DRAFT

CITY OF INVER GROVE HEIGHTS WELLHEAD PROTECTION PLAN PART 2

SEPTEMBER 23, 2016

Stantec Project No. 193802191

Stantec

TABLE OF CONTENTS

FIGURES

APPENDICES

PUBLIC WATER SUPPLY

NAME: City of Inver Grove Heights

ADDRESS: 8168 Barbara Avenue
Inver Grove Heights, MN 55077

TELEPHONE NUMBER: (651) 450-2570 FAX NUMBER: (651) 450-2502

WELLHEAD PROTECTION MANAGER

NAME: Dan Helling

ADDRESS: 8168 Barbara Avenue
Inver Grove Heights, MN 55077

TELEPHONE NUMBER: (651) 450-2565 FAX NUMBER: (651) 455-9405

E-MAIL: dhelling@invergroveheights.org

CONSULTANT/TECHNICAL ASSISTANCE

NAME: Mark Janovec, Stantec

ADDRESS: 2335 West Highway 36
St. Paul, MN 55113

TELEPHONE NUMBER: (651) 636-4600

E-MAIL: mark.janovec@stantec.com FAX NUMBER: (651) 636-1311

DOCUMENTATION LIST

STEP	DATE PERFORMED
Part 1 Approval Notice Received from MDH	February 18, 2016
Scoping 2 Meeting Held (4720.5349, subp. 1)	April 27, 2016
Scoping Decision Notice Received (4720.5340, subp. 2)	May 12, 2016
Remaining Portion of Plan Submitted to Local Units of Government (LGUs) (4720.5350, subp. 1 & 2)	
Review Received From Local Units of Government (4720.5350, subp. 2)	
Review Considered (4720.5350, subp. 3)	
Public Hearing Conducted (4720.5350, subp. 4)	
Remaining Portion WHP Plan Submitted (4720.5360, subp. 1)	
Approved Review Notice Received	

PUBLIC WATER SUPPLY WELL INFORMATION

Well Number	Unique Number	Aquifer	Casing Depth (ft)	Well Depth (ft)	Date Constructed	Vulnerability*
Well 3	207284	Jordan	355	407	1970	Vulnerable
Well 4	207285	Jordan	285	360	1970	Not Vulnerable
Well 5	165640	Jordan	358	452	1980	Vulnerable
Well 6	433259	Mt. Simon	802	1044	1987	Not Vulnerable
Well 7	463527	Jordan	420	514	1990	Not Vulnerable
Well 8	655940	Jordan	435	542	2004	Not Vulnerable
Well 9	759561	Jordan	425	510	2008	Not Vulnerable

*See the Part 1 plan for explanation of well vulnerability.

1.0 INTRODUCTION

Wellhead protection is a means of safeguarding public water supply wells by preventing contaminants from entering the area that contributes water to the well or wellfield over a period of time. This program is now required in Minnesota since the Minnesota Department of Health (MDH) implemented its Wellhead Protection Rules in November 1997. The MDH initiated its Wellhead Protection Program in response to the 1986 Amendments to the Safe Drinking Water Act and MDH's statutory authority is granted in the Minnesota Groundwater Protection Act of 1989. The City of Inver Grove Heights completed its Part 1 Wellhead Protection Plan on July 15, 2016 (which was subsequently approved by the MDH in February 2016), which delineated the capture zones for the City's wells and determined the vulnerability of the aquifers that supply these wells. This report is the Part 2 Wellhead Protection Plan that inventories potential sources of contamination, identifies problems and opportunities for managing these contamination sources, and develops a management plan to mitigate risks of groundwater contamination.

The City of Inver Grove Heights currently operates seven production wells for municipal water supply purposes. All wells are within City limits. Six of the wells are completed in the Jordan Aquifer, while one well is completed in the Mt. Simon aquifer. A detailed description of the geologic and hydrogeologic setting of Inver Grove Heights's water supply system is presented in *City of Inver Grove Heights Wellhead Protection Plan Part 1* (Stantec). See Appendix G. The rest of this report is used to summarize the wellhead protection area delineation analysis, the vulnerability assessment, and to present the contents of the wellhead protection plan.

2.0 WELLHEAD PROTECTION AREA AND DRINKING WATER SUPPLY MANAGEMENT AREA

The wellhead protection area (WHPA) and drinking water supply management area (DWSMA) delineation analyses were conducted in accordance with Minnesota Department of Health's wellhead protection rules. As a result, the following criteria were considered in making the delineation analysis: 1) the aquifer's hydraulic conductivity, 2) the groundwater flow direction, 3) the average daily pumping rate from each of the existing wells, 4) hydrogeologic boundaries, and 5) time of travel.

Each of these criteria were factored into the development of a groundwater flow model that was ultimately used to conduct the delineation analysis. The results of this analysis (i.e., the WHPA and DWSMA) are presented in Figure 1 for the City's wells. Additional details on the delineation analysis is presented in *City of Inver Grove Heights Wellhead Protection Plan, Part 1*, prepared by Stantec (July 16, 2015). See Appendix G. The delineation was approved by the MDH in February 2016.

3.0 VULNERABILITY ASSESSMENT

Two separate assessments were undertaken to determine the vulnerability of the City's water supply. The first consisted of an assessment of the vulnerability of the Jordan aquifer to contamination within the identified DWSMA. (The Mt. Simon aquifer, which is deeper and more protected than the Jordan aquifer, was not assessed, since it automatically has a lower vulnerability level than the Jordan aquifer.) This assessment was completed according to MDH guidelines and recommended methodology.

The second assessment was a well vulnerability assessment for the City's wells. The well vulnerability assessment was also completed using MDH guidelines. A description of the two assessments is presented in *City of Inver Grove Heights Wellhead Protection Plan, Part 1*, prepared by Stantec (July 16, 2015).

The result of the analysis is that the Jordan aquifer in the vicinity of the DWSMA has "moderate" vulnerability. Moderate vulnerability indicates that while protective geologic layers appear to be present that could offer protection to the aquifers that supply the City's wells, there is information to suggest that some younger water is still infiltrating to the aquifers from the land surface. This was determined by the presence of tritium in some of the City's wells, which is an isotope of hydrogen that indicates the water was in contact with the atmosphere within the last 60 years. This determination of moderate vulnerability was used to establish the types of potential contaminant sources that were to be inventoried and managed as part of this plan. A more detailed discussion of potential contamination sources is presented in Chapter 5.

4.0 DATA ELEMENTS

The State rules relating to wellhead protection require that wellhead protection plans include specific data elements. Each of these elements was discussed specifically in the second scoping meeting with the MDH and are presented briefly here.

4.1 Geology

A complete description of geologic conditions in the wellhead protection area is provided in *City of Inver Grove Heights Wellhead Protection Plan, Part 1*, prepared by Stantec (July 16, 2015), which was approved by the MDH in February 2016 (4720.5400, subp. 1, item B). In general, it was determined that the Prairie du Chien-Jordan aquifer is hydraulically connected to the Mississippi River, with the dominant flow direction and gradient being driven by the proximity of the river. Confining units are generally limited to areas where the basal layer of the St. Peter sandstone is present and/or layers of clay are present. While protective layers of clay are believed to cover most of the DWSMA and offer some protection from contaminants at the land surface, a "moderate" vulnerability designation was assigned to the DWSMA to reflect elevated tritium levels detected in Wells 3 and 5.

4.2 Groundwater Quality

The quality of water from the City's wells is generally good. Elevated iron and manganese levels are handled through the City's water treatment plant. Iron concentrations in raw water are reduced from 0.3 ppm (parts per million) to less than 0.1 ppm. Manganese levels are reduced from 0.25 ppm to 0.02 ppm. Nitrates levels in the municipal wells is typically very low, with most wells showing non-detection of nitrates. Well 3 has the highest concentrations of nitrates, reaching 2.4 mg/L. This is well below the regulated limit of 10.4 mg/L.

Perfluorochemicals (PFCs) have been detected over large parts of Southern Washington County and Eastern Dakota County since 2005 as a result of chemicals believed to have been landfilled by the 3M Company in the area. While PFCs have likely been present in the aquifer(s) in these areas for multiple decades, they were first detected in around 2005, when sampling efforts were undertaken to search for these compounds. In the Inver Grove Heights wells, PFBA (Perflourobutanoic Acid, a type of PFC) has been detected in one well (Well 3), with a concentration of 0.06 ppb (parts per billion). The established Health Risk Limit for PFBA is 7.0 ppb. This sample was collected in 2007. The MDH has chosen not to re-sample the Inver Grove Heights wells for PFCs, since it is believed that PFCs do not likely pose a significant threat to Inver Grove Heights's drinking water. Sampled concentrations are well below the Health Risk Limit and are unlikely to increase significantly in the coming years. There is little that Inver Grove Heights can do about PFC contamination at this point, other than to assist the MDH in any ongoing monitoring efforts.

Annual water sampling is on file with the MDH. The 2015 Drinking Water Report, which summarizes the latest water quality sampling of the City's wells, has been provided in Appendix B of this plan.

4.3 Groundwater Quantity

There are a number of wells in surrounding areas which are covered by State groundwater appropriation permits. The Part 1 report shows nearby wells and their volume pumped between 2007 and 2011. Data indicates there are no known well interference problems in or around the Inver Grove Heights DWSMA. Data showing all well appropriations permits and volumes pumped can be viewed at the Department of Natural Resources website at **http://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/wateruse.html**.

5.0 CONTAMINANT SOURCE INVENTORY

5.1 Introduction

As part of the City of Inver Grove Heights's wellhead protection planning process, an inventory of potential contaminant sources was conducted within the delineated drinking water supply management area (DWSMA). The purpose behind this inventory was to develop a database listing potential sources of contamination that may affect the public water supply wells for the City of Inver Grove Heights. The results of this effort provide the City with information about contaminant sources identified in the DWSMA. Wellhead protection planning strategies can be directed in a manner that will deal with any potential sites before they become a problem or a threat to Inver Grove Heights's drinking water supply.

5.2 Land Use

Following a scoping meeting held with Minnesota Department of Health (MDH) staff in April 2016, the City proceeded to locate information about land and water use within the delineated 10-year DWSMA for Inver Grove Heights's wells. Any data which was relevant to the City's wells, the quality of the water being drawn in to the wells, or land and groundwater uses around the wells was considered important in determining any potential threat to the water supply. The following criteria were used:

1. All areas must be inventoried as to the types of land and water uses, as discussed below.
2. All areas within the groundwater portion of the DWSMA delineation will require an inventory of wells or other borings or excavations that penetrate bedrock-confining units.
3. All areas must be evaluated for the presence of storage tanks, including tanks containing fuels, solvents, or other chemicals.
4. Known spill and leak sites will be inventoried within the DWSMA. While this isn't required in the Scoping Decision Notice, this was included in the plan to give a good understanding of where spills have occurred in the past and to determine if certain properties may pose a continued risk of contamination.

Each of these elements is described separately below.

5.3 Parcel-Specific Land and Water Uses

Understanding land use is important in determining key areas for concern in managing a wellhead protection area. For example, knowledge about the location of future commercial development in relation to the DWSMA may reveal a need to closely manage the activity within more sensitive areas. Additionally, any parcels that currently pose a potential threat to the City's water supply need to be highlighted to increase awareness of any concerns.

Parcels in DWSMAs have been delineated on Figure 2, according to their current zoned land uses. Future planned land uses are shown on Figure 3, based on the Comprehensive plan. The majority of the parcels in Inver Grove Heights's DWSMA are shown to be residential ranging from higher density residential to rural density residential. A mix of commercial, public/institutional, and industrial is also present in smaller percentages. Commercial or industrial land uses have the greatest potential to contain point sources of contamination (storage tanks, hazardous waste generators) while residential land uses have a greater potential for non-point source pollution from lawn and garden applications.

Land uses are unlikely to change significantly over the lifetime of this plan, since large portions of the DWSMA are already fully developed. Most development over the planned life of this plan will likely be residential in nature. Observed land uses, in general, appear to be following the established zoning ordinances. At present, the zoning appears to be adequate for the Wellhead Protection Plan, since no significant use changes are anticipated over the life of this plan.

5.4 Wells

An important component of the potential contaminant source inventory was the location of any known wells within the DWSMA. Since wells may penetrate confining layers that normally protect an aquifer, they are potential pathways for contaminants to rapidly enter the aquifer. A search for active and unsealed wells was undertaken for the entire DWSMA.

The following sources were used to identify wells in the DWSMA:

1. Minnesota Geological Survey's County Well Index (CWI)
2. Personal interviews with City staff
3. Site reconnaissance
4. Aerial photos

In general, information from the CWI and the City of Inver Grove Heights was used to identify known wells, while the information from the MDH was used to document abandoned or sealed wells. City staff and site reconnaissance was useful in identifying locations for the identified wells.

The results of the well search indicated that there are 321 known wells currently in the DWSMA for the City of Inver Grove Heights including the municipal supply wells. A listing of these wells is provided in Table A-1 in Appendix A and their mapped locations are depicted in Figure 4. Additionally, there are a number of parcels within the DWSMA for which no well records could be located, but are also not served by municipal water supplies. These parcels are inventoried as having a "suspected well." A total of 112 suspected wells were identified as part of this planning effort. Figure 4 shows the locations of these suspected wells and Table A-2 in Appendix A lists the parcels identified as having a suspected well. Management strategies will be implemented as part of this plan to help obtain more information about these properties and determine the number of wells contained on this parcels.

Another type of well that is inventoried as part of the Wellhead Protection Plan is Class V injection wells. These wells include shallow disposal wells and automotive drains that are not connected to

municipal sewer service. At present, no known Class V injection wells were found within the DWSMA, but the lack of a formal database for these wells makes them difficult to verify. The implementation plan in Chapter 8 will include a strategy to help locate manage Class V wells over the coming decade.

5.5 Point Sources

An important component of the potential contaminant source inventory was to look for any point sources within the DWSMA that might be a threat to the quality of Inver Grove Heights's water supply. For a moderately vulnerable DWSMA, the main point sources of concern are storage tanks. Tanks are a potential threat because they may contain a high volume of contaminants at one location, but may also contain certain compounds (such as petroleum products) which can break down protective geologic layers if leaks are allowed to go unchecked for an extended period of time.

The City investigated databases containing information about registered storage tanks, including both above ground and underground tanks. Once this information was collected, it was reviewed for accuracy and was also reviewed with City staff in order to identify sites that are currently within the delineated DWSMA. Figure 5 shows the mapped storage tanks, while Tables A-3 in Appendix A contain information about these mapped sites. A total of nine storage tank sites were identified during this planning effort, containing a total of 21 registered storage tanks. The majority of these tanks contain petroleum products, including gasoline, diesel, fuel oil, and water oil. Management strategies will be implemented to raise awareness of best management practices among tank owners in the DWSMA, to ensure that steps are being taken to reduce the risks for spills or leaks from these tanks.

5.6 Public Utility Services

Another potential source for contaminants within the DWSMA is from infrastructure-related failures. In moderately vulnerable areas, storm sewers and sanitary sewers are mapped, particularly where they intersect the 1-year capture zone of the City's wells, also known as the Emergency Response Area. Figure 7 shows a layout of the storm and sanitary sewers line operated and maintained by the City of Inver Grove Heights.

Public water supply wells are also components of the public utility infrastructure. The locations of the Inver Grove Heights municipal wells are shown on Figure 1. No other known municipal wells are also located in the groundwater portion of the DWSMA. Table A-1 in Appendix A lists all wells located within the groundwater portion of the DWSMA. Well locations are shown in Figure 4.

5.7 Former and Active Sites of Contamination

Figure 6 contains an inventory of mapped spill and leak sites, with Table A-4 in Appendix A summarizing each of these sites. A closure date, if listed on Table A-4, indicates the site is no longer under active investigation or cleanup. Sites without closure dates can be assumed to still be under investigation or cleanup. Of the 26 inventoried spill and leak sites, all but eight of those sites have been closed.

Should any new contamination sites be identified within the DWSMA, they will be prioritized in order of the threat they pose to the City's municipal wells. Site specific soil conditions, geology, surface runoff, and estimated time of travel to the City's wells will be investigated to assess the level of threat to the City's water supply.

5.8 Summary

The following table summarizes the number of identified sites for the Inver Grove Heights potential contaminant source inventory. The Emergency Response Area is the one-year groundwater capture zone for the City's two municipal wells.

Potential Contamination Source	Number of Sites in DWSMA	Number of Sites in Emergency Response Area
Groundwater Wells*	433	17
Class V Wells	0	0
Registered Storage Tank Sites	9	2
Documented Spill or Leak Sites	26	2

*includes suspected wells and Inver Grove Heights municipal wells

6.0 PROJECTED CHANGES TO THE ENVIRONMENT, LAND USE, AND SURFACE AND GROUNDWATER

6.1 Changes to the Environment and Land Use

The majority of the DWSMA for Inver Grove Heights covers areas that are already developed and don't expect to see major development over the coming ten years, other than continued growth of residential areas. Limited expansion in commercial or industrial areas may produce additional potential contaminant sources within the DWSMA, depending on the nature of businesses that may develop within these zones areas.

The DWSMA overlaps into the City of South St. Paul. The portion of South St. Paul in the DWSMA is primarily the airport. No significant potential sources of contaminant are believed to exist within the portion of the airport contained within the Inver Grove Heights DWSMA.

6.2 Changes to Surface and Groundwater

It is expected that the current water supply system for the City of Inver Grove Heights will remain sufficient for the next ten years. Two additional water supply wells are planned for the long-term growth of the City. Development of the next well (Well 10) may possibly proceed before the 10-year life of this plan is completed. The planned future well location(s) are within the current DWSMA for the City's existing wells, so it is believed that implementation of this plan will also help to protect the future well sites.

7.0 PROBLEMS AND OPPORTUNITIES

7.1 Problems

1. The DWSMA for Inver Grove Heights's wells is moderately vulnerable to contamination. This conclusion was established by water chemistry, age dating techniques indicating "young" water, and the geologic sensitivity.
2. Portions of the DWSMA include areas of commercial and industrial activity, some of which represent potential point sources of contaminants.
3. The number and location of improperly abandoned wells in the DWSMA is not known with a high degree of certainty.
4. A large number of suspected well sites exists within the DWSMA. At present, information about these suspected wells (other than address and parcel ID) is unavailable.
5. There is no accurate inventory or database for Class V wells, so it is unknown how many Class V wells may exist within the DWSMA.
6. A portion of the DWSMA is outside of the city limits of Inver Grove Heights, making management of this areas nearly impossible to accomplish without cooperation from other local units of government.
7. Existing leak sites within the DWSMA create uncertainty for the potential of contamination to later affect the City's wells.

7.2 Opportunities

1. Since the DWSMA extends beyond Inver Grove Heights's borders, an opportunity exists to work with other communities in planning land uses in order to protect the area's groundwater resources.
2. Dakota County offers assistance in managing wellhead protection areas. This assistance includes grant funding and financial aid to seal unused wells located in wellhead protection areas.
3. Commerical and industrial zoned areas within the DWSMA are relatively small.
4. Despite the vulnerable setting, the water quality of groundwater historically pumped is very good. Maintaining existing groundwater quality is easier than repairing already-contaminated groundwater resources.
5. Limiting the installation of new wells, along with sealing of unused wells, in areas covered by the DWSMA delineation would reduce potential pathways for contamination to reach the aquifers.

7.3 Status of Existing Governmental Controls Concerning Water and Related Land Use

There are many tools available to the regulating agencies that may be used to achieve the wellhead protection planning goals identified by the wellhead planning team. State and local governmental units, such as MDH, Dakota County, and the DNR, regulate:

- Well construction – Dakota County, MDH (Community Supply Wells)
- Well sealing – Dakota County, MDH
- State groundwater appropriation permits – DNR
- Public water supply quality – MDH
- Setbacks for specific contaminant sources from a well – MDH and local governments through conditional use permitting
- Land use controls – Local governments (City of Inver Grove Heights, City of South St. Paul), Met Council
- Tank control program – MPCA, MDA (Minnesota Department of Agriculture)
- Shallow disposal wells - U.S. EPA
- Stormwater Discharge Permitting – MPCA, Watershed Organizations
- Storage and use of agricultural chemicals and pesticides – MDA

Any of the permitted activities which have the potential to affect the wellhead protection delineation and/or the quality or quantity of the City of Inver Grove Heights water supply should be reviewed by the respective county, state, or federal agency before a permit can be approved.

The implementation portion of this plan establishes periodic review of controls over land uses and zoning within the DWSMA. Possible changes to controls will be considered during the appropriate stages of plan implementation.

8.0 WELLHEAD PROTECTION GOALS, OBJECTIVES AND IMPLEMENTATION PLAN

Goals and objectives have been developed based on the results of the vulnerability analysis, the results of the potential contaminant source inventory, and local geologic conditions. In general, goals and objectives are ranked in order of priority.

8.1 Goals

The following goals form the framework within which the information generated during delineation and source inventory activities is evaluated and upon which the planning activities are based:

1. To continue to provide high quality water that meets state and federal drinking water standards.
2. To develop the water supply system and land use activities with aquifer protection as a consideration.
3. Practice prevention strategies for properties containing potential contaminant sources to avoid adversely impacting the quality.
4. To work cooperatively with other nearby local units of government (Watershed Districts (WDs), Water Management Organizations (WMOs), Dakota County, adjacent communities, and state agencies on regional aquifer protection actions.
5. Build awareness of wellhead protection goals among and disseminate information about wellhead protection plan implementation to the City's staff, residents, and business community.

8.2 Objectives

To meet these goals, the following specific objectives were developed:

1. Make a commitment to manage unused, unsealed wells effectively by making sure they are sealed properly, as appropriate.
2. Attempt to locate and manage Class V wells within the DWSMA.
3. Develop and implement an aquifer management plan to monitor known sources of contamination and to identify new ones.
4. Develop a spill response plan to address large spills within the ERA.
5. Educate owners of properties containing potential contaminant sources (storage tanks, etc.) of the importance of spill prevention and best management practices.
6. Be involved in the development and/or implementation of surface and groundwater planning activities for Dakota County and applicable WMOs, WDs, and adjacent communities to help manage surface water flow and infiltration issues.
7. Review new and redevelopment plans within the DWMSA for their potential to impact groundwater quality.
8. Develop specific guidance for city departments to use so that City staff can make informed day-to-day decisions that may affect the wellhead protection program.
9. Develop public education materials to enlist support of community in groundwater

management goals

10. Collect additional data to better define the age of water in the City's wells.
11. Request notification from other local units of government for any changes that may affect the management of the DWSMA.
12. Manage and maintain sanitary sewer and storm water systems with wellhead protection goals in mind.

8.3 Implementation Plan

Objective 1: Commitment to manage unused, unsealed wells effectively by making sure they are sealed properly, as appropriate.

Action 1A:	Provide Dakota County with a list of abandoned and unsealed well locations and register sites with the MDH as City staff discover them.
Who:	City of Inver Grove Heights staff
Cooperators:	Dakota County, MDH, and Neighboring Communities
When:	Ongoing
Effort:	20 hours annually
How:	Prepare written report for distribution to Dakota County, MDH, WMOs, and Neighboring Communities.
Status:	Not currently implemented.

Action 1B:	Make property owners aware of financial and technical resources available to assist in securing grant funding for properly sealing wells.
Who:	City of Inver Grove Heights staff
Cooperators:	WMOs, Dakota County
When:	Ongoing
Effort:	20 hours annually
How:	Research types of grants and loans available for permanent well sealing and distribute this information to appropriate well owners.
Status:	Not currently implemented.

Action 1C:	Attempt to locate suspected well sites and obtain information about the condition and status of these wells
Who:	City of Inver Grove Heights staff
Cooperators:	MDH, Current property owners
When:	Within 5 years of plan adoption
Effort:	Staff time, consultant fees
How:	Survey properties with suspected wells. Obtain locations and wells and any other relevant information pertaining to well status or condition. Make property owners aware of best management practices and work with property owners to seal wells, if necessary.
Status:	Not currently implemented.

Action 1D: Apply for grant funding to locate unsealed wells and hire licensed drilling firms to seal wells.
Who: City of Inver Grove Heights staff
Cooperators: WMOs, Dakota County, Neighboring Communities
When: Within five years of plan adoption
Effort: 20-60 hours, depending on scope of effort and number of wells identified
How: Conduct survey of DWSMA to determine location and number of unused wells that require sealing. Obtain quotations from local well contractors and obtain grant money to seal wells.
Status: Not currently implemented.

Objective 2: Attempt to locate and manage Class V wells within the DWSMA.

Action 2A: Use newsletter or website to educate community on how to identify Class V wells on their property.
Who: City of Inver Grove Heights staff
Cooperators: Dakota County, MDH, US EPA
When: Within three years of plan adoption
Effort: 10-20 hours
How: Prepare article outlining how to identify Class V wells. Provide information and links to US EPA guidelines on how to manage Class V wells.
Status: Not currently implemented.

Objective 3: Develop and implement an aquifer management plan, based on the management plans of relevant state agencies, to monitor known sources of potential pollutants and to identify new ones.

Action 3A: Review known status of identified contaminant sources in DWSMA on an annual basis. Detemine which spills impact the Prairie du Chien-Jordan aquifers.
Who: City of Inver Grove Heights staff
Cooperators: MPCA, MDH, Dakota County
When: Annually
Effort: 20-30 hours
How: Contact designated Point Of Contact staff at MDH, MPCA, and Department of Agriculture staff acting as a liaison to the wellhead protection program. Inquire about potential changes known to have occurred in DWSMA in preceding year. Identify which spills have impacted the Prairie du Chien and Jordan aquifers. Update inventory accordingly.
Status: Not currently implemented.

Action 3B: Determine if state agencies have knowledge of new spills or potential contaminant sources in the DWSMA.
Who: City of Inver Grove Heights staff
Cooperators: MPCA, Department of Agriculture
When: Annually
Effort: 10 hours
How: Same as for Action 3A. Make formal contact with relevant agencies. Request status updates from agencies for active leak sites or sites with ongoing investigations/monitoring to determine if the sites continue to pose a threat to the City's drinking water source.
Status: Not currently implemented.

Action 3C: Review setback of potential contamination sources from the Inner Wellhead Management Zone (200 foot radius) around each municipal well
Who: City of Inver Grove Heights staff
Cooperators: MDH, Minnesota Rural Water Association
When: Updated August 2016. Update inventory again at halfway point through plan life (at five years).
Effort: 10 hours
How: Complete worksheet inventory of potential contamination sources located within the Inner Wellhead Management Zone.
Status: Not currently implemented.

Objective 4: Develop a spill response plan to address large spills within the Emergency Response Area.

Action 4A: Develop a spill response plan for City staff to respond to a large spill in the ERA and address potential contamination threats to water supply system.
Who: City of Inver Grove Heights staff
Cooperators: Dakota County, MDH, and Neighboring Communities
When: Within three years of plan adoption
Effort: 80-100 hours
How: Work with local emergency management teams to identify threats to groundwater resources. Prepare spill response plan to outline responsibilities and actions required to address potential impact to water supply system.
Status: Not currently implemented.

Objective 5: Educate owners of properties containing storage tanks of the importance of spill prevention and best management practices.

Action 5A: Contact relevant property owners and make them aware of their placement within the City's wellhead protection area. Educate them on the importance of keeping up to code with all federal, state, and local rules regarding their potential sources of contamination.
Who: City of Inver Grove Heights Staff
Cooperators: MPCA, Neighboring Communities
When: Within two years of plan adoption, repeat four years later
Effort: 20 hours per round
How: Send mailing out to property owners. Provide contact numbers for appropriate government agencies.
Status: Not currently implemented.

Objective 6: Be involved in the development and/or implementation of groundwater plans for Dakota County and applicable Watershed Management Organizations.

Action 6A: Inform appropriate county, neighboring community, and WMO staff of Inver Grove Heights's wellhead protection efforts and request that they notify the City of Inver Grove Heights of land or water management practices or modifications that are germane to the effort.
Who: City of Inver Grove Heights staff
Cooperators: Dakota County; WMOs; SWCD; MDH; Neighboring Communities
When: Within one year of plan adoption
Effort: 8 hours
How: Send letters to Dakota County and WMOs
Status: Not currently implemented.

Action 6B: Participate in the development of, or revisions to, the County groundwater plan, adjacent community wellhead protection plans, and watershed management plans to ensure all plans recognize the need for wellhead protection generally and are aware of Inver Grove Heights's DWSMA and action plans specifically.
Who: City of Inver Grove Heights staff
Cooperators: Dakota County, Neighboring Communities, SWCD, WMOs, and MDH
When: As needed
Effort: As appropriate
How: Review draft plans and attend advisory group meetings, as appropriate.
Status: Ongoing

Objective 7: Review new and redevelopment plans within the DWMSA for their potential to impact groundwater quality.

Action 7A:	Review new development and redevelopment plans.
Who:	City of Inver Grove Heights Staff
Cooperators:	Dakota County, WMOs
When:	Ongoing, as needed
Cost:	10-40 hours per year
How:	Review wellhead protection considerations of proposed new development or redevelopment plans submitted to City during staff review meetings.
Status:	Ongoing

Objective 8: Develop specific guidance for City Departments to use so that City staff can make informed day-to-day decisions.

Action 8A:	Review responsibilities of each department. Determine action triggers that could affect wellhead protection activities for City of Inver Grove Heights. Establish means of educating City staff about wellhead protection planning and the role they play in ensuring its successful implementation.
Who:	City of Inver Grove Heights Staff
Cooperators:	MDH
When:	Within one year of plan adoption
Effort:	10 to 20 hours
How:	Prepare specific guidance for each City department and educate City staff about its use.
Status:	Currently prepared in outline form as part of this document.

Objective 9: Develop public education materials to enlist support of community in groundwater management goals.

Action 9A:	Use City's website, brochures, and/or newsletter to enlist public support for the Wellhead Protection Plan.
Who:	City of Inver Grove Heights Staff
Cooperators:	MDH
When:	Annually
Effort:	10-20 hours annually
How:	Prepare educational materials for distribution using website, brochures, newsletters, and consumer confidence reports. Vary educational methods from year-to-year to ensure that the public is reached through a variety of communication routes.
Status:	Not currently implemented.

Objective 10: Collect additional data to better define the age of water in the City's wells.

Action 10A:	Sample relevant wells for tritium or other compounds that can be used to assess the age of the water in the City's wells.
Who:	MDH
Cooperators:	City of Inver Grove Heights Staff
When:	Within two years of plan adoption
Effort:	Sampling costs, staff time
How:	Identify wells that haven't been sampled within the past 10 years and request that MDH collect tritium samples. Also sample wells that have not been sampled to date, including City Wells 4, 8, and 9. Determine if any other age dating samples are required to better define the age of the water. Request additional testing, if appropriate.
Status:	Not currently implemented.

Objective 11: Request notification from other local units of government for any changes that may affect the management of the DWSMA.

Action 11A:	Contact local units of government within the DWSMA and ask to be notified regarding changes that may impact the management of the Wellhead Protection Plan
Who:	City of Inver Grove Heights Staff
Cooperators:	South St. Paul, Dakota County, Lower Mississippi River WMO, MDH
When:	Once every two years
Effort:	2-4 hours, plus additional staff time to review responses (variable depending on responses)
How:	Contact appropriate staff at other local government units to determine what changes have been made in the DWSMA and how those changes may impact management of this area. Potential changes may include new permits, land use changes, new wells, amended wellhead protection plans, etc.
Status:	Not currently implemented.

Objective 12: Manage and maintain sanitary sewer and stormwater systems with wellhead protection goals in mind.

Action 12A: Replace or repair any sewer lines that are observed to be leaking, cracked, or deteriorated within the Emergency Response Area or the 200-foot Inner Wellhead Management Zone.
Who: City of Inver Grove Heights Staff
Cooperators: MDH
When: Ongoing, as needed
Effort: Sewer replacement costs
How: If surveys or investigations show that sanitary or storm sewer lines have significantly deteriorated within highly vulnerable wellhead protection areas, add sewer repairs or replacements to City's Capital Improvement Plan. Highest priority should be given to any deteriorated sewers observed within the ERA (emergency response area) and the IMWZ (inner wellhead management zone).
Status: Not formally implemented as part of wellhead protection measures.

Action 12B: Maintain an inventory of all relevant stormwater structures within the Emergency Response Area.
Who: City of Inver Grove Heights Staff
Cooperators: MDH
When: Initial inventory completed, to be updated when changes are made
Effort: Staff time
How: Inventory relevant stormwater structures (basins, injection wells, outlets) within the Emergency Response Area. If changes are made to these structures, updated the PCSI as needed to reflect those changes.
Status: Initial inventory completed.

Action 12C: Promote best management practices for stormwater runoff in the Emergency Response Areas
Who: City of Inver Grove Heights Staff
Cooperators: MDH
When: By 2018, then revisited again in 2022
Effort: Staff time
How: Use the City's website and newsletters to promote best management practices for activities that can influence the quality of stormwater runoff. BMPs include management of household hazardous wastes, vehicle washing, storage/transport of hazardous materials, and application of lawn chemicals.
Status: Partially implemented on City's website. To be expanded further.

9.0 GUIDANCE FOR USE BY CITY OF INVER GROVE HEIGHTS STAFF WELLHEAD PROTECTION PLANNING

To ensure that wellhead protection planning is viable for the City of Inver Grove Heights, City staff has to understand the nature of the City's program and how their day-to-day actions pertain to the wellhead protection program

Inver Grove Heights's Wellhead Protection Manager: Utility Superintendent (Dan Helling)

9.1 Activities Affecting Wellhead Protection

The list presented below reflects the type of information or activities that City staff may encounter or manage as part of their normal functions that should be communicated to the wellhead protection manager.

Public Safety Department (Fire and Police)

- Emergency response and spills
- Underground storage tank removal, particularly if contamination is observed
- Fire suppression (if techniques may affect water quality)
- Observed dumping

Building Inspector

- Old storage tanks
- Unsealed or abandoned wells

Public Works

- Well siting
- Well sampling and analysis results
- Contamination noted during construction
- Change in pumping of municipal wells
- Sanitary sewer line breaks/ruptures
- Sanitary sewer lift station overflow/failure
- Observed dumping

Parks and Recreation

- Observed dumping
- Turf management

Planning

- Down-zoning or other zoning changes
- Unusual infiltration or stormwater issues
- Environmental Assessment Worksheets (EAWs)
- Installation of high-capacity wells
- Special projects

In addition, several programmatic activities will need on-going review and consideration. These generally involve fewer departments, and are listed below.

Attorney/Administrator

- Review new ordinance development to ensure consistency with wellhead protection plan

Planning

- Ordinance review and development of official controls, as necessary
- Interaction and liaison with other local units of government
- Education activities
- Development and implementation of Best Management Practices for land use planning decisions in wellhead protection areas. (Example: Review proposed land uses to ensure potential sources of contamination will meet required setback distances from wells.)

Wellhead Protection Manager

- Internal coordination and plan management
- Interaction with external cooperators

10.0 PROGRAM EVALUATION

Inver Grove Heights will evaluate the progress of the implementation plan every two years. The wellhead protection plan manager will prepare a short progress report to be completed by December 31 of each even-numbered calendar year, starting in the year 2018. The progress report will briefly discuss the actions implemented by the City or any cooperators during the previous two years, and actions that will be completed in the following two years. The progress report will be distributed to the City Council for their review after which it will be submitted to MDH.

According to Minnesota wellhead protection rules, this wellhead protection plan will be updated every 10 years from date of adoption or with the installation of any new municipal well to the water supply system.

11.0 EMERGENCY PREPAREDNESS AND CONTINGENCY PLAN

The Inver Grove Heights Water Supply Plan was submitted to the Department of Natural Resources and was approved on December 17, 2009. Notice of the plan approval is provided in Appendix C. This plan fulfills the Wellhead Protection Rule requirements for an emergency preparedness and contingency plan.

The plan may be reviewed at City Hall in Inver Grove Heights, MN through an appointment with Dan Helling, the Utility Superintendent (and Wellhead Protection Manager).

12.0 LOCAL GOVERNMENT REVIEW AND PUBLIC HEARING

(Note: This section will be completed following the local government review and public hearing.)

The draft Inver Grove Heights wellhead protection plan was submitted to local units of government for their review and comments on _____. The required 60-day review period ended on _____. Written comments were received by _____. Comments have been considered and, where appropriate, modifications were made to Wellhead Protection Plan to address those comments.

A public hearing was held the evening of _____ at the Inver Grove Heights City Hall as part of the regular City Council meeting. At the hearing, the following comments were received from the general public: _____

Documentation for the public hearing is provided in Appendix F.

FIGURES

N

0 ¼ ½ MILE

SOUTH ST. PAUL

INVER GROVE HEIGHTS

WELL NO. 3

WELL NO. 4

WELL NO. 9

WELL NO. 8

WELL NO. 7

WELL NO. 5

WELL NO. 6

EAGAN

INVER GROVE HEIGHTS

LEGEND

- CITY WELLS
- EMERGENCY RESPONSE AREA
- WELLHEAD PROTECTION AREA
- MODERATE VULNERABILITY DWSMA

BASE MAPPING

- CITY LIMITS
- PARCEL

FIGURE 1 - DRINKING WATER SUPPLY MANAGEMENT AREA (DWSMA)

INVER GROVE HEIGHTS WELLHEAD PROTECTION PLAN

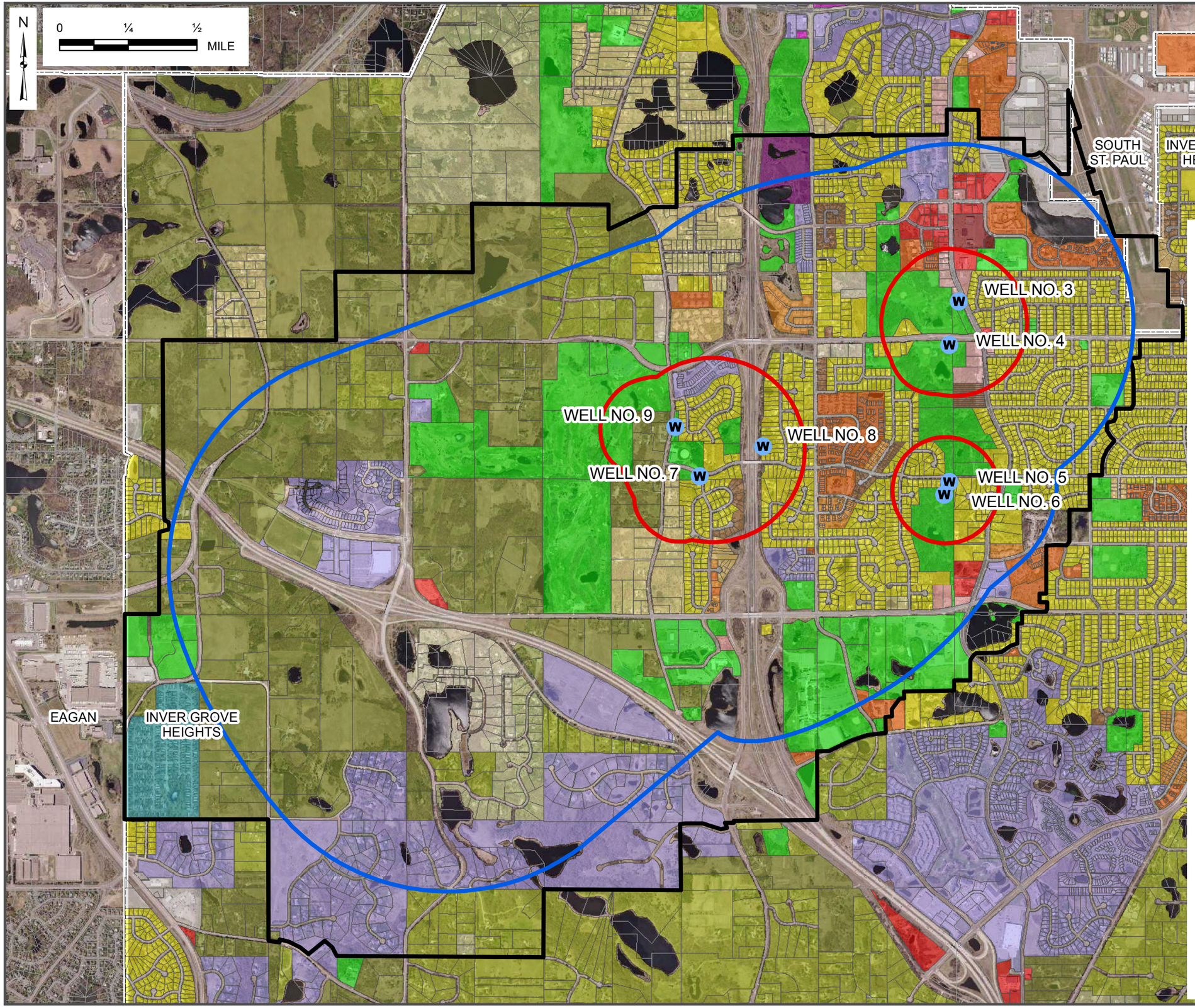
V:\1938\active\193802191\GIS\Projects\Part 2 Figure 1 - DWSMA Vulnerability.mxd

Stantec

Stantec Consulting Services
2335 Highway 36 West
Saint Paul, MN 55113
651.636.4600

April 2016

Design With Community In Mind



LEGEND

- CITY WELLS
- EMERGENCY RESPONSE AREA
- WELLHEAD PROTECTION AREA
- DRINKING WATER SUPPLY MANAGEMENT AREA

ZONING CLASSIFICATION

- A, Agricultural
- E-1, Estate (2.5 ac.)
- E-2, Estate (1.75 ac.)
- R-1A, Single Family (1.0 ac.)
- R-1B, Single Family (0.5 ac.)
- R-1C, Single Family (0.25 ac.)
- R-2, Two-Family
- R-3A, 3-4 Family
- R-3B, up to 7 Family
- R-3C, > 7 Family
- R-4, Mobile Home Park
- B-1, Limited Business
- B-2, Neighborhood Business
- B-3, General Business
- B-4, Shopping Center
- OP, Office Park
- PUD, Planned Unit Development
- Office PUD
- Comm PUD, Commercial PUD
- MF PUD, Multiple-Family PUD
- I-1, Limited Industrial
- I-2, General Industrial
- P, Public/Institutional
- Surface Water

BASE MAPPING

- CITY LIMITS
- PARCEL

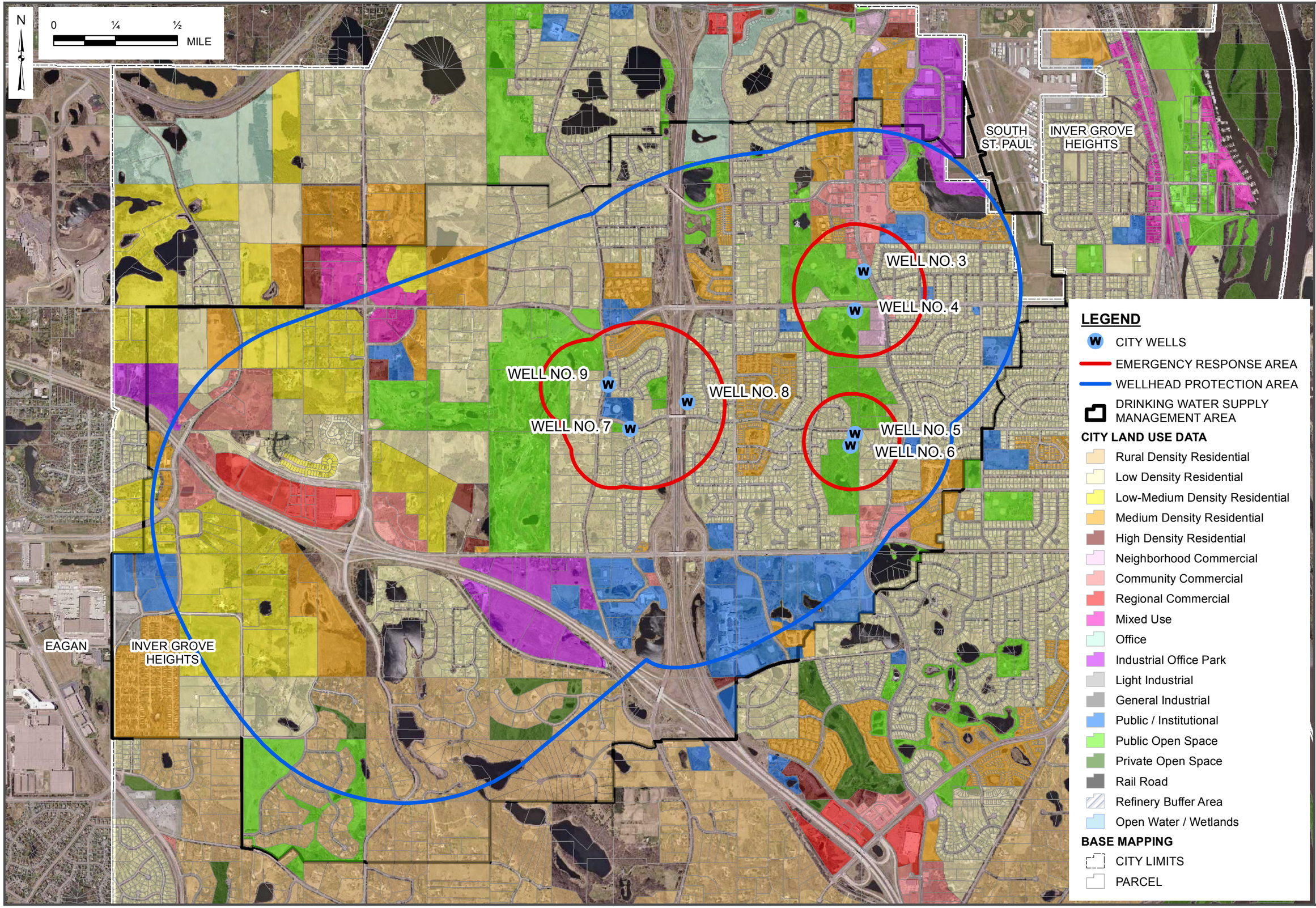
V:\1193\active\193802191\GIS\Projects\Part 2 Figure 2 - Zoning.mxd

FIGURE 2 - EXISTING CITY ZONING

INVER GROVE HEIGHTS WELLHEAD PROTECTION PLAN

Stantec
Stantec Consulting Services
2335 Highway 36 West
Saint Paul, MN 55113
651.636.4600

April 2016



V:\1938\active\193802191\GIS\Projects\Part 2 Figure 3 - Land Use.mxd

FIGURE 3 - FUTURE LAND USE

INVER GROVE HEIGHTS WELLHEAD PROTECTION PLAN

Stantec
Stantec Consulting Services
2335 Highway 36 West
Saint Paul, MN 55113
651.636.4600

April 2016

Design With Community In Mind

N

0 ¼ ½ MILE

SOUTH ST. PAUL

INVER GROVE HEIGHTS

WELL NO. 3

WELL NO. 4

WELL NO. 5

WELL NO. 6

WELL NO. 7

WELL NO. 8

WELL NO. 9

INVER WOOD GOLF COURSE

ISD 199/INVER GROVE HEIGHTS COMMUNITY SCHOOLS

INVER HILLS ASSEMBLY OF GOD

EAGAN

INVER GROVE HEIGHTS

LEGEND

- ADDRESS LOCATED WELLS
- COORDINATE LOCATED WELLS
- CLASS V WELLS
- SUSPECTED WELLS AT RURAL RESIDENCE
- CITY WELLS
- EMERGENCY RESPONSE AREA
- WELLHEAD PROTECTION AREA
- MODERATE VULNERABILITY DWSMA

BASE MAPPING

- CITY LIMITS
- PARCEL

V:\1938\active\193802191\GIS\Projects\Part 2 Figure 4 - Wells.mxd

FIGURE 4 - WELLS IN DWSMA

INVER GROVE HEIGHTS WELLHEAD PROTECTION PLAN

April 2016

Stantec

Stantec Consulting Services
2335 Highway 36 West
Saint Paul, MN 55113
651.636.4600

Design With Community In Mind

N

0 ¼ ½ MILE

SOUTH ST. PAUL

INVER GROVE HEIGHTS

Sinclair Retail

WELL NO. 3

Buds 66

Oasis Market #577/Super Stop

WELL NO. 4

WELL NO. 9

WELL NO. 8

WELL NO. 7

WELL NO. 5

WELL NO. 6

Danner Landscaping & Sales

Inver Hills Community College

IGH Middle School Addition & Alerations

Wagner Sod

City of Inver Grove Heights

Truck Repair & Equipment Co Inc

EAGAN

INVER GROVE HEIGHTS

LEGEND

- ACTIVE TANK SITE
- W CITY WELLS
- EMERGENCY RESPONSE AREA
- WELLHEAD PROTECTION AREA
- MODERATE VULNERABILITY DWSMA

BASE MAPPING

- CITY LIMITS
- PARCEL

V:\1938\active\193802191\GIS\Projects\Part 2 Figure 5 - Tanks.mxd

FIGURE 5 - TANKS IN DWSMA

INVER GROVE HEIGHTS WELLHEAD PROTECTION PLAN

Stantec

Stantec Consulting Services
2335 Highway 36 West
Saint Paul, MN 55113
651.636.4600

April 2016

Design With Community In Mind

N

0 ¼ ½ MILE

Rod & Gun Club
MACKS EXCAVATING
CROWN AUTO STORE
SINCLAIR STATION NO 22025
FORMER UNION 76
INVER GROVE TIRE AND AUTO CENTER
Unocal Igh
Rubbish Ranch Dump
SOUTH ST. PAUL
INVER GROVE HEIGHTS
Ssp Community Gardens
WELL NO. 3
BUDS PHILLIPS 66
FINASERVE #604-7510-609
WELL NO. 4
WELL NO. 9
WELL NO. 8
SPEED ENGINEERING INC
WELL NO. 7
WELL NO. 5
WELL NO. 6
River Run Properties
FINASERVE #604-7511-609
OREN AND TROG PROPERTY
IGH DISTRIBUTION CENTER
MN DOT (FORMER SERVICE STATION)
SIMLEY HIGH SCHOOL
INVER HILLS COMMUNITY COLLEGE
INVER GROVE HEIGHTS MIDDLE SCHOOL
EAGAN
INVER GROVE HEIGHTS
MN DOT DAKOTA COUNTY

LEGEND

- SPILL OR LEAK SITE
- CITY WELLS
- EMERGENCY RESPONSE AREA
- WELLHEAD PROTECTION AREA
- MODERATE VULNERABILITY DWSMA

BASE MAPPING

- CITY LIMITS
- PARCEL

FIGURE 6 - SPILLS AND LEAKS IN DWSMA

INVER GROVE HEIGHTS WELLHEAD PROTECTION PLAN

V:\1938\active\193802191\GIS\Projects\Part 2 Figure 6 - Spills and Leaks.mxd

Stantec
Stantec Consulting Services
2335 Highway 36 West
Saint Paul, MN 55113
651.636.4600

April 2016

Design With Community In Mind

N

0 ¼ ½ MILE

SOUTH ST. PAUL

INVER GROVE HEIGHTS

EAGAN

INVER GROVE HEIGHTS

WELL NO. 3

WELL NO. 4

WELL NO. 5

WELL NO. 6

WELL NO. 7

WELL NO. 8

WELL NO. 9

740 383 304 469 156 168 169 492 493 148 147 150 151 807 742 808 155 154 159 158 162 164 542

LEGEND

- STORM WATER POND
- STORM WATER SYSTEM - GRAVITY PIPE
- SANITARY SEWER SYSTEM - GRAVITY PIPE
- CITY WELLS
- EMERGENCY RESPONSE AREA
- WELLHEAD PROTECTION AREA
- MODERATE VULNERABILITY DWSMA

BASE MAPPING

- CITY LIMITS
- PARCEL

V:\1938\active\193802191\GIS\Projects\Part 2 Figure 7 - Sewers.mxd

FIGURE 7 - SANITARY SEWER AND STORM SEWER SYSTEMS

INVER GROVE HEIGHTS WELLHEAD PROTECTION PLAN

October 2016

Stantec

Stantec Consulting Services
2335 Highway 36 West
Saint Paul, MN 55113
651.636.4600

Design With Community In Mind

APPENDIX A

WELLS AND POTENTIAL CONTAMINANT SOURCE INVENTORY

TABLE A-1: MAPPED GROUNDWATER WELLS, INVER GROVE HEIGHTS PART 2 WELLHEAD PROTECTION PLAN

MAP ID	UNIQUE NUMBER	WELL NAME	HOUSE NUMBER	STREET		CITY	STATE	TOWN-SHIP	RANGE	SECTION	SUB-SECTION	RECORDED STATUS	WELL USE	WELL DEPTH (FEET)	CASING DEPTH (FEET)	AQUIFER	PCSI CODE	FACILITY CODE	UTM E COORD	UTM N COORD
1	104190	-	-	COURT HOUSE	BL	-	MN	27	22W	7	BDB	ACTIVE	DOMESTIC	305	298	-	WEL	1100-01	492132	4965547
2	138960	-	-	-	-	IGH	MN	27	22W	8	-	ACTIVE	DOMESTIC	196	191	-	WEL	1100-01	494071	4965240
3	136549	STENE, ALLEN	3318	75	CT	IGH	MN	27	22W	10	BDC	ACTIVE	DOMESTIC	240	205	-	WEL	1100-01	496998	4965234
4	457178	WILCZYK, VERN	8003	COURT HOUSE	BL	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	216	211	-	WEL	1100-01	492596	4964424
5	457160	MERGESS, JERRY	8001	COURT HOUSE	BL	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	162	157	-	WEL	1100-01	492656	4964346
6	460111	JEROME, KATHLEEN ANN	7085	ALLEN	WA	IGH	MN	27	22W	8	-	-	DOMESTIC	230	215	-	WEL	1100-01	493514	4965961
7	460149	TIEMONN, PAUL	6835	ATHENA	WA	IGH	MN	27	22W	5	-	-	DOMESTIC	315	290	-	WEL	1100-01	494474	4966250
8	460145	HINES, JOE	1620	80TH	ST	IGH	MN	27	22W	17	-	-	DOMESTIC	215	210	-	WEL	1100-01	494269	4964335
9	194053	MORTENSON, KEITH	7650	BABCOCK	TR	IGH	MN	27	22W	8	-	ACTIVE	DOMESTIC	280	226	-	WEL	1100-01	494831	4964978
10	463545	CITY OF INVER GROVE HTS	-	-	-	IGH	MN	27	22W	8	-	ACTIVE	IRRIGATION	422	0	-	WEL	6200	495076	4964222
11	416017	HANSON, MYRON	8245	ARGENTA	TR	IGH	MN	27	22W	18	-	ACTIVE	DOMESTIC	380	350	-	WEL	1100-01	491736	4964076
12	427037	CORCORAN HARDWARE	8011	COURT HOUSE	BL	IGH	MN	27	22W	17	CDB	ACTIVE	DOMESTIC	212	208	-	WEL	1100-01	492843	4963939
13	474333	TKACH, MARY	7848	BABCOCK	TR	IGH	MN	27	22W	8	-	-	DOMESTIC	300	280	-	WEL	1100-01	494849	4964573
14	497463	MORIN, PAUL	8915	ALPHA	LA	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	170	165	-	WEL	1100-01	493353	4963042
15	546339	WHELEN, RICHARD	6680	ARLENE	AV	IGH	MN	27	22W	5	-	ACTIVE	DOMESTIC	295	240	-	WEL	1100-01	494393	4966576
16	526974	CORNEIA, JIM	1125	80TH	ST	IGH	MN	27	22W	8	CCD	ACTIVE	DOMESTIC	280	245	-	WEL	1100-01	493357	4964760
17	585190	PIEKARSKI, GREG	7609	BABCOCK	TR	IGH	MN	27	22W	8	-	ACTIVE	DOMESTIC	280	260	-	WEL	1100-01	494625	4965024
18	585189	RONGITSCH, MIKE	8915	ARALIA	CT	ER GROVE	MN	27	22W	17	-	ACTIVE	DOMESTIC	199	194	-	WEL	1100-01	493885	4963037
19	585188	BJORKLUND CONST	8918	ARALIA	CT	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	222	217	-	WEL	1100-01	493917	4962996
20	597774	MARKLE, ELTING	7925	ARGENTA	TR	IGH	MN	27	22W	7	-	ACTIVE	DOMESTIC	345	325	-	WEL	1100-01	491969	4964620
21	530173	BAUER, TIM	8988	ARALIA	CT	-	MN	27	22W	17	-	ACTIVE	DOMESTIC	359	352	-	WEL	1100-01	493677	4962866
22	553619	DENNIS CRIST CONST.	8985	ARALIA	CT	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	210	200	-	WEL	1100-01	493653	4962934
23	604369	WOHLERS,JERRY & DONNA	8910	ALFA	LA	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	178	173	-	WEL	1100-01	493444	4963048
24	558267	TRIPLETT, PAT	8136	ADELBERT	AV	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	208	204	-	WEL	1100-01	493357	4964177
25	19W0000515	BURNS, TOM	1170	90	ST	ER GROVE	MN	27	22W	20	BB	ACTIVE	DOMESTIC	0	0	-	WEL	1100-01	493591	4962670
26	19W0000465	MINN WALDORF SCHOOL	-	-	-	IGH	MN	27	22W	9	BC	ACTIVE	DOMESTIC	0	0	-	WEL	1100-01	495070	4965443
27	642493	GRAVES, ROB	8928	ALMQUIST	WA	IGH	MN	27	22W	18	DDC	ACTIVE	DOMESTIC	267	262	-	WEL	1100-01	493064	4963055
28	627090	STELTER, CRAIG & PAULA	8906	ALMQUIST	WA	-	-	27	22W	18	ADD	ACTIVE	DOMESTIC	240	221	-	WEL	1100-01	492932	4963128
29	672585	-	1401	70TH	ST	IGH	MN	27	22W	5	CDB	ACTIVE	DOMESTIC	365	285	-	WEL	1100-01	493759	4966340
30	687135	MW-1	6446	CAHILL	AV	IGH	MN	27	22W	3	BBC	ACTIVE	MONITORING	135	0	-	WEL	2116	496490	4966902
31	645636	ASPEN DEVELOPMENT	8905	ALMQUIST	WA	IGH	MN	27	22W	18	DDD	ACTIVE	DOMESTIC	260	255	-	WEL	1100-01	492919	4963211
32	649001	J.S. HOMES-MODEL	9074	ALVAREZ	AV	IGH	MN	27	22W	19	ABB	ACTIVE	DOMESTIC	260	255	-	WEL	1100-01	492618	4962810
33	645911	SAVAGE, TROY	8957	ALMQUIST	WA	IGH	MN	27	22W	18	DDC	ACTIVE	DOMESTIC	241	221	-	WEL	1100-01	492853	4962910
34	642436	OWEN NORCOTT HOMES	9042	ALGER	CT	IGH	MN	27	22W	19	AAA	ACTIVE	DOMESTIC	278	273	-	WEL	1100-01	493117	4962776
35	647797	-	8976	ALVAREZ	AV	IGH	MN	27	22W	18	DDB	ACTIVE	DOMESTIC	188	178	-	WEL	1100-01	492884	4963125
36	647796	SAFI, MICHAEL N.	8964	ALMQUIST	WA	IGH	MN	27	22W	18	DAC	ACTIVE	DOMESTIC	183	174	-	WEL	1100-01	492831	4963051
37	645945	RILEY, JOHN	8929	ALMQUIST	WA	IGH	MN	27	22W	18	DDA	ACTIVE	DOMESTIC	280	260	-	WEL	1100-01	493141	4963046
38	645944	TUTEWOHL, MICHAEL	8901	ALMQUIST	WA	IGH	MN	27	22W	18	ADA	ACTIVE	DOMESTIC	220	200	-	WEL	1100-01	492994	4963125
39	647787	-	8956	ALMQUIST	WA	-	MN	27	22W	18	DDC	ACTIVE	DOMESTIC	205	187	-	WEL	1100-01	492914	4962984
40	651961	HEDLUND, JERRY	8152	ADELBERT	AV	IGH	MN	27	22W	17	BBC	ACTIVE	DOMESTIC	222	215	-	WEL	1100-01	493385	4964128
41	646387	MANLEY BROTHERS CONSTRUC	8953	ALMQUIST	WA	IGH	MN	27	22W	18	-	ACTIVE	DOMESTIC	220	212	-	WEL	1100-01	492893	4962870
42	645617	HOWARD, ROBERT	8933	ALMQUIST	WA	IGH	MN	27	22W	18	DDD	ACTIVE	DOMESTIC	260	255	-	WEL	1100-01	493134	4963004
43	562261	JAEYER, BERRY	8308	ALVERNO	AV	IGH	MN	27	22W	18	-	ACTIVE	DOMESTIC	257	253	-	WEL	1100-01	492717	4964099
44	644380	TOUSSAINT, MICHAEL & LIN	9016	ALVAREZ	AV	IGH	MN	27	22W	19	ABB	ACTIVE	DOMESTIC	260	254	-	WEL	1100-01	492736	4962956
45	644379	SZOKA, JERZY & BRENDA	9119	ALGER	CT	IGH	MN	27	22W	19	AAD	ACTIVE	DOMESTIC	258	253	-	WEL	1100-01	493066	4962531

TABLE A-1: MAPPED GROUNDWATER WELLS, INVER GROVE HEIGHTS PART 2 WELLHEAD PROTECTION PLAN

MAP ID	UNIQUE NUMBER	WELL NAME	HOUSE NUMBER	STREET		CITY	STATE	TOWN-SHIP	RANGE	SECTION	SUB-SECTION	RECORDED STATUS	WELL USE	WELL DEPTH (FEET)	CASING DEPTH (FEET)	AQUIFER	PCSI CODE	FACILITY CODE	UTM E COORD	UTM N COORD
46	642471	BUTLER HOMES	9030	ALGER	CT	IGH	MN	27	22W	19	AAA	ACTIVE	DOMESTIC	278	273	-	WEL	1100-01	493103	4962807
47	609837	NOWICKI, DONALD	8655	ANN MARIE	TR	IGH	MN	27	22W	17	CAD	ACTIVE	DOMESTIC	250	236	-	WEL	1100-01	493931	4963377
48	647767	-	8960	ALMQUIST	WA	-	MN	27	22W	18	DDB	ACTIVE	DOMESTIC	235	225	-	WEL	1100-01	492869	4963006
49	647766	J.S. HOMES, INC.	9100	ALTMANN	CT	-	MN	27	22W	19	ABD	ACTIVE	DOMESTIC	260	250	-	WEL	1100-01	492739	4962637
50	498428	DAY, DENNIS	7161	SO. ROBERT	ST	IGH	MN	27	22W	7	-	ACTIVE	DOMESTIC	240	232	-	WEL	1100-01	493210	4965793
51	498434	BERQUIST, MARK	8215	ANGUS	AV	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	300	286	-	WEL	1100-01	493798	4964063
52	474317	KELLY, JIM	8450	ALTA	AV	IGH	MN	27	22W	17	-	-	DOMESTIC	200	195	-	WEL	1100-01	493561	4963726
53	474305	MOSS, TOM	1234	70TH	ST	IGH	MN	27	22W	7	-	-	DOMESTIC	282	277	-	WEL	1100-01	492887	4965694
54	479100	CITY OF INVER GROVE HEIG	1597	80TH	ST	IGH	MN	27	22W	8	-	ACTIVE	PUBLIC	280	243	OSTP	WEL	5370	494262	4964510
55	522660	FOX, JERRY	7797	BABCOCK	TR	IGH	MN	27	22W	8	DDB	ACTIVE	DOMESTIC	300	267	-	WEL	1100-01	494491	4964757
56	494802	FLEMING, JOHN	1202	70TH	ST	I.G.H	MN	27	22W	7	-	ACTIVE	DOMESTIC	333	311	-	WEL	1100-01	492937	4966047
57	554745	PELTIER, JAMES	7250	ARGENTA	TR	IGH	MN	27	22W	7	-	ACTIVE	DOMESTIC	260	255	-	WEL	1100-01	492758	4965552
58	481519	LEEKLEY, ROBERT	8971	ARALIA	CT	IGH	MN	27	22W	17	CDB	ACTIVE	DOMESTIC	214	209	-	WEL	1100-01	493707	4962920
59	506652	SANNES, JOHN	8100	ADELBURT		IGH	MN	27	22W	17	-	-	DOMESTIC	210	202	-	WEL	1100-01	493425	4964304
60	495820	SCHAFFER, DAVID	8943	ARABIA	CT	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	160	155	-	WEL	1100-01	493798	4962977
61	569783	HANSON, JIM	1215	80TH	ST	IGH	MN	27	22W	8	-	ACTIVE	DOMESTIC	250	205	-	WEL	1100-01	493606	4964784
62	595053	LENTZ, ELIZABETH	8610	ANN MARIE	TR	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	152	152	-	WEL	1100-01	494011	4963317
63	573827	PILHOFER, HERB	7465	ROBERT	TR	IGH	MN	27	22W	7	-	ACTIVE	DOMESTIC	360	320	-	WEL	1100-01	492801	4965178
64	593248	ANDERSON, ALAN	8929	ARALIA	CT	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	145	140	-	WEL	1100-01	493838	4963018
65	593246	LINDBERG, LEE	8965	ALFA	LA	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	178	173	-	WEL	1100-01	493365	4962892
66	594068	PHIL WEBER & SILWAI ING	8850	ALFA	LA	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	194	189	-	WEL	1100-01	493387	4963152
67	585173	DE WITT HOMES	8670	ALVERNO	AV	IGH	MN	27	22W	18	DBB	ACTIVE	DOMESTIC	360	351	-	WEL	1100-01	492576	4963329
68	516427	ENGLER, ERWIN/RHEA	8885	ALFA	LA	IGH	MN	27	22W	17	CCB	ACTIVE	DOMESTIC	173	167	-	WEL	1100-01	493319	4963091
69	658134	THOMAS, MORAN	9033	ALGER	CT	IGH	MN	27	22W	19	AAB	ACTIVE	DOMESTIC	260	255	-	WEL	1100-01	493030	4962779
70	19W0000610	OLDRE, GORLYN	1155	COOURTHOUSE	BL	IGH	MN	27	22W	8	CC	ACTIVE	DOMESTIC	0	0	-	WEL	1100-01	492933	4964478
71	19W0000429	LITZ, R.	2545	70TH	ST	IGH	MN	27	22W	4	DC	ACTIVE	DOMESTIC	0	0	-	WEL	1100-01	495734	4966100
72	534349	BERGSTADT, JOHN	8932	ARALIA	CT	IGH	MN	27	22W	17	CCA	ACTIVE	DOMESTIC	180	175	-	WEL	1100-01	493920	4962933
73	627065	KRECH, BILL	7755	ARGENTA	TR	-	-	27	22W	7	CDB	ACTIVE	DOMESTIC	195	185	-	WEL	1100-01	491943	4964812
74	534326	TROYER, BRETT	1180	70TH	ST	IGH	MN	27	22W	7	AAC	ACTIVE	DOMESTIC	320	300	-	WEL	1100-01	492962	4965862
75	658956	SCHULLER, KELLY	8941	ALMQUIST	WA	IGH	MN	27	22W	18	DDD	ACTIVE	DOMESTIC	257	251	-	WEL	1100-01	493069	4962917
76	658955	ASPEN DEVELOPMENT	8914	ALMQUIST	WA	IGH	MN	27	22W	18	DDB	ACTIVE	DOMESTIC	266	261	-	WEL	1100-01	493050	4963120
77	672883	EXCEL HOMES	9005	ALGER	CT	IGH	MN	27	22W	19	AAB	ACTIVE	DOMESTIC	242	232	-	WEL	1100-01	492988	4962856
78	518183	LOCK, STEVE/DAWN	8855	ALFA	LA	IGH	MN	27	22W	17	CCB	ACTIVE	DOMESTIC	174	169	-	WEL	1100-01	493339	4963144
79	664148	NEREN, JOAN	1130	70TH	ST	IGH	MN	27	22W	7	AAA	ACTIVE	DOMESTIC	320	296	-	WEL	1100-01	493072	4965925
80	675281	HUSSAIN, ANWER & KIM	8942	ALMQUIST	WA	IGH	MN	27	22W	18	DDC	ACTIVE	DOMESTIC	264	259	-	WEL	1100-01	492999	4962975
81	634298	KOTH, BRENT	9096	ALGER	CT	IGH	MN	27	22W	19	AAA	ACTIVE	DOMESTIC	279	273	-	WEL	1100-01	493075	4962608
82	642412	NOTERMAN, STEVE	9059	ALGER	CT	IGH	MN	27	22W	19	AAA	ACTIVE	DOMESTIC	278	272	-	WEL	1100-01	493024	4962716
83	19W0000360	BERGQUIST, D.	8201	ANGUS	AV	IGH	MN	27	22W	17	B	ACTIVE	DOMESTIC	0	0	-	WEL	1100-01	493742	4964114
84	674884	PRESBETERIAN HOMES	6305	BURHAM	CI	IGH	MN	27	22W	4	AD	ACTIVE	ELEVATOR	39	39	-	WEL	1200	496261	4967027
85	705139	SCHMIDT, PAUL & SHANNON	9130	ALGER	CT	IGH	MN	27	22W	19	AAD	ACTIVE	DOMESTIC	280	275	-	WEL	1100-01	493165	4962537
86	653013	JOHNSON, GREG & KATHIE	9130	ALVAREZ	AV	IGH	MN	27	22W	19	ABB	ACTIVE	DOMESTIC	265	260	-	WEL	1100-01	493168	4962567
87	653012	LEWISON, GARY	9105	ALGER	CT	IGH	MN	27	22W	19	AAB	ACTIVE	DOMESTIC	263	258	-	WEL	1100-01	493037	4962566
88	658994	MARTIN, ROY	9104	ALTMAN	CT	IGH	MN	27	22W	19	ABD	ACTIVE	DOMESTIC	265	261	-	WEL	1100-01	492677	4962619
89	666291	JEFFRIES, JIM & MONICA	9096	ALTMAN	CT	IGH	MN	27	22W	19	ABD	ACTIVE	DOMESTIC	400	344	-	WEL	1100-01	492794	4962619
90	686596	-	8355	ANGUS	AV	IGH	MN	27	22W	17	BDD	ACTIVE	DOMESTIC	320	304	-	WEL	1100-01	493800	4963860

TABLE A-1: MAPPED GROUNDWATER WELLS, INVER GROVE HEIGHTS PART 2 WELLHEAD PROTECTION PLAN

MAP ID	UNIQUE NUMBER	WELL NAME	HOUSE NUMBER	STREET		CITY	STATE	TOWN-SHIP	RANGE	SECTION	SUB-SECTION	RECORDED STATUS	WELL USE	WELL DEPTH (FEET)	CASING DEPTH (FEET)	AQUIFER	PCSI CODE	FACILITY CODE	UTM E COORD	UTM N COORD
91	672752	-	9079	ALGER	CT	IGH	MN	27	22W	18	-	ACTIVE	DOMESTIC	240	232	-	WEL	1100-01	492979	4962693
92	653687	HILL, BERT & KNUTSON, AL	8950	ALMQUIST	WA	IGH	MN	27	22W	18	DDC	ACTIVE	DOMESTIC	228	220	-	WEL	1100-01	492952	4962947
93	672852	-	8909	ALMQUIST	WA	-	MN	27	22W	18	DAC	ACTIVE	DOMESTIC	202	192	-	WEL	1100-01	492978	4963195
94	664115	RADFORD, DAN	1244	90TH	ST	IGH	MN	27	22W	20	BBD	ACTIVE	DOMESTIC	400	378	-	WEL	1100-01	493705	4962520
95	653066	ACKER, JAMES & THERESA	8921	ALMQUIST	WA	IGH	MN	27	22W	18	DCC	ACTIVE	DOMESTIC	263	258	-	WEL	1100-01	493114	4963149
96	672864	OLSTAD, CALVIN	8934	ALMQUIST	WA	-	-	27	22W	18	DDC	ACTIVE	DOMESTIC	182	172	-	WEL	1100-01	493056	4963004
97	672858	-	8949	ALMQUIST	WA	-	-	27	22W	18	DDC	ACTIVE	DOMESTIC	260	250	-	WEL	1100-01	492944	4962860
98	663751	SR. HOUSING CONSTRUCTION	6425	BURNHAM	CI	IGH	MN	27	22W	4	-	ACTIVE	ELEVATOR	46	44	-	WEL	1200	496353	4966925
99	663750	SR. HOUSING CONSTRUCTION	6425	BURHAM	CI	IGH	MN	27	22W	4	-	ACTIVE	ELEVATOR	46	46	-	WEL	1200	496353	4966925
100	653075	J.S. HOMES, INC.	9127	ALGER	CT	IGH	MN	27	22W	19	AAB	ACTIVE	DOMESTIC	265	260	-	WEL	1100-01	493128	4962500
101	645648	MOORE, TOM & CHERYL	9054	ALGER	CT	IGH	MN	27	22W	19	AAA	ACTIVE	DOMESTIC	279	273	-	WEL	1100-01	493101	4962719
102	660808	WILLIAMS, PAUL & CARLA	9108	ALTMANN	CT	IGH	MN	27	22W	19	ABC	ACTIVE	DOMESTIC	258	253	-	WEL	1100-01	492626	4962590
103	696917	MW-2	6466	CAHILL	AV	IGH	MN	27	22W	3	BCC	ACTIVE	MONITORING	105	85	-	WEL	2116	496487	4966907
104	696916	MW-3	6466	CAHILL	AV	IGH	MN	27	22W	3	BCC	ACTIVE	MONITORING	110	90	-	WEL	2116	496487	4966907
105	696915	MW-4	6466	CAHILL	AV	IGH	MN	27	22W	3	BCC	ACTIVE	MONITORING	110	90	-	WEL	2116	496487	4966907
106	684692	JULIK, BOB	1080	82ND	ST	IGH	MN	27	22W	17	BBB	ACTIVE	DOMESTIC	230	0	-	WEL	1100-01	493336	4963995
107	708073	-	8689	ALVARADO	CT	IGH	MN	27	22W	18	DAA	ACTIVE	DOMESTIC	267	262	-	WEL	1100-01	493226	4963488
108	673128	MOUNTAIN, JOHN & WENDY	8961	ALMQUIST	WA	IGH	MN	27	22W	18	DCD	ACTIVE	DOMESTIC	257	252	-	WEL	1100-01	492796	4962919
109	672751	-	8937	ALMQUIST	WA	IGH	MN	27	22W	18	DDD	ACTIVE	DOMESTIC	240	232	-	WEL	1100-01	493104	4962958
110	696483	-	8925	ALMQUIST	WA	IGH	MN	27	22W	18	DD	ACTIVE	DOMESTIC	286	278	-	WEL	1100-01	493141	4963103
111	620623	VASKE, JAMES & KAREN	8960	ALFA	LA	IGH	MN	27	22W	17	CCB	ACTIVE	DOMESTIC	187	181	-	WEL	1100-01	493478	4962959
112	19W0000762	WERT, JOHN	6800	ALHENA	WA	IGH	MN	27	22W	5	DD	ACTIVE	DOMESTIC	0	0	-	WEL	1100-01	494417	4966381
113	19W0000760	BOHRER, LARRY	8290	ANGUS	AV	IGH	MN	27	22W	17	BD	ACTIVE	DOMESTIC	0	0	-	WEL	1100-01	493851	4963990
114	629088	KLODEK, LARRY	1401	70TH	ST	-	-	27	22W	5	CDA	ACTIVE	DOMESTIC	240	224	-	WEL	1100-01	493959	4966339
115	715860	MW 4	-	65TH	ST	IGH	MN	27	22W	4	DAC	ACTIVE	MONITORING	49	39	-	WEL	6200	496165	4966544
116	715859	MW-2	-	65TH	ST	IGH	MN	27	22W	4	DBA	ACTIVE	MONITORING	105	85	-	WEL	6200	495962	4966736
117	715858	MW 3	-	65TH	ST	IGH	MN	27	22W	4	DAB	ACTIVE	MONITORING	112	102	-	WEL	6200	496163	4966737
118	636371	WILSON, ROBERT	8420	ALVERNO	AV	IGH	MN	27	22W	18	ACC	ACTIVE	DOMESTIC	323	318	-	WEL	1100-01	492545	4963738
119	641528	MITTELSTAEDT BROS. CONST	9111	ALTMANN	CT	IGH	MN	27	22W	19	ABB	ACTIVE	DOMESTIC	260	255	-	WEL	1100-01	492612	4962676
120	642405	WRIECZOREK, JEFFREY/JODI	9074	ALGER	CT	IGH	MN	27	22W	19	AAA	ACTIVE	DOMESTIC	279	273	-	WEL	1100-01	493072	4962674
121	19W0000941	DITMARSEN, CHARLES	6521	CAHILL	AV	IGH	MN	27	22W	7	AC	ACTIVE	DOMESTIC	0	0	-	WEL	1100-01	496450	4966768
122	642323	QUAM, ADAM & CARRIE	9002	ALVAREZ	AV	IGH	MN	27	22W	18	DCC	ACTIVE	DOMESTIC	305	295	-	WEL	1100-01	492773	4962987
123	725114	-	8691	APPLE GATE	WA	IGH	MN	27	22W	17	DBC	ACTIVE	DOMESTIC	294	288	-	WEL	1100-01	494383	4963434
124	641524	MODEL	9120	ALGER	CT	IGH	MN	27	22W	19	AAB	ACTIVE	DOMESTIC	260	255	-	WEL	1100-01	493128	4962575
125	725127	-	8665	ALVARDO	CT	IGH	MN	27	22W	18	BDA	ACTIVE	DOMESTIC	302	297	-	WEL	1100-01	493055	4963595
126	736380	PAPPAS, ROBERT & CHRISTINE	9122	ROBERT	TR	IGH	MN	27	22W	20	BBA	ACTIVE	DOMESTIC	245	240	-	WEL	1100-01	493419	4962548
127	696056	PETERFESO, JAMES	1227	82ND	ST	IGH	MN	27	22W	17	BBD	ACTIVE	DOMESTIC	148	143	-	WEL	1100-01	493641	4964111
128	19W0000269	FINWALL, D.	-	-	-	-	-	27	22W	19	AB	ACTIVE	DOMESTIC	0	0	-	WEL	1100-01	492494	4962571
129	19W0000761	VESTAL, MICHAEL	-	-	-	-	-	27	22W	10	CB	ACTIVE	DOMESTIC	0	0	-	WEL	1100-01	496679	4965067
130	726727	AVILES, RONIE & GRACIE	8668	ALVARADO	CT	IGH	MN	27	22W	18	DAB	ACTIVE	DOMESTIC	222	0	-	WEL	1100-01	493032	4963503
131	725108	MANLEY BROS.	8673	APRIL	CT	IGH	MN	27	22W	17	DAD	ACTIVE	DOMESTIC	260	0	-	WEL	1100-01	494771	4963336
132	725058	MANLEY BROS. CONSTRUCTION	2113	CLIFF	DR	EAGAN	MN	27	22W	17	DAD	ACTIVE	DOMESTIC	260	0	-	WEL	1100-01	494804	4963478
133	679293	KLEIN, CHRIS	8523	ALVERNO	AV	IGH	MN	27	22W	18	CAA	ACTIVE	DOMESTIC	390	343	-	WEL	1100-01	492349	4963615
134	731452	MUGGE, JAMES & THERESE	8653	ALVARADO	CT	IGH	MN	27	22W	18	ADC	ACTIVE	DOMESTIC	246	241	-	WEL	1100-01	492962	4963598
135	647778	-	8913	ALMQUIST	WA	-		27	22W	18	DDB	ACTIVE	DOMESTIC	205	185	-	WEL	1100-01	493038	4963202

TABLE A-1: MAPPED GROUNDWATER WELLS, INVER GROVE HEIGHTS PART 2 WELLHEAD PROTECTION PLAN

MAP ID	UNIQUE NUMBER	WELL NAME	HOUSE NUMBER	STREET		CITY	STATE	TOWN-SHIP	RANGE	SECTION	SUB-SECTION	RECORDED STATUS	WELL USE	WELL DEPTH (FEET)	CASING DEPTH (FEET)	AQUIFER	PCSI CODE	FACILITY CODE	UTM E COORD	UTM N COORD
136	670756	REICHENBACH, TOM	8940	ALFA	LA	IGH	MN	27	22W	17	DCC	ACTIVE	DOMESTIC	209	204	-	WEL	1100-01	493471	4963000
137	712755	DAN LANG HOMES	8683	ALVARDO	CT	IGH	MN	27	22W	18	DAA	ACTIVE	DOMESTIC	287	282	-	WEL	1100-01	493204	4963539
138	712754	-	8686	ALVARDO	CT	IGH	MN	27	22W	18	DAD	ACTIVE	DOMESTIC	267	262	-	WEL	1100-01	493156	4963453
139	712789	-	1889	86TH	ST	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	260	225	-	WEL	1100-01	494702	4963565
140	693714	-	9093	ALGER	CT	IGH	MN	27	22W	18	AAC	ACTIVE	DOMESTIC	257	0	-	WEL	1100-01	492970	4962584
141	686648	PACIFIC MANAGEMENT	1401	70TH	ST	IGH	MN	27	22W	5	DCC	ACTIVE	IRRIGATION	360	267	-	WEL	1100-01	493864	4966290
142	642428	JAEGER, LORI	8308	ALVERNO	AV	IGH	MN	27	22W	18	ACB	ACTIVE	DOMESTIC	330	302	-	WEL	1100-01	492713	4964151
143	751635	BONFE, PETER	8626	APPLE GATE	WA	IGH	MN	27	22W	17	DAB	ACTIVE	DOMESTIC	280	237	-	WEL	1100-01	494629	4963399
144	737152	-	8677	ALVARADO	CT	-	MN	27	22W	18	BDA	ACTIVE	DOMESTIC	319	313	-	WEL	1100-01	493194	4963615
145	726191	INVER GROVE HGHTS COMMUNITY COLLEGE	2500	80TH	ST	IGH	MN	27	22W	16	-	ACTIVE	ELEVATOR	17	18	-	WEL	6100	495634	4963762
146	745841	ROGERS, WES	1090	82ND	ST	IGH	MN	27	22W	17	BBD	ACTIVE	DOMESTIC	145	140	-	WEL	1100-01	493398	4964027
147	745844	-	8672	APRIL	CT	IGH	MN	27	22W	17	DAD	ACTIVE	DOMESTIC	260	227	-	WEL	1100-01	494836	4963336
148	749704	WINGE, GENE	8880	ALFA	LA	IGH	MN	27	22W	17	CCC	ACTIVE	DOMESTIC	180	0	-	WEL	1100-01	493427	4963099
149	736062	KEMP, JEFF & SUSAN	6565	BABCOCK	TR	IGH	MN	27	22W	5	DAB	ACTIVE	DOMESTIC	320	265	-	WEL	1100-01	494487	4966532
150	719513	ECONOMOU, SAM & KATHY	8680	ALVARADO	CT	IGH	MN	27	22W	18	DAD	ACTIVE	DOMESTIC	241	236	-	WEL	1100-01	493112	4963480
151	714242	TUTEWOHL, MIKE	8692	ALVARDO	CT	IGH	MN	27	22W	18	-	ACTIVE	DOMESTIC	259	0	-	WEL	1100-01	493215	4963415
152	725052	MANLEY BROS. CONSTR.	1925	86TH	CT	IGH	MN	27	22W	17	DAA	ACTIVE	DOMESTIC	260	222	-	WEL	1100-01	494755	4963567
153	725054	HENDALE CONSTRUCTION	8674	ALVARDO	CT	IGH	MN	27	22W	18	BDA	ACTIVE	DOMESTIC	294	289	-	WEL	1100-01	493064	4963487
154	725089	MANLEY BROS CONSTRUCTION	1742	86TH	CT	IGH	MN	27	22W	17	DBD	ACTIVE	DOMESTIC	300	295	-	WEL	1100-01	494467	4963495
155	725132	-	8646	APRIL	CT	IGH	MN	27	22W	17	DAD	ACTIVE	DOMESTIC	260	214	-	WEL	1100-01	494825	4963406
156	725092	MANLEY BROS. CONSTRUCTION	1632	86TH	CT	IGH	MN	27	22W	17	DBB	ACTIVE	DOMESTIC	305	300	-	WEL	1100-01	494249	4963375
157	725090	MANLEY BROS. CONS.	1532	86TH	CT	IGH	MN	27	22W	17	DBB	ACTIVE	DOMESTIC	300	295	-	WEL	1100-01	494092	4963581
158	725086	MANLEY BROS. CONSTRUCTION	8649	APRIL	CT	IGH	MN	27	22W	17	DAD	ACTIVE	DOMESTIC	235	230	-	WEL	1100-01	494745	4963408
159	674883	PRESBETERIAN HOMES	6305	BURHAM	CI	IGH	MN	27	22W	4	AD	ACTIVE	ELEVATOR	38	38	-	WEL	1200	496261	4967027
160	760146	CITY OF INVER GROVE HEIGHTS	8158	BORBORA	AV	IGH	MN	27	22W	16	BBB	ACTIVE	ELEVATOR	18	18	-	WEL	6200	494916	4964148
161	765382	TAYLOR, RALPH	8334	ARGENTA	TR	IGH	MN	27	22W	18	BCB	ACTIVE	DOMESTIC	125	120	-	WEL	1100-01	491722	4963940
162	751663	CHOJNOCKI, JOE	8640	APPLE GATE	WA	IGH	MN	27	22W	17	DAB	ACTIVE	DOMESTIC	320	290	-	WEL	1100-01	494586	4963347
163	738806	WOOD, TIM AND DIANE	1175	90TH	ST	IGH	MN	27	22W	20	BBD	ACTIVE	DOMESTIC	240	233	-	WEL	1100-01	493516	4962632
164	740587	SWANSON, TERRY & CATHY	8660	ALVARADO	CT	IGH	MN	27	22W	18	DA	ACTIVE	DOMESTIC	310	0	-	WEL	1100-01	492978	4963517
165	736088	CHRISTINE, DAN	8659	ALVARDO	CT	IGH	MN	27	22W	18	DBD	ACTIVE	DOMESTIC	302	297	-	WEL	1100-01	493007	4963593
166	779042	RABUSE, GRANT	7940	ALBERTA	WA	IGH	MN	27	22W	7	CDC	ACTIVE	DOMESTIC	340	308	-	WEL	1100-01	492131	4964538
167	761632	RECHTZIGEL, ELROY	7333	ARGENTA	TR	IGH	MN	27	22W	7	BDA	ACTIVE	DOMESTIC	260	255	-	WEL	1100-01	492288	4965483
168	768802	KRUCKENBERG, GENE	1354	COURTHOUSE	BL	IGH	MN	27	22W	7	DCD	ACTIVE	DOMESTIC	320	284	-	WEL	1100-01	492748	4964537
169	775979	MCANNANY, RYAN	1526	70TH	ST	IGH	MN	27	22W	8	BBA	ACTIVE	DOMESTIC	340	290	-	WEL	1100-01	494103	4965871
170	761625	NEIMIOJA, MIKKO	8658	APPLE GATE	WA	IGH	MN	27	22W	17	DAB	ACTIVE	DOMESTIC	285	280	-	WEL	1100-01	494529	4963302
171	778739	NEUMANN, DON & ANN	8690	APRIL	CT	IGH	MN	27	22W	17	DAD	ACTIVE	DOMESTIC	270	233	-	WEL	1100-01	494809	4963286
172	772283	KRYZER, AUSTYN	1924	86TH	CT	IGH	MN	27	22W	17	DAA	ACTIVE	DOMESTIC	260	224	-	WEL	1100-01	494732	4963492
173	768788	KEVIN MANLEY HOMES	1541	86TH	-	IGH	MN	27	22W	17	-	ACTIVE	DOMESTIC	300	295	-	WEL	1100-01	494142	4963573
174	761610	KEITZ, JIM	1604	86TH	-	IGH	MN	27	22W	17	DBB	ACTIVE	DOMESTIC	300	295	-	WEL	1100-01	494182	4963396
175	768789	ELLINGSON, CHAD	1967	86TH	-	IGH	MN	27	22W	17	DBB	ACTIVE	DOMESTIC	260	220	-	WEL	1100-01	494359	4963515
176	506703	BARTNESS, CARAGH	1260	90TH	ST	IGH	MN	27	22W	20	-	ACTIVE	DOMESTIC	417	382	-	WEL	1100-01	493979	4962731
177	107303	DUANE HINKLEY	8375	ALTA	-	IGH	MN	27	22W	17	BDBCAB	ACTIVE	DOMESTIC	178	171	QUUU	WEL	1100-01	493672	4963914
178	124342	JAMES GULLICKSON	6538	BABCOCK	TR	IGH	MN	27	22W	5	DAABDB	ACTIVE	DOMESTIC	141	136	QBUA	WEL	1100-01	494723	4966769
179	136461	DONALD FISCHER	7010	ANGUS	AV	IGH	MN	27	22W	8	BAADBD	ACTIVE	DOMESTIC	295	238	MTPL	WEL	1100-01	493979	4965908
180	208381	-	1248	90TH	ST	IGH	MN	27	22W	20	BBAAAC	ACTIVE	DOMESTIC	400	393	CSLF	WEL	1100-01	493609	4962771

TABLE A-1: MAPPED GROUNDWATER WELLS, INVER GROVE HEIGHTS PART 2 WELLHEAD PROTECTION PLAN

MAP ID	UNIQUE NUMBER	WELL NAME	HOUSE NUMBER	STREET		CITY	STATE	TOWN-SHIP	RANGE	SECTION	SUB-SECTION	RECORDED STATUS	WELL USE	WELL DEPTH (FEET)	CASING DEPTH (FEET)	AQUIFER	PCSI CODE	FACILITY CODE	UTM E COORD	UTM N COORD
181	498439	INVERWOOD GOLF COURSE COMFORT STATION	1597	75TH	ST	IGH	MN	27	22W	8	DBACBD	ACTIVE	PUBLIC	280	227	OSTP	WEL	5370	494307	4965108
182	19W0000203	ANDERSON, ROGER	8480	ANNALISA	PA	IGH	MN	27	22W	17	BD	ACTIVE	DOMESTIC	220	0	-	WEL	1100-01	493974	4963870
183	185937	SHELDAN CARLSON	1878	70	ST	IGH	MN	27	22W	7	BBABCD	ACTIVE	DOMESTIC	217	212	QWTA	WEL	1100-01	491864	4965955
184	198281	BOB MAIER	8704	ANNAMARIE	TR	IGH	MN	27	22W	17	CACDBD	ACTIVE	DOMESTIC	149	145	QBUA	WEL	1100-01	493716	4963294
185	136504	ROBERT A. HARRIS	-	-	-	IGH	MN	27	22W	17	BDDBCD	ACTIVE	DOMESTIC	212	206	QBAA	WEL	1100-01	493848	4963738
186	759561	INVER GROVE HEIGHTS 9	7302	BABCOCK	TR	IGH	MN	27	22W	8	ADAADC	ACTIVE	PUBLIC	510	425	CJDN	WEL	4330	494837	4965548
187	127188	LEROY MOTZ	7660	ARGENTA	TR	IGH	MN	27	22W	7	CACBCD	ACTIVE	DOMESTIC	291	281	OPDC	WEL	1100-01	492095	4964946
188	208357	-	2105	67	ST	IGH	MN	27	22W	4	CBCAAD	ACTIVE	DOMESTIC	303	236	MTPL	WEL	1100-01	495027	4966622
189	124323	JOHN BANATARRI	1224	70	ST	IGH	MN	27	22W	7	AACACD	ACTIVE	DOMESTIC	255	249	QBAA	WEL	1100-01	492958	4965754
190	182969	JOE VETTER	7840	ALBERTA	WA	IGH	MN	27	22W	7	CDADDB	ACTIVE	DOMESTIC	308	303	OPDC	WEL	1100-01	491871	4965351
191	408269	DON MILLER	-	77	ST	IGH	MN	27	22W	7	CBCBDA	ACTIVE	DOMESTIC	325	297	OPDC	WEL	1100-01	492216	4965184
192	208379	-	8373	ALTA	AV	IGH	MN	27	22W	17	BDCBBC	ACTIVE	DOMESTIC	140	135	QUUU	WEL	1100-01	493661	4963822
193	412470	GAS PLUS	7020	SOUTH ROBERT	TR	IGH	MN	27	22W	8	BBBBCD	ACTIVE	PUBLIC	195	195	QWTA	WEL	2116	493317	4966001
194	165640	INVER GROVE HEIGHTS 5	2990	75TH	ST	IGH	MN	27	22W	9	DAAAAB	ACTIVE	PUBLIC	452	358	CJDN	WEL	4330	496452	4965244
195	198297	FLOYD REDPENNING	1715	70	ST	IGH	MN	27	22W	5	DCDADB	ACTIVE	DOMESTIC	280	245	OPDC	WEL	1100-01	494385	4966158
196	427141	TIM PETERSON	6525	ARLENE	AV	IGH	MN	27	22W	5	DBBBAB	ACTIVE	DOMESTIC	335	295	OPDC	WEL	1100-01	494126	4966821
197	127195	J. BROWN	1186	90	ST	IGH	MN	27	22W	20	BBDA	ACTIVE	DOMESTIC	360	353	QWTA	WEL	1100-01	493607	4962593
198	112277	MAURICE JOHNSON	7722	BABCOCK	TR	IGH	MN	27	22W	8	DADDCD	ACTIVE	DOMESTIC	325	236	OPDC	WEL	1100-01	494800	4964876
199	170804	FRED W. GLASSING JR.	-	BABCOCK	TR	IGH	MN	27	22W	8	ADCAAD	ACTIVE	DOMESTIC	335	295	OPDC	WEL	1100-01	494644	4965432
200	208378	-	8195	BABCOCK	TR	IGH	MN	27	22W	17	AADBDC	ACTIVE	DOMESTIC	275	245	OPDC	WEL	1100-01	494700	4964174
201	171835	ROGER ANDERSON	8480	ANANALSIA	PA	IGH	MN	27	22W	17	BDCBDD	ACTIVE	DOMESTIC	249	227	QBUA	WEL	1100-01	493790	4963651
202	709343	MW-001	-	BUCKLEY & BUC	WA	IGH	MN	27	22W	4	DAACBC	ACTIVE	MONITORING	330	316	CJDN	WEL	1100-01	496267	4966713
203	101055	MICHAEL ROWE	3295	67	ST	IGH	MN	27	22W	3	CACADB	ACTIVE	DOMESTIC	310	0	OPDC	WEL	1100-01	496997	4966614
204	185277	STEVE WATRUD	8315	ANNALISA	PA	IGH	MN	27	22W	17	BDABCD	ACTIVE	DOMESTIC	243	238	QWTA	WEL	1100-01	493861	4963953
205	463527	INVER GROVE HEIGHTS 7	-	BABARA	AV	IGH	MN	27	22W	9	BCCDCB	ACTIVE	PUBLIC	514	420	CJDN	WEL	4330	494981	4965274
206	207286	-	6734	BLAINE	ST	IGH	MN	27	22W	4	DBCCBD	ACTIVE	DOMESTIC	260	226	MTPL	WEL	1100-01	495685	4966509
207	208365	-	6780	BABCOCK	TR	IGH	MN	27	22W	5	DADDCA	ACTIVE	DOMESTIC	305	275	OPDC	WEL	1100-01	494789	4966496
208	127187	DON RECHTZIGEL	1407	80	ST	IGH	MN	27	22W	8	CDCDBD	ACTIVE	DOMESTIC	276	229	OPDC	WEL	1100-01	493807	4964524
209	141811	CLOVER LEAF MOTEL	-	55&3	HY	IGH	MN	27	22W	8	CCDBBC	ACTIVE	PUBLIC	261	206	OPDC	WEL	1300	493441	4964577
210	145737	GORDY LEACH	1240	90	ST	IGH	MN	27	22W	20	BADDCA	ACTIVE	DOMESTIC	170	170	QBUA	WEL	1100-01	493999	4962465
211	207284	INVER GROVE HEIGHTS 3	6857	CAHILL	AV	IGH	MN	27	22W	3	CCBCCA	ACTIVE	PUBLIC	407	355	CJDN	WEL	4330	496520	4966285
212	418625	ASSEMBLY OF GOD CHURCH	8265	BABCOCK	TR	IGH	MN	27	22W	17	AACDBC	ACTIVE	PUBLIC	280	230	OPDC	WEL	6600	494593	4964099
213	655940	INVER GROVE HEIGHTS 8	2307	75TH	ST	IGH	MN	27	22W	9	BDCBAA	ACTIVE	PUBLIC	542	435	OPCJ	WEL	4330	495347	4965434
214	208368	-	7075	ANGUS	DR	IGH	MN	27	22W	8	BABCBA	ACTIVE	DOMESTIC	300	263	OPDC	WEL	1100-01	493656	4965909
215	466761	HOKENSON, GARY & CAROL	8385	ANGUS	AV	IGH	MN	27	22W	17	BDBDAC	ACTIVE	DOMESTIC	330	305	OPDC	WEL	1100-01	493814	4963891
216	208359	-	2125	67	ST	IGH	MN	27	22W	4	CBDBBC	ACTIVE	DOMESTIC	303	260	MTPL	WEL	1100-01	495064	4966598
217	207281	JOHN AVOLES	6575	BABCOCK	TR	IGH	MN	27	22W	5	DABDBB	ACTIVE	DOMESTIC	295	0	OPDC	WEL	1100-01	494558	4966744
218	127186	B B LERNER	1714	80	ST	IGH	MN	27	22W	17	ABAAAC	ACTIVE	DOMESTIC	272	242	OPDC	WEL	1100-01	494426	4964408
219	19W0000936	SMITH, GERALD	8401	COURTHOUSE B	CT	IGH	MN	27	22W	17	A	ACTIVE	DOMESTIC	265	0	-	WEL	1100-01	494712	4963677
220	190478	SHIMMEK	8560	ANN MARIE	TR	IGH	MN	27	22W	17	CAADAA	ACTIVE	DOMESTIC	366	341	OPDC	WEL	1100-01	494002	4963509
221	145901	GLASSING, FRED	7301	BABCOCK	TR	IGH	MN	27	22W	8	ADADBB	ACTIVE	DOMESTIC	320	285	OPDC	WEL	1100-01	494773	4965539
222	159489	DOUG SCHAAFS	7376	COURTHOUSE	BL	IGH	MN	27	22W	7	BCABCC	ACTIVE	DOMESTIC	175	169	QBAA	WEL	1100-01	491846	4965551
223	190476	PAUL VICHICH	-	ARGENTA	TR	IGH	MN	27	22W	7	CDDADB	ACTIVE	DOMESTIC	326	302	OPDC	WEL	1100-01	491874	4965394
224	104188	RICHARD CARLSON	8305	ANGUS	AV	IGH	MN	27	22W	17	BDBDCB	ACTIVE	DOMESTIC	275	270	QBAA	WEL	1100-01	493821	4963912
225	208358	-	1995	68	ST	IGH	MN	27	22W	4	CBCCCC	ACTIVE	DOMESTIC	303	260	OPDC	WEL	1100-01	494857	4966491

TABLE A-1: MAPPED GROUNDWATER WELLS, INVER GROVE HEIGHTS PART 2 WELLHEAD PROTECTION PLAN

MAP ID	UNIQUE NUMBER	WELL NAME	HOUSE NUMBER	STREET		CITY	STATE	TOWN-SHIP	RANGE	SECTION	SUB-SECTION	RECORDED STATUS	WELL USE	WELL DEPTH (FEET)	CASING DEPTH (FEET)	AQUIFER	PCSI CODE	FACILITY CODE	UTM E COORD	UTM N COORD
226	207287	-	7650	BABCOCK	TR	IGH	MN	27	22W	8	DADAAC	ACTIVE	DOMESTIC	302	0	MTPL	WEL	1100-01	494829	4965005
227	208363	-	6620	BABCOCK	TR	IGH	MN	27	22W	5	DADAB	ACTIVE	DOMESTIC	482	442	MTPL	WEL	1100-01	494762	4966649
228	104322	RON REINARDY	6780	BOOTH	AV	IGH	MN	27	22W	4	DCBADA	ACTIVE	DOMESTIC	245	200	OPDC	WEL	1100-01	495834	4966395
229	136512	WILLIAM LENGSFELD JR.	8785	COURTHOUSE	BL	IGH	MN	27	22W	16	CACCDB	ACTIVE	DOMESTIC	262	224	OPDC	WEL	1100-01	495348	4963284
230	207282	MORRIS SKANE	2168	65	ST	IGH	MN	27	22W	4	CBABAB	ACTIVE	DOMESTIC	290	0	OPDC	WEL	1100-01	495066	4966838
231	186044	RABUSE	7940	ALBERTA	WA	IGH	MN	27	22W	7	CDCDCD	ACTIVE	DOMESTIC	175	169	QWTA	WEL	1100-01	491974	4964447
232	19W0000065	BROWN, JUDITH	1188	90	ST	IGH	MN	27	22W	20	BB	ACTIVE	DOMESTIC	240	0	-	WEL	1100-01	493566	4962810
233	155587	JIM SEIDL	8485	COUTRTHOUSE	BL	IGH	MN	27	22W	17	ADCDCD	ACTIVE	DOMESTIC	222	209	OPDC	WEL	1100-01	494597	4963623
234	208356	-	2075	67	ST	IGH	MN	27	22W	4	CBCAAC	ACTIVE	DOMESTIC	303	236	MTPL	WEL	1100-01	494984	4966622
235	101043	BRENT WEBSTER	1286	70	ST	IGH	MN	27	22W	8	BABBDB	ACTIVE	DOMESTIC	252	221	OPDC	WEL	1100-01	493703	4966014
236	194197	PEACE LUTHERAN CHURCH	7160	ALLEN	WA	IGH	MN	27	22W	8	BBDBCC	ACTIVE	PUBLIC	215	209	OSTP	WEL	6600	493457	4965757
237	159483	STEVE CAPAHN	1182	90	ST	IGH	MN	27	22W	20	BBADCD	ACTIVE	DOMESTIC	237	232	QBAA	WEL	1100-01	493604	4962647
238	19W0000232	LOOMIS,L..	1597	E. 80TH	ST	IGH	MN	27	22W	8	D	ACTIVE	DOMESTIC	160	0	-	WEL	1100-01	494132	4964725
239	405088	PHIL NELSON	1845	77	ST	IGH	MN	27	22W	7	CBACCA	ACTIVE	DOMESTIC	317	295	OPDC	WEL	1100-01	492139	4965129
240	408263	FLANNERY	9574	INVER GROVE	TR	IGH	MN	27	22W	7	ABBBBD	ACTIVE	DOMESTIC	280	264	OPDC	WEL	1100-01	492492	4966024
241	198282	JIM MCNEARNEY	-	-	-	IGH	MN	27	22W	7	CDBCCB	ACTIVE	DOMESTIC	278	274	QWTA	WEL	1100-01	492045	4965345
242	207298		8740	ALVERNO	TR	IGH	MN	27	22W	18	DDBBBD	ACTIVE	DOMESTIC	245	240	QUUU	WEL	1100-01	492872	4963221
243	208377	I.F. SIMLEY JR. HIGH SCH	-	25	CR	IGH	MN	27	22W	16	AADBAA	ACTIVE	PUBLIC	434	257	MTPL	WEL	6100	496325	4964265
244	146831	DON GOERS	8350	ANNALISA	PA	IGH	MN	27	22W	17	BDADAC	ACTIVE	DOMESTIC	303	272	OPDC	WEL	1100-01	494002	4963890
245	182815	TIMOTHY WAKEFIELD	7834	ALVERTA	WA	IGH	MN	27	22W	7	CDBADC	ACTIVE	DOMESTIC	292	278	OPDC	WEL	1100-01	491967	4965301
246	19W0000661	FORSCHEN, DARVEN	7478	BABCOCK	TR	IGH	MN	27	22W	8	AD	ACTIVE	DOMESTIC	320	0	-	WEL	1100-01	494793	4965286
247	129251	OTTOMAR BOHRER	1126	70	ST	IGH	MN	27	22W	8	BBBADA	ACTIVE	DOMESTIC	260	230	OPDC	WEL	1100-01	493433	4966010
248	207285	INVER GROVE HEIGHTS 4	2800	70	ST	IGH	MN	27	22W	9	AAAAAC	ACTIVE	PUBLIC	360	285	CJDN	WEL	4330	496441	4966018
249	19W0000737	JOHANSEN, DIANE	1526	70	ST	IGH	MN	27	22W	8	A	ACTIVE	DOMESTIC	350	0	-	WEL	1100-01	494347	4966031
250	185980	AMELSE	-	70	ST	IGH	MN	27	22W	5	DDCADC	ACTIVE	DOMESTIC	300	275	OPDC	WEL	1100-01	494607	4966140
251	190477	C. ALLEN	1186	82	ST	IGH	MN	27	22W	17	BBDCDA	ACTIVE	DOMESTIC	241	216	OPDC	WEL	1100-01	493482	4964091
252	104312	JIM MCFARLAND	1155	82	ST	IGH	MN	27	22W	17	BDCBBB	ACTIVE	DOMESTIC	155	151	QUUU	WEL	1100-01	493498	4964108
253	433259	INVER GROVE HEIGHTS 6	-	75TH	ST	IGH	MN	27	22W	9	DAAACD	ACTIVE	PUBLIC	1044	802	CMSH	WEL	4330	496423	4965170
254	19W0000283	CATLIN, B.	8984	COURTHOUSE	BL	IGH	MN	27	22W	16	CB	ACTIVE	DOMESTIC	229	0	-	WEL	1100-01	494964	4963488
255	410991	JOSEPH STANDLOF	1185	80TH	ST	-	-	27	22W	8	CCDDAD	ACTIVE	DOMESTIC	250	227	OPDC	WEL	1100-01	493628	4964520
256	198345	J. R. HOFFMAN	-	-	-	-	-	27	22W	7	CCBCAB	ACTIVE	DOMESTIC	260	255	QBAA	WEL	1100-01	492246	4965318
257	428532	PAUL WARD	-	-	-	-	-	27	22W	17	CAADBC	ACTIVE	DOMESTIC	276	273	QBAA	WEL	1100-01	493918	4963489
258	426363	JEFF HAGEN	-	-	-	-	-	27	22W	5	DDBDDA	ACTIVE	DOMESTIC	320	305	OPDC	WEL	1100-01	494650	4966274
259	208364		-	-	-	-	-	27	22W	5	DADDBA	ACTIVE	DOMESTIC	305	0	OPDC	WEL	1100-01	494782	4966545
260	426923	DONNA AND JIM STOESZ	-	-	-	-	-	27	22W	5	DCBDAA	ACTIVE	DOMESTIC	310	280	OPDC	WEL	1100-01	494264	4966331
261	418641	JOHN RIES	-	-	-	-	-	27	22W	5	DCABDD	ACTIVE	DOMESTIC	320	298	OPDC	WEL	1100-01	494351	4966361
262	243143	SOUTH VALLEY PARK OLD WE	-	-	-	-	-	27	22W	10	BCCABB	ACTIVE	DOMESTIC	204	0	-	WEL	1100-01	496578	4965466
263	198340	TOME KELLY	-	-	-	-	-	27	22W	17	BACDBA	ACTIVE	DOMESTIC	275	270	QBAA	WEL	1100-01	493767	4964146
264	198350	CRAIG WAGENKNECHT	-	-	-	-	-	27	22W	8	BBDDBA	ACTIVE	DOMESTIC	280	256	OPDC	WEL	1100-01	493618	4965732
265	418617	MEL AND MARY SAIGN	-	-	-	-	-	27	22W	5	DCACCC	ACTIVE	DOMESTIC	300	264	OPDC	WEL	1100-01	494285	4966263
266	418692	DAVE PARK	-	-	-	-	-	27	22W	17	CAABBD	ACTIVE	DOMESTIC	340	0	OPDC	WEL	1100-01	493850	4963592
267	417573	ERIC OLSEN	-	-	-	-	-	27	22W	18	CABACD	ACTIVE	DOMESTIC	345	340	QBAA	WEL	1100-01	492171	4963558
268	437855	STEVE RADEMACHER	-	-	-	-	-	27	22W	5	DBACAB	ACTIVE	DOMESTIC	260	210	OPDC	WEL	1100-01	494323	4966735
269	418688	ROSEMARY PIEKORSKI	-	-	-	-	-	27	22W	8	DABBDD	ACTIVE	DOMESTIC	280	240	MTPL	WEL	1100-01	494543	4965152
270	259425	EMMANUEL LUTHERAN CHURCH	-	-	-	-	-	27	22W	9	BBBB	ACTIVE	PUBLIC	0	0	-	WEL	6600	494895	4966009

TABLE A-1: MAPPED GROUNDWATER WELLS, INVER GROVE HEIGHTS PART 2 WELLHEAD PROTECTION PLAN

MAP ID	UNIQUE NUMBER	WELL NAME	HOUSE NUMBER	STREET		CITY	STATE	TOWN-SHIP	RANGE	SECTION	SUB-SECTION	RECORDED STATUS	WELL USE	WELL DEPTH (FEET)	CASING DEPTH (FEET)	AQUIFER	PCSI CODE	FACILITY CODE	UTM E COORD	UTM N COORD
271	418663	STEPHENS, MARK	-	-	-	-	-	27	22W	17	BDCDBB	ACTIVE	DOMESTIC	280	275	QBAA	WEL	1100-01	493791	4963731
272	424909	DON HOLZMER	-	-	-	-	-	27	22W	5	DCCDBB	ACTIVE	DOMESTIC	300	255	MTPL	WEL	1100-01	494191	4966135
273	194093	PATRICK DADDARIO	-	-	-	-	-	27	22W	17	BADCCD	ACTIVE	DOMESTIC	280	254	OPDC	WEL	1100-01	493867	4964081
274	418669	DAN WATTS	-	-	-	-	-	27	22W	5	DDCAAD	ACTIVE	DOMESTIC	320	270	MTPL	WEL	1100-01	494647	4966204
275	418664	MARK STOKBERGER	-	-	-	-	-	27	22W	5	DCCBDC	ACTIVE	DOMESTIC	300	252	MTPL	WEL	1100-01	494133	4966170
276	402597	TOM + KATHY FAVILLA	-	-	-	-	-	27	22W	17	CADAAC	ACTIVE	DOMESTIC	200	193	QWTA	WEL	1100-01	493970	4963373
277	416002		-	-	-	-	-	27	22W	5	DBDABA	ACTIVE	DOMESTIC	320	270	MTPL	WEL	1100-01	494411	4966630
278	418661	DUANE E. SPIESS J.R.	-	-	-	-	-	27	22W	5	DDBADA	ACTIVE	DOMESTIC	280	245	OPDC	WEL	1100-01	494644	4966388
279	418655	GENE RUTHER	-	-	-	-	-	27	22W	5	DBBDCA	ACTIVE	DOMESTIC	320	278	MTPL	WEL	1100-01	494180	4966680
280	418660	JOHN SNYDER	-	-	-	-	-	27	22W	5	DBADCB	ACTIVE	DOMESTIC	280	247	OPDC	WEL	1100-01	494373	4966673
281	425219	FEIDT, ANTHONY & ZANDRA	-	-	-	-	-	27	22W	17	BDABDA	ACTIVE	DOMESTIC	280	255	OPDC	WEL	1100-01	493904	4963995
282	437888	TERRY LAPANTA	-	-	-	-	-	27	22W	17	BDDCDB	ACTIVE	DOMESTIC	340	320	OPDC	WEL	1100-01	493887	4963649
283	435179	ROBERT MCDERMOTT	-	-	-	-	-	27	22W	8	DDAAAC	ACTIVE	DOMESTIC	260	235	OPDC	WEL	1100-01	494833	4964807
284	416049	DENNIS NELSON	-	-	-	-	-	27	22W	5	DBCDAB	ACTIVE	DOMESTIC	358	328	OPDC	WEL	1100-01	494231	4966539
285	441920	DAVID + SHARON ROBINSON	-	-	-	-	-	27	22W	17	BDDAAC	ACTIVE	DOMESTIC	307	297	OPDC	WEL	1100-01	493982	4963798
286	412467	DENNY AND PAT CHRIST	-	-	-	-	-	27	22W	5	DDCABB	ACTIVE	DOMESTIC	320	277	OPDC	WEL	1100-01	494574	4966225
287	418626	AL STANGL	-	-	-	-	-	27	22W	5	DCDDAA	ACTIVE	DOMESTIC	260	230	MTPL	WEL	1100-01	494450	4966129
288	129181	DAVID P. FITCH	-	-	-	-	-	27	22W	20	BBDBAC	ACTIVE	DOMESTIC	280	272	OPDC	WEL	1100-01	493534	4962597
289	426353	DAVID VANDEVELDE	-	-	-	-	-	27	22W	5	DBBBDD	ACTIVE	DOMESTIC	300	290	OPDC	WEL	1100-01	494151	4966754
290	416018	LARRY NELSON	-	-	-	-	-	27	22W	5	DCBCAA	ACTIVE	DOMESTIC	300	268	OPDC	WEL	1100-01	494155	4966346
291	129164	ARENDS, HANK	-	-	-	-	-	27	22W	17	BDDDDB	ACTIVE	DOMESTIC	239	233	QBAA	WEL	1100-01	493969	4963673
292	441898	JOANIE GLANCE	-	-	-	-	-	27	22W	17	CACACB	ACTIVE	DOMESTIC	162	157	QWTA	WEL	1100-01	493698	4963386
293	426964	DAVE FRANK	-	-	-	-	-	27	22W	17	CAACCA	ACTIVE	DOMESTIC	227	222	QWTA	WEL	1100-01	493847	4963463
294	236123	ROD + GUN CLUB	-	-	-	-	-	27	22W	4	BDCACA	ACTIVE	PUBLIC	235	0	QWTA	WEL	5400	495392	4966971
295	451545	ANDY HANSEN	-	-	-	-	-	27	22W	5	DBDCAC	ACTIVE	DOMESTIC	320	295	OPDC	WEL	1100-01	494321	4966519
296	242995		-	-	-	-	-	27	22W	3	BBCDBB	ACTIVE	UNKNOWN	159	149	OPDC	WEL	1100-01	496572	4967297
297	418646	PAUL AND DEBBIE SNETTING	-	-	-	-	-	27	22W	7	CDDDBC	ACTIVE	DOMESTIC	340	315	OPDC	WEL	1100-01	491895	4965433
298	457166	JOE VAN ASSCHE	-	-	-	-	-	27	22W	7	DCDDBC	ACTIVE	DOMESTIC	147	142	QBUA	WEL	1100-01	492772	4964507
299	127196	RICHARD ELBERT	-	-	-	-	-	27	22W	18	CAADAD	ACTIVE	DOMESTIC	295	286	QBUA	WEL	1100-01	492420	4963493
300	416023		-	-	-	-	-	27	22W	5	DBDACB	ACTIVE	DOMESTIC	253	245	QBAA	WEL	1100-01	494372	4966585
301	437918	MAURY COOK	-	-	-	-	-	27	22W	5	DCADCD	ACTIVE	DOMESTIC	300	292	OPDC	WEL	1100-01	494395	4966266
302	198339	KEN IRISH	-	-	-	-	-	27	22W	17	ACAACB	ACTIVE	DOMESTIC	300	277	OPDC	WEL	1100-01	493772	4964242
303	198347	MICHAEL J. KNAPP	-	-	-	-	-	27	22W	17	CACDDB	ACTIVE	DOMESTIC	265	260	OPDC	WEL	1100-01	493736	4963243
304	427024	HANS THOLEY	-	-	-	-	-	27	22W	17	CADDAB	ACTIVE	DOMESTIC	150	145	QWTA	WEL	1100-01	493963	4963294
305	404813	STEVE AND CINDY WANDERSE	-	-	-	-	-	27	22W	5	DCBBAA	ACTIVE	DOMESTIC	320	280	OPDC	WEL	1100-01	494146	4966445
306	437920	STEVE ERICKSON	-	-	-	-	-	27	22W	5	DBCAAC	ACTIVE	DOMESTIC	340	322	OPDC	WEL	1100-01	494234	4966617
307	429893	GARY WALLERICH	-	-	-	-	-	27	22W	17	BDACDB	ACTIVE	DOMESTIC	300	274	OPDC	WEL	1100-01	493942	4963881
308	437852	JOHN MURPHY	-	-	-	-	-	27	22W	17	CBDADB	ACTIVE	DOMESTIC	142	137	QBUA	WEL	1100-01	493631	4963393
309	412468	ERIC HOLM	-	-	-	-	-	27	22W	7	CBDBDC	ACTIVE	DOMESTIC	320	300	OPDC	WEL	1100-01	492144	4965190
310	208382		-	-	-	-	-	27	22W	20	BBBBDC	ACTIVE	UNKNOWN	0	0	-	WEL	1100-01	493317	4962743
311	429894	MIKE PLIML	-	-	-	-	-	27	22W	5	DDBBDC	ACTIVE	DOMESTIC	300	268	OPDC	WEL	1100-01	494531	4966346
312	443885	MICHEAL MEMAUER	-	-	-	-	-	27	22W	17	BBDABC	ACTIVE	DOMESTIC	162	157	QBAA	WEL	1100-01	493524	4964245
313	425264	STEVE MICHAUD	-	-	-	-	-	27	22W	17	CBDDAA	ACTIVE	DOMESTIC	151	146	QWTA	WEL	1100-01	493664	4963347
314	426386	MAURICE BRAUN	-	-	-	-	-	27	22W	8	BBADDC	ACTIVE	DOMESTIC	240	220	OPDC	WEL	1100-01	493628	4965872
315	451625	SPEED ENGINEERING	-	-	-	-	-	27	22W	6	DDDACA	ACTIVE	DOMESTIC	252	232	OPDC	WEL	1100-01	493180	4966162

TABLE A-1: MAPPED GROUNDWATER WELLS, INVER GROVE HEIGHTS PART 2 WELLHEAD PROTECTION PLAN

MAP ID	UNIQUE NUMBER	WELL NAME	HOUSE NUMBER	STREET		CITY	STATE	TOWN-SHIP	RANGE	SECTION	SUB-SECTION	RECORDED STATUS	WELL USE	WELL DEPTH (FEET)	CASING DEPTH (FEET)	AQUIFER	PCSI CODE	FACILITY CODE	UTM E COORD	UTM N COORD
316	194091	BEHAN, ROBERT	-	-	-	-	-	27	22W	17	CADCDB	ACTIVE	DOMESTIC	230	225	OPDC	WEL	1100-01	493862	4963248
317	198328	TERRY VANDER WERT	-	-	-	-	-	27	22W	5	DCAADD	ACTIVE	DOMESTIC	280	248	OPDC	WEL	1100-01	494444	4966361
318	443613	JOHN TOOMEY	-	-	-	-	-	27	22W	18	CDBCAC	ACTIVE	DOMESTIC	231	226	QBAA	WEL	1100-01	492263	4963366
319	416015	ANDERSON, DEAN	7793	ARGENTA	AV	IGH	MN	27	22W	7	CCBBAD	ACTIVE	DOMESTIC	173	168	QWTA	WEL	1100-01	492238	4965266
320	429860	ALFRED WILLENBRING	-	-	-	-	-	27	22W	8	CCDBDA	ACTIVE	DOMESTIC	280	245	OPDC	WEL	1100-01	493534	4964598
321	435200	RICHARD FURRY	-	-	-	-	-	27	22W	5	DCCBAA	ACTIVE	DOMESTIC	290	254	OPDC	WEL	1100-01	494147	4966246

Z:\Inver Grove Heights WHP\Part 2\Report Files\[IGH Inventory Tables.xlsx]WELL TABLE

TABLE A-2: SUSPECTED GROUNDWATER WELLS, INVER GROVE HEIGHTS PART 2 WHP

PCSI ID	PARCEL	RESIDENTIAL ADDRESS	CITY	STATE	ZIP
325	037-206640002030	6925 ATHENA WAY	INVER GROVE HEIGHTS	MN	55077
326	037-200080025100	7075 ANGUS AVE E	INVER GROVE HEIGHTS	MN	55077
327	037-200080025070	7079 ANGUS AVE E	INVER GROVE HEIGHTS	MN	55077
328	037-200080025020	7038 ANGUS AVE E	INVER GROVE HEIGHTS	MN	55077
329	037-200080025030	7182 ANGUS AVE E	INVER GROVE HEIGHTS	MN	55077
330	037-200080025060	7175 ANGUS AVE E	INVER GROVE HEIGHTS	MN	55077
331	037-200080025130	7185 ALTA AVE	INVER GROVE HEIGHTS	MN	55077
332	037-200080030011	7340 ANGUS AVE E	INVER GROVE HEIGHTS	MN	55077
333	037-200080025040	7248 ANGUS AVE E	INVER GROVE HEIGHTS	MN	55077
334	037-200080051014	1401 80TH ST E	INVER GROVE HEIGHTS	MN	55077
335	037-200080050010	1183 80TH ST E	INVER GROVE HEIGHTS	MN	55077
336	037-200080051012	1407 80TH ST E	INVER GROVE HEIGHTS	MN	55077
337	037-200170026010	1462 80TH ST E	INVER GROVE HEIGHTS	MN	55077
338	037-200050054020	1415 70TH ST E	INVER GROVE HEIGHTS	MN	55077
339	037-200050054010	1271 70TH ST E	INVER GROVE HEIGHTS	MN	55077
340	037-200080025080	1418 70TH ST E	INVER GROVE HEIGHTS	MN	55077
341	037-200050077033	6575 BABCOCK TRL E	INVER GROVE HEIGHTS	MN	55077
342	037-200050077040	6619 BABCOCK TRL E	INVER GROVE HEIGHTS	MN	55077
343	037-200050077050	6647 BABCOCK TRL E	INVER GROVE HEIGHTS	MN	55077
344	037-200050077061	6715 BABCOCK TRL E	INVER GROVE HEIGHTS	MN	55077
345	037-200050077074	6725 BABCOCK TRL E	INVER GROVE HEIGHTS	MN	55077
346	037-200040051011	2020 68TH ST E	INVER GROVE HEIGHTS	MN	55077
347	037-200050078030	6869 BABCOCK TRL E	INVER GROVE HEIGHTS	MN	55077
348	037-202850001012	6815 ROBERT TRL S	INVER GROVE HEIGHTS	MN	55077
349	037-202850001020	1165 70TH ST W	INVER GROVE HEIGHTS	MN	55077
350	037-200070001010	1090 70TH ST W	INVER GROVE HEIGHTS	MN	55077
351	037-200070001020	1100 70TH ST W	INVER GROVE HEIGHTS	MN	55077
352	037-200070001040	1120 70TH ST W	INVER GROVE HEIGHTS	MN	55077
353	037-200070003040	1210 70TH ST W	INVER GROVE HEIGHTS	MN	55077
354	037-200070003010	1216 70TH ST W	INVER GROVE HEIGHTS	MN	55077
355	037-200070004010	1266 70TH ST W	INVER GROVE HEIGHTS	MN	55077
356	037-200070005014	1400 70TH ST W	INVER GROVE HEIGHTS	MN	55077
357	037-200070031030	7305 ARGENTA TRL W	INVER GROVE HEIGHTS	MN	55077
358	037-200070031020	7275 ARGENTA TRL W	INVER GROVE HEIGHTS	MN	55077
359	037-200070031010	7241 ARGENTA TRL W	INVER GROVE HEIGHTS	MN	55077
360	037-206585001030	7215 ROBERT TRL S	INVER GROVE HEIGHTS	MN	55077
361	037-206585001040	1060 72ND CIR W	INVER GROVE HEIGHTS	MN	55077
362	037-200070008011	1230 70TH ST W	INVER GROVE HEIGHTS	MN	55077
363	037-200070008012	7245 ROBERT TRL S	INVER GROVE HEIGHTS	MN	55077
364	037-200070005015	7101 ARGENTA TRL W	INVER GROVE HEIGHTS	MN	55077
365	037-200070026011	1700 70TH ST W	INVER GROVE HEIGHTS	MN	55077
366	037-200070033020	7312 ARGENTA TRL W	INVER GROVE HEIGHTS	MN	55077
367	037-200070010010	7455 ROBERT TRL S	INVER GROVE HEIGHTS	MN	55077
368	037-200080052010	7884 ROBERT TRL S	INVER GROVE HEIGHTS	MN	55077
369	037-207090003050	7920 ALBERTA WAY W	INVER GROVE HEIGHTS	MN	55077
370	037-207090003040	7890 ALBERTA WAY W	INVER GROVE HEIGHTS	MN	55077
371	037-207090003030	7840 ALBERTA WAY W	INVER GROVE HEIGHTS	MN	55077
372	037-207090003020	7834 ALBERTA WAY W	INVER GROVE HEIGHTS	MN	55077
373	037-207090003010	7830 ALBERTA WAY W	INVER GROVE HEIGHTS	MN	55077
374	037-207090004010	7875 ALBERTA WAY W	INVER GROVE HEIGHTS	MN	55077
375	037-200070052020	7587 ARGENTA TRL	INVER GROVE HEIGHTS	MN	55077
376	037-203330001030		INVER GROVE HEIGHTS	MN	
377	037-200070051020	1644 COURTHOUSE BLVD W	INVER GROVE HEIGHTS	MN	55077

TABLE A-2: SUSPECTED GROUNDWATER WELLS, INVER GROVE HEIGHTS PART 2 WHP

PCSI ID	PARCEL	RESIDENTIAL ADDRESS	CITY	STATE	ZIP
378	037-200180025012	1565 82ND ST W	INVER GROVE HEIGHTS	MN	55077
379	037-200180004010	8302 ALVERNO AVE W	INVER GROVE HEIGHTS	MN	55077
380	037-200070079012	1358 COURTHOUSE BLVD W	INVER GROVE HEIGHTS	MN	55077
381	037-200180051011	8715 ALVERNO AVE	INVER GROVE HEIGHTS	MN	55077
382	037-200180076020	8580 ALVERNO AVE W	INVER GROVE HEIGHTS	MN	55077
383	037-208427502040	8671 ALVARADO CT	INVER GROVE HEIGHTS	MN	
384	037-200170051010	8555 ROBERT TRL S	INVER GROVE HEIGHTS	MN	55077
385	037-202930000020	8225 ARGENTA TRL	INVER GROVE HEIGHTS	MN	55077
386	037-200180026010	1712 82ND ST W	INVER GROVE HEIGHTS	MN	55077
387	037-208427503023	8718 ALVARADO TRL	INVER GROVE HEIGHTS	MN	55077
388	037-208427503021	8726 ALVAREZ AVE	INVER GROVE HEIGHTS	MN	55077
389	037-204810001022	8945 ALFA LN	INVER GROVE HEIGHTS	MN	55077
390	037-200200029010	9017 ROBERT TRL S	INVER GROVE HEIGHTS	MN	55077
391	037-200200032011	1160 90TH ST E	INVER GROVE HEIGHTS	MN	55077
392	037-200200025011	1248 90TH ST E	INVER GROVE HEIGHTS	MN	55077
393	037-200200026012	9240 ARNOLD AVE E	INVER GROVE HEIGHTS	MN	55077
394	037-206250001020	1246 90TH ST E	INVER GROVE HEIGHTS	MN	55077
395	037-200200027041	1186 90TH ST E	INVER GROVE HEIGHTS	MN	55077
396	037-200200030011	9160 ROBERT TRL S	INVER GROVE HEIGHTS	MN	55077
397	037-200200030020	9220 ROBERT TRL S	INVER GROVE HEIGHTS	MN	55077
398	037-204757503060	9040 ALVAREZ AVE	INVER GROVE HEIGHTS	MN	55077
399	037-204757503050	9056 ALVAREZ AVE	INVER GROVE HEIGHTS	MN	55077
400	037-204757503030	9092 ALVAREZ AVE	INVER GROVE HEIGHTS	MN	55077
401	037-204757501010	9112 ALTMAN CT	INVER GROVE HEIGHTS	MN	55077
402	037-204757503010	9107 ALTMAN CT	INVER GROVE HEIGHTS	MN	55077
403	037-200190001013	9095 ALTMAN CT	INVER GROVE HEIGHTS	MN	55077
404	037-204757501060	9092 ALTMAN CT	INVER GROVE HEIGHTS	MN	55077
405	037-204757501070	9088 ALTMAN CT	INVER GROVE HEIGHTS	MN	55077
406	037-204757502010	9091 ALTMAN CT	INVER GROVE HEIGHTS	MN	55077
407	037-200170052012	8606 ROBERT TRL S	INVER GROVE HEIGHTS	MN	55077
408	037-200170032010	8112 ADELBERT AVE E	INVER GROVE HEIGHTS	MN	55077
409	037-200170033040	1102 82ND ST E	INVER GROVE HEIGHTS	MN	55077
410	037-205670000091	1162 82ND ST E	INVER GROVE HEIGHTS	MN	55077
411	037-205670000100	1186 82ND ST E	INVER GROVE HEIGHTS	MN	55077
412	037-205670000110	1204 82ND ST E	INVER GROVE HEIGHTS	MN	55077
413	037-205670000120	1240 82ND ST E	INVER GROVE HEIGHTS	MN	55077
414	037-200170029010	8115 COURTHOUSE BLVD E	INVER GROVE HEIGHTS	MN	55077
415	037-200170029030	8119 COURTHOUSE BLVD E	INVER GROVE HEIGHTS	MN	55077
416	037-200170027010	8140 COURTHOUSE BLVD E	INVER GROVE HEIGHTS	MN	55077
417	037-200170027020	8150 COURTHOUSE BLVD E	INVER GROVE HEIGHTS	MN	55077
418	037-205505006010	1658 86TH CT	INVER GROVE HEIGHTS	MN	55123
419	037-200170007010	8325 COURTHOUSE BLVD	INVER GROVE HEIGHTS	MN	55077
420	037-200170007020	8365 COURTHOUSE BLVD E	INVER GROVE HEIGHTS	MN	55077
421	037-200170007030	8381 COURTHOUSE BLVD E	INVER GROVE HEIGHTS	MN	55077
422	037-200170007041	8401 COURTHOUSE BLVD E	INVER GROVE HEIGHTS	MN	55077
423	037-200170007050	8441 COURTHOUSE BLVD E	INVER GROVE HEIGHTS	MN	55077
424	037-200170007070	8453 COURTHOUSE BLVD E	INVER GROVE HEIGHTS	MN	55077
425	037-200170007080	8459 COURTHOUSE BLVD E	INVER GROVE HEIGHTS	MN	55077
426	037-200170007090	8467 COURTHOUSE BLVD	INVER GROVE HEIGHTS	MN	55077
427	037-205670102031	8315 ALTA AVE	INVER GROVE HEIGHTS	MN	55077
428	037-205670102011	8375 ALTA AVE	INVER GROVE HEIGHTS	MN	55077
429	037-201960000010	7693 BABCOCK TRL E	INVER GROVE HEIGHTS	MN	55077
430	037-201960000020	7723 BABCOCK TRL E	INVER GROVE HEIGHTS	MN	55077

TABLE A-2: SUSPECTED GROUNDWATER WELLS, INVER GROVE HEIGHTS PART 2 WHP

PCSI ID	PARCEL	RESIDENTIAL ADDRESS	CITY	STATE	ZIP
431	037-201960000030	7775 BABCOCK TRL E	INVER GROVE HEIGHTS	MN	55077
432	037-201960000060	1771 80TH ST E	INVER GROVE HEIGHTS	MN	55077
433	037-201960000070	1811 80TH ST E	INVER GROVE HEIGHTS	MN	55077
434	037-200080075040	7620 BABCOCK TRL E	INVER GROVE HEIGHTS	MN	55077
435	037-200080075030	7560 BABCOCK TRL E	INVER GROVE HEIGHTS	MN	55077
436	037-200080002012	7475 BABCOCK TRL E	INVER GROVE HEIGHTS	MN	55077
437	037-200170002021	1760 80TH ST E	INVER GROVE HEIGHTS	MN	55077

Z:\Inver Grove Heights WHP\Part 2\Report Files\[IGH Inventory Tables.xlsx]SUSPECTED WELL TABLE

TABLE A-3: MAPPED STORAGE TANK SITES, INVER GROVE HEIGHTS PART 2 WELLHEAD PROTECTION PLAN

SITE NAME	MPCA ID	TANK STATUS	TANK TYPE	TANK CONTENTS	TANK VOLUME (GAL)	PCSI CODE	UTM E COORD	UTM N COORD	LEGAL ENTITY	MAILING ADDRESS	CITY	STATE	ZIP	CONTACT NAME
Sinclair Retail	2	Active	UNDER GROUND	Gasoline	10,000	UST-F000	496506	4966919	SINCLAIR MARKETING INC	550 E S Temple	Salt Lake City	UT	84102	LARRY FELDSIEN
Sinclair Retail	1	Active	UNDER GROUND	Alcohol Blend	10,000	UST-F000	496506	4966919	SINCLAIR MARKETING INC	550 E S Temple	Salt Lake City	UT	84102	LARRY FELDSIEN
Inver Hills Community College	4	Active	UNDER GROUND	Fuel Oil	10,000	UST-F000	495673	4964445	INVER HILLS COMMUNITY COLLEGE	2500 80th St E	IGH	MN	55076	-
Truck Repair & Equipment Co	218	Active	UNDER GROUND	Used Or Waste Oil	2,000	UST-F000	491832	4964060	TRUCK REPAIR & EQUIPMENT INC	8245 Argenta Trl	IGH	MN	55077	ROBERT FLOERKE
Truck Repair & Equipment Co	233	Active	UNDER GROUND	Used Or Waste Oil	2,000	UST-F000	491832	4964060	TRUCK REPAIR & EQUIPMENT INC	8245 Argenta Trl	IGH	MN	55077	ROBERT FLOERKE
Truck Repair & Equipment Co	234	Active	UNDER GROUND	Used Or Waste Oil	2,000	UST-F000	491832	4964060	TRUCK REPAIR & EQUIPMENT INC	8245 Argenta Trl	IGH	MN	55077	ROBERT FLOERKE
Oasis Market #577	1	Active	UNDER GROUND	Gasoline	10,000	UST-F000	496682	4966039	Miguel Mendoza	4132 32nd Ave s	Minneapolis	MN	55401	Miguel Mendoza
Oasis Market #577	2	Active	UNDER GROUND	Gasoline	10,000	UST-F000	496682	4966039	Miguel Mendoza	4132 32nd Ave s	Minneapolis	MN	55401	Miguel Mendoza
Oasis Market #577	3	Active	UNDER GROUND	Gasoline	10,000	UST-F000	496682	4966039	Miguel Mendoza	4132 32nd Ave s	Minneapolis	MN	55401	Miguel Mendoza
Buds 66	1	Active	UNDER GROUND	Gasoline	10,000	UST-F000	496638	4966118	YOCUM OIL CO	-	-	-	-	Wes Hallberg
Buds 66	4	Active	UNDER GROUND	Gasoline	10,000	UST-F000	496638	4966118	YOCUM OIL CO	-	-	-	-	Wes Hallberg
Buds 66	2	Active	UNDER GROUND	Gasoline	10,000	UST-F000	496638	4966118	YOCUM OIL CO	-	-	-	-	Wes Hallberg
Buds 66	3	Active	UNDER GROUND	Gasoline	10,000	UST-F000	496638	4966118	YOCUM OIL CO	-	-	-	-	Wes Hallberg
IGH Middle School Addition & A	3	Active	UNDER GROUND	Fuel Oil	14,000	UST-F000	496370	4964325	INVER GROVE HEIGHTS ISD #199		IGH	MN	55076	KEVIN MCNAMARA
Wagner Sod	`2	Active	ABOVE GROUND	Diesel	1,000	AST-F000	493885	4964227	Wagner Sod	8150 Courthouse E	IGH	MN	55077	Norb Wagner
Wagner Sod	`1	Active	ABOVE GROUND	Gasoline	1,000	AST-F000	493885	4964227	Wagner Sod	8150 Courthouse E	IGH	MN	55077	Norb Wagner
Danner Landscaping & Sales	`1	Active	ABOVE GROUND	Diesel	500	AST-F000	496605	4964643	Danner Landscaping & Sales	7915 Cahill Ave E	IGH	MN	55076	JERRY DANNER
Danner Landscaping & Sales	`2	Active	ABOVE GROUND	Diesel	500	AST-F000	496605	4964643	Danner Landscaping & Sales	7915 Cahill Ave E	IGH	MN	55076	JERRY DANNER
Danner Landscaping & Sales	`3	Active	ABOVE GROUND	Gasoline	300	AST-F000	496605	4964643	Danner Landscaping & Sales	7915 Cahill Ave E	IGH	MN	55076	JERRY DANNER
City of Inver Grove Heights	-	Active	UNDER GROUND	Diesel	-	UST-F000	494845	4964137	City of Inver Grove Heights	8168 Barbara Ave	IGH	MN	55076	-
City of Inver Grove Heights	-	Active	UNDER GROUND	Gasoline	-	UST-F001	494845	4964137	City of Inver Grove Heights	8168 Barbara Ave	IGH	MN	55076	-

Z:\Inver Grove Heights WHP\Part 2\Report Files\[IGH Inventory Tables.xlsx]TANK TABLE

TABLE A-4: DOCUMENTED LEAK SITES, INVER GROVE HEIGHTS PART 2 WELLHEAD PROTECTION PLAN

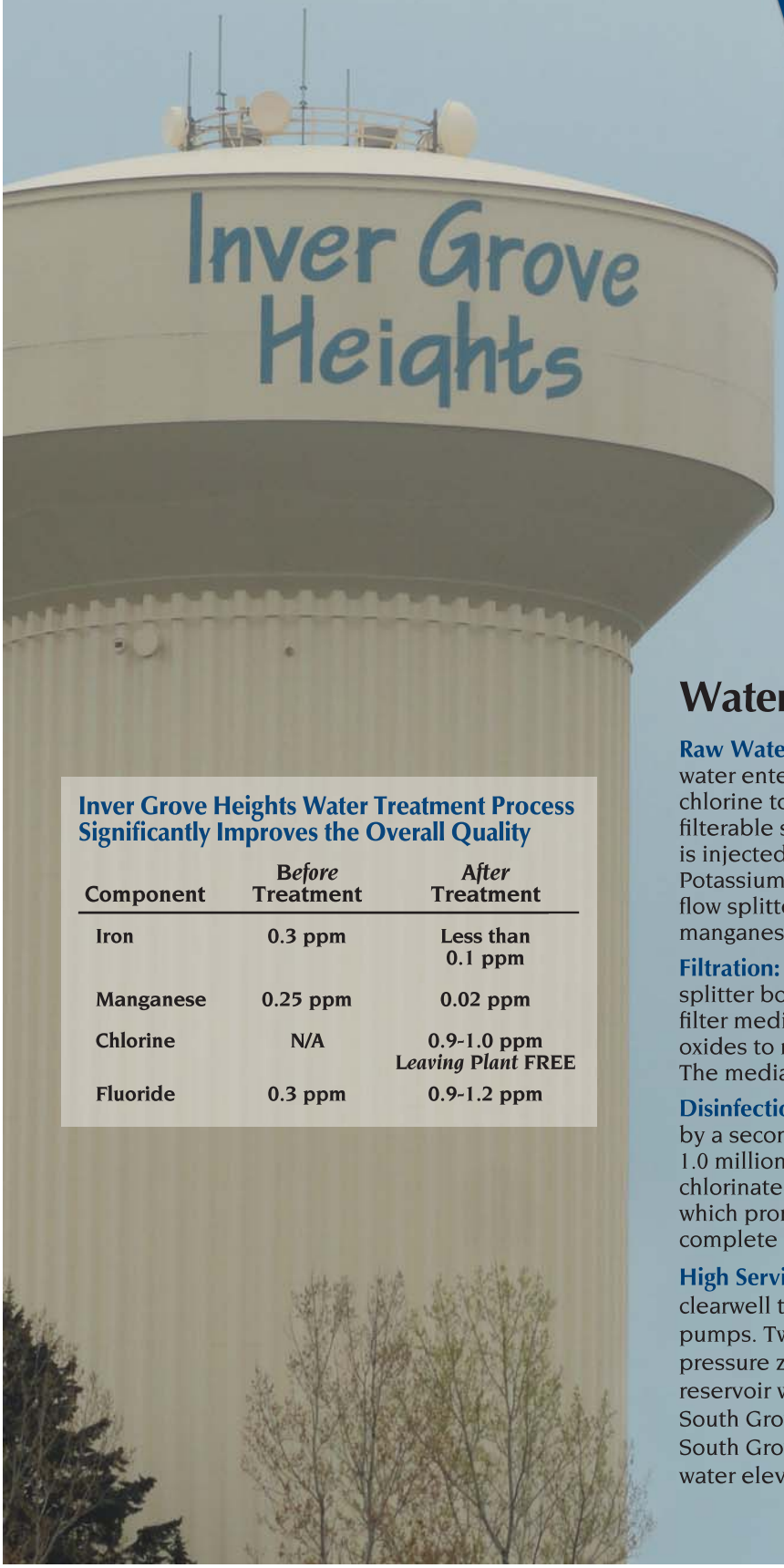
LEAK ID	SITE NAME	MAILING ADDRESS	CITY	ZIP	MPCA ID	PCSI CODE	FACILITY CODE	DISCOVERED	CLOSED	LOCATION METHOD	UTM E COORD	UTM N COORD
588	BUDS PHILLIPS 66	6976 CAHILL AVE S	IGH	55075	213530	SPL	2116	-	9/8/1992	Interpolation Unknown	496641	4966125
3211	CROWN AUTO STORE	6475 CAHILL AVE	IGH	55076	215988	SPL	2110	-	3/15/1991	Address Matching House Number	496440	4966998
4288	FINASERVE #604-7510-609	7030 CAHILL AVE E	IGH	55076	217005	SPL	2116	7/22/1991	3/28/1995	Digitized - Map Tool	496669	4966036
5045	FINASERVE #604-7511-609	3240 E 57TH ST	IGH	55075	217726	SPL	2116	11/19/1991	1/31/1996	Interpolation Unknown	496875	4965282
4481	FORMER UNION 76	6500 CAHILL AVE	IGH	55076	217189	SPL	2116	9/4/1991	2/24/2000	Address Matching House Number	496453	4966869
10841	IGH DISTRIBUTION CENTER	1160 COURTHOUSE BLVD	IGH	55077	223268	SPL	3000	10/2/1997	2/18/1998	Address Matching House Number	492678	4964700
9397	INVER GROVE HEIGHTS MIDDLE SCHOOL	8167 CAHILL AVE E	IGH	55076	221929	SPL	6100	6/24/1996	1/21/1997	Digitized - Map Tool	496378	4964253
11088	INVER GROVE TIRE AND AUTO CENTER	3052 65TH ST E	IGH	55076	223511	SPL	2110	35824	35845	Address Matching House Number	496503	4966868
7850	INVER HILLS COMMUNITY COLLEGE	2500 80TH ST E	IGH	55076	220448	SPL	6100	34597	34850	Address Matching House Number	495673	4964445
11112	MACKS EXCAVATING	2168 65TH ST E	IGH	55077	223533	SPL	7000	2/27/1998	7/20/2000	Address Matching House Number	495099	4966873
8224	MN DOT (FORMER SERVICE STATION)	ROBERT ST S & TH 55 (NW CORNER)	IGH	55077	220804	SPL	4130	2/23/1995	1/24/1996	Interpolation Unknown	493071	4964663
1142	MN DOT DAKOTA COUNTY	8650 COURTHOUSE BLVD E	IGH	55075	214049	SPL	4130	5/25/1989	5/18/1994	Digitized - Map Tool	495308	4963285
16934	OREN AND TROG PROPERTY	HIGHWAY 55 AND ROBERT TRL S	IGH	55077	442755	SPL	1100-01	7/20/2007	2/12/2009	Copied from Site Location	492841	4964834
-	River Run Properties	7477 Cahill Ave	IGH	55076	VP19770	VIC	1100-01	-	-	Address Matching House Number	496782	4965305
-	River Run Properties	7477 Cahill Ave	IGH	55076	3546	BMS	1100-01	-	-	Address Matching House Number	496782	4965305
-	Rod & Gun Club	See Location Description	IGH	55076	VP27330	VIC	5400	-	-	GPS - Survey Quality	495487	4967120
-	Rod & Gun Club	See Location Description	IGH	55076	VP27331	VIC	5400	-	-	GPS - Survey Quality	495487	4967120
-	Rubbish Ranch Dump	See location description	IGH	55075	VP30190	VIC	4346	-	-	Digitized - Map Tool	496132	4966714
-	Rubbish Ranch Dump	See location description	IGH	55075	MND985668011	CERCL	4346	-	-	Digitized - Map Tool	496132	4966714
9986	SIMLEY HIGH SCHOOL	2920 80TH ST E	IGH	55076	222505	SPL	6100	3/19/1997	4/7/1998	Address Matching House Number	496424	4964468
9424	SIMLEY HIGH SCHOOL AUTO SHOP	2920 80TH ST E	IGH	55076	221956	SPL	6100	35247	35900	Address Matching House Number	496424	4964468
5102	SIMLY SENIOR HIGH SCHOOL	2920 80TH ST E	IGH	55076	217781	SPL	6100	4/17/1992	8/18/1992	Address Matching House Number	496424	4964468
15101	SINCLAIR STATION NO 22025	6466 CAHILL RD	IGH	55075	256653	SPL	2116	37634	39391	Digitized - Map Tool	496493	4966916
1757	SPEED ENGINEERING INC	6889 S ROBERT TR W	IGH	55075	214604	SPL	2110	9/28/1989	8/24/1994	Interpolation Unknown	493233	4965354
-	Ssp Community Gardens	See location description	SSP	55075	VP14810	VIC	5231	-	-	Digitized-DRG	497696	4966454
-	Unocal Igh	6500 Cahill Rd	IGH	55075	VP4780	VIC	2116	-	-	Digitized-DRG	496482	4966834

APPENDIX B

CITY OF INVER GROVE HEIGHTS CONSUMER CONFIDENCE REPORT

Welcome

to the City of Inver Grove Heights



Inver Grove Heights Water Treatment Process Significantly Improves the Overall Quality

Component	*Before* Treatment	*After* Treatment
Iron	0.3 ppm	Less than 0.1 ppm
Manganese	0.25 ppm	0.02 ppm
Chlorine	N/A	0.9-1.0 ppm *Leaving Plant* FREE
Fluoride	0.3 ppm	0.9-1.2 ppm

Water Treatment Process

Raw Water Metering and Chemical Addition: Raw well water entering the facility is metered and injected with chlorine to oxidize iron in the water and convert it to a filterable solid. After pre-chlorination, manganese sulfate is injected to effect removal of radium and alpha emitters. Potassium permanganate is then added at the raw water flow splitter box to assist iron oxidation and to oxidize manganese, converting it to a filterable solid form.

Filtration: The chemically-treated water flows out of the splitter box to eight filter cells furnished with silica sand filter media. The filter media is coated with manganous oxides to remove any unoxidized iron or manganese. The media effectively filters all solids from the water.

Disinfection: Following filtration, the water is disinfected by a second injection of chlorine as it flows to the Plant's 1.0 million gallon clearwell. Inside the clearwell, the chlorinated water passes through a maze of chambers which promotes effective mixing and detention, ensuring complete disinfection.

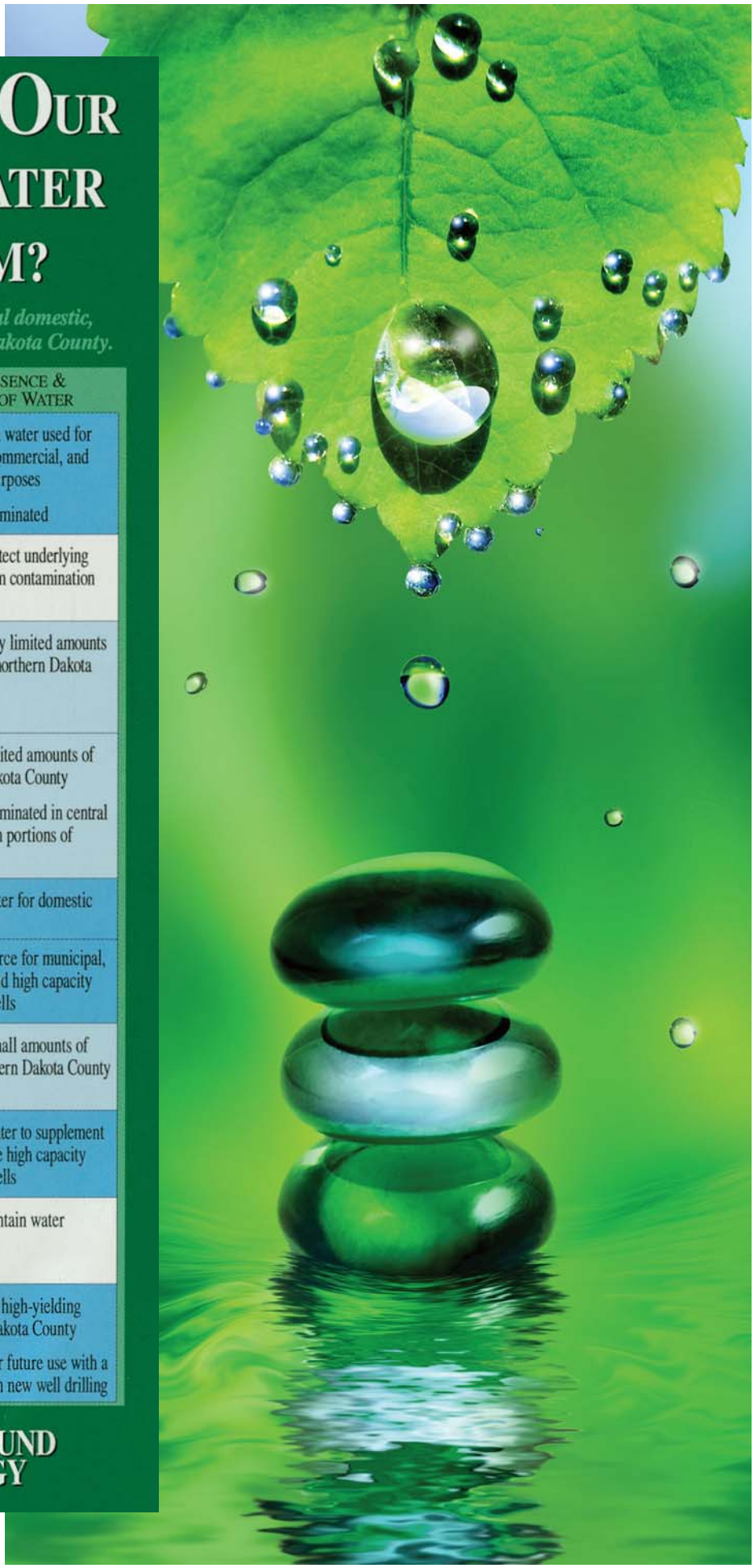
High Service Pumps: Treated water is pumped from the clearwell to the distribution system by six high service pumps. Two of the pumps convey water to the City's Asher pressure zone, while the other four pump to the nearby reservoir which acts as a large water tower for the City's South Grove pressure zone. The pressure in the Asher, South Grove, and Northside zones is controlled by the water elevation in the storage towers.

Where Does Our Drinking Water Come From?

Ground water supplies 99 percent of total domestic, municipal, and industrial water used in Dakota County.

Geologic Formation	General Lithology	Presence & Use of Water
Quaternary deposits Surface deposits of sand and gravel; erodes easily		May contain water used for domestic, commercial, and irrigation purposes Easily contaminated
Decorah Shale Clay-like shale with thin fossil-bearing limestone		Helps to protect underlying aquifers from contamination
Platteville and Glenwood Formations Fossil-bearing limestone and sandy shale		Supplies very limited amounts of water to northern Dakota County
St. Peter Sandstone Poorly cemented, granular sandstone		Supplies limited amounts of water to Dakota County Easily contaminated in central and southern portions of the County
Prairie du Chien Formation Limestone		Supplies water for domestic use
Jordan Sandstone Poorly cemented, granular sandstone		Primary source for municipal, industrial and high capacity irrigation wells
St. Lawrence-Funnel City Formation Shaley sandstone or siltstone		Produces small amounts of water in eastern Dakota County
Wonewoc Sandstone Formation Silty to coarse-grained sandstone		Produces water to supplement flow in some high capacity industrial wells
Eau Claire Formation Siltstone, fine sandstone, and shale		Does not contain water
Mt. Simon-Hinkley Formation Fine to coarse-grained sandstone		The deepest high-yielding aquifer in Dakota County Protected for future use with a restriction on new well drilling

DAKOTA COUNTY GROUND WATER AND GEOLOGY



Invisible Water Leaks

May Cause Your Money to Go Down the Drain

WHAT TO LOOK FOR

Inver Grove Heights Utilities Divsion personnel have compiled a list of checks residents can make to determine if they may have a water leak in their home. Plumbing fixtures can leak water amounting to 10's of thousands of gallons in a three month billing period. By following the steps below to detect invisible leaks, you may be able to prevent the unwanted arrival of a large utility bill.

If you have a leak that results in an unusually high bill for the winter quarter, it will affect your sewer charges for the remainder of the year. The City will work to remedy these situations on a case by case basis once all leaks have been repaired.

The Utilities Division will provide leak detection assistance and consumption monitoring for any resident free of charge. If you feel you may have a leak and cannot find the source contact the Utility Division at 651-450-4309 to schedule an appointment.

CHECK YOUR METER

Turn off all water sources in your home to perform this test. Locate your water meter. It will be inside your home where your water service enters from outside – usually near the furnace and hot water heater.

There you will also find your main water shut-off valve, which you will need if you ever want to stop the flow of water into your home. Once you've located your meter, look at the face. The meter has a small red diamond or star called the low flow indicator. If all water sources are turned off and the low flow indicator is still moving you probably have a leak.

WHERE'S THE LEAK?

Running Toilets – A common problem, these leaks oftentimes can be heard. To be sure remove the tank lid – since water should only run for a short time after a flush, seeing running water without a flush means you have found your leak. Another problem with toilets is the loss of a seal on the tank flapper valve. To diagnose this problem, turn off water to the toilet. If in a few minutes the water has drained from the tank, you have a leak. Another way to check for this leak is to put a few drops of food coloring in the tank. If colored water starts to seep into the bowl without a flush, the flapper valve is not sealing.

Water Softeners – Your water softener might be another source of an invisible leak. Since the softener usually discharges directly to a drain pipe, it's difficult to monitor how much water is being consumed. The softener can malfunction during the regeneration cycle, causing water to continuously run to the sewer system, most softeners have a by-pass valve that can stop this flow until repairs can be made. An increase in salt consumption also is an indicator that the softener may be malfunctioning.

Dripping Faucets – Although it might not seem like much, a drip every few seconds can add up to over **350 gallons** in a quarterly billing period. A leaky faucet can usually be easily fixed by replacing a seal in the fixture.

Other Water Sources – Things like lawn sprinklers, pools, hot tubs, washing machines, and dishwashers may also be the source of water leaks. Usually leaks from these sources will be visible and result in pooling water somewhere in your home or yard. The same generally is true of a leaking pipe, you will see water running or pooling somewhere on your property.

WATER USE BREAKDOWN

Use	*Gallons Per Capita Per Day*
SHOWERS	11.6
CLOTHES WASHERS	15.0
DISHWASHERS	1.0
TOILETS	18.5
BATHS	1.2
LEAKS	9.5
FAUCETS	10.9
OTHER DOMESTIC USES	1.6

Reprinted from American Water Works Association

INVER GROVE HEIGHTS WATER UTILITY INFORMATION

Only a portion of the population is on city water. In 2015, city residents consumed nearly 1 billion gallons of water. Listed below is some of the infrastructure that makes up the water distribution system.

- **1,608 fire hydrants**
- **4,368 valves**
- **7,057 water meters**
- **160 miles of watermain lines from 6 to 30 inches in diameter**
- **3 water towers and 2 reservoirs containing 11 million gallons**

WATER CONSERVATION TIPS:

- Water early in the morning–between 4 a.m. and 10 a.m. is best. Avoid watering late in the evening to help prevent turfgrass diseases. Do not water during restricted periods.
- Rule of thumb for lawn watering — 1" to 1.5" of water per week, including rainfall. Keep intervals between watering as long as possible to encourage deeper root growth.
- Leave grass longer during hot weather (2.5" to 3.5"). This will promote deep root growth, shade the growth crowns, and help protect them during windy periods.
- Place rain barrels beneath your downspouts. The rain-water can be used for outdoor plants and trees or to wash your car.
- Repair dripping faucets and leaky toilets. Dripping faucets can waste up to 2,000 gallons of water each year. Leaking toilets can waste as much as 200 gallons per day.
- Position your sprinklers so water lands on the lawn or garden, not on paved areas. Also, avoid watering on windy days.
- When watering the lawn, do it long enough for the moisture to soak down to the roots where it will do the most good. A light sprinkling can evaporate quickly and tends to encourage shallow root systems. Put an empty tuna can on your lawn—when it's full, you've watered about the right amount.
- Replacing an 18 liter per flush toilet with an ultra-low volume (ULV) 6 liter flush model represents a 70% savings in water flushed and will cut indoor water use by about 30%.

Inver Grove Heights Irrigation Policy

Odd/Even: Residents who have an address that ends in an even number; 2, 4, 6 etc. are asked to water their lawn on even numbered days. Residents whose address ends in an odd number; 1, 3, 5 etc. are asked to water their lawn on odd numbered days. This will balance the demand on the City water system during hot, dry periods. The balanced water use will allow the Utility Division to maintain safe operating levels in water towers and reservoirs in case a fire or another emergency occurred during one of these periods.

Time of Day: Residents are asked to avoid lawn watering between the hours of 12:00 noon and 5:00 p.m. on all days. This will prevent the waste of water during the warmest hours of the day when up to 30% of sprinkling water is lost due to evaporation. It will also give the Utility Division a 5 hour period every day to help restore adequate levels in the City water towers and reservoirs.

Compliance with National Primary Drinking Water Regulations

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium* are available from the Safe Drinking Water Hotline at 1-800-426-4791.

**Cryptosporidium is a living thing (organism) that lives in, or on, another organism (a parasite).It can infect your bowels (intestines) and cause cryptosporidiosis. The largest outbreaks of cryptosporidiosis have occurred when drinking water becomes contaminated with sewage or manure.*

Fluoride. . .

Fluoride is added to Inver Grove Heights water at levels mandated by legislation. Fluoridated water has been proven to reduce tooth decay, especially in children. Fluoride levels are monitored on a daily basis to ensure the proper amounts are being added.

The City of Inver Grove Heights, the Minnesota Department of Health, and independent laboratories are regularly testing your drinking water to guarantee the safety of the community.

Frequently Asked Questions

What is the hardness of Inver Grove Heights water?
The level is 20-22 grains or 370 parts per million hardness.

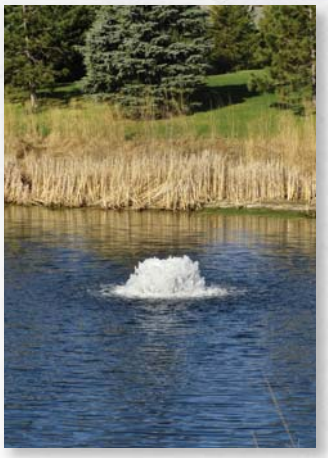
Do we need to install a water softener in our home?
The hardness level of 20-22 grains is relatively high, therefore, the majority of homes and businesses in the community find it desirable to soften water through privately owned softeners or a softening service.

What is causing the low pressure in my home?
Normally, low pressure is caused by a malfunctioning water softener. This can be confirmed by checking the pressure at an unsoftened inside or outside tap, or by putting the water softener on by-pass (see your owner's manual). If the pressure returns to normal, your softener may need repair. The average pressure in the city distribution system is approximately 75 pounds per square inch.

Why is there sand in the water?
The sudden onset of particles which resemble sand are most often the result of a water softener malfunction. These particles collect in faucet screens, washer intake hose screens, and toilet tanks. Please check your owner's manual or maintenance company for assistance.

Where should my sump pump drain hose discharge?
Outside. Sump pumps to collect ground water are not allowed to discharge into the sanitary sewer system. Hoses must be routed to drain to the outside of the home and not into a laundry tub or floor drain.

Source of Water



The water provided to customers may meet drinking water standards, but the Minnesota Department of Health has also made a determination as to how vulnerable the source of water may be to future contamination incidents. If you wish to obtain the entire source water assessment regarding your drinking water, please call 651-201-4700 or 1-800-818-9318 (and press 5) during normal business hours. Also, you can view it online at: www.health.state.mn.us/divs/eh/water/swp/swa.

Call 651-450-4309 if you have questions about the City of Inver Grove Heights drinking water or would like information about opportunities for public participation in decisions that may affect the quality of the water.

Key to Abbreviations

MCLG—Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MCL—Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MRDL—Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water without causing an unacceptable possibility of adverse health effects.

MRDLG—Maximum Residual Disinfectant Level Goal: The level of drinking water disinfectant below which there is no known or expected risk to health.

AL—Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirement which a water system must follow.

90th Percentile Level—This is the value obtained after disregarding 10 percent of the samples taken that had the highest levels. (For example, in a situation in which 10 samples were taken, the 90th percentile level is determined by disregarding the highest result, which represents 10 percent of the samples.) Note: In situations in which only 5 samples are taken, the average of the two with the highest levels is taken to determine the 90th percentile level.

pCi/l—PicoCuries per liter (a measure of radioactivity).

ppm—Parts per million, which can also be expressed as milligrams per liter (mg/l).

ppb—Parts per billion, which can also be expressed as micrograms per liter (ug/l).

N/A—Not Applicable (does not apply).

Results of Monitoring

No contaminants were detected at levels that violated federal drinking water standards. However, some contaminants were detected in trace amounts that were below legal limits. The table that follows shows the contaminants that were detected in trace amounts last year. (Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for in 2015. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred.)

Contaminant (units)	MCLG	MCL	Level Found		Typical Source of Contaminant
			Range (2015)	Average/ Result*	
Alpha Emitters (pCi/l)	0	15.4	N/A	12.03	Erosion of natural deposits.
Barium (ppm) (04/09/2014)	2	2	N/A	.24	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Combined Radium (pCi/l)	0	5.4	N/A	4.8	Erosion of natural deposits.
Fluoride (ppm)	4	4	.74-.97	1.02	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories.
Haloacetic Acids (HAA5) (ppb)	0	60	3.8-4.5	4.5	By-product of drinking water disinfection.
Nitrate (as Nitrogen) (ppm)	10.4	10.4	N/A	.1	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
TTHM (Total trihalomethanes) (ppb)	0	80	14.2-16	16	By-product of drinking water disinfection.

*This is the value used to determine compliance with federal standards. It sometimes is the highest value detected and sometimes is an average of all the detected values. If it is an average, it may contain sampling results from the previous year.

Contaminant (units)	MRDLG	MRDL	****	*****	Typical Source of Contaminant
Chlorine (ppm)	4	4	.4-.8	.62	Water additive used to control microbes.

****Highest and Lowest Monthly Average
*****Highest Quarterly Average

Contaminant (units)	MCLG	AL	90% Level	# sites over AL	Typical Source of Contaminan
Copper (ppm) (07/24/2013)	1.3	1.3	.1	0 out of 30	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead (ppb) (07/24/2013)	0	15	3.9	0 out of 30	Corrosion of household plumbing systems; Erosion of natural deposits.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Inver Grove Heights is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Monitoring may have been done for additional contaminants that do not have MCLs established for them and are not required to be monitored under the Safe Drinking Water Act. Results may be available by calling 651-201-4700 or 1-800-818-9318 during normal business hours.

Monitoring for unregulated contaminants as required by U.S. Environmental Protection Agency rules (40 CFR 141.40) was conducted in 2015. Results of the unregulated contaminant monitoring are available upon request from Cindy Swanson, Minnesota Department of Health, at 651-201-4656.

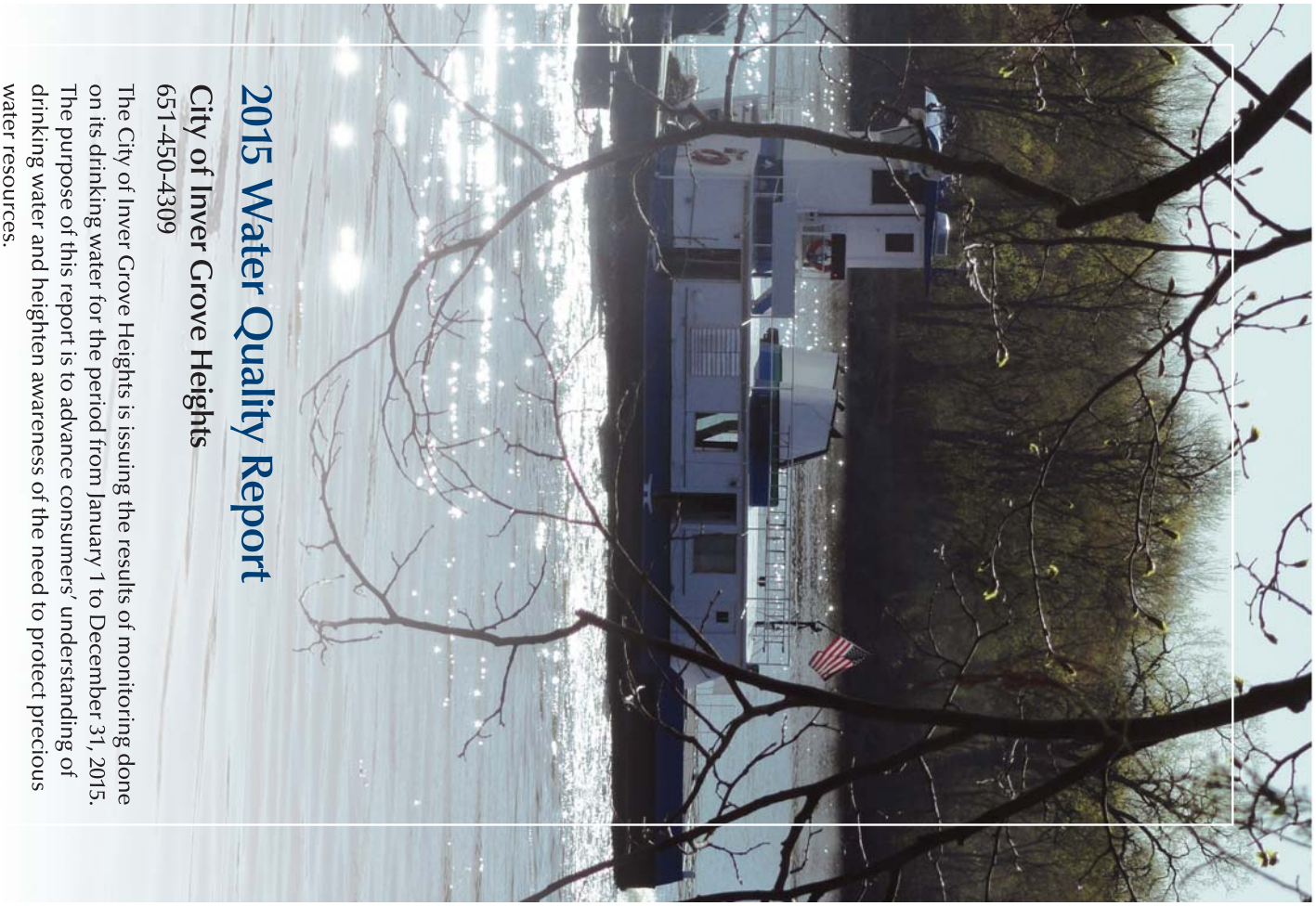
PRSRT STD
U.S. POSTAGE
PAID
TWIN CITIES, MN
PERMIT NO. 4331

ECRWSS

UTILITIES
8168 Barbara Avenue
Inver Grove Heights, MN 55077

2015 WATER QUALITY REPORT

ECRWSS
POSTAL CUSTOMER



2015 Water Quality Report

City of Inver Grove Heights

651-450-4309

The City of Inver Grove Heights is issuing the results of monitoring done on its drinking water for the period from January 1 to December 31, 2015. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources.

APPENDIX C

NOTICE OF APPROVAL OF EMERGENCY PREPAREDNESS PLAN

CERTIFICATION OF ADOPTION
WATER SUPPLY PLAN

City or Water System Name: **City of Inver Grove Heights**

Name of Person Authorized to Sign
Certification on Behalf of the System: SCOTT D. THUREEN

Title: PUBLIC WORKS DIRECTOR

Address: 8150 BARBARA AVENUE, INVER GROVE HEIGHTS, MN 55077

Telephone: 651-450-2571 Fax: 651-450-2502

E-mail: sthureen@ci.inver-grove-heights.mn.us

I certify that the Water Supply Plan approved by the Department of Natural Resources has been adopted by the city council or utility board that has authority over water supply services.

Signed: Scott D. Thureen Date: 26 APRIL 2010

RECEIVED
APR 27 2010
DNR
Waters

Fax (651/772-7977) or mail this certification to: **DNR Waters**
1200 Warner Road
St. Paul, MN 55106

Or, email to: dale.homuth@state.mn.us

Minnesota Department of Natural Resources

DNR Waters - 1200 Warner Road, St. Paul, MN 55106-6793
Telephone: (651) 259-5845 Fax: (651) 772-7977

December 17, 2009

Jim Sweeney, Utility Superintendent Director
City of Inver Grove Heights
8150 Barbara Avenue
Inver Grove Heights, Minnesota 55077

RE: WATER SUPPLY PLAN APPROVAL AND AMENDMENT OF PERMIT #1980-6052, CITY OF INVER GROVE HEIGHTS, DAKOTA COUNTY

Dear Mr. Sweeney:

Our office has completed the review of your Water Supply Plan for public water supply authorized under DNR Permit #1980-6052. I am pleased to advise you that in accordance with Minnesota Statutes, Section 103G.291, Subdivision 3, and on behalf of the Commissioner of Natural Resources, I hereby approve your Plan. This approval is effective upon the Department's receipt of a completed copy of the attached "Certification of Adoption" form. **Please return the form to my office as soon as the City officially adopts the Plan.**

As you have been previously notified, *Minnesota Statutes*, Section 103G.291 was amended last year to require all public water suppliers in the metropolitan area serving over 1000 people to adopt a 'conservation rate' structure by January 1, 2010. This approval of the City's Water Supply Plan does not eliminate that statutory requirement. I have attached a guidance document on conservation water rates.

In accordance with your request and information provided, the permit has been amended to include well #9, unique well number 759561, which should satisfy the City's needs for the next 5 years. When the City of Inver Grove Heights has adopted a conservation rate required by statute, we will be able to increase the permitted volume of water under the public water supply permit #1980-6052.

Condition #14 of the amended appropriation permit addresses the need for monitoring well in the City of Inver Grove Heights. The standard monitoring recommendation calls for a monitoring well in the center of the wellfield and an observation well away from the pumping center. DNR observation well #19005 shown on attached Figure 1 is available for use as an observation well away from the pumping center. Multiple daily readings with a transducer and data logger are recommended for data collection from the observation well along with monthly hand measurements of static water levels for transducer calibration. The monitoring well along with reports of water levels in the seven City production wells will allow DNR Waters to monitor the aquifers and assess the potential for interference with other wells and surface water in the area. If you have questions about the monitoring well requirements, contact the DNR Ground Water Level Monitoring Coordinator, Mike MacDonald by telephone at 651-259-5676 or at gwlevelcoordinator@state.mn.us.

Please read all permit conditions and limitations. At a minimum, monthly water level readings shall be collected in all seven production wells. Daily water use, categorized by production well, shall be collected and submitted electronically with the water level data. The electronic data should be submitted as described in the permit.

The City calculated its peak demand ratio to be 2.6, which meets the conservation goal. You also reported that the trend in overall per capita demand over the past 10 years has been constant, with an average of 74.03 gallons per capita per day (GPCD) water use which is slightly below the Twin Cities Metropolitan average consumption of 75 GPCD. For more information on water conservation programs please see the Met Council's water conservation toolbox located on their web site.

Thank you for your efforts in planning for the future of the City of Inver Grove Heights's water supply and for conserving water resources of the State of Minnesota. If you have any questions or need assistance, please continue to work with Area Hydrologist Janell Miersch. She can be contacted at 651-259-5776 or via email at Janell.Miersch@state.mn.us.

Sincerely,

Dale E. Homuth
Regional Hydrologist

Enclosures (4)

- Amended Permit #1980-6052
- Certificate of Adoption form
- Conservation Rates
- Figure 1

ec: Dakota County SWCD, Brian Watson
Dakota County Environmental Health, Jeff Luehrs
Lower Mississippi River WMO, Laura Jester
Metropolitan Council, Sara Smith
Area Hydrologist Janell Miersch
DNR Central Waters: Appropriation Unit
DNR Ground Water Unit, Jay Frischman
DNR Ground Water Monitoring Coordinator, Mike MacDonald

APPENDIX D

CORRESPONDENCE

May 12, 2016

MINNESOTA MDH DEPARTMENT OF HEALTH

COPY

Protecting, maintaining and improving the health of all Minnesotans

Mr. Dan Helling, Utilities Superintendent
City of Inver Grove Heights
8168 Barbara Avenue East
Inver Grove Heights, Minnesota 55077

Dear Mr. Sweeney:

Subject: Scoping 2 Decision Notice and Meeting Summary – City of Inver Grove Heights – PWSID 1190014

This letter provides notice of the results of the second scoping meeting held with you and Scott Thureen (city of Inver Grove Heights), Mark Janovec (Stantec Engineering) and me on April 27, 2016, at the Inver Grove Heights City Hall regarding Part II of your wellhead protection (WHP) plan. During the meeting, we discussed data elements that must be compiled and assessed to prepare the part of the WHP plan related to the management of potential contaminants in the approved drinking water supply management area. The enclosed Scoping 2 Decision Notice lists the data elements that were discussed at the meeting. The data elements must be compiled and assessed in terms of their present and future implications on the 1) use of the well(s), 2) quality and quantity of water supplying the public water supply well(s), and 3) land and groundwater uses in the drinking water supply management area. We also discussed a summary of planning issues that were identified during the Part I WHP Plan development process which should be considered for inclusion in your Part II WHP Plan.

The city of Inver Grove Heights has met the requirements to distribute copies of the first part of the WHP plan to local units of government and hold an informational meeting for the public. The city of Inver Grove Heights will have until August 25, 2016, to complete its WHP plan. The city of Inver Grove Heights was given additional time due to Minnesota Rules, part 4720.5130, subpart 4, item D and subpart 4, item E.

If a data element is marked on the enclosed notice as a data element that must be used and it does not exist, it is helpful if your plan notes this. MDH understands a consultant from Stantec Engineering will be working with you to develop a draft of the remainder of the WHP plan. I will be contacting you to review the progress of the development of Part II of your plan. I will be contacting you to review the progress of the development of Part II of your plan. If you have any questions regarding the enclosed notice, contact me by email at karen.s.voz@state.mn.us or by phone at (320) 223-7322.

Sincerely,

Karen S. Voz

Karen S. Voz, Principal Planner
Source Water Protection Unit
St. Cloud District Office
3333 West Division Street, Suite #212
St. Cloud, Minnesota 56301-4557

KSV:ds-b
Enclosures
cc: David Schultz, MDH Engineer, St. Cloud District Office
Ron Struss, Minnesota Department of Agriculture
Mark Janovec, Stantec Engineering

SCOPING 2 DECISION NOTICE
Moderately Vulnerable DWSMA

Remainder of the Wellhead Protection Plan

Name of Public Water Supply:		**Date:**
City of Inver Grove Heights	PWSID 1190014	May 12, 2016
Name of the Wellhead Protection Manager:		
Mr. Dan Helling, Utilities Superintendent		
Address:	**City:**	**Zip:**
Public Works Facility 8168 Barbara Avenue East	Inver Grove Heights	55077
Unique Well Numbers:		**Phone:**
207284 (Well 3), 207285 (Well 4), 165640 (Well 5), 433259 (Well 6), 463527 (Well 7), 655940 (Well 8), 759561 (Well 9)		(651) 450-2565

Instructions for Completing the Scoping 2 Form

N	R	S	
X			**N = Not required.** If this box is checked, this data element is **NOT** necessary for your wellhead protection plan because it is not needed or it has been included in the first scoping decision notice. **Please go to the next data element.**

N	R	S	
	X		**R = Required for the remainder of the plan.** If this box is checked, this data **MUST** be used for the "**remainder of the plan.**"

N	R	S	
		X	**S = Submit to MDH.** If this box is checked, this data element **MUST** be included in your **wellhead protection plan and submitted to MDH.** If there is **NO** check mark in the "**S**" box but there is an "**X**" in the "**R**" box, this data element **MUST** be included in your plan, but should **NOT be submitted to MDH.** This box will only be checked if MDH does not have access to this data element. This will help to reduce the cost by reducing the amount of paper and time to reproduce the data element.

DATA ELEMENTS ABOUT THE PHYSICAL ENVIRONMENT

PRECIPITATION

N	R	S	
X			An existing map or list of local precipitation gauging stations.

Technical Assistance Comments:

N	R	S	
X			An existing table showing the average monthly and annual precipitation in inches for the preceding five years.

Technical Assistance Comments:

GEOLOGY

N	R	S	
	X		An existing geologic map and a description of the geology, including aquifers, confining layers, recharge areas, discharge areas, sensitive areas as defined in Minnesota Statutes, section 103H.005, subdivision 13, and groundwater flow characteristics.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about these data elements.

N	R	S	
	X		Existing records of the geologic materials penetrated by wells, borings, exploration test holes, or excavations, including those submitted to the department.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about these data elements.

N	R	S	
	X		Existing borehole geophysical records from wells, borings, and exploration test holes.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect the geology of the area(s).

N	R	S	
	X		Existing surface geophysical studies.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect the geology of the area(s).

SOILS

N	R	S	
X			Existing maps of the soils and a description of soil infiltration characteristics.

Technical Assistance Comments:

N	R	S	
X			A description or an existing map of known eroding lands that are causing sedimentation problems.

Technical Assistance Comments:

WATER RESOURCES			
N	R	S	An existing map of the boundaries and flow directions of major watershed units and minor watershed units.
X			
Technical Assistance Comments:			
N	R	S	An existing map and a list of public waters as defined in Minnesota Statutes, section 103G.005, subdivision 15, and public drainage ditches.
X			
Technical Assistance Comments:			
N	R	S	The shoreland classifications of the public waters listed under subitem (2), pursuant to part 6120.3000 and Minnesota Statutes, sections 103F.201 to 103F.221.
X			
Technical Assistance Comments:			
N	R	S	An existing map of wetlands regulated under Chapter 8420 and Minnesota Statutes, section 103G.221 to 103G.2373.
X			
Technical Assistance Comments:			
N	R	S	An existing map showing those areas delineated as floodplain by existing local ordinances.
X			
Technical Assistance Comments:			

DATA ELEMENTS ABOUT THE LAND USE

LAND USE			
N	R	S	An existing map of parcel boundaries.
	X	X	
Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.			
N	R	S	An existing map of political boundaries.
	X	X	
Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.			
N	R	S	An existing map of public land surveys including township, range, and section.
	X		
Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.			

N	R	S	A map and an inventory of the current and historical agricultural, residential, commercial, industrial, recreational, and institutional land uses and potential contaminant sources.
	X	X	

Technical Assistance Comments: The inventory, mapping and management of land uses and potential sources of contamination for all the Drinking Water Supply Management Areas(s) must reflect what is known about these data elements, as follows:

Moderate Vulnerability - 1) All potential contaminant sources as listed on the attachment, 2) a land use/land cover map and table, and 3) an inventory of the Inner Wellhead Management Zone (IWMZ).

As a starting point, MDH will provide a land cover map and table from federal data bases. This data set must be used unless an alternative electronic data set that is more current and detailed is available.

Management strategies must be developed for all land uses and potential sources of contamination.

N	R	S	An existing comprehensive land-use map.
	X	X	

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	Existing zoning map.
	X	X	

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

PUBLIC UTILITY SERVICES

N	R	S	An existing map of transportation routes or corridors.
	X		

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	An existing map of storm sewers, sanitary sewers, and public water supply systems.
	X	X	

Technical Assistance Comments: It is not necessary to include a map of your public water supply system in your plan if you feel it would pose a threat to the security of your system. An existing map of the storm sewers and sanitary sewers in the Drinking Water Supply Management Area(s) must be included in the wellhead protection plan and must also be submitted to MDH as part of the approval.

N	R	S	An existing map of the gas and oil pipelines used by gas and oil suppliers.
	X	X	

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	An existing map or list of public drainage systems.
	X		

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing record of construction, maintenance, and use of the public water supply well and other wells within the drinking water supply management area.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about these data elements.

DATA ELEMENTS ABOUT WATER QUANTITY

SURFACE WATER QUANTITY

N	R	S	
X			An existing description of high, mean, and low flows on streams.

Technical Assistance Comments:

N	R	S	
X			An existing list of lakes where the state has established ordinary high water marks.

Technical Assistance Comments:

N	R	S	
X			An existing list of permitted withdrawals from lakes and streams, including source, use, and amounts withdrawn.

Technical Assistance Comments:

N	R	S	
X			An existing list of lakes and streams for which state protected levels or flows have been established.

Technical Assistance Comments:

N	R	S	
X			An existing description of known water-use conflicts, including those caused by groundwater pumping.

Technical Assistance Comments:

GROUNDWATER QUANTITY

N	R	S	
	X		An existing list of wells covered by state appropriation permits, including amounts of water appropriated, type of use, and aquifer source.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X	X	An existing description of known well interference problems and water use conflicts.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing list of state environmental bore holes, including unique well number, aquifer measured, years of record, and average monthly levels.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

DATA ELEMENTS ABOUT WATER QUALITY

SURFACE WATER QUALITY

N	R	S	
X			An existing map or list of the state water quality management classification for each stream and lake.

Technical Assistance Comments:

N	R	S	
X			An existing summary of lake and stream water quality monitoring data, including: 1. bacteriological contamination indicators; 2. inorganic chemicals; 3. organic chemicals; 4. sedimentation; 5. dissolved oxygen; and 6. excessive growth or deficiency of aquatic plants.

Technical Assistance Comments:

GROUNDWATER QUALITY

N	R	S	
	X		An existing summary of water quality data, including: 1. bacteriological contamination indicators; 2. inorganic chemicals; and 3. organic chemicals.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing list of water chemistry and isotopic data from wells, springs, or other groundwater sampling points.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing report of groundwater tracer studies.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing site study and well water analysis of known areas of groundwater contamination.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about these data elements.

N	R	S	
	X		An existing property audit identifying contamination.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing report to the Minnesota Department of Agriculture and the Minnesota Pollution Control Agency of contaminant spills and releases.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

Scoping 2 Meeting
City of Inver Grove Heights
Wellhead Protection (WHP) Planning Issues Summary

Drinking Water Protection Issues Identified to Date:

- **Geology**
  - Glacial deposits overlie bedrock. The six active wells serving Inver Grove Heights are completed in sandstone aquifers 360-1050 below ground surface (5 in the Jordan Sandstone Formation, and 1 in the Mt. Simon Sandstone (deepest well).
  - A bedrock formation overlying the city's aquifer often exhibits flow through fractures. As a result, porous- and fracture-flow capture zones were modeled.
- **Vulnerability**
  - Wells 3 and 5 both had samples with tritium detected above 1 TU.
    - Well 3 = 2.7 TU
    - Well 5 = 5.17 TU k
  - Wells 4, 6, 7, 8, and 9 were ranked as "*non-vulnerable*":
    - Low sensitivity to contamination based on geologic data.
    - Chemical and isotopic samples show relatively low nitrates in these wells, further indicating little influence from surface infiltration.
    - Well 7: tritium was determined to be below 0.8 TU (tritium units), indicating that water supplying this well is older than 60 years.
  - The wells appear to meet construction standards set forth in the State Well Code.
  - The majority of the wells in the DWSMA and immediately surrounding the DWSMA had L-Scores indicative of "low" or "moderate" in geologic sensitivity.
  - While areas of "low" vulnerability could possibly be established with further data, there is enough uncertainty and gaps in the well date and age-dating coverage to justify an overall "moderate" vulnerability designation to the entire DWSMA.

Water Quality Detections and Implications:

No contaminants of significant concern have been detected in the City's wells.
At present, nitrates levels in the Inver Grove Heights wells do not exceed the threshold of 10mg/L and generally range between non-detection levels and 2.5 mg/L at maximum. Historical monitoring has shown that the water quality within the Jordan Aquifer and Mt. Simon Aquifer in Inver Grove Heights is generally of excellent quality. Nitrates levels in Inver Grove Heights' wells remain well below the health risk limit threshold of 10mg/L.

Old Municipal Well Information:

- ➢ The Minnesota Department of Health has compiled historical information for use in the planning process and has provided the city with a written report.

Sanborn Maps:

- ☐ Sanborn Maps are available for this area
- ☒ Sanborn Maps are not available for this area.

Recommended WHP Measures:

- For the city of Inver Grove Heights wells, consider re-testing any wells that have gone 10 or more years without a tritium test. Also, consider testing wells that have not been previously sampled (including Wells 4, 8, and 9).
- Inventory stormwater structures and include a management strategy for stormwater within the ERA.
- As part of the updated potential contaminant source inventory for the Part 2 plan, track known spills within the DWSMA and identify which spills have impacted the Prairie du Chien and Jordan aquifers.

Other: None

This document is intended to be a summary of issues identified to date and is **not intended to replace the required data elements identified in the Scoping 2 Decision Notice** nor is it intended to be an exhaustive list of all potential drinking water issues.

APPENDIX E

IWMZ INVENTORY

Environmental Health Division
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

INNER WELLHEAD MANAGEMENT ZONE (IWMZ) - POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

PUBLIC WATER SYSTEM INFORMATION

PWS ID	1190014 **COMMUNITY**
NAME	Inver Grove Heights
ADDRESS	Inver Grove Heights Water Superintendent, City Hall, 8168 Barbara Avenue, Inver Grove Heights, MN 55077

FACILITY (WELL) INFORMATION

NAME	Well #3
FACILITY ID	S03
UNIQUE WELL NO.	207284
COUNTY	Dakota

IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE?

☐ **YES** (Please attach a copy)
☐ **NO** ☐ **UNDETERMINED**

PWS ID / FACILITY ID	1190014 S03	**UNIQUE WELL NO.**	207284

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
Agricultural Related							
*AC1	Agricultural chemical buried piping	50	50		N		
*AC2	Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight	50	50		N		
ACP	Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards	150	150		N		
ACS	Agricultural chemical storage or equipment filling or cleaning area with safeguards	100	100		N		
ACR	Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed	50	50		N		
ADW	Agricultural drainage well[2] (Class V well - illegal[3])	50	50		N		
AAT	Anhydrous ammonia tank (stationary tank)	50	50		N		
AB1	Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard)	50	20	100/40	N		
AB2	Animal building or poultry building, including a horse riding area, more than 1.0 animal unit	50	50	100	N		
ABS	Animal burial area, more than 1.0 animal unit	50	50		N		
FWP	Animal feeding or watering area within a pasture, more than 1.0 animal unit	50	50	100	N		
AF1	Animal feedlot, unroofed, 300 or more animal units (stockyard)	100	100	200	N		
AF2	Animal feedlot, more than 1.0, but less than 300 animal units (stockyard)	50	50	100	N		
AMA	Animal manure application	use discretion	use discretion		N		
REN	Animal rendering plant	50	50		N		
MS1	Manure (liquid) storage basin or lagoon, unpermitted or noncertified	300	300	600	N		
MS2	Manure (liquid) storage basin or lagoon, approved earthen liner	150	150	300	N		
MS3	Manure (liquid) storage basin or lagoon, approved concrete or composite liner	100	100	200	N		
MS4	Manure (solid) storage area, not covered with a roof	100	100	200	N		
OSC	Open storage for crops	use discretion	use discretion		N		
SSTS Related							
AA1	Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day	300	300	600	N		
AA2	Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less	150	150	300	N		
AA3	Absorption area of a soil dispersal system, average flow 10,000 gal./day or less	50	50	100	N		
AA4	Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well)[2]	50/300/150[4]	50/300/150[4]	100/600/300[4]	N		
CSP	Cesspool	75	75	150	N		
AGG	Dry well, leaching pit, seepage pit	75	75	150	N		
*FD1	Floor drain, grate, or trough connected to a buried sewer	50	50		N		
*FD2	Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences	50	20		N		
*GW1	Gray-water dispersal area	50	50	100	N		
LC1	Large capacity cesspools (Class V well - illegal)[2]	75	75	150	N		
MVW	Motor vehicle waste disposal (Class V well - illegal)[2]	illegal	illegal		N		

PWS ID / FACILITY ID	1190014 S03	UNIQUE WELL NO.	207284

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PR1	Privy, nonportable	50	50	100	N		
PR2	Portable (privy) or toilet	50	20		N		
*SF1	Watertight sand filter; peat filter; or constructed wetland	50	50		N		
SET	Septic tank	50	50		N		
HTK	Sewage holding tank, watertight	50	50		N		
SS1	Sewage sump capacity 100 gal. or more	50	50		N		
SS2	Sewage sump capacity less than 100 gal., tested, conforming to rule	50	20		N		
*ST1	Sewage treatment device, watertight	50	50		N		
SB1	Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences	50	20		N		
SB2	Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials	50	50		N		
*WB1	Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection	50	50		N		
*WB2	Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection	20	20		N		
Land Application							
SPT	Land spreading area for sewage, septage, or sludge	50	50	100	N		
Solid Waste Related							
COS	Commercial compost site	50	50		N		
CD1	Construction or demolition debris disposal area	50	50	100	N		
*HW1	Household solid waste disposal area, single residence	50	50	100	N		
LF1	Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons	300	300	600	N		
SVY	Scrap yard	50	50		N		
SWT	Solid waste transfer station	50	50		N		
Storm Water Related							
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	115	N
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	15	N
SWI	Storm water drainage well[2] (Class V well - illegal[3])	50	50		N		
SM1	Storm water pond greater than 5000 gal.	50	35		N		
Wells and Borings							
*EB1	Elevator boring, not conforming to rule	50	50		N		
*EB2	Elevator boring, conforming to rule	20	20		N		
MON	Monitoring well	record dist.	record dist.		N		
WEL	Operating well	record dist.	record dist.		N		
UUW	Unused, unsealed well or boring	50	50		N		
General							
*CR1	Cistern or reservoir, buried, nonpressurized water supply	20	20		N		
PLM	Contaminant plume	50	50		N		
*CW1	Cooling water pond, industrial	50	50	100	N		
DC1	Deicing chemicals, bulk road	50	50	100	N		
*ET1	Electrical transformer storage area, oil-filled	50	50		N		
GRV	Grave or mausoleum	50	50		N		
GP1	Gravel pocket or French drain for clear water drainage only	20	20		Y	50	N
*HS1	Hazardous substance buried piping	50	50		N		
HS2	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards	150	150		N		
HS3	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards	100	100		N		
HS4	Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding	50	50		N		
HWF	Highest water or flood level	50	N/A		N		
*HG1	Horizontal ground source closed loop heat exchanger buried piping	50	50		N		
*HG2	Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid	50	10		N		
IWD	Industrial waste disposal well (Class V well)[2]	illegal[3]	illegal[3]		N		
IWS	Interceptor, including a flammable waste or sediment	50	50		N		
OH1	Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more)	50	35		N		
*PP1	Petroleum buried piping	50	50		N		

PWS ID / FACILITY ID	1190014 S03	UNIQUE WELL NO.	207284

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
*PP2	Petroleum or crude oil pipeline to a refinery or distribution center	100	100		N		
PT1	Petroleum tank or container, 1100 gal. or more, without safeguards	150	150		N		
PT2	Petroleum tank or container, 1100 gal. or more, with safeguards	100	100		N		
PT3	Petroleum tank or container, buried, between 56 and 1100 gal.	50	50		N		
PT4	Petroleum tank or container, not buried, between 56 and 1100 gal.	50[5]	20		N		
PU1	Pit or unfilled space more than four feet in depth	20	20		N		
PC1	Pollutant or contaminant that may drain into the soil	50	50	100	N		
SP1	Swimming pool, in-ground	20	20		N		
*VH1	Vertical heat exchanger, horizontal piping conforming to rule	50	10		N		
*VH2	Vertical heat exchanger (vertical) piping, conforming to rule	50	35		N		
*WR1	Wastewater rapid infiltration basin, municipal or industrial	300	300	600	N		
*WA1	Wastewater spray irrigation area, municipal or industrial	150	150	300	N		
*WS1	Wastewater stabilization pond, industrial	150	150	300	N		
*WS2	Wastewater stabilization pond, municipal, 500 or more gal./acre/day of leakage	300	300	600	N		
*WS3	Wastewater stabilization pond, municipal, less than 500 gal./acre/day of leakage	150	150	300	N		
*WT1	Wastewater treatment unit tanks, vessels and components (Package plant)	100	100		N		
*WT2	Water treatment backwash disposal area	50	50	100	N		
Additional Sources (If there is more than one source listed above, please indicate here).							
Potential Contamination Sources and Codes Based on Previous Versions of this Form							
	none found within 200' of this well.						

* New potential contaminant source.

[1] A sensitive well has less than 50 feet of watertight casing, and which is not cased below a confining layer or confining materials of at least 10' in thickness.

[2] These sources, known as Class V underground injection wells, are regulated by the federal U.S. Environmental Protection Agency.

[3] These sources are classified as illegal by Minnesota Rules, Chapter 4725.

[4] Isolation distance is determined by average flow per day or if a facility handles infectious or pathological wastes.

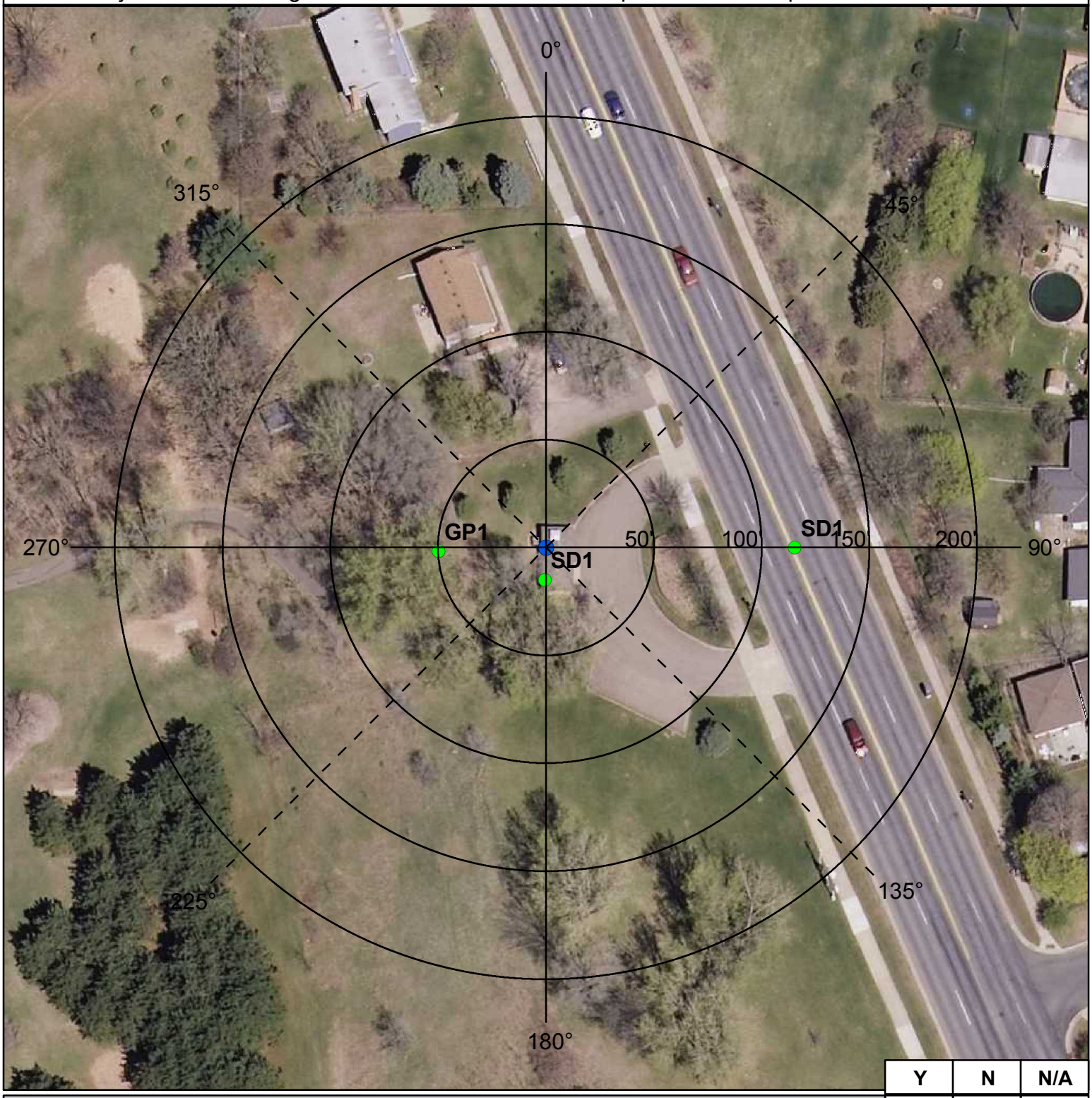
[5] A community public water-supply well must be a minimum of 50 feet from a petroleum tank or container, unless the tank or container is used for emergency pumping and is located in a room or building separate from the community well; and is of double-wall construction with leak detection between walls; or is protected with secondary containment.

This form is based on the new isolation distances in Minnesota Rules, Chapter 4725, related to wells and borings adopted August 4, 2008, and Minnesota Rules, Chapter 4720, related to wellhead protection.

PWS ID / FACILITY ID	1190014 S03	UNIQUE WELL NO.	207284

SETBACK DISTANCES	All potential contaminant sources must be noted on sketch.

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



	Y	N	N/A
Were the isolation distances maintained for the new sources of contamination?			
Is the system monitoring existing nonconforming sources of contamination?			

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR	Voz, Karen (SWP)	DATE	8 - 22 - 2016

PWS ID / FACILITY ID	1190014 S03	UNIQUE WELL NO.	207284

RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES	WHP MEASURE IMPLEMENTED? Y or N	DATE VERIFIED

COMMENTS

9/7/2003 - Location for PCSI Type SBA (bearing = 0, distance = 0 , inventory date: 7/17/1998) could not be determined.
9/7/2003 - Location for PCSI Type GPR (bearing = 0, distance = 0 , inventory date: 7/17/1998) could not be determined.

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Section Receptionist: 651-201-4700
Division TDD: 651-201-5797 or MN Relay Service @ 1-800-627-3529 and ask for 651-201-5000

Environmental Health Division
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

INNER WELLHEAD MANAGEMENT ZONE (IWMZ) - POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

PUBLIC WATER SYSTEM INFORMATION

PWS ID	1190014 **COMMUNITY**
NAME	Inver Grove Heights
ADDRESS	Inver Grove Heights Water Superintendent, City Hall, 8168 Barbara Avenue, Inver Grove Heights, MN 55077

FACILITY (WELL) INFORMATION

NAME	Well #4
FACILITY ID	S04
UNIQUE WELL NO.	207285
COUNTY	Dakota

IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE?

☐ **YES** (Please attach a copy)
☐ **NO** ☐ **UNDETERMINED**

PWS ID / FACILITY ID	1190014 S04	**UNIQUE WELL NO.**	207285

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
Agricultural Related							
*AC1	Agricultural chemical buried piping	50	50		N		
*AC2	Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight	50	50		N		
ACP	Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards	150	150		N		
ACS	Agricultural chemical storage or equipment filling or cleaning area with safeguards	100	100		N		
ACR	Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed	50	50		N		
ADW	Agricultural drainage well[2] (Class V well - illegal[3])	50	50		N		
AAT	Anhydrous ammonia tank (stationary tank)	50	50		N		
AB1	Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard)	50	20	100/40	N		
AB2	Animal building or poultry building, including a horse riding area, more than 1.0 animal unit	50	50	100	N		
ABS	Animal burial area, more than 1.0 animal unit	50	50		N		
FWP	Animal feeding or watering area within a pasture, more than 1.0 animal unit	50	50	100	N		
AF1	Animal feedlot, unroofed, 300 or more animal units (stockyard)	100	100	200	N		
AF2	Animal feedlot, more than 1.0, but less than 300 animal units (stockyard)	50	50	100	N		
AMA	Animal manure application	use discretion	use discretion		N		
REN	Animal rendering plant	50	50		N		
MS1	Manure (liquid) storage basin or lagoon, unpermitted or noncertified	300	300	600	N		
MS2	Manure (liquid) storage basin or lagoon, approved earthen liner	150	150	300	N		
MS3	Manure (liquid) storage basin or lagoon, approved concrete or composite liner	100	100	200	N		
MS4	Manure (solid) storage area, not covered with a roof	100	100	200	N		
OSC	Open storage for crops	use discretion	use discretion		N		
SSTS Related							
AA1	Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day	300	300	600	N		
AA2	Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less	150	150	300	N		
AA3	Absorption area of a soil dispersal system, average flow 10,000 gal./day or less	50	50	100	N		
AA4	Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well)[2]	50/300/150[4]	50/300/150[4]	100/600/300[4]	N		
CSP	Cesspool	75	75	150	N		
AGG	Dry well, leaching pit, seepage pit	75	75	150	N		
*FD1	Floor drain, grate, or trough connected to a buried sewer	50	50		N		
*FD2	Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences	50	20		N		
*GW1	Gray-water dispersal area	50	50	100	N		
LC1	Large capacity cesspools (Class V well - illegal)[2]	75	75	150	N		
MVW	Motor vehicle waste disposal (Class V well - illegal)[2]	illegal	illegal		N		

PWS ID / FACILITY ID	1190014 S04	UNIQUE WELL NO.	207285

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PR1	Privy, nonportable	50	50	100	N		
PR2	Portable (privy) or toilet	50	20		N		
*SF1	Watertight sand filter; peat filter; or constructed wetland	50	50		N		
SET	Septic tank	50	50		N		
HTK	Sewage holding tank, watertight	50	50		N		
SS1	Sewage sump capacity 100 gal. or more	50	50		N		
SS2	Sewage sump capacity less than 100 gal., tested, conforming to rule	50	20		N		
*ST1	Sewage treatment device, watertight	50	50		N		
SB1	Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences	50	20		N		
SB2	Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials	50	50		N		
*WB1	Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection	50	50		N		
*WB2	Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection	20	20		N		
Land Application							
SPT	Land spreading area for sewage, septage, or sludge	50	50	100	N		
Solid Waste Related							
COS	Commercial compost site	50	50		N		
CD1	Construction or demolition debris disposal area	50	50	100	N		
*HW1	Household solid waste disposal area, single residence	50	50	100	N		
LF1	Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons	300	300	600	N		
SVY	Scrap yard	50	50		N		
SWT	Solid waste transfer station	50	50		N		
Storm Water Related							
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	185	N
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	185	N
SWI	Storm water drainage well[2] (Class V well - illegal[3])	50	50		N		
SM1	Storm water pond greater than 5000 gal.	50	35		N		
Wells and Borings							
*EB1	Elevator boring, not conforming to rule	50	50		N		
*EB2	Elevator boring, conforming to rule	20	20		N		
MON	Monitoring well	record dist.	record dist.		N		
WEL	Operating well	record dist.	record dist.		N		
UUW	Unused, unsealed well or boring	50	50		N		
General							
*CR1	Cistern or reservoir, buried, nonpressurized water supply	20	20		N		
PLM	Contaminant plume	50	50		N		
*CW1	Cooling water pond, industrial	50	50	100	N		
DC1	Deicing chemicals, bulk road	50	50	100	N		
*ET1	Electrical transformer storage area, oil-filled	50	50		N		
GRV	Grave or mausoleum	50	50		N		
GP1	Gravel pocket or French drain for clear water drainage only	20	20		Y	40	N
*HS1	Hazardous substance buried piping	50	50		N		
HS2	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards	150	150		N		
HS3	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards	100	100		N		
HS4	Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding	50	50		N		
HWF	Highest water or flood level	50	N/A		N		
*HG1	Horizontal ground source closed loop heat exchanger buried piping	50	50		N		
*HG2	Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid	50	10		N		
IWD	Industrial waste disposal well (Class V well)[2]	illegal[3]	illegal[3]		N		
IWS	Interceptor, including a flammable waste or sediment	50	50		N		
OH1	Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more)	50	35		N		
*PP1	Petroleum buried piping	50	50		N		

PWS ID / FACILITY ID	1190014 S04	UNIQUE WELL NO.	207285

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
*PP2	Petroleum or crude oil pipeline to a refinery or distribution center	100	100		N		
PT1	Petroleum tank or container, 1100 gal. or more, without safeguards	150	150		N		
PT2	Petroleum tank or container, 1100 gal. or more, with safeguards	100	100		N		
PT3	Petroleum tank or container, buried, between 56 and 1100 gal.	50	50		N		
PT4	Petroleum tank or container, not buried, between 56 and 1100 gal.	50[5]	20		Y	15	N
PU1	Pit or unfilled space more than four feet in depth	20	20		N		
PC1	Pollutant or contaminant that may drain into the soil	50	50	100	N		
SP1	Swimming pool, in-ground	20	20		N		
*VH1	Vertical heat exchanger, horizontal piping conforming to rule	50	10		N		
*VH2	Vertical heat exchanger (vertical) piping, conforming to rule	50	35		N		
*WR1	Wastewater rapid infiltration basin, municipal or industrial	300	300	600	N		
*WA1	Wastewater spray irrigation area, municipal or industrial	150	150	300	N		
*WS1	Wastewater stabilization pond, industrial	150	150	300	N		
*WS2	Wastewater stabilization pond, municipal, 500 or more gal./acre/day of leakage	300	300	600	N		
*WS3	Wastewater stabilization pond, municipal, less than 500 gal./acre/day of leakage	150	150	300	N		
*WT1	Wastewater treatment unit tanks, vessels and components (Package plant)	100	100		N		
*WT2	Water treatment backwash disposal area	50	50	100	N		
Additional Sources (If there is more than one source listed above, please indicate here).							
Potential Contamination Sources and Codes Based on Previous Versions of this Form							
	none found within 200' of this well.						

* New potential contaminant source.

[1] A sensitive well has less than 50 feet of watertight casing, and which is not cased below a confining layer or confining materials of at least 10' in thickness.

[2] These sources, known as Class V underground injection wells, are regulated by the federal U.S. Environmental Protection Agency.

[3] These sources are classified as illegal by Minnesota Rules, Chapter 4725.

[4] Isolation distance is determined by average flow per day or if a facility handles infectious or pathological wastes.

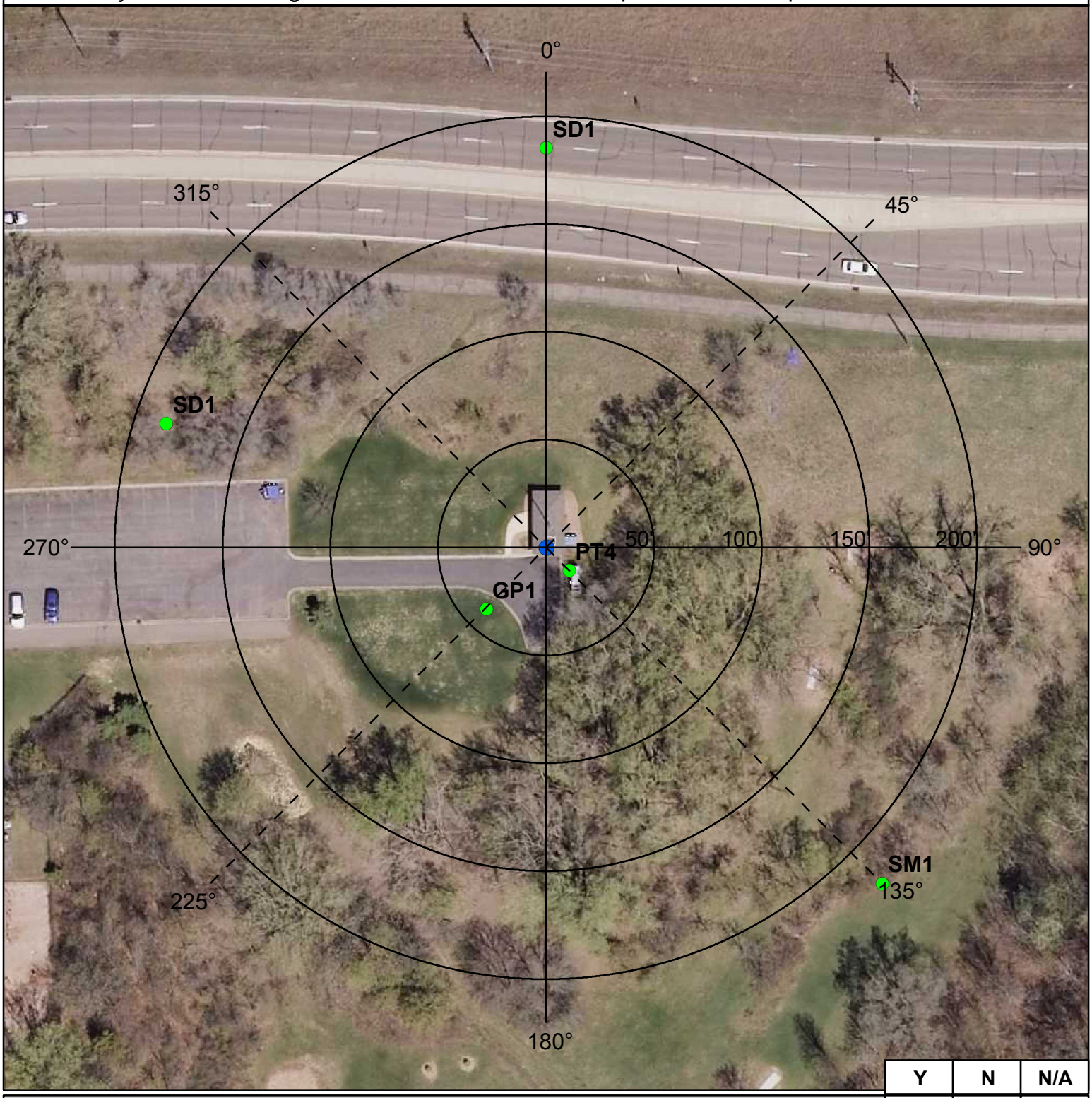
[5] A community public water-supply well must be a minimum of 50 feet from a petroleum tank or container, unless the tank or container is used for emergency pumping and is located in a room or building separate from the community well; and is of double-wall construction with leak detection between walls; or is protected with secondary containment.

This form is based on the new isolation distances in Minnesota Rules, Chapter 4725, related to wells and borings adopted August 4, 2008, and Minnesota Rules, Chapter 4720, related to wellhead protection.

PWS ID / FACILITY ID	1190014 S04	UNIQUE WELL NO.	207285

SETBACK DISTANCES	All potential contaminant sources must be noted on sketch.

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



	Y	N	N/A
Were the isolation distances maintained for the new sources of contamination?			
Is the system monitoring existing nonconforming sources of contamination?			

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR	Voz, Karen (SWP)	DATE	8 - 22 - 2016

PWS ID / FACILITY ID	1190014 S04	UNIQUE WELL NO.	207285

RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES	WHP MEASURE IMPLEMENTED? Y or N	DATE VERIFIED

COMMENTS

9/7/2003 - Location for PCSI Type GPR (bearing = 0, distance = 0 , inventory date: 7/17/1998) could not be determined.

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Section Receptionist: 651-201-4700
Division TDD: 651-201-5797 or MN Relay Service @ 1-800-627-3529 and ask for 651-201-5000

Environmental Health Division
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

INNER WELLHEAD MANAGEMENT ZONE (IWMZ) - POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

PUBLIC WATER SYSTEM INFORMATION

PWS ID	1190014 **COMMUNITY**
NAME	Inver Grove Heights
ADDRESS	Inver Grove Heights Water Superintendent, City Hall, 8168 Barbara Avenue, Inver Grove Heights, MN 55077

FACILITY (WELL) INFORMATION

NAME	Well #5
FACILITY ID	S05
UNIQUE WELL NO.	165640
COUNTY	Dakota

IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE?

☐ **YES** (Please attach a copy)
☐ **NO** ☐ **UNDETERMINED**

PWS ID / FACILITY ID	1190014 S05	**UNIQUE WELL NO.**	165640

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
Agricultural Related							
*AC1	Agricultural chemical buried piping	50	50		N		
*AC2	Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight	50	50		N		
ACP	Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards	150	150		N		
ACS	Agricultural chemical storage or equipment filling or cleaning area with safeguards	100	100		N		
ACR	Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed	50	50		N		
ADW	Agricultural drainage well[2] (Class V well - illegal[3])	50	50		N		
AAT	Anhydrous ammonia tank (stationary tank)	50	50		N		
AB1	Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard)	50	20	100/40	N		
AB2	Animal building or poultry building, including a horse riding area, more than 1.0 animal unit	50	50	100	N		
ABS	Animal burial area, more than 1.0 animal unit	50	50		N		
FWP	Animal feeding or watering area within a pasture, more than 1.0 animal unit	50	50	100	N		
AF1	Animal feedlot, unroofed, 300 or more animal units (stockyard)	100	100	200	N		
AF2	Animal feedlot, more than 1.0, but less than 300 animal units (stockyard)	50	50	100	N		
AMA	Animal manure application	use discretion	use discretion		N		
REN	Animal rendering plant	50	50		N		
MS1	Manure (liquid) storage basin or lagoon, unpermitted or noncertified	300	300	600	N		
MS2	Manure (liquid) storage basin or lagoon, approved earthen liner	150	150	300	N		
MS3	Manure (liquid) storage basin or lagoon, approved concrete or composite liner	100	100	200	N		
MS4	Manure (solid) storage area, not covered with a roof	100	100	200	N		
OSC	Open storage for crops	use discretion	use discretion		N		
SSTS Related							
AA1	Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day	300	300	600	N		
AA2	Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less	150	150	300	N		
AA3	Absorption area of a soil dispersal system, average flow 10,000 gal./day or less	50	50	100	N		
AA4	Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well)[2]	50/300/150[4]	50/300/150[4]	100/600/300[4]	N		
CSP	Cesspool	75	75	150	N		
AGG	Dry well, leaching pit, seepage pit	75	75	150	N		
*FD1	Floor drain, grate, or trough connected to a buried sewer	50	50		N		
*FD2	Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences	50	20		N		
*GW1	Gray-water dispersal area	50	50	100	N		
LC1	Large capacity cesspools (Class V well - illegal)[2]	75	75	150	N		
MVW	Motor vehicle waste disposal (Class V well - illegal)[2]	illegal	illegal		N		

PWS ID / FACILITY ID	1190014 S05	UNIQUE WELL NO.	165640

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PR1	Privy, nonportable	50	50	100	N		
PR2	Portable (privy) or toilet	50	20		N		
*SF1	Watertight sand filter; peat filter; or constructed wetland	50	50		N		
SET	Septic tank	50	50		N		
HTK	Sewage holding tank, watertight	50	50		N		
SS1	Sewage sump capacity 100 gal. or more	50	50		N		
SS2	Sewage sump capacity less than 100 gal., tested, conforming to rule	50	20		N		
*ST1	Sewage treatment device, watertight	50	50		N		
SB1	Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences	50	20		N		
SB2	Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials	50	50		N		
*WB1	Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection	50	50		N		
*WB2	Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection	20	20		N		
Land Application							
SPT	Land spreading area for sewage, septage, or sludge	50	50	100	N		
Solid Waste Related							
COS	Commercial compost site	50	50		N		
CD1	Construction or demolition debris disposal area	50	50	100	N		
*HW1	Household solid waste disposal area, single residence	50	50	100	N		
LF1	Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons	300	300	600	N		
SVY	Scrap yard	50	50		N		
SWT	Solid waste transfer station	50	50		N		
Storm Water Related							
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	193	N**
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	55	N
SWI	Storm water drainage well[2] (Class V well - illegal[3])	50	50		N		
SM1	Storm water pond greater than 5000 gal.	50	35		N		
Wells and Borings							
*EB1	Elevator boring, not conforming to rule	50	50		N		
*EB2	Elevator boring, conforming to rule	20	20		N		
MON	Monitoring well	record dist.	record dist.		N		
WEL	Operating well	record dist.	record dist.		N		
UUW	Unused, unsealed well or boring	50	50		N		
General							
*CR1	Cistern or reservoir, buried, nonpressurized water supply	20	20		N		
PLM	Contaminant plume	50	50		N		
*CW1	Cooling water pond, industrial	50	50	100	N		
DC1	Deicing chemicals, bulk road	50	50	100	N		
*ET1	Electrical transformer storage area, oil-filled	50	50		N		
GRV	Grave or mausoleum	50	50		N		
GP1	Gravel pocket or French drain for clear water drainage only	20	20		Y	35	N
*HS1	Hazardous substance buried piping	50	50		N		
HS2	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards	150	150		N		
HS3	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards	100	100		N		
HS4	Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding	50	50		N		
HWF	Highest water or flood level	50	N/A		N		
*HG1	Horizontal ground source closed loop heat exchanger buried piping	50	50		N		
*HG2	Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid	50	10		N		
IWD	Industrial waste disposal well (Class V well)[2]	illegal[3]	illegal[3]		N		
IWS	Interceptor, including a flammable waste or sediment	50	50		N		
OH1	Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more)	50	35		N		
*PP1	Petroleum buried piping	50	50		N		

PWS ID / FACILITY ID	1190014 S05	UNIQUE WELL NO.	165640

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
*PP2	Petroleum or crude oil pipeline to a refinery or distribution center	100	100		N		
PT1	Petroleum tank or container, 1100 gal. or more, without safeguards	150	150		N		
PT2	Petroleum tank or container, 1100 gal. or more, with safeguards	100	100		N		
PT3	Petroleum tank or container, buried, between 56 and 1100 gal.	50	50		N		
PT4	Petroleum tank or container, not buried, between 56 and 1100 gal.	50[5]	20		N		
PU1	Pit or unfilled space more than four feet in depth	20	20		N		
PC1	Pollutant or contaminant that may drain into the soil	50	50	100	N		
SP1	Swimming pool, in-ground	20	20		N		
*VH1	Vertical heat exchanger, horizontal piping conforming to rule	50	10		N		
*VH2	Vertical heat exchanger (vertical) piping, conforming to rule	50	35		N		
*WR1	Wastewater rapid infiltration basin, municipal or industrial	300	300	600	N		
*WA1	Wastewater spray irrigation area, municipal or industrial	150	150	300	N		
*WS1	Wastewater stabilization pond, industrial	150	150	300	N		
*WS2	Wastewater stabilization pond, municipal, 500 or more gal./acre/day of leakage	300	300	600	N		
*WS3	Wastewater stabilization pond, municipal, less than 500 gal./acre/day of leakage	150	150	300	N		
*WT1	Wastewater treatment unit tanks, vessels and components (Package plant)	100	100		N		
*WT2	Water treatment backwash disposal area	50	50	100	N		
Additional Sources (If there is more than one source listed above, please indicate here).							
Potential Contamination Sources and Codes Based on Previous Versions of this Form							
	none found within 200' of this well.						

* New potential contaminant source.

** This number is the estimated distance that this potential source is from this well even though it was identified during an inventory for an adjacent well.

[1] A sensitive well has less than 50 feet of watertight casing, and which is not cased below a confining layer or confining materials of at least 10' in thickness.

[2] These sources, known as Class V underground injection wells, are regulated by the federal U.S. Environmental Protection Agency.

[3] These sources are classified as illegal by Minnesota Rules, Chapter 4725.

[4] Isolation distance is determined by average flow per day or if a facility handles infectious or pathological wastes.

[5] A community public water-supply well must be a minimum of 50 feet from a petroleum tank or container, unless the tank or container is used for emergency pumping and is located in a room or building separate from the community well; and is of double-wall construction with leak detection between walls; or is protected with secondary containment.

This form is based on the new isolation distances in Minnesota Rules, Chapter 4725, related to wells and borings adopted August 4, 2008, and Minnesota Rules, Chapter 4720, related to wellhead protection.

PWS ID / FACILITY ID	1190014 S05	UNIQUE WELL NO.	165640

SETBACK DISTANCES	All potential contaminant sources must be noted on sketch.

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.

	Y	N	N/A
Were the isolation distances maintained for the new sources of contamination?			
Is the system monitoring existing nonconforming sources of contamination?			

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR	Voz, Karen (SWP)	DATE	8 - 22 - 2016

PWS ID / FACILITY ID	1190014 S05	UNIQUE WELL NO.	165640

RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES	WHP MEASURE IMPLEMENTED? Y or N	DATE VERIFIED

COMMENTS

9/7/2003 - Location for PCSI Type GPR (bearing = 0, distance = 0 , inventory date: 7/17/1998) could not be determined.

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Section Receptionist: 651-201-4700
Division TDD: 651-201-5797 or MN Relay Service @ 1-800-627-3529 and ask for 651-201-5000

Environmental Health Division
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

INNER WELLHEAD MANAGEMENT ZONE (IWMZ) - POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

PUBLIC WATER SYSTEM INFORMATION

PWS ID	1190014 **COMMUNITY**
NAME	Inver Grove Heights
ADDRESS	Inver Grove Heights Water Superintendent, City Hall, 8168 Barbara Avenue, Inver Grove Heights, MN 55077

FACILITY (WELL) INFORMATION

NAME	Well #6
FACILITY ID	S06
UNIQUE WELL NO.	433259
COUNTY	Dakota

IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE?

☐ **YES** (Please attach a copy)
☐ **NO** ☐ **UNDETERMINED**

PWS ID / FACILITY ID	1190014 S06	**UNIQUE WELL NO.**	433259

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
Agricultural Related							
*AC1	Agricultural chemical buried piping	50	50		N		
*AC2	Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight	50	50		N		
ACP	Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards	150	150		N		
ACS	Agricultural chemical storage or equipment filling or cleaning area with safeguards	100	100		N		
ACR	Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed	50	50		N		
ADW	Agricultural drainage well[2] (Class V well - illegal[3])	50	50		N		
AAT	Anhydrous ammonia tank (stationary tank)	50	50		N		
AB1	Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard)	50	20	100/40	N		
AB2	Animal building or poultry building, including a horse riding area, more than 1.0 animal unit	50	50	100	N		
ABS	Animal burial area, more than 1.0 animal unit	50	50		N		
FWP	Animal feeding or watering area within a pasture, more than 1.0 animal unit	50	50	100	N		
AF1	Animal feedlot, unroofed, 300 or more animal units (stockyard)	100	100	200	N		
AF2	Animal feedlot, more than 1.0, but less than 300 animal units (stockyard)	50	50	100	N		
AMA	Animal manure application	use discretion	use discretion		N		
REN	Animal rendering plant	50	50		N		
MS1	Manure (liquid) storage basin or lagoon, unpermitted or noncertified	300	300	600	N		
MS2	Manure (liquid) storage basin or lagoon, approved earthen liner	150	150	300	N		
MS3	Manure (liquid) storage basin or lagoon, approved concrete or composite liner	100	100	200	N		
MS4	Manure (solid) storage area, not covered with a roof	100	100	200	N		
OSC	Open storage for crops	use discretion	use discretion		N		
SSTS Related							
AA1	Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day	300	300	600	N		
AA2	Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less	150	150	300	N		
AA3	Absorption area of a soil dispersal system, average flow 10,000 gal./day or less	50	50	100	N		
AA4	Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well)[2]	50/300/150[4]	50/300/150[4]	100/600/300[4]	N		
CSP	Cesspool	75	75	150	N		
AGG	Dry well, leaching pit, seepage pit	75	75	150	N		
*FD1	Floor drain, grate, or trough connected to a buried sewer	50	50		N		
*FD2	Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences	50	20		N		
*GW1	Gray-water dispersal area	50	50	100	N		
LC1	Large capacity cesspools (Class V well - illegal)[2]	75	75	150	N		
MVW	Motor vehicle waste disposal (Class V well - illegal)[2]	illegal	illegal		N		

PWS ID / FACILITY ID	1190014 S06	UNIQUE WELL NO.	433259

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PR1	Privy, nonportable	50	50	100	N		
PR2	Portable (privy) or toilet	50	20		N		
*SF1	Watertight sand filter; peat filter; or constructed wetland	50	50		N		
SET	Septic tank	50	50		N		
HTK	Sewage holding tank, watertight	50	50		N		
SS1	Sewage sump capacity 100 gal. or more	50	50		N		
SS2	Sewage sump capacity less than 100 gal., tested, conforming to rule	50	20		N		
*ST1	Sewage treatment device, watertight	50	50		N		
SB1	Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences	50	20		N		
SB2	Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials	50	50		N		
*WB1	Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection	50	50		N		
*WB2	Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection	20	20		N		
Land Application							
SPT	Land spreading area for sewage, septage, or sludge	50	50	100	N		
Solid Waste Related							
COS	Commercial compost site	50	50		N		
CD1	Construction or demolition debris disposal area	50	50	100	N		
*HW1	Household solid waste disposal area, single residence	50	50	100	N		
LF1	Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons	300	300	600	N		
SVY	Scrap yard	50	50		N		
SWT	Solid waste transfer station	50	50		N		
Storm Water Related							
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	80	N
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	55	N
SWI	Storm water drainage well[2] (Class V well - illegal[3])	50	50		N		
SM1	Storm water pond greater than 5000 gal.	50	35		N		
Wells and Borings							
*EB1	Elevator boring, not conforming to rule	50	50		N		
*EB2	Elevator boring, conforming to rule	20	20		N		
MON	Monitoring well	record dist.	record dist.		N		
WEL	Operating well	record dist.	record dist.		N		
UUW	Unused, unsealed well or boring	50	50		N		
General							
*CR1	Cistern or reservoir, buried, nonpressurized water supply	20	20		N		
PLM	Contaminant plume	50	50		N		
*CW1	Cooling water pond, industrial	50	50	100	N		
DC1	Deicing chemicals, bulk road	50	50	100	N		
*ET1	Electrical transformer storage area, oil-filled	50	50		N		
GRV	Grave or mausoleum	50	50		N		
GP1	Gravel pocket or French drain for clear water drainage only	20	20		Y	45	N
*HS1	Hazardous substance buried piping	50	50		N		
HS2	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards	150	150		N		
HS3	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards	100	100		N		
HS4	Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding	50	50		N		
HWF	Highest water or flood level	50	N/A		N		
*HG1	Horizontal ground source closed loop heat exchanger buried piping	50	50		N		
*HG2	Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid	50	10		N		
IWD	Industrial waste disposal well (Class V well)[2]	illegal[3]	illegal[3]		N		
IWS	Interceptor, including a flammable waste or sediment	50	50		N		
OH1	Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more)	50	35		N		
*PP1	Petroleum buried piping	50	50		N		

PWS ID / FACILITY ID	1190014 S06	UNIQUE WELL NO.	433259

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
*PP2	Petroleum or crude oil pipeline to a refinery or distribution center	100	100		N		
PT1	Petroleum tank or container, 1100 gal. or more, without safeguards	150	150		N		
PT2	Petroleum tank or container, 1100 gal. or more, with safeguards	100	100		N		
PT3	Petroleum tank or container, buried, between 56 and 1100 gal.	50	50		N		
PT4	Petroleum tank or container, not buried, between 56 and 1100 gal.	50[5]	20		N		
PU1	Pit or unfilled space more than four feet in depth	20	20		N		
PC1	Pollutant or contaminant that may drain into the soil	50	50	100	N		
SP1	Swimming pool, in-ground	20	20		N		
*VH1	Vertical heat exchanger, horizontal piping conforming to rule	50	10		N		
*VH2	Vertical heat exchanger (vertical) piping, conforming to rule	50	35		N		
*WR1	Wastewater rapid infiltration basin, municipal or industrial	300	300	600	N		
*WA1	Wastewater spray irrigation area, municipal or industrial	150	150	300	N		
*WS1	Wastewater stabilization pond, industrial	150	150	300	N		
*WS2	Wastewater stabilization pond, municipal, 500 or more gal./acre/day of leakage	300	300	600	N		
*WS3	Wastewater stabilization pond, municipal, less than 500 gal./acre/day of leakage	150	150	300	N		
*WT1	Wastewater treatment unit tanks, vessels and components (Package plant)	100	100		N		
*WT2	Water treatment backwash disposal area	50	50	100	N		
Additional Sources (If there is more than one source listed above, please indicate here).							
Potential Contamination Sources and Codes Based on Previous Versions of this Form							
	none found within 200' of this well.						

* New potential contaminant source.

[1] A sensitive well has less than 50 feet of watertight casing, and which is not cased below a confining layer or confining materials of at least 10' in thickness.

[2] These sources, known as Class V underground injection wells, are regulated by the federal U.S. Environmental Protection Agency.

[3] These sources are classified as illegal by Minnesota Rules, Chapter 4725.

[4] Isolation distance is determined by average flow per day or if a facility handles infectious or pathological wastes.

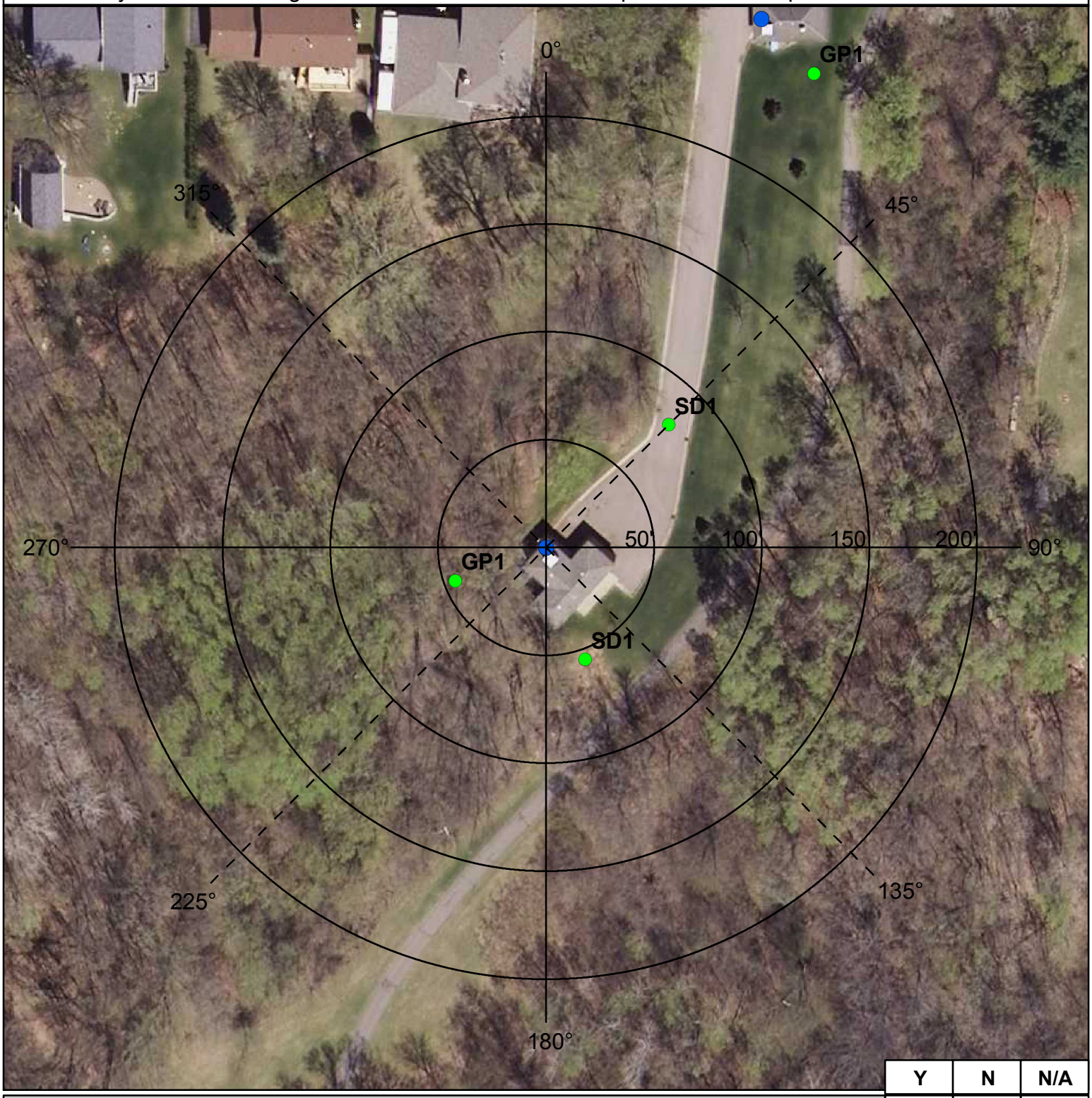
[5] A community public water-supply well must be a minimum of 50 feet from a petroleum tank or container, unless the tank or container is used for emergency pumping and is located in a room or building separate from the community well; and is of double-wall construction with leak detection between walls; or is protected with secondary containment.

This form is based on the new isolation distances in Minnesota Rules, Chapter 4725, related to wells and borings adopted August 4, 2008, and Minnesota Rules, Chapter 4720, related to wellhead protection.

PWS ID / FACILITY ID	1190014 S06	UNIQUE WELL NO.	433259

SETBACK DISTANCES	All potential contaminant sources must be noted on sketch.

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



	Y	N	N/A
Were the isolation distances maintained for the new sources of contamination?			
Is the system monitoring existing nonconforming sources of contamination?			

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR	Voz, Karen (SWP)	DATE	8 - 22 - 2016

PWS ID / FACILITY ID	1190014 S06	UNIQUE WELL NO.	433259

RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES	WHP MEASURE IMPLEMENTED? Y or N	DATE VERIFIED

COMMENTS

9/7/2003 - Location for PCSI Type SWD (bearing = 0, distance = 0 , inventory date: 7/17/1998) could not be determined.
9/7/2003 - Location for PCSI Type GPR (bearing = 0, distance = 0 , inventory date: 7/17/1998) could not be determined.

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Section Receptionist: 651-201-4700
Division TDD: 651-201-5797 or MN Relay Service @ 1-800-627-3529 and ask for 651-201-5000

Environmental Health Division
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

INNER WELLHEAD MANAGEMENT ZONE (IWMZ) - POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

PUBLIC WATER SYSTEM INFORMATION

PWS ID	1190014 **COMMUNITY**
NAME	Inver Grove Heights
ADDRESS	Inver Grove Heights Water Superintendent, City Hall, 8168 Barbara Avenue, Inver Grove Heights, MN 55077

FACILITY (WELL) INFORMATION

NAME	Well #7
FACILITY ID	S07
UNIQUE WELL NO.	463527
COUNTY	Dakota

IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE?

☐ **YES** (Please attach a copy)
☐ **NO** ☐ **UNDETERMINED**

PWS ID / FACILITY ID	1190014 S07	**UNIQUE WELL NO.**	463527

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
Agricultural Related							
*AC1	Agricultural chemical buried piping	50	50		N		
*AC2	Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight	50	50		N		
ACP	Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards	150	150		N		
ACS	Agricultural chemical storage or equipment filling or cleaning area with safeguards	100	100		N		
ACR	Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed	50	50		N		
ADW	Agricultural drainage well[2] (Class V well - illegal[3])	50	50		N		
AAT	Anhydrous ammonia tank (stationary tank)	50	50		N		
AB1	Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard)	50	20	100/40	N		
AB2	Animal building or poultry building, including a horse riding area, more than 1.0 animal unit	50	50	100	N		
ABS	Animal burial area, more than 1.0 animal unit	50	50		N		
FWP	Animal feeding or watering area within a pasture, more than 1.0 animal unit	50	50	100	N		
AF1	Animal feedlot, unroofed, 300 or more animal units (stockyard)	100	100	200	N		
AF2	Animal feedlot, more than 1.0, but less than 300 animal units (stockyard)	50	50	100	N		
AMA	Animal manure application	use discretion	use discretion		N		
REN	Animal rendering plant	50	50		N		
MS1	Manure (liquid) storage basin or lagoon, unpermitted or noncertified	300	300	600	N		
MS2	Manure (liquid) storage basin or lagoon, approved earthen liner	150	150	300	N		
MS3	Manure (liquid) storage basin or lagoon, approved concrete or composite liner	100	100	200	N		
MS4	Manure (solid) storage area, not covered with a roof	100	100	200	N		
OSC	Open storage for crops	use discretion	use discretion		N		
SSTS Related							
AA1	Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day	300	300	600	N		
AA2	Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less	150	150	300	N		
AA3	Absorption area of a soil dispersal system, average flow 10,000 gal./day or less	50	50	100	N		
AA4	Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well)[2]	50/300/150[4]	50/300/150[4]	100/600/300[4]	N		
CSP	Cesspool	75	75	150	N		
AGG	Dry well, leaching pit, seepage pit	75	75	150	N		
*FD1	Floor drain, grate, or trough connected to a buried sewer	50	50		N		
*FD2	Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences	50	20		N		
*GW1	Gray-water dispersal area	50	50	100	N		
LC1	Large capacity cesspools (Class V well - illegal)[2]	75	75	150	N		
MVW	Motor vehicle waste disposal (Class V well - illegal)[2]	illegal	illegal		N		

PWS ID / FACILITY ID	1190014 S07	UNIQUE WELL NO.	463527

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PR1	Privy, nonportable	50	50	100	N		
PR2	Portable (privy) or toilet	50	20		N		
*SF1	Watertight sand filter; peat filter; or constructed wetland	50	50		N		
SET	Septic tank	50	50		N		
HTK	Sewage holding tank, watertight	50	50		N		
SS1	Sewage sump capacity 100 gal. or more	50	50		N		
SS2	Sewage sump capacity less than 100 gal., tested, conforming to rule	50	20		N		
*ST1	Sewage treatment device, watertight	50	50		N		
SB1	Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences	50	20		N		
SB2	Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials	50	50		Y	85	N
SB2	Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials	50	50		Y	75	N
*WB1	Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection	50	50		N		
*WB2	Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection	20	20		N		
Land Application							
SPT	Land spreading area for sewage, septage, or sludge	50	50	100	N		
Solid Waste Related							
COS	Commercial compost site	50	50		N		
CD1	Construction or demolition debris disposal area	50	50	100	N		
*HW1	Household solid waste disposal area, single residence	50	50	100	N		
LF1	Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons	300	300	600	N		
SVY	Scrap yard	50	50		N		
SWT	Solid waste transfer station	50	50		N		
Storm Water Related							
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	85	N
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	80	N
SWI	Storm water drainage well[2] (Class V well - illegal[3])	50	50		N		
SM1	Storm water pond greater than 5000 gal.	50	35		N		
Wells and Borings							
*EB1	Elevator boring, not conforming to rule	50	50		N		
*EB2	Elevator boring, conforming to rule	20	20		N		
MON	Monitoring well	record dist.	record dist.		N		
WEL	Operating well	record dist.	record dist.		N		
UUW	Unused, unsealed well or boring	50	50		N		
General							
*CR1	Cistern or reservoir, buried, nonpressurized water supply	20	20		N		
PLM	Contaminant plume	50	50		N		
*CW1	Cooling water pond, industrial	50	50	100	N		
DC1	Deicing chemicals, bulk road	50	50	100	N		
*ET1	Electrical transformer storage area, oil-filled	50	50		N		
GRV	Grave or mausoleum	50	50		N		
GP1	Gravel pocket or French drain for clear water drainage only	20	20		Y	55	N
*HS1	Hazardous substance buried piping	50	50		N		
HS2	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards	150	150		N		
HS3	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards	100	100		N		
HS4	Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding	50	50		N		
HWF	Highest water or flood level	50	N/A		N		
*HG1	Horizontal ground source closed loop heat exchanger buried piping	50	50		N		
*HG2	Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid	50	10		N		
IWD	Industrial waste disposal well (Class V well)[2]	illegal[3]	illegal[3]		N		
IWS	Interceptor, including a flammable waste or sediment	50	50		N		

PWS ID / FACILITY ID	1190014 S07	UNIQUE WELL NO.	463527

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
OH1	Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more)	50	35		N		
*PP1	Petroleum buried piping	50	50		N		
*PP2	Petroleum or crude oil pipeline to a refinery or distribution center	100	100		N		
PT1	Petroleum tank or container, 1100 gal. or more, without safeguards	150	150		N		
PT2	Petroleum tank or container, 1100 gal. or more, with safeguards	100	100		N		
PT3	Petroleum tank or container, buried, between 56 and 1100 gal.	50	50		N		
PT4	Petroleum tank or container, not buried, between 56 and 1100 gal.	50[5]	20		N		
PU1	Pit or unfilled space more than four feet in depth	20	20		N		
PC1	Pollutant or contaminant that may drain into the soil	50	50	100	N		
SP1	Swimming pool, in-ground	20	20		N		
*VH1	Vertical heat exchanger, horizontal piping conforming to rule	50	10		N		
*VH2	Vertical heat exchanger (vertical) piping, conforming to rule	50	35		N		
*WR1	Wastewater rapid infiltration basin, municipal or industrial	300	300	600	N		
*WA1	Wastewater spray irrigation area, municipal or industrial	150	150	300	N		
*WS1	Wastewater stabilization pond, industrial	150	150	300	N		
*WS2	Wastewater stabilization pond, municipal, 500 or more gal./acre/day of leakage	300	300	600	N		
*WS3	Wastewater stabilization pond, municipal, less than 500 gal./acre/day of leakage	150	150	300	N		
*WT1	Wastewater treatment unit tanks, vessels and components (Package plant)	100	100		N		
*WT2	Water treatment backwash disposal area	50	50	100	N		
Additional Sources (If there is more than one source listed above, please indicate here).							
Potential Contamination Sources and Codes Based on Previous Versions of this Form							
	none found within 200' of this well.						

* New potential contaminant source.

[1] A sensitive well has less than 50 feet of watertight casing, and which is not cased below a confining layer or confining materials of at least 10' in thickness.

[2] These sources, known as Class V underground injection wells, are regulated by the federal U.S. Environmental Protection Agency.

[3] These sources are classified as illegal by Minnesota Rules, Chapter 4725.

[4] Isolation distance is determined by average flow per day or if a facility handles infectious or pathological wastes.

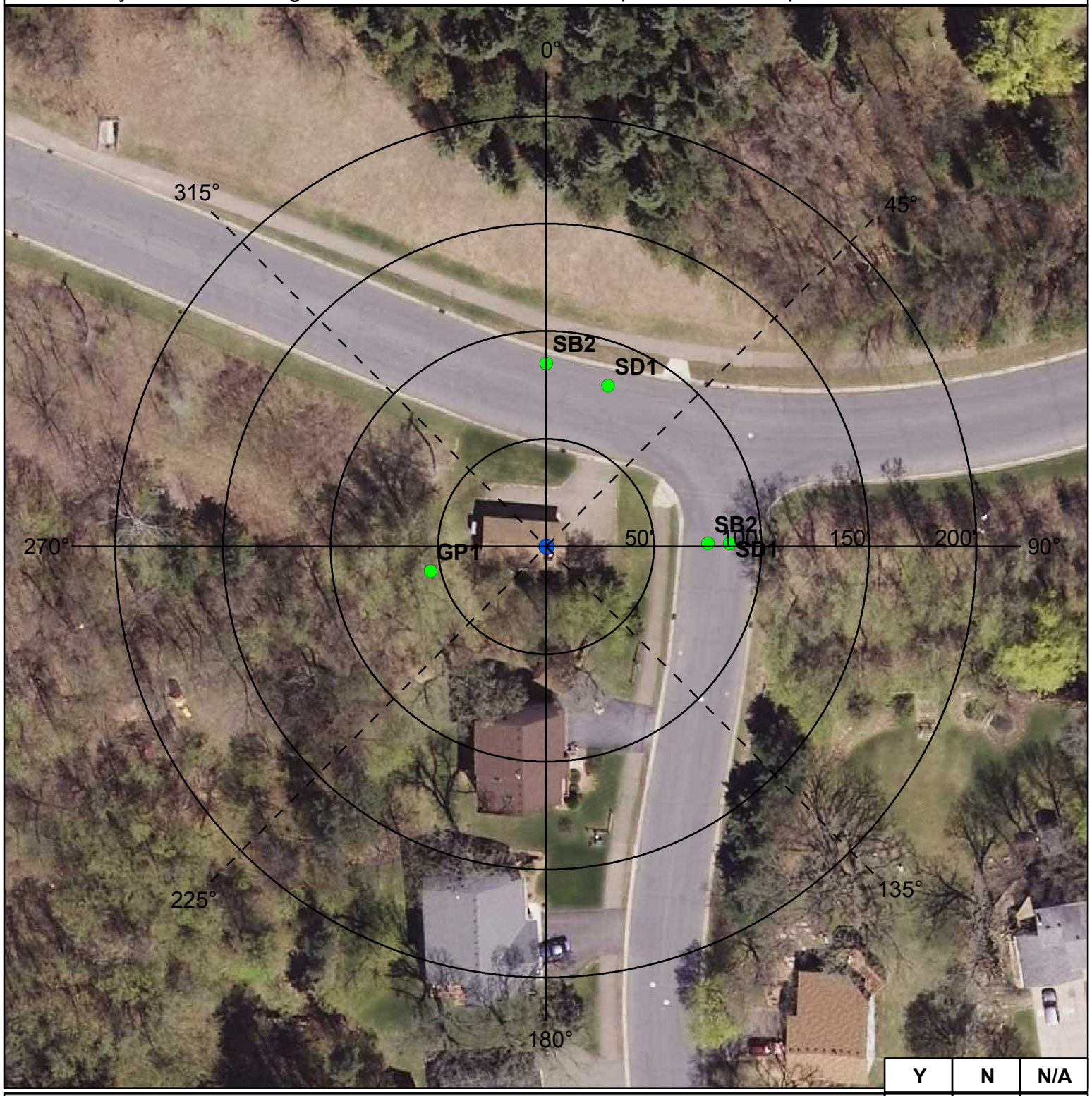
[5] A community public water-supply well must be a minimum of 50 feet from a petroleum tank or container, unless the tank or container is used for emergency pumping and is located in a room or building separate from the community well; and is of double-wall construction with leak detection between walls; or is protected with secondary containment.

This form is based on the new isolation distances in Minnesota Rules, Chapter 4725, related to wells and borings adopted August 4, 2008, and Minnesota Rules, Chapter 4720, related to wellhead protection.

PWS ID / FACILITY ID	1190014 S07	UNIQUE WELL NO.	463527

SETBACK DISTANCES	All potential contaminant sources must be noted on sketch.

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



	Y	N	N/A
Were the isolation distances maintained for the new sources of contamination?			
Is the system monitoring existing nonconforming sources of contamination?			

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR	Voz, Karen (SWP)	DATE	8 - 22 - 2016

PWS ID / FACILITY ID	1190014 S07	UNIQUE WELL NO.	463527

RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES	WHP MEASURE IMPLEMENTED? Y or N	DATE VERIFIED

COMMENTS

9/7/2003 - Location for PCSI Type SBA (bearing = 0, distance = 0 , inventory date: 7/17/1998) could not be determined.
9/7/2003 - Location for PCSI Type SWD (bearing = 0, distance = 0 , inventory date: 7/17/1998) could not be determined.
9/7/2003 - Location for PCSI Type GPR (bearing = 0, distance = 0 , inventory date: 7/17/1998) could not be determined.

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Section Receptionist: 651-201-4700
Division TDD: 651-201-5797 or MN Relay Service @ 1-800-627-3529 and ask for 651-201-5000

Environmental Health Division
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

INNER WELLHEAD MANAGEMENT ZONE (IWMZ) - POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

PUBLIC WATER SYSTEM INFORMATION

PWS ID	1190014 **COMMUNITY**
NAME	Inver Grove Heights
ADDRESS	Inver Grove Heights Water Superintendent, City Hall, 8168 Barbara Avenue, Inver Grove Heights, MN 55077

FACILITY (WELL) INFORMATION

NAME	Well #8
FACILITY ID	S08
UNIQUE WELL NO.	655940
COUNTY	Dakota

IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE?

☐ **YES** (Please attach a copy)
☐ **NO** ☐ **UNDETERMINED**

PWS ID / FACILITY ID	1190014 S08	**UNIQUE WELL NO.**	655940

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
Agricultural Related							
*AC1	Agricultural chemical buried piping	50	50		N		
*AC2	Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight	50	50		N		
ACP	Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards	150	150		N		
ACS	Agricultural chemical storage or equipment filling or cleaning area with safeguards	100	100		N		
ACR	Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed	50	50		N		
ADW	Agricultural drainage well[2] (Class V well - illegal[3])	50	50		N		
AAT	Anhydrous ammonia tank (stationary tank)	50	50		N		
AB1	Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard)	50	20	100/40	N		
AB2	Animal building or poultry building, including a horse riding area, more than 1.0 animal unit	50	50	100	N		
ABS	Animal burial area, more than 1.0 animal unit	50	50		N		
FWP	Animal feeding or watering area within a pasture, more than 1.0 animal unit	50	50	100	N		
AF1	Animal feedlot, unroofed, 300 or more animal units (stockyard)	100	100	200	N		
AF2	Animal feedlot, more than 1.0, but less than 300 animal units (stockyard)	50	50	100	N		
AMA	Animal manure application	use discretion	use discretion		N		
REN	Animal rendering plant	50	50		N		
MS1	Manure (liquid) storage basin or lagoon, unpermitted or noncertified	300	300	600	N		
MS2	Manure (liquid) storage basin or lagoon, approved earthen liner	150	150	300	N		
MS3	Manure (liquid) storage basin or lagoon, approved concrete or composite liner	100	100	200	N		
MS4	Manure (solid) storage area, not covered with a roof	100	100	200	N		
OSC	Open storage for crops	use discretion	use discretion		N		
SSTS Related							
AA1	Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day	300	300	600	N		
AA2	Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less	150	150	300	N		
AA3	Absorption area of a soil dispersal system, average flow 10,000 gal./day or less	50	50	100	N		
AA4	Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well)[2]	50/300/150[4]	50/300/150[4]	100/600/300[4]	N		
CSP	Cesspool	75	75	150	N		
AGG	Dry well, leaching pit, seepage pit	75	75	150	N		
*FD1	Floor drain, grate, or trough connected to a buried sewer	50	50		N		
*FD2	Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences	50	20		N		
*GW1	Gray-water dispersal area	50	50	100	N		
LC1	Large capacity cesspools (Class V well - illegal)[2]	75	75	150	N		
MVW	Motor vehicle waste disposal (Class V well - illegal)[2]	illegal	illegal		N		

PWS ID / FACILITY ID	1190014 S08	UNIQUE WELL NO.	655940

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PR1	Privy, nonportable	50	50	100	N		
PR2	Portable (privy) or toilet	50	20		N		
*SF1	Watertight sand filter; peat filter; or constructed wetland	50	50		N		
SET	Septic tank	50	50		N		
HTK	Sewage holding tank, watertight	50	50		N		
SS1	Sewage sump capacity 100 gal. or more	50	50		N		
SS2	Sewage sump capacity less than 100 gal., tested, conforming to rule	50	20		N		
*ST1	Sewage treatment device, watertight	50	50		N		
SB1	Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences	50	20		N		
SB2	Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials	50	50		N		
*WB1	Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection	50	50		N		
*WB2	Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection	20	20		N		
Land Application							
SPT	Land spreading area for sewage, septage, or sludge	50	50	100	N		
Solid Waste Related							
COS	Commercial compost site	50	50		N		
CD1	Construction or demolition debris disposal area	50	50	100	N		
*HW1	Household solid waste disposal area, single residence	50	50	100	N		
LF1	Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons	300	300	600	N		
SVY	Scrap yard	50	50		N		
SWT	Solid waste transfer station	50	50		N		
Storm Water Related							
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		N		
SWI	Storm water drainage well[2] (Class V well - illegal[3])	50	50		N		
SM1	Storm water pond greater than 5000 gal.	50	35		N		
Wells and Borings							
*EB1	Elevator boring, not conforming to rule	50	50		N		
*EB2	Elevator boring, conforming to rule	20	20		N		
MON	Monitoring well	record dist.	record dist.		N		
WEL	Operating well	record dist.	record dist.		N		
UUW	Unused, unsealed well or boring	50	50		N		
General							
*CR1	Cistern or reservoir, buried, nonpressurized water supply	20	20		N		
PLM	Contaminant plume	50	50		N		
*CW1	Cooling water pond, industrial	50	50	100	N		
DC1	Deicing chemicals, bulk road	50	50	100	N		
*ET1	Electrical transformer storage area, oil-filled	50	50		N		
GRV	Grave or mausoleum	50	50		N		
GP1	Gravel pocket or French drain for clear water drainage only	20	20		Y	25	N
*HS1	Hazardous substance buried piping	50	50		N		
HS2	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards	150	150		N		
HS3	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards	100	100		N		
HS4	Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding	50	50		N		
HWF	Highest water or flood level	50	N/A		N		
*HG1	Horizontal ground source closed loop heat exchanger buried piping	50	50		N		
*HG2	Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid	50	10		N		
IWD	Industrial waste disposal well (Class V well)[2]	illegal[3]	illegal[3]		N		
IWS	Interceptor, including a flammable waste or sediment	50	50		N		
OH1	Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more)	50	35		N		
*PP1	Petroleum buried piping	50	50		N		
*PP2	Petroleum or crude oil pipeline to a refinery or distribution center	100	100		N		

PWS ID / FACILITY ID	1190014 S08	UNIQUE WELL NO.	655940

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PT1	Petroleum tank or container, 1100 gal. or more, without safeguards	150	150		N		
PT2	Petroleum tank or container, 1100 gal. or more, with safeguards	100	100		N		
PT3	Petroleum tank or container, buried, between 56 and 1100 gal.	50	50		N		
PT4	Petroleum tank or container, not buried, between 56 and 1100 gal.	50[5]	20		N		
PU1	Pit or unfilled space more than four feet in depth	20	20		N		
PC1	Pollutant or contaminant that may drain into the soil	50	50	100	N		
SP1	Swimming pool, in-ground	20	20		N		
*VH1	Vertical heat exchanger, horizontal piping conforming to rule	50	10		N		
*VH2	Vertical heat exchanger (vertical) piping, conforming to rule	50	35		N		
*WR1	Wastewater rapid infiltration basin, municipal or industrial	300	300	600	N		
*WA1	Wastewater spray irrigation area, municipal or industrial	150	150	300	N		
*WS1	Wastewater stabilization pond, industrial	150	150	300	N		
*WS2	Wastewater stabilization pond, municipal, 500 or more gal./acre/day of leakage	300	300	600	N		
*WS3	Wastewater stabilization pond, municipal, less than 500 gal./acre/day of leakage	150	150	300	N		
*WT1	Wastewater treatment unit tanks, vessels and components (Package plant)	100	100		N		
*WT2	Water treatment backwash disposal area	50	50	100	N		
Additional Sources (If there is more than one source listed above, please indicate here).							
Potential Contamination Sources and Codes Based on Previous Versions of this Form							
	none found within 200' of this well.						

* New potential contaminant source.

[1] A sensitive well has less than 50 feet of watertight casing, and which is not cased below a confining layer or confining materials of at least 10' in thickness.

[2] These sources, known as Class V underground injection wells, are regulated by the federal U.S. Environmental Protection Agency.

[3] These sources are classified as illegal by Minnesota Rules, Chapter 4725.

[4] Isolation distance is determined by average flow per day or if a facility handles infectious or pathological wastes.

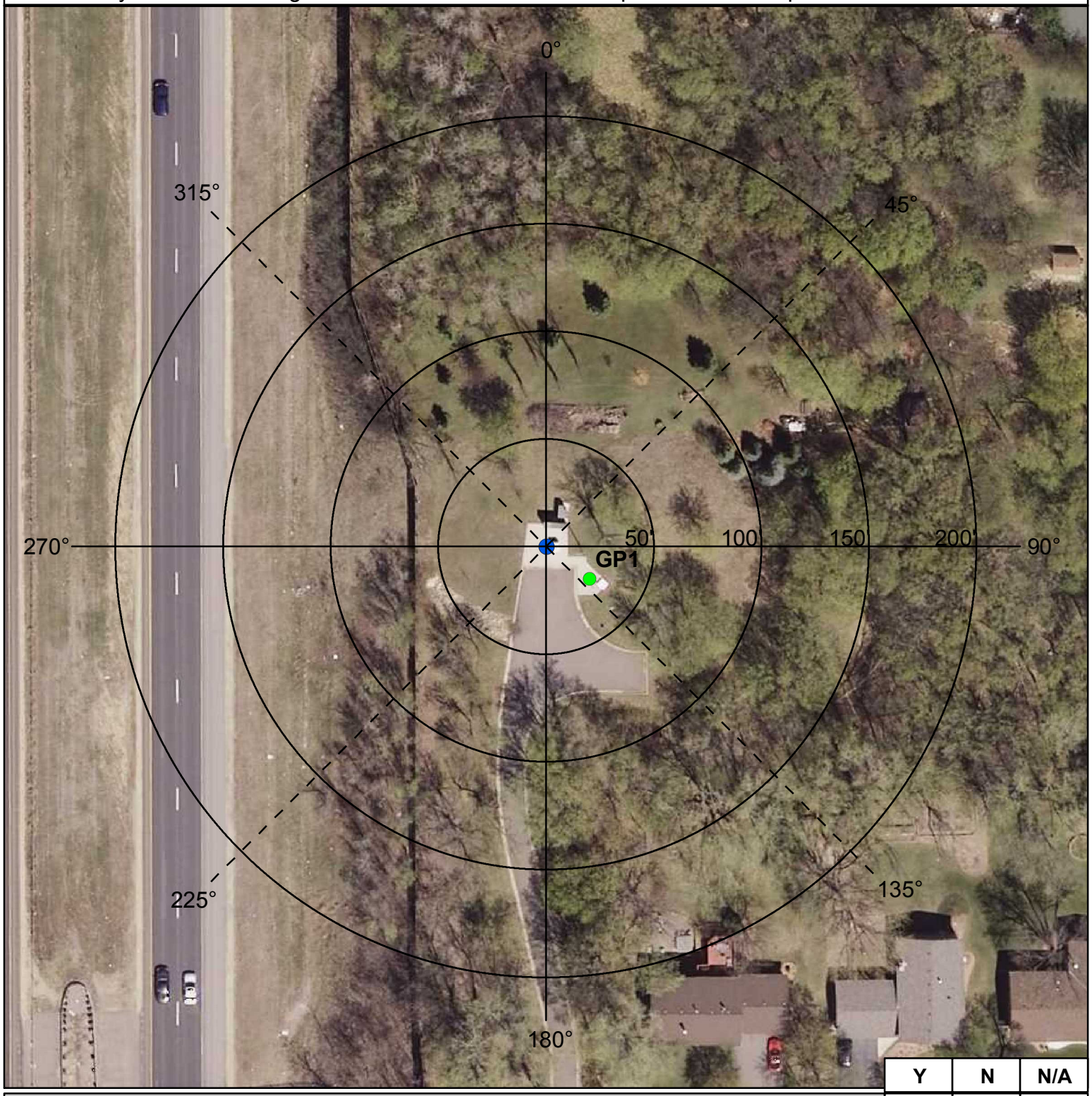
[5] A community public water-supply well must be a minimum of 50 feet from a petroleum tank or container, unless the tank or container is used for emergency pumping and is located in a room or building separate from the community well; and is of double-wall construction with leak detection between walls; or is protected with secondary containment.

This form is based on the new isolation distances in Minnesota Rules, Chapter 4725, related to wells and borings adopted August 4, 2008, and Minnesota Rules, Chapter 4720, related to wellhead protection.

PWS ID / FACILITY ID	1190014 S08	UNIQUE WELL NO.	655940

SETBACK DISTANCES	All potential contaminant sources must be noted on sketch.

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



	Y	N	N/A
Were the isolation distances maintained for the new sources of contamination?			
Is the system monitoring existing nonconforming sources of contamination?			

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR	Voz, Karen (SWP)	DATE	8 - 22 - 2016

PWS ID / FACILITY ID	1190014 S08	UNIQUE WELL NO.	655940

RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES	WHP MEASURE IMPLEMENTED? Y or N	DATE VERIFIED

COMMENTS

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Section Receptionist: 651-201-4700
Division TDD: 651-201-5797 or MN Relay Service @ 1-800-627-3529 and ask for 651-201-5000

Environmental Health Division
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

INNER WELLHEAD MANAGEMENT ZONE (IWMZ) - POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

PUBLIC WATER SYSTEM INFORMATION

PWS ID	1190014 **COMMUNITY**
NAME	Inver Grove Heights
ADDRESS	Inver Grove Heights Water Superintendent, City Hall, 8168 Barbara Avenue, Inver Grove Heights, MN 55077

FACILITY (WELL) INFORMATION

NAME	Well #9
FACILITY ID	S09
UNIQUE WELL NO.	759561
COUNTY	Dakota

IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE?

☐ **YES** (Please attach a copy)
☐ **NO** ☐ **UNDETERMINED**

PWS ID / FACILITY ID	1190014 S09	**UNIQUE WELL NO.**	759561

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
Agricultural Related							
*AC1	Agricultural chemical buried piping	50	50		N		
*AC2	Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight	50	50		N		
ACP	Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards	150	150		N		
ACS	Agricultural chemical storage or equipment filling or cleaning area with safeguards	100	100		N		
ACR	Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed	50	50		N		
ADW	Agricultural drainage well[2] (Class V well - illegal[3])	50	50		N		
AAT	Anhydrous ammonia tank (stationary tank)	50	50		N		
AB1	Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard)	50	20	100/40	N		
AB2	Animal building or poultry building, including a horse riding area, more than 1.0 animal unit	50	50	100	N		
ABS	Animal burial area, more than 1.0 animal unit	50	50		N		
FWP	Animal feeding or watering area within a pasture, more than 1.0 animal unit	50	50	100	N		
AF1	Animal feedlot, unroofed, 300 or more animal units (stockyard)	100	100	200	N		
AF2	Animal feedlot, more than 1.0, but less than 300 animal units (stockyard)	50	50	100	N		
AMA	Animal manure application	use discretion	use discretion		N		
REN	Animal rendering plant	50	50		N		
MS1	Manure (liquid) storage basin or lagoon, unpermitted or noncertified	300	300	600	N		
MS2	Manure (liquid) storage basin or lagoon, approved earthen liner	150	150	300	N		
MS3	Manure (liquid) storage basin or lagoon, approved concrete or composite liner	100	100	200	N		
MS4	Manure (solid) storage area, not covered with a roof	100	100	200	N		
OSC	Open storage for crops	use discretion	use discretion		N		
SSTS Related							
AA1	Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day	300	300	600	N		
AA2	Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less	150	150	300	N		
AA3	Absorption area of a soil dispersal system, average flow 10,000 gal./day or less	50	50	100	N		
AA4	Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well)[2]	50/300/150[4]	50/300/150[4]	100/600/300[4]	N		
CSP	Cesspool	75	75	150	N		
AGG	Dry well, leaching pit, seepage pit	75	75	150	N		
*FD1	Floor drain, grate, or trough connected to a buried sewer	50	50		N		
*FD2	Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences	50	20		N		
*GW1	Gray-water dispersal area	50	50	100	N		
LC1	Large capacity cesspools (Class V well - illegal)[2]	75	75	150	N		
MVW	Motor vehicle waste disposal (Class V well - illegal)[2]	illegal	illegal		N		

PWS ID / FACILITY ID	1190014 S09	UNIQUE WELL NO.	759561

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PR1	Privy, nonportable	50	50	100	N		
PR2	Portable (privy) or toilet	50	20		N		
*SF1	Watertight sand filter; peat filter; or constructed wetland	50	50		N		
SET	Septic tank	50	50		N		
HTK	Sewage holding tank, watertight	50	50		N		
SS1	Sewage sump capacity 100 gal. or more	50	50		N		
SS2	Sewage sump capacity less than 100 gal., tested, conforming to rule	50	20		N		
*ST1	Sewage treatment device, watertight	50	50		N		
SB1	Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences	50	20		N		
SB2	Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials	50	50		N		
*WB1	Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection	50	50		N		
*WB2	Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection	20	20		N		
Land Application							
SPT	Land spreading area for sewage, septage, or sludge	50	50	100	N		
Solid Waste Related							
COS	Commercial compost site	50	50		N		
CD1	Construction or demolition debris disposal area	50	50	100	N		
*HW1	Household solid waste disposal area, single residence	50	50	100	N		
LF1	Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons	300	300	600	N		
SVY	Scrap yard	50	50		N		
SWT	Solid waste transfer station	50	50		N		
Storm Water Related							
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		N		
SWI	Storm water drainage well[2] (Class V well - illegal[3])	50	50		N		
SM1	Storm water pond greater than 5000 gal.	50	35		N		
Wells and Borings							
*EB1	Elevator boring, not conforming to rule	50	50		N		
*EB2	Elevator boring, conforming to rule	20	20		N		
MON	Monitoring well	record dist.	record dist.		N		
WEL	Operating well	record dist.	record dist.		N		
UUW	Unused, unsealed well or boring	50	50		N		
General							
*CR1	Cistern or reservoir, buried, nonpressurized water supply	20	20		N		
PLM	Contaminant plume	50	50		N		
*CW1	Cooling water pond, industrial	50	50	100	N		
DC1	Deicing chemicals, bulk road	50	50	100	N		
*ET1	Electrical transformer storage area, oil-filled	50	50		N		
GRV	Grave or mausoleum	50	50		N		
GP1	Gravel pocket or French drain for clear water drainage only	20	20		Y	15	N
*HS1	Hazardous substance buried piping	50	50		N		
HS2	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards	150	150		N		
HS3	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards	100	100		N		
HS4	Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding	50	50		N		
HWF	Highest water or flood level	50	N/A		N		
*HG1	Horizontal ground source closed loop heat exchanger buried piping	50	50		N		
*HG2	Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid	50	10		N		
IWD	Industrial waste disposal well (Class V well)[2]	illegal[3]	illegal[3]		N		
IWS	Interceptor, including a flammable waste or sediment	50	50		N		
OH1	Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more)	50	35		N		
*PP1	Petroleum buried piping	50	50		N		
*PP2	Petroleum or crude oil pipeline to a refinery or distribution center	100	100		N		

PWS ID / FACILITY ID	1190014 S09	UNIQUE WELL NO.	759561

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PT1	Petroleum tank or container, 1100 gal. or more, without safeguards	150	150		N		
PT2	Petroleum tank or container, 1100 gal. or more, with safeguards	100	100		N		
PT3	Petroleum tank or container, buried, between 56 and 1100 gal.	50	50		N		
PT4	Petroleum tank or container, not buried, between 56 and 1100 gal.	50[5]	20		N		
PU1	Pit or unfilled space more than four feet in depth	20	20		N		
PC1	Pollutant or contaminant that may drain into the soil	50	50	100	N		
SP1	Swimming pool, in-ground	20	20		N		
*VH1	Vertical heat exchanger, horizontal piping conforming to rule	50	10		N		
*VH2	Vertical heat exchanger (vertical) piping, conforming to rule	50	35		N		
*WR1	Wastewater rapid infiltration basin, municipal or industrial	300	300	600	N		
*WA1	Wastewater spray irrigation area, municipal or industrial	150	150	300	N		
*WS1	Wastewater stabilization pond, industrial	150	150	300	N		
*WS2	Wastewater stabilization pond, municipal, 500 or more gal./acre/day of leakage	300	300	600	N		
*WS3	Wastewater stabilization pond, municipal, less than 500 gal./acre/day of leakage	150	150	300	N		
*WT1	Wastewater treatment unit tanks, vessels and components (Package plant)	100	100		N		
*WT2	Water treatment backwash disposal area	50	50	100	N		
Additional Sources (If there is more than one source listed above, please indicate here).							
Potential Contamination Sources and Codes Based on Previous Versions of this Form							
	none found within 200' of this well.						

* New potential contaminant source.

[1] A sensitive well has less than 50 feet of watertight casing, and which is not cased below a confining layer or confining materials of at least 10' in thickness.

[2] These sources, known as Class V underground injection wells, are regulated by the federal U.S. Environmental Protection Agency.

[3] These sources are classified as illegal by Minnesota Rules, Chapter 4725.

[4] Isolation distance is determined by average flow per day or if a facility handles infectious or pathological wastes.

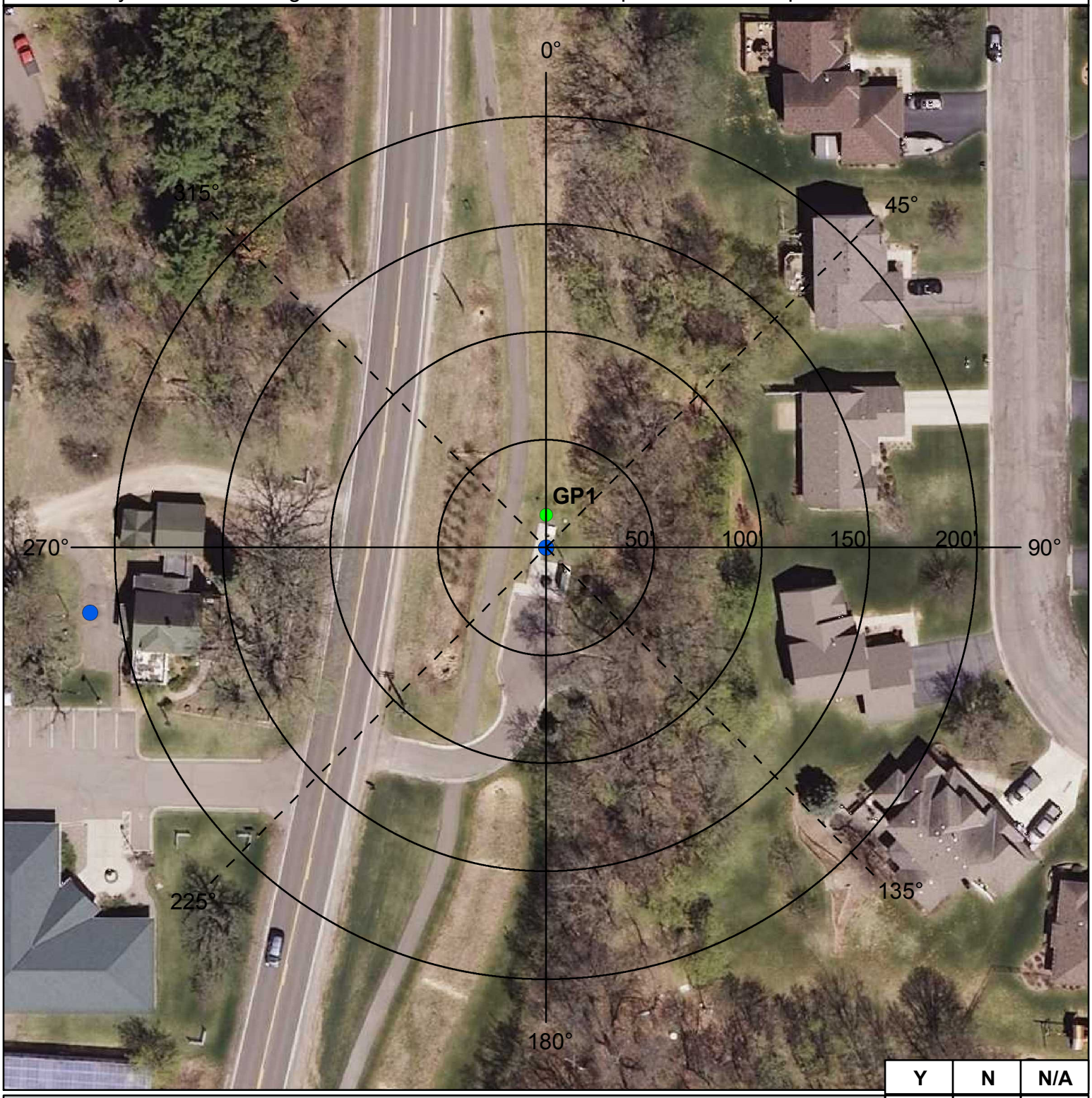
[5] A community public water-supply well must be a minimum of 50 feet from a petroleum tank or container, unless the tank or container is used for emergency pumping and is located in a room or building separate from the community well; and is of double-wall construction with leak detection between walls; or is protected with secondary containment.

This form is based on the new isolation distances in Minnesota Rules, Chapter 4725, related to wells and borings adopted August 4, 2008, and Minnesota Rules, Chapter 4720, related to wellhead protection.

PWS ID / FACILITY ID	1190014 S09	UNIQUE WELL NO.	759561

SETBACK DISTANCES — **All potential contaminant sources must be noted on sketch.**

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



	Y	N	N/A
Were the isolation distances maintained for the new sources of contamination?			
Is the system monitoring existing nonconforming sources of contamination?			

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR	Voz, Karen (SWP)	DATE	8 - 22 - 2016

PWS ID / FACILITY ID	1190014 S09	UNIQUE WELL NO.	759561

RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES	WHP MEASURE IMPLEMENTED? Y or N	DATE VERIFIED

COMMENTS

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Section Receptionist: 651-201-4700
Division TDD: 651-201-5797 or MN Relay Service @ 1-800-627-3529 and ask for 651-201-5000

APPENDIX F

DOCUMENTATION OF PUBLIC HEARING

(NOT INCLUDED IN THIS DRAFT)

APPENDIX G

CITY OF INVER GROVE HEIGHTS
PART 1 WELLHEAD PROTECTION PLAN

(SEE ATTACHED ELECTRONIC FILE)