



CITY OF FREEPORT

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Wellhead Protection Plan

This plan is in effect from:
October 9, 2014

Forward

This document presents the wellhead protection (WHP) plan for the City of Freeport that will help provide for an adequate and safe drinking water supply for community residents; and includes:

- Assessment of the data elements used to prepare the plan; and
- Delineation of the wellhead protection area; and
- Delineation of the drinking water supply management area; and
- Assessments of well and drinking water supply management area vulnerability; and
- Impact of land and water use changes on the public water supply wells; and
- Issues, problems, and opportunities affecting the wells, well water, and the drinking water supply management area; and
- Wellhead protection goals; and
- Objectives and plan of action for achieving the wellhead protection goals; and
- Evaluation program for assessing the effectiveness of this plan; and
- Contingency strategy to address an interruption of the water supply.

Water Supply Wells Included in This Plan

Unique Number	Well Name	Use
215124	Well #1 (Tower)	P
240101	Well #2 (Creamery)	P

P = Primary, E = Emergency, S = Seasonal

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Chapter 1 - Introduction

1.1 Background

This wellhead protection (WHP) plan was prepared in cooperation with the Minnesota Department of Health (MDH) and the Minnesota Rural Water Association. This plan contains specific actions that the City will take to fulfill WHP requirements that are specified under Minnesota Rules, part 4720.5510 to 4720.5590. Also, the support that Minnesota state agencies, federal agencies, Stearns County, and others will provide is presented to identify their roles in protecting the city's drinking water supply. The plan is effective for 10 years after the approval date specified by MDH and the City is responsible for implementing its WHP plan of action, as described in Table 9 (see page 11) of this report. Furthermore, the City will evaluate the status of plan implementation at least every two and one-half years to identify whether its WHP plan is being implemented on schedule.

1.2 Plan Appendices

Much of the technical information that was used to prepare this plan is contained within the appendices and is summarized in the main body of this plan. Appendixes include:

Appendix I: Wellhead Protection Plan Part I (see Chapter 3 for more information)

Appendix II: Potential Contaminant Source Inventory (see Chapters 4 and 5 for more information)

Appendix III: Contingency Strategy (see Chapter 11 for more information)

Appendix IV: Reports and Information

Appendix V: Maps

Chapter 2 - Identification and Assessment of the Data Elements Used to Prepare the Plan

The data elements that are included in this plan were used to: 1) delineate the WHPA and the DWSMA and assess DWSMA and well vulnerability; and 2) document the need for WHP measures that will help protect the city's water supply from potential sources of contamination. The City met with representatives from MDH on two occasions to discuss data elements that are specified in Minnesota Rules, part 4720.5400, for preparing a WHP plan.

The first scoping meeting, held on March 10, 2011 addressed the data elements that were needed to support the delineation of the WHPA, the DWSMA, and the wells and DWSMA vulnerability assessments. The second scoping meeting, held July 31 2013, discussed the data elements required to: 1) identify potential risks to the public water supply; and 2) develop effective management strategies to protect the public water supply in relation to well and DWSMA vulnerability. The results of each meeting were communicated to the city by MDH through a formal scoping decision notice (see Appendix IV). Not all of the data elements listed in the WHP rule had to be addressed in the WHP plan because of the non-vulnerable nature of the city's source of drinking water.

Table 1 presents the data element assessment results relative to the overall impact that each data element has on the four items listed.

Table 1 - Assessment Results for the Data Elements

Definitions

High (H) - the data element has a direct impact

Moderate (M) - the data element has an indirect or marginal impact

Low (L) - The data element has little if any impact

Data Element	Present and Future Implications				Data Source (see corresponding table in Appendix I)
	Use of the Well (s)	Delineation Criteria	Quality and Quantity of Well Water	Land and Groundwater Use in DWSMA	
Geology					
Maps and geologic descriptions	M	H	H	H	MGS, DNR, USGS, Meyer (1995), Falteisek (1998), Berg (2007)
Subsurface data	M	H	H	H	MGS, MDH, MPCA, DNR, MDA, Meyer (1995), Falteisek (1998), Berg (2007)
Borehole geophysics	M	H	H	H	MGS, Consultant Reports
Surface geophysics	L	L	L	L	None available
Land Use					
Parcel boundaries map	L	H	L	L	Stearns County
Political boundaries map	L	H	L	L	City of Freeport
PLS map	L	H	L	L	Minnesota Geospatial Information Office
Land use map and inventory	M	H	M	M	Minnesota Geospatial Information Office
Comprehensive land use map	L	L	L	L	City of Freeport, Stearns County
Zoning map	L	L	L	L	City of Freeport
Records of well construction, maintenance, and use	H	H	H	H	Atkinson Well & Pump, Thein Well, City, CWI, MDH files
Groundwater Quantity					
Permitted withdrawals	H	H	H	H	DNR
Groundwater use conflicts	H	H	H	H	DNR
Water levels	H	H	H	H	DNR, MPCA, MDA, MDH, City
Groundwater Quality					
Monitoring data	H	H	H	H	MPCA, MDH
Isotopic Tritium data	M	M	M	M	MDH
Tracer studies	M	M	M	M	Not Available
Contamination Site Data	M	M	M	M	MPCA, MDA

Chapter 3 - Delineation of the Wellhead Protection Area, Drinking Water Supply Management Area and Vulnerability Assessments

A detailed description of the process used for 1) delineating the WHPA and the DWSMA, and 2) preparing the vulnerability assessments of the city water supply wells and DWSMA is presented in Appendix I. The City of Freeport requested that MDH do this work and it was performed by Tracy Lund and Joy Loughry.

3.1 WHPA and DWSMA Delineation

See Appendix V for the boundaries of the WHPA and the DWSMA. The WHPA was delineated using computer simulations of groundwater movement to generate the underground capture zones for Well #1 and Well #2. The DWSMA boundaries were designated using the following criteria:

- Center-lines of highways, streets, roads, or railroad rights-of-ways; and
- Property or fence lines; and
- Political boundaries; and
- Public Survey Coordinates.

3.2 Well Vulnerability Assessment

The construction and water quality obtained from each well used by the City is included in the assessment of well vulnerability. The vulnerability of the city wells is considered non-vulnerable because Isotopic and water chemistry data from wells located within the DWSMA indicate that the aquifer contains water that has no detectable levels of tritium or human-caused contamination. Review of the geologic logs contained in the CWI database and geological maps and reports indicate that the aquifer exhibits a very low geologic sensitivity throughout the DWSMA and is isolated from the direct vertical recharge of surface water; and arsenic and radium, which are naturally-occurring contaminants, have been detected in water samples from both wells. A sample collected from Well #1 on March 26, 2008, had an arsenic concentration of 1.6 micrograms per liter and a radium-228 concentration of 1.9 pico Curies per liter. A sample collected from Well #2 on November 24, 1997, had an arsenic concentration of 1.4 micrograms per liter. The presence of either of these naturally-occurring contaminants does not indicate that there is a direct pathway between the aquifer and potential contamination sources that occur at or near the land surface. In fact, the consistent presence of arsenic in Well #1—and the historical presence of arsenic within other public water supply wells of similar depth in the area,—indicates that the source of arsenic is the aquifer itself.

3.3 DWSMA Vulnerability Assessment

The very low vulnerability assigned to the DWSMA was determined using geologic, soils, and groundwater chemistry information and indicates that the source water aquifer is covered by at least 10 feet of clay-rich geological material.

Chapter 4 - Establishing Priorities and Assigning Risk to Potential Contamination Sources

The types of potential contamination sources that may exist within the DWSMA were derived from the information collected to satisfy the data element requirements (see Chapter 2). The impact assigned to each data element as part of the assessment process (see Table 1) that was used to assess the types of potential contamination sources that may present a risk to the city's drinking water supply. The very low vulnerability assessment for the DWSMA indicates that, generally, only 1) wells; 2) other types of boreholes; 3) excavations that may reach the aquifer; and 4) certain types of Environmental Protection Agency Class V Wells are likely to impact the city wells.

4.1 Contaminants of Concern

None of the human-caused contaminants regulated under the federal Safe Drinking Water Act have been detected at levels indicating that any well itself serves to draw contaminants into the aquifer as a result of pumping. The fact that no contaminants have been detected indicates that the aquifer receives recharge over a long time period and is not likely to be directly impacted by land uses.

4.2 Inventory Results and Risk Assessment

A description of the locations of potential contamination sources is presented in Appendix II. A summary of 1) the results for the IWMZ is listed in Table 2; and 2) the results for the remainder of the DWSMA is listed in Table 3. The priority assigned to each type of potential contamination source addresses 1) the number inventoried; 2) its proximity to a city well; 3) the capability of local geologic conditions to absorb a contaminant; 4) the effectiveness of existing regulatory controls; 5) the time required for the City to obtain cooperation from governmental agencies that regulate it; and 6) the administrative, legal, technical, and financial resources needed. A high (H) risk potential implies that the potential source type has the greatest likelihood to negatively impact the city's water supply and should receive highest priority for management. A low (L) risk potential implies that a lower priority for implementing management measures is assigned.

Table 2 - Potential Contamination Sources and Assigned Risk for the IWMZ

Source Type	Total	Level of Risk
Storm Drain near Well #2	1	L
Sanitary Sewer near Wells #1 & #2	2	L
Unused Unsealed Wells near Well #1	1	H

Table 3 - Potential Contamination Sources and Assigned Risk for the Rest of the DWSMA

Potential Source Type	Total Number	Number Within Emergency Response Area and Risk Level		Number Within Remainder of DWSMA and Risk Level	
Domestic Wells > 50 feet deep	18	0	0	18	H
Unused/Unsealed Wells > 50 feet	2	0	0	2	H
Unused/Unsealed Municipal Wells	4	0	0	4	H
Class V Wells	0	0	0	0	H
Vertical Loop Geo Heat	1	0	0	1	H

Chapter 5 - Impact of Land and Water Use Changes on the Public Water Supply Well(s)

Table 4 summarizes changes to the physical environment; land use, surface water, and ground water may occur over the 10-year life of this plan. Table 4 helps identify whether new potential sources of contamination may be introduced in the future and to proposed strategies to address such issues. Table 4 shows anticipated changes in relationship to: 1) influence of existing land and water programs and regulations; and 2) administrative, technical, and financial considerations of the Public Water Supplier and property owners within the DWSMA.

Table 4 - Expected Land and Water Use Changes

Expected Change (Physical Environment, Land Use, Surface Water, Groundwater)	Impact of the Expected Change On the Source Water Aquifer	Influence of Existing Government Programs and Regulations on the Expected Change	Administrative, Technical, and Financial Considerations Due to the Expected Change
Land Use: Population growth	Increased demand may impact aquifer regeneration.	Rates affect conservation.	Consider 1) mandatory connection to city water and 2) rate increases.
Groundwater: Maximum future pumping may increase 14%. Additional groundwater use from new or existing high-capacity wells within the DWSMA could result in increased pumping of the source water aquifer.	No impact is anticipated Additional groundwater use within the DWSMA presents concerns over water availability and potential contaminant loading to Freeport's water supply aquifers	Freeport will use the DNR Water Appropriation Permit process Freeport will have to depend on DNR's new process to determine the effect of any new well intended to withdraw 10,000 gallons per day or 1,000,000 gallons per year.	Freeport enterprise fund will increase revenue or lower unit cost. An adequate water supply is vital to public health, safety, and the economy of Freeport. Freeport will need to determine technically and financially if Freeport's water could be supplied to a new high water use customer.
Physical Environment: None			
Surface Water: None			

Chapter 6 - Issues, Problems, and Opportunities

6.1 Identification of Issues, Problems and Opportunities

The City of Freeport has identified water and land use issues and problems and opportunities related to 1) the aquifer used by the city water supply wells; 2) the quality of the well water; or 3) land or water use within the DWSMA. The City assessed 1) input from public meetings and written comments it received; 2) the data elements identified by MDH during the scoping meetings; and 3) the status and adequacy of the city's official controls and plans on land and water uses, in addition to those of local, state, and federal government programs. The results of this effort are presented in Table 5, which defines the nature and magnitude of contaminant source management issues in the DWSMA. Identifying issues, problems and opportunities, including resource needs, enables the city to; 1) take advantage of opportunities that may be available to make effective use of existing resources; 2) set meaningful priorities for source management; and 3) solicit support for implementing specific source management strategies.

6.2 Comments Received

There have been several occasions for local governments, state agencies, and the general public to identify issues and comment on the City's WHP plan. At the beginning of the planning process, local units of government were notified that the city was going to develop its WHP plan and were given the opportunity to identify issues and comment. A public information meeting was held to review the results of the delineation of the wellhead protection area, DWSMA, and the vulnerability assessments. The meetings of the city's wellhead protection team were open to the public. Also, a public hearing was held before the completed WHP plan was sent to MDH for state agency review and approval. No comments were received during the open meeting process.

Table 5 – Issues, Problems, and Opportunities

Issue Identified	Impacted Feature	Associated Problem	Associated Opportunity	Adequacy of Existing Controls to Address the Issue
Unused and unsealed wells	Aquifer	Water quality is threatened.	The City can be proactive by informing the public about funding available to seal wells.	No controls exist.
No detection of contaminants	Aquifer	No opportunity to remedy an issue early.	Establish relationships with property owners in the DWSMA to use their wells to monitor water quality.	No controls exist.
DWSMA extends beyond City limits.	Aquifer	Unable to directly control environmental changes or land use.	Build relationships with other jurisdictional agencies and landowners.	No controls exist.
The WHP Plan is only a 10-year plan and issues, problems, and opportunities can change and impact implementation	Aquifer, Public Education, Planning	Beneficial action(s) may not coincide with the WHP Plan document.	Can continue to seek new, efficient and effective ways of protecting the wellhead	No controls exist
Backflow Prevention	Aquifer	Water can re-enter the well, creating contamination risk	Installing backflow preventers in the pump houses	No controls exist
Cross Connecting Aquifers	Aquifer	One Aquifer mixing	Use K-packers to isolate the upper aquifer	No controls exist

Chapter 7 - Existing Authority and Support Provided by Local, State, and Federal Governments

In addition to its own controls, the City will rely upon partnerships formed with local units of government, state agencies, and federal agencies with regulatory controls or resource management programs in place to help implement its WHP plan. The level of support that a local, state, and federal agency can provide depends on its legal authority, as well as the available resources.

7.1 Existing Controls and Programs of the Public Water Supplier

Table 6 identifies controls that the City has identified to support the management of the DWSMA.

Table 6 - Controls of the Public Water Supplier

Type of Control	Description
Building Permits	Requires performance standards to offset potential risk posed by a land use.
Zoning	Allows the City to control land use.
Sub-division Ordinance	Provides an opportunity to manage development.
Rate Setting	Increasing rates reduces consumption.
Public Works	Routinely monitors water quality.

7.2 Local Government Controls and Programs

The following departments may be able to assist with issues relating to potential contamination sources that 1) have been inventoried; or 2) may result from changes in land and water use within the DWSMA:

(see Table 7 on the next page)

Table 7 - Local Agency Controls and Programs

Government Unit	Control and/or Program	Description
Stearns County Environmental Services	1) Household Hazardous Waste Collection 2) Land Use Permits 3) Conditional Use Permits 4) On-site Wastewater Treatment 5) Wetland Management 6) Feedlots	1) Provides education to landowners and an on-going program for disposing of household hazardous waste, in conjunction with Stearns County 2) Regulates land-uses to comply with zoning ordinances 3) Specifies performance standards needed to offset environmental risk presented by a specific land use 4) Approves the design, installation, operation, and performance of on-site wastewater treatment systems 5&6) Wetland and Feedlot management ordinances
Stearns County Emergency Management/Homeland Security Department	1) Transportation accidents causing contaminant spills 2) Natural disasters	1) Directs the response and the extent of initial cleanup of fuel, chemical, or other hazardous substances that are released due to transportation accidents 2) Coordinate the development of effective emergency management operations plans through education, training and exercising. (Sheriff)
Stearns County Soil & Water Conservation Dist.	1) Agricultural BMPs 2) Stormwater Management 3) Residential BMPs 4) Well Sealing Cost-Share	The Stearns County SWCD promotes the protection of water and soil resources in the County through educational programs, cost-sharing and collaboration with other local state and federal agencies.
MDH	1) Source Water Protection Grant 2) Old Muni Well Sealing	1) 2) Financial help for well abandonment
DNR	Ecological and Water Resources Permits	Preliminary Well Construction Application Appropriations Permit

7.3 State Agency and Federal Agency Support

MDH is the contact for enlisting the support of other state agencies on a case-by-case basis regarding technical or regulatory support that may be applied to the management of potential contamination sources. Participation by other state agencies and the federal government is based on legal authority granted to them and resource availability. Furthermore, MDH 1) administers state regulations that affect specific potential sources of contamination; and 2) can provide technical assistance to property owners to comply with these regulations.

Table 8 identifies the specific regulatory programs or technical assistance that state and federal agencies may provide to the Public Water Supplier to support implementation of the WHP plan. It is likely that other opportunities for assistance may be available over the 10-year period that the plan is in effect due to changes in legal authority or increases in funding granted to state and federal agencies. Therefore, the table references opportunities available when the city's WHP plan was first approved by MDH.

Table 8 - State and Federal Agency Controls and Programs

Government Unit	Type of Program	Program Description
MDH	State Well Code (MN Rules, Chapter 4725)	MDH has authority over the construction of new wells and the sealing of wells. MDH staff in the Well Management Program offer technical assistance for enforcing well construction codes, maintaining setback distances for contamination sources, and well sealing.
MDH	WHP	MDH has staff that will help the city identify technical or financial support that other governmental agencies can provide to assist with managing potential contamination sources.
DNR	Water Appropriation Permitting (MN Rules, Chapter 6115)	DNR can require that anyone requesting 1) an increase in existing permitted appropriations; or 2) to pump groundwater, must address concerns regarding the impacts to drinking water if these concerns are included in a WHP plan.
MN Geological Survey	Groundwater and monitoring well data.	Conducts basic and applied earth-sciences research to support stewardship of water, land, and mineral resources.
US EPA Region V	40 Code of Federal Regulations 144, Subpart G	Automatic closure of Class V automotive waste disposal wells in the WHP Area. Inventory of all Class V Wells.

7.4 Support Provided by Other Organizations

Minnesota Rural Water Association (MRWA) has provided technical assistance to the City throughout the development of the Plan and will assist with implementing The WHP Plan by providing 1) technical assistance; and 2) referenced educational and outreach materials.

Chapter 8 - Goals

Goals define the overall purpose for the WHP plan, as well as the end points for implementing objectives and their corresponding actions. The WHP team identified the following goals after considering the impacts that 1) changing land and water uses have presented to drinking water quality over time; and 2) future changes that need to be addressed to protect the community's drinking water:

- Maintain a safe and adequate drinking water supply; and
- Prevent contaminants from reaching levels that present a risk to people's health; and
- Provide area residents with educational materials and other resources to assist with drinking water protection issues; and
- Private well use, maintenance and sealing; and
- Continuing data collection; and
- Maintenance and operation of geothermal heating systems; and
- Scheduled WHP Plan evaluation.

Chapter 9 - Objectives and Plan of Action

Objectives provide the focus for ensuring that the goals of the WHP plan are met and that priority is given to specific actions that support multiple outcomes of plan implementation. Both the objectives and the wellhead protection measures (actions) that support them are based on assessing: 1) the data elements (see Chapter 2); 2) the potential contaminant source inventory (see Chapter 4); 3) the impacts that changes in land and water use present (see Chapter 5); and 4) issues, problems, and opportunities referenced to administrative, financial, and technical considerations (see Chapter 6).

9.1 Objectives

The following objectives have been identified to support the goals of the WHP plan:

1. Create public awareness and general knowledge about the importance of WHP for maintaining an adequate and safe drinking water supply; and
2. Collect additional data to substantiate information contained within this Plan, and to provide more detail for future Plan amendments; and
3. Provide landowners with best management practices and other information to assist with management of private property located within the DWSMA; and
4. Provide direction to city and local planning bodies regarding future land use and development of property within the DWSMA; and
5. Provide emergency response coordination for any impact to, or endangerment of, the City's water supply system; and
6. Effectively track and report the implementation efforts and wellhead protection plan progress to governing authorities; and
7. Locating and sealing unused wells.

9.2 WHP Measures and Action Plan

Based upon the factors, the WHP team has identified WHP measures that will be implemented by the City of Freeport over the 10-year period that its WHP plan is in effect. The objective that each measure supports is noted as well as: 1) the lead party and any cooperators; 2) the anticipated cost for implementing the measure; and 3) the year or years in which it will be implemented. The following categories are used to further clarify the focus that each WHP measure provides, in addition to helping organize the measures listed in the action plan:

- Data Collection
- IWMZ Management
- Land Use Management
- Potential Contamination Source Management
- Public Education and Outreach
- Reporting and Evaluation
- Water Use and Contingency Strategy

9.3 Establishing Priorities

WHP measures reflect the administrative, financial, and technical requirements needed to address the risk to water quality or quantity presented by each type of potential contamination source. Not all of these measures can be implemented at the same time, so the WHP team assigned a priority to each. A number of factors must be considered when WHP action items are selected and prioritized (part 4720.5250, subpart 3):

- Contamination of the public water supply wells by substances that exceed federal drinking water standards;
- Quantifiable levels of contamination resulting from human activity;
- The location of potential contaminant sources relative to the wells;
- The number of each potential contaminant source identified and the nature of the potential contaminant associated with each source;
- The capability of the geologic material to absorb a contaminant;
- The effectiveness of existing controls;
- The time required to get cooperation from other agencies and cooperators; and
- The resources needed (i.e., staff, money, time, legal, and technical resources).

The City WHP Team defines priority for implementing a WHP measure as starting with those potential contaminant sources that pose the most significant risk to the water supply. Table 9 lists each measure that it will implement over the ten year period the City's WHP plan is in effect as well as the priority that it has assigned to each measure.

Table 9 – WHP Plan of Action

Data Collection												
Measure	Priority	Description	Objective Addressed	City Action Alone Unless Cooperator is Noted	Dollar Cost	Implementation time frame						
						2014	2015	2016	2017	2018	2019	2020
1	H	Verify the locations of wells that are constructed within a one-mile radius of the DWSMA. Send a letter in year one to listed cooperators requesting to be notified of well construction activities in the DWSMA, including irrigation and high capacity wells.	2	MDH, DNR	1,500	*	*	*	*	*	*	*
2	H	Assist MDH with updating the IWMZ Survey and address identified measures.	2	MDH	300	*				*		
3	H	Continue to search for unused, unsealed wells.	2	MDH	1,000	*	*	*	*	*	*	*
4	H	Survey landowners in the DWSMA to determine the status of existing private wells, including sand point and hand dug wells.	1,2,3		2,000		*					
5	H	Update the inventory of potential contaminant sources within the DWSMA.	2	MDH	2,000	*	*	*	*	*	*	*
6	M	Work with MDH to develop a private well monitoring program to sample private wells for contaminants and water quality trends. If well owners are unwilling to cooperate, skip this	2	MDH	5,000			*				*

Inner Wellhead Management Zone (IWMZ)												
Measure	Priority	Description	Objective Addressed	City Action Alone Unless Cooperator is Noted	Dollar Cost	Implementation time frame						
						2014	2015	2016	2017	2018	2019	2020
7	H	Implement measures that are specified in the Sanitary Survey, found in the Public Water Supply Routine Inspection Report received from MDH.	1,3	MDH	500						*	
8	H	Monitor and maintain the 200' radius around the wells to insure that setback distances for new potential contaminant sources are met.	1,3	MDH	2,500	*	*	*	*	*	*	*
9	H	Identify resource needs of adjoining property owners to meet setback distances and/or manage potential contaminate	1,3,5	MDH	200						*	
10	H	Update the Inner Wellhead Management Zone inventory (IWMZ).	1,3	MDH	200	*					*	

Land Use Management													
Measure	Priority	Description	Objective Addressed	City Action Alone Unless Cooperator is Noted	Dollar Cost	Implementation time frame							
						2014	2015	2016	2017	2018	2019	2020	2021
11	H	Assess the status of land use authority within the DWSMA	1,4	Oak and Millwood Townships, Stearns County	100		*						
12	M	Participate in County comprehensive planning and zoning to assure water quality is considered.	1,3,4	Stearns County	750	*	*	*	*	*	*	*	*
13	H	Participate in review of Stearns County SWCD Local Water Management Plan. The 10-year plan is reviewed every 5 years.	3,4	Stearns County SWCD	750				*				*
14	H	Ensure City Comprehensive Land Use Plan considers the DWSMA and water quality.	3,4		2,000	*							

Potential Contaminant Source Management													
Measure	Priority	Description	Objective Addressed	City Action Alone Unless Cooperator is Noted	Dollar Cost	Implementation time frame							
						2014	2015	2016	2017	2018	2019	2020	2021
15	H	Continue to monitor for Class V wells throughout the DWSMA. If Class V well is identified, inform landowner of responsibility to close the well and notify US EPA of	3	US EPA	500	*	*	*	*	*	*	*	*
16	H	Using results of private well inventory (Measure #4), distribute WHP Brochure, well management, and well maintenance information to all private well owners.	1,3	MDH	500		*						
17	H	Notify MDH and/or DNR about any new or proposed High- Capacity wells located within the DWSMA boundary Ask MDH & DNR to inform Freeport of well and sealing notifications, and well disclosures.	1,3	MDH, DNR	200	*	*	*	*	*	*	*	*
18	H	Locate and seal old municipal wells (#215125, #215126, #1924, 1929 and #1, and others as identified.	1,2,4	MDH, DNR	25,000	*	*	*	*	*	*	*	*
19	H	Work with identified land owners to seal unused/unsealed private wells. Request assistance from Stearns County SWCD, MDA, and MDH for well locations and funding to assist with well sealing.	1,2,3	SWCD MDH, MDA	500	*	*	*	*	*	*	*	*
20	H	Consider feasibility of a cross-connection ordinance and backflow prevention policy to prevent contamination of city wells from private wells.	1,2,3		1,000			*					
21	H	Work with Freeport Fire Department, Stearns County Highway Dept., and Stearns County Emergency Management to develop and implement a spill response plan	1,2,3,5	FD, Stearns County	1,000				*				

Public Education and Outreach															
Measure	Priority	Description	Objective Addressed	City Action Alone Unless Cooperator is Noted	Dollar Cost	Implementation time frame									
						2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
22	M	Every 2 years, prepare a summary of wellhead protection activities for release to the public and distribute this information in a handout, describing WHP activities and the status of Plan Implementation.	1,3		500		*		*		*		*		*
23	M	Update the city website to distribute WHP Plan information, best management strategies, local ordinances, and WHP activities to the public.	1,3		800				*	*					
24	H	Inform land owners of any resources available to help fund sealing unused/unsealed private wells.	1,3	SWCD, MDA, MDH	200		*				*				
25	M	Erect and maintain wellhead protection area signs at the DWSMA boundaries	1,3	STEARNS HWY DEPT	2,000				*						
26	H	Distribute informational material to land owners regarding: Year 2 - Private Wells, well sealing Year 5 – Class V wells Year 8 - Geothermal Heating Systems	3		300		*			*			*		
27	M	Consider supporting the Sauk River Watershed District (SRWD), especially school and youth events regarding water education.	1	SRWD	500	*	*	*	*	*	*	*	*	*	*
28	M	Consider joining the Central Minnesota Water Education Alliance (CMWEA).	1	CMWEA	500	*	*	*	*	*	*	*	*	*	*

Reporting & Evaluation

Measure	Priority	Description	Objective Addressed	City Action Alone Unless Cooperator is Noted	Dollar Cost	Implementation time frame									
						2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
29	M	Assess WHP Plan implementation efforts every 2.5 years.	1,2,7		750			*		*			*		*
30	M	Refine costs for each WHP measure the City is responsible for; incorporate into annual WHP budget.	1,7		2,000	*	*	*	*	*	*	*	*	*	*
31	M	Summarize all WHP Plan implementation efforts in a report to MDH in the 8th year.	1,2,7		200								*		

Water Use and Contingency Planning														
Measure	Priority	Description	Objective Addressed	City Action Alone Unless Cooperator is Noted	Dollar Cost	Implementation time frame								
						2014	2015	2016	2017	2018	2019	2020	2021	2022
32	H	As training is made available, provide personnel with training in how to respond to spills and releases of hazardous materials.	6	Fire Department, Stearns County	1,500				*					
33	H	Develop and distribute the City’s WHP Contingency Strategy Plan. Review every 5 years and update if necessary. Coordinate emergency response initiatives with Stearns County.	6	Stearns County	200	*					*			

9.4 Cooperators

The following agencies listed in Table 10 have been requested to support the City with implementing the WHP measure(s) in which they are identified.

Table 10 - Cooperators

Agency	WHP Measure
Central Minnesota Water Education Alliance (CMWEA)	28
Freeport Fire Department (FD)	21,32
Millwood Township	11
Minnesota Department of Agriculture (MDA)	19,24
Minnesota Department of Health (MDH)	1,2,3,5,6,7,8,9,10,16,17,18,19,24
Minnesota Department of Natural Resources (DNR)	1,17,18
Oak Township	11
Sauk River Watershed District (SRWD)	27
Stearns County Emergency Management	21,33
Stearns County Environmental Services	11,12
Stearns County Highway Department	21,25
Stearns County Soil & Water Conservation District	13,19,24
US EPA Region V	15

Chapter 10 - Evaluation Program

Plan evaluation is specified under Objective 6 and provides the mechanism for determining whether WHP action items are achieving the intended result or whether they need to be modified to address changing administrative, technical, or financial resource conditions within the DWSMA. Evaluation is used to support plan implementation and is required under MR 4720.5270 prior to amending the city's WHP plan. The city has identified the following procedures that it will use to evaluate the success with implementing its WHP plan:

- 1) An annual briefing to the city council will provide the basis for documenting whether each action step for that year was implemented; and
- 2) The WHP team will meet at a minimum every two and one half years to assess the status of plan implementation and to identify issues that impact implementation of action steps throughout the DWSMA; and
- 3) The city will assess the results of each action item that has been taken annually to determine whether the action item has accomplished its purpose or whether modification is needed. Assessment results will be presented in the annual report to the city council; and
- 4) The city will prepare a written report that documents how it has assessed plan implementation and the action items that were carried out. The report will be presented to MDH at the first scoping meeting that it will hold with the city to begin amending the WHP plan.

Chapter 11 - Contingency Strategy

The WHP plan must include a contingency strategy that addresses disruption of the water supply that is caused either by contamination or mechanical failure. The City has prepared this strategy using a template that is provided by MDH and it is presented in Appendix III of this plan.

Chapter 12 - Glossary of Terms

Conjunctive Delineation means a WHP area that is defined by two components consisting of 1) the capture zone for a well that is based on generating flow path lines within the subsurface area(s) of contribution and 2) a surface area that may contribute recharge to the capture zone.

Data Element means a specific type of information that is required by the Minnesota Department of Health to prepare a wellhead protection plan.

Drinking Water Supply Management Area (DWSMA) means the surface and subsurface areas surrounding a public water supply well, including the WHP area, that must be managed by the entity identified in the WHP plan. (MR4720.5100, subpart 13). This area is delineated using identifiable landmarks that reflect the scientifically calculated WHPA boundaries as closely as possible.

Emergency Response Area (ERA) means the part of the WHP area that is defined by a one-year time of travel within the aquifer that is used by the public water supply well (MR4720.5250, Subpart 3). It is used to set priorities for managing potential contamination sources within the DWSMA.

Emergency Standby Well means a well that is pumped by a public water supply system only during emergencies such as when an adequate water supply cannot be achieved because one or more primary or seasonal water supply well cannot be used.

Inner Wellhead Management Zone (IWMZ) means the land that is within 200 feet of a public water supply well (MR4720.5100, subpart 19). The City of Freeport must manage the IWMZ to help protect it from sources of pathogen or chemical contamination that may cause an acute health effect.

Non-point Source Contamination refers to contamination of the drinking water aquifer that is caused by polluted runoff or pollution sources that cannot be attributed to a well-defined origin, e.g., runoff from agricultural fields, feedlots or urban areas.

Point Source Contamination refers to contamination of the drinking water aquifer that is attributed to pollution arising from a well-defined origin, such as discharge from a leaking fuel tank, a solid waste disposal site, or an improperly constructed or sealed well.

Primary Water Supply Well means a well that is regularly pumped by a public water supply system to provide drinking water.

Seasonal Water Supply Well means a well that is only used to provide drinking water during certain times of the year either when pumping demand cannot be met by the primary water supply well(s) or for a facility, such as a resort, that is closed to the public on a seasonal basis.

Vulnerability refers to the likelihood that one or more contaminants of human origin may enter either 1) a water supply well that is used by the City of Freeport or 2) an aquifer that is a source of public drinking water.

WHP Area (WHPA) is the surface and subsurface area surrounding a well or well field that supplies a public water system, through which contaminants are likely to move toward and reach the well or well field (Minnesota Statutes, Part 103I.005, subdivision 24).

WHP Plan Goal means an overall outcome of implementing the WHP plan, e.g., Providing for a safe and adequate drinking water supply.

WHP Measure means a method adopted and implemented by a City of Freeport to prevent contamination of a public water supply, and approved by the Minnesota Department of Health under Minnesota Rules parts 4720.5110 to 4720.5590.

WHP Plan Objective means a capability that is needed to achieve one or more WHP goals, e.g., implementing WHP measures to address high priority potential contamination sources within 5 years.

Chapter 13 - List of Acronyms

AST	Above Ground Storage Tank
BMP	Best Management Practices
DNR	MN Department of Natural Resources
DOT	Department of Transportation
DWSMA	Drinking Water Supply Management Area
EQIP	Environmental Quality Incentive Program
FD	Local Fire Department
SSTS	Subsurface Sewage Treatment System
IWMZ	Inner Wellhead Management Zone
LUST	Leaking Underground Storage Tank
MDA	MN Department of Agriculture
MDH	MN Department of Health
Mg/l	Milligrams per Liter
Mg/y	Million Gallons per Year
MGS	MN Geological Survey
MN	Minnesota
MPCA	MN Pollution Control Agency
MRWA	Minnesota Rural Water Association
NRCS	Natural Resources Conservation Service
P&Z	Planning & Zoning
PCSI	Potential Contaminant Source Inventory
PWS	Public Water Supply
RST	Registered Storage Tank
SWCD	Soil & Water Conservation District
TOT	Time of Travel
US EPA	US Environmental Protection Agency
UST	Underground Storage Tank
WHP	Wellhead Protection
WHPA	Wellhead Protection Area

Appendix I

Wellhead Protection Plan

Part I

**Wellhead Protection Area Delineation
Drinking Water Supply Management Area Delineation
Well and Drinking Water Supply Management Area Vulnerability Assessments**

For

City of Freeport

October 2012

**Tracy J. Lund
Joy E. Loughry**

Minnesota Department of Health

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Glossary of Terms

Data Element. A specific type of information required by the Minnesota Department of Health to prepare a wellhead protection plan.

Drinking Water Supply Management Area (DWSMA). The area delineated using identifiable land marks that reflects the scientifically calculated wellhead protection area boundaries as closely as possible (Minnesota Rules, part 4720.5100, subpart 13).

Drinking Water Supply Management Area Vulnerability. An assessment of the likelihood that the aquifer within the DWSMA is subject to impact from land and water uses within the wellhead protection area. It is based upon criteria that are specified under Minnesota Rules, part 4720.5210, subpart 3.

Emergency Response Area (ERA). The part of the wellhead protection area that is defined by a one-year time of travel within the aquifer that is used by the public water supply well (Minnesota Rules, part 4720.5250, subpart 3). It is used to set priorities for managing potential contamination sources within the DWSMA.

Inner Wellhead Management Zone (IWMZ). The land that is within 200 feet of a public water supply well (Minnesota Rules, part 4720.5100, subpart 19). The public water supplier must manage the IWMZ to help protect it from sources of pathogen or chemical contamination that may cause an acute health effect.

Wellhead Protection (WHP). A method of preventing well contamination by effectively managing potential contamination sources in all or a portion of the well's recharge area.

Wellhead Protection Area (WHPA). The surface and subsurface area surrounding a well or well field that supplies a public water system, through which contaminants are likely to move toward and reach the well or well field (Minnesota Statutes, section 103I.005, subdivision 24).

Well Vulnerability. An assessment of the likelihood that a well is at risk to human-caused contamination, either due to its construction or indicated by criteria that are specified under Minnesota Rules, part 4720.5550, subpart 2.

Acronyms

CWI - County Well Index

DNR - Minnesota Department of Natural Resources

EPA - United States Environmental Protection Agency

FSA - Farm Security Administration

MDA - Minnesota Department of Agriculture

MDH - Minnesota Department of Health

MGS - Minnesota Geological Survey

MnDOT - Minnesota Department of Transportation

MnGEO - Minnesota Geospatial Information Office

MPCA - Minnesota Pollution Control Agency

NRCS - Natural Resource Conservation Service

SWCD - Soil and Water Conservation District

UMN - University of Minnesota

USDA - United States Department of Agriculture

USGS - United States Geological Survey

1. Introduction

The Minnesota Department of Health (MDH) developed Part I of the wellhead protection (WHP) plan at the request of the City of Freeport (PWSID 1730013). The work was performed in accordance with the Minnesota Wellhead Protection Rule, parts 4720.5100 to 4720.5590.

This report presents delineations of the wellhead protection area (WHPA) and drinking water supply management area (DWSMA), and the vulnerability assessments for the city of Freeport's wells and DWSMA. Figure 1 shows the boundaries for the WHPA and the DWSMA. The WHPA is defined by a 10-year time of travel. Figure 1 also shows the emergency response area (ERA), which is defined by a 1-year time of travel. Definitions of rule-specific terms that are used are provided in the "Glossary of Terms."

This report also documents the technical information that was required to prepare this portion of the WHP plan in accordance with the Minnesota Wellhead Protection Rule. Additional technical information is available from MDH.

The wells included in the WHP plan are listed in Table 1.

Table 1 - Water Supply Well Information

Local Well ID	Unique Number	Use/ Status ¹	Casing Diameter (inches)	Casing Depth (feet)	Well Depth (feet)	Date Constructed/ Reconstructed	Aquifer	Well Vulnerability
1	215124	A, P	8	145	160	1957	QBAA	Nonvulnerable
2	240101	A, P	10	188	212	1967	QBAA	Nonvulnerable

Note: 1. Active (A), Primary (P)

2. QBAA: Quaternary buried artesian aquifer, i.e. deep confined sand and gravel materials

2. Assessment of the Data Elements

MDH staff met with representatives of the city of Freeport on March 10, 2011, for a scoping meeting that identified the data elements required to prepare Part I of the WHP plan. Table 2 presents the assessment of these data elements relative to the present and future implications of planning items that are specified in Minnesota Rules, part 4720.5210.

Table 2 - Assessment of Data Elements

Data Element	Present and Future Implications				Data Source
	Use of the Well (s)	Delineation Criteria	Quality and Quantity of Well Water	Land and Groundwater Use in DWSMA	
Precipitation					
Geology					
Maps and geologic descriptions	M	H	H	H	MGS, DNR, USGS, Meyer (1995), Falteisek (1998), Berg (2007)
Subsurface data	M	H	H	H	MGS, MDH, MPCA, DNR, MDA, Meyer (1995), Falteisek (1998), Berg (2007)
Borehole geophysics	M	H	H	H	MGS, Consultant Reports
Surface geophysics	L	L	L	L	None available
Maps and soil descriptions					
Eroding lands					
Water Resources					
Watershed units					
List of public waters					
Shoreland classifications					
Wetlands map					
Floodplain map					
Land Use					
Parcel boundaries map	L	H	L	L	Stearns County
Political boundaries map	L	H	L	L	MnGEO
PLS map	L	H	L	L	MnGEO
Land use map and inventory	M	H	M	M	MnGEO
Comprehensive land use map	L	L	L	L	City of Freeport, Stearns County
Zoning map	L	L	L	L	City of Freeport
Public Utility Services					
Transportation routes and corridors					
Storm/sanitary sewers and PWS system map					
Oil and gas pipelines map					
Public drainage systems map or list					
Records of well construction, maintenance, and use	H	H	H	H	City, CWI, MDH files
Surface Water Quantity					
Stream flow data					
Ordinary high water mark data					
Permitted withdrawals					
Protected levels/flows					
Water use conflicts					
Groundwater Quantity					
Permitted withdrawals	H	H	H	H	DNR
Groundwater use conflicts	H	H	H	H	DNR
Water levels	H	H	H	H	DNR, MPCA, MDA, MDH, City

Data Element	Present and Future Implications				Data Source
	Use of the Well (s)	Delineation Criteria	Quality and Quantity of Well Water	Land and Groundwater Use in DWSMA	
Surface Water Quality					
Stream and lake water quality management classification					
Monitoring data summary					
Groundwater Quality					
Monitoring data	H	H	H	H	MPCA, MDH, MDA, USGS
Isotopic data	H	H	H	H	None available
Tracer studies	H	H	H	H	None available
Contamination site data	M	M	M	M	MPCA, MDA
Property audit data from contamination sites					
MPCA and MDA spills/release reports					

Definitions Used for Assessing Data Elements:

- High (H)** - the data element has a direct impact
- Moderate (M)** - the data element has an indirect or marginal impact
- Low (L)** - the data element has little if any impact
- Shaded** - the data element was not required by MDH for preparing the WHP plan

Acronyms used in this report are listed on page ii, after the “Glossary of Terms.”

3. General Descriptions

3.1 Description of the Water Supply System

The city of Freeport obtains its drinking water supply from two primary wells; Table 1 summarizes information regarding them.

3.2 Description of the Hydrogeologic Setting

The description of the hydrologic setting for the aquifer used to supply drinking water is presented in Table 3.

Table 3 - Description of the Hydrogeologic Setting

Attribute	Descriptor	Data Source
Aquifer Material	Unconsolidated sand and gravel materials	CWI
Porosity Type and Value	Primary: 25%	Fetter, 2001
Aquifer Thickness	Aquifer thickness varies between 27 and 30 feet within the final Freeport DWSMA. Aquifer thickness outside the well field is up to 64 feet.	CWI; geologic cross sections (Figures 4 and 5) and area well logs
Stratigraphic Top Elevation	Varies between 1,079 and 1,116 feet MSL in the area.	CWI; geologic cross sections (Figures 4 and 5) and area well logs
Stratigraphic Bottom Elevation	Varies between 1,052 and 1,103 feet MSL in the area.	CWI; geologic cross sections (Figures 4 and 5) and area well logs
Hydraulic Confinement	Confined	CWI; geologic cross sections (Figures 4 and 5) and area well logs
Transmissivity	Range of Values: 30 – 12,800 ft ² /day	A range of transmissivity values was used to reflect changes in aquifer composition and thickness as well as uncertainties related to the quality of existing aquifer test data. See Table 4 for the reference value.
Hydraulic Conductivity	Range of Values: 1.5 - 640 ft/day	The range of values was derived using specific capacity data obtained from well records.
Groundwater Flow Field	See Figure 2 - Ambient Groundwater Flow Field	Defined by using static water level elevations from well records in the CWI database and documents listed in the “Selected References” section of this report.

Figures 3, 4, and 5 show the distribution of the aquifer and its stratigraphic relationships with adjacent geologic materials. They were prepared using well record data that is contained in the CWI database. The geological maps and studies that were used to further define local hydrogeologic conditions are provided in the “Selected References” section of this report.

4. Delineation of the Wellhead Protection Area

4.1 Delineation Criteria

The boundaries of the WHPA for the city of Freeport are shown in Figure 1. Table 4 describes how the delineation criteria that are specified under Minnesota Rules, part 4720.5510, were addressed.

Table 4 - Description of WHPA Delineation Criteria

Criterion	Descriptor	How the Criterion was Addressed
Flow Boundary	None	There are no known flow boundaries close enough to the Freeport city wells to have an impact on their capture areas.
Flow Boundary	Other High-Capacity Wells	There are no high-capacity wells other than the city's water supply wells within 2 miles of Freeport.
Daily Volume of Water Pumped	See Table 5	Pumping information was obtained from the DNR, Appropriations Permit 1977-3542, and was converted to a daily volume pumped by a well.
Groundwater Flow Field	See Figure 2	The model calibration process addressed the relationship between the calculated versus observed groundwater flow field.
Aquifer Transmissivity (T)	Reference Value: 6,833 ft ² /day	The aquifer test plan was approved on August 17, 2012, and T was determined from a specific capacity test conducted on Freeport 1 (215124) on December 15, 1957. Uncertainty regarding aquifer transmissivity was addressed as described in Section 4.4.
Time of Travel	10 years	The public water supplier selected a 10 year time of travel.

Information provided by the public water supplier was used to identify the maximum volume of water pumped annually by each well over the previous five-year period, as shown in Table 5. Also, the estimated pumping for the next five years is shown. Previous pumping values have been reported to the DNR, as required by the city's Groundwater Appropriation Permit No. 1977-3542. The maximum daily volume of discharge used as an input parameter in the model was calculated by dividing the greatest annual pumping volume by 365 days.

Table 5
Annual Volume of Water Discharged from Water Supply Wells

Well Name	Unique No.	2007	2008	2009	2010	2011	Future Maximum Pumping	Daily Volume
1	215124	9,000,000	8,500,000	8,300,000	8,100,000	6,700,000	9,000,000	24,658
2	240101	9,400,000	7,900,000	7,700,000	8,000,000	9,700,000	9,700,000	26,575

(Expressed as gallons. Bolding indicates greatest annual pumping volume.)

4.2 Method Used to Delineate the Wellhead Protection Area

The WHPA for the city of Freeport's wells was determined using a combination of two methods. The first involved calculating the groundwater capture zones deterministically using representative aquifer parameters that were input into MLAEM, a groundwater modeling code (Strack, 1989). The second

approach used the stochastic analytical groundwater flow method Oneka (Barnes and Soule, 2002). The results of these separate analyses are presented in Figure 6. The resulting WHPA boundaries are a composite of the capture zones calculated using these two approaches (Figure 1). The input files for both models are available at MDH upon request.

The MLAEM Code was selected because it is a semi-quantitative method capable of simulating the influence of vertical infiltration and the pumping influence of multiple high-capacity wells, if necessary. It produces a conservative estimate because aquifer recharge is not used as an input parameter. It is appropriate to use MLAEM for these particular delineations because no flow boundaries were directly observed in drillers' logs in the area around the primary city wells, at least in the areas defined by a 1-year and 10-year time of travel.

The second code, using the analytical groundwater flow method named Oneka (Barnes and Soule, 2003), was used to assess the probability of impacts that local variations in hydrogeologic conditions may have on a well capture zone. This model treats the aquifer properties and the available water level measurements as variable input parameters. The locations of wells, water levels, and the aquifer geometry were evaluated using information from the CWI database. For the solution, Oneka finds the flow field that best fits the network of water level elevations by varying the values of the aquifer thickness and transmissivity. Oneka then evaluates the probability of the capture of a given point based on the number of times it is included in the capture areas generated by the total number of solutions. The output from the model is a capture zone probability map for the specified time of travel (10 years).

4.3 Results of Model Calibration and Sensitivity Analysis

Model calibration is a procedure that compares the results of a model based on estimated input values to measured or known values. This procedure can be used to define model validity over a range of input values, or it helps determine the level of confidence with which model results may be used. As a matter of practice, groundwater flow models are usually calibrated using static water elevations.

However, owing to the limited amount of water elevation data for the aquifer used by the city of Freeport, a flowpath model based on available hydraulic head observations was calculated and a model uncertainty analysis was conducted in place of a traditional model calibration. Flowpath lines were calculated in the MLAEM Model using equations that reflected 1) a constant pumping rate, 2) direction of groundwater flow, 3) hydraulic gradient, 4) aquifer thickness, 5) aquifer permeability, and 6) aquifer porosity. As such, it is a simple calculation of the portion of the aquifer that contributes water, based on the width of the flow field that is affected by pumping.

The Oneka Model is used to support the MLAEM model results by using an iterative process which provides the best fit for the ranges of values assigned to its input parameters. This helps to define the subset of values for which the delineation results are most likely to reflect local hydrogeologic conditions and, therefore, provide the best calibration results.

Model sensitivity is the amount of change in model results caused by the variation of a particular input parameter. Because of the simplicity of the MLAEM model, the direction and extent of the modeled capture zone may be very sensitive to any of the input parameters:

- The pumping rate directly affects the volume of the aquifer that contributes water to the well. An increase in pumping rate leads to an equivalent increase in the volume of aquifer within the capture zone, proportional to the porosity of the aquifer materials. However, the pumping rate

is based on the results presented in Table 5 and, therefore, is not a variable factor that will influence the delineation of the WHPA.

- The direction of groundwater flow determines the orientation of the capture area. Variations in the direction of groundwater flow will not affect the size of the capture zone but are important for defining the areas that are the source of water to the well. The ambient groundwater flow field that is defined in Figure 2 provides the basis for determining the extent to which each model run reflects the conceptual understanding of the orientation of the capture area for a well.
- An hydraulic gradient of zero produces a circular capture zone, centered on the well. As the hydraulic gradient increases, the capture zone changes into an elliptical shape, with the well centered on the down-gradient focal point. The hydraulic gradient was determined by using water level elevations that were taken from wells that have verified locations (Figure 2). Generally, the accuracy of the hydraulic gradient determination is directly proportional to the amount of available data that describes the distribution of hydraulic head in the aquifer.
- The aquifer thickness, permeability, and porosity influence the size and shape of the capture zone. A decrease in either thickness or porosity causes a linear, proportional increase in the areal extent of the capture zone; whereas permeability defines the relative proportions of the capture zone width to length. A decrease in permeability decreases the length of the capture zone and increases the distance to the stagnation point, making the capture zone more circular in shape and centered around the well.

4.4 Addressing Model Uncertainty

Using computer models to simulate groundwater flow necessarily involves representing a complicated natural system in a simplified manner. Local geologic conditions may vary within the capture area of the Freeport city wells, but the amount of existing information that is needed to accurately define this degree of variability is often not available for portions of the WHPA. In addition, the current capabilities of groundwater flow models may not be sufficient to represent the natural flow system exactly. However, the results are valid within a range defined by the reasonable variation of input parameters for this delineation setting.

The MLAEM Code, used as it was in this delineation, has limited capabilities in addressing these kinds of uncertainties, other than by using multiple runs in which the following six input parameters are varied: 1) constant pumping rate, 2) hydraulic gradient, 3) direction of ambient flow, 4) aquifer thickness, 5) aquifer permeability, and 6) porosity. The uncertainty associated with the MLAEM model results from 1) the model deficiencies mentioned above, and 2) the fact that the model cannot be calibrated. The steps employed for this delineation to address model uncertainty were:

- 1) Pumping Rate - For each well, a maximum historical (five-year) pumping rate or an engineering estimate of future pumping, whichever is greater (Minnesota Rules, part 4720.5510, subpart 4).
- 2) Ambient Flow Field - A composite of capture zones created from angles of flow that are 10 degrees greater and 10 degrees lesser than the representative angle of ambient flow (Minnesota Rules, part 4720.5510, subpart 5, B(2)).
- 3) Probability Analysis - The Oneka Model was used to estimate capture zone probability.

Capture areas were developed for a range of groundwater flow directions, aquifer permeabilities, and times of travel of one and ten years (Figure 6). As the model code uses constant input values for each run, several runs were required to include all variations in input parameters. Table 6 documents the variables used to address MLAEM model uncertainty.

Table 6 - Model Parameters Used in MLAEM Model Runs

File Name	Well Name	Discharge (m ³ /day)	Transmissivity (m ² /day)	Gradient	Flow Angle	Porosity (%)	Aquifer Thickness (meters)	Remarks
Freeport_base.txt	1 (215124)	93.3	635	0.001	N 108°E	25	6.1	Base flow direction
	2 (240101)	100.6						
Freeport_minus10.txt	1 (215124)	93.3	635	0.001	N 98°E	25	6.1	Base flow direction minus 10 degrees
	2 (240101)	100.6						
Freeport_plus10.txt	1 (215124)	93.3	635	0.001	N 118°E	25	6.1	Base flow direction plus 10 degrees
	2 (240101)	100.6						

Oneka Model - Uncertainty related to water levels reported on well records is based on the accuracy of the ground elevation assigned to the well using topographic maps and the transient variability of the water levels in the aquifer over time. Water levels that are probably inaccurate were identified using data from 1) the CWI database, and 2) DNR observation well measurements. Only water levels that fit the flow field (Figure 2) were used for the Oneka analysis.

The Oneka Model helps to address uncertainties related to aquifer parameters as variations of the flow field. A 10-year capture zone probability map (Figure 6) was generated for the city of Freeport's wells; the values used for the Oneka Model are shown in Table 7. The Oneka results fit well with the capture zones calculated from the MLAEM model. The probability map for the city's wells shows that uncertainty of the capture zone increases as the distance from the wells increases (Figure 6).

Table 7 - Range of Values Used for the Oneka Model

File Name	Well Number	Hydraulic Conductivity (meters/day)	Thickness (meters)	Porosity (%)
Freeport1.one	1 (215124)	0.45 - 202	6.1	25
Freeport2.one	2 (240101)	0.45 - 202	6.1	25

5. Delineation of the Drinking Water Supply Management Area

The boundaries of the Drinking Water Supply Management Area (DWSMA) were defined by the city of Freeport using the following features (Figure 1):

- Center-lines of highways, streets, or roads;
- Public Land Survey coordinates;
- Property or fence lines; and
- Political boundaries.

6. Vulnerability Assessments

The Part I wellhead protection plan includes the vulnerability assessments for the city of Freeport wells and DWSMA. These vulnerability assessments are used to help define potential contamination sources within the DWSMA and select appropriate measures for reducing the risk that they present to the public water supply.

6.1 Assessment of Well Vulnerability

The vulnerability assessments for Freeport city wells are listed in Table 1 and are based upon the following conditions:

- 1) Well construction specifications for both Freeport wells are either unknown or do not meet current State Well Code specifications (Minnesota Rules, part 4725);
- 2) The geologic conditions at the Freeport well 1 (215124) site include a cover of clay-rich geologic materials over the aquifer that is sufficient to retard or prevent the vertical movement of contaminants; and
- 3) None of the human-caused contaminants regulated under the federal Safe Drinking Water Act have been detected at levels indicating that the well itself serves to draw contaminants into the aquifer as a result of pumping.

6.2 Assessment of Drinking Water Supply Management Area Vulnerability

The vulnerability of the DWSMA is very low and is based upon the following information:

- 1) Isotopic and water chemistry data from wells located within the DWSMA indicate that the aquifer contains water that has no detectable levels of tritium or human-caused contamination;
- 2) Review of the geologic logs contained in the CWI database and geological maps and reports indicate that the aquifer exhibits a very low geologic sensitivity throughout the DWSMA and is isolated from the direct vertical recharge of surface water; and
- 3) Arsenic and radium, which are naturally-occurring contaminants, have been detected in water samples from both Freeport city wells. A sample collected from Freeport Well 1 on March 26, 2008, had an arsenic concentration of 1.6 micrograms per liter and a radium-228 concentration of 1.9 picoCuries per liter. A sample collected from Freeport Well 2 (240101) on November 24, 1997 had an arsenic concentration of 1.4 micrograms per liter. The presence of either of these naturally-occurring contaminants does not indicate that there is a direct pathway between the aquifer and potential contamination sources that occur at or near the land surface. In fact, the consistent presence of arsenic Well 1—and the historical presence of arsenic within other public water supply wells of similar depth in the area—indicates that the source of arsenic is the aquifer itself.

7. Selected References

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Strack, O.D.L. (1989), *Groundwater mechanics*, Prentice Hall, Englewood Cliffs, N.J., 732 p.

Figures

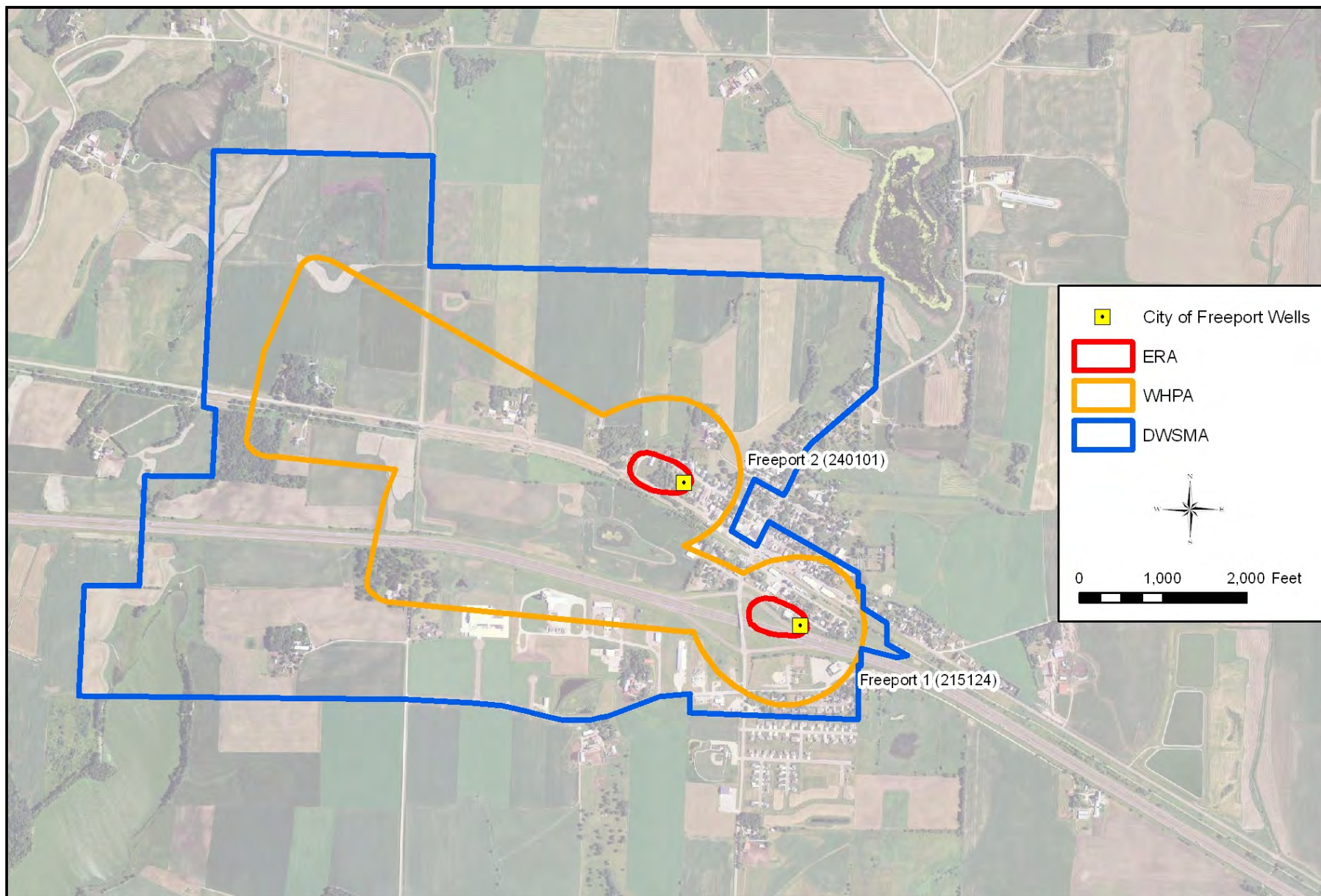
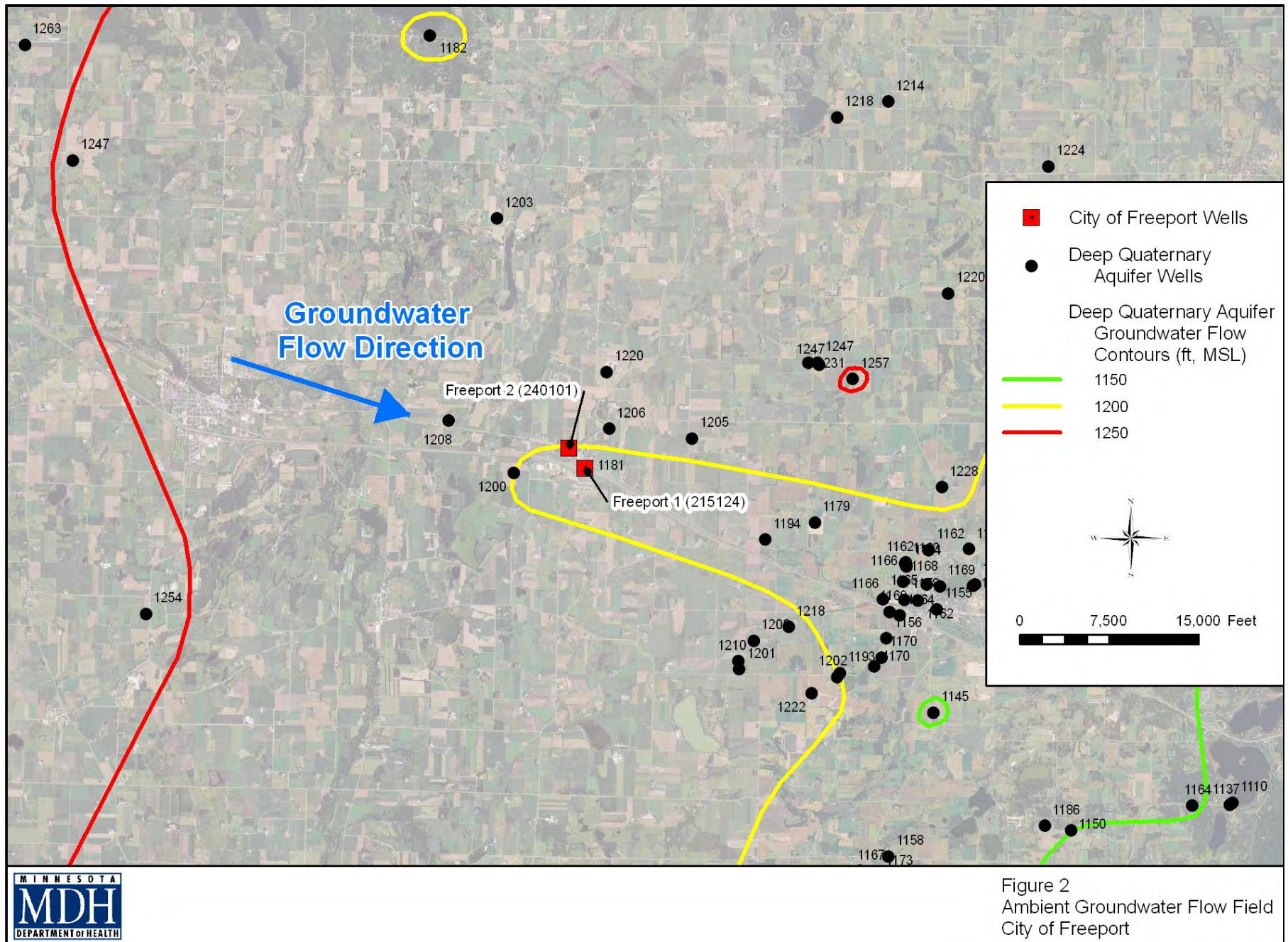


Figure 1
Map of the Wellhead Protection Area and Drinking Water Supply Management Area
City of Freeport



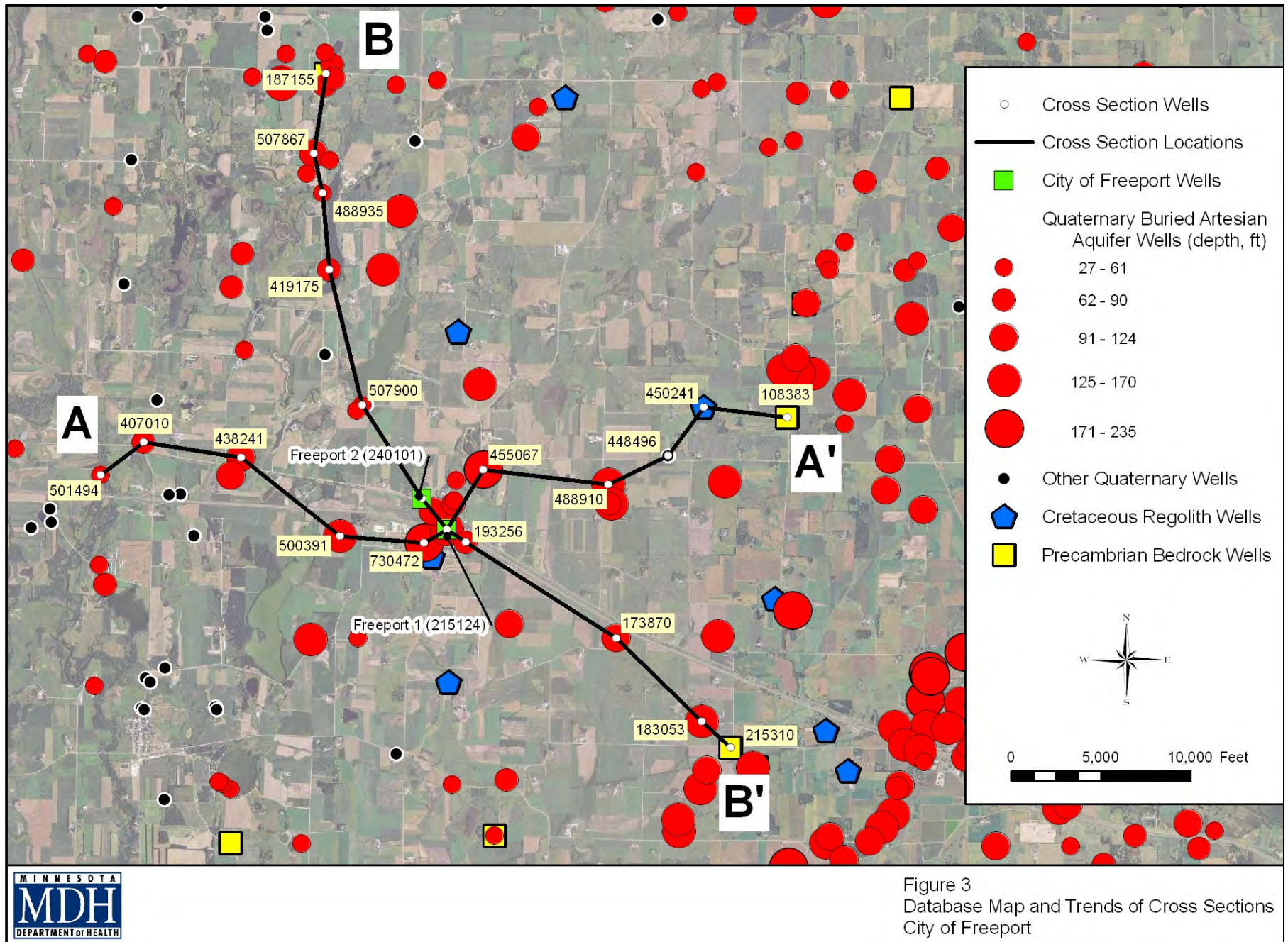
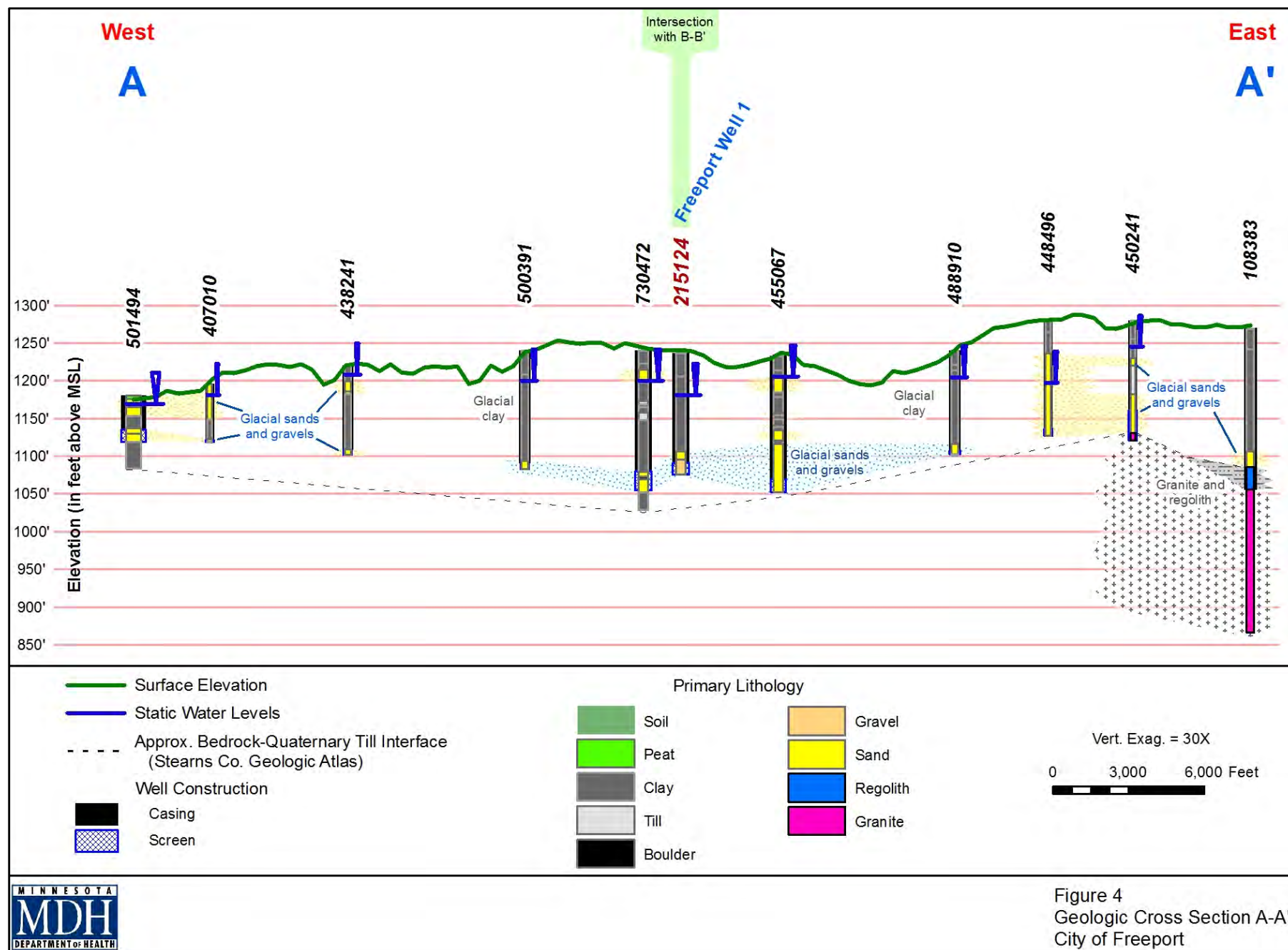


Figure 3
Database Map and Trends of Cross Sections
City of Freeport



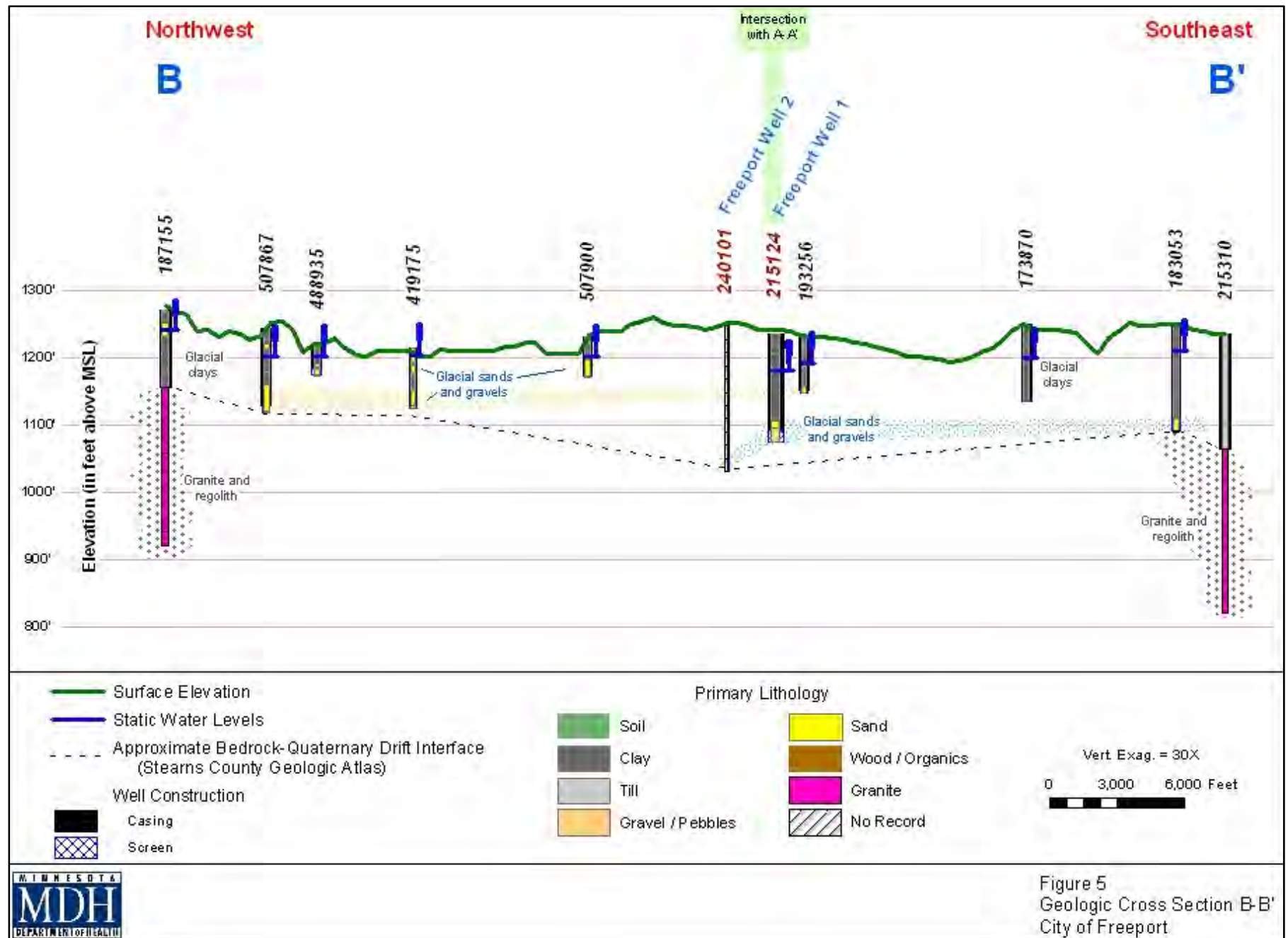


Figure 5
Geologic Cross Section B-B'
City of Freeport

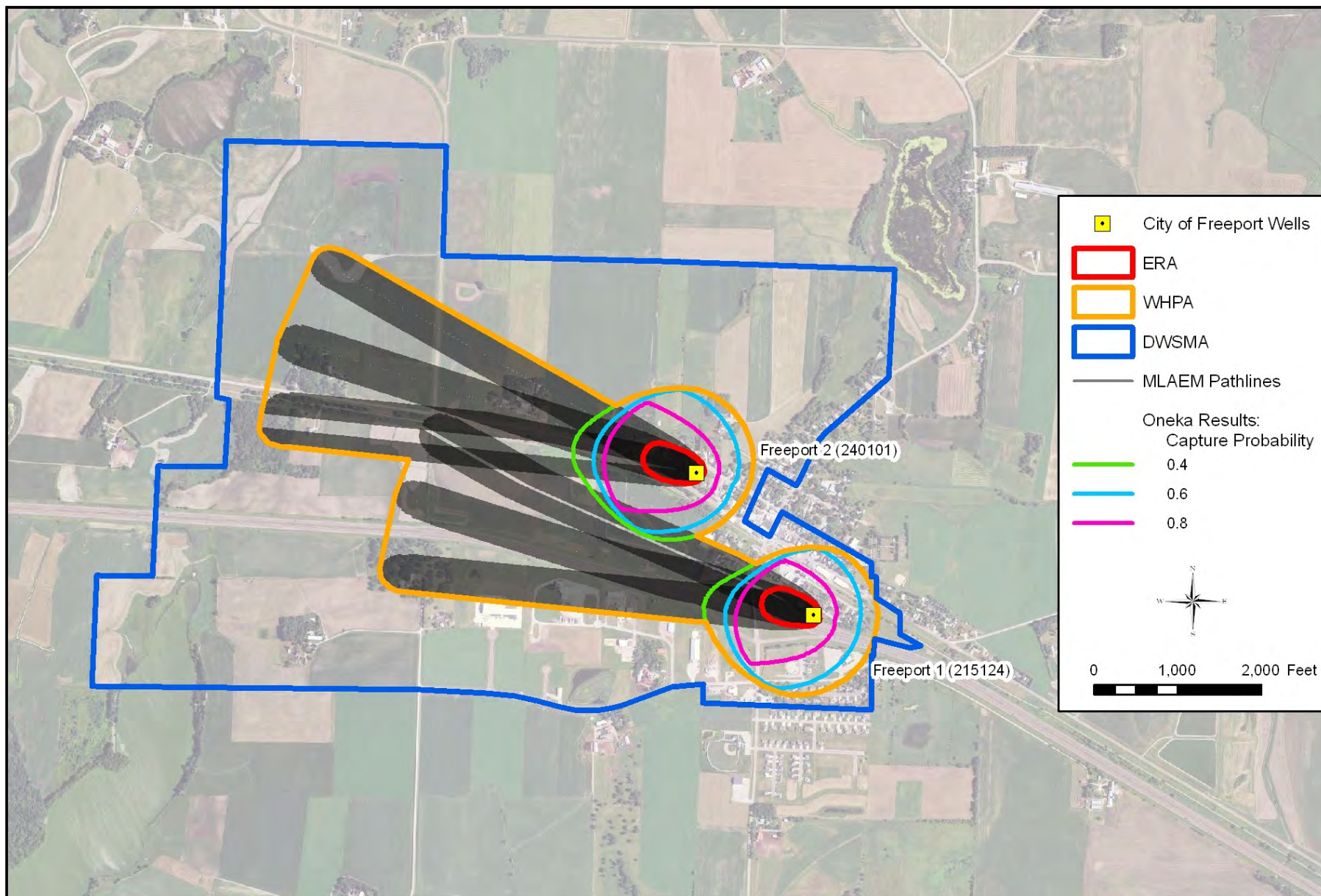


Figure 6
Pathlines and Groundwater Capture Zones for MLAEM and Oneka Delineation Analyses
City of Freeport

Appendix II

POTENTIAL CONTAMINANT SOURCE INVENTORY

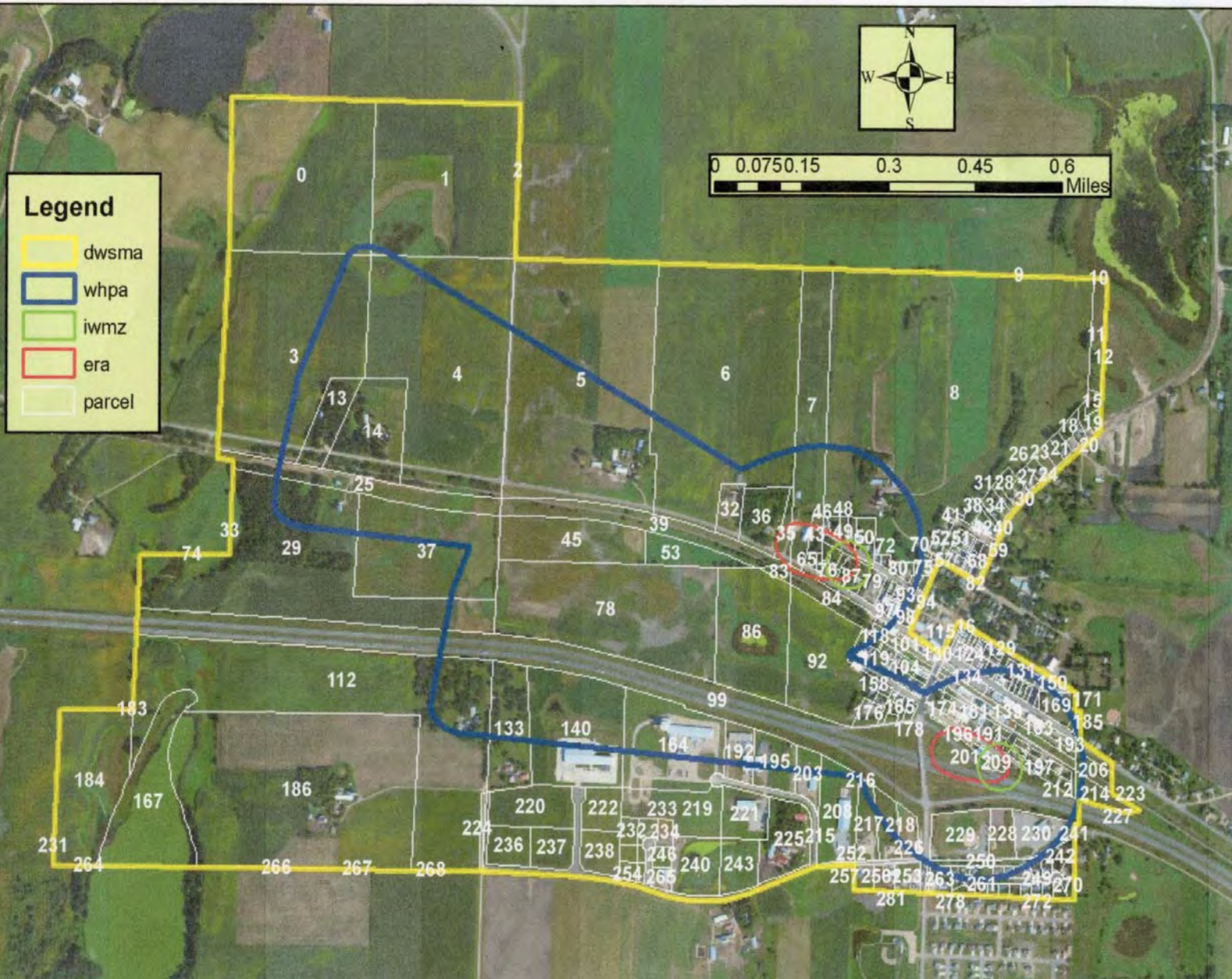
for

City of Freeport

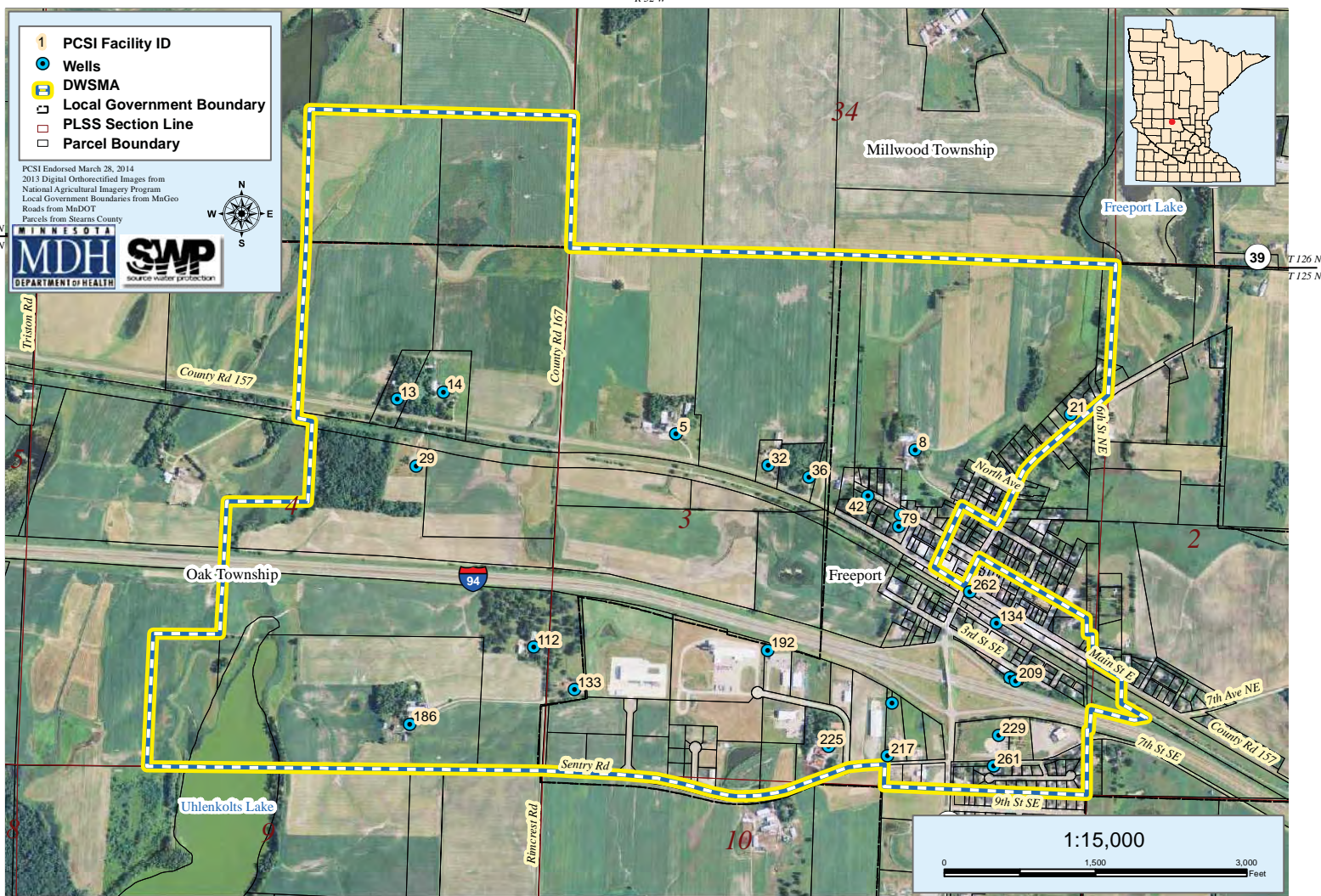
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Map of Drinking Water Supply Management Area (DWSMA)	1
Map of Potential Contaminant Source Inventory (PCSI).....	2
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City of Freeport Drinking Water Supply Management Area



Freeport Drinking Water Supply Management Area (DWSMA) MN-00675 - Potential Contaminant Source Inventory (PCSI)



Freeport DWSMA (MN-00675)

PCSI Report

FID	NAME	TYPE	ADDRESS	CITY	ZIP	PIN	COMMENTS	ACRES
5	Clarence Borgerding	1000 - Residential	28256 Co Rd 157	Freeport	56331	25.15251.00		
							Latitude N45.66711 Longitude W94.70122	
	<i>Inv Id Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
1	WEL - Well	A - Active	-	122 FT WD	BROWN 162	No Cwi Location	Unsealed Well BOR003-2 Latitude N45.66739 Longitude W94.70147	
8	Neal, Lea Borgerding	1000 - Residential	228 3rd St NW	Freeport	56331	54.32028.00		
							Latitude N45.66715 Longitude W94.69213	
	<i>Inv Id Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
3	WEL - Well	A - Active	-	135 FT CWI	483026			
13	Glenn P Stich	1000 - Residential	28814 Co Rd 157	Freeport	56331	25.15014.00		
							Latitude N45.66821 Longitude W94.71229	
	<i>Inv Id Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
7	WEL - Well	A - Active	-	57 FT CWI	145006			
14	Mark Koetter	1000 - Residential	28702 Co Rd 157	Freeport	56331	25.15014.00		
							Latitude N45.66846 Longitude W94.71049	
	<i>Inv Id Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
8	WEL - Well	A - Active	-	51 FT WD	KOE010-1	No Cwi Location		



Value for Well is Depth Drilled, for Tanks is Capacity..Value Unit Codes: G= gallons, FT=feet, YD3=cubic yards.

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Freeport DWSMA (MN-00675)

PCSI Report

FID	NAME	TYPE	ADDRESS	CITY	ZIP	PIN	COMMENTS	ACRES
21	Ronald, Darlene Gruber	1000 - Residential	517 1st Ave N	Freeport	56331	54.32155.00		
<i>Inv Id</i>	<i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
12	WEL - Well	A - Active	-	54 FT	CWI	448508		
Latitude N45.66819 Longitude W94.68614								
29	Darrel, Barbara Beuning	1000 - Residential	28771 Co Rd 157	Freeport	56331	25.15021.00		
<i>Inv Id</i>	<i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
16	WEL - Well	A - Active	-	178 FT	CWI	604432		
Latitude N45.66640 Longitude W94.71151								
32	John, Yvonne Beste	1000 - Residential	28088 Co Rd 157	Freeport	56331	25.15250.00		
<i>Inv Id</i>	<i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
19	WEL - Well	A - Active	-	63 FT	CWI	616099	Relocated Cwi	
Latitude N45.66663 Longitude W94.69784								
36	Lee, Beth Hickman	1000 - Residential	28034 Co Rd 157	Freeport	56331	25.1525.000		
<i>Inv Id</i>	<i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
20	WEL - Well	A - Active	-	52 FT	WD	BROWN 160	No Cwi Location	
Latitude N45.66625 Longitude W94.69625								



Value for Well is Depth Drilled, for Tanks is Capacity..Value Unit Codes: G=gallons, FT=feet, YD3=cubic yards.

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Freeport DWSMA (MN-00675)

PCSI Report

<i>FID</i>	<i>NAME</i>	<i>TYPE</i>	<i>ADDRESS</i>	<i>CITY</i>	<i>ZIP</i>	<i>PIN</i>	<i>COMMENTS</i>	<i>ACRES</i>
42	City Of Freeport	1000 - Residential	321 2nd St NW	Freeport	56331	25.32057.00		
<i>Inv Id</i>	<i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
21	WEL - Well	A - Active	-	212 FT	CWI	240101	Creamery Well 2	Latitude N45.66582 Longitude W94.69390
79	Freeport Coop Creamery	3000 - Industrial	107 Main St W	Freeport	56331	54.32197.00		
<i>Inv Id</i>	<i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
24	WEL - Well	U - Unknown	-	62 FT	CWI	215126	Unsealed Industrial In Basement	Latitude N45.66538 Longitude W94.69266
25	WEL - Well	U - Unknown	-	114 FT	CWI	215125	Unsealed Industrial N.W. Of Building	Latitude N45.66505 Longitude W94.69274
112	Everett Scherping Trust	1000 - Residential	37267 Rimcrest	Freeport	56331	25.15018.00		
<i>Inv Id</i>	<i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
45	WEL - Well	A - Active	-	92 FT	CWI	677619		Latitude N45.66156 Longitude W94.70678
133	Alcuin, M Borgerding	1000 - Residential	37138 Rimcrest	Freeport	56331	25.15011.00		
<i>Inv Id</i>	<i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
50	WEL - Well	A - Active	-	98 FT	CWI	555166		Latitude N45.66042 Longitude W94.70516



Value for Well is Depth Drilled, for Tanks is Capacity..Value Unit Codes: G= gallons, FT=feet, YD3=cubic yards.

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Freeport DWSMA (MN-00675)

PCSI Report

FID	NAME	TYPE	ADDRESS	CITY	ZIP	PIN	COMMENTS	ACRES
134	Great Northern Railway	4000 - Transportation, communication, and utilities	104 Main St E	Freeport	56331	54.32092.00	Other parcels 54.32092.0051 54.32092.0052	
	<i>Inv Id Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
52	WEL - Well	U - Unknown	-	74 FT	CWI	228746	Unsealed Industrial Not Sure Of Location	
								Latitude N45.66247 Longitude W94.68887
								Unsealed Well1924 40' Latitude N45.66319 Longitude W94.68957
186	David Michael	1000 - Residential	37177 Rimcrest	Freeport	56331	25.15022.00		
	<i>Inv Id Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
55	WEL - Well	A - Active	-	157 FT	CWI	500391		
								Latitude N45.65939 Longitude W94.71154
192	Freeport Properties Llc	2000 - Commercial	320 Industrial Dr	Freeport	56331	54.32129.00		
	<i>Inv Id Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
59	WEL - Well	A - Active	-	268 FT	CWI	699244	Turf Irrigation	
								Latitude N45.66161 Longitude W94.69770
209	City Of Freeport	1000 - Residential	212 3rd St SE	Freeport	56331	54.32079.00		
	<i>Inv Id Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
60	WEL - Well	U - Unknown	-	181 FT		1924	Old Well #1	
								Latitude N45.66092 Longitude W94.68804
61	WEL - Well	A - Active	-	160 FT	CWI	215124	Tower Well #1	
								Latitude N45.66100 Longitude W94.68828



Value for Well is Depth Drilled, for Tanks is Capacity..Value Unit Codes: G= gallons, FT=feet, YD3=cubic yards.

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Freeport DWSMA (MN-00675)

PCSI Report

<i>FID</i>	<i>NAME</i>	<i>TYPE</i>	<i>ADDRESS</i>	<i>CITY</i>	<i>ZIP</i>	<i>PIN</i>	<i>COMMENTS</i>	<i>ACRES</i>
217	R&W Company Llc	1000 - Residential	126 7th St SW	Freeport	56331	54.32270.00		
	<i>Inv Id</i> <i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
62	WEL - Well	A - Active	-	185 FT	CWI	730472		
63	WEL - Well	A - Active	-	178 FT	CWI	654680		
							Latitude N45.65879 Longitude W94.69296	
							Latitude N45.66025 Longitude W94.69282	
225	Neil Middendorf	1000 - Residential	216 7th St SW	Freeport	56331	54.32129.00		
	<i>Inv Id</i> <i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
65	WEL - Well	A - Active	-	54 FT	WD	BROWN100-1		
66	WEL - Well	A - Active	-	57 FT	WD	BROWN100-2		
							Latitude N45.65904 Longitude W94.69524	
							Latitude N45.65905 Longitude W94.69524	
229	City Of Freeport	2000 - Commercial	105 7th St SE	Freeport	56331	54.32079.00		
	<i>Inv Id</i> <i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
69	WEL - Well	A - Active	-	178 FT	CWI	596023	Turf Irrigation Softball Park	
							Latitude N45.65942 Longitude W94.68867	
261	Wendy Atkinson	1000 - Residential	310 8th St SE	Freeport	56331	54.32127.00		
	<i>Inv Id</i> <i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
71	WEL - Well	A - Active	-	152 FT	CWI	483012		
							Geothermal Well Latitude N45.65854 Longitude W94.68884	
							Latitude N45.65861 Longitude W94.68883	



Value for Well is Depth Drilled, for Tanks is Capacity..Value Unit Codes: G= gallons, FT=feet, YD3=cubic yards.

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Freeport DWSMA (MN-00675)

PCSI Report

<i>FID</i>	<i>NAME</i>	<i>TYPE</i>	<i>ADDRESS</i>	<i>CITY</i>	<i>ZIP</i>	<i>PIN</i>	<i>COMMENTS</i>	<i>ACRES</i>
72	WEL - Well	A - Active	-	180 FT	PERMIT 60	6Xverti Heat Exchang Loops		
262	City of Freeport	4000 - Transportation, communication, and utilities	Main St E & 1st Ave S	Freeport	56331	55	ROW	
<i>Inv Id</i>	<i>Pcsi</i>	<i>Status</i>	<i>Material</i>	<i>Value</i>	<i>Program</i>	<i>Program ID</i>	<i>Inv Comments</i>	
73	WEL - Well	U - Unknown	-	40 FT			Old Well "A"	



Value for Well is Depth Drilled, for Tanks is Capacity..Value Unit Codes: G= gallons, FT=feet, YD3=cubic yards.

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Support for the following 8 pages is filed along with the WHP Plan (see 'Pages 10-51')



Minnesota Department of Health Environmental Health in Minnesota

MDH Public Water Supply Sources Report

PWSID: **1730013**
PWS Name: **Freeport**
PWS Type: **Community**
PWS Status: **Active**

Public Water Supply Sources: Information from MNDWIS and CWI (sorted by Sample Point ID)

Source Type Codes: **GW** = Ground water; **SW** = Surface water; **GUI** = Ground water under influence

Location Source: **MGS** = digitized by the MN Geological Survey; * indicates incomplete records

O* = duplicate in Unverified Well Data; **R*** = duplicate in MNDWIS PWS Sources Removed from Flow; **S*** = duplicate in MNDWIS PWS Sources in Flow;

MNDWIS PWS SOURCES IN FLOW														
Source Info						MNDWIS Data				CWI Data				
Sample Point ID	Name	Type	Availability	Status	Well No. (link to Well Log(s))	Location Info (link to Map)	Drill Year	Depth (in feet)	Case Depth (in feet)	Case Diam. (in inches)	Drill Date	Depth Completed (in feet)	Case Depth (in feet)	Case Diam. (in inches)
S01	Well #1	GW	Primary	Active	215124 O*	02/05/1999 (M. Howe)	1957	160	145	8	12-15-1957	160.00	145.00	8.00
S02	Well #2	GW	Primary	Active	240101 O*	03/14/2014 (D. Neiman)	1967	212	188	10	00-00-1967	212.00	188.00	

Unverified Wells

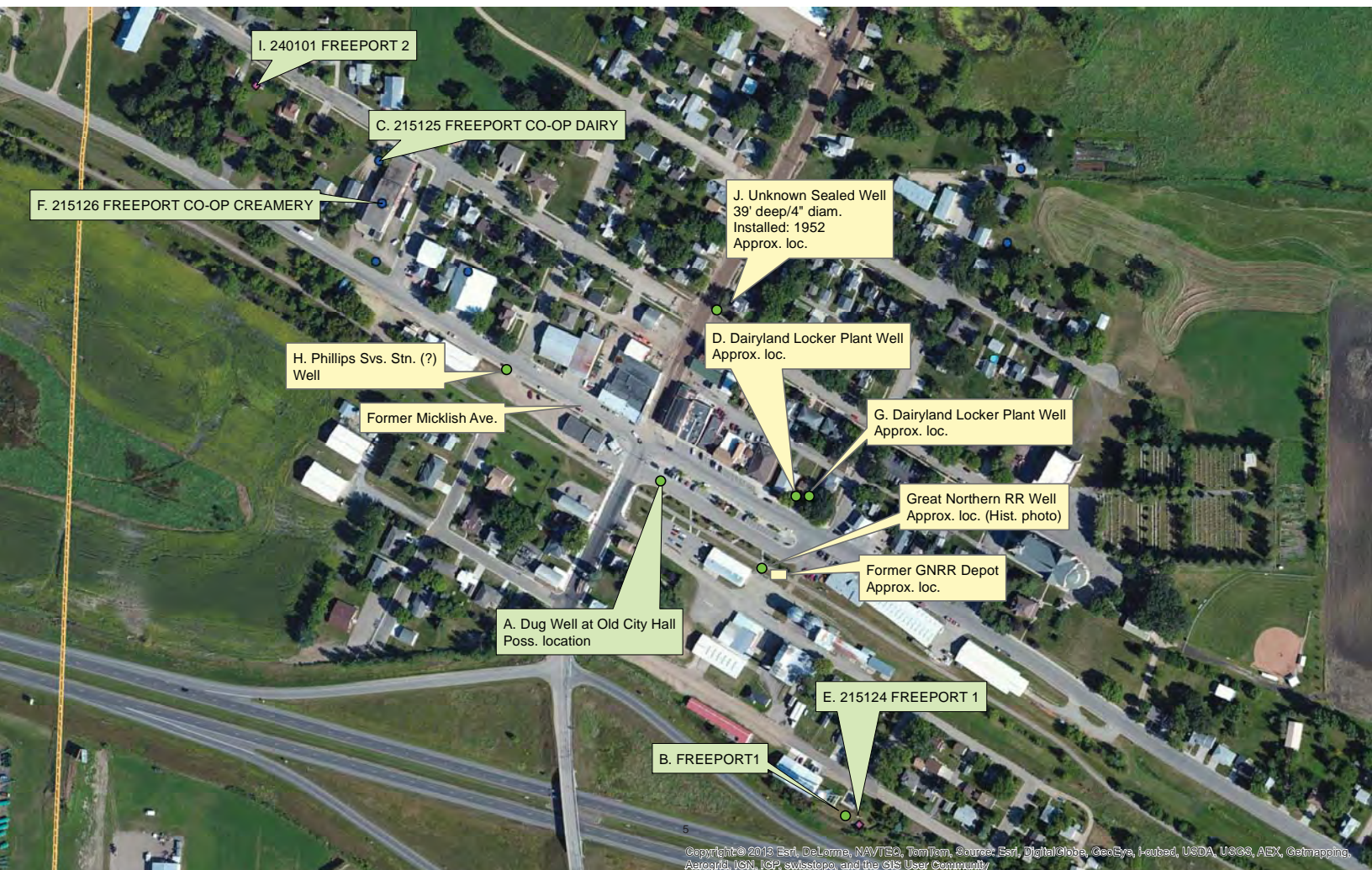
The following tables show information on wells whose existence (or previous existence) has not yet been confirmed.

UNVERIFIED Well Data														
Well Search Reference	Name(s)	Unique Well Number	Drilled Depth (ft.)	Completed Depth (ft.)	Depth Cased (ft.)	Casing Diameter (in.)	Year Constructed	Construction Type	Year Out of Service	Sealing Record?	Year Sealed	Location Info	Comments	
A	Dug Well		40.0	40.0	40.0	60.0	Before 1924	Dug	1929			In rear of City Hall.	Ref.: 1924 MDH San. Rpt. Plank cover over well in pump room.	
B	Well No. 1		181.0	181.0		8.0	Before 1929		1973			S. of Great Northern RR tracks in E portion of town. Lot 43, Auditor's Subdiv'n No. 5. Along S line of 4th Ave. at terminus of Church St.	Ref.: 1929 MDH San. Rpt.	
C	Old Creamery Well	215125	114.0	114.0	106.0	8.0	1945		1958				Ref.: 1943 MDH San. Rpt. Inter-connected	

UNVERIFIED Well Data													
Well Search Reference	Name(s)	Unique Well Number	Drilled Depth (ft.)	Completed Depth (ft.)	Depth Cased (ft.)	Casing Diameter (in.)	Year Constructed	Construction Type	Year Out of Service	Sealing Record?	Year Sealed	Location Info	Comments
													w/city supply. 1978-City purch'd.
D	Old Dairyland Locker Plant Well						Before 1954		1961				Ref.: 1954 MDH San. Rpt. Inter-connected w/city supply.
E	Well No. 1; Well No. 2	215124 S*	160.0	160.0	150.0	8.0	1958	Cable Tool/Bored				Lot 43, Auditor's Subdiv'n No. 5. 65 ft. E of Well No. 1.	Ref.: 1958 MDH San. Rpt.
F	New Creamery Well	215126	62.0	62.0	50.0	10.0	1957	Cable Tool/Bored				W of Old Creamery Well.	Ref.: 1958 MDH San. Rpt. Inter-connected w/city supply.
G	New Dairyland Locker Plant Well						Before 1961						Ref.: 1961 MDH Rpt. Inter-connected w/city supply.
H	Phillips Service Station Well						Before 1961		1964				Ref.: 1961 MDH San. Rpt. Inter-connected w/city supply.
I	Well No. 2; Creamery Well	240101 S*	212.0	212.0	188.0		1967	Cable Tool/Bored				125-32-3 ACCDBC	Ref.: 1978 MDH San. Rpt. states this well was former creamery well.
J	Unknown Sealed Well	H209042	39.0	39.0	39.0	4.0				Y	2003	125-32-3 NW/NE/SE "125 Main St. E"	Ref.: CWI. H209042. Driller may have given City Hall address, rather than well address. Appears like residential use. Can city assist?
Databases Searched					Remarks								

UNVERIFIED Well Data													
Well Search Reference	Name(s)	Unique Well Number	Drilled Depth (ft.)	Completed Depth (ft.)	Depth Cased (ft.)	Casing Diameter (in.)	Year Constructed	Construction Type	Year Out of Service	Sealing Record?	Year Sealed	Location Info	Comments
County Well Index (1-mile radius); MDH DWP Microfiche; MDH 1988-2002 Muni Well Inventory (1Suite); Lakesnwoods.com; Biennial Report of the MN State Dairy and Food Commissioner-1907; Minnesota Geological Survey City Well File Folders; MGS Bulletin (22, 27, 31, or 32); MN Historical Society-Collections Online; MNBrew.com (breweries); MDH DWP MNDWIS; Past and Present MN Railroad Stations; MN Historical Soc.- 1952 Fire Underwriters Insp. Bureau historical map ; Sanborn Fire Insurance Maps; MDH WELLS					This Unverified Municipal Well Inventory is as complete and thorough as possible, given available documentation. However, MDH Planners and Hydrologists, as well as City representatives, should feel free to add or subtract from this report as necessary. FREEPORT, a city in sections 2 and 3 of Oak Twp, Stearns Co., was incorporated in 1892. Its early 1860s settlement of ten families had a general store and a Great Northern Railway station known as Oak Dale and then Oak Station. There is no reference to Freeport or its' wells in the 1932 MGS Bulletin 22. The MGS City Well files are attached and reflect the presence of two PWS wells, as well as PWS inter-connections with both creamery wells (C & F on this list) and both Dairyland Locker Plant wells (D & G on this list). There are no breweries reported to have operated in the town. There was a station of the Great Northern Railway about a block E of 1st Ave. A photo from about 1910 shows a watertower just west (?) of the depot. A well was likely associated with the depot's water tower. The depot was moved from that location. The dug well, A on this list, was located in rear of the old City Hall. This building may have been located on Main, at 1st St. The 1952 Fire Underwriters Inspection Bureau (Fisher) map shows a building labeled "hall", "jail", and "Fire Hall" at Main St. & Micklish, that is likely to be the old City Hall. The 1952 Fisher map also shows city pump house & water tower. Street names appear to have changed. An historical photo from 1910 shows Main St. and a building with a bell tower may be the old City Hall. Can the city clarify? The Unknown Sealed Well, J on this list, was sealed in 2003. It had an address for 125 Main St. E, however, this info may really be the "owner's" address, not the "Site" address. Can the city assist? There are several Unverified Wells to be located and sealed. MDH Grant funding may be available.								
Unverified Well Data Compiled By: Geoffery Nash Compiled Date: 2/26/2014													

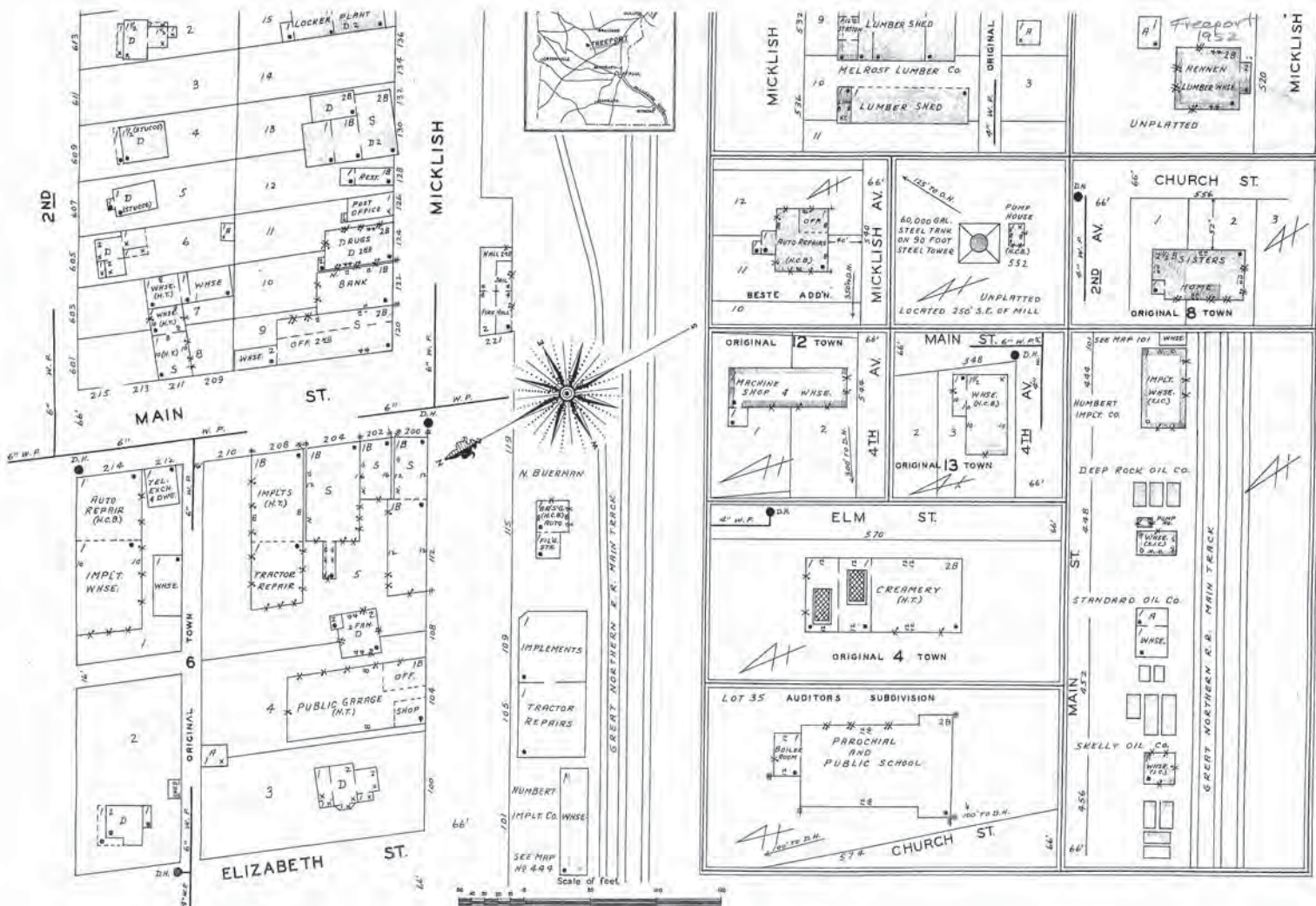
Source: MN Dep't. of Health - 3/27/2014



City of Freeport (PWSID 1730013, Stearns County)

Well Sequence (in record)	Well Name	Unique #	Casing Diameter (inches)	Depth Cased (feet)	Well Depth (feet)	Year Constructed	Well Type	Year Out of Service	Sealing Record	Location
A	Dug Well		* 60"		40 ft	Prior to 1924	Dug	Abandoned 1929		1924: "rear of the city hall"
B	Old Well, Standby Well, Well #1 (1974)		8"	181 ft	181 ft	Sometime between 1924 and 1929	Drilled	Designated emergency well 1964 [^] ; valved out of system 1971; abandoned and filled 1973		1929: "southeast corner of town" 1934: "south of the Great Northern railroad in the eastern portion of town" 1960: "Lot 43, Auditor's Subdivision no. 5... along the south line of Fourth Ave. at the terminus of Church St."
C	New Well, Well #2 (1974-1978), Well #1 (1981--)	215124	8"	150 ft	160 ft	1958 (connected June 1959)	Drilled	(Still in service)		1960: "Lot 43, Auditor's Subdivision no. 5... along the south line of Fourth Ave. at the terminus of Church St."
D	Creamery Well, Well #1 (1978), Well #2 (1981--)	240101	10"	188 ft	212 ft	1967 (officially muni-controlled 1978)	(unknown)	(Still in service)		
Data Bases Searched: CWI MDH DWP Microfiche MDH DWP MNDWIS MDH Wells Database						* Dug well with a 5 ft diameter, not clear what casing (if any) was present. ^ Well thought to have casing defects at shallow levels due to bacteriological results.				







Historic Photographs
Freeport, Minnesota



Watertower and associated well at Great Northern Railway depot in Freeport. The location of this station was reportedly about a block east of 1st Avenue. Looking west (?). Estimated date of origin: 1900-1910. Courtesy of Past and Present Minnesota Railroad Stations (www.west2k.com).



Possible location of former City Hall, on left with bell tower, Main St., 1911. Direction unknown. Courtesy of Lakesnwoods.com.

Appendix III
CONTINGENCY STRATEGY
for
City of Freeport

A. PURPOSE

The purpose of this Contingency Strategy is to establish, provide and keep updated, certain emergency response procedures and information for the public water supply system which may become vital in the event of a partial or total loss of public water supply services.

B. PUBLIC WATER SUPPLY CHARACTERISTICS

1. Current Supply Source –

Table B1 - Water Supply

	Well #1	Well #2
Supply Source	215124	240101
Well Depth (ft.)	160'	212'
Well Diameter (in.)	8"	10"
Well Capacity (gpm)	900	2000
Well Production (gpm)	250	190

2. Treatment - Chlorine, fluoride and polyphosphates added at pump house
3. Storage and Distribution - Elevated 200,000 gallons, 10-8-6" lines
4. Maps/Plans - Located at the Maintenance Building, SEH and City Hall

C. PRIORITY OF WATER USERS DURING WATER SUPPLY EMERGENCY

Table C1 - Water Use Priority Grouping

Priority Group and Rank	Maximum Daily Use (gpd)	Minimum Daily Use (gpd)
Residential--#1	65,000 (July)	24,000 (March)
Institutional--	N/A	N/A
Commercial--#3	13,000 (July)	7,000 (March)
Industrial--#4	N/A	N/A
Irrigation--#5	N/A	N/A
Unaccounted	50,000 (July-Sept)*	690 (Oct-Dec)
Wholesale	N/A	N/A

**Includes hydrant flushing*

Triggers for implementing water supply reduction/allocation procedures: Triggers include, but are not limited to: 1) loss of pressure in the water system; 2) failure of the well pump, chemical or other contamination; 3) a water main break; or etc.

D. ALTERNATIVE WATER SUPPLY OPTIONS

Bottled water supplies, delivery and distribution

- **Finken Water Center** 3423 Co. Rd. 74, St. Cloud MN 56301; 320-258-2005
 - Can supply and deliver bottled water in 5 gallon bottles.
- **Coborns** 105 Main Street East, Melrose MN 56352; 320-256-4444
 - Bottled water supply available 24 hours/day.
- **Wal-Mart Supercenter** 205 12th St S, Sauk Centre MN 56378; 320-352-7954
 - Bottled water available during business hours.
- **MN National Guard** All requests for National Guard equipment and/or staff must be initiated at the local law enforcement level. The Sheriff's department (320-259-3700) has a process and procedure to request support
 - Can furnish equipment capable of hauling up to 2,000 gallons of potable water from another water supply to a city distribution point or facility in an emergency.

E. EMERGENCY EQUIPMENT INVENTORY AND PROCEDURES

Table E1 contains a list of services, equipment and supplies that are available to the public water supply system to respond to a disruption in the water system. It is believed that the items contained in Table E1 would be adequate to respond to most (if not all) water system emergencies. Table E2 states the incident, who is responsible if that incident were to occur and the procedures to be followed.

Table E1 - Inventory of Available Emergency Equipment and Materials

Description	Owner	Telephone	Location	Acquisition Time
Well Repair	Atkinson Well	320-836-2597	310 8 th St Se Freeport, MN 56331	.5 HR
Pump Repair	Atkinson Well	320-836-2597	310 8 th St Se Freeport, MN 56331	.5 HR
Electrician	Kurt Scherping Electric	320-836-2865	38489 Tristan Road Freeport MN 56331	.5 HR
Plumber	Finken Water Center	320-256-3890	116 Main St E Melrose MN 56352	1 HR
Backhoe	Mayers Inc.	320-256-4479	37264 Co Rd 13 Melrose MN 56352	1 HR
Chemical Feed	Hawkins	612-331-6910	3100 E. Hennepin Mpls MN 55413	3 HR
Meter Repair	Dakota Supply	800-325-0514	12205 Nicollet Ave. So Burnsville, MN 55337	3 HR
Generator	City of Freeport	320-333-8904	City Maintenance Shop	.5 HR
Valves	Henry's Waterworks	800-950-2119	510 9 th Ave. So Sauk Rapids MN 56379	2 HR
Pipe & Fittings	Mayers, Finken and Atkinson	See above	See above	1 HR

Table E2 - Emergency Procedures

Incident	Responsible Party	Address	Telephone	Response Procedure
Identify Disruption	Primary: Jon Stueve, Public Works Director	24874 Co Rd 174 Albany, MN	320-333-8904	Identifies the nature of the water supply disruption and communicates this information to the emergency response coordinator.
	Alt: Mason Schirmer, Clerk- Treasurer	125 Main St E Freeport, MN	320-836-2112	
Notify Response Personnel Coordinator	Primary: Jon Stueve, Public Works Director	24874 Co Rd 174 Albany, MN	320-333-8904	Notifies staff, and others responding to the water supply emergency, about the disruption and coordinates their efforts to correct it.
	Alt: Mason Schirmer, Clerk-Treasurer	125 Main St E Freeport, MN	320-836-2112	
Identify Incident Direction and Control	Primary: Jon Stueve, Public Works Director	24874 Co Rd 174 Albany, MN	320-333-8904	Identifies the actions that are needed to correct the water supply emergency and directs responders to implement corrective actions.
	Alt: Mason Schirmer, Clerk-Treasurer	125 Main St E Freeport, MN	320-836-2112	
Identify Internal Communication	Primary: Mason Schirmer, Clerk-Treasurer	125 Main St E Freeport, MN	320-836-2112	Communicates the status of response efforts to the primary spokesperson and the emergency oversight committee as needed to keep these parties informed of progress.
Inform Public (Primary Spokesperson)	Primary: Matt Worms, Mayor	124 9 th St SE Freeport, MN	320-836-7016	Communicates the status of the emergency to the public and informs them how to gain access to the alternative water supply.
	Alt: Mason Schirmer, Clerk-Treasurer	125 Main St E Freeport, MN	320-836-2112	
Access Incident on Continual Basis	Primary: Jon Stueve, Public Works Director	24874 Co Rd 174 Albany, MN	320-333-8904	Assesses the efforts to correct the water supply disruption on a continual basis so that the emergency oversight committee can take additional corrective actions and the city government and public are updated on issues and progress.
	Alt: Mason Schirmer, Clerk-Treasurer	125 Main St E Freeport, MN	320-836-2112	
Assess Contamination Disruption	Primary: Jon Stueve, Public Works Director	24874 Co Rd 174 Albany, MN	320-333-8904	Coordinates efforts to define the extent and level of the contamination with local, state, and federal agencies. This may continue after initial corrective actions have been implemented.
	Alt: Mason Schirmer, Clerk-Treasurer	125 Main St E Freeport, MN	320-836-2112	

Assess Mechanical Disruption	Primary: Jon Stueve, Public Works Director	24874 Co Rd 174 Albany, MN	320-333-8904	Coordinates efforts to define the cause(s) of the mechanical failure and the equipment, data, and expertise that are needed to correct it. Identifies measures for reducing the likelihood that a similar mechanical failure will not occur in the future.
	Alt: Sam Eichers, Public Works Assistant	125 Main St E Freeport, MN	320-290-0112	
Provide Alternate Water Supply	Primary: Jon Stueve, Public Works Director	24874 Co Rd 174 Albany, MN	320-333-8904	Evaluates the need to obtain an alternate water supply, the time period it is needed before the water supply emergency is corrected, and the actions that are needed to achieve it.
	Alt: Matt Worms, Mayor	124 9 th St SE Freeport, MN	320-836-7016	
Impose Water Use Restrictions	Primary: Matt Worms, Mayor	124 9 th St SE Freeport, MN	320-836-7016	Notifies the public on new water use restrictions and provides instructions on how to obtain the necessary information for the imposed changes.
	Alt: Mason Schirmer, Clerk-Treasurer	125 Main St E Freeport, MN	320-836-2112	

F. NOTIFICATION PROCEDURES

F.1 Agency and Personnel Notification Contacts

Table F1 contains the names and telephone numbers for contacts at various local and state agencies that may be notified in the event of a public water supply system emergency. Based on the nature of the emergency and the information available, various representatives from this listing will be selected by the response coordinator to be part of the *emergency oversight committee*, which will then meet throughout the duration of the emergency to aid in decision-making and positive outcomes. Table F2 contains the names and contact information of the local response personnel in the case of an emergency. F3 is the list of the media that will be contacted in the case of a public water supply system emergency.

Table F1 - Emergency Contacts

Personnel	Name	Home Telephone	Work Telephone
Mayor/Board Chair	Matt Worms	320-836-7016	320-250-5288
Council Members	Carrie Goebel	320-836-2382	320-836-2161
Council Members	Ken Goebel	320-836-2402	
Council Members	Ron Ritter	320-836-2932	
Council Members	Rodney Atkinson	320-836-2597	320-836-2597
Response Coordinator	Jon Stueve	320-333-8904	320-333-8904
Alt. Response Coordinator	Mason Schirmer		320-836-2112
State Incident Duty Officer			800-422-0789
County Emergency Director	Marvin Klug	320-259-3940	320-259-3940
Fire Chief	Dean Jungles	320-980-5327	320-980-5327
Sheriff	John Sanner	320-251-4240	320-259-3700
System Operator	Jon Stueve	320-333-8904	320-333-8904

Alt. System Operator	Sam Eichers	320-290-0112	320-290-0112
School Superintendent	Kathy Welle / Tom Rich		836-2591 / 256-4224
Ambulance	Melrose Ambulance	911	911
Hospital	Albany / Melrose		845-2121 / 256-4231
Doctor or Medical Facility	Albany / Melrose		845-2157 / 256-4228
Power Company	Xcel Energy	800-895-1999	320-845-2364
Highway Department	Stearns Co.(Larry Trisco)		320-223-1187
Telephone Company	Albany Mutual	320-845-2101	320-845-2101
Neighboring Water System	Albany / Melrose	845-4244 / 256-4278	845-2388 / 256-2244
MPCA Groundwater Division	Justin Barrack		218-316-3858
MRWA Technical Services	Dave Neiman	218-820-0593	800-367-6792
MDH District Engineer	Kim Larsen		320-223-7330
MDH Source Water Protection	Karen Voz		320-223-7322
Stearns Co. Soil & Water Conservation District	Carrie Raber	309-269-7489	320-251-7800

Table F2 - Critical Response Personnel

Title	Name	Address	Telephone	Response Assignment
Response Coordinator	Jon Stueve, Public Works Director	124 9 th St SE Freeport MN 56331	320-333-8904	Response Activities/Field Operations
Alternate Response Coordinator(s)	Mason Schirmer, Clerk-Treasurer Matt Worms, Mayor	125 Main St E Freeport, MN 56331	320-836-2112 320-836-7016	Response Activities/Field Operations
Water Operator	Jon Stueve, Public Works Director	24874 Co Rd 174 Albany MN 56307	320-333-8904	Operations
Alternate Water Operator	Sam Eichers, Public Works Assistant	125 Main St E Freeport MN 56331	320-290-0112	Operations
Public Relations	Matt Worms, Mayor	124 9 th St SE Freeport MN 56331	320-836-7016 320-250-5288	Press Correspondence
Alternate Public Relations	Mason Schirmer, Clerk-Treasurer	125 Main St E Freeport MN 56331	320-836-2112	Press Correspondence
Public Health/Medical	Centra Care Melrose	525 Main St W Melrose MN 56352	320-256-4231 320-256-4228	Health/Medical Operations
Alternate Public Health/Medical	Albany Medical Center	300 3 rd Ave Albany MN 56307	320-845-2121 320-845-2157	Health/Medical Operations

F.2 Public Information Plan

- A. Locations: City Hall (125 Main St E)
- B. Non-Emergency: Community Center (305 7th St SE)
- C. Time(s): As Needed
- D. Information checklist to be conveyed to the public and media:
 - a. Name of water system: (City of Freeport)
 - b. Containment of concern and date it was discovered
 - c. Source of contamination
 - d. Possible health affects
 - e. Steps the public can take to remain safe
 - f. Steps the water system is taking to resolve emergency

Table F3 - Media Contacts

Media	Name	Telephone	Address
Newspapers	Melrose Beacon	320-256-3240	408 Main St E Melrose MN 56352
	St. Cloud Times	320-255-8700	3000 7 th St. No St Cloud MN 56301
Television	KMSP Channel 9	952-944-9999 952-946-5767	11358 Viking Dr Eden Prairie, MN 55344
Radio	KASM	320-845-2184	35223 238 th St Albany MN 56307

H. MITIGATION AND CONSERVATION PLAN

H.1 - Mitigation

- A. Infrastructure maintenance/upgrades/maps: Maintenance Shop, City Hall, and SEH St. Cloud Office
- B. Regular inspection of tower, well(s), pump house: Daily
- C. Staff emergency training: Annual
- D. System security analysis: Completed
- E. System valving to isolate problems: System valves to isolate areas
- F. Sanitation procedures for construction/repairs: Contractor chlorinates area of repairs before putting the water system back into service.

H.2 - Conservation

- A. Water meters: All services installed new meters, accuracy and can provide users hourly data.
- B. Public education: The City does an annual Consumer Confidence report.
- C. Rate structure: Residential Monthly Minimum \$27 Plus \$2.95/1,000 gallons
 - a. Use rate increases to promote conservation

Appendix IV

REPORTS AND INFORMATION

for

City of Freeport

TABLE OF CONTENTS

Scoping II Decision Notice	1-7
Well #1 Location & Inner Wellhead Management Zone (IWMZ) Report.....	8-13
Well #2 Location & Inner Wellhead Management Zone (IWMZ) Report.....	14-19
Consumer Confidence Report for Year 2012.....	20-23



August 23, 2013

Mr. Mason Schimer, Clerk-Treasurer
City of Freeport
P.O. Box 301
Freeport, Minnesota 56531-0301

Dear Mr. Schimer:

Subject: **Second Scoping Decision Notice – City of Freeport – PWSID 1730013**

This letter provides notice of the results of the second scoping meeting held with you on July 31, 2013, at Freeport City Hall regarding wellhead protection (WHP) planning. During the meeting, we discussed data elements that must be included and used 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 discussed at the meeting.

The city of Freeport 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 Freeport will have until September 7, 2014, to complete its WHP plan. The city of Freeport was given additional time due to Minnesota Rules, part 4720.5130, subpart 4, item D.

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. A consultant 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. 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,

A handwritten signature in black ink, reading "Karen S. Voz". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Karen S. Voz, Planner
Source Water Protection Unit
Environmental Health Division
3333 West Division Street, Suite 212
St. Cloud, Minnesota 56301-4557
KSV:ds-b
Enclosure

cc: Kim Anding Larsen, MDH Engineer, St. Cloud District Office
Byron Adams, Water Monitoring Section, Minnesota Pollution Control Agency
Joe Richter, Division of Waters, Minnesota Department of Natural Resources
Ron Struss, Minnesota Department of Agriculture
Eric Mohring, Board of Water and Soil Resources

SCOPING 2 DECISION NOTICE

Remainder of the Wellhead Protection Plan

Name of Public Water Supply:		Date:
City of Freeport PWSID 1730013		August 23, 2013
Name of the Wellhead Protection Manager:		
Mason Schimer, Clerk-Treasurer		
Address:	City and State:	Zip:
P.O. Box 301	Freeport, Minnesota	56531-0301
Unique Well Numbers:		Phone:
215124 (Well 1), 240101 (Well 2)		(320) 836-2112

Instructions for Completing the Scoping 2 Form

N	R	S	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.
X			

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

N	R	S	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.
		X	

Note: Any data elements required in the first scoping decision notice must also be used to complete the remainder of the wellhead protection plan.

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	An existing description of high, mean, and low flows on streams.
X			
Technical Assistance Comments:			
N	R	S	An existing list of lakes where the state has established ordinary high water marks.
X			
Technical Assistance Comments:			
N	R	S	An existing list of permitted withdrawals from lakes and streams, including source, use, and amounts withdrawn.
X			
Technical Assistance Comments:			
N	R	S	An existing list of lakes and streams for which state protected levels or flows have been established.
X			
Technical Assistance Comments:			
N	R	S	An existing description of known water-use conflicts, including those caused by groundwater pumping.
X			
Technical Assistance Comments:			
GROUNDWATER QUANTITY			
N	R	S	An existing list of wells covered by state appropriation permits, including amounts of water appropriated, type of use, and aquifer source.
	X		
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	An existing description of known well interference problems and water use conflicts.
	X		
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	An existing list of state environmental bore holes, including unique well number, aquifer measured, years of record, and average monthly levels.
	X		
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	An existing map or list of the state water quality management classification for each stream and lake.
X			
Technical Assistance Comments:			
N	R	S	An existing summary of lake and stream water quality monitoring data, including: 1. bacteriological contamination indicators; 4. sedimentation; 2. inorganic chemicals; 5. dissolved oxygen; and 3. organic chemicals; 6. excessive growth or deficiency of aquatic plants.
X			
Technical Assistance Comments:			
GROUNDWATER QUALITY			
N	R	S	An existing summary of water quality data, including: 1. bacteriological contamination indicators; 2. inorganic chemicals; and 3. organic chemicals.
	X		
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	An existing list of water chemistry and isotopic data from wells, springs, or other groundwater sampling points.
	X		
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	An existing report of groundwater tracer studies.
	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 site study and well water analysis of known areas of groundwater contamination.
	X		
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	An existing property audit identifying contamination.
	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 report to the Minnesota Department of Agriculture and the Minnesota Pollution Control Agency of contaminant spills and releases.
	X		
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 Decision Notice Attachment
Potential Contaminant Source Inventory Requirements

Non-Vulnerable DWSMA

The following current and historical potential contaminant sources and related codes, and facility designation and related codes must be included in the potential contaminant source inventory. Each potential contaminant source identified must be assigned a facility designation and related code.

<u>Potential Contaminant Sources (PCS)</u>	<u>PCS Codes</u>
Large Capacity Cesspool (potential Class V)	CVLCC
Large Capacity Waste Water Disposal Site (potential Class V)	CVWWD
Motor Vehicle Waste Disposal Well (potential Class V)	CVMVW
Wells 250'	WEL

List of Designated Facilities and Codes

Residential

Residential Category Description: includes all establishments offering residence or accommodation, such as homes, apartments, housing for the elderly, hotels, and motels.

Facility Codes and Designations

1000: All Establishments Offering Residence

Commercial

Commercial Category Description: includes establishments typically associated with commercial land use. Examples include: general sales and service; retail sales and service; automobile sales and service; finance and insurance; business, professional, scientific and technical services; food services, and personal services.

Facility Codes and Designations

2000: General Sales and Service

Industrial

Industrial Category Description: includes manufacturing establishments located in plants, factories or mills and employs power-driven machines and materials handling equipment. Many manufacturing establishments process products of agriculture, forestry, fishing, mining or quarrying.

Facility Codes and Designations

3000: Manufacturing and Wholesale Trade

Transportation, Communication and Utilities

Transportation, Communication, and Utilities Category Description: a catch-all category that includes transportation, communication and utilities for essential facilities.

Facility Codes and Designations

4000: Transportation, Communication, Information, and Utilities

Arts, Entertainment and Recreation

Arts, Entertainment, and Recreation Category Description: includes establishments that provide services for cultural, entertainment, and recreational activities such as live performances, events, exhibits intended for public viewing and historical sites.

Facility Codes and Designations

5000: Arts, Entertainment, and Recreation

Education, Public Administration, Health Care, and other Institutions

Institutional Category Description: a catch-all category that includes education, public administration, health care, and other institutions. Examples include schools of all types, governmental buildings, military installations, public safety facilities, medical clinics and hospitals, other health and human services facilities, religious institutions, and death care services.

Facility Codes and Designations

6000: Education, Public Administration, Health Care, and Other Institutions

Construction

Construction Category Description: includes establishments that build structures or perform additions, alterations, reconstruction, installation and repairs. Examples include excavation contractors, carpentry, concrete contractors, painters, electricians, painters, highway and street construction, and sewer and well drilling.

Facility Codes and Designations

7000: Construction-Related Businesses

Mining and Extractive Uses

Mining and Extractive Uses Category Description: includes establishments that extract natural mineral solids, liquid materials, and gases.

Facility Codes and Designations

8000: Mining and Extraction Establishments

Agriculture and Forestry

Agricultural and Forestry Category Description: includes establishments that grow crops, raise animals, harvest timber and harvest fish and other animals from farms, ranches, or natural habitats.

Facility Codes and Designations

9000: Agriculture, Forestry, Fishing, and Hunting

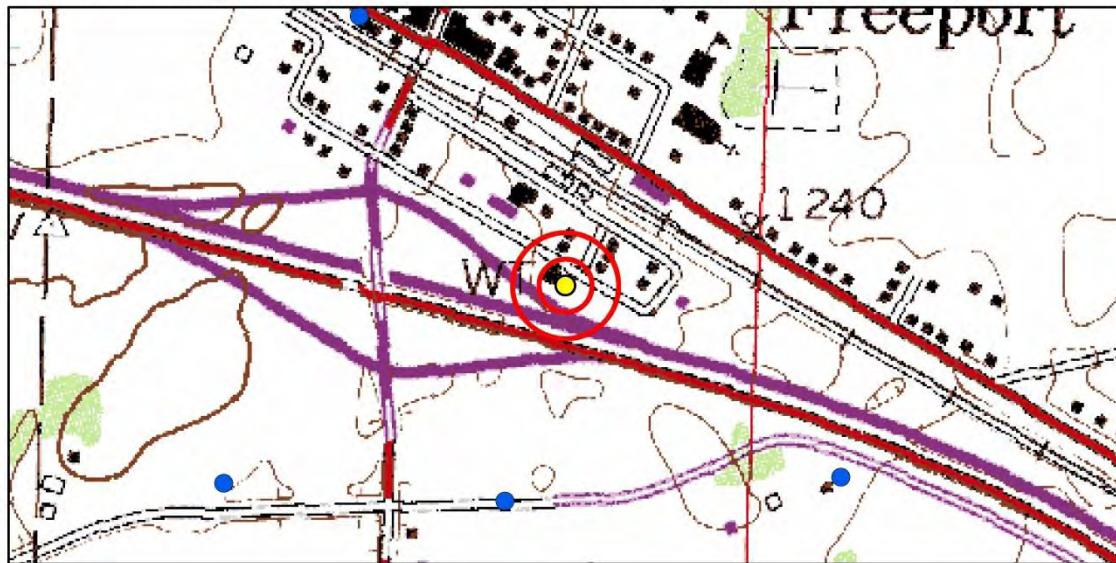
WELL LOCATION VERIFICATION MAPS

Unique Well No.: 215124

FREEPORT 1

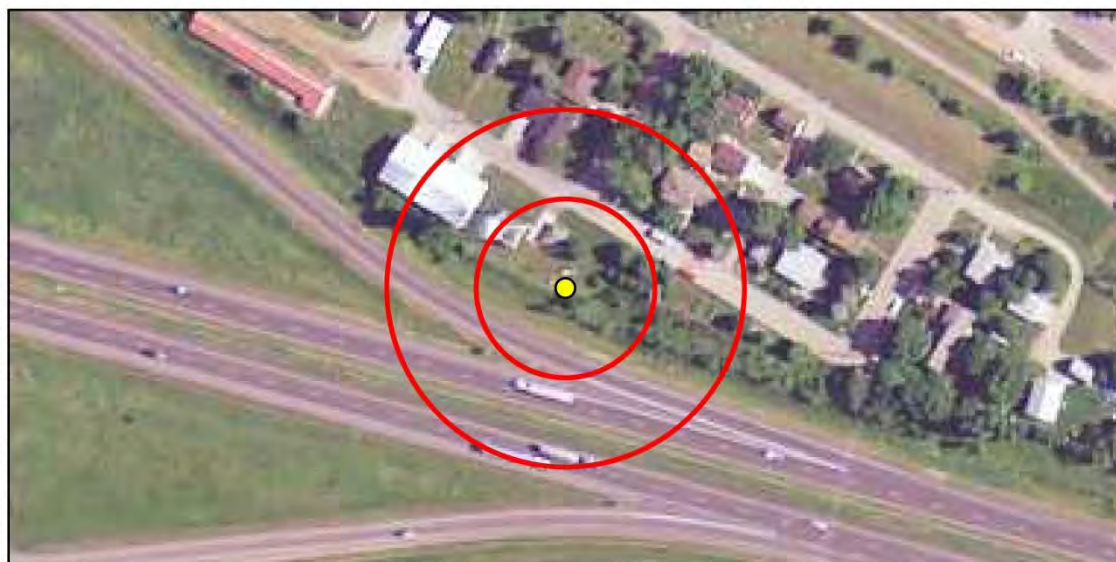
T125N R32W S3 - Freeport - Stearns County

Use these maps to confirm the current well record location (yellow circle) or to indicate adjustments.



0 250 500 1,000 1,500 2,000 Feet

Air Photo Sources: MnGeo WMS server
(various sources 2008-2011)



0 100 200 400 600 Feet

Red circles are 100 and 200 foot buffers around the well.

- Community PWS
- ▲ Non-Transient Non-Community PWS
- ★ Transient Non-Community PWS
- Non-Public PWS
- Unsealed County Well Index (non-PWS)
- Sealed County Well Index (non-PWS)

Source: MN Dep't of Health 1/23/2014

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

PUBLIC WATER SYSTEM INFORMATION							
PWS ID	1730013			COMMUNITY			
NAME	Freeport						
ADDRESS	Freeport Water Superintendent, c/o Mr. Jon Stueve, 125 Main Street East, P.O. Box 301, Freeport, MN 563310142						
FACILITY (WELL) INFORMATION							
NAME	Well #1			IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE?			
FACILITY ID	S01			<input type="checkbox"/> YES (Please attach a copy)			
UNIQUE WELL NO.	215124			<input type="checkbox"/> NO <input type="checkbox"/> UNDETERMINED			
COUNTY	Stearns						
PWS ID / FACILITY ID	1730013 S01		UNIQUE WELL NO.	215124			
PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances Community	Non- community	Sensitive Well*	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
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* (Class V well - illegal)*	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)*	50/300/150*	50/300/150*	100/600/300*	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)*	75	75	150	N		

3/24/2014

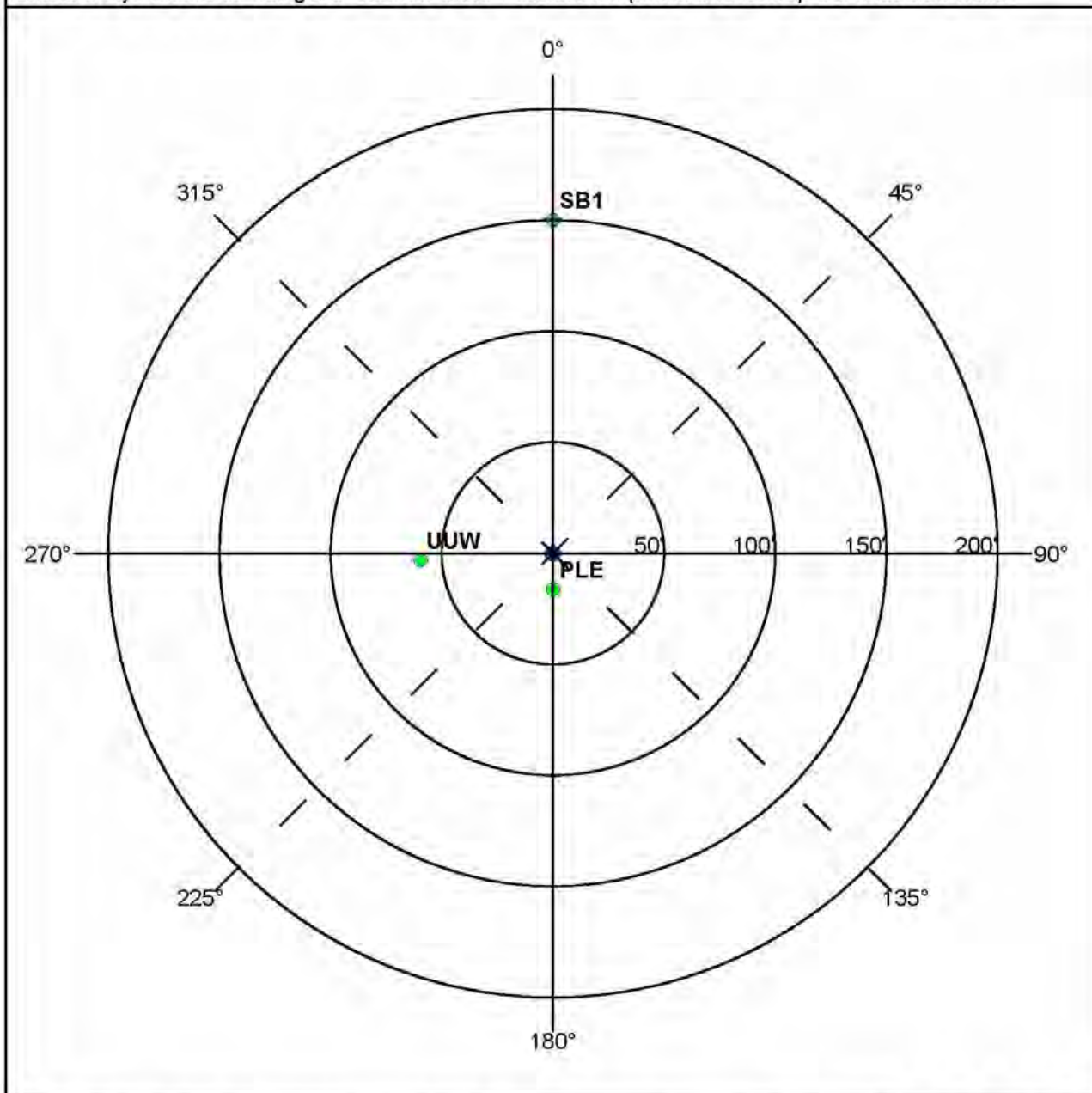
PWS ID / FACILITY ID		1730013 S01		UNIQUE WELL NO.		215124	
PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well ¹	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
MVW	Motor vehicle waste disposal (Class V well - illegal) ²	illegal	illegal		N		
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		Y	150	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 ³ (Class V well - illegal ⁴)	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		Y	60	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		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) ⁵	illegal ⁶	illegal ⁶		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		

3/24/2014

PWS ID / FACILITY ID	1730013 S01	UNIQUE WELL NO.	215124
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SETBACK DISTANCES	All potential contaminant sources must be noted on sketch.
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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.



Were the isolation distances maintained for the new sources of contamination?	Y	N	N/A
Is the system monitoring existing nonconforming sources of contamination?	Y	N	N/A
Reminder Question: Were the wellhead protection measure(s) implemented?			
INSPECTOR	Neiman, Dave	DATE	3 - 24 - 2014

3/24/2014

WELL LOCATION VERIFICATION MAPS

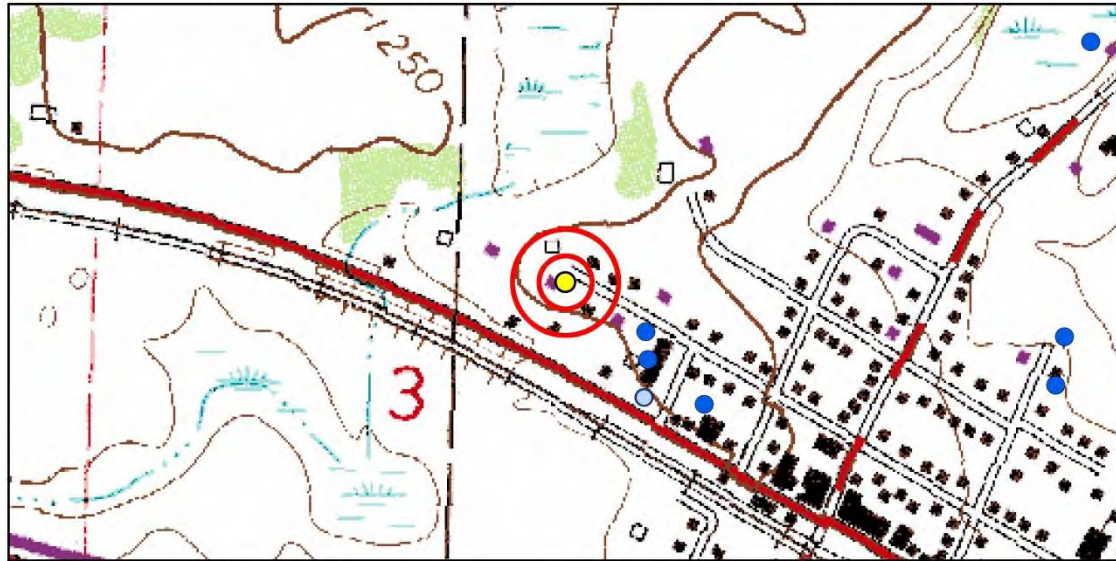
Unique Well No.: 240101 - PWSID and Source No.: 1730013S02

Current Location: 03/14/2014 (D. Neiman)

Freeport #2

T125N R32W S3 - Freeport - Stearns County

Use these maps to confirm the current well record location (yellow circle) or to indicate adjustments.



0 250 500 1,000 1,500 2,000 Feet

Air Photo Sources: MnGeo WMS server
(various sources 2008-2011)



0 100 200 400 600 Feet

Red circles are 100 and 200 foot buffers around the well.

- Community PWS
- ▲ Non-Transient Non-Community PWS
- ★ Transient Non-Community PWS
- Non-Public PWS
- Unsealed County Well Index (non-PWS)
- Sealed County Well Index (non-PWS)

Source: MN Dep't of Health 3/24/2014

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

PUBLIC WATER SYSTEM INFORMATION							
PWS ID	1730013					COMMUNITY	
NAME	Freeport						
ADDRESS	Freeport Water Superintendent, c/o Mr. Jon Stueve, 125 Main Street East, P.O. Box 301, Freeport, MN 563310142						
FACILITY (WELL) INFORMATION							
NAME	Well #2					IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE? <input type="checkbox"/> YES (Please attach a copy) <input type="checkbox"/> NO <input type="checkbox"/> UNDETERMINED	
FACILITY ID	S02						
UNIQUE WELL NO.	240101						
COUNTY	Stearns						
PWS ID / FACILITY ID		1730013 S02		UNIQUE WELL NO.		240101	
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		

3/24/2014

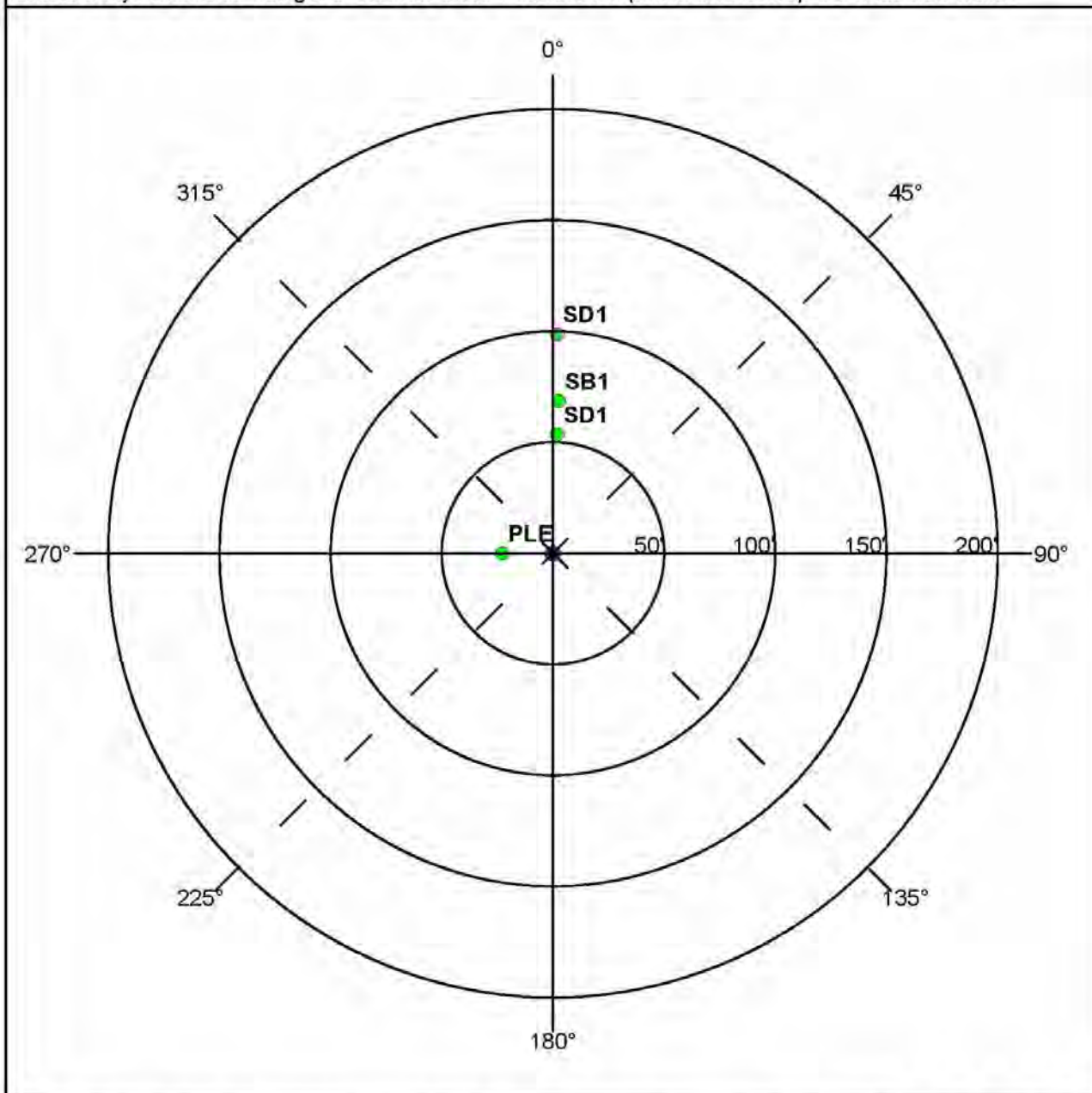
PWS ID / FACILITY ID		1730013	S02	UNIQUE WELL NO.		240101	
PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well'	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
MVW	Motor vehicle waste disposal (Class V well - illegal) ²	illegal	illegal		N		
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		Y	70	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	55	N
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	100	N
SWI	Storm water drainage well ³ (Class V well - illegal ²)	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		
MQN	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		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 ²	illegal ²		N		
IWS	Interceptor, including a flammable waste or sediment	50	50		N		

3/24/2014

PWS ID / FACILITY ID	1730013 S02	UNIQUE WELL NO.	240101
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SETBACK DISTANCES	All potential contaminant sources must be noted on sketch.
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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.



Were the isolation distances maintained for the new sources of contamination?	Y	N	N/A
Is the system monitoring existing nonconforming sources of contamination?	Y	N	N/A
Reminder Question: Were the wellhead protection measure(s) implemented?			
INSPECTOR	Neiman, Dave	DATE	3 - 24 - 2014

3/24/2014

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



2012 CERTIFICATION FORM

Name of System: Freeport

PWSID: 1730013

The information in the attached Consumer Confidence Report (CCR) is accurate and has been distributed to customers served by our water supply in the following manner. You must check at least one option, however check ALL that apply:

☒ Published the **entire** CCR in one or more local community newspapers with a comment that the CCR is not being directly mailed to all customers but that a copy is available upon request (provided a phone number for customers to call and request a copy of the CCR). Return a copy or newspaper clipping of the CCR to MDH. List newspaper(s) and date(s) of publication: Melrose Beacon May 23 2013

☐ Paper copy individually mailed to all customers.

☐ Mailed notification (i.e., postcard or in newsletter, etc.) that CCR is available via direct URL (you must provide a direct link to CCR and give the option for the customer to request a paper copy) URL _____

☐ Emailed a direct URL to CCR for bill-paying customers; emailed the CCR as a file attachment (PDF) or directly inserted CCR into the body of the email message. URL _____

Options should include how a paper copy of the CCR can be obtained if one is not provided.

Efforts must be made to reach customers who do not receive water bills, (such as apartment tenants, nursing home residents, etc.). This can be done by publicizing the availability of the CCR in the media, posting in public places, delivering multiple copies of the CCR for distribution by single-biller customers, delivering CCR to community organizations, posting on the internet, and/or including within the CCR a request for recipients to share information with non-billing customers.

COMPLETE THE FOLLOWING:

Signature: [Signature] Print Name: Jon Stueve

Job Title: Public Works Director Phone: 320-333-8904 Date: 5-9-13

Email address: freeportpwd@gmail.com
Please print clearly

PLEASE NOTE: Although MDH sent a CCR to your system, we need a "final" copy of the CCR that your system distributed for our records. Whether you reformatted the CCR, or simply added a phone number for your system on the CCR, you must return a copy of the CCR and this form to MDH.

Return this form and a copy of the CCR or newspaper clipping of the CCR, **by July 1, 2013** in the enclosed envelope.

Mailing Address:
Minnesota Department of Health
c/o Ms. Mackenzie Hales
Drinking Water Protection Section
P. O. Box 64975
St. Paul, Minnesota 55164-0975

Fax: 651/201-4701
Email: health.drinkingwateradvisory@state.mn.us

RETURN A COPY OF YOUR CCR AND THIS FORM TO MDH

CONSUMER CONFIDENCE REPORT

PWSID: 1730013

City of Freeport 2012 Drinking Water Report

The City of Freeport is issuing the results of monitoring done on its drinking water for the period from January 1 to December 31, 2012. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources.

Source of Water

The City of Freeport provides drinking water to its residents from a groundwater source: two wells ranging from 160 to 212 feet deep, that draw water from the Quaternary Buried Artesian aquifer.

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 during normal business hours. Also, you can view it on line at www.health.state.mn.us/divs/eh/water/swp/swa.

Call **320-333-8904** if you have questions about the City of Freeport drinking water or would like information about opportunities for public participation in decisions that may affect the quality of the water.

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 2012. 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.)

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.

MRDLG—Maximum Residual Disinfectant Level Goal.

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.

CONSUMER CONFIDENCE REPORT

PWSID: 1730013

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 (µg/l).

N/A—Not Applicable (does not apply).

Contaminant (units)	MCLG	MCL	Level Found		Typical Source of Contaminant
			Range (2012)	Average /Result*	
Combined Radium (pCi/l) (03/26/2008)	0	5.4	N/A	1.9	Erosion of natural deposits.
Fluoride (ppm)	4	4	1.2-1.7	1.53	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.
TTHM (Total trihalomethanes) (ppb) (07/27/2011)	0	80	N/A	.8	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	1.02-1.2	1.14	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 Contaminant
Copper (ppm) (09/03/2010)	1.3	1.3	.65	0 out of 10	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead (ppb) (09/03/2010)	0	15	1.7	0 out of 10	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. City of Freeport 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>.

CONSUMER CONFIDENCE REPORT

PWSID: 1730013

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.

Compliance with National Primary Drinking Water Regulations

The sources of drinking water (both tap water 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 and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Appendix V

MAPS

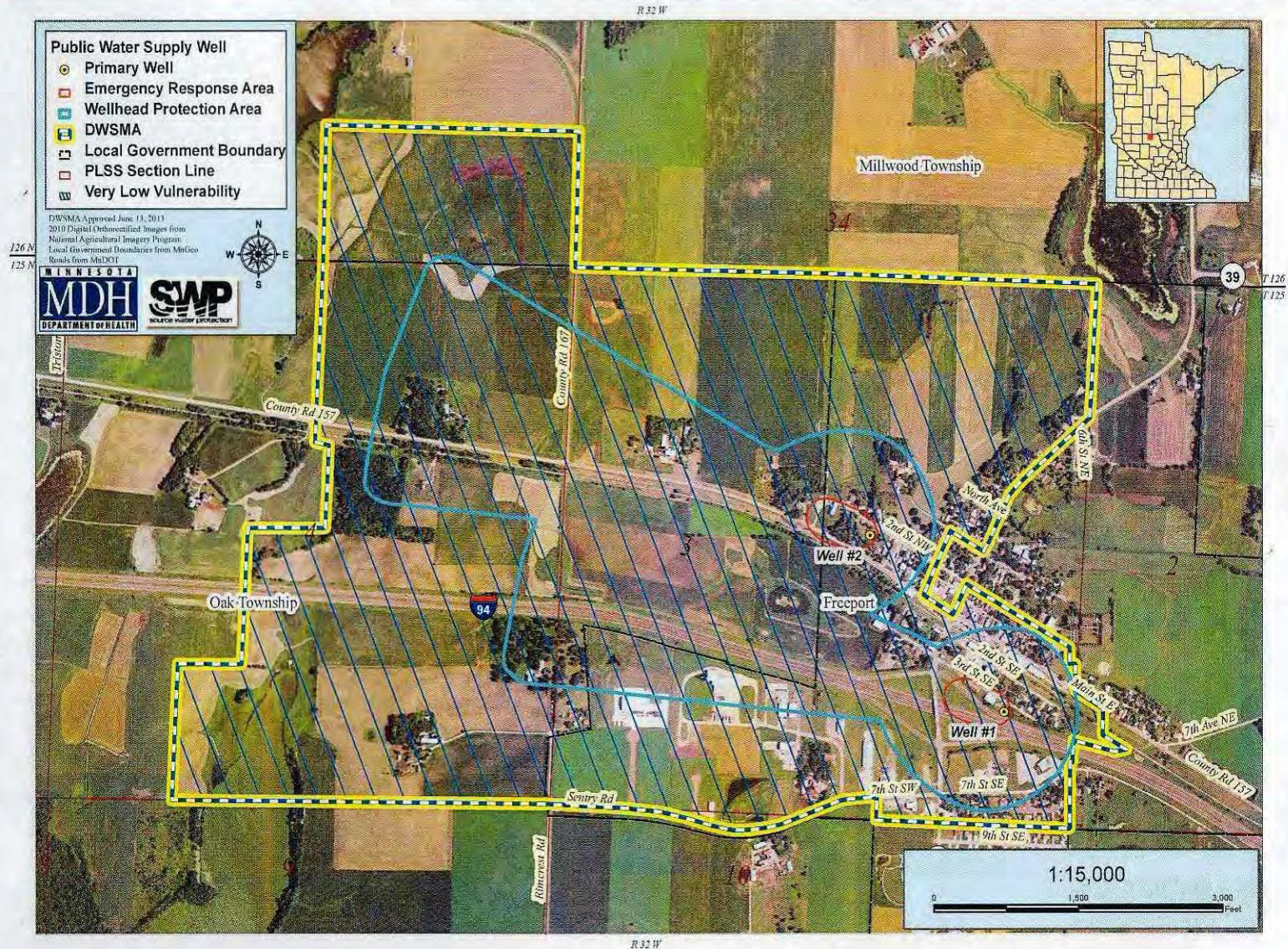
for

City of Freeport

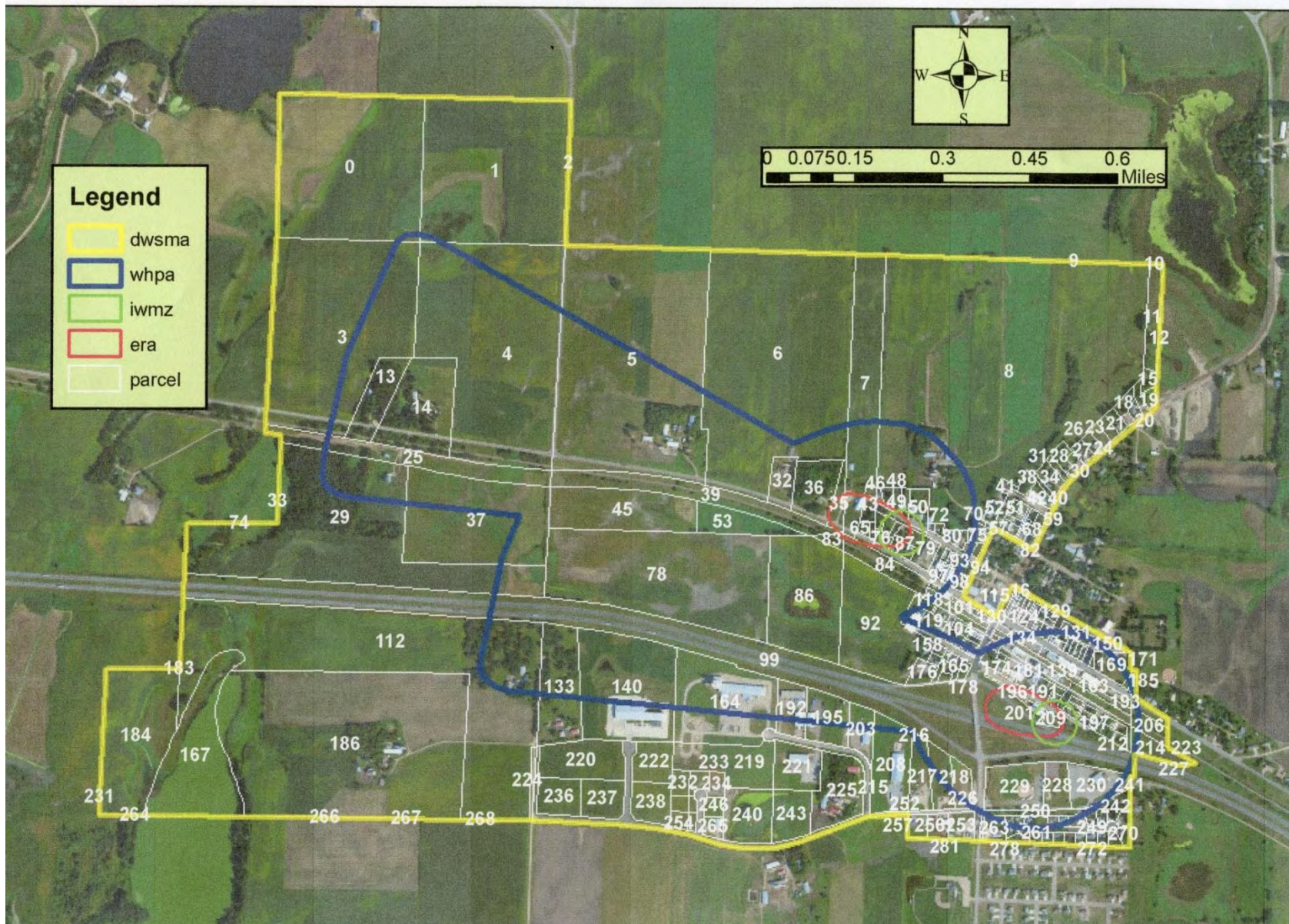
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Freeport Drinking Water Supply Management Area (DWSMA) MN-00675 - Very Low Vulnerability



City of Freeport Drinking Water Supply Management Area



parcel

FID	PARCEL	TAXPAYER	MA_ADDRESS	CITY
0	22.13072.000	BLOMMEL, EUGENE & MARLENE	38225 TRISTAN RD	FREEPORT
1	22.13073.000	BORGERDING, CLARENCE	28256 COUNTY ROAD 157	FREEPORT
2	22.13085.000	BORGERDING, CLARENCE	28256 COUNTY ROAD 157	FREEPORT
3	25.15014.005	BESTE,JOHN HENRY & YVONNE M		FREEPORT
4	25.15014.000	MICHAEL, CYRILLA	37177 RIMCREST RD	FREEPORT
5	25.15251.000	BORGERDING, CLARENCE	28256 COUNTY ROAD 157	FREEPORT
6	25.15250.020	BESTE,ALOIS & MARJORIE		FREEPORT
7	54.32051.000	TRI-CITY CHRISTIAN CENTER	302 8TH ST SE	FREEPORT
8	54.32028.000	BORGERDING, NEAL & LEA	228 3RD ST NW	FREEPORT
9	22.13087.000	BORGERDING, NEAL & LEA	228 3RD ST NW	FREEPORT
10	22.13094.000	MADER, MATTHEW F	38175 COUNTY ROAD 11	FREEPORT
11	54.32003.010	RENNEKER, MICHAEL	525 1ST AVE N	FREEPORT
12	54.32001.000	T D G M INVESTMENTS LLC	325 33RD AVE N #107	ST CLOUD
13	25.15014.030	STICH,GLENN P	28814 COUNTY ROAD 157	FREEPORT
14	25.15014.007	KOETTER,MARK	28702 COUNTY ROAD 157	FREEPORT
15	54.32155.001	RENNEKER, MICHAEL	525 1ST AVE N	FREEPORT
16	55			
17	54.32007.010	FLEEGEL, HAROLD J & MARY B	3507 PILGRIM LN N	PLYMOUTH
18	54.32155.003	RENNEKER, MICHAEL N & JEAN	525 1ST AVE N	FREEPORT
19	54.32007.000	FLEEGEL,HARRY J & MARY B	605 1ST AVE N	FREEPORT
20	54.32155.002	RENNEKER, MICHAEL N & JEAN	525 1ST AVE N	FREEPORT
21	54.32155.004	GRUBER,RONALD H & DARLENE M	517 1ST AVE N	FREEPORT
22	54.32004.000	NORTHERN NATURAL GAS CO		OMAHA

FID	PARCEL	TAXPAYER	MA_ADDRESS	CITY
23	54.32155.005	GRUBER, RONALD H & DARLENE M	517 1ST AVE N	FREEPORT
24	54.32155.006	NIENABER, RICHARD B & MILDRED	507 1ST AVE N	FREEPORT
25	25.15035.005	STATE OF MINNESOTA	395 JOHN IRELAND BLVD	ST PAUL
26	54.32155.007	NIENABER, RICHARD B & MILDRED	507 1ST AVE N	FREEPORT
27	54.32155.008	WIECHMANN, GERALD E	505 1ST AVE N	FREEPORT
28	54.32037.000	ENGELMEYER, JAMIE D	421 1ST AVE N	FREEPORT
29	25.15021.000	BEUNING, DARRYL G & BARBARA M		FREEPORT
30	54.32038.000	WACKER, NOEL J & TINA M	425 1ST AVE N	FREEPORT
31	54.32036.000	KRAMER, SAMUEL J & JANICE A	417 1ST AVE N	FREEPORT
32	25.15250.035	BESTE, JOHN H & YVONNE M	28098 COUNTY ROAD 157	FREEPORT
33	25.15016.000	MICHAEL, DAVID H	37177 RIMCREST RD	FREEPORT
34	54.32035.000	MAYERS, GERALD M & MARY H		FREEPORT
35	25.15250.030	TRI-CITY CHRISTIAN CENTER	302 8TH STR SE	FREEPORT
36	25.15250.000	HICKMAN, LEE D & BETH L	28034 COUNTY ROAD 157	FREEPORT
37	25.15019.000	BORGERDING, CLARENCE H & M	28256 COUNTY ROAD 157	FREEPORT
38	54.32110.000	LAING, SHIRELY A H TRUSTEE	110 4TH ST NW	FREEPORT
39	55			
40	54.32049.000	MAYERS, GERALD M & MARY H		FREEPORT
41	54.32028.020	BORGERDING, VIOLA M		FREEPORT
42	54.32109.000	CITY OF FREEPORT		FREEPORT
43	54.32051.008	BERNARD, ROBERT P JR & CATHY J		FREEPORT
44	54.32058.000	VANHEEL, ROBERT A & JANICE M	332 2ND ST NW	FREEPORT
45	25.15251.000	BORGERDING, CLARENCE	28256 COUNTY ROAD 157	FREEPORT
46	54.32059.000	MIDDENDORF, HERMAN & HELEN		FREEPORT
47	54.32052.000	OSTENDORF,	324 MAIN ST W	FREEPORT

FID	PARCEL	TAXPAYER	MA_ADDRESS	CITY
		LORETTA		
48	54.32053.000	FREE,IRENE	324 2ND ST NW	FREEPORT
49	54.32060.000	STANGLER,GARY G & JOAN A		FREEPORT
50	54.32062.000	ETTEL,ALCUIN & DOLORES	316 2ND ST NW	FREEPORT
51	54.32121.000	HUMBERT,DAVID A		FREEPORT
52	54.32032.000	HETLAND,PAULA & MARY M	313 2ND AVE NW	FREEPORT
53	25.15250.010	BORGERDING, CLARENCE H & M	28256 COUNTY ROAD 157	FREEPORT
54	54.32122.000	EISENSCHENK, GARY E	111 4TH ST NW	FREEPORT
55	54.32111.000	BLOMMEL, THOMAS & MARY KAY	107 4TH ST NW	FREEPORT
56	54.32120.000	WILLIAMS,ALAN & MARY	308 2ND AVE NW	FREEPORT
57	54.32030.000	HOESCHEN, ARNOLD F & REGINA		FREEPORT
58	54.32052.006	RESSEMANN, CHAD	325 2ND ST NW	FREEPORT
59	54.32112.000	MOENING,JASON L	311 1ST AVE N	FREEPORT
60	54.32119.000	WILLIAMS,ALLAN C		FREEPORT
61	54.32057.000	CITY OF FREEPORT		FREEPORT
62	54.32113.000	BLOMMEL, THOMAS & MARY KAY	107 4TH ST NW	FREEPORT
63	54.32117.000	HOESCHEN, LEROY & LAURA	116 3RD ST NW	FREEPORT
64	54.32054.000	RITTER,GILBERT & RITA	317 2ND ST NW	FREEPORT
65	54.32050.000	HILTNER, MICHAEL & G A TRUSTEES		FREEPORT
66	54.32056.000	HILTNER, MICHAEL & G A TRUSTEES		FREEPORT
67	54.32031.000	FINKEN,MICHAEL P & KRISTEN N	204 3RD ST NW	FREEPORT
68	54.32114.000	POEPPING, DENNIS	307 1ST AVE N	FREEPORT
69	54.32118.000	ROSE,JOHN & CHRISTINA		FREEPORT
70	54.32029.000	SCHMIDT,KRISTI A		FREEPORT
71	54.32064.001	SAND,LAWRENCE		FREEPORT
72	54.32064.000	HILTNER, THOMAS & PATRICIA		FREEPORT

FID	PARCEL	TAXPAYER	MA_ADDRESS	CITY
73	54.32063.000	FRIELER,TROY M	313 2ND ST NW	FREEPORT
74	25.15016.000	MICHAEL,DAVID H	37177 RIMCREST RD	FREEPORT
75	54.32033.000	NOTCH,HEIDI M	209 2ND AVE NW	FREEPORT
76	54.32052.000	OSTENDORF, LORETTA	324 MAIN ST W	FREEPORT
77	54.32116.000	NOTCH,ALCUIN J & DOLORES L	108 3RD ST NW	FREEPORT
78	25.15010.000	BORGERDING, CLARENCE H & M	28256 COUNTY ROAD 157	FREEPORT
79	54.32197.000	FREEPORT CO OP CREAMERY ASSN		FREEPORT
80	54.32034.000	DUCLOS,HENRY & MADELINE	210 2ND ST NW	FREEPORT
81	54.32034.010	OSTENDORFF, JANET ETAL	PO BOX 355	FREEPORT
82	54.32115.000	FUNK,LEONA M	303 1ST AVE N	FREEPORT
83	55			
84	55			
85	54.32200.000	ALBANY FARMERS UNION OIL CO		ALBANY
86	25.15012.000	BESTE,ALOIS & MARJORIE		FREEPORT
87	54.32198.005	TIMP,DONALD H & BETTY J	316 MAIN ST W	FREEPORT
88	54.32196.000	SCHULZETENBER G,JOSEPH & E		FREEPORT
89	54.32195.000	SCHULZETENBER G,JOSEPH		FREEPORT
90	54.32203.000	RADEMACHER, GOTHARD & IRENE		FREEPORT
91	54.32204.000	MILLS,MICHAEL A & SUHANNA C	211 2ND ST NW	FREEPORT
92	54.32086.000	BESTE,ALOIS & MARJORIE		FREEPORT
93	54.32202.000	BRIAN J SCHULZETENBER G		FREEPORT
94	54.32201.000	MEYER,DANIEL T & CHERYL M	203 2ND ST NW	FREEPORT
95	54.32205.000	HILTNER, THOMAS & PATRICIA		FREEPORT
96	54.32206.000	GOEBEL,MARY	212 MAIN ST W	FREEPORT
97	54.32207.000	BLUE CAN PROPERTIES LLC	118 3RD ST NE	FREEPORT
98	54.32208.000	BASSIMAKOPOUL OS,JOYCE	PO BOX 81 204 MAIN ST W	FREEPORT
99	55			
100	54.32129.100	GERADS OIL CO INC		HOLDINGFORD

FID	PARCEL	TAXPAYER	MA_ADDRESS	CITY
101	54.32129.114	STATE OF MINNESOTA	395 JOHN IRELAND BLVD	ST PAUL
102	54.32138.050	ALBANY MUTUAL TEL ASSOC		ALBANY
103	54.32129.102	BLUE CAN PROPERTIES LLC	118 3RD ST NE	FREEPORT
104	54.32129.114	STATE OF MINNESOTA	395 JOHN IRELAND BLVD	ST PAUL
105	54.32136.000	BUECKERS, DANIEL & MARILYN		FREEPORT
106	54.32138.000	HOESCHEN, GERALD J & JOYCE	324 7TH ST SE	FREEPORT
107	54.32129.104	HELLERMANN, SIMON & MARY J	557 NORTH 5TH AVE E	MELROSE
108	54.32135.005	FUNK, RAYMOND & FLORENCE	29002 UHLENKOLTS LAKE RD	FREEPORT
109	54.32254.000	GOLLA, ROBERT J & LINDA R	204 2ND AVE SW	FREEPORT
110	54.32137.000	SLUPE, SUSAN M	103 MAIN ST E	FREEPORT
111	54.32134.000	BENJAMINSON, BRYAN K	PO BOX 338	FREEPORT
112	25.15018.000	SCHERPING, EVERETT & BEVERLY	37267 RIMCREST RD	FREEPORT
113	54.32133.000	BENJAMINSON, BRYAN K	PO BOX 338	FREEPORT
114	54.32132.000	HEIDGERKEN, DENNIS & RITA		FREEPORT
115	54.32139.000	FREEPORT STATE BANK		FREEPORT
116	55			
117	54.32129.106	FREEPORT CO OP CREAMERY ASSN		FREEPORT
118	54.32252.000	GOLLA, ROBERT J & LINDA R	204 2ND AVE SW	FREEPORT
119	54.32253.000	BESTE, ALOIS & MARJORIE		FREEPORT
120	54.32131.000	MIDDENDORF, CONRAD & ETHEL		FREEPORT
121	54.32140.000	BOTZ PROPERTIES LLC	824 15TH AVE N	SARTELL
122	54.32141.000	HEIDGERKEN, CHARLES & SHIRLEY		FREEPORT
123	54.32223.000	OSENDORF, PHILIP F & GAIL R	124 2ND ST NE	FREEPORT
124	54.32143.000	PI LLC		FREEPORT
125	54.32129.108	FREEPORT CO OP CREAMERY ASSN		FREEPORT
126	54.32144.000	CITY OF FREEPORT	PO BOX 301	FREEPORT

FID	PARCEL	TAXPAYER	MA_ADDRESS	CITY
127	54.32224.000	OSENDORF, PHILIP F & GAIL R	124 2ND ST NE	FREEPORT
128	54.32251.000	RITTER, RONALD A & ELAINE	205 2ND AVE SW	FREEPORT
129	54.32145.000	BLENKER, IVAN J & RENEE	806 CO RD 168 E	MELROSE
130	55			
131	54.32227.001	FREEPORT SQUARE ASSOCIATES	32 10TH AVE S #109	MINNETONKA
132	54.32225.000	SCHERPING, BERNICE		FREEPORT
133	25.15011.005	BORGERDING, ALCUIN P & M	37138 RIMCREST RD	FREEPORT
134	54.32129.110	CITY OF FREEPORT		FREEPORT
135	54.32153.000	RITTER, RONALD A & ELAINE	205 2ND AVE SW	FREEPORT
136	54.32227.000	VANHOORIK, LUCILLE B	105 2ND AVE NE	FREEPORT
137	55			
138	54.32245.000	LOMMEL PROPERTIES LLC	PO BOX 2183	ST CLOUD
139	54.32129.114	STATE OF MINNESOTA	395 JOHN IRELAND BLVD	ST PAUL
140	54.32129.070	WHIRLWIND STEEL BUILDING INC	8234 HANSEN RD	HOUSTON
141	54.32151.000	LOMMEL PROPERTIES LLC	PO BOX 2183	ST CLOUD
142	54.32250.000	TSCHIDA, NICHOLAS V	114 3RD ST SW	FREEPORT
143	54.32249.000	BEUNING, WALTER & LAURDINE	110 3RD ST SW	FREEPORT
144	54.32226.000	RODENWALD, TODD & SARAH	13560 TECHNOLOGY DR #1105	EDEN PRAIRIE
145	54.32232.000	GRUBER, THOMAS L		FREEPORT
146	54.32092.050	BESTE, ALOIS & MARJORIE		FREEPORT
147	54.32152.000	GOLLA, ROBERT & LINDA	208 1ST AVE S	FREEPORT
148	54.32233.000	MALM, DAVID K & SUE L	203 MAIN ST E	FREEPORT
149	54.32231.000	LEUKAM, RICHARD J	211 MAIN ST E	FREEPORT
150	54.32234.500	CHURCH OF SACRED HEART		FREEPORT
151	54.32092.051	FREEPORT STATE BANK		FREEPORT
152	54.32246.000	JOB, EDWARD M & AGNES G	212 1ST AVE S	FREEPORT

FID	PARCEL	TAXPAYER	MA_ADDRESS	CITY
153	54.32230.000	OBERMILLER, JAMES H & IRENE		FREEPORT
154	54.32234.000	BURG,ADELINE M	37767 SUNNYFIELD CIR	AVON
155	54.32244.000	KLASEN, ANTHONY	203 1ST AVE S	FREEPORT
156	54.32229.000	GOEBEL,ALCUIN & LOUISE	219 MAIN ST E	FREEPORT
157	54.32248.000	NORTHERN STATES POWER CO	414 NICOLLET MALL	MINNEAPOLIS
158	54.32092.004	TIMP,ALPHONSE	304 2ND AVE SW	FREEPORT
159	54.32228.000	PROEHEL, DEBRA J	103 3RD AVE NE	FREEPORT
160	54.32242.000	VINK,THOMAS W & LINDA M	207 1ST AVE S	FREEPORT
161	54.32092.052	BESTE,ALOIS & MARJORIE		FREEPORT
162	54.32247.000	ARNZEN,ROBERT J & BONNIE L	29018 COUNTY ROAD 17 N	FREEPORT
163	54.32129.112	HENNEN, EDWARD L TRUSTEE		FREEPORT
164	54.32129.056	FAMO FEEDS INC	122 2ND ST SE	FREEPORT
165	55			
166	54.32242.000	VINK,THOMAS W & LINDA M	207 1ST AVE S	FREEPORT
167	44			
168	54.32079.020	CITY OF FREEPORT		FREEPORT
169	54.32070.500	CHURCH OF SACRED HEART		FREEPORT
170	54.32092.001	MICHAEL,HENRY J & CLARA H	115 3RD ST SW	FREEPORT
171	54.32027.500	CHURCH OF SACRED HEART		FREEPORT
172	54.32092.005	HAMMOND, ELMER & LORRAINE	308 2ND AVE SW	FREEPORT
173	54.32092.053	BESTE,ALOIS & MARJORIE		FREEPORT
174	54.32238.000	FREEPORT ROLLER MILLS INC	122 2ND ST SE	FREEPORT
175	54.32089.000	WELLE,CHRIS D	111 3RD ST SW	FREEPORT
176	54.32092.006	CITY OF FREEPORT		FREEPORT
177	54.32239.000	DUMONT, GENEVIEVE M	111 3RD ST SE	FREEPORT
178	54.32088.000	FISCHER,KEITH H	109 3RD ST SW	FREEPORT
179	54.32240.000	CHARLIES CAFE OF FREEPORT INC		FREEPORT

FID	PARCEL	TAXPAYER	MA_ADDRESS	CITY
180	54.32092.002	BUTKOWSKI, JEROME LEE JR & J		FREEPORT
181	54.32235.000	THELEN,GARY	206 2ND ST SE	FREEPORT
182	54.32090.000	FISCHER,KEITH H	109 3RD ST SW	FREEPORT
183	25.15020.000	KLAPHAKE,GLEN E & DEBRA J	279 MEADOWLARK LN	MELROSE
184	25.15022.000	MICHAEL,DAVID H	37177 RIMCREST RD	FREEPORT
185	54.32009.000	SACRED HEART PARISH		FREEPORT
186	25.15022.000	MICHAEL,DAVID H	37177 RIMCREST RD	FREEPORT
187	54.32092.003	BUTKOWSKI, JEROME L & JANET	309 2ND AVE SW	FREEPORT
188	54.32078.000	CHURCH OF SACRED HEART		FREEPORT
189	54.32255.000	LAING, FREDERICK A TRUSTEE		FREEPORT
190	54.32092.054	BESTE,ALOIS & MARJORIE		FREEPORT
191	54.32236.000	BROOKS,DAVID & LORRAINE	210 2ND ST SE	FREEPORT
192	54.32129.052	FREEPORT PROPERTIES LLC	124 2ND ST NE	FREEPORT
193	54.32129.114	STATE OF MINNESOTA	395 JOHN IRELAND BLVD	ST PAUL
194	54.32237.000	ELFERING, DANIEL T & RITA D	206 3RD AVE SE	FREEPORT
195	54.32129.062	HARTUNG,KEN & PEG	43929 STATE HIGHWAY 238	FREEPORT
196	54.32079.006	LAING, FREDERICK A		FREEPORT
197	55			
198	54.32081.000	ELFERING, DANIEL T & RITA D	206 3RD AVE SE	FREEPORT
199	54.32159.000	SCHERER FAMILY FARMS	38189 260TH AVE	FREEPORT
200	54.32080.000	HARMS,CALVIN W & DIANE R	210 3RD AVE SE	FREEPORT
201	54.32079.004	CITY OF FREEPORT	PO BOX 301	FREEPORT
202	54.32160.000	GOEBEL,LOREN C & CARRIE A	207 3RD AVE SE	FREEPORT
203	54.32129.061	MID CENTRAL HEATING & AIR COND	330 8TH ST SE	FREEPORT
204	54.32164.000	BONFIG, GLORIANNA		FREEPORT

FID	PARCEL	TAXPAYER	MA_ADDRESS	CITY
205	54.32161.000	HENNEN, TIMOTHY T & STEPHANIE		FREEPORT
206	55			
207	54.32163.000	MORTGAGE ELEC REG SYSTEMS INC	9990 RICHMOND #400	HOUSTON
208	54.32085.010	QUALITY TRAILER PRODUCTS CORP	208 7TH ST SW	FREEPORT
209	54.32079.020	CITY OF FREEPORT		FREEPORT
210	54.32162.000	ETTEL,FRED & JUDITH	212 4TH AVE SE	FREEPORT
211	54.32166.000	BOELTER, GREGORY S & LANETTE R	203 4TH AVE SE	FREEPORT
212	54.32165.000	MEYER,GLEN M & JULIE M	207 4TH ST SE	FREEPORT
213	54.32166.010	BOELTER, GREGORY S & LANETTE R	203 4TH AVE SE	FREEPORT
214	54.32015.500	CITY OF FREEPORT		FREEPORT
215	55			
216	54.32270.015	FRANKLIN,JAMES A	18050 39TH PL N	PLYMOUTH
217	54.32270.010	R & W CO LLC	310 8TH ST SE	FREEPORT
218	54.32270.005	AT & T COMMUNICATION INC	PO BOX 7207	BEDMINSTER
219	54.32129.076	FAMO FEEDS INC	446 INDUSTRIAL DR	FREEPORT
220	54.32129.069	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
221	54.32129.054	MBE PROPERTIES LLC	25772 COUNTY ROAD 17	FREEPORT
222	54.32129.071	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
223	55			
224	54.32275.100	SCHERPING, EVERETT & BEVERLY	37267 RIMCREST RD	FREEPORT
225	54.32129.063	MIDDENDORF, NEIL A	216 7TH ST SW	FREEPORT
226	54.32270.000	MEYER,GERALD C & DEBRA	330 8TH ST SE	FREEPORT
227	55			
228	54.32079.025	CITY OF FREEPORT		FREEPORT
229	54.32079.020	CITY OF FREEPORT		FREEPORT

FID	PARCEL	TAXPAYER	MA_ADDRESS	CITY
230	54.32079.010	COMMUNITY CARE & SERVICE CORP	111 MAIN ST E	FREEPORT
231	25.15020.000	KLAPHAKE,GLEN E & DEBRA J	279 MEADOWLARK LN	MELROSE
232	54.32129.075	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
233	54.32129.077	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
234	54.32129.078	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
235	55			
236	54.32129.067	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
237	54.32129.068	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
238	54.32129.072	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
239	54.32129.083	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
240	54.32129.084	ECONOMIC DEVELOPMENT AUTHORITY	125 MAIN ST E	FREEPORT
241	54.32018.002	HOESCHEN, GERALD J & JOYCE	324 7TH ST SE	FREEPORT
242	54.32079.000	THELEN,WALTER H & LUCILLE	314 7TH ST SE	FREEPORT
243	54.32129.080	ECONOMIC DEVELOPMENT AUTHORITY	125 MAIN ST E	FREEPORT
244	54.32129.074	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
245	54.32129.082	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
246	54.32129.079	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
247	54.32127.018	DUERR,KENNETH R	336 8TH ST SE	FREEPORT
248	54.32127.019	WENNING,LOREN D & KIMBERLY J	338 8TH ST SE	FREEPORT
249	54.32127.020	PFAU,PATRICK J & KAREN A	340 8TH ST SE	FREEPORT
250	55			


















FID	PARCEL	TAXPAYER	MA_ADDRESS	CITY
251	54.32127.021	DENNY,ERIC	342 8TH ST SE	FREEPORT
252	54.32085.000	MIDDENDORF, MARK & K F	711 MAIN ST E	FREEPORT
253	54.32084.000	EVESLAGE,JOHN & JOYCE		FREEPORT
254	54.32129.073	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
255	54.32129.081	MIDDENDORF, MARK G & KATHLEEN F	711 MAIN ST E	FREEPORT
256	54.32084.015	BUTKOWSKI, JEROME L		FREEPORT
257	54.32084.005	DICKHAUS, MICHAEL	PO BOX 103	ST MICHAEL
258	54.32127.000	LOGAN,ARON & VICKY	302 8TH ST SE	FREEPORT
259	54.32127.001	PREUSSER,KEVIN J & LINDA K	304 8TH ST SE	FREEPORT
260	54.32127.002	BOTZ,JOHN H & YVONNE D	306 8TH ST SE	FREEPORT
261	54.32127.004	ATKINSON, RODNEY E & WENDY A		FREEPORT
262	54.32127.005	OSTENDORF, WERNER A & JANET L	312 8TH ST SE	FREEPORT
263	54.32127.006	EVESLAGE,JOHN & JOYCE		FREEPORT
264	25.15062.000	TERRES,PETER F & D F TRUSTEES		MELROSE
265	54.32129.065	PIERSKALLA, GARY P & LINDA A	324 8TH ST SE	FREEPORT
266	25.15063.000	MICHAEL,DAVID H	37177 RIMCREST RD	FREEPORT
267	25.15059.000	MICHAEL,DAVID H	37177 RIMCREST RD	FREEPORT
268	25.15057.000	MIDDENDORF, NEIL A	216 7TH ST SW	FREEPORT
269	54.32127.007	PRIMUS,RICHARD A & CAROL A	314 8TH ST SE	FREEPORT
270	54.32127.017	HEMKER,JAMES J & JEAN M	334 8TH ST SE	FREEPORT
271	54.32127.016	ZIERDEN,DAVID & LINDA	332 8TH ST SE	FREEPORT
272	54.32127.015	MEYER,GERALD C & DEBRA	330 8TH ST SE	FREEPORT
273	54.32127.014	GOEBEL,VICTOR & ELIZABETH	328 8TH ST SE	FREEPORT
274	54.32127.013	LEPOWSKY,JOHN	326 8TH ST SE	FREEPORT
275	54.32127.012	PIERSKALLA, GARY P	324 8TH ST SE	FREEPORT
276	54.32127.011	SCHERPING,		FREEPORT

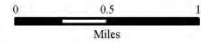
FID	PARCEL	TAXPAYER	MA_ADDRESS	CITY
277	54.32127.010	AMBROSE J ATKINSON, KATHLEEN H	320 8TH ST SE	FREEPORT
278	54.32127.008	LEAGJELD, ROBYN	316 8TH ST SE	FREEPORT
279	54.32127.009	VANHEEL, ARTHUR J & DOROTHY		FREEPORT
280	54.32085.000	MIDDENDORF, MARK & K F	711 MAIN ST E	FREEPORT
281	54.32275.255	HENNEN,JOSEPH	PO BOX 114	FREEPORT
282	55			
283	54.32269.100	FREEPORT STATE BANK		FREEPORT
284	54.32269.102	LUETHMERS, SYLVESTER & ALICE	107 9TH ST SE	FREEPORT
285	54.32269.103	WOBEGON COTTAGES OF FREEPORT	26673 COUNTY ROAD 30	ALBANY
286	54.32269.104	NISKA,JAMES M & DIANE A	111 9TH ST SE	FREEPORT
287	54.32269.106	KARSKY,JOSEPH J & JULIE A	PO BOX 64	FREEPORT
288	54.32269.108	SCHMITZ, MAUREEN	119 9TH ST SE	FREEPORT
289	54.32269.110	DOBMEIER, GERALD R & JOYCE H	123 9TH ST SE	FREEPORT
290	54.32269.112	LAING,BERNARD L & MARY ANN	203 9TH ST SE	FREEPORT
291	54.32269.114	MIDDENDORF, GREG S	207 9TH ST SE	FREEPORT
292	54.32269.116	REUTER,TONY & NICOLE M	211 9TH ST SE	FREEPORT
293	54.32269.118	FELDEWERD, SHAWN & KATHRYN	215 9TH ST SE	FREEPORT
294	54.32269.120	EICKHOFF, JEFFREY J & CARRIE J	219 9TH ST SE	FREEPORT
295	54.32269.122	VOS,MARK O	223 9TH ST SE	FREEPORT
296	54.32269.124	STROEING, JEFFERY J	227 9TH ST SE	FREEPORT



Amended by Ordinance #440, June 22, 2010

-  Roads
-  Orderly Annexation Area
-  Protected Rivers & Streams
-  Townships
-  Sections

- | | | | |
|---|---------------------------------|---|-------------------------------------|
|  | Agricultural District A-160 |  | Residential District R-1 |
|  | Agricultural District A-80 |  | Residential District R-5 |
|  | Agricultural District A-40 |  | Residential District R-10 |
|  | Commercial (C) |  | Residential District R-20 |
|  | Educational/Ecclesiastical (EE) |  | Residential Manufactured Home (RMH) |
|  | Industrial (I) |  | Rural Townsite (RT) |
|  | Municipality |  | Scenic River District (SR) |
|  | Urban Expansion (UE) |  | Transition District T-20 |
|  | Protected Lake | | |



This map illustrates the Freeport Independent School District (ISD) in Texas, highlighted in green. The district is situated in the northern part of the state, near the border with Oklahoma. Major highways shown include Interstate 94 (I-94), Interstate 52 (I-52), and Interstate 11 (I-11). Local roads such as FM 157, FM 172, and FM 176 are also depicted. The map features several bodies of water, including Freelys Lake, Ullrichs Lake, Maria Lake, Red Oak Lake, and Sand Lake. Key locations within the district include Freeport, New Munich, and various smaller communities like Millwood and Oak. The map also shows the surrounding counties of Millwood, Oak, and Albany, and the state of Oklahoma to the north.



Millwood Township Official Zoning Map

Zoning Ordinance #439
June 22, 2010

Amended by Ordinance #440, June 22, 2010

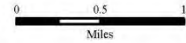
Functional Road Class

- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Roads
- Orderly Annexation Area
- Protected Rivers & Streams
- Townships
- Sections

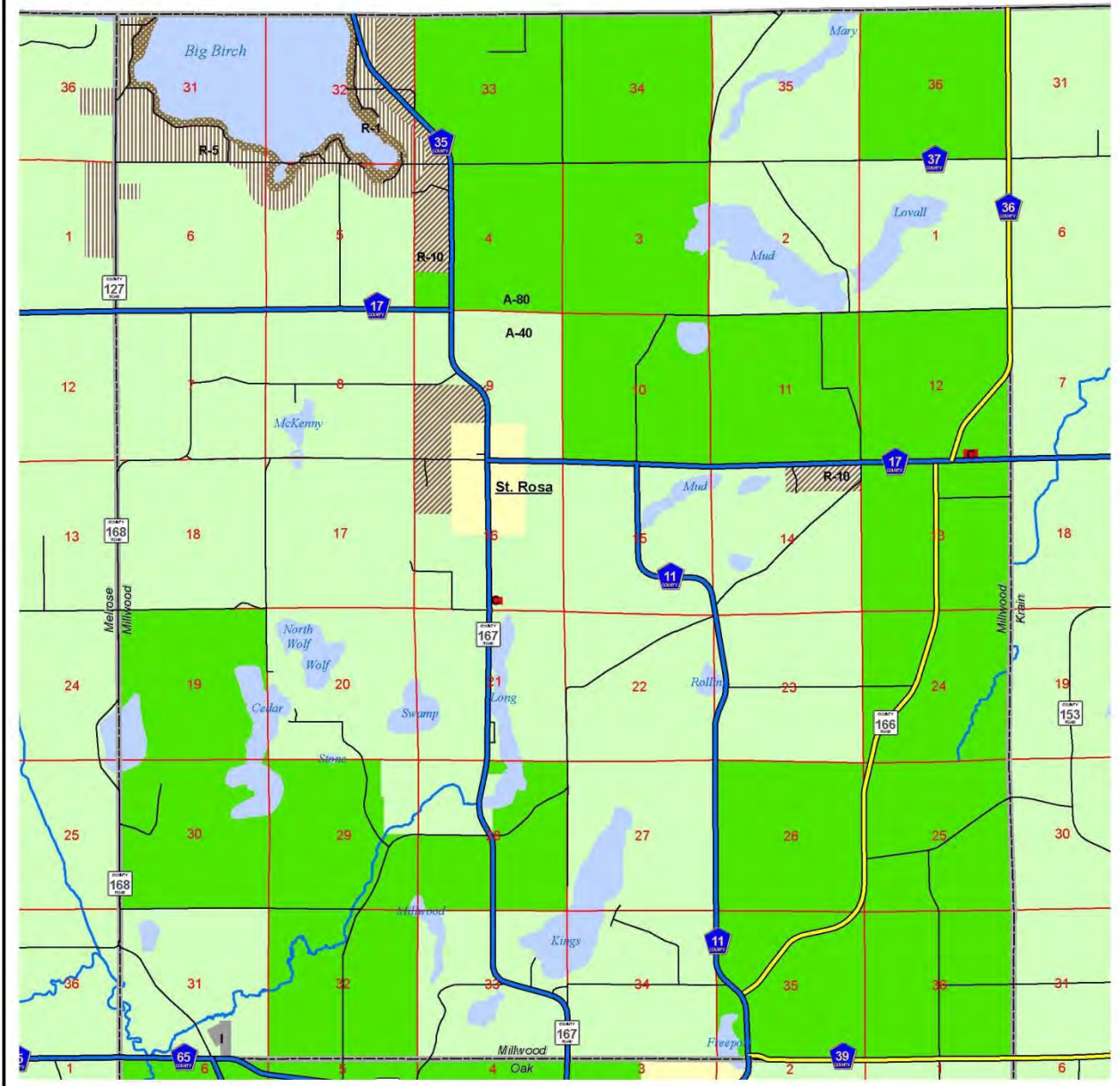
- Agricultural District A-160
- Agricultural District A-80
- Agricultural District A-40
- Commercial (C)
- Educational/Ecclesiastical (EE)
- Industrial (I)
- Municipality
- Urban Expansion (UE)
- Protected Lake

Zoning Districts

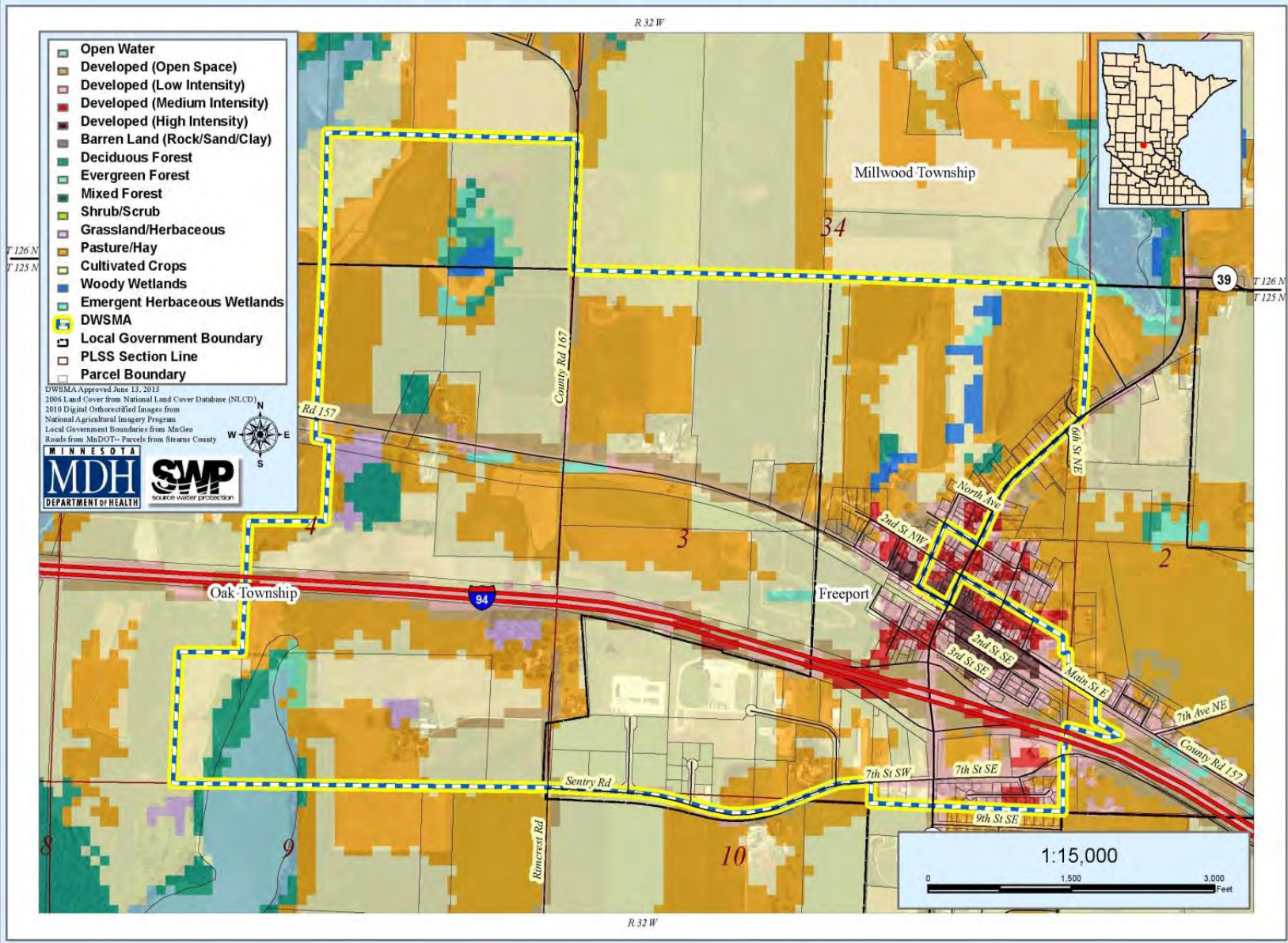
- Residential District R-1
- Residential District R-5
- Residential District R-10
- Residential District R-20
- Residential Manufactured Home (RMH)
- Rural Townsite (RT)
- Scenic River District (SR)
- Transition District T-20



This map is made available on an "as is" basis without express or implied warranty of any sort, including specifically, any implied warranties of fitness for a particular purpose, warranties of merchantability or warranties relating to the accuracy of the database.



Freeport Drinking Water Supply Management Area (DWSMA) MN-00675 - Land Cover 2006



Freeport DWSMA (MN-00675) 1989 Land Use Statistics

TOTAL	LUSE CODE	LUSE NAME	ACRES
8	21	Cultivated Land	604.80
9	31	Grassland	282.32
3	11	Urban and Industrial	92.17
15	41	Deciduous Forest	38.41
8	12	Farmsteads and Rural Residences	29.45
1	50	Water	10.25
4	61	Wetlands	4.63

These statistics are geographically derived from the TIC 1989 land use dataset.

Freeport DWSMA (MN-00675) 2006 Land Cover Statistics

LAND COVER	ACRES	PERCENT	YEAR
Open Water	12.45	1.17	2006
Developed, Open Space	76.25	7.18	2006
Developed, Low Intensity	80.25	7.56	2006
Developed, Medium Intensity	28.01	2.64	2006
Developed, High Intensity	10.45	0.98	2006
Deciduous Forest	26.68	2.51	2006
Evergreen Forest	5.56	0.52	2006
Grassland/Herbaceous	9.56	0.90	2006
Pasture/Hay	354.13	33.35	2006
Cultivated Crops	440.62	41.49	2006
Woody Wetlands	10.01	0.94	2006
Emergent Herbaceous Wetlands	8.01	0.75	2006
Total	1,061.97	100.00	2006

These statistics are geographically derived from the 2006 National Land Use/Land Cover dataset. They may not reflect current conditions and are only an approximation of land cover.