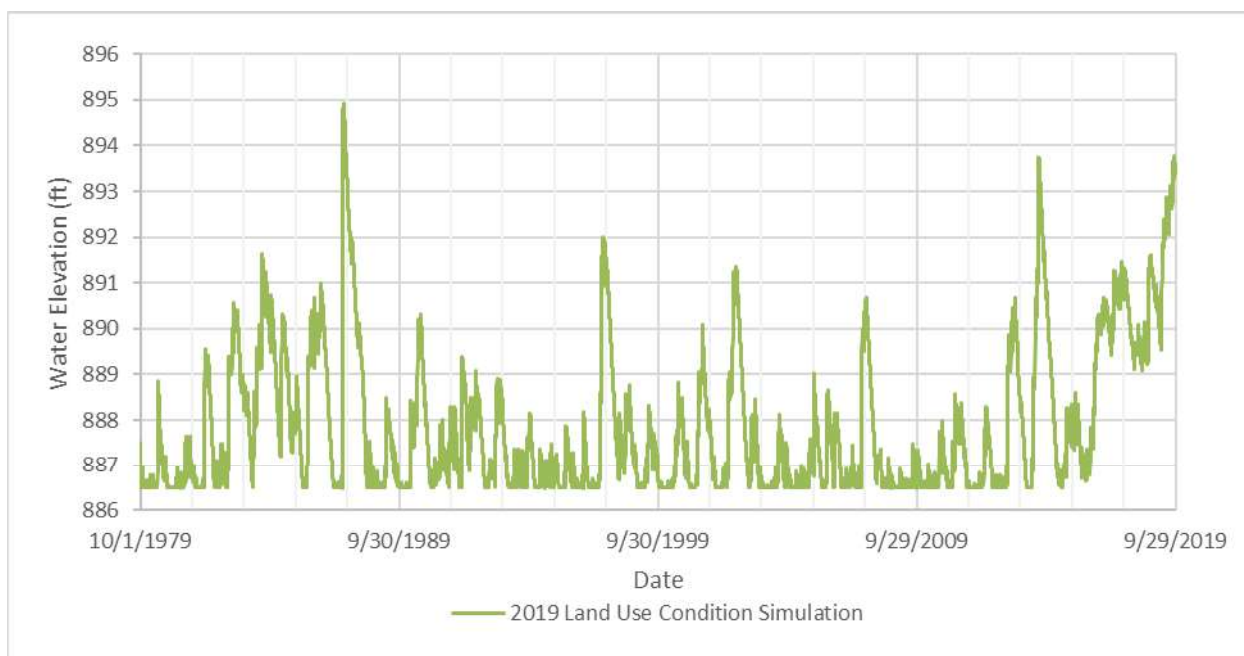


Figure 3-6 Simulated IGT-A-5-02 Basin Water Elevations (Water Years 1980-2019)

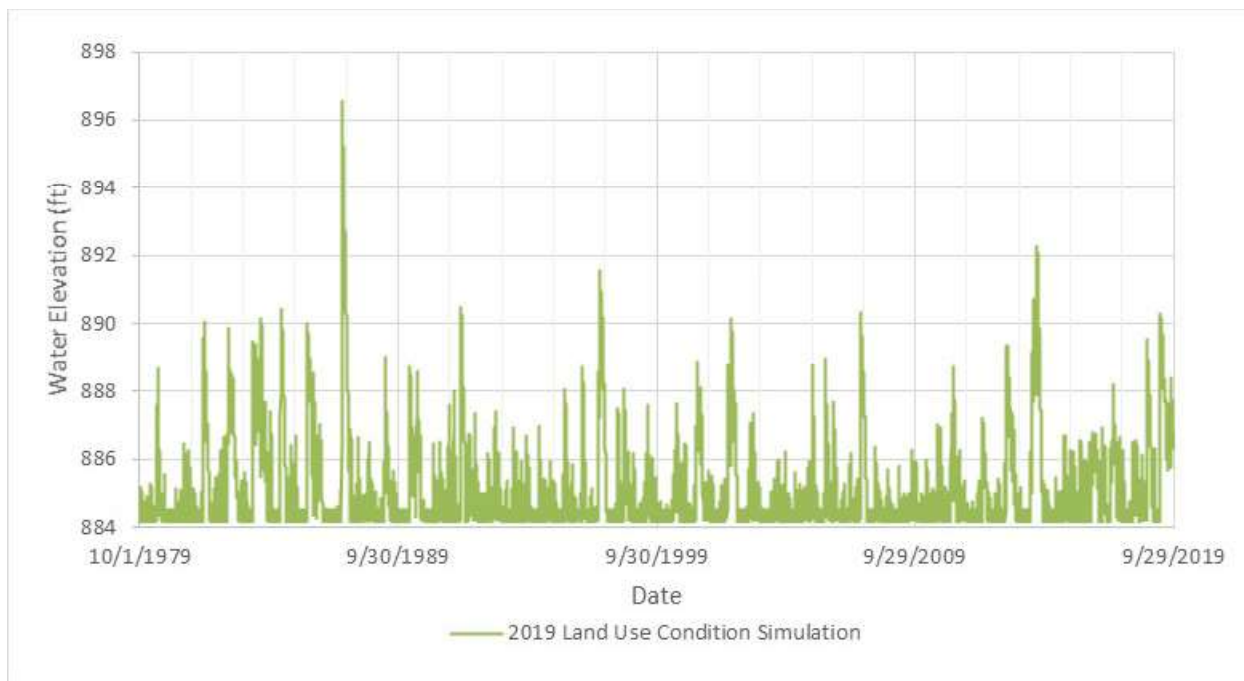


Figure 3-7 Simulated IGT-B-2 Basin Water Elevations (Water Years 1980-2019)

Table 3-3 Existing Conditions Simulation Summary

Basin Name	Average Annual Inflow (acre-ft)	40-Year Average Surface Area (acres)	40-Year Average Water Elevation (ft)	40-Year Peak Water Elevation (ft)	Duration of Water at or above OHWL (days) ¹	Duration of Water at or above 100-year HWL (days) ¹
IGT-A-5-01	66.6	0.9	889.2	901.1	N/A ²	406
IGT-A-5-02	28.7	2.6	887.8	894.9	N/A ²	40
IGT-B-2	8.3	0.3	885.2	896.6	N/A ²	0
IGT-B-3	21.6	3.0	891.0	895.0	1301	265

(1) Number of days over the entire 40-year simulation period

(2) An OHWL has not been established for this basin because it is not classified as an MDNR Public Water.

4.0 Alternatives Evaluation

Barr evaluated several water level management alternatives for the IGT-B-3 basin. The alternatives were selected based on their overall constructability, potential effectiveness, and input received from shoreline property owners and City staff. An overview of the main elements for each alternative is shown in Figure 4-1.

For alternatives that included construction of an IGT-B-3 basin outlet, Barr assumed that the outlet could be constructed to control the basin elevation at 891.5 feet, or 1.5 feet below the MDNR OHWL. This assumption is based on Minnesota Rule 6115.0221, sub2, A.2.b., which states that a lake outlet can be constructed up to 1.5 feet lower than the OHWL if 1) the control is necessary to prevent adverse impact to the lake or adjoining property, and 2) other reasonable or cost-effective alternatives are not available.

Barr estimated potential benefits of the alternatives by modeling them in P8 and comparing the results generated in the water balance spreadsheet to the existing conditions. Barr estimated planning level construction costs of the alternatives using estimated quantities along with unit costs from recent bid tabs for similar projects.

4.1 Alternative Descriptions

4.1.1 Alternative 1 – Re-grade Concord Hills Rainwater Garden

This alternative would re-grade the existing rainwater garden (RWG) located northeast of the intersection of Cole Ct and 87th Street which is known as “Basin 2” on the Concord Hills record plans (Appendix A). Under current conditions, there is a rise in the middle of the RWG. The proposed grading would result in a flat bottom at elevation 913.0 with 4:1 side-slopes around the perimeter. No retaining wall would be included.

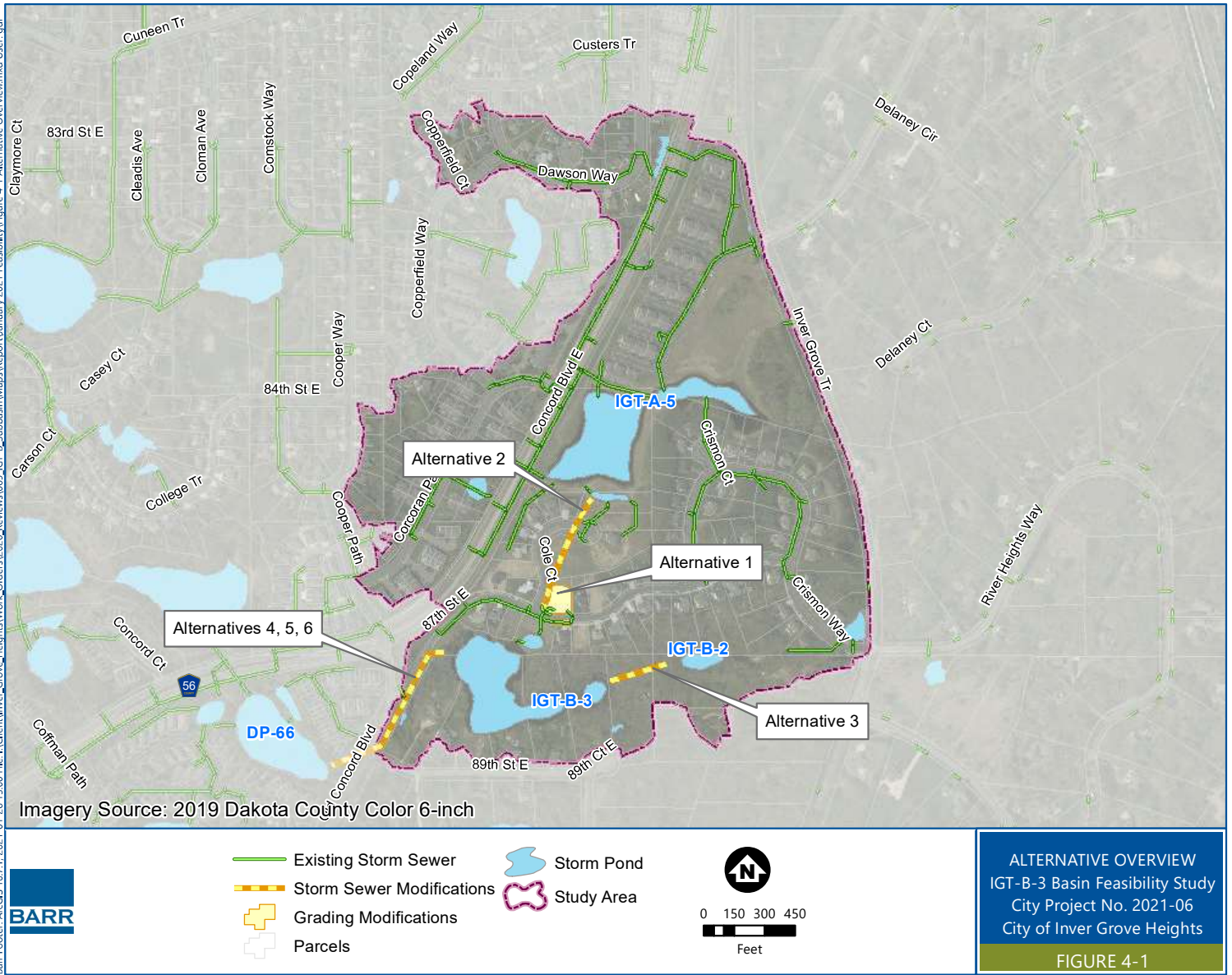
To maximize the infiltration volume, additional changes to the RWG and the existing storm sewer pipes, catch basins (CBs) and catch basin manholes (CBMHs) would include:

- Removing the existing drain tile that discharges to CB111.
- Bulkheading the existing 15-inch pipe between CBMH113 and CBMH112.
- Installing an overflow outlet pipe between the RWG and CB111 at elevation 914.5 to control the maximum drawdown depth at 1.5 ft.

4.1.2 Alternative 2 – Reroute 87th Street Stormwater Runoff from IGT-B-3 Basin to IGT-A-5-02 Basin

This alternative would construct a 14-inch gravity high density polyethylene (HDPE) storm sewer between 87th Street and the sedimentation basin located north of Cole Court., which is known as “Basin 4” on the Concord Hills record plans. The new storm sewer would be directionally drilled because the existing high ground elevations between 87th Street and Basin 4 make open cut construction unfeasible. The new storm sewer would discharge directly to Basin 4 at a flared end outlet.

Barr Footer: ArcGIS 10.7.1, 2021-01-26 13:00 File: I:\Client\Inver Grove Heights\Work Orders\2020_Reviews\IGT-B-3 Subbasin\Maps\Report\January 2021 Feasibility\Figure 4-1 Alternative Overview.mxd User: gdf



ALTERNATIVE OVERVIEW
IGT-B-3 Basin Feasibility Study
City Project No. 2021-06
City of Inver Grove Heights

FIGURE 4-1

Due to the relatively low elevation of the existing 87th Street storm sewer system located west of Cole Court, modifications would need to be made to the existing storm sewer system to re-direct runoff into the newly constructed pipe. These modifications would include:

- Reconstructing CBMH102 with an invert elevation of 903.0 and an internal weir wall with crest 911.0.
- Connecting the upstream end of the new storm sewer to the reconstructed CBMH102 on the “upstream” (west) side of the internal weir wall.
- Connecting the existing storm sewer between CBMH102 and the sedimentation basin adjacent to the IGT-B-3 basin (“Pond 1” on the Concord Hills record plans) on the downstream side of the internal weir wall.
- Reconnecting the existing pipe between CB111 and CBMH102 on the upstream side of the weir wall.
- Reconnecting the existing pipe between CBMH112 and CBMH102 on the upstream side of the weir wall

4.1.3 Alternative 3 – Construct a Gravity Outlet from IGT-B-3 Basin to IGT-B-2 Basin

This alternative would construct an outlet control structure (OCS) in the IGT-B-3 basin with a 14-inch diameter HDPE gravity outlet pipe to the IGT-B-2 basin. The OCS would be a drop structure with a rim set at elevation 891.5, 1.5 feet below the OHWL of 893.0. To preserve the existing extensive tree cover between the two ponds, directional drilling would be used to install approximately 300 ft of HDPE between the east end of the IGT-B-3 basin and the west end of the IGT-B-2 basin.

4.1.4 Alternative 4 – Construct a Gravity Outlet from IGT-B-3 Basin to DP-66 Basin

This alternative would construct an outlet control structure (OCS) in the IGT-B-3 basin with a 14-inch diameter HDPE gravity outlet pipe discharging under Old Concord Boulevard to the DP-66 basin. The OCS would be a drop structure with a rim set at elevation 891.5, 1.5 feet below the OHWL of 893.0. Due to high existing ground elevations between the two ponds, directional drilling would be used to install approximately 900 ft of HDPE between the west end of the IGT-B-3 basin and the east end of the DP-66 basin.

The DP-66 basin has an existing gravity outlet that discharges to the west under Concord Boulevard. From that point, water flows through a series of ponds and channels to a pond that is equipped with a permanent pumping station owned and operated by the City.

4.1.5 Alternative 5 – Construct Permanent Pump Station and Force Main from IGT-B-3 Basin to DP-66 Basin

This alternative would construct a permanent pump station on City-owned land at the IGT-B-3 basin and an 8-inch diameter HDPE force main between the pump station and the DP-66 basin, crossing under Old Concord Boulevard. Barr assumed that the force main could be installed using open trenching.

4.1.6 Alternative 6 – Temporary Pumping to DP-66 Basin

This alternative would include mobilizing a pumping contractor for a temporary pumping project. As was done for the July 2020 project, the pump would discharge to the DP-66 basin through a flexible hose that extended from the IGT-B-3 basin and across Old Concord Boulevard. The City would likely need to establish an “action elevation” for initiating a pumping project.

4.2 Alternative Modeling Summary

Barr modeled Alternatives 1 through 5 using the P8 and water balance methodology described in Section 3.3.1. Alternative 6 was not explicitly modeled because the timing of a temporary pumping project would be variable depending on permitting, contracting, and set-up processes.

For alternatives that included a gravity outlet or permanent pump station, Barr used a rating curve in the water balance spreadsheet to model the daily average discharge rate for given starting water elevations. Barr calculated the rating curve based on an hourly time step using the minimum of either weir flow over a 48-inch diameter OCS rim or pipe flow through a 14-inch diameter HDPE pipe. The maximum simulated daily average flow rate for the 40-year simulation period was 3.2 cubic feet per second (cfs), which is equivalent to an approximately 1,500 gallons per minute (gpm) pump station.

The simulation results for the IGT-B-3 basin are summarized in Table 4-1. Alternative 2 resulted in the largest reduction in days above the 100-year HWL, while Alternatives 3, 4, and 5 resulted in the largest reduction in days above the OHWL. However, Alternative 3 resulted in significant increases in the average elevation, 40-year peak elevation, and duration of 100-year HWL exceedance for the IGT-B-2 basin (Table 4-2). None of the alternatives affected the hydraulics of the IGT-A-5-01 basin (Table 4-3), while Alternative 2 resulted in minor increases to the average elevation and 40-year peak elevations of the IGT-A-5-02 basin (Table 4-4).

Table 4-1 Water Management Alternative Modeling Summary for IGT-B-3 Basin

Simulation	Average Annual Inflow (acre-ft)	40-Year Average Surface Area (acres)	40-Year Average Water Elevation (ft)	40-Year Peak Water Elevation (ft)	Duration of Water at or above OHWL ¹ (days) ²	Duration of Water at or above 100-year HWL ³ (days) ²
Existing	21.6	3.0	891.0	895.0	1301	265
Alternative 1 Re-grade RWG	20.3	2.8	890.8	894.8	836	174
Alternative 2 Divert Runoff to IGT-A-5-02	17.4	2.4	890.3	894.0	274	0
Alternative 3 Gravity Outlet to IGT-B-2	21.6	2.5	890.4	894.3	3	1
Alternative 4/5 ⁴ Gravity/Pump Outlet to DP-66	21.6	2.5	890.4	894.3	3	1

(1) The OHWL elevation for the IGT-B-3 basin is 893.0 feet

(2) Number of days over the entire 40-year simulation period

(3) The 100-year HWL elevation for the IGT-B-3 basin is 894.2 feet

(4) Alternatives 4 and 5 result in the same impacts because they operate identically with respect to the model

Table 4-2 Water Management Alternative Modeling Summary for IGT-B-2 Basin

Simulation	Average Annual Inflow (acre-ft)	40-Year Average Surface Area (acres)	40-Year Average Water Elevation (ft)	40-Year Peak Water Elevation (ft)	Duration of Water at or above OHWL ¹ (days) ²	Duration of Water at or above 100-year HWL ³ (days) ²
Existing	8.3	0.3	885.2	896.6	N/A ¹	50
Alternative 1 Re-grade RWG	8.3	0.3	885.2	896.6	N/A ¹	50
Alternative 2 Divert Runoff to IGT-A-5-02	8.3	0.3	885.2	896.6	N/A ¹	50
Alternative 3 Gravity Outlet to IGT-B-2	11.8	0.4	885.7	899.0	N/A ¹	334
Alternative 4/5 ⁴ Gravity/Pump Outlet to DP-66	8.3	0.3	885.2	896.6	N/A ¹	50

(1) An OHWL has not been established for this basin because it is not classified as an MDNR Public Water Wetland

(2) Number of days over the entire 40-year simulation period

(3) The 100-year HWL for the IGT-B-2 basin is 892.1 feet

(4) Alternatives 4 and 5 result in the same impacts because they operate identically with respect to the model

Table 4-3 Water Management Alternative Modeling Summary for IGT-5-A-01 Basin

Simulation	Average Annual Inflow (acre-ft)	40-Year Average Surface Area (acres)	40-Year Average Water Elevation (ft)	40-Year Peak Water Elevation (ft)	Duration of Water at or above OHWL ¹ (days) ²	Duration of Water at or above 100-year HWL ³ (days) ²
Existing	66.6	0.9	889.2	901.1	N/A ¹	4
Alternative 1 Re-grade RWG	66.6	0.9	889.2	901.1	N/A ¹	4
Alternative 2 Divert Runoff to IGT-5-02	66.6	0.9	889.2	901.1	N/A ¹	4
Alternative 3 Gravity outlet to IGT-B-2	66.6	0.9	889.2	901.1	N/A ¹	4
Alternative 4/5 ⁴ Gravity/Pump outlet to DP-66	66.6	0.9	889.2	901.1	N/A ¹	4

(1) An OHWL has not been established for this basin because it is not classified as an MDNR Public Water Wetland

(2) Number of days over the entire 40-year simulation period

(3) The 100-year HWL elevation for the IGT-A-5 basin is 897.2 feet

(4) Alternatives 4 and 5 result in the same impacts because they operate identically with respect to the model

Table 4-4 Water Management Alternative Modeling Summary for IGT-5-A-02 Basin

Simulation	Average Annual Inflow (acre-ft)	40-Year Average Surface Area (acres)	40-Year Average Water Elevation (ft)	40-Year Peak Water Elevation (ft)	Duration of Water at or above OHWL ¹ (days) ²	Duration of Water at or above 100-year HWL ³ (days)
Existing	28.7	2.6	887.8	894.9	N/A ¹	0
Alternative 1 Re-grade RWG	28.7	2.6	887.8	894.9	N/A ¹	0
Alternative 2 Divert Runoff to IGT-A-5-02	31.8	2.7	888.3	895.8	N/A ¹	0
Alternative 3 Gravity Outlet to IGT-B-2	28.7	2.6	887.8	894.9	N/A ¹	0
Alternative 4/5 ⁴ Gravity/Pump Outlet to DP-66	28.7	2.6	887.8	894.9	N/A ¹	0

(1) An OHWL has not been established for this basin because it is not classified as an MDNR Public Water

(2) Number of days over the entire 40-year simulation period

(3) The 100-year HWL for the IGT-A-5 basin is 897.2 feet

(4) Alternatives 4 and 5 result in the same impacts because they operate identically with respect to the model

4.3 Concept-Level Opinion of Probable Construction Cost

Barr prepared a concept-level opinion of probable cost for all six scenarios. Table 4-5 summarizes the results. Supporting information for the opinion of probable cost is included in Appendix B.

Table 4-5 Concept-Level Opinion of Probable Construction Cost

Alternative	Cost Estimate and Range ^{1,2,3} (\$)	Potential Easements
Alternative 1 Re-grade RWG	\$65,000 (\$52,000 - \$98,000)	None
Alternative 2 Divert Runoff to IGT-A-5-02	\$459,000 (\$368,000 - \$689,000)	Permanent easement over gravity storm sewer
Alternative 3 Gravity Outlet to IGT-B-2	\$230,000 (\$184,000 - \$345,000)	Permanent easement over gravity storm sewer
Alternative 4/5 Gravity Outlet to DP-66	\$545,000 (\$436,000 - \$818,000)	Permanent easement over gravity storm sewer
Alternative 5 Pump Outlet to DP-66 ⁴	\$488,000 (\$391,000 - \$732,000)	Permanent easement over force main storm sewer
Alternative 6 Temporary Pumping	\$33,000 (\$27,000 - \$50,000)	Permanent easement for access

- (1) Approximate values based on available information. The accuracy range for the estimated construction cost as the project is currently defined is -20% to + 50%
- (2) Rounded to the nearest \$1,000
- (3) Does not include easement acquisition costs
- (4) Operations and maintenance costs are not included in this estimate.

5.0 Financing

If the City selects a preferred construction option, several options could be used to finance construction. Potential financing options could include special assessments, the City's Stormwater Utility Fund, the establishment of a watershed management taxing district, alone or in combination. These financing options are described in more detail below.

Special Assessment

A special assessment in accordance with Minnesota Statute Chapter 429 could be applied to benefitted properties. Special assessments are used by municipalities to improve public facilities, including ponds and storm sewer systems. The cost of any improvement may be assessed upon property benefitted by the improvement, based on the benefit received, whether or not the property abuts on the improvement [5]. The City could issue bonds to pay for the improvements. If bonding is used, special assessments must be used to fund a minimum of 20 percent of the project costs.

The benefitted area could be defined as the contributing area to the IGT-B-3 basin, which includes 29 parcels, plus public right of way (ROW). Approximately 4.4 acres of the IGT-B-3 basin that lies below the OHWL of 893.0 feet could potentially be omitted from assessment calculations since the inundated area itself is not benefitted. The benefitted area is summarized in Table 5-1.

Table 5-1 Benefitted Area Property Ownership

Parcel Ownership	Benefitted Area, Not Including Area Below OHWL (acres, % of total)	Benefitted Area, Including Area Below OHWL (acres, % of total)
Public Right of Way	3.18 (16.64%)	3.18 (13.54%)
City of Inver Grove Heights	1.55 (8.11%)	2.24 (9.54%)
Private	14.38 (75.25%)	18.06 (76.92%)
TOTAL	19.11 (100%)	23.48 (100%)

Stormwater Utility Fund

The Stormwater Utility Fund is funded by collections from all properties within the City and is more typically used for high priority projects which are required to maintain the existing stormwater utility system. Because this project could involve constructing a new part of the stormwater utility system, it may not be considered eligible for financing through the Stormwater Utility Fund.

Watershed Management Tax District

A watershed management tax district could be established in accordance with Minnesota Statute 103B.245. Watershed management tax districts may be used to pay for watershed planning and for capital costs of water management facilities described in the capital improvement program of the plans [6].

The process to establish a watershed management tax district would require some City time and expense. However, through this process the City could collect taxes to cover construction costs without the 20% minimum special assessment that is required for bonding under Chapter 429.

6.0 Recommendations

Prolonged high water conditions in the IGT-B-3 basin recently inundated vegetation and trees on adjacent private property. The recent conditions were primarily caused by a multi-year period of above-normal annual rainfall, which was exacerbated by an increase in impervious cover within the drainage area. Although the recent wet period represented the highest six-year rainfall depth on record, it is not currently known whether this is an isolated weather anomaly or a reflection of ongoing climate change that is likely to be repeated.

This evaluation showed that several water management alternatives could effectively lower both the peak water elevations and duration of inundation above the OHWL or 100-year HWL management elevations. The evaluation results provide a starting point for the City to consider the costs and benefits of constructing one or more of the alternatives.

Based on the evaluation of the existing conditions and alternatives, Barr recommends the following:

- The MDNR should be approached to determine the process for permitting an outlet elevation of 891.5 for the IGT-B-3 basin, 1.5 feet below the OHWL of 893.0. As shown in Figure 3-1, there is a significant difference in the area inundated at a water elevation of 893.0 compared to a water elevation of 891.5, while there is essentially no difference in the cost of constructing the outlet for Alternative 3, 4 or 5.
- The MDNR should be approached to determine the process for permitting a temporary pumping project that would lower the IGT-B-3 basin water elevation below the OHWL of 893.0 (Alternative 6).
- The City should explore obtaining drainage easements for drainage utilities that would be needed for Alternatives 4 or 5.
- Alternative 1 (re-grading the Concord Hills RWG located north of 87th Avenue) should be eliminated as an alternative for water level management, as it has limited benefit for the IGT-B-3 basin. Furthermore, water infiltrated in the RWG is likely to move down-gradient towards the IGT-B-3 basin where it would contribute to high water conditions.
- Alternative 3 (gravity outlet to IGT-B-2) should be eliminated as an alternative for water level management, as it would result in significant increases in the average elevation, 40-year peak elevation, and duration of 100-year HWL exceedance in the IGT-B-2 basin.
- Alternative 4 (gravity outlet to DP-66) appears to be the most viable alternative to provide a permanent, low-maintenance solution for water level management, based on the following comparisons:
 - Alternative 2 provides less benefit than Alternative 4 for the duration of inundation above the OHWL, at a cost that is only slightly lower.
 - Alternative 3 would provide similar benefits to Alternative 1 but would result in undesirable impacts to the IGT-B-2 basin, which is also landlocked, in contradiction to City policy that contributing area to landlocked basins should not be increased.

-
- Alternative 5 (pump outlet to DP-66) would provide similar benefits to Alternative 4 but would result in annual operations and maintenance costs (not included in the construction cost analysis).
 - Alternative 6 (temporary pumping to DP-66) is potentially the least expensive alternative but would require more active management by City staff than Alternative 4. Also, the overall cost would be dependent on the pumping frequency. Based on the existing conditions analysis, if the 100-year HWL was used as the action elevation, pumping would have been initiated three times over a 40-year period. However, if future climate conditions bring heavier annual rainfall, the pumping frequency could increase.
- If Alternative 6 is chosen, the City should explore obtaining a permanent easement for access to the portable pump location.
 - If Alternative 6 is chosen, the City should establish a water level management plan for IGT-B-3 that conforms to a formal policy for water level management on landlocked basins in the city.
 - Further study of utilities between the IGT-B-3 basin and the DP-66 basin should be completed to identify potential utility conflicts that could make Alternative 4 unfeasible or more costly.
 - No action should be taken concerning water level control for basin IGT-B-3 until the City Council approves a formal policy for water level management on landlocked basins in the city. A draft policy is currently being developed.

7.0 References

- [1] Barr Engineering Co., "IGT-B-3 Basin Hydrologic Analysis Technical Memorandum," 2020.
- [2] TKDA, "Review of the proposed Summit Pines Development," 2005.
- [3] Barr Engineering Co., "Second Generation Water Resources Managment Plan," City of Inver Grove Heights, Minnesota, 2008.
- [4] W. Walker, "P8 Urban Catchment Model - Program Documentation, DOS Version 1.1," 1990.
- [5] *Minnesota Statutes 2020, section 429.051.*
- [6] *Minnesota Statutes 2020, section 103B.245, subdivision 1.*

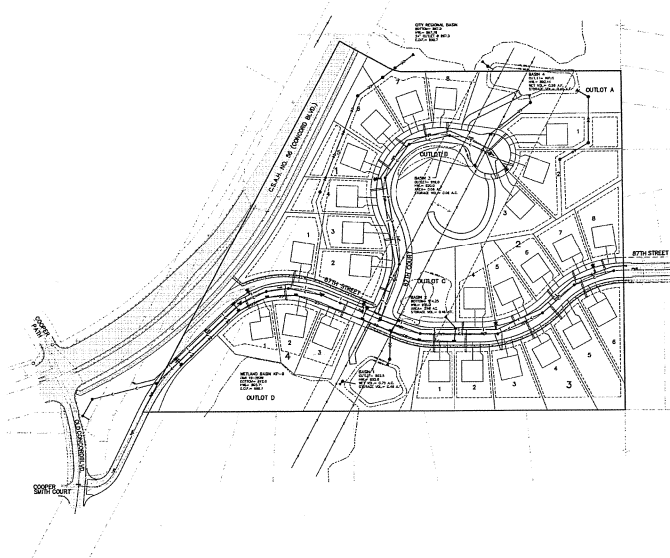
Appendix A

Concord Hills Record Plans

CONCORD HILLS

FINAL CONSTRUCTION PLANS

INVER GROVE HEIGHTS, MINNESOTA

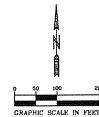


SHEET INDEX

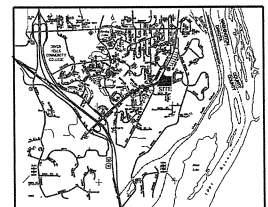
1. COVER SHEET
2. SANITARY SEWER & WATERMAIN
3. SANITARY SEWER & WATERMAIN
4. SANITARY SEWER & WATERMAIN
5. STORM SEWER
6. STORM SEWER
7. STORM SEWER
8. STREET CONSTRUCTION
9. STREET CONSTRUCTION
10. STREET CONSTRUCTION
11. DETAILS
12. DETAILS
13. DETAILS

- G-1. GRADING PLAN
- G-2. GRADING PLAN
- G-3. EROSION CONTROL PLAN
- G-4. RETAINING WALL PLAN
- G-5. GRADING DETAILS
- G-6. RAINGARDEN DETAIL

- L1-L2. LANDSCAPE PLANS
- TR1-TR2. TREE INVENTORY



BENCHMARK
TIN NE QUAD, CONCORD BOULEVARD
AT CHASE AVENUE, ELEV= 921.35



LOCATION MAP
RECORD PLAN 12-18-09

The information on this plan was obtained from the best available sources, including the City of Inver Grove Heights, Minnesota, and the City of Inver Grove Heights, Minnesota. The information is provided for your information only and is not intended to be used for any other purpose. The information is provided for your information only and is not intended to be used for any other purpose.

For details of existing developed areas, refer to the record map. The extent of the project shown on this map is subject to change. The right to make zoning, development, and other changes for any project is the prerogative of the City of Inver Grove Heights, Minnesota.

The developer reserves the right to change the plans without further notice. Subject to City and all Government approvals.

PIONEER engineering
3422 Riverside Drive
Minneapolis, MN 55412
Tel: 612-555-1111
Fax: 612-555-1112
www.pioneereng.com

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

Project: CONCORD HILLS
City: INVER GROVE HEIGHTS, MN
Date: 12-18-09

Sheet: 1 of 13
Title: COVER SHEET

COVER SHEET

DANNER LIMITED PARTNERSHIP
800 BAKEMAN AVENUE SOUTH
SOUTH SAINT PAUL, MINNESOTA 55105

CONCORD HILLS
INVER GROVE HEIGHTS, MINNESOTA

1 of 13

© 2009 Pioneer Engineering

* } DROP WATER SERVICE
* } BELOW STORM SEWER.
* } PROVIDE 4" RIDGID INSULATION
* } BETWEEN WATER SERVICE AND
* } STORM SEWER PER CITY OF
* } INVER GROVE HEIGHTS
* } STANDARD PLATE MISC. 02.

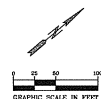


- BENCHMARK
TINH NE QUAD, CONCORD BOULEVARD
AT CAULFIELD AVE. ELEM. 031.33



of 13

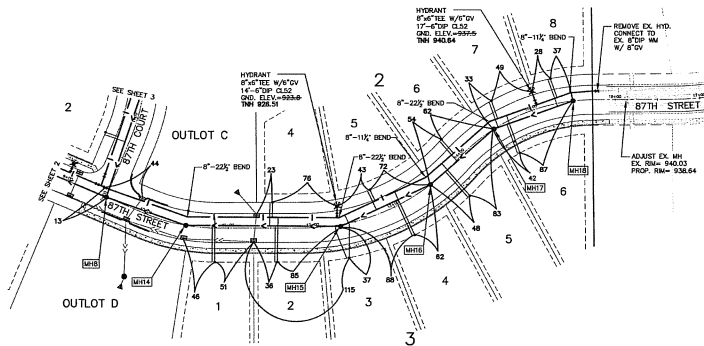
* } DROP WATER SERVICE
* } BELOW STORM SEWER.
* } PROVIDE 4" RIGID INSULATION
* } BETWEEN WATER SERVICE AND
* } STORM SEWER PER CITY OF
* } INVER GROVE HEIGHTS
* } STANDARD PLATE MISC. 02.



2. SANITARY SEWER SERVICE VESSELS ARE STATIONED FROM DOWNSTREAM MANHOLES TO THE POINT OF ENTRY TO THE SERVICE'S SINK TERMINATE AT THE ROW, OR 10' PAST SERVICE'S PRESENT LOCATION.
3. ALL SANITARY SEWER SERVICES SHALL BE 4" P.V.C. (SDR 35) UNLESS OTHERWISE NOTED, AND SHALL BE 10' MIN. DEPTH FROM THE SERVICE'S SINK TO 3' UPSTREAM FROM THE SERVICE'S SINK WITH A MIN. 1% SLOPE. ALL WATER SERVICES SHALL BE 1" (7" MIN.) DEPTH FROM THE SERVICE'S SINK TO 3' UPSTREAM FROM THE SERVICE'S SINK.
4. ALL S.P.W. WATER MAINS SHALL BE CLASS 5 UNLESS OTHERWISE NOTED.
5. ALL 12" OR LARGER WATER MAIN IN STREET.
6. SANITARY SEWER SERVICES AND SERVICE VESSELS 4" P.V.C. (SDR 35) SHALL BE 10' DEPTH FROM THE SERVICE'S SINK TO 3' UPSTREAM FROM THE SERVICE'S SINK.
7. ALL UTILITY CONDUITS SHALL BE RECESSED TO THE STANDARD 18" MIN. DEPTH.
8. CONTRACTOR IS RESPONSIBLE FOR ALL TRONC DESIGN AND MEETING ALL ODEA REGULATIONS.
9. SANITARY SEWER SERVICE VESSELS SHALL BE VERTICAL SEPARATION BETWEEN SANITARY SEWER AND WATERMAIN.
10. SEPARATION BETWEEN TRONC ELEVATIONS ARE AT END OF SERVICE.
11. ACTIVATION OF WATERMAIN SYSTEM SHALL BE APPROVED BY CITY ENGINEER. ALL COLLECTION TESTING FOR ALL NON-ROW-RIP SHALL BE 10' DEPTH FROM THE SERVICE'S SINK TO 3' UPSTREAM FROM THE SERVICE'S SINK FOR 30 DAYS.
12. ALL WATER MAINS SHALL BE RECESSED TO THE PRESSURE AND LEAKAGE TESTING REQUIREMENTS FOR ALL WATER MAINS.

BLK. NO.	LOT NO.	STATION	MANHOLE	PIPE	SIZE	DEPTH	TOP	CL. ELEV.
BLK. 1	1	MH1	11.45	11.45	11.45	11.45	11.45	11.45
2	MH2	11.45	11.45	11.45	11.45	11.45	11.45	11.45
3	MH3	11.45	11.45	11.45	11.45	11.45	11.45	11.45
4	MH4	11.45	11.45	11.45	11.45	11.45	11.45	11.45
5	MH5	11.45	11.45	11.45	11.45	11.45	11.45	11.45
6	MH6	11.45	11.45	11.45	11.45	11.45	11.45	11.45
7	MH7	11.45	11.45	11.45	11.45	11.45	11.45	11.45
8	MH8	11.45	11.45	11.45	11.45	11.45	11.45	11.45
9	MH9	11.45	11.45	11.45	11.45	11.45	11.45	11.45
10	MH10	11.45	11.45	11.45	11.45	11.45	11.45	11.45
11	MH11	11.45	11.45	11.45	11.45	11.45	11.45	11.45
12	MH12	11.45	11.45	11.45	11.45	11.45	11.45	11.45
13	MH13	11.45	11.45	11.45	11.45	11.45	11.45	11.45
14	MH14	11.45	11.45	11.45	11.45	11.45	11.45	11.45
15	MH15	11.45	11.45	11.45	11.45	11.45	11.45	11.45
16	MH16	11.45	11.45	11.45	11.45	11.45	11.45	11.45
17	MH17	11.45	11.45	11.45	11.45	11.45	11.45	11.45
18	MH18	11.45	11.45	11.45	11.45	11.45	11.45	11.45
19	MH19	11.45	11.45	11.45	11.45	11.45	11.45	11.45
20	MH20	11.45	11.45	11.45	11.45	11.45	11.45	11.45
21	MH21	11.45	11.45	11.45	11.45	11.45	11.45	11.45
22	MH22	11.45	11.45	11.45	11.45	11.45	11.45	11.45
23	MH23	11.45	11.45	11.45	11.45	11.45	11.45	11.45
24	MH24	11.45	11.45	11.45	11.45	11.45	11.45	11.45
25	MH25	11.45	11.45	11.45	11.45	11.45	11.45	11.45
26	MH26	11.45	11.45	11.45	11.45	11.45	11.45	11.45
27	MH27	11.45	11.45	11.45	11.45	11.45	11.45	11.45
28	MH28	11.45	11.45	11.45	11.45	11.45	11.45	11.45
29	MH29	11.45	11.45	11.45	11.45	11.45	11.45	11.45
30	MH30	11.45	11.45	11.45	11.45	11.45	11.45	11.45
31	MH31	11.45	11.45	11.45	11.45	11.45	11.45	11.45
32	MH32	11.45	11.45	11.45	11.45	11.45	11.45	11.45
33	MH33	11.45	11.45	11.45	11.45	11.45	11.45	11.45
34	MH34	11.45	11.45	11.45	11.45	11.45	11.45	11.45
35	MH35	11.45	11.45	11.45	11.45	11.45	11.45	11.45
36	MH36	11.45	11.45	11.45	11.45	11.45	11.45	11.45
37	MH37	11.45	11.45	11.45	11.45	11.45	11.45	11.45
38	MH38	11.45	11.45	11.45	11.45	11.45	11.45	11.45
39	MH39	11.45	11.45	11.45	11.45	11.45	11.45	11.45
40	MH40	11.45	11.45	11.45	11.45	11.45	11.45	11.45
41	MH41	11.45	11.45	11.45	11.45	11.45	11.45	11.45
42	MH42	11.45	11.45	11.45	11.45	11.45	11.45	11.45
43	MH43	11.45	11.45	11.45	11.45	11.45	11.45	11.45
44	MH44	11.45	11.45	11.45	11.45	11.45	11.45	11.45
45	MH45	11.45	11.45	11.45	11.45	11.45	11.45	11.45
46	MH46	11.45	11.45	11.45	11.45	11.45	11.45	11.45
47	MH47	11.45	11.45	11.45	11.45	11.45	11.45	11.45
48	MH48	11.45	11.45	11.45	11.45	11.45	11.45	11.45
49	MH49	11.45	11.45	11.45	11.45	11.45	11.45	11.45
50	MH50	11.45	11.45	11.45	11.45	11.45	11.45	11.45
51	MH51	11.45	11.45	11.45	11.45	11.45	11.45	11.45
52	MH52	11.45	11.45	11.45	11.45	11.45	11.45	11.45
53	MH53	11.45	11.45	11.45	11.45	11.45	11.45	11.45
54	MH54	11.45	11.45	11.45	11.45	11.45	11.45	11.45
55	MH55	11.45	11.45	11.45	11.45	11.45	11.45	11.45
56	MH56	11.45	11.45	11.45	11.45	11.45	11.45	11.45
57	MH57	11.45	11.45	11.45	11.45	11.45	11.45	11.45
58	MH58	11.45	11.45	11.45	11.45	11.45	11.45	11.45
59	MH59	11.45	11.45	11.45	11.45	11.45	11.45	11.45
60	MH60	11.45	11.45	11.45	11.45	11.45	11.45	11.45
61	MH61	11.45	11.45	11.45	11.45	11.45	11.45	11.45
62	MH62	11.45	11.45	11.45	11.45	11.45	11.45	11.45
63	MH63	11.45	11.45	11.45	11.45	11.45	11.45	11.45
64	MH64	11.45	11.45	11.45	11.45	11.45	11.45	11.45
65	MH65	11.45	11.45	11.45	11.45	11.45	11.45	11.45
66	MH66	11.45	11.45	11.45	11.45	11.45	11.45	11.45
67	MH67	11.45	11.45	11.45	11.45	11.45	11.45	11.45
68	MH68	11.45	11.45	11.45	11.45	11.45	11.45	11.45
69	MH69	11.45	11.45	11.45	11.45	11.45	11.45	11.45
70	MH70	11.45	11.45	11.45	11.45	11.45	11.45	11.45
71	MH71	11.45	11.45	11.45	11.45	11.45	11.45	11.45
72	MH72	11.45	11.45	11.45	11.45	11.45	11.45	11.45
73	MH73	11.45	11.45	11.45	11.45	11.45	11.45	11.45
74	MH74	11.45	11.45	11.45	11.45	11.45	11.45	11.45
75	MH75	11.45	11.45	11.45	11.45	11.45	11.45	11.45
76	MH76	11.45	11.45	11.45	11.45	11.45	11.45	11.45
77	MH77	11.45	11.45	11.45	11.45	11.45	11.45	11.45
78	MH78	11.45	11.45	11.45	11.45	11.45	11.45	11.45
79	MH79	11.45	11.45	11.45	11.45	11.45	11.45	11.45
80	MH80	11.45	11.45	11.45	11.45	11.45	11.45	11.45
81	MH81	11.45	11.45	11.45	11.45	11.45	11.45	11.45
82	MH82	11.45	11.45	11.45	11.45	11.45	11.45	11.45
83	MH83	11.45	11.45	11.45	11.45	11.45	11.45	11.45
84	MH84	11.45	11.45	11.45	11.45	11.45	11.45	11.45
85	MH85	11.45	11.45	11.45	11.45	11.45	11.45	11.45
86	MH86	11.45	11.45	11.45	11.45	11.45	11.45	11.45
87	MH87	11.45	11.45	11.45	11.45	11.45	11.45	11.45
88	MH88	11.45	11.45	11.45	11.45	11.45	11.45	11.45
89	MH89	11.45	11.45	11.45	11.45	11.45	11.45	11.45
90	MH90	11.45	11.45	11.45	11.45	11.45	11.45	11.45
91	MH91	11.45	11.45	11.45	11.45	11.45	11.45	11.45
92	MH92	11.45	11.45	11.45	11.45	11.45	11.45	11.45
93	MH93	11.45	11.45	11.45	11.45	11.45	11.45	11.45
94	MH94	11.45	11.45	11.45	11.45	11.45	11.45	11.45
95	MH95	11.45	11.45	11.45	11.45	11.45	11.45	11.45
96	MH96	11.45	11.45	11.45	11.45	11.45	11.45	11.45
97	MH97	11.45	11.45	11.45	11.45	11.45	11.45	11.45
98	MH98	11.45	11.45	11.45	11.45	11.45	11.45	11.45
99	MH99	11.45	11.45	11.45	11.45	11.45	11.45	11.45
100	MH100	11.45	11.45	11.45	11.45	11.45	11.45	11.45

DROP WATER SERVICE
BELOW STORM SEWER.
PROVIDE 4" RIGID INSULATION
BETWEEN WATER SERVICE AND
STORM SEWER FOR CITY OF
CONCORD HILLS.
INVERT GRADE: 10.00
STANDARD PLATE MISC. 02.

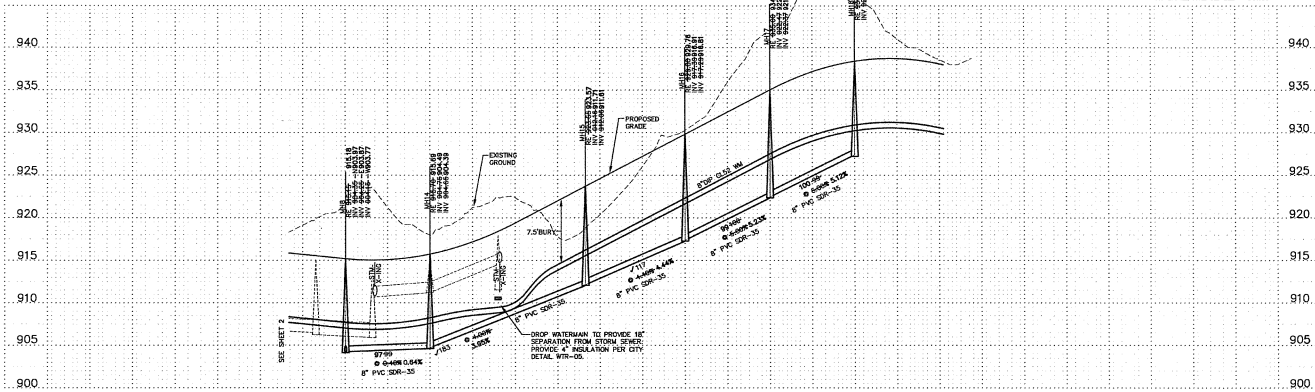


SANITARY & WATERMAIN CONSTRUCTION NOTES:

1. SANITARY SEWER SERVICE LINES ARE STATIONED FROM DOWNSTREAM MANHOLES.
2. ALL SANITARY SEWER & WATER MAIN SERVICES SHALL TERMINATE AT THE ROW, OR 10' PAST SIDEWALK, WHEN PRESENT.
3. ALL SANITARY SEWER SERVICES SHALL BE 4" P.V.C. (SDR 26), UNLESS OTHERWISE NOTED, WITH A MINIMUM SERVICE GRADE OF 2%.
4. WATER SERVICES ARE 3" UP STREAM FROM SANITARY SERVICE WITH A MIN 7.5' BURY.
5. ALL WATER SERVICES SHALL BE 1" (TYPE "C") COPPER UNLESS OTHERWISE NOTED.
6. ALL C.I.P. WATER MAIN SHALL BE CLASS 32 UNLESS OTHERWISE NOTED.
7. ALL HYDRANT G.V. MUST REMAIN IN STREET.
8. ALL SANITARY SEWER SERVICES AND SERVICE RISERS SHALL BE 4" P.V.C. SDR 26.
9. SANITARY SEWER PIPE SDR 35 & 26 SHALL BE ASTM D-3034A.
10. ALL UTILITY CONFLICTS SHALL BE RESOLVED ACCORDING TO CITY STANDARD SPECIFICATIONS.
11. CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH DESIGN AND MEETING ALL OSHA REGULATIONS.
12. MAINTAIN 10' HORIZONTAL AND 1.5' VERTICAL SEPARATION BETWEEN SANITARY SEWER AND WATERMAIN.
13. SANITARY SEWER INVERT ELEVATIONS ARE AT END OF SERVICE.
14. ACTIVATION OF WATERMAIN SYSTEM SHALL BE PERFORMED BY CITY PERSONNEL ONLY.
15. DEFLECTION TESTING FOR ALL NON-ROD PIPE SHALL BE CONDUCTED AFTER THE FINAL MANHOLE HAS BEEN IN PLACE FOR 30 DAYS.
16. THE SEWER AND WATER SERVICE SHALL BE INCLUDED IN THE PRESSURE AND LEAKAGE TESTING REQUIREMENTS FOR THE MAIN LINES.



BENCHMARK
7TH NE QUAD, CONCORD BOULEVARD
AT CAVILL AVENUE, ELEV= 933.33



PIONEER engineering
2425 Excelsior Drive
Minnetonka, MN 55305
Tel: 952-891-1814
Fax: 952-891-1818
www.pioneereng.com

Understand that the above information is for informational purposes only and does not constitute a contract. The user of this information assumes all liability for its use.

Project: 12-18-09
Client: DANNER LIMITED PARTNERSHIP
Location: CONCORD HILLS, MINNESOTA

Sanitary Sewer and Watermain
Record Plan 12-18-09

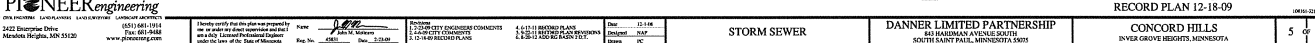
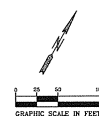
DANNER LIMITED PARTNERSHIP
801 GALELAW AVENUE SOUTH
SUITE 200, MINNETONKA, MN 55305

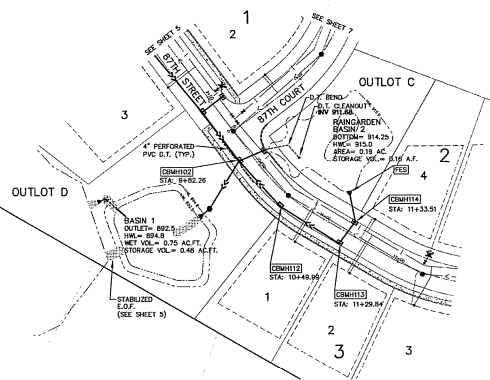
RECORD PLAN 12-18-09

CONCORD HILLS
CONCORD HILLS, MINNESOTA

4 of 13

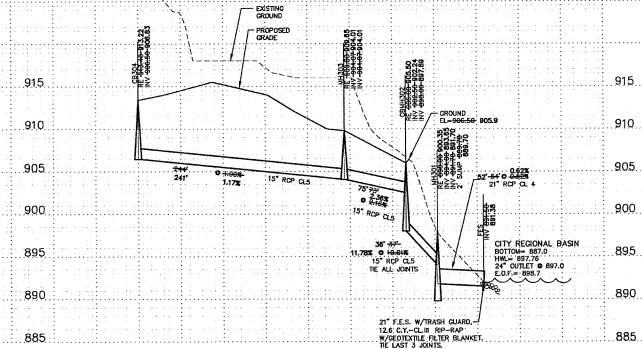
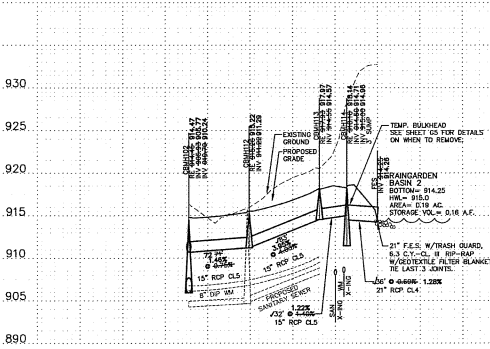
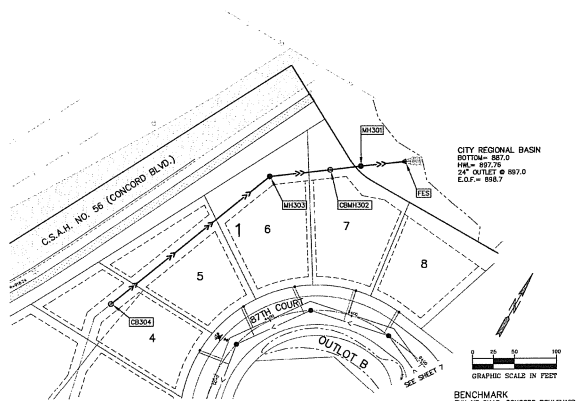
*CASTING REQUIRES PRECAST CONCRETE FRAME OR 1" POURED CONCRETE COLLAR.





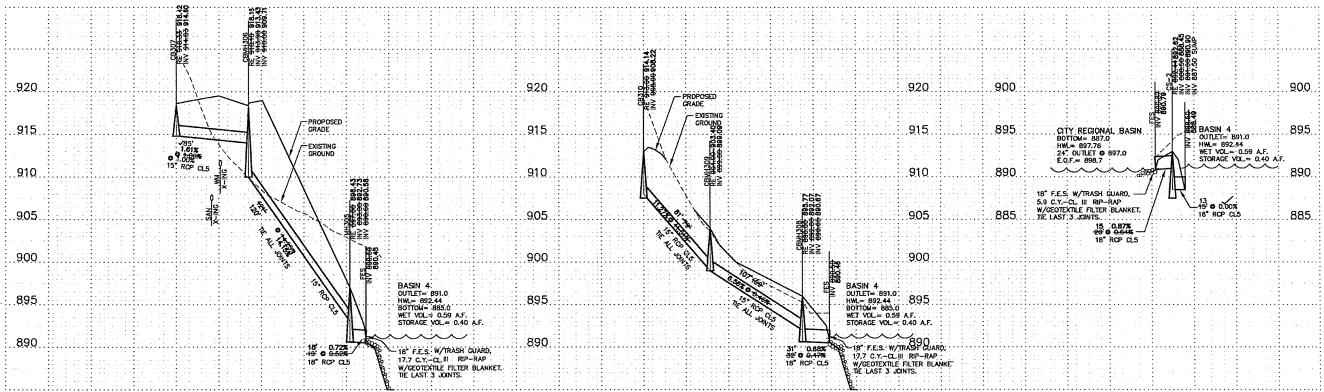
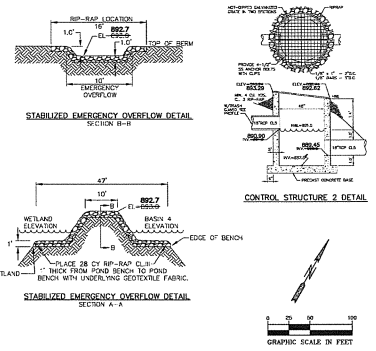
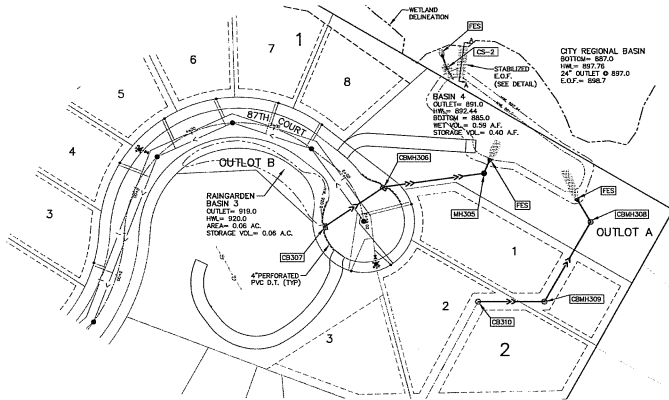
STORM SEWER SCHEDULE			
MH OR CB NUMBER	STRUCT. SIZE	REMARKS	CASTING OF (FOOT)
MH-101	48" DIA.	R-1842	
CBMH-102	54" DIA.	R-3067	
CBMH-103	48" DIA.	R-3067	
CBMH-104	48" DIA.	R-3067	
CBMH-105	48" DIA.	R-3067	
CBMH-106	48" DIA.	R-3067	
CBMH-107	48" DIA.	R-3067	
CB-108	24"	R-3067	
CB-109	24"	R-3067	
CB-110	24"	R-3067	
CB-111	24"	R-3067	
CBMH-112	48" DIA.	R-3067	
CBMH-113	48" DIA.	R-3067	
CBMH-114	48" DIA.	R-3067	
C.S.-1	48" DIA.	SPECIAL	
MH-301	48" DIA.	R-1842	
CBMH-302	48" DIA.	R-4342*	
MH-303	48" DIA.	R-1842	
CB-304	27" DIA.	R-4342*	
MH-305	48" DIA.	R-1842	
CBMH-306	48" DIA.	R-3067	
CB-307	24"	R-3067	
CBMH-308	48" DIA.	R-4342*	
CBMH-309	48" DIA.	R-4342*	
CB-310	27" DIA.	R-4342*	
C.S.-2	48" DIA.	SPECIAL	

*CASTING REQUIRES PRECAST CONCRETE FRAME OR 1" POURED CONCRETE COLLAR.



WH or CB NUMBER	STRUCT SIZE	REINFORCING CASTING or EQUAL
CMH-101	48" DIA.	R-1642
CMH-102	54" DIA.	R-3067
CMH-103	48" DIA.	R-3067
CMH-104	48" DIA.	R-3067
CMH-105	48" DIA.	R-3067
CMH-106	48" DIA.	R-3067
CMH-107	48" DIA.	R-3067
CB-108	27X7	R-3067
CB-109	27X7	R-3067
CB-110	27X7	R-3067
CB-111	27X7	R-3067
CMH-112	48" DIA.	R-3067
CMH-113	48" DIA.	R-3067
CMH-114	48" DIA.	R-3067
C.S.-1	48" DIA.	SPECIAL
MH-301	48" DIA.	R-1642
CMH-302	48" DIA.	R-4342*
MH-303	48" DIA.	R-1642
CB-304	27" DIA.	R-4342*
MH-305	48" DIA.	R-1642
CMH-306	48" DIA.	R-3067
CB-307	27X7	R-3067
CMH-308	48" DIA.	R-4342*
CMH-309	48" DIA.	R-4342*
CB-310	27" DIA.	R-4342*
C.S.-2	48" DIA.	SPECIAL

*CASTING REQUIRES PRECAST
CONCRETE FRAME OR 1" FPOURED
CONCRETE COLLAR.



PIONEER engineering

3422 Esplanade Drive
Minnetonka, MN 55320
Tel: 952-548-1000
Fax: 952-548-1001
www.pioneereng.com

I hereby certify that this plan was prepared by
me or under my direct supervision and that
I am a duly Licensed Professional Engineer
under the laws of the State of Minnesota.
Date: 12/18/09
Signature: [Signature]

PROJECT: 12-18-09 CITY REGIONAL STORM SEWER
12-18-09 STORM SEWER
12-18-09 STORM SEWER

DATE: 12/18/09
DESIGNED BY: [Signature]
CHECKED BY: [Signature]

STORM SEWER

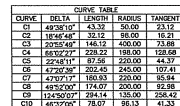
DANNER LIMITED PARTNERSHIP
801 BROADWAY AVENUE, SUITE 100
SOUTH SAINT PAUL, MINNESOTA 55105

RECORD PLAN 12-18-09

CONCORD HILLS
UNIVERSITY HEIGHTS, MINNESOTA

12-18-09

7 of 13

87TH STREET

2422 Enterprise Drive
Mendota Heights, MN 55120

© 2009 Blackwell Publishing

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer.

Under the laws of the State of Minnesota

Revisions
1. 2-23-09 CITY ENGINEERS COMMENTS
2. 4-6-09 CITY COMMENTS
3. 12-18-09 RECOMM. PLANS

Abstract

6-17-11 RECORD PLANS

Date	12.1.09
Designed	NAP

Object	PC
--------	----

STREET CO

INSTRUCTION

DANNE

LIMITED PART
ARDMAN AVENUE SOL

ST. PAUL, MINNESOTA

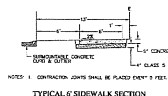
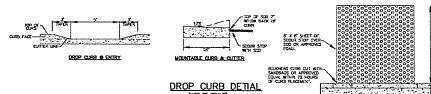
ERSHIP	
--------	--

RECORD PLAN 12-18-09

CONCORD HILLS
INNER CROSE WISCONSIN, MINNESOTA &

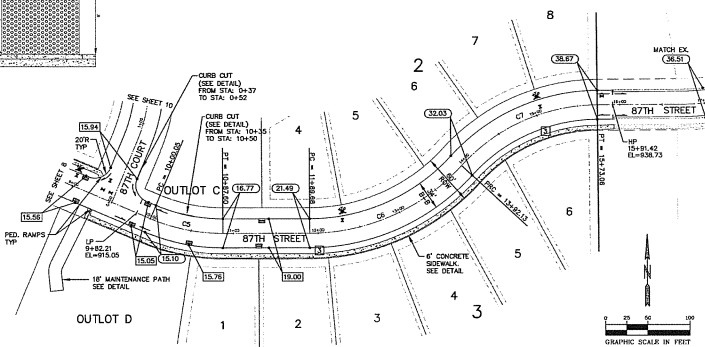
INVER GROVE RESORTS, MINNESOTA

8 of 13



NOTES: 1. ALL RAMP TO BE 80% STEEL CURB AND INTER WITH 10' TRANSITION FROM EACH SIDE OF RAMP.
2. FOR KAYAKING TRANSITION SEE PLATE NO. 87-10.
3. DRAINAGE SHALL BE INSTALLED AT ALL LOW POINTS OR AS DIRECTED BY THE ENGINEER. SEE PLATE NO. 87-10-05.

TYPICAL 34' STREET SECTION
STA. 8+00 - 17+00

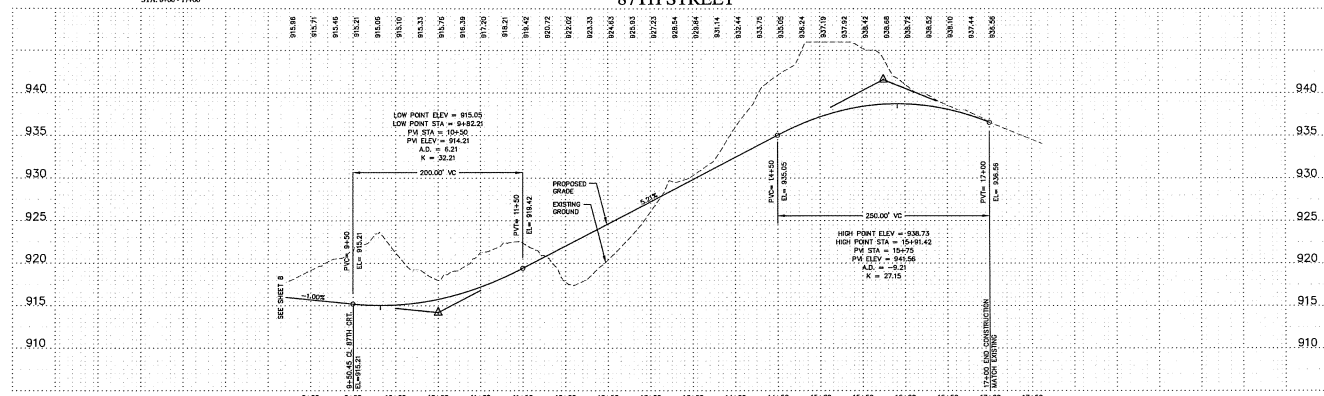


CURVE	DELTA	LENGTH	RADIUS	TANGENT
C1	45°30'10"	43.32	20.00	33.12
C2	18°46'48"	33.12	95.00	16.79
C3	20°29'49"	146.12	400.00	73.89
C4	60°52'27"	239.22	158.00	138.46
C5	22°48'11"	67.56	220.00	44.37
C6	47°23'30"	292.45	240.00	167.41
C7	47°23'30"	180.83	220.00	95.84
C8	48°30'07"	174.07	220.00	92.98
C9	124°20'07"	294.14	135.00	258.42
C10	48°30'07"	163.07	240.00	141.31

(15.32) SUMMOUNTABLE CAG
(15.33) 80% CAG

1 100' R1-1
2 STREET SIGN "87TH STREET" "87TH STREET E"
3 100' R1-13
4 100' R7-11
5 100' R2-1
6 100' R2-1
7 100' R2-1
8 100' R2-1
9 100' R2-1
10 100' R2-1
11 100' R2-1
12 100' R2-1
13 100' R2-1
14 100' R2-1
15 100' R2-1
16 100' R2-1
17 100' R2-1
18 100' R2-1
19 100' R2-1
20 100' R2-1

BENCHMARK
TAY NE QUAD CONCORD BOULEVARD
AT CAROL AVENUE, ELEV. 931.31



PIONEERengineering
3425 Excelsior Drive
Minnetonka, MN 55305
(952) 835-1000
Fax: (952) 835-1001
www.pioneereng.com

1. I hereby certify that this data was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Minnesota.
2. I am duly Licensed Professional Engineer in the State of Minnesota.
3. I am duly Licensed Professional Engineer in the State of Minnesota.
4. I am duly Licensed Professional Engineer in the State of Minnesota.
5. I am duly Licensed Professional Engineer in the State of Minnesota.
6. I am duly Licensed Professional Engineer in the State of Minnesota.
7. I am duly Licensed Professional Engineer in the State of Minnesota.
8. I am duly Licensed Professional Engineer in the State of Minnesota.
9. I am duly Licensed Professional Engineer in the State of Minnesota.
10. I am duly Licensed Professional Engineer in the State of Minnesota.
11. I am duly Licensed Professional Engineer in the State of Minnesota.
12. I am duly Licensed Professional Engineer in the State of Minnesota.
13. I am duly Licensed Professional Engineer in the State of Minnesota.
14. I am duly Licensed Professional Engineer in the State of Minnesota.
15. I am duly Licensed Professional Engineer in the State of Minnesota.
16. I am duly Licensed Professional Engineer in the State of Minnesota.
17. I am duly Licensed Professional Engineer in the State of Minnesota.
18. I am duly Licensed Professional Engineer in the State of Minnesota.
19. I am duly Licensed Professional Engineer in the State of Minnesota.
20. I am duly Licensed Professional Engineer in the State of Minnesota.

Project: 87TH STREET CONCORD HILLS
Client: DANNER LIMITED PARTNERSHIP
Date: 12-18-09
Drawn: J. L. H. (JLH)
Checked: J. L. H. (JLH)
Title: STREET CONSTRUCTION

Scale: 1" = 40' (PLAN)
1" = 10' (PROFILE)
Sheet: 9 of 13

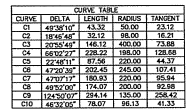
STREET CONSTRUCTION

DANNER LIMITED PARTNERSHIP
801 FAIRBANK AVENUE SOUTH
SCOTT COUNTY, MINNESOTA 55376

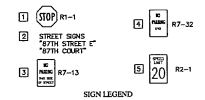
RECORD PLAN 12-18-09

CONCORD HILLS
DUAL DRIVE RIGHTS, MINNESOTA

9 of 13



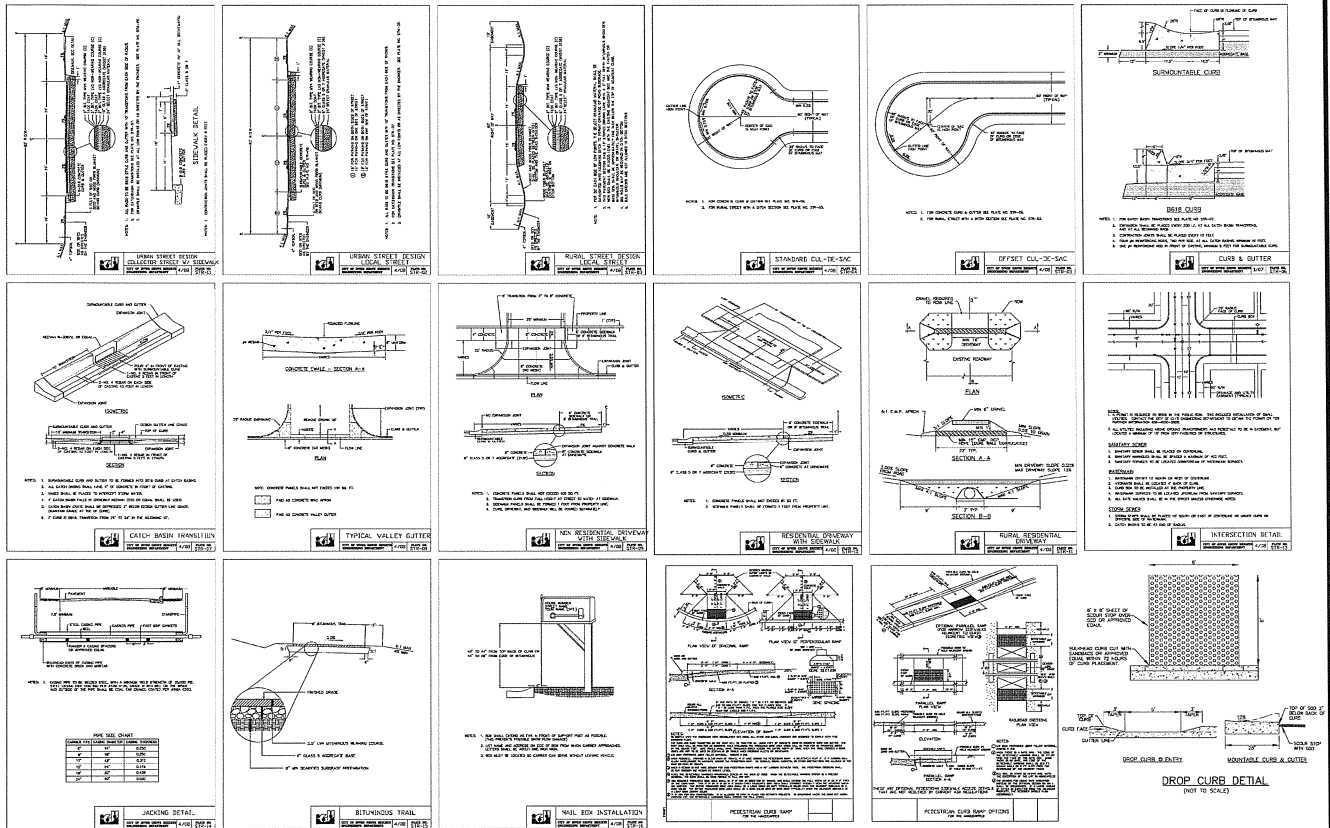
15.22 SURMOUNTABLE C&G
13.83 B618 C&G



SIGN LEGEND



BENCHMARK
TINH NE QUAD, CONCORD BOULEVARD
AT CAMILL AVENUE, ELEV= 931.33



PIONEER engineering

2425 Excelsior Drive
Minnetonka, MN 55305
Tel: (952) 835-1000
Fax: (952) 835-1001
www.pioneereng.com

Drawn by: [Blank]
Checked by: [Blank]
Reviewed by: [Blank]
Date: [Blank]

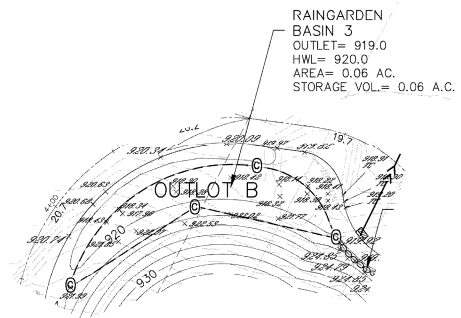
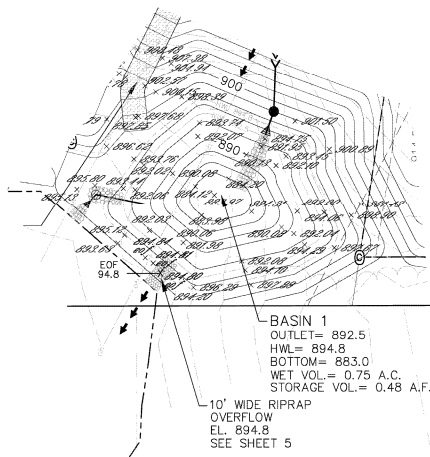
Project: [Blank]
Sheet: [Blank]

DETAILS

DANNER LIMITED PARTNERSHIP
1401 BROADWAY AVENUE, SOUTH
SCOTT COUNTY, MINNESOTA 55378

CONCORD HILLS
10000 CONCORD HILLS DRIVE
MINNETONKA, MN 55305

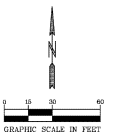
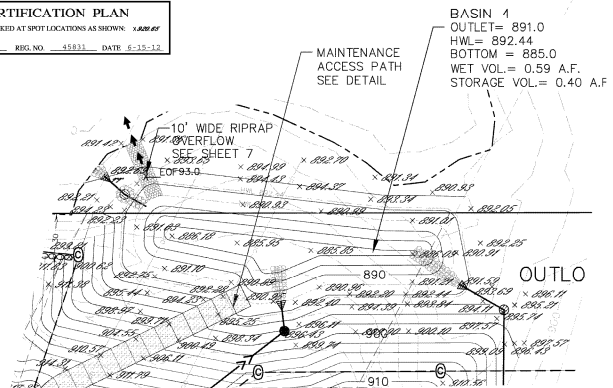
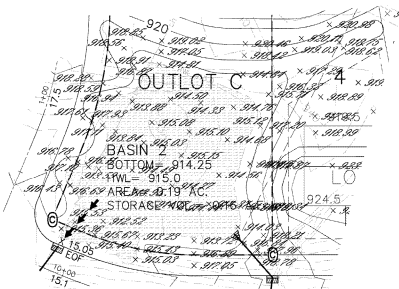
13 of 13



GRADING CERTIFICATION PLAN

THIS GRADING PLAN HAS BEEN CHECKED AT SPOT LOCATIONS AS SHOWN: 1/20/05

NAME: REG. NO. 45833 DATE: 6-15-12



PIONEEREngineering

2422 Enterprise Drive
Mendota Heights, MN 55120
P: 612-441-1914
F: 612-441-1915
www.pioneer-engineering.com

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

Name: John M. Mahoney
Reg. No.: 43875 Date: 2-22-08

Revision:
1. 6-15-12: 1.0175 1.6, 1.6, 1.6, 1.6
2. 6-15-12: 1.0175 1.6, 1.6, 1.6, 1.6
3. 6-15-12: 1.0175 1.6, 1.6, 1.6, 1.6

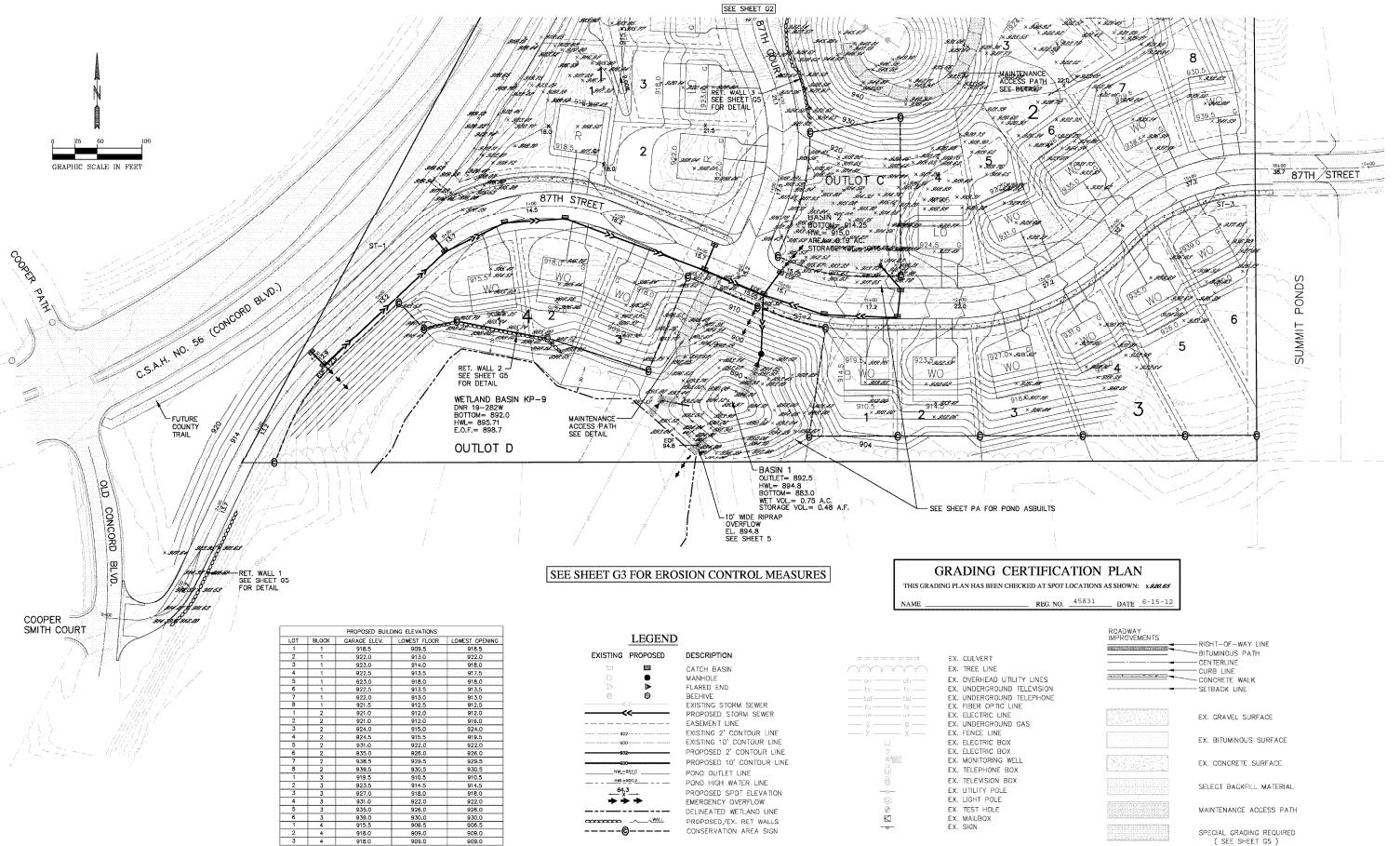
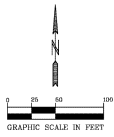
Date: 12-1-08
Designed: N/A
Drawn: N/A

POND ASBUILT

DANNER LIMITED PARTNERSHIP
803 HARDMAN AVENUE SOUTH
SOUTH SAINT PAUL, MINNESOTA 55075

CONCORD HILLS
INTER GROVE HEIGHTS, MINNESOTA

POND ASBUILT
10/10/12 PA 06



SEE SHEET G3 FOR EROSION CONTROL MEASURES

GRADING CERTIFICATION PLAN

THIS GRADING PLAN HAS BEEN CHECKED AT SPOT LOCATIONS AS SHOWN: 3/8/07
NAME: REG. NO. 45831 DATE: 6-15-12

LEGEND		DESCRIPTION
EXISTING	PROPOSED	
		CATCH BASIN
		MANHOLE
		ISLAND AND BEDRIVE
		EXISTING STORM SEWER
		PROPOSED STORM SEWER
		EASEMENT LINE
		EXISTING 2' CONTOUR LINE
		EXISTING 10' CONTOUR LINE
		PROPOSED 2' CONTOUR LINE
		PROPOSED 10' CONTOUR LINE
		POND OUTLET LINE
		POND HIGH WATER LINE
		PROPOSED SPOT ELEVATION
		DELINEATED WETLAND LINE
		PROPOSED/EXIST. RET. WALLS
		CONSERVATION AREA SIGN



ROADWAY IMPROVEMENTS		DESCRIPTION
EXISTING	PROPOSED	
		RIGHT-OF-WAY LINE
		BITUMINOUS PATH
		CENTERLINE
		CURB LINE
		CONCRETE WALK
		SETBACK LINE
		EX. GRAVEL SURFACE
		EX. BITUMINOUS SURFACE
		EX. CONCRETE SURFACE
		SELECT BACKFILL MATERIAL
		MAINTENANCE ACCESS PATH
		SPECIAL GRADING REQUIRED (SEE SHEET G5)

PROPOSED BUILDING ELEVATIONS		LOWEST FLOOR	LOWEST OPENING
LOT	BLOCK		
1	1	918.5	908.5
2	1	922.0	912.0
3	1	923.0	914.0
4	1	923.0	915.0
5	1	923.0	916.0
6	1	922.5	913.5
7	1	923.0	915.0
8	1	922.5	912.5
1	2	921.0	915.0
2	2	921.0	912.0
3	2	924.5	918.0
4	2	924.5	915.5
5	2	925.0	922.0
6	2	925.0	926.0
7	2	924.5	920.5
8	2	924.5	920.5
1	3	923.5	912.5
2	3	923.5	914.5
3	3	927.0	918.0
4	3	927.0	922.0
5	3	928.0	926.0
6	3	928.0	930.0
1	4	925.5	908.5
2	4	926.0	909.0
3	4	926.0	909.0

PIONEEREngineering

2422 Elmwood Drive
Mendota Heights, MN 55120
www.pioneer-engineering.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer and the laws of the State of Minnesota.
Name: John M. Mahoney
Reg. No.: 45831
Date: 3/22/07

Revision:
1. 4/22/10 - 4/22/10 - 4/22/10
2. 4/22/10 - 4/22/10 - 4/22/10
3. 4/22/10 - 4/22/10 - 4/22/10

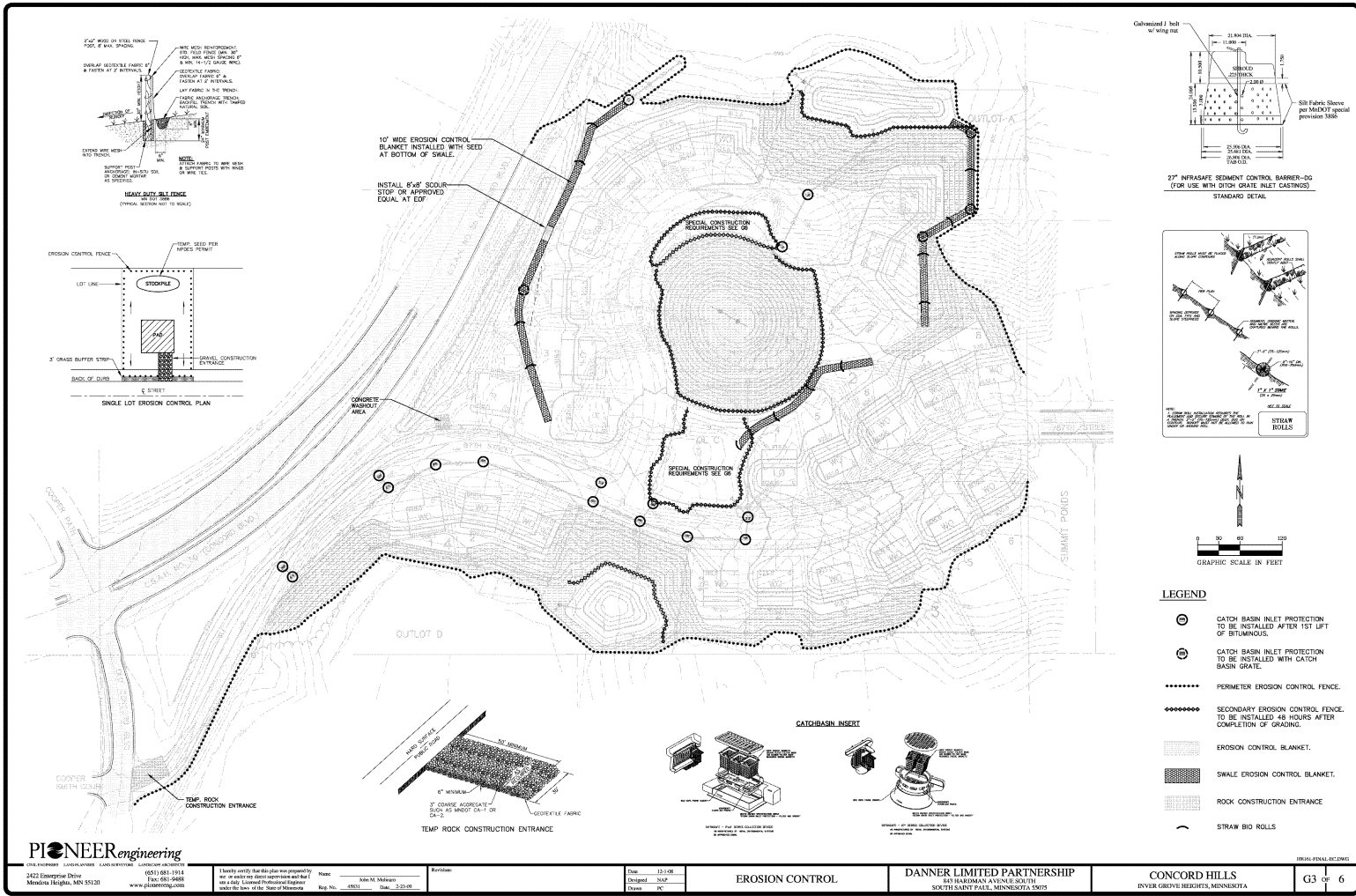
Date: 12/10/06
Designed: NMP
Drawn: BC

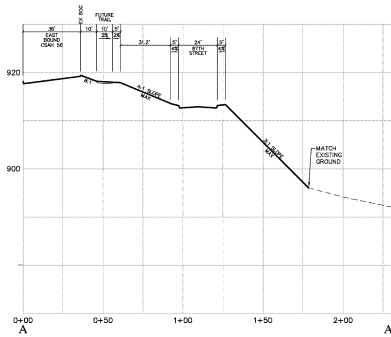
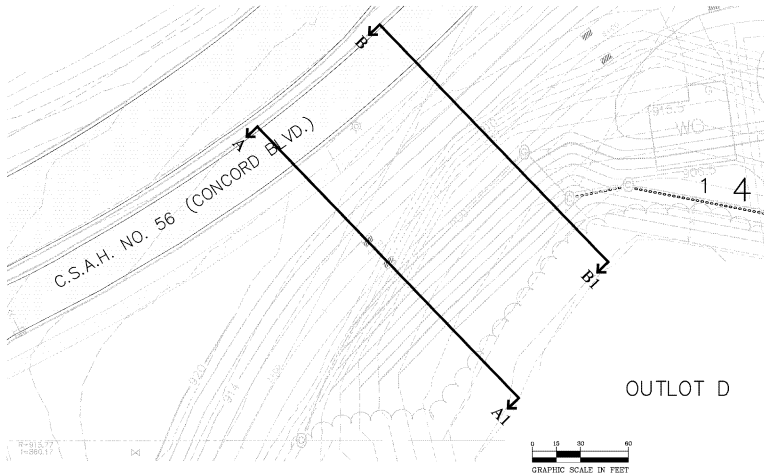
GRADING AND EROSION CONTROL

DANNER LIMITED PARTNERSHIP
803 HARDMAN AVENUE SOUTH
SOUTH SAINT PAUL, MINNESOTA 55105

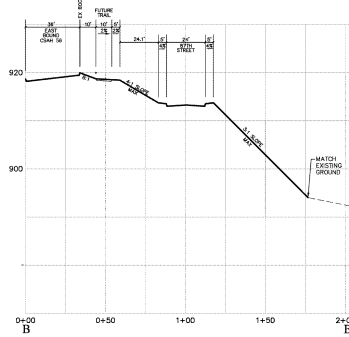
CONCORD HILLS
INTER DRIVE HEIGHTS, MINNESOTA

LAYOUT 1
PROJECT: 06-001-001
G1 OF 6



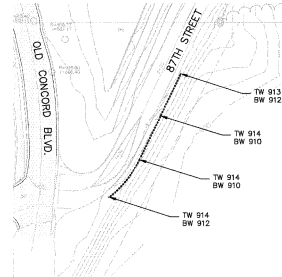


SECTION A-A1

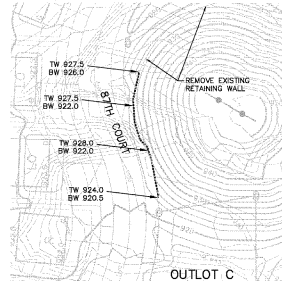


SECTION B-B1

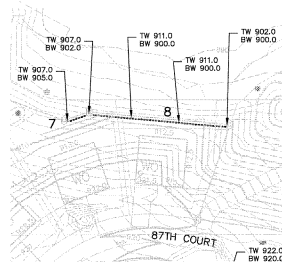
RETAINING WALL #1
RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER
PERMIT REQUIRED BY CITY OF INVER GROVE HEIGHTS BUILDING DEPARTMENT



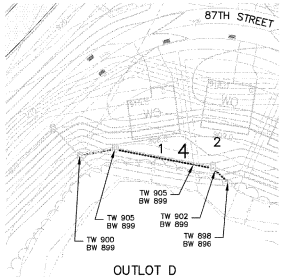
RETAINING WALL #3
RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER
PERMIT REQUIRED BY CITY OF INVER GROVE HEIGHTS BUILDING DEPARTMENT



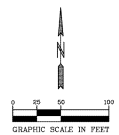
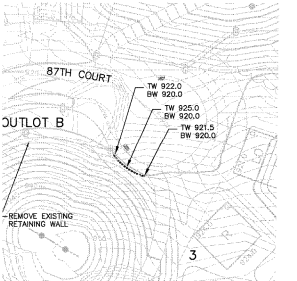
RETAINING WALL #5
RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER
PERMIT REQUIRED BY CITY OF INVER GROVE HEIGHTS BUILDING DEPARTMENT



RETAINING WALL #2
RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER
PERMIT REQUIRED BY CITY OF INVER GROVE HEIGHTS BUILDING DEPARTMENT



RETAINING WALL #4
RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER
PERMIT REQUIRED BY CITY OF INVER GROVE HEIGHTS BUILDING DEPARTMENT



PIONEEREngineering

2422 Enterprise Drive
Minnetonka, MN 55312

651.881.1914
Fax: 651.448.4488
www.pioneereng.com

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

Name: Adam M. Midkiff
Reg. No.: 45552 Date: 12/1/08

Division:

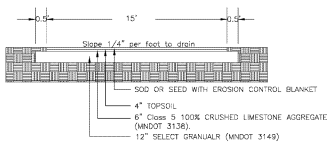
Date: 12/1/08
Designed: N/A
Drawn: PC

RETAINING WALLS

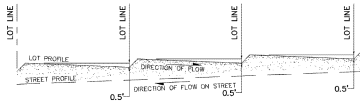
DANNER LIMITED PARTNERSHIP
801 HARDMAN AVENUE SOUTH
SOUTH SAINT PAUL, MINNESOTA 55105

CONCORD HILLS
INVER GROVE HEIGHTS, MINNESOTA

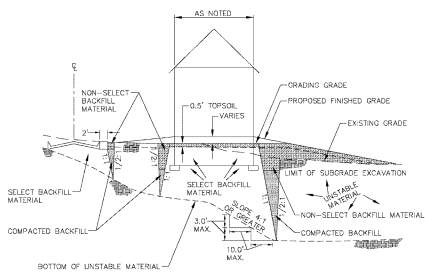
G4 of 6



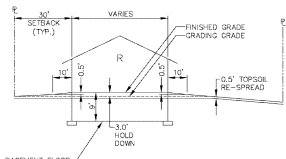
STORM BASIN ACCESS TRAIL



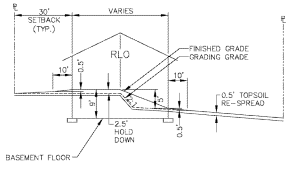
LOT BENCHING DETAIL



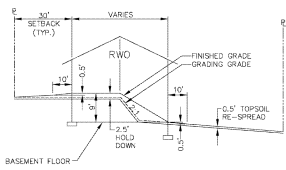
SUBGRADE CORRECTION
(TYPICAL SECTION NOT TO SCALE)



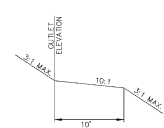
RAMBLER-1
(TYPICAL SECTION NOT TO SCALE)



RAMBLER LOOKOUT
(TYPICAL SECTION NOT TO SCALE)



RAMBLER WALKOUT
(TYPICAL SECTION NOT TO SCALE)



POND SECTION
(TYPICAL SECTION NOT TO SCALE)

GRADING SEQUENCE

1. INSTALL ROCK CONSTRUCTION ENTRANCE
2. INSTALL PERIMETER SEDIMENT CONTROL DEVICES (SILT FENCE), CLEAR TREES AS NECESSARY TO ALLOW INSTALLATION
3. INSTALL TREE PROTECTION FENCE
4. CLEAR AND GRUB FOR STORMWATER POND
5. CONSTRUCT STORMWATER PONDS
6. CONTINUE CLEARING AND GRUBBING
7. STOCKPILE TOPSOIL FOR RE-USE
8. GRADE RAINGARDEN AND INSTALL SECONDARY EROSION CONTROL PRACTICES AROUND RAINGARDEN PER DETAILS SHEET 6-5
9. COMPLETE SITE GRADING
10. STABILIZE OPENED AREAS AND STOCKPILES WITHIN TIME FRAME LISTED IN EROSION PREVENTION PRACTICES
11. INSTALL UTILITIES, STORM SEWER, STORM DRAIN INLET PROTECTION, CURB & GUTTER, & PAVING
12. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE STABILIZED, REMOVE ACCUMULATED SEDIMENT FROM STORMWATER PONDS, REMOVE SEDIMENT CONTROL BMP'S, AND RESEED ANY AREAS DISTURBED
13. ONCE HOME CONSTRUCTION OF LOTS 4-8, BLOCK 2 ARE COMPLETED INSTALL CURB CUTS TO BRING RAINGARDEN ONLINE

GENERAL NOTES

1. CONTRACTOR TO ADHERE TO ALL REQUIREMENTS OF THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA), INCLUDING THE REQUIREMENT TO MINIMIZE THE AREA DISTURBED BY GRADING AT ANY GIVEN TIME AND TO COMPLETE TURF RESTORATION THE TIME REQUIRED BY THE PERMIT AFTER COMPLETION OF
2. A COPY OF THESE PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
3. BMP'S REFER TO EROSION AND SEDIMENT CONTROL PRACTICES DEFINED IN THE MPCA PROTECTING WATER QUALITY IN URBAN AREAS AND THE MINNESOTA CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL PLANNING HANDBOOK.
4. ALL EROSION AND SEDIMENT CONTROL FACILITIES (BMP'S) SHALL BE INSTALLED AND IN OPERATION PRIOR TO LAND DISTURBANCE ACTIVITIES. SOME EROSION CONTROLS SUCH AS CHECK DAMS AND TEMPORARY SILT PONDS MAY BE INSTALLED AS GRADING OCCURS IN THE SPECIFIC AREA. THEY SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR EROSION HAS PASSED.
5. THE BMP'S SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS FOR THE ANTICIPATED SITE CONDITIONS. AS CONSTRUCTION PROGRESSES AND UNEXPECTED OR SEASONAL CONDITIONS OCCUR, THE PERMITTEE SHALL ANTICIPATE THAT MORE BMP'S WILL BE NECESSARY TO ENSURE EROSION AND SEDIMENT CONTROL ON THE SITE. DURING THE COURSE OF CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE PERMITTEE TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY CONSTRUCTION ACTIVITIES AND/OR CLIMATIC EVENTS AND TO PROVIDE ADDITIONAL BMP'S OVER AND ABOVE THE MINIMUM REQUIREMENTS SHOWN ON THE PLANS THAT MAY BE NEEDED TO PROVIDE EFFECTIVE PROTECTION OF WATER AND SOIL RESOURCES.
6. ALL TREES NOT LISTED FOR REMOVAL SHALL BE PROTECTED. DO NOT OPERATE EQUIPMENT WITHIN THE DRIFTLINE, ROOT ZONES OR WITHIN TREE PROTECTION FENCE AREAS.
7. WHEREVER POSSIBLE, PRESERVE THE EXISTING TREES, GRASS AND OTHER VEGETATIVE COVER TO HELP FILTER RUNOFF.
8. OPERATE TRACK EQUIPMENT (DOZER) UP AND DOWN EXPOSED SOIL SLOPES ON FINAL PASS, LEAVING TRACK GROOVES PERPENDICULAR TO THE SLOPE. DO NOT BACK-BLADE. LEAVE A SURFACE RIDGE TO MINIMIZE EROSION.
9. TEMPORARY SEED SHALL BE DONE IN ACCORDANCE TO MNDOT 2575 & 387, CONSISTING OF:
 - MNDOT MIX 150 @ 40 LBS. PER ACRE OR APPROVED EQUAL
 - MULCH SHALL BE MNDOT TYPE 1 @ 2 TONS PER ACRE OR APPROVED EQUAL AND DISK ANCHORED IN PLACE ON APPROVED EQUAL. INSTALLED TO MINIMUM 90% COVERAGE OF THE SURFACE AREA DISTURBED.
10. PERMANENT TURF RESTORATION SHALL BE DONE IN ACCORDANCE WITH MNDOT 2575 & 387, CONSISTING OF:
 - MNDOT MIXTURE 250 AT 80 POUNDS PER ACRE
 - MULCH SHALL BE MNDOT TYPE 1 @ 2 TONS PER ACRE OR APPROVED EQUAL AND DISK ANCHORED IN PLACE ON APPROVED EQUAL. INSTALLED TO MINIMUM 90% COVERAGE OF THE SURFACE AREA DISTURBED.
 - TYPE 1 FERTILIZER, 22-5-10 @ 250 LBS. PER ACRE
 - TYPE 3 FERTILIZER, 22-5-10 @ 250 LBS. PER ACRE
 - RESTORATION NEEDS TO OCCUR WITH 72 HOURS OF COMPLETION OF GRADING ACTIVITIES.
11. SLOPES AT 3:1 OR STEEPER, AND/OR WHERE INDICATED ON THE PLANS SHALL BE SEEDED AND HAVE AN EROSION CONTROL BLANKET TYPE 3 INSTALLED OR MAY BE HYDROSEEDED WITH TACKIFIER MULCH.
12. THE CONTRACTOR SHALL REMOVE ALL SOILS AND SEDIMENT TRACKED ONTO EXISTING STREETS AND PAVED AREAS.
13. IF BLOWING DUST BECOMES A NUISANCE, THE CONTRACTOR SHALL APPLY WATER FROM A TANK TRUCK TO ALL CONSTRUCTION AREAS.
14. IMMEDIATELY FOLLOWING SITE GRADING OPERATIONS AND PRIOR TO THE INSTALLATION OF UTILITIES, THE ENTIRE SITE (EXCEPT ROADWAYS) SHALL HAVE BEEN SEEDS AND MULCHED AND SILT FENCE SHALL HAVE BEEN INSTALLED AROUND ALL PONDS.
15. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROPERLY DISPOSED OF WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.

CONSTRUCTION ACTIVITY REQUIREMENTS

A. EROSION PREVENTION PRACTICES

1. THE CONTRACTOR SHALL IMPLEMENT CONSTRUCTION PHASING, VEGETATIVE BUFFER STRIPS, HORIZONTAL SLOPE GRADING, AND OTHER CONSTRUCTION PRACTICES THAT MINIMIZE EROSION. THE LOCATION OF AREAS NOT TO BE DISTURBED MUST BE DELINEATED (E.G. WITH FLAGS, STAKES, SIGNS, SILT FENCE, ETC.) ON THE DEVELOPMENT SITE BEFORE WORK BEGINS.
2. ALL EXPOSED SOIL AREAS WITHIN 200 FEET OF A SURFACE WATER OR ANY STORMWATER CONVEYANCE SYSTEM WHICH IS CONNECTED TO A SURFACE WATER MUST BE STABILIZED WITHIN 72 HOURS - THESE AREAS INCLUDE POND SIDE SLOPES, EXPOSED SOIL AREAS WITH A POSITIVE SLOPE TO A CURB AND GUTTER SYSTEM, STORM SEWER INLET, DRAINAGE DITCH, OR OTHER SYSTEM THAT DISCHARGES TO A SURFACE WATER.
3. THE NORMAL WETTED PERIMETER OF ANY DRAINAGE DITCH MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE TO ANY SURFACE WATER (WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER).
4. PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY, OR PERMANENT DERRIS DISSIPATION WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER.

B. SEDIMENT CONTROL PRACTICES

1. SEDIMENT CONTROL PRACTICES MUST MINIMIZE SEDIMENT ENTERING SURFACE WATERS, DITCHES AND SEDIMENT BASINS. REQUIRE SEDIMENT CONTROL PRACTICES ONLY AS APPROPRIATE FOR SITE CONDITIONS. IF DOWN GRADE SYSTEM IS OVERLOADED, ADDITIONAL UPGRADE PRACTICES MUST BE INSTALLED, AND THE SWPPP MUST BE AMENDED. THERE SHALL BE NO UNBROKEN SLOPE LENGTH OF GREATER THAN 75 FEET FOR SLOPES WITH A GRADE OF 3:1 OR STEEPER. SLOPES MAY BE BROKEN WITH SILT FENCE, ROCK CHECK DAMS, COMPOST BARRIERS, OR OTHER APPROVED METHODS AND/OR AS SHOWN ON THE EROSION CONTROL PLAN.
2. SEDIMENT CONTROL PRACTICES MUST BE ESTABLISHED ON DOWNGRADE PERIMETERS BEFORE UPGRADE LAND DISTURBING ACTIVITIES BEGIN.
3. THE TIMING OF SEDIMENT CONTROL PRACTICES MAY BE ADJUSTED TO ACCOMMODATE SHORT TERM ACTIVITIES. HOWEVER, THESE PRACTICES MUST BE INSTALLED BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE ACTIVITY IS NOT COMPLETE.
4. CONTRACTOR MUST PROTECT ALL STORM DRAIN INLETS BY APPROPRIATE BMP'S DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED.
5. TEMPORARY STOCKPILES MUST HAVE SILT FENCE AROUND THE PERIMETER OF THE BASE OF THE STOCKPILE AND CANNOT BE PLACED IN SURFACE WATERS, INCLUDING STORM WATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS OR DITCHES.
6. CONTRACTOR MUST INSTALL TEMPORARY (OR PERMANENT) SEDIMENTATION BASINS WHERE TEN OR MORE ACRES OF DISTURBED SOIL DRAIN TO A COMMON LOCATION AND/OR AS SHOWN ON THE EROSION CONTROL PLAN.

C. DEWATERING AND SURFACE DRAINAGE

1. DEWATERING OR ANY TYPE OF SURFACE DRAINAGE THAT MAY HAVE TURBID OR SEDIMENT LADEN DISCHARGE WATER MUST BE DISCHARGED TO AN APPROVED SEDIMENT BASIN ON THE PROJECT SITE. WHENEVER POSSIBLE, IF THE WATER CANNOT BE DISCHARGED TO A BASIN PRIOR TO ENTERING THE SURFACE WATER, IT MUST BE TREATED WITH THE APPROPRIATE BMP'S SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER OR DOWNSTREAM LANDOWNERS. THE CONTRACTOR MUST ENSURE THAT DISCHARGE POINTS ARE ADEQUATELY PROTECTED FROM EROSION AND SCOUR. THE DISCHARGE MUST BE DISPOSED OVER NATURAL ROCK RIPRAP, SAND BAGS, PLASTIC SHEETING, OR OTHER ACCEPTED ENERGY DISSIPATION MEASURES.
2. ALL WATER FROM DEWATERING MUST BE DISCHARGED IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS, EROSION, OR INUNDATION OF WETLANDS CAUSING SIGNIFICANT ADVERSE IMPACT TO THE WETLAND.

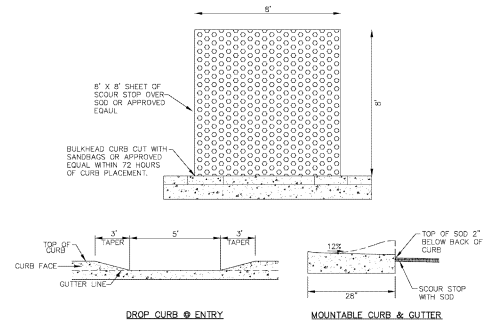
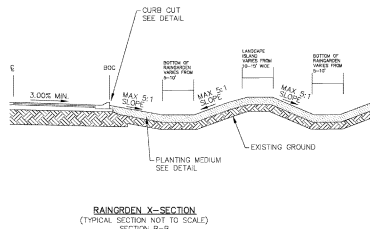
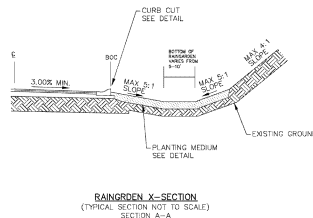
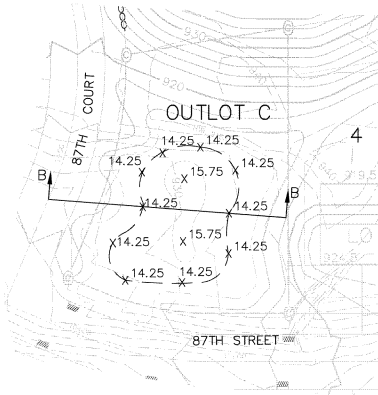
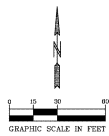
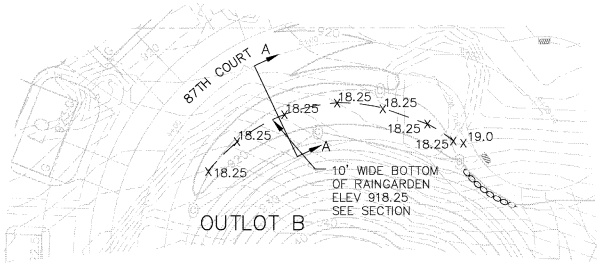
D. INSPECTIONS AND MAINTENANCE

1. THE CONTRACTOR MUST APPOINT SOMEONE TO INSPECT THE CONSTRUCTION SITE ONCE EVERY SEVEN DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF GREATER THAN 0.5 INCHES IN 24 HOURS. ALL INSPECTIONS MUST BE RECORDED IN WRITING AND RETAINED PER M.P.C.A. N.P.D.E.S. REQUIREMENTS. (NOTE: LOCAL JURISDICTION MAY REQUIRE A MORE FREQUENT INTERVAL OF INSPECTION.)

E. POLLUTION PREVENTION MANAGEMENT MEASURES

1. SOLID WASTE MUST BE DISPOSED OF PER M.P.C.A. REQUIREMENTS.
2. HAZARDOUS MATERIALS MUST BE STORED AND DISPOSED OF PER M.P.C.A. REGULATIONS.
3. EXTERNAL WASHING OF CONSTRUCTION VEHICLES MUST BE LIMITED TO A DESIGNATED AREA OF THE SITE. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF. NO ENGINE DEGRASING IS ALLOWED ON SITE.





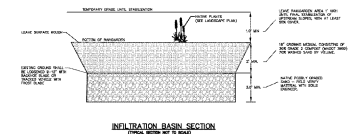
DROP CURB DETAIL (NOT TO SCALE)

TEMPORARY CONSTRUCTION

1. GRADE RAINGARDEN, LEAVING RAINGARDEN 1' HIGH UNTIL FINAL STABILIZATION OF SITE IS COMPLETE. PROVIDE TEMPORARY WATER DIVERSION PER PLAN.
2. SURROUND INFILTRATION BASIN WITH EROSION CONTROL FENCE AT HWM AND PROCEED WITH FINAL STABILIZATION OF THE SLOPES ON THE SLOPES UPSTREAM OF THE BASIN.
3. THE EROSION CONTROL FENCE NEEDS TO BE MONITORED UNTIL FINAL STABILIZATION OCCURS.

FINAL CONSTRUCTION

1. FINAL CONSTRUCTION OF THE RAINGARDEN CAN OCCUR ONCE SLOPES AROUND RAINGARDEN ARE ESTABLISHED (TO BE DETERMINED BY THE ENGINEER). DURING CONSTRUCTION OF THE RAINGARDEN THE EROSION CONTROL FENCE NEEDS TO BE MAINTAINED TO LIMIT ACCESS AROUND THE BASIN DURING CONSTRUCTION.
2. A FIELD INSPECTOR FROM THE CITY OF INVER GROVE HEIGHTS OR THE DEVELOPERS REPRESENTATIVE MUST BE PRESENT DURING FINAL CONSTRUCTION OF THE RAINGARDEN.
3. THE RAINGARDEN MUST BE EXCAVATED TO SUBGRADE BY BACKHOE AND TRUCK. AT NO TIME WILL ANY EQUIPMENT BE ALLOWED TO TRAVEL OVER THE RAINGARDEN AREA WHEN THE GRADES ARE WITHIN 3" OF THE FINAL ELEVATION. THE EROSION CONTROL FENCE SHOULD BE MAINTAINED DURING THIS PHASE TO PREVENT CONTAMINATION OF THE NATIVE SOILS.
4. FINAL SUBGRADE WILL BE ESTABLISHED WITH SMALL TRACKED DOZERS OR BOBCAT WITH RUNNER TRACKS.
5. SUBGRADE WILL BE INSPECTED BY THE SOILS ENGINEER FOR COMPACTION AND SUITABILITY OF NATIVE SOILS TO INFILTRATE. IF COMPACTION OR CONTAMINATION OF THE NATIVE SOILS OCCURS IT IS THE CONTRACTORS RESPONSIBILITY TO MITIGATE AT THE SOILS ENGINEERS DISCRETION.
6. ONCE SUBGRADE HAS BEEN ESTABLISHED A UNIFORM SECTION OF PLANTING MEDIUM (SEE SECTION) WILL BE PLACED WITH SMALL DOZER OR BOBCAT. AT NO TIME WILL ANY HEAVY EQUIPMENT BE ALLOWED ON THE RAINGARDEN.
7. SEED AND BLANKET THE INFILTRATION BASIN PER SEEDING SPECIFICATIONS. (SEE LANDSCAPE PLAN)
8. REESTABLISH EROSION CONTROL FENCE AROUND PERIMETER OF THE INFILTRATION BASIN. PLACE TWO ROWS OF SOD INSIDE OF EROSION CONTROL FENCE.
9. PROVIDE WATER AS NEEDED DURING THE FIRST GROWING SEASON.
10. INSTALL CURB CUTS AND SCOUR STOP BEFORE FINAL LIFT OF BITUMINOUS IS INSTALLED. ONCE RAINGARDENS HAVE BEEN ESTABLISHED.



PIONEEREngineering

2422 Enterprise Drive
Minnetonka, MN 55312
651.881.1914
Fax: 651.881.1914
www.pioneer-engineering.com

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

Project: 48822
Date: 12/10/10
Designed: NMP
Drawn: PC

RAINGARDEN DETAIL

DANNER LIMITED PARTNERSHIP
801 HARDMAN AVENUE SOUTH
SOUTH SAINT PAUL, MINNESOTA 55105

CONCORD HILLS
INVER GROVE HEIGHTS, MINNESOTA

G6 OF 6

Appendix B

Planning-Level Opinion of Probable Construction Cost

Table B-1 Cost-Benefit Summary for IGT-B-3 Water Level Management Alternatives

Alternative No.	Description	Engineer's Opinion of Probable Construction Cost (\$) ⁽¹⁾			IGT-B-3 40-Year Simulation Results Water Years 1980-2019				
		Point Estimate	Low	High	Average Annual Inflow Volume (ac-ft/Yr)	Average Water Elevation (ft)	Peak Water Elevation (ft)	Average Surface Area (Ac)	Peak Surface Area (Ac)
-	Existing Conditions	-	-	-	21.6	891.0	895.0	3.0	6.0
1 ⁽²⁾	Add storage volume to 87th Street infiltration basin	\$65,000	\$52,000	\$98,000	20.3	890.8	894.8	2.8	5.9
2 ⁽³⁾	Re-route 87th Street storm sewer to north via directional drill	\$459,000	\$368,000	\$689,000	17.4	890.3	894.0	2.4	5.3
3 ⁽⁴⁾	Construct overflow outlet to IGT-B-2 basin (east through the woods via directional drill)	\$230,000	\$184,000	\$345,000	21.6	890.9	894.7	2.9	5.8
4 ⁽⁵⁾	Construct gravity outlet to SW across Old Concord	\$545,000	\$436,000	\$818,000	21.6	890.8	894.7	2.9	5.8
5 ⁽⁶⁾	Construct permanent pump station	\$488,000	\$391,000	\$732,000	21.6	890.8	894.7	2.9	5.8
6 ⁽⁷⁾	Temporary pumping	\$33,000	\$27,000	\$50,000	21.6	890.8	894.7	2.9	5.8

- Notes:
- 1) Approximate values based on available information. The estimated accuracy range for the estimated construction cost as the project is defined is -20% to +50%.
 - 2) See Table B-2 for Cost Summary
 - 3) See Table B-3 for Cost Summary
 - 4) See Table B-4 for Cost Summary
 - 5) See Table B-5 for Cost Summary
 - 6) See Table B-6 for Cost Summary
 - 7) See Table B-7 for Cost Summary

Table B-2 Opinion of Probable Construction Cost
Alternative 1: Re-grade Concord Hills Rainwater Garden
IGT-B-3 BASIN FEASIBILITY STUDY (CITY PROJECT NO. 2021-06)

PRELIMINARY - ENGINEER'S OPINION OF COST⁽¹⁾
January 5, 2021

Item No.	Item	Qty	Unit	Unit Price ⁽²⁾	Extension
1	Mobilization and demobilization (10%)	1	LS	\$5,000	\$5,000
2	Excavate and dispose of soils (offsite)	630	CY	\$25	\$16,000
3	Traffic Control (5%)	1	LS	\$3,500	\$4,000
4	Erosion Control	1	LS	\$1,000	\$1,000
5	Control of Water	1	LS	\$2,000	\$2,000
6	Site Improvements and Restoration	1	LS	\$1,000	\$1,000
7	Utility Conflicts	1	LS	\$5,000	\$5,000
11	Replace Salvaged Top Soil	150	CY	\$5	\$1,000
8	Salvage Top Soil	150	CY	\$6	\$1,000
9	Remove Existing Drain Tile	50	LF	\$12	\$1,000
10	Lower existing 21" RCP and FES	1	EA	\$2,500	\$3,000
12	Sod	100	SY	\$10	\$1,000
13	Erosion Control Blanket	920	SY	\$2	\$2,000
Subtotal for all Construction OPC Cost Extensions					\$43,000
Contingency				10%	\$5,000
Subtotal Construction Cost with Contingency					\$48,000
Planning, Engineering, Design, Legal				25%	\$12,000
Construction Management				10%	\$5,000
Total					\$65,000
Anticipated Accuracy Range ⁽³⁾			High	50%	\$98,000
			Low	-20%	\$52,000

(1) All costs are in 2020 dollars.

(2) Unit prices are adjusted by RS Means Construction Data location factors to Minneapolis, MN.

(3) This Class IV Level opinion of construction cost is based on planning-level designs, alignments, quantities and unit prices. Costs will change with further design. The estimated accuracy range for the Total Project Cost as the project is defined is -20% to +50% based off of ASTM 2516-11 accuracy range tool. The accuracy range is based on professional judgement considering the level of design completed, the complexity of the project and the uncertainties in the project as scoped.

Table B-3 Opinion of Probable Construction Cost
Alternative 2: Re-route 87th Street Stormwater Runoff from IGT-B-3 Basin to IGT-A-5-02 Basin
IGT-B-3 BASIN FEASIBILITY STUDY (CITY PROJECT NO. 2021-06)

PRELIMINARY - ENGINEER'S OPINION OF COST⁽¹⁾
January 5, 2021

Item No.	Item	Qty	Unit	Unit Price⁽²⁾	Extension
1	Mobilization and demobilization (10%)	1	LS	\$30,000	\$30,000
2	Traffic Control (5%)	1	LS	\$12,500	\$13,000
3	Erosion Control	1	LS	\$10,000	\$10,000
4	Control of Water	1	LS	\$4,500	\$5,000
5	Site Improvements and Restoration	1	LS	\$8,000	\$8,000
6	Utility Conflicts	1	LS	\$10,000	\$10,000
7	Remove Bituminous Pavement with Integrated Curb	20	SY	\$12	\$1,000
8	Remove Concrete Sidewalk	20	SY	\$4	\$1,000
9	Salvage Top Soil	60	CY	\$6	\$1,000
10	Remove Existing Manhole	1.0	EA	\$1,500	\$2,000
11	48" Dia. Precast Concrete Manhole	1	EA	\$3,500	\$4,000
12	60" Dia. Precast Concrete Catch Basin Manhole With CIP Conc Weir	1	EA	\$8,500	\$9,000
13	Connect Existing Storm Sewer	4	EA	\$2,500	\$10,000
14	14" HDPE Gravity Storm Sewer (Directionally Drilled)	650	LF	\$300	\$195,000
15	Replace Bituminous Pavement with Integrated Curb	20	SY	\$100	\$2,000
16	Replace Concrete Sidewalk	20	SY	\$50	\$1,000
17	Replace Salvaged Top Soil	60	CY	\$5	\$1,000
18	Sod	200	SY	\$10	\$2,000
19	Erosion Control Blanket	600	SY	\$2	\$2,000
20	Seed Area (Turf Grass)	1	LS	\$1,500	\$2,000
Subtotal for all Construction OPC Cost Extensions					\$309,000
Contingency				10%	\$31,000
Subtotal Construction Cost with Contingency					\$340,000
Planning, Engineering, Design, Legal				25%	\$85,000
Construction Management				10%	\$34,000
Total					\$459,000
Anticipated Accuracy Range ⁽³⁾			High	50%	\$689,000
			Low	-20%	\$368,000

(1) All costs are in 2020 dollars.

(2) Unit prices are adjusted by RS Means Construction Data location factors to Minneapolis, MN.

(3) This Class IV Level opinion of construction cost is based on planning-level designs, alignments, quantities and unit prices. Costs will change with further design. The estimated accuracy range for the Total Project Cost as the project is defined is -20% to +50% based off of ASTM 2516-11 accuracy range tool. The accuracy range is based on professional judgement considering the level of design completed, the complexity of the project and the uncertainties in the project as scoped.

Table B-4 Opinion of Probable Construction Cost
Alternative 3: Construct a Gravity Outlet from IGT-B-3 Basin to IGT-B-2 Basin
IGT-B-3 BASIN FEASIBILITY STUDY (CITY PROJECT NO. 2021-06)

PRELIMINARY - ENGINEER'S OPINION OF COST⁽¹⁾
January 5, 2021

Item No.	Item	Qty	Unit	Unit Price ⁽²⁾	Extension
1	Mobilization and demobilization (10%)	1	LS	\$15,000	\$15,000
2	Dense Clearing and Grubbing (Remove and Dispose of Trees)	0.25	Acre	\$10,000	\$3,000
3	Erosion Control	1	LS	\$5,000	\$5,000
4	Control of Water	1	LS	\$4,500	\$5,000
5	Site Improvements and Restoration	1	LS	\$2,000	\$2,000
6	Utility Conflicts	1	LS	\$5,000	\$5,000
7	Salvage Top Soil	20	CY	\$6	\$1,000
8	48" Dia. Precast Concrete Manhole	1	EA	\$3,500	\$4,000
9	48" Cone Grate Trash Rack	1	EA	\$3,000	\$3,000
10	14" HDPE Gravity Storm Sewer (Directionally Drilled)	300	LF	\$300	\$90,000
11	Replace Salvaged Top Soil	20	CY	\$5	\$1,000
12	15" Flared end section	1	EA	\$1,200	\$2,000
13	Sod	400	SY	\$10	\$4,000
14	Erosion Control Blanket	600	SY	\$2	\$2,000
15	Seed Area (Turf Grass)	1	LS	\$1,500	\$2,000
Subtotal for all Construction OPC Cost Extensions					\$144,000
Contingency				10%	\$15,000
Subtotal Construction Cost with Contingency					\$159,000
Planning, Engineering, Design, Legal				25%	\$40,000
Construction Management				10%	\$16,000
Total					\$230,000
Anticipated Accuracy Range ⁽³⁾			High	50%	\$345,000
			Low	-20%	\$184,000

(1) All costs are in 2020 dollars.

(2) Unit prices are adjusted by RS Means Construction Data location factors to Minneapolis, MN.

(3) This Class IV Level opinion of construction cost is based on planning-level designs, alignments, quantities and unit prices. Costs will change with further design. The estimated accuracy range for the Total Project Cost as the project is defined is -20% to +50% based off of ASTM 2516-11 accuracy range tool. The accuracy range is based on professional judgement considering the level of design completed, the complexity of the project and the uncertainties in the project as scoped.

Table B-5 Opinion of Probable Construction Cost
Alternative 4: Construct a Gravity Outlet from IGT-B-3 Basin to DP-66 Basin
IGT-B-3 BASIN FEASIBILITY STUDY (CITY PROJECT NO. 2021-06)

PRELIMINARY - ENGINEER'S OPINION OF COST⁽¹⁾
January 5, 2021

Item No.	Item	Qty	Unit	Unit Price ⁽²⁾	Extension
1	Mobilization and demobilization (10%)	1	LS	\$30,000	\$30,000
2	Dense Clearing and Grubbing (Remove and Dispose of Trees)	0	Acre	\$10,000	\$3,000
3	Erosion Control	1	LS	\$5,000	\$5,000
4	Control of Water	1	LS	\$4,500	\$5,000
5	Site Improvements and Restoration	1	LS	\$2,000	\$2,000
6	Utility Conflicts	1	LS	\$5,000	\$5,000
7	Salvage Top Soil	20	CY	\$6	\$1,000
8	48" Dia. Precast Concrete Manhole	2	EA	\$3,500	\$7,000
9	48" Cone Grate Trash Rack	1	EA	\$3,000	\$3,000
10	14" HDPE Gravity Storm Sewer (Directionally Drilled)	900	LF	\$300	\$270,000
11	Replace Salvaged Top Soil	20	CY	\$5	\$1,000
12	15" Flared end section	1	EA	\$1,200	\$2,000
13	Sod	400	SY	\$10	\$4,000
14	Erosion Control Blanket	1000	SY	\$2	\$2,000
15	Seed Area (Turf Grass)	1	LS	\$1,500	\$2,000
Subtotal for all Construction OPC Cost Extensions					\$342,000
Contingency				10%	\$35,000
Subtotal Construction Cost with Contingency					\$377,000
Planning, Engineering, Design, Legal				25%	\$95,000
Construction Management				10%	\$38,000
Total					\$545,000
Anticipated Accuracy Range ⁽³⁾			High	50%	\$818,000
			Low	-20%	\$436,000

(1) All costs are in 2020 dollars.

(2) Unit prices are adjusted by RS Means Construction Data location factors to Minneapolis, MN.

(3) This Class IV Level opinion of construction cost is based on planning-level designs, alignments, quantities and unit prices. Costs will change with further design. The estimated accuracy range for the Total Project Cost as the project is defined is -20% to +50% based off of ASTM 2516-11 accuracy range tool. The accuracy range is based on professional judgement considering the level of design completed, the complexity of the project and the uncertainties in the project as scoped.

Table B-6 Opinion of Probable Construction Cost
Alternative 5: Construct Permanent Pump Station and Force Main from IGT-B-3 Basin to DP-66 Basin
IGT-B-3 BASIN FEASIBILITY STUDY (CITY PROJECT NO. 2021-06)

PRELIMINARY - ENGINEER'S OPINION OF COST⁽¹⁾
January 5, 2021

Item No.	Item	Qty	Unit	Unit Price ⁽²⁾	Extension
MOBILIZATION					
1	Mobilization and demobilization (10%)	1	LS	\$30,000	\$30,000
2	Dense Clearing and Grubbing (Remove and Dispose of Trees)	1	Acre	\$10,000	\$6,000
3	Traffic Control (5%)	1	LS	\$32,200	\$33,000
4	Erosion Control	1	LS	\$10,000	\$10,000
5	Control of Water	1	LS	\$4,500	\$5,000
6	Site Improvements and Restoration	1	LS	\$8,000	\$8,000
7	Utility Conflicts	1	LS	\$20,000	\$20,000
8	60" RC Lift Station With 6" Pump, electric service/panel, 250 GPM	1	EA	\$90,000	\$90,000
9	8" HDPE forcemain	900	LF	\$80	\$72,000
10	Remove Concrete Pavement with Intergraded Curb	40	SY	\$12	\$1,000
11	Salvage Top Soil	500	CY	\$6	\$3,000
12	48" Dia. Precast Concrete Manhole	2	EA	\$3,500	\$7,000
13	Replace Pavement with Intergraded Curb	40	SY	\$130	\$6,000
14	Replace Salvaged Top Soil	500	CY	\$5	\$3,000
15	Sod	400	SY	\$10	\$4,000
16	Erosion Control Blanket	2500	SY	\$2	\$5,000
17	Seed Area (Turf Grass)	1	LS	\$1,500	\$2,000
18	FES with Riprap	1	EA	\$1,200	\$2,000
Subtotal for all Construction OPC Cost Extensions					\$307,000
Contingency				10%	\$31,000
Subtotal Construction Cost with Contingency					\$338,000
Planning, Engineering, Design, Legal				25%	\$85,000
Construction Management				10%	\$34,000
Total					\$488,000
Anticipated Accuracy Range ⁽³⁾			High	50%	\$732,000
			Low	-20%	\$391,000

(1) All costs are in 2020 dollars.

(2) Unit prices are adjusted by RS Means Construction Data location factors to Minneapolis, MN.

(3) This Class IV Level opinion of construction cost is based on planning-level designs, alignments, quantities and unit prices. Costs will change with further design. The estimated accuracy range for the Total Project Cost as the project is defined is -20% to +50% based off of ASTM 2516-11 accuracy range tool. The accuracy range is based on professional judgement considering the level of design completed, the complexity of the project and the uncertainties in the project as scoped.

Table B-7 Opinion of Probable Construction Cost
Alternative 6: Temporary Pumping to DP-66 Basin
IGT-B-3 BASIN FEASIBILITY STUDY (CITY PROJECT NO. 2021-06)

PRELIMINARY - ENGINEER'S OPINION OF COST⁽¹⁾
January 5, 2021

Item No.	Item	Qty	Unit	Unit Price ⁽²⁾	Extension
1	Mobilization and demobilization (10%)	1	LS	\$5,000	\$5,000
2	Trailer, 6" Diesel Pump	1	Month	\$2,610	\$3,000
3	6" x 20' suction hose	1	Month	\$144	\$1,000
4	intake screen	1	Month	\$36	\$1,000
5	6" x 50' discharge hose	20	Month	\$200	\$4,000
6	fuel at \$2.50/gal	1	Month	\$10,800	\$11,000
7	oil, filter changes and maintenance	3	EA	\$1,500	\$5,000
Subtotal for all Construction OPC Cost Extensions					\$25,000
Contingency				10%	\$2,500
Subtotal Construction Cost with Contingency					\$27,500
Permitting					\$5,000
Total					\$33,000
Anticipated Accuracy Range ⁽³⁾			High	50%	\$50,000
			Low	-20%	\$27,000

(1) All costs are in 2020 dollars.

(2) Unit prices are adjusted by RS Means Construction Data location factors to Minneapolis, MN.

(3) This Class IV Level opinion of construction cost is based on planning-level designs, alignments, quantities and unit prices. Costs will change with further design. The estimated accuracy range for the Total Project Cost as the project is defined is -20% to +50% based off of ASTM 2516-11 accuracy range tool. The accuracy range is based on professional judgement considering the level of design completed, the complexity of the project and the uncertainties in the project as scoped.

**Request for Council Action****TITLE:** Reprogram VMCC Space (Bee Elite) for City Programming Needs

		Fiscal/FTE Impact	Mark all that apply
Meeting Date:	March 1, 2021	None	
Item Type:	Work Session	Amount included in current budget	
Contact:	Heather Rand, 651-450-2546	Budget amendment requested	
Prepared by:	Jon Oyanagi	FTE included in current complement	
Reviewed by:	Heather Rand	New FTE requested - N/A	
		Other	X increase revenue

PURPOSE/ACTION REQUESTED:

The city has afforded Bee Elite Gymnastics to occupy space in the city's Veterans Memorial Community Center (VMCC) without lease agreement. At the work session, city staff intend to inform city councilors of other pressing programming needs for that space and staff's intent to provide Bee Elite with a 60 day written notice to vacate for the purpose of accommodating pertinent city space needs.

BACKGROUND:

Bee Elite Gymnastics has utilized space within the VMCC since 2006. They have been occupying space designed for racquetball courts since 2007 and have been operating under a verbal agreement paying 20% of gross revenue for use of the space, free program marketing through the City of Inver Grove Heights, and access to city utilities, and building services. The 20% of gross revenue payments by Bee Elite have not been verified via city audit.

Tomas Settel of the Bee Elite Gymnastics Academy approached the city council at a June 22, 2020 city council meeting to ask for assistance with the potential issue of losing his use of space at the VMCC. It was conveyed that he had had a conversation with the parks and recreation director about this and so he lined up supporters of his gymnastics business to share testimonies. The city council directed the group including Mr. Settel to meet with staff, and determine appropriate space parameters and draft a formal written lease agreement for council approval.

On Tuesday, June 30, 2020, the city's former Parks and Recreation Director Eric Carlson, Recreation Superintendent Julie Dorshak, Inver Grove Heights (IGH) Parks and Recreation Advisory Commission member Kevin Sethre, and IGH City Councilmember Brenda Dietrich

met with Mr. Settel and his attorney in the gymnastics space at VMCC. At the meeting, several topic points for a lease agreement were discussed and agreed upon. On August 4, Mr. Carlson sent a draft lease (attached) to Mr. Settel for his review. Numerous attempts by Mr. Carlson were made to finalize the lease agreement including emails sent to Mr. Settel on August 18, September 9, October 19, November 4 and November 16 with no response. Mr. Settel did respond via email in September and October and indicated a need for additional time due to a death in the family and on October 26, he said he would respond with comments by October 30. There was no response from Mr. Settel by October 30.

Mr. Settel did respond with an email dated December 14, 2020. Within the email he stated, "With no ability to forecast there is no way to reasonably negotiate a contract with so many unknowns at this time. That coupled with a new City Council starting in January of 2021, I believe it is best to pause negotiations until after the new city council is seated with all of the irregularities and instability with the change of new governance and our current lockdowns. We look forward to unpausing contract negotiations in the New Year in 2021." This response is not helpful to city programming needs and legal clarity.

The city administrator sent an email (attached) on February 16th, 2021 restating the city's position that a written lease is needed to continue the business relationship between the city and Bee Elite and that a response from Mr. Settel by February 23 is needed. The city administrator's email stated that the recommendation would be presented at the March 1 city council work session that would recommend a termination of access for Bee Elite to the VMCC space. On February 23, 2021 Mr. Settel contacted the city administrator requesting more time to respond.

Below is a recap of Bee Elite payments for space (revenue) to the City:

- 2006 - 2008 no records found.
- 2009 - 2012 city revenue was \$14,000 - \$15,000 annually averaging \$14,500.
- 2013 - 2015 city revenue was \$8,000 - \$10,000 annually averaging \$9,300.
- 2016 - 2019 city revenue has been \$4,600 - \$9,500 annually averaging \$7,100.
- 2020, city has received \$1,370 to date, July-November payments in progress

Over the years, the Bee Elite revenue has steadily declined, while prior to 2020, the programming, membership and fitness programs offered at the VMCC had been increasing.

Around 2017, the previous Recreation Superintendent informed Mr. Settel that city was starting to look at other uses for the space. In the spring of 2019, the new Recreation Superintendent introduced herself and also mentioned the need for a new agreement and the potential repurposing of the space in near future by the city.

In addition, in June of 2020, former Parks and Recreation Director, Eric Carlson, shared a copy of the VMCC's information from the 2020 VMCC Fire Department inspection by email to Mr. Settel. There were three items identified at the Bee Elite location to resolve.

- Remove extension cords that are exposed on the floor along with TV cord that is running up the structural support.
- Remove combustible wastepaper and other storage from under gymnastics equipment.
- Remove chairs and other material that poses a hazard to the front egress door.

At the time of this memo, these items have not been resolved by Mr. Settel, and the Fire Department has indicated that they are issuing a "No Programming Order" until the space has been deemed safe by the IGH Fire Department staff.

The Parks and Recreation Department finds that the space in question may be better utilized by offering other programs for Grove members and the entire IGH community.

The most significant current need is to find an additional location for the popular Kids Rock program. Staff was not able to offer the program last summer due to the strict youth enrichment program COVID-19 restriction guidelines and newness of the pandemic. The current plan anticipates the need to adhere to COVID-19 restrictions into the summer months but provide such needed youth programming. However, with the potential loss of the gym and two community rooms that are located in the National Guard Armory for COVID-19 testing and possible future vaccination staging, the city may be unable to offer the program as there would not be enough space at the VMCC to make the program work. Staff believes that about 40% of previous attendance can be accommodated if the BEE Elite space as well as Community Room 1 can be utilized. In non pandemic years, the Kids Rock program typically has three "home room" classrooms with an average daily attendance of 30 participants each. The revised program could be offered to potentially 23 students per classroom for up to 46 participants, as per current COVID-19 restrictions. A full budget is not yet developed due to the uncertainty around pod sizes, structure, length of program, etc. but staff conservatively estimate a net revenue potential of a minimum of \$20,000-\$30,000 if able to run a day long camp for youth this summer. Our sense is that this is a great community need for IGH youth.

Council has established a VMCC revenue goal each year of achieving 86% of operational costs, in 2019, the facility was very close to meeting this revenue figure, however, much of the momentum from that time has been affected by the COVID-19 pandemic. If the space occupied by the gymnastics program is made available, it would give the department the ability to offer the Kids Rock program this summer, then use the space as a multi-purpose room for fitness programs such as Silver Sneakers, Yoga and Boot Camps. The additional space will create versatility and the room can be configured in different ways depending upon the activity, such as fitness, arts, theatre or sports programs for preschool, youth, teens, and adults. Having the ability to move programs from the community rooms, turf and gym into the new multi-purpose space will allow for increased revenues from outside rentals or expanded programming in those spaces.

Long-term plans for this space have been explored in the past. An updated Comprehensive Parks and Recreation System Master Plan is in the works. This ten-year plan would likely recommend utilizing this space for changing community needs.

RECOMMENDATION:

In summary, it is the recommendation of staff that we discontinue the relationship with Mr. Settel and the Bee Elite Gymnastics Academy for the following reasons;

1. Mr. Settel has not responded to the draft lease agreement as sent August 4, 2020. Multiple communication attempts have not yielded a productive response.
2. The space can be better utilized by City Parks and Recreation Department to reach participants of all ages for toddler, family, youth, teen, adult and senior programming.
3. In the short term, the popular Kids Rock program can utilize the space in the summer of 2021 and increase revenue for the City. Revenue from the verbal lease agreement with Bee Elite have been on the decline over the life of the agreement even before the pandemic.
4. Mr. Settel has not responded or remedied the items identified by the Fire Department inspection order as of February 24, 2021.

Staff recommend a 60 day vacation notice be issued in writing to Mr. Settel so that the Kids Rock programing and related planning may commence for this summer.

Attachments:

Proposed Lease Agreement

Communication dated 2-15-2021 from City Administrator

LEASE AGREEMENT

THIS LEASE AGREEMENT (the “Lease”) is made as of the _____ day of _____, 2020, between the City of Inver Grove Heights, a Minnesota Municipal Corporation (the “Landlord”) and _____, a _____ d/b/a Bee Elite Gymnastics Academy (the “Tenant”), each of the foregoing being sometimes referred to individually as a “party” or collectively as “parties.”

ARTICLE 1 **LEASED PREMISES**

Landlord, for and in consideration of the rents, covenants and conditions hereinafter contained to be performed and observed by Tenant, does hereby demise and lease to Tenant and Tenant hereby leases from Landlord a portion of the real property located at 8055 Barbara Avenue, Inver Grove Heights, MN located within the building commonly referred to as the Veterans Memorial Community Center - Grove Aquatic & Fitness Center comprising approximately 1,900 square feet and identified as Room 117 on the attached **Exhibit A** (the “Leased Premises”).

Tenant and Tenant’s invitees shall have the nonexclusive privilege to use the restrooms and other public common areas such as hallways and adjacent parking lots, during the hours that the Grove Aquatic & Fitness Center is regularly open for use by the public/invitees.

ARTICLE 2 **TERM**

The term of this Lease shall be from **September 1, 2020** until **December 31, 2023 (the “Term” or “Lease Term”)**. Tenant shall have the right to terminate this Lease upon **sixty (60)** days’ written notice to Landlord.

ARTICLE 3 **RENT**

Beginning on September 1, 2020 and continuing on or before the first of each month during the Term of this Lease, Tenant shall pay to Landlord the monthly rent shown on the attached **Exhibit B**.

Tenant shall provide sufficient information and documentation, as determined in the sole discretion of the City, related to its gross receipts in order for the City to calculate the amount of Rent due to

the City during the time that the monthly rent is calculated based on Tenant's gross receipts. For purposes of this Lease, "Gross Receipts From All Program Revenue" shall mean Tenant's gross revenue, and shall include all revenue from any and all sources from programs, classes, or other use by Tenant of the Leased Premises, before any deductions, expenses, or withholdings.

ARTICLE 4

USE OF LEASED PREMISES

The Leased Premises shall be used by Tenant solely as a private gymnastics' school/program, including the storage of gymnastics equipment. No other use is allowed without the prior written permission of the Landlord. Use of the Leased Premises for any purpose not expressly provided for in this Article shall constitute a default under this Lease. Tenant shall not use the Leased Premises for storage or sales of merchandise of any kind.

Tenant shall have access to the Leased Premises only during the regular operating hours of the Grove Fitness & Aquatic Center, Sunday through Saturday, exclusive of holidays. Landlord reserves the right to change the regular operating hours of the Grove Fitness & Aquatic Center at any time during the Term of this Lease.

Tenant shall strictly comply with all federal and state rules, regulations, and laws in its use of the Leased Premises. This shall include but is not limited to strict compliance with all Emergency Executive Orders issued by the Governor of the State of Minnesota pursuant to the provisions of the Minnesota Constitution and Minnesota Statutes, Chapter 12, as a result of a health pandemic or other peacetime emergency. During any time when the Grove Fitness & Aquatic Center not open to the public or the Leased Premises are otherwise unavailable to Tenant due to a health pandemic or other peacetime emergency, Tenant's Monthly Rent shall be reduced on a pro rata basis based on the number of days the Lease Premises is unavailable for Tenant's use.

ARTICLE 5

ASSIGNMENT AND SUBLETTING

Tenant shall not sublet, sell, assign, mortgage, pledge, or in any manner transfer this Lease or any interest thereunder, in whole or in part, without the Landlord's prior written consent.

ARTICLE 6

TENANT'S ACCEPTANCE OF THE LEASED PREMISES/CONDITION

Landlord will not be obligated to construct or install any improvements in or to the Leased Premises. Landlord makes no representation, covenant, or warranty of any kind, character, or nature concerning the Leased Premises or otherwise. Tenant accepts the Leased Premises in "as-

is,” “where-is,” and “with all faults” condition. Landlord specifically disclaims any warranty of merchantability or fitness for any particular purpose and liability for any consequential damages arising out of the use or the inability to use the Leased Premises, or any part thereof.

Tenant, at Tenant’s own cost and expense, shall take good care of the Leased Premises and shall keep and maintain the same in good order and repair and in a clean and neat condition. Tenant shall not suffer or permit any waste or nuisance on the Leased Premises or anything thereon which interferes with the rights of the Landlord. Tenant shall promptly remedy any building or fire code violations found within the Leased Premises.

ARTICLE 7

FIXTURES AND EQUIPMENT

Landlord agrees that all trade fixtures, furniture, equipment, or other personal property of whatever kind and nature kept or installed on the Leased Premises by Tenant shall not become the property of Landlord or a part of the realty no matter how affixed to the Leased Premises and shall be removed by Tenant on or before the termination of this Lease, unless not removed by Tenant upon termination of this Lease.

ARTICLE 8

QUIET ENJOYMENT

Landlord covenants and agrees with Tenant that upon Tenant’s paying said Rent and keeping, paying, and performing all the terms, covenants, and conditions of this Lease on Tenant’s part to be kept, paid, and performed, Tenant may, except for reasons beyond the control of Landlord, peaceably and quietly have and hold the Leased Premises for the Term of this Lease.

Notwithstanding the above, Landlord and its agents or representatives shall have the right to enter the Leased Premise to inspect the same and for the purpose of making repairs or improvements to any adjoining area or the Grove Aquatic & Fitness Center and to install through or upon the Leased Premises such pipes, wires, utility boxes, and appurtenances as it may deem necessary or useful to the Landlord’s operation of the Grove Aquatic & Fitness Center or Veterans Memorial Community Center, but the making of such repairs, improvements, or installations shall be done in such a manner as will not interfere materially with the use and enjoyment of the Leased Premises by Tenant, except in case of emergency. In the event of an emergency, Landlord shall have the immediate right to access the Leased Premises, without prior notice to Tenant.

ARTICLE 9
ALTERATIONS, TITLE TO, AND REMOVAL OF IMPROVEMENTS

Except for non-structural alterations or improvements, Tenant may not without Landlord's prior written consent, remodel or make any alterations to the Leased Premises.

Tenant shall have no authority to create or place any lien or encumbrance of any kind whatsoever upon or in any manner to bind the interest of the Landlord in the Leased Premises, and Tenant covenants and agrees promptly to pay all sums legally due and payable by it on account of any labor performed on the Leased Premises upon which any lien is or could be asserted.

ARTICLE 10
REPAIRS, MAINTENANCE, SIGNAGE, AND ADVERTISING

Tenant shall, at all times during the Lease Term, at its own cost and expense, keep and maintain the Leased Premises in good working order. Tenant may maintain one sign on or next to the door to the Leased Premises identifying its use of the Leased Premises.

Landlord shall not provide any specific cleaning or janitorial services within the Leased Premises. Tenant may dispose of trash and recycling from the Leased Premises into receptacles designated by Landlord.

During the term of this Lease, Tenant shall be entitled to place a one-page ad in the City's Parks and Recreation Brochure, at no additional cost to Tenant, advertising Tenant's programs and classes offered in the Leased Premises. Such ad shall clearly state that such classes and programs are being offered by [REDACTED], and the ad shall be subject to approval by Landlord's communication director.

ARTICLE 11
PAYMENT OF TAXES AND OTHER CHARGES

Tenant shall pay all taxes, assessments, license fees or other charges that may be levied or assessed during the Term of this Lease upon or against the Grove Fitness & Aquatic Center, the Leased Premises, any improvements or equipment on the Leased Premises, or on account of the transacting of business thereon by Tenant, including but not limited to all real and personal property taxes. If Tenant shall fail to pay any of the taxes, assessments, license fees, or other charges when the same become due, Landlord may pay the same, together with any cost or penalty which may accrue thereon, and collect the entire amount so paid from Tenant and Tenant agrees to pay the entire amount to Landlord upon demand.

ARTICLE 12
UTILITIES

Landlord shall provide and pay for public utilities necessary to operation of the Grove Fitness & Aquatic Center (i.e. electricity, natural gas, water, sewer, etc.) and the supply of the same to the Leased Premises. Tenant shall not be required to pay for the utilities provided by Landlord to the Leased Premises. Landlord shall not be required to provide or install additional utility service to the Leased Premises beyond those utilities currently installed in the Leased Premises. Tenant shall manage the Leased Premises so as not to cause waste, including turning lights off when the Leased Premises are not being used.

ARTICLE 13
INSURANCE

Tenant hereby covenants and agrees that it shall at all times during the Lease Term obtain and maintain and keep in force and effect the following insurance:

1. A Commercial General Liability Insurance policy in a minimum amount of one million dollars (\$1,000,000.00) per occurrence and two million dollars (\$2,000,000.00) in the aggregate. The policy shall cover liability arising from use of the Leased Premises, operations, products-completed operations, property damage, personal injury, advertising injury, and contractually assumed liability. Landlord, including its elected and appointed officials, employees, and agents shall be endorsed as additional insureds.
2. Workers' Compensation Insurance on all employees working on the Leased Premises in accordance with the statutory requirements of the State of Minnesota.
3. A policy covering Tenant's contents and other personal property, inventory, and trade fixtures, satisfactory to Landlord, which shall include a waiver of subrogation as to Landlord.

Tenant shall deliver to Landlord on the Commencement Date of this Lease and on every Anniversary Date thereafter insurer-certified copies of such policies, certificates of insurance, or other evidence reasonably satisfactory to Landlord confirming the terms of such insurance, confirming that premiums thereon have been paid at least one (1) year in advance, and confirming that the policies are in full force and effect. Tenant shall provide to Landlord updated Certificates of Insurance within five (5) days of Landlord's written request for the same.

The Tenant shall be responsible for maintaining insurance on its personal property in the Leased Premises. On behalf of the Tenant and its insurer, the Tenant hereby waives and releases any right or claim to recover damages from the Landlord for any loss to the Tenant's property. This waiver does not apply to any loss resulting from the willful, wanton or intentional misconduct of the Landlord or any person acting on behalf of the Landlord.

ARTICLE 14

DEFAULT AND REMEDIES OF LANDLORD

The following shall constitute a default by the Tenant:

- (i) Tenant fails to pay Rent when due and such failure to pay Rent not cured within five (5) days from the due date of the payment;
- (ii) Tenant fails to observe or perform any of the non-monetary terms, covenants, or conditions of this Lease, and such default shall continue for thirty (30) days after notice of default is given by the Landlord or Tenant shall have failed to commence the cure of such default within thirty (30) days after such notice;
- (iii) Tenant is adjudicated bankrupt or a receiver or trustee of Tenant's property is appointed by any court; or
- (iv) The Leased Premises is abandoned for a period of thirty (30) days.

In the event of any default, in addition to any other remedies available to Landlord at law or equity, Landlord shall have the following rights:

- (i) Immediately, or at any time thereafter, without further notice to Tenant, to re-enter into or upon the Leased Premises, or any part there, and take possession of the same fully and absolutely without such re-entry working a forfeiture of the Rents or other charges to be paid and of the covenants, terms and conditions to be performed by Tenant for the full Term of this Lease, and in the event of such re-entry, Landlord may seek the collection of Rent or other charges to be paid under this Lease or for the properly measured damages and for the collection of its reasonable attorney's fees; and
- (ii) Landlord shall further have all other rights and remedies including injunctive relief, ejectment or summary proceedings in unlawful detainer, and any or all legal remedies, actions and proceedings, and all such shall be cumulative. Landlord shall be entitled to its reasonable attorneys' fees arising from or attributable to any such breach.

In the event that Landlord shall terminate this Lease as a result of Tenant's default, Landlord may recover from Tenant:

- (i) The amount of any unpaid Rent which had been earned at the time of such termination; and
- (ii) All expenses incurred by landlord in terminating this Lease and repossessing the Leased Premises, including but not limited to costs of repairs and legal fees.

ARTICLE 15 **AMENDMENTS**

No waivers, alterations, or modifications of this Lease or any agreements in connection therewith shall be valid unless in writing duly executed by both Landlord and Tenant herein.

ARTICLE 16 **RECORDING**

This Lease shall not be recorded.

ARTICLE 17 **WAIVER**

Landlord's waiver of any of the rights, remedies, terms, or conditions of this Lease on any occasion shall not constitute a waiver of any rights, remedies, terms, or conditions with respect to any subsequent breach or default under the terms of this Lease.

ARTICLE 18 **SURRENDER OF LEASED PREMISES**

Upon expiration or termination of this Lease, Tenant shall return the Leased Premises to Landlord in substantially the same condition in which the Leased Premises were received by the Tenant, except normal wear and tear. Tenant shall remove all equipment and personal property from the Leased Premises. Any equipment or other Tenant property not removed at the end of the Lease Term be deemed abandoned and may be disposed of by Landlord at Landlord's sole discretion.

Tenant agrees that Tenant shall be financially responsible for any and all personal property not removed upon termination of this Lease and Landlord shall have all rights and remedies at law and in equity to recover any damages, including reasonable attorney fees and costs, arising from Tenant's failure to remove personal property.

ARTICLE 19
SERVICE OF NOTICE

Every notice, approval, consent, or other communication authorized or required by this Lease shall not be effective unless the same shall be in writing and sent postage prepaid by United States registered or certified mail, return receipt requested, as follows:

If to Landlord at: City of Inver Grove Heights
 Attn: City Administrator
 8150 Barbara Ave.
 Inver Grove Heights, MN 55077

If to Tenant at: _____

or to such other address as either party may designate by notice given from time to time in accordance with this Article. Any notice given in accordance with the provisions of this Article shall be deemed to have been giving as of the date occurring two (2) days after such notice shall have been placed for mailing with the United States Postal Service. The amounts payable as rent by Tenant to Landlord hereunder shall be paid to the address designated by Landlord from time to time.

ARTICLE 20
HOLDING OVER

In the event Tenant continues to occupy the Leased Premises after the last day of the Term of this Lease, Tenant shall pay all incidental and consequential damages, including reasonable attorney fees and costs, sustained by Landlord as a result of any such holdover.

ARTICLE 21
CAPTIONS

The captions appearing in this Lease are inserted only as a matter of convenience and in no way define, limit, construe, or describe the scope or intent of any such Articles of this Lease or in any way affect this Lease.

ARTICLE 22
INVALIDITY OF PROVISIONS

If any term, covenant, condition, or provision of this Lease or the application thereof, to any person or circumstance shall, at any time, or to any extent, be invalid or unenforceable, the remainder of this Lease or the application of such term or provisions to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term, covenant, condition, and provision of this Lease shall be valid and enforceable to the fullest extent permitted by law.

ARTICLE 23
ENTIRE AGREEMENT

This Lease supersedes all other agreements, whether written or oral, between the parties hereto with respect to the Leased Premises and contains all of the covenants, agreements, and other obligations between the parties with respect to said Leased Premises.

ARTICLE 24
LIABILITY OF LANDLORD

Landlord and its officials, employees, attorneys, shall have no personal liability with respect to any provisions of this Lease or any obligation or liability arising from this Lease.

ARTICLE 25
REPRESENTATIONS BY TENANT; INDEMNIFICATION

This Lease shall not result in any joint venture between Landlord and Tenant. Tenant shall not represent that Tenant's programs are affiliated with, sponsored by, or in any way offered in conjunction with the City of Inver Grove Heights. Tenant shall be solely responsible for the actions of Tenant's employees, independent contractors, and volunteers occurring within the Leased Premises. Tenant shall be solely responsible for proper installation and maintenance of all equipment installed by Tenant on the Leased Premises, and shall at all times ensure such equipment is maintained and operated according to current industry standards and best practices.

To the fullest extent permitted by law, Tenant agrees to defend, indemnify and hold harmless Landlord and its employees, officials, and agents from and against all claims, actions, damages, judgments, litigation expenses, losses and expenses, including reasonable attorney fees, arising from any act or omission of Tenant, its employees, agents, independent contractors, or volunteers while on or about the Leased Premises or the Grove Aquatic & Fitness Center, and Landlord shall not be liable to any extent for, nor will Tenant make any claim against Landlord for or on account

of any injury, loss or damage to the Leased Premises, the personal property and facilities located thereon or to any person or property on the Leased Premises. The Tenant agrees this indemnity obligation shall survive the completion or termination of this Lease.

ARTICLE 26
GOVERNING LAW; VENUE; SAVINGS CLAUSE

This Lease shall be governed by and construed according to the laws of the State of Minnesota. Any actions or proceedings arising under this Lease shall be venued in Dakota County District Court.

If any court finds any portion of this Lease to be contrary to law, invalid, or unenforceable, the remainder of the Lease will remain in full force and effect.

ARTICLE 27
AUTHORITY

Landlord and Tenant hereby represent and warrant that each individual executing this Lease on behalf of said entity is duly authorized to execute and deliver this Lease on behalf of said entity and that this Lease is binding upon said entity in accordance with its terms.

ARTICLE 28
TIME IS OF THE ESSENCE

With respect to all acts of the Tenant and landlord required under or pursuant to this Lease, time is of the essence.

ARTICLE 29
FORCE MAJEURE

Neither party shall be liable to the other or deemed in default under this Lease, if and to the extent that a party's performance is prevented by reason of force majeure. "Force majeure" includes war, an act of terrorism, pandemics and epidemics, fire, earthquake, flood and other circumstances which are beyond the control and without the fault or negligence of a party and which by the exercise of reasonable diligence the party affected was unable to prevent.

ARTICLE 30
COUNTERPARTS

This Lease may be executed in counterparts, each of which shall be deemed an original, but which taken together shall constitute one and the same instrument. Electronic or facsimile signatures shall be deemed sufficient to create a binding obligation hereunder and shall have the same force and effect as an original signature of such party.

IN WITNESS WHEREOF, the parties, have caused this Lease to be approved on this ____ day of 20____.

LANDLORD
CITY OF INVER GROVE HEIGHTS

By: _____
George Tourville
Its: Mayor

Attest: _____
Rebecca Kiernan
Its: City Clerk

TENANT SIGNATURE PAGE

TENANT

Tenant

By: _____

Its _____

STATE OF MINNESOTA)

) ss.

COUNTY OF DAKOTA)

The foregoing instrument was acknowledged before me on _____ day of _____, 2020, by _____, the _____ of _____, a _____, under the laws of the State of Minnesota, on behalf of the entity.

Notary Public

EXHIBIT A

(The remainder of this page is intentionally left blank.)



EXHIBIT B
MONTHLY RENT

DATE	MONTHLY RENT
September 1, 2020 – May 31, 2021	20% of gross receipts from all program revenue
June 1, 2021-December 31, 2021	\$1,583.00
January 1, 2022-December 31, 2022	\$1,630.00
January 1, 2023-December 31, 2023	\$1,679.00

**Request for Council Action****TITLE:** Selection of Executive Recruitment Search Firm

		Fiscal/FTE Impact	Mark all that apply
Meeting Date:	March 1, 2021	None	
Item Type:	Work Session	Amount included in current budget	
Contact:	Heather Rand	Budget amendment requested	x
Prepared by:	Heather Rand	FTE included in current complement	
Reviewed by:	H Rand/Amy Hove/Janet Shefchik	New FTE requested – N/A	
		Other	

PURPOSE/ACTION REQUESTED:

City Council discuss and determine path toward the selection of an executive recruitment search firm per a January 26th, 2021 city council issued formal request for proposals solicitation (RFP).

SUMMARY:

On January 25, 2021, city council authorized the issuance of a request for proposals (RFP attached) for the purpose of soliciting and receiving comprehensive service proposals from experienced public-sector recruitment search firms for the recruitment and selection of a new city administrator, public works director and parks & recreation director.

The RFP was issued publicly on January 26th, 2021 to regional public-sector search firms, on the city's website, and an ad was placed on the League of MN Cities' marketplace website. As a result, six electronic proposals were received by the RFP's February 12th due date. They are 1) Baker Tily US; 2) DDA Human Resources, Inc; 3) Gallagher Executive Search Leadership Advisors; 4) GovHR USA; 5) Strategic Govt Resources; 6) Talent Solutions CLA .

Per Minn. Stat. Sec. 13.591, subd.3, the proposal data submitted to a government entity is considered private and nonpublic until the completion of the evaluation process which typically entails negotiation of a contract and selection of a vendor. For that reason, the proposals are presently considered confidential, and as such, will be shared privately with city councilors so that they may review and make an informed selection decision.

The city council approved RFP stated that the proposals will be evaluated using the following criteria:

- Responsiveness to the provisions and requirements of this RFP.
- Thoroughness of the proposal and clarity of services to be provided.
- Ability, capacity and skill of the proposer to perform the services requested in this RFP.
- Capacity of the proposer to provide the service within the time-frame specified, without delay or interference.
- Character, integrity, reputation, judgment, experience, and efficiency of the Proposer; including but not limited to past performance record
- Quality of performance of previous contracts or service, especially with municipalities in the State of Minnesota.
- Articulation of an effective strategy for recruitment of a diverse and qualified candidate pool.
- Qualifications and experience of the individuals assigned to this contract.
- Detailed cost analysis.
- Client satisfaction and successful applicant retention guarantee.

RECOMMENDATION:

The selection of a consultant is a city council decision. It is recommended that the city council members privately rank the proposals from the executive search firms based on the selection criteria established in the RFP. City councilors may then decide whether to have staff schedule interviews with all or a subset of proposers, and/or whether to check references with recommended guidance from the city attorney on who and how these may be accomplished so that follow up is fair and yields consistent results. Staff will assist in scheduling or other processes as needed and directed by Council. City councilors will then direct legal counsel to negotiate a professional service contract with a selected recruitment firm for formal consideration and approval at a publicly noticed city council meeting. A funding source for such contracted services will need to also be identified before a contract is awarded as this presently is a non-budgeted expense.

**Request for Council Action****TITLE:** Discuss Potential City Council Meeting Changes

		Fiscal/FTE Impact	Mark all that apply
Meeting Date:	March 1, 2021	None	
Item Type:	Work Session	Amount included in current budget	
Contact:	Heather Rand, Interim City Administrator, Phone: 651-450-2546	Budget amendment requested	
Prepared by:	HR	FTE included in current complement	
Reviewed by:		New FTE requested - N/A	
		Other	

PURPOSE/ACTION REQUESTED:

Discuss topic of city council better meeting management strategies including review of the results of a recent resident survey on potential council meeting day/time change and other related factors.

SUMMARY:

Recently, city councilors have begun to discuss various considerations with city staff on potential changes to city council meetings that may increase civic participation while also increasing the efficiency of the information provided and presented at city council meetings.

At council direction, the city's communication staff have completed a quick turnaround survey of IGH residents as to their preferences on meeting start times and days of week for council meetings to be held. Results of such will be provided at the work session meeting. City staff leadership have also held some discussions on the matter and wish to provide city council members with additional considerations.

**Request for Council Action****TITLE:** Review of Draft IGH Telework Policy

		Fiscal/FTE Impact	Mark all that apply
Meeting Date:	March 1, 2021	None	x
Item Type:	Work Session	Amount included in current budget	
Contact:	Heather Rand, Interim City Administrator, 651-450-2546	Budget amendment requested	
Prepared by:	H Rand	FTE included in current complement	
Reviewed by:		New FTE requested - N/A	
		Other	

PURPOSE/ACTION REQUESTED:

Presentation of a draft IGH Telework Policy that would guide city management's use of telework when found to be in the best interest of the city as a means of most effectively and efficiently providing city services. The draft IGH Telework Policy is intended to be placed on a March 8, 2021 city council meeting (consent) agenda for city council consideration of approval.

SUMMARY:

Similar to what so many private sector businesses, the state, counties and other cities in Minnesota and elsewhere have experienced this last year, the pandemic underscored the need for the city of IGH to formulate a draft telework policy that would clarify the purpose, application, guidelines and responsibilities of employees and management should a city management need arise for city employees to telework, as opposed to working in a city office facility. The proposed telework policy drafted moves beyond pandemic or other emergency disaster safety protocols that may occur in the future, in that it may also be used by city management to improve the productivity of certain employees, to retain workforce in certain circumstances and to facilitate some potential future costs savings for the city by having less office space obligations over time.

For policy drafting purposes, the telework human resource policy from the state of Minnesota as the state's largest employer, and from other Minnesota cities and the private sector were reviewed by a management committee of city employees and with further legal consultation

and refinement, the IGH draft telework policy was created. The draft policy was then reviewed and further refined by city supervisors, city labor union representatives, and by department heads to insure advance agreement in policy terms before bringing it forward to the IGH city council for final consideration and approval.

It is important to note that the policy clearly states that telework may be offered to designated city employees as determined by department management and approved by the city administrator. The policy also states that telework is not appropriate for all employees (or jobs in the city) and no city employee is entitled or guaranteed the opportunity to telework. Instead, telework is a management option. As such, city staff leadership do not believe there will be significant future cost implications with the adoption of this telework policy as presented.

For all the reasons stated, city council approval of the draft policy as presented is recommended to occur at the March 8, 2021 regularly scheduled city council meeting.



City of Inver Grove Heights

Telework Policy

March 2021

Purpose

The purpose of this policy is to establish guidelines for teleworking. Teleworking may be offered to designated employees as determined by Department Management and approved by the City Administrator. Telework is not appropriate for all employees and no employee is entitled or guaranteed the opportunity to telework. It is a management option, rather than a universal employee benefit.

The scope of this policy includes all regular full-time and part-time benefitted employees including probationary employees. It may also include temporary or seasonal employees, as assigned to fulfill City business, and as approved by the City Administrator.

This policy may be used for future emergency situations and all non-emergency remote work.

Application

The City supports teleworking when it is reasonable and practical to do so and where operational needs will not be adversely affected. The City has sole discretion to determine which positions are appropriate for teleworking and reserves the right to identify positions where work cannot be performed on a remote basis and exempt those positions from the ability to telework.

Several criteria will be considered when determining whether an individual employee will be successful in their job when teleworking including, but not limited to:

- The ability of the employee's work to be performed remotely
- The employee's job knowledge
- The ability to establish clear objectives
- The ability to work independently
- The employee's demonstrated dependability
- The employee is meeting workplace expectations for quality and quantity of work
- Equipment and scheduling needs

Department directors will be responsible for identifying all roles within the City that may be a teleworker and/or an in-eligible teleworker based on whether work can be

performed on a remote basis either continuously or with intermittent rotation into the workplace.

Teleworking does not change the terms and conditions of employment with the City. This program does not create a contract of employment and does not alter the employee's status. The terms and conditions of employment are governed by applicable rules, laws, City policies, practices, and contracts.

The employee's duties, obligations, and responsibilities with the City remain unchanged. The teleworking employee is expected to maintain the same level of performance, responsiveness, and customer service whether they are teleworking or working on-site.

This program may be revoked or changed at any time at the City's sole discretion based on operational needs, position requirements, employee work performance, or other factors. Supervisor may discontinue schedules approved in accordance with this policy at any time.

Discontinuance, change, or denial of telework is not subject to appeal.

Definitions

Teleworking: A work arrangement that allows employees to fulfill their job responsibilities at a site other than their normal work location.

Teleworker: An employee who:

- A. Is unable to work at their normal work location due to one of the following reasons:
 - i. is subject to a Federal, State, or local quarantine or isolation order related to COVID-19;
 - ii. has been advised by a health care provider to self-quarantine related to COVID-19;
 - iii. is experiencing COVID-19 symptoms and is seeking a medical diagnosis;
 - iv. is caring for an individual subject to an order described in (a) or self-quarantine as described in (b);
 - v. is caring for a child whose school or place of care is closed (or childcare provider is unavailable) for reasons related to COVID-19; or
 - vi. is experiencing any other substantially similar conditions as specified by the US Department of Health and Human Services, Labor and Treasury.
- B. Understands his/her rights under the Families First Coronavirus Response Act <https://www.dol.gov/agencies/whd/pandemic/ffcra-questions> and any replacement legislation, and is voluntarily able and willing to telework; and
- C. Is deemed eligible to telework by the City Administrator.

Mandatory Teleworker: An employee who, as determined by an event or circumstances beyond their control, will have to fulfill their responsibilities at a site other than their normal workstation.

On-request Teleworker: An employee, as determined by his/her department director in agreement with the City Administrator, to have the appropriate job duties and necessary resources to fulfill their responsibilities at a site other than their normal work location.

Ineligible Teleworker: An employee who is not eligible to participate in teleworking due to job responsibilities and/or business necessity.

Program Guidelines

1. Each department director must always ensure departmental coverage.
2. Work expectations will be established prior to authorizing a telework status for an employee.
 - a. Supervisors will determine work assignments and expected productivity. Assignment deadlines will be discussed, and the employee's productivity will be measured based on their ability to perform their duties remotely in a timely manner.
 - b. Supervisors will communicate the expectations of assigned tasks/projects so that the employee clearly understands what is expected of them. When deadlines are assigned, they should be reasonably based on the task/project. The teleworking employee will communicate if they fall behind on scheduled deadlines for assigned tasks/projects so that the deadlines can be reevaluated. Timeliness, quality, and quantity of work must be maintained.

All Employees Responsibilities

1. Employees and supervisors/managers will mutually agree to a telework schedule.
2. The employee's work location is assumed to be their principal residence/home. Temporary work locations other than the employee's principal residence/home must be specifically approved in writing by a supervisor.
3. Employees are not allowed to work for or at a second place of employment during the normal or temporarily revised work schedule.
4. Employees are expected to regularly update their supervisor on the status of job responsibilities and inform them of any issues that may arise as appropriate.
5. The City's Drug and Alcohol Policy as well as all other city rules, administrative directives, policies, and procedures, etc. are still in effect while teleworking.
6. Employees must be available during normal business hours, online, and fully accessible during agreed-upon times between the employee, their supervisor, and coworkers, as necessary.

7. Employees must be responsive to emails, telephone calls, voicemails, and text messages, in the same manner, they are when physically in the workplace. This includes participating in meetings (e.g., via telephone or video/teleconference).
8. Employees agree to receive voicemails through their email. They may respond on a city provided cell phone, a stipend cell phone or a personal cell phone. Note: All data on a teleworker's city computer that is created or maintained as a part of the employee's work-related duties, are considered government data and therefore are subject to the Minnesota Government Data Practices Act rules and procedures.
9. If any assignments or meetings take place that requires the employee's physical presence in the office or other location, the employee is required to report to work or to other location.
10. If an employee is required to step away from their work during the course of the workday and this absence would normally result in the employee using leave time, the employee will need to use their leave time for those hours.
11. Employees are responsible for reading and understanding this telework policy.

Hourly (non-exempt) Employee Responsibilities

1. *Hourly (non-exempt) employees* are generally expected to be available and working during their regularly scheduled workday unless a different work schedule has been agreed upon by the supervisor.
2. Employees are expected to accurately report all hours worked.
3. *Hourly (non-exempt) employees* are to stop working at the end of the workday as defined by the supervisor. This includes responding to emails, phone calls, and/or voicemails. Hourly employees are not permitted to work unauthorized overtime unless they have received approval from their supervisor.
4. The City requires a picture of the workspace to be included with the Telework Assignment form.

Dependent Care

The City recognizes that dependent care and schools may be impacted by an emergency. The Telework Policy is not intended to allow telework and dependent care to occur simultaneously (at the same time). Employees must coordinate with their supervisor on a schedule that allows them to meet their parental responsibilities in addition to work obligations. This may be different for each employee based on the specifics of their situation. Employees must report any work/dependent care scheduling conflicts to their supervisor in advance so schedule adjustments can be considered just as an employee would do if they were physically working at the City.

Although an individual employee's schedule may be temporarily modified to accommodate dependent care needs, the focus of the telework arrangement must remain

on job performance and meeting City needs. If an employee is not meeting job expectations the employee will no longer be eligible for telework.

Equipment and Work Environment

The employee is responsible for providing a remote work environment that is safe and as conducive to productivity as possible.

The employee agrees to provide a secure location for City-owned equipment and materials and will use such equipment for City business purposes only. No other person may use City equipment under any circumstances (e.g., family members). The employee is responsible for ensuring that all items are properly used. Department managers/supervisors should ensure that equipment they have provided for home use is appropriately logged for tracking and retrieval.

The employee may be required to provide personal furniture, phone, equipment, desktop or laptop computer, scanner, printer, and software, as well as internet connectivity. These expenses will not be reimbursed by the City. Whenever possible the City will provide City-owned laptops for those that are teleworking, but due to our limited equipment, this may not be feasible. If additional specialty equipment is required as determined by the department director, or requested by another agency for security purposes for the work that is done the City will provide these resources. If the equipment is personal it should be repaired or resolved by the employee.

The cost associated with the initial and ongoing setup of the remote work area at the employee's home is the sole responsibility of the employee. This includes payment of the teleworking employee's utilities (heat, electricity, etc.), internet, phone, printer, ink, and other expenses and supplies. Office supplies may be provided by the City and should be obtained in-office. Unused supplies should be returned to the City.

If, for any reason, internet connectivity is lost or the City provided equipment or personal equipment does not work and the employee is unable to use either, after assistance from City I.T. to identify the problem, if the failure is City equipment it should be returned to the City to repair or resolved. The employee will need to return to the workplace until the problem is resolved and the equipment is functioning properly to resume the Telework Assignment. If the employee cannot return to the workplace the employee will need to use leave time.

The City of Inver Grove Heights assumes no responsibility for any use, wear and tear, loss, or maintenance of employee-owned property, devices, or systems.

Security

Work done at the telework site is considered official City business. All-City records, papers, and correspondence must be safeguarded and protected from unauthorized use or disclosure. Employees are expected to ensure the protection of information and to adhere to data privacy and records retention laws. Employees must take care to ensure private and/or confidential data is not accessible and that proper methods are used to transmit any private/confidential data electronically.

Employees are required to comply with all data security standards established by the City. When assigned to telework the employee must use an internet connection that is secure and locked to the public. The method of connecting to the City's network infrastructure must use the IT approved method of remote access and authentication. Employee expressly agrees that they will not perform any telework on a non-password protected Wi-Fi, or in any public place, on a public Wi-Fi connection. Refer to the City's IT Policy on the Human Resource Department SharePoint intranet page:

<https://invergroveheights.sharepoint.com/sites/Community/HR/> in the Shared Documents/ City Policies and Procedures folders, for complete compliance definitions.

If the employee has access to confidential information or related infrastructure, then they also need to ensure that their telework environment complies with security rules related to maintaining the confidentiality of such information. At no time may a computer that is connected remotely to the City network be left unattended without locking the screen. The employee must alert the IT staff if they believe their connection has been compromised in any way. Other security steps include but are not limited to, the use of locked file cabinets and desks, regular password maintenance, and any other steps appropriate for the job and the environment.

No employee is allowed to make audio or video recordings of any City meetings (other than meetings subject to the Open Meeting Law) or discussions conducted via Zoom, WebEx, or any other similar virtual platform being utilized for work purposes without the explicit written permission from all employees participating in the meeting. Any recordings such as this are considered the property of the City.

Safety

The employee agrees to maintain a safe, secure, work environment. Injuries sustained by the employee while at their designated remote work location and in conjunction with their regular work duties may be covered by the City's workers' compensation policy.

Employees must promptly report work-related injuries to their supervisor at the earliest opportunity. Employees agree to hold the City harmless for injury to others at the teleworking location.

City of Inver Grove Heights
TELEWORK AGREEMENT

1. Teleworker understands that this telework agreement is not a contract of employment between the City and employee and does not provide any contractual rights to continued employment. It does not supersede the terms of the existing employment relationship.
2. Teleworker understands they remain obligated to comply with all City rules, policies, practices, and instructions that would apply if the employee were working at their regular worksite.
3. Teleworker agrees and understands that this agreement will be evaluated on an ongoing basis to ensure the employee's work quality, efficiency, and productivity are not compromised by the telework arrangement described in the Telework Policy.
4. Teleworker agrees to provide a designated workspace, furniture, equipment, computer, and peripherals as needed at the telework location identified.
5. Teleworker agrees to provide internet services and access at the employee's expense of sufficient quality and speed to support working efficiently and effectively via the internet.
6. Teleworker agrees to use a secure internet system that is password protected. Teleworker further agrees that they will not perform any telework on a non-password protected Wi-Fi, or in any public place, on a public Wi-Fi connection.
7. Teleworker agrees they will not copy City-owned software in any manner unless such copying is expressly permitted by the licensing agreement and approved by IT.
8. Teleworker agrees that work products developed and/or produced by the employee while teleworking remain the property of the City.
9. Teleworker understands that all equipment, records, and materials provided by the City remain the property of the City.
10. Teleworker agrees to protect City-owned equipment, records, and materials from unauthorized or accidental access, use, modification, destruction, or disclosure.
11. Teleworker agrees to take reasonable steps to protect any City property from theft, damage, or misuse and agrees to report any incidents of loss, damage, or unauthorized access at the earliest opportunity.
12. Teleworker agrees to return City equipment, records, and materials within three business days of termination of the Telework Agreement. The employee also agrees to return all City equipment within three days of a written request for inspection, repair, replacement, or repossession as needed while the Telework Agreement is in place.
13. Teleworker understands that requests to work overtime or use personal leave must be approved by the employee's supervisor in the same manner as when working at their regular City worksite.
14. Teleworker agrees and understands that the use of their own personal vehicle for City business is not covered by the City's auto or liability insurance.
15. Teleworker agrees not to conduct face-to-face meetings at the telework location.
16. Teleworker agrees to schedule dependent care arrangements, so they do not conflict with teleworking hours.
17. Teleworker understands that they are responsible for tax consequences of this arrangement if there are any, and for conformance to any local zoning regulations.

18. The teleworker remains liable for injuries to third parties and/or members of the employee's family on the employee's premises or other designated telework location.
19. This agreement may be modified on a temporary basis because of business necessity.

I have read, understood, and agree to abide by the Telework Policy and this Telework Agreement with the City of Inver Grove Heights.

I have discussed the terms and conditions of employment, scheduling days and hours of work, communication, employee/supervisor responsibility for work progress and monitoring work, the use of City equipment, and data privacy with my supervisor.

I understand that I am expected to satisfy all job responsibilities and performance requirements of my position, and acknowledge that if I fail to perform duties or meet project or other related milestones or deadlines my teleworking privileges may be revoked or reduced at any time and that I may be subject to discipline.

I understand that the City will not pay for the following expenses:

- Telecommunications services, internet services, telephone lines, or long-distance charges not attributed to a City-owned cell phone
- Maintenance or repairs on, or replacement of, privately-owned equipment
- Utility costs associated with the use of a computer, printer, personal phone, or occupation of the teleworking location
- Travel expenses associated with commuting to City offices, buildings, or meetings
- Other expenses as outlined in the Telework Policy

I have read this Teleworking Agreement, understand it, and agree to its terms.

I understand that teleworking privileges may be revised or terminated by the City as provided in the policy, especially if abuse of the Telework Policy occurs.

Employee

Date

Supervisor

Date

Department Director

Date

Send this signed agreement to Human Resources for placement in the Employee's Personnel File. The employee and the supervisor should each keep a copy of this agreement for future reference.

TELEWORK ASSIGNMENT FORM

The supervisor and the teleworking employee must complete this form together. The completed Telework Assignment Form will be attached and incorporated into the Telework Agreement. Updates should be made as needed.

Day of Week	Work Location
<i>Monday</i>	
<i>Tuesday</i>	
<i>Wednesday</i>	
<i>Thursday</i>	
<i>Friday</i>	
<i>Saturday</i>	
<i>Sunday</i>	
Itemize the equipment, supplies, data, or furniture the employee will need at the telework site. Specify which of these items the City will provide and which the employee will provide.	
Equipment/Supplies/Data/Furniture	Provided by
<i>Computer/Laptop</i>	
<i>iPad/Mobile Device</i>	
<i>Headphones</i>	
<i>Monitor(s)</i>	
<i>Cable(s)</i>	
<i>Other</i>	
What will be done to ensure the security of City equipment, supplies, data, and furniture?	
What records will the employee keep at home and how will they be handled?	
Any additional information that needs to be provided for this Telework Assignment.	

Please provide a picture of the workspace here

Employee signature	Date
Supervisor signature	Date