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SIXTH FIVE-YEAR REVIEW REPORT FOR REILLY TAR & CHEMICAL CORP. (ST. LOUIS PARK PLANT) SUPERFUND SITE HENNEPIN COUNTY, MINNESOTA

Prepared by

U.S. Environmental Protection Agency
Region 5
Chicago, Illinois

6/14/2021

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Signed by: DOUGLAS BALLOTTI

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LIST OF ABBREVIATIONS & ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
BaP-DahA	Sum of benzo(a)pyrene and dibenzo(a,h)anthracene
$B(a)P_{eq}$	Benzo(a)pyrene-equivalents
BTEX	Benzene, toluene, ethylbenzene and xylene compounds
CD/RAP	Consent Decree, with attached Remedial Action Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
City	City of St. Louis Park
COCs	Contaminants of Concern
EDD	Enforcement Decision Document
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FYR	Five-Year Review
GAC	Granular Activated Carbon
gpm	Gallons per minute
GTF	Groundwater Treatment Facility
HBV	Health-Based Value
HRL	Health Risk Limit
ICs	Institutional Controls
ICIAP	Institutional Controls Implementation and Assurance Plan
LTS	Long-Term Stewardship
MCL	Maximum Contaminant Level
MDH	Minnesota Department of Health
Mgal/yr	Million gallons per year
MPCA	Minnesota Pollution Control Agency
µg/L	Microgram per Liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
ng/L	Nanogram per Liter
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O&M	Operation and Maintenance
oPAH	Other (non-carcinogenic) PAH
OU	Operable Unit
PAHs	Polycyclic aromatic hydrocarbons
ppt	Parts per trillion
RAO	Remedial Action Objectives
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SDWA	Safe Drinking Water Act
TBCs	To be considered
USFWS	United States Fish and Wildlife service
UU/UE	Unlimited Use and Unrestricted Exposure
VOC	Volatile organic compound
WTP	Water Treatment Plant

I. INTRODUCTION

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The United States Environmental Protection Agency (EPA) is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR § 300.430(f)(4)(ii)), and considering EPA policy.

This is the sixth FYR for the Reilly Tar & Chemical Corp. (St. Louis Park Plant) Superfund Site ("Site"). The triggering action for this statutory review is the completion date of the previous FYR. The FYR has been prepared because hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

Record of Decisions (RODs) for the Site did not specify operable units (OUs); however, for purposes of FYRs, EPA assigned actions specified by each ROD to an OU. The Site is considered to consist of five OUs, all of which are addressed in this FYR. OU1 addresses the remedy for St. Louis Park drinking water supply wells SLP10 and SLP15. OU2 addresses the remedy for source materials and groundwater throughout the Site. OU3 addresses the remedy for the northern area of the Drift aquifer. OU4 addresses the remedy for the St. Peter aquifer. OU5 addresses the remedy for the northern area of the Platteville aquifer.

The Reilly Tar & Chemical Corp. (St. Louis Park Plant) Superfund Site FYR was led by EPA Remedial Project Manager (RPM) Nabil Fayoumi. Participants included Jennifer Jevnisek, Minnesota Pollution Control Agency (MPCA) project manager, and Dave Sheer, MPCA Hydrologist. EPA notified MPCA of the initiation of the FYR and the review began on 6/16/2020.

Site Background

The Site is 80 acres in size and is located near the intersection of Louisiana Avenue and U.S. Highway 7 in St. Louis Park (the City). It is bounded to the north by West 32nd Street and to the south by Walker Street. Most of the Site is located west of Louisiana Avenue, but a small portion extends to the east of Louisiana Avenue (See Figure 1 in Appendix B for Site location).

Republic Creosoting Company, a subsidiary of Reilly Tar & Chemical Corp., and then Reilly Industries, operated a coal tar distillation and wood preserving plant at the Site from 1917 through 1972. During the time that the facility operated, wastes containing coal tar and its distillates were disposed of into a ditch that emptied into a peat bog to the south of the Site. The discharge into the bog continued for the duration of the facility's operation. In addition, coal tar leaked through an onsite well into deeper aquifers. Consequently, many private wells and eventually municipal drinking water supply wells became contaminated with polycyclic aromatic hydrocarbons (PAHs). From 1978-1979, six drinking water wells in the City, and one in the city of Hopkins, were closed due to PAH contamination.

Plant operations were primarily located in the south-central and southeastern portions of the Site. These areas contained the coal tar distillation still, wood-treating building, and aboveground and underground storage tanks for creosote, tars, pitch, and fuel oils.

The current and reasonably anticipated future land uses of areas surrounding the Site are predominantly residential and some recreational uses. In 2002, the City redeveloped the Site itself into Louisiana Oaks Park. Portions of the northern end of the Site have been developed into a residential complex with multi-family housing, including walking trails, a playground, athletic fields, a recreational pavilion, and a pond that provides wildlife habitats. In 2015, a pedestrian bridge and trail were installed at the park.

Municipal drinking water for the City is obtained from the Prairie du Chien/Jordan aquifer and the deeper Mt. Simon/Hinckley aquifer. The water from these aquifers is treated prior to introduction into the municipal supply to be used for drinking water. Exposure pathways that could result in unacceptable risks are being controlled by filtering groundwater through granulated active carbon to remove VOCs unrelated to the Site. No drinking water wells exceed current drinking water standards for any of the contaminants of concern (COCs) associated with the Site.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Reilly Tar & Chemical Corp. (St. Louis Park Plant)		
EPA ID: MND980609804		
Region: 5	**State:** MN	**City/County:** St. Louis Park/Hennepin County

SITE STATUS	
NPL Status: Final	
Multiple OUs? Yes	**Has the site achieved construction completion?** Yes

REVIEW STATUS
Lead agency: EPA ***[If "Other Federal Agency", enter Agency name]*:**
Author name (Federal or State Project Manager): Nabil Fayoumi
Author affiliation: EPA
Review period: 6/16/2020 - 3/15/2021
Date of site inspection: Inspection could not be conducted due to COVID-19 work travel restrictions. A Site visit/inspection will be done as soon as it is feasible to do so.
Type of review: Statutory
Review number: 6
Triggering action date: 6/14/2016
Due date *(five years after triggering action date)*: 6/14/2021

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

The COCs identified in the soil and the groundwater at the Site are VOCs (benzene, toluene, and xylene), PAHs, and phenols.

Soil

PAHs and benzene-extractable organics have been detected in soil at the Site at levels that could lead to adverse health effects. Potential receptors for the soil pathway include residents on and near the Site, construction and maintenance workers, and recreational users of Louisiana Oaks Park. Ingestion of contaminated soil, particularly by children, inhalation of contaminated dust, and direct dermal contact with contaminated soils present a risk to human health.

Groundwater

PAHs were detected in groundwater at the Site at levels that could cause a risk to human health through ingestion. Potential receptors for the groundwater pathway include residents, construction and maintenance workers, and recreational users. The groundwater also poses a risk to the environment where it discharges into surface water. PAHs were detected in four aquifers located beneath the Site as a result of direct migration via a deep well located on-site. Site-related contamination was detected in the Drift/Platteville, St. Peter, Prairie du Chien/Jordan, and Wonewoc (formerly Ironton/Galesville) aquifers (See Figure 2 in Appendix B). In earlier years, the Drift/Platteville and St. Peter aquifers were used for both private and municipal drinking water in the area and many private wells and municipal wells became contaminated with PAHs. No ecological risks associated with the Site were identified during the remedial investigation or in the RODs.

Response Actions

Pre-ROD Activities

In 1978, the City's municipal drinking water wells SLP10 and SLP15 were closed after the Minnesota Department of Health (MDH) detected elevated levels of PAHs in untreated water. SLP7 and SLP9 were also closed due to their close proximity to the contaminated groundwater plume. In 1979, SLP4 and SLP5 were also closed due to elevated levels of PAHs. The closure of these six wells amounted to a reduction of roughly 35 percent of the existing drinking water capacity prior to 1978. Consequently, the City instituted a water conservation program, increased the pumping rates at uncontaminated wells, drilled a new well, SLP17, to the deeper uncontaminated Mt. Simon/Hinckley aquifer, and purchased a limited amount of water from the neighboring City of Plymouth.

In 1979, State and local agencies coordinated to abandon or reconstruct 28 multi-aquifer wells to prevent further spread of contaminants. In 1981, MPCA removed significant volumes of coal tar from two on-site wells, W23 and W105. In subsequent years, MPCA reconstructed both wells for use as future source control pumping wells.

RODs

OU1

OU1 consists of St. Louis Park drinking water supply wells SLP10 and SLP15. EPA signed a ROD for OU1 on June 6, 1984 (EPA, 1984). The 1984 ROD does not explicitly state Remedial Action Objectives (RAOs) but includes a general objective of restoring water quality and quantity to St. Louis Park. It also included the following objectives for developing and evaluating the water supply alternatives for St. Louis Park:

- Make up total supply shortfall of 3,400 gallons per minute (gpm)
    - 1,200 gpm year-round usage for SLP15/10
    - 2,200 gpm "peaking" usage, three weeks per year, possibly utilizing the wells currently closed (SLP7, SLP9)
    - Restore pre-1978 drinking water capacity
- Restore water quality equivalent to pre-1978 water quality in St. Louis Park

The remedy for OU1 that was chosen in the 1984 ROD included the following:

- Construction of a granular activated carbon (GAC) water treatment system at St. Louis Park Well SLP 15/10 to aid in the restoration of drinking water quality to St. Louis Park, Minnesota.
- Operation of the water system at 1,200 gpm so that it could be a major component of a gradient control well system. The operation of the gradient control well system is to protect the drinking water supplies of neighboring cities from contamination, and eventually allow St. Louis Park to open other wells closed due to contamination.

OU2

OU2 addresses the remedy for source materials and groundwater throughout the Site. EPA signed an Enforcement Decision Document (EDD) for OU2 on May 30, 1986 (EPA, 1986). The EDD does not include a statement of RAOs. The EDD lists the following selected remedial actions, remedial investigations and feasibility studies to be completed. Additional requirements of the below selected remedial actions can be found in the Remedial Action Plan (RAP) attached to the Consent Decree (CD), entered into on September 4, 1986 (CD, 1986) for cleanup of the Site and amended in July 2020 (The City of St. Louis Park, 2020). Additional details of the amended 2020 CD/RAP are included in the Status of Implementation section of this FYR. The Amended 2020 CD/RAP applies to all OUs at the Site.

- Restoration of drinking water supply and water quality by construction of a GAC system at St. Louis Park Wells (SLP15/10), in accordance with the June 6, 1984 ROD.
- Monitoring and contingency treatment of the Mt. Simon/Hinckley aquifer to maintain drinking water quality;
- Monitoring, pumping and treatment of the Ironton/Galesville aquifer to protect the deeper Mt. Simon/Hinckley aquifer;
- Monitoring, pumping and treatment of the Prairie du Chien/Jordan aquifer until such time that drinking water quality is uniformly established within the area of gradient control;
- Monitoring and contingent action for the maintenance of drinking water quality in the St. Peter aquifer;
- Monitoring, pumping and treatment of the Drift and Platteville aquifers to protect the down gradient use of the aquifer and the deeper St. Peter aquifer;
- Monitoring, pumping and treatment of the source material in the Glacial Drift aquifer and in well W23 in the Prairie du Chien/Jordan aquifer;

- Capping and filling of exposed hazardous wastes in the vicinity of the bog, south of the Site, in accordance with the United States Fish and Wildlife Service (USFWS) and EPA regulations;
- Discharge of hazardous wastes to a sanitary sewer for any contaminated material excavated and dewatered for the purposes of construction of an intersection in the vicinity of the bog;
- Further subsurface investigation in the vicinity of the Site, to implement deed restrictions for current and future land use in the areas of contamination;
- Further Remedial Investigation/Feasibility Study (RI/FS) to determine the areal extent of, and remedy for the contamination in the northern area of the Glacial Drift aquifer adjacent to the Site; and
- Further RI/FS in the St. Peter aquifer as necessary to implement the remedial action prescribed to protect drinking water quality.

The OU2 EDD does not include numeric drinking water standards. Instead, it states that the RAP is very specific with respect to action levels and cessation criteria for each remedial action requiring the pumping of an aquifer. The drinking water criteria and advisory levels as defined in the RAP apply to groundwater and to drinking water treated to remove PAHs. The 2020 amended CD/RAP changed the drinking water criteria and advisory levels. The amended CD/RAP drinking water criteria and advisory levels are included in Tables 7-9 in Appendix B. The EDD explains that the CD/RAP also requires compliance with all environmental laws, including the Clean Water Act and the Safe Drinking Water Act (SDWA).

OU3

OU3 addresses the remedy for the northern area of the Drift aquifer. EPA and MPCA signed a ROD for OU3 on September 30, 1992 (EPA, 1992). The OU3 1992 ROD does not specifically include RAOs, but states the following objective of the remedy:

- The objective of the remedial action is to prevent, reduce, and control the spread of contamination in the Northern Area of the Drift aquifer.

In addition to the above objective, the OU3 1992 ROD states the following expected outcomes of the remedy:

- The remedy will contain the spread of contaminated groundwater through interception and containment effects created by the pumping of multiple gradient control wells, including using existing well W422. By containing the spread of contamination in the Northern Area of the Drift aquifer, the remedy will preserve and protect the quality of groundwater in the rest of the Drift aquifer and will also reduce the potential for additional contamination of deeper aquifers currently used for drinking water supplies.

The major remedy components of the OU3 1992 ROD include:

- The interception and containment of contaminants by use of gradient control wells which will prevent the further spread of contaminated groundwater in the northern area of the Drift aquifer;
- The discharge from the new wells will initially be routed to the sanitary sewer for treatment at the Metropolitan Waste Control Commission wastewater treatment plant to remove contaminants from the collected groundwater;

- Continued water level and water quality monitoring of the groundwater contaminant plume during remediation activities; and
- Within three to five years, it is anticipated that the water quality of groundwater pumped from the gradient control wells would improve sufficiently to meet National Pollutant Discharge Elimination System (NPDES) limits. This would allow the City to route the groundwater pumped from the gradient control wells to a storm sewer for eventual discharge to Minnehaha Creek. If necessary, an off-site treatment facility would be built to treat groundwater discharge from the gradient control wells and an NPDES permit will be obtained for the discharge from such facility.

Since Maximum Contaminant Levels (MCLs) for PAH compounds were not developed through the SDWA at the time of the OU3 ROD, site-specific Drinking Water Criteria were derived. These Drinking Water Criteria are not promulgated requirements and are instead defined in the OU3 1992 ROD as To Be Considereds (TBCs). TBCs are advisories, criteria, or guidance that were developed by EPA, other federal agencies, or states that may be useful in development of CERCLA remedies. The 2020 Amended CD/RAP updated the drinking water criteria for OU3.

The OU3 1992 ROD cites the Clean Water Act as an Applicable or Relevant and Appropriate Requirement (ARAR) for any future surface water discharge of treated water. The ROD states that once groundwater quality is improved sufficiently to meet NPDES limits, seen in Table 1 below, the City can route the groundwater pumped from the gradient control wells to a storm sewer for eventual discharge to Minnehaha Creek.

Table 1: Surface Water Discharge Criteria

Contaminant Group	Daily Maximum Parameter Concentration	30-Day Average Concentration
Carcinogenic PAHs	--	65 ng/L*
Other PAHs	34 ug/L**	17 ng/L
Phenanthrene	2 ug/L	1 ug/L
Phenols	--	10 ug/L

* ng/L: nanogram per liter, or 1 part per trillion (ppt)
** ug/L = 1 part per billion (ppb)

OU4

OU4 addresses the remedy for St. Peter aquifer. EPA and MPCA signed the OU4 ROD on September 28, 1990 and September 26, 1990 respectively (EPA, 1990), respectively. The OU4 1990 ROD does not specifically include RAOs, but states the following objective of the remedy:

- The objective of the remedial action is to prevent, reduce, and control the spread of contamination in the St. Peter aquifer.

In addition to the above objective, the OU4 1990 ROD states the following expected outcomes of the remedy:

- The remedy is to contain the spread of PAH-contaminated groundwater in the aquifer by the interception and containment of the groundwater by pumping well number W410. By containing the spread of contamination in the St. Peter aquifer, the remedy will preserve the quality of groundwater in the rest of the aquifer and will reduce the potential of cross contamination of deeper aquifers used for drinking water.

The OU4 1990 ROD includes the following major remedy components:

- The interception and containment of contaminants by pumping well W410 at a rate of 65 to 100 gpm.
- The discharge from the well will be initially routed to the sanitary sewer for treatment at the Metropolitan Waste Control Commission wastewater treatment plant to remove contaminants from the collected groundwater.
- Continued water level and water quality monitoring of the groundwater contaminant plume during pumping remediation activities. This is not only to document the effectiveness of the remedy but also to determine the need for on-site treatment.
- Within three to five years, MPCA anticipates that the water quality of groundwater pumped from W410 will be improved sufficiently to meet NPDES limits. This would allow the City to route the groundwater pumped from W410 to a storm sewer for eventual discharge to Minnehaha Creek. If necessary, an on-site treatment facility will be built to ensure that the groundwater meets NPDES limits.

Any contaminated surface or extracted groundwater from the Site that is discharged to surface waters or routed through the sanitary sewer system for treatment and eventual discharge must meet the NPDES permit limits listed in Table 1 above.

OU5

OU5 addresses the remedy for the northern area of the Platteville aquifer. EPA and MPCA signed the OU5 ROD on June 30, 1995, and June 27, 1995 respectively. The 1995 ROD does not include RAOs specifically, but states the following objective of the remedy:

- The objective of the remedial action is to prevent, reduce, and control the spread of contamination in the Northern Area of the Platteville aquifer.

In addition to the above objective, the OU5 1995 ROD states the following expected outcomes of the remedy:

- The remedy is to contain the spread of contaminated groundwater through interception and containment effects created by the pumping of a gradient control well, identified as well W440. By containing the spread of contamination in the Northern Area of the Platteville aquifer, the remedy will preserve and protect the quality of groundwater in the rest of the Platteville aquifer, will reduce the potential for additional contamination of deeper aquifers currently used for drinking water supplies, and preserve the natural resource value of uncontaminated portions of the aquifer.

The major components of the selected remedy include:

- The interception and containment of contaminants by use of a gradient control well to prevent the further spread of contaminated groundwater in the Northern Area of the Platteville aquifer.
- The discharge from the new well will be initially routed to the sanitary sewer for treatment at the Metropolitan Council Environmental Services wastewater treatment plant to remove contaminants from the collected groundwater.
- Continued water level and water quality monitoring of the groundwater contaminant plume during remediation activities.

The 1995 ROD anticipated that within three to five years, the water quality of groundwater pumped from the gradient control well would improve sufficiently to meet NPDES limits. This would allow the City to route the groundwater pumped from the gradient control well to a storm sewer for eventual discharge to Minnehaha Creek.

EPA and MPCA modified the OU5 1995 ROD in an Explanation of Significant Differences (ESD) signed by EPA and MPCA on March 26, 1997 and April 11, 1997 respectively (EPA, 1997). The ESD documented that well W440 was installed; however, the well could not provide sufficient drawdown to establish a significant capture zone. The ESD documented EPA and MPCA's decision to allow use of well W434, which is located immediately south of the Northern Area, as a substitute gradient control well.

Status of Implementation

In 2019, EPA, MPCA, and the City signed an amendment to the 1986 CD and the incorporated RAP to address: (1) changes in the understanding of the toxicology of the relevant contaminants as reflected in the current health-based criteria; (2) modifications to the conceptual site model; (3) continuing implementation of the remedy; and (4) the status of the Parties. The Amended 2020 CD incorporates the terms and conditions of the 1986 CD with specific revisions, including the following:

- It establishes "Active" and "Passive" Parties and their respective responsibilities. The Active Parties are EPA, MPCA, and the City. The Passive Parties, whose responsibilities under the Amended 2020 CD are related to property access and non-interference obligations, are the St. Louis Park Housing and Redevelopment Authority, Oak Park Village, Philip's Investment Co., and the City of Hopkins.
- The City will continue to operate the pump and treat system to address the groundwater plume and the treatment system on two of its municipal drinking wells. Also, the City will ensure the soil remediation (e.g. cover of clean soil) is not disturbed.
- It establishes that the Parties to the 1986 CD dismiss all claims against Reilly Tar in light of the Liquidation Plan executed in the Vertellus bankruptcy case.

OU1

Remedial actions that were implemented for OU1 include the construction of the GAC treatment unit in 1985 to treat water from wells SLP10 and SLP15, which the City continues to operate and maintain. The carbon is generally replaced every other year and was last replaced in September 2020. In accordance with the CD/RAP Section 4.1.3, the GAC plant is required to handle a flow rate of 1,200 gpm and attain the drinking water criteria specified in the 2020 amended CD/RAP. The GAC plant meets both of these requirements and the treated water is used in the City's municipal water supply system.

OU2, OU3, and OU4

Monitoring and contingency treatment of the Mt. Simon/Hinckley aquifer to maintain drinking water quality.

- Wells SLP11, SLP12, SLP13 and SLP17 are completed within the Mt. Simon/Hinckley aquifer. Well SLP17 has been out of service since 2000 and has not been sampled since then. Wells SLP11 and SLP13 were turned off in 2003 and 2004, respectively, but are still sampled annually. SLP17 was sealed in 2013. SLP11 and SLP13 are still used as secondary wells because those two plants also have Praire du Chien and Jorden aquifer wells that are used as the primary wells, which are more economical to operate.

Monitoring, pumping and treatment of the Ironton/Galesville aquifer to protect the deeper Mt. Simon/Hinckley aquifer.

- Well W105 was constructed and began operating in 1987 as a pumping well. EPA and MPCA approved in 1991 discontinuing pumping W105 after the well met the cessation

criteria outlined in the 1986 CD/RAP. Monitoring of W105 continues for the duration of the 2020 amended CD/RAP.

Monitoring, pumping and treatment of the Prairie du Chien/Jordan aquifer until such time that drinking water quality is uniformly established within the area of gradient control.

- The 1986 CD/RAP required well SLP4 to be pumped as a gradient control well for the Prairie du Chien/Jordan aquifer and it began pumping around 1990. The well was out of operation in 2017 and 2018 to allow for the installation of air stripping equipment and it was returned to service in January 2020. Water treatment plant number four (WTP4) was updated to address VOCs unrelated to the Site. In 2016, EPA and MPCA approved the removal of the GAC from WTP4 for PAH. Well W48 was operated by Methodist Hospital as an additional pumping well in the Prairie du Chien/Jordan aquifer until approximately 1991. This well operated sporadically both prior to and after 1991 and had a limited contribution to gradient control. Well W48 was legally abandoned by a licensed well contractor during an expansion of Methodist Hospital in 2015.

Monitoring and contingent action for the maintenance of drinking water quality in the St. Peter aquifer.

- In the past, the City pumped well W410 to contain the spread of contaminated groundwater in the St. Peter aquifer. Well W410 ceased pumping in 2018 because it is part of the Pumping Cessation Pilot Test Plan ("Plan") (Geosyntec, 2018). Additional discussion of the Plan can be found at the end of this section. The status of remedy implementation in connection with the St. Peter aquifer is provided in the discussion of OU4 below.

Monitoring, pumping and treatment of the Drift and Platteville aquifers to protect the down gradient use of the aquifer and the deeper St. Peter aquifer.

- As required by the 1986 CD/RAP, the City began operating pumping well W422 in the Drift aquifer, which is hydraulically linked to the Platteville aquifer, for gradient control in 1987. Well W422 met cessation criteria and EPA and MPCA approved cessation of pumping in 2000. Wells W420 and W421 were considered sufficient to capture the highly contaminated groundwater immediately south of the Site. Wells W420 and W421 ceased pumping in 2018 as part of the Pumping Cessation Pilot Test Plan. Additional discussion of the Pilot Test Plan can be found at the end of this section. The status of remedy implementation concerning the northern areas of the Drift and Platteville aquifers are discussed under OU3 and OU5, respectively.

Monitoring, pumping and treatment of the source material in the Glacial Drift aquifer and in well W23 in the Prairie du Chien/Jordan aquifer.

- As required by the CD/RAP, the City operates three pumping wells for control of groundwater near the source: well W420 completed in the Drift aquifer, well W421 completed in the Platteville aquifer, and well W23 completed in the Prairie du Chien aquifer. In 1993, water was rerouted to the Groundwater Treatment Facility (GTF) and discharged to Minnehaha Creek under the terms of an NPDES permit. Wells W420 and W421 ceased pumping in 2018 because they are part of the Pumping Cessation Pilot Test Plan. Additional discussion of the Pilot Test Plan can be found at the end of this section.

Capping and filling of exposed hazardous wastes in the vicinity of the bog, south of the Site, in accordance with the USFWS and EPA regulations.

- The bog and wetland areas are located adjacent to the southeast corner of the Site, south of Walker Street and north of Highway 7. EPA, MPCA, and USFWS approved the work plans to fill the bog with one foot of clean fill compatible with possible later construction of the Louisiana Avenue/Highway 7 intersection in this area. The City completed filling of the bog in 1986, which was then inspected and approved by the agencies.

Discharge of hazardous wastes to a sanitary sewer for any contaminated material excavated and dewatered for the purposes of construction of an intersection in the vicinity of the bog.

- In 1991 and 1992, construction of the intersection at Highway 7 and Louisiana Avenue was completed. The work included removal of 400 cubic yards of contaminated soil, which was disposed of at the U.S. Pollution Control, Inc. Landfill in Rosemount, Minnesota.

Further subsurface investigation in the vicinity of the Site, to implement deed restrictions for current and future land use in the areas of contamination.

- The City performed a soil investigation in the areas near the Site requiring further subsurface investigation as defined in the 1986 CD/RAP. The results of this investigation are found in a Soil Investigation Report dated April 18, 1989 (City of St. Louis Park, 1989). The report describes finding mostly clean soil with some low levels of background contamination. The report states that the area investigated has industrial/commercial land use and that risks posed to human health and the environment were low. The 1986 CD/RAP requires owners of properties on which any Site-related releases occurred to file deed notices on the title to the property. However, EPA and MPCA did not require deed notices for this area at that time. A current evaluation of the need for Institutional Controls (ICs) in areas surrounding the Site is discussed in the ICs section below. Site conditions and land uses have not changed since the 1986 Report.
- The City reports that soil cover on the Site, the result of the capping and filling of exposed hazardous waste in the vicinity of the bog area, is not less than six inches and is more typically one to two feet thick, with the exception of a tree-covered mound near the center of the Site, where a stone curb is visible today. Figure 3 in Appendix B illustrates the current depths of clean soil cover at the Site. Also, in October 2020, the City submitted a draft Site Soil Cover Report (City of St. Louis Park, 2020), which documented the condition of the Site cover, as required by the Amended CD/RAP.

OU5

In 1996, the City constructed well W440 in a location that EPA and MPCA considered most likely to produce water; however, it did not produce enough water to provide a significant capture zone and was plugged shortly after testing. An ESD was issued in 1997 to utilize well W434, located immediately south of the northern area, as a substitute gradient control well. EPA and MPCA approved use of pumping well W434 to meet the requirements of the 1995 ROD and 1997 ESD. EPA and MPCA approved cessation of pumping for Well W434 in 2006. The approval letter noted that groundwater sample results from this well met current MCLs, Health Risk Limits (HRLs), and Health-Based Values (HBVs). The letter also noted that well W421, which continued to operate, captured groundwater from this area. Well W421 ceased pumping in 2018 as part of the Pumping Cessation Pilot Test Plan, discussed further below. The City continues to monitor water levels and water quality in the Platteville aquifer.

Pumping Cessation Pilot Test Plan

In 2018, the City began implementing the Pumping Cessation Pilot Test Plan with the approval of MPCA and EPA and Plan implementation has continued in 2019, 2020, and 2021. Since the 1980s, the City had been operating a source and gradient control system to address the RAO to contain the spread of contaminated groundwater in the Drift, Platteville, and St. Peter aquifers. The City had been pumping groundwater from two wells in the Drift aquifer, W420 and W439; one well in the Platteville aquifer, W421; and one well in the St. Peter aquifer, W410. Two other gradient control wells, W422 (Drift aquifer) and W434 (Platteville aquifer) ceased pumping in 2000 and 2006, respectively. The City ceased pumping in 2018, on a pilot test basis, from wells W410, W420, W421 and W439 and is conducting groundwater monitoring to demonstrate whether the RAO is being met by monitored natural attenuation in the Drift, Platteville and St. Peter aquifers. The Pumping Cessation Pilot Test is expected to be completed in the second half of 2021. Following the completion of this pilot test, results will be reviewed by EPA and MPCA to determine whether monitored natural attenuation without pumping may be an effective method to contain the spread of contaminated groundwater in the Drift, Plattville and St. Peter aquifers, or whether another remedy modification is appropriate.

Institutional Controls

Table 2 below provides a summary of all planned or implemented ICs for the Site. Appendix C includes Site maps of the 21 parcels subject to required ICs for soil which do not allow for UU/UE.

Table 2: Summary of Planned and Implemented ICs

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Soil	Yes	Yes	See maps in Appendix C	Restrict exposure to subsurface soil contamination	Restrictive Covenants - Planned
Soil	Yes	Yes	See maps in Appendix C	Restrict exposure to subsurface soil contamination	Deed Notice Planned
Soil	Yes	Yes	See maps in Appendix C	Notification within City building permit process of potential hazardous substances resulting from the Site	Permit Notifications - Planned

Groundwater	Yes	Yes	State-wide	Requires notification of proposed construction of a groundwater supply well to the commissioner	Minnesota Statute 103I.205
Groundwater	Yes	Yes	State-wide	Prohibits construction of wells that interconnect aquifers separated by a confining layer or interconnect an unconsolidated aquifer and a bedrock aquifer	Minnesota Rule 4725.2020
Groundwater	Yes	Yes	State-wide	Requires all buildings to be connected to municipal water supply if one is available	Minnesota Rule 4714.0311
Groundwater	Yes	Yes	City-wide	Prohibits connection of private water supplies to the municipal supply system	St. Louis Park Municipal Code Chapter 32 Article V. Section 32-205

Status of ICs:

ICs are required by the 1986 CD and the amended 2020 CD/RAP to restrict the use of certain properties to industrial/commercial, prevent digging and maintain the vegetation cap over the bog area, maintain the integrity of the remedy components, and assure the long-term protectiveness for areas that do not allow for UU/UE. As shown in Table 2 above, ICs for soil in the form of restrictive covenants or deed notices are not in place and still need to be implemented for parcels where soil may have been impacted by the Site.

Periodically, the City conducts work at the Site that requires digging. The City did construction work on the sidewalk in the park on the Site in the fall of 2015. Several residents complained about odors that they said they thought were coming from the Site and about potential exposure to contamination buried at the Site. To address these concerns, the City will provide notification to permit applicants that propose projects involving soil disturbance. The permit applicant will be notified of the potential to encounter hazardous substances during their soil disturbance work. The notification will include providing the applicant with a fact sheet regarding safe handling of potentially impacted soil. This City notification procedure is an action item and a recommendation from the last FYR.

In November 2017, the City completed the Draft Institutional Control Implementation and Assurance Plan (ICIAP) (City of St. Louis Park, 2017), as a supplement to the Amended 2020 CD/RAP for the Site. The effective date of the Amended CD and Amended RAP was July 30, 2020. The final ICIAP will

include plans to implement, maintain, and enforce ICs and Long-Term Stewardship (LTS) procedures for ICs. Finalizing the draft ICIAP is an action item for this FYR.

The ICIAP will require the City to annually evaluate whether IC instruments remain in place, operate in the manner envisioned, and continue to be effective in preventing unacceptable exposures or protecting the integrity of remedies. This annual IC evaluation will include:

- Ensuring that the restrictive covenants on Site properties remain in force at the Hennepin County, Minnesota, Office of the Registrar of Titles;
- Verifying that the City building permit process continues to have a functioning mechanism to provide notifications to permit applicants of potential hazardous substances that could be encountered at properties where soil was potentially impacted by the Site;
- Verifying the state-wide/City-wide ICs listed in Table 2 remain in place and effective;
- Determining whether any IC deficiencies have been identified and if they have been addressed in a timely manner; and
- Reviewing the ICs in regard to changed conditions, if any, that would require modifications.

The ICIAP will also require that the annual report for the Site submitted to EPA and MPCA include a section documenting the following:

- Status of the ICs;
- Annual certification that the required ICs are in place and effective;
- Summary of IC monitoring results;
- IC deficiencies or inconsistencies identified, if any, and corrective actions that have been implemented or will be proposed; and
- Changes in Site conditions, such as ownership for properties affected by ICs.

Further, ICIAP communication among project stakeholders will address changes in Site conditions, if any, and other Site matters that may affect the ICs. The City, MPCA, and EPA will collaborate on LTS of the ICIAP.

Current Compliance:

ICs for groundwater are in place and effective as set forth in the draft 2020 ICIAP Monitoring Report. On March 10, 2021, the City submitted the draft 2020 ICIAP Monitoring Report (City of St. Louis Park, 2021) for the Site (Appendix C). This ICs review concluded the following:

- ICs for groundwater include three state-wide rules that ensure that new groundwater supply wells are built correctly and with the knowledge of the MDH, and that municipal water supplies are used in all buildings. The City further requires that private wells do not connect with the municipal system in St. Louis Park. These rules remain in place and provide adequate groundwater protection. No new water supply wells have been constructed in St. Louis Park in 2020. The City did not submit information about new water supply wells in previous years

during this FYR period. Additionally, the City is not aware of any leaky, multi-aquifer wells requiring corrective action.

- ICs for soil include restrictive covenants to make property owners aware of contamination on their property, impose digging restrictions, and limit land use to industrial/commercial. The City was unable to confirm that the deeds for the 21 parcels listed in Appendix C contain the appropriate notices. This is an action item of this FYR. EPA, MPCA, and the City will confirm that all 21 parcels have deed notices to make property owners aware of contamination on their property.

- Appendix C identifies 21 parcels that are subject to these soil controls; these parcels comprise the Site and bog areas to the south of the Site. These parcels are flagged in the City's permit notification system to ensure that property owners, contractors, and other third parties are aware of contamination that may be encountered during excavation work. These same 21 parcels are also flagged in the City's right-of-way permit system and will be flagged in the City's One-Call locate system once a scheduled Spring 2021 upgrade is completed.

- The City's inspection department issues permits for new projects that involve excavation. If permits are requested for any of the 21 parcels identified in Appendix C, those projects are flagged for notification to the City's Reilly Site Project Manager. A guidance document has been prepared to explain the requirements for excavations in contaminated areas (Appendix C). The City will provide the guidance document after a permit application has been made, and the City's Reilly Site Project Manager will ensure the requirements are met. The City intends to provide this guidance to contractors whenever possible for excavation work that takes place on the Reilly Site or bog area including emergency utility repairs or work that is outside of the permit process. The City submitted to EPA and MPCA a more detailed generic draft work plan for its own work at the Site or bog area as part of the October 2020 Draft Soil Cover Update Report (City of St. Louis Park, 2020). This submission was required by the amended CD/RAP. The report described Site inspections to be performed in the Spring and Fall of each year to document soil cover conditions and identify any items that may require maintenance.

- No ICs deficiencies were identified.

- No changed conditions (including leaky multi-aquifer wells) were identified.

- No soil excavations or emergency utility repairs were conducted in 2017 and 2019.

- In 2018, Comcast installed communication cables to the housing properties at the Site. A Construction Plan was submitted to EPA and MPCA in accordance with the 1986 CD/RAP.

- In 2020, MPCA approved a Site Investigation Work Plan submitted by Braun Intertec on behalf of Helix Apartments. This investigation included the placement of one soil probe in a portion of the northeastern area of the Site for the purpose of collecting soil and groundwater samples. Any disturbance of soil in this area required MPCA approval.

- No changes in ownership occurred in 2020 for any of the 21 parcels identified in Appendix C. The City did not submit ownership information in previous years during this FYR period.

Even though not all required ICs for soil have been implemented, the City confirmed that there are currently no known uses of the Site which would be considered inconsistent with the ICs' stated objectives. The soil remedy appears to be functioning as intended, however soil ICs are necessary to ensure protectiveness of the remedy. During this FYR period, there has been compliance with approved procedures for excavation work done at and near the Site, and EPA and MPCA are not aware of deviations from approved plans.

IC Follow up Actions Needed:

The following actions are needed regarding soil ICs and are included in the Issues and Recommendations section of this FYR:

- ICs in the form of restrictive covenants for soil are not in place and should be implemented for all properties for which they are needed.

- ICs for soil include deed notices to make property owners aware of contamination on their property. The City was unable to confirm that the deeds for the 21 parcels listed in Appendix C contain the appropriate notice. Deed notices need to be confirmed for the 21 parcels or deed notices be placed on those parcels without one.

- The draft ICIAP needs to be finalized.

Systems Operations/Operation & Maintenance

The City is responsible for operation and maintenance (O&M) of the remedy and must document O&M activities in Annual Monitoring Reports for the Site. Maintenance to pumping wells included in the Site remedy are summarized in Table 4 in Appendix B.

Completed O&M activities during the review period for this FYR include the following:

- Well SLP4 was returned to service in January 2019 after water treatment plant number four (WTP4) was updated to address VOCs unrelated to the Reilly Site. Air stripping was added to the treatment plant for SLP4 in 2018. Removal of GAC treatment for PAH was approved by EPA and MPCA in 2016.

- Monitoring wells W442 and W444 are new monitoring wells that were installed during this FYR period. W444 is the closest down-gradient Drift aquifer monitoring well to former pumping well W439.

- Pumping well W23 was pulled and the pump was replaced in 2019.

Ongoing routine O&M activities include the following:

- O&M of the three, currently-operating pumping wells included in the remedy (SLP10/15, W23, SLP4), including monitoring of average annual pumping rates in comparison to required rates, water quality monitoring and comparisons to cessation criteria of the 2020 Amended CD/RAP. Wells W410, W420, W421, and W439 ceased pumping in 2018 because they are part of the Pumping Cessation Pilot Test Plan.

- O&M of the GAC treatment plant for drinking water wells SLP 10/15, located at the City's Treatment Plant 1, including quarterly monitoring of treated water and annual monitoring of feed water. Also, the City generally replaces the GAC every other year. The GAC was replaced in September 2017 and September 2019.

- O&M of the GAC treatment plant at the GTF located on the Site, including quarterly monitoring of treated water and annual monitoring of feed water, and comparison of the treated water to permit requirements. The GTF is currently online, but only treats water from W23. (W420 and W421 are not currently pumping because they are part of the Pumping Cessation Pilot Test Plan; W105 has not pumped since it met cessation criteria in 1991).

- Water Treatment Plant 4 (SLP4) was taken out of service at the end of 2016 after testing showed that while some concentrations of VOCs unrelated to the Site were being reduced, other concentrations of VOCs were still increasing. EPA, MPCA, and the City agreed to pump an extra 341 million gallons of water from Well SLP10 and/or SLP15 to make up for the loss of pumping capacity at SLP4. Work at SLP4 was completed and SLP4 was put back in service in January 2019.

III. PROGRESS SINCE THE LAST REVIEW

This section includes the protectiveness determinations and statements from the last FYR as well as the recommendations from the last FYR and the current status of those recommendations.

Table 4: Protectiveness Determinations/Statements from the 2016 FYR

OU #	Protectiveness Determination	Protectiveness Statement
1	Protective	The remedy at OU1 is protective of human health and the environment. At OU1, exposure pathways that could result in unacceptable risks are being controlled by filtering groundwater from wells SLP10 & SLP15 through GAC prior to introduction to the St. Louis Park municipal supply. RAOs for this OU1 are being met through treatment of drinking water and by pumping at a required rate that contributes to gradient control in the Prairie du Chien/Jordan aquifer.
2	Short-term Protective	The remedy at OU2 currently protects human health and the environment because drinking water affected by Site-related contamination is being treated prior to use, most source control and gradient control groundwater pumping wells are operating as required, and vapor intrusion does not present an unacceptable risk. In addition, the remedy and pre- and post-ROD actions have resulted in covering of source materials to prevent future exposures. However, in order for the remedy to be protective in the long-term, the following actions need to be taken to ensure

		protectiveness: Evaluate existing soil data and conduct additional sampling if needed to identify all Site-affected properties not available for UU/UE; develop and implement an IC Plan; implement additional ICs needed; address long-term stewardship through development of a LTS Plan or amendment to the O&M Plan; complete a decision document clarifying ICs requirements; clarify safety and notification protocols for excavation work in Site-affected areas; consider benzene and ethylbenzene in evaluation of plume capture; re-evaluate capture and stability of the Site-related plume in the Drift/Platteville and St. Peter aquifers and adjust pumping if needed; continue to evaluate the optimal pumping scenario for capture of the Site-related plume in the Prairie du Chien/Jordan aquifer; and continue to evaluate leaky, multi-aquifer wells that may be present at the Site and plug or re-complete as needed.
3	Short-term Protective	The remedy at OU3 currently protects human health and the environment because well W439 continues to pump in the northern area of the Drift aquifer. However, in order for the remedy to be protective in the long-term, the following action needs to be taken to ensure protectiveness: Re-evaluate capture and stability of the Site-related plume in the Drift/Platteville aquifer and adjust pumping if needed.
4	Short-term Protective	The remedy at OU4 currently protects human health and the environment because well W410 is pumping in the St. Peter aquifer and although groundwater down-gradient of this location exceeds CD-RAP Drinking Water Criteria it does not exceed current drinking water standards (MCLs, HRLs, or HBVs). However, in order for the remedy to be protective in the long-term, the following action needs to be taken to ensure protectiveness: Re-evaluate capture and stability of the Site-related plume in the St. Peter aquifer and adjust pumping if needed.
5	Short-term Protective	The remedy at OU5 currently protects human health and the environment because the Platteville member of the Drift/Platteville aquifer is not known to be a current source of drinking water, there are no complete exposure pathways, and pumping continues in this aquifer, although at a reduced rate. However, in order for the remedy to be protective in the long-term, the following action needs to be taken to ensure protectiveness: Re-evaluate capture and stability of the Site-related plume in the Drift/Platteville aquifer and adjust pumping if needed.
Sitewide	Short-term Protective	The remedy at the Site currently protects human health and the environment because drinking water affected by Site-related contamination is being treated prior to use, most source control and gradient control groundwater pumping wells are operating as required, and vapor intrusion does not present an unacceptable risk. In addition, the remedy and pre- and post-ROD actions have resulted in covering of source materials to prevent future exposures. However, in order for the remedy to be protective in the long-term, the following actions need to be taken to ensure protectiveness: Evaluate existing soil data and conduct additional sampling if needed to identify all Site-affected properties not available for UU/UE; develop and implement an IC Plan; implement additional ICs needed; address long-term stewardship through development of a LTS Plan or amendment to the O&M Plan; complete a decision document clarifying ICs requirements; clarify safety and notification protocols for excavation work in Site-affected areas; consider benzene and ethylbenzene in evaluation of plume capture; re-evaluate capture and stability of the Site-related plume in the Drift/Platteville and St. Peter aquifers and adjust pumping if needed; continue to evaluate the optimal pumping scenario for capture of the Site-related plume in the Prairie du Chien/Jordan aquifer; and continue to evaluate leaky multi-aquifer wells that may be present at the Site and plug or re-complete as needed.

Table 5: Status of Recommendations from the 2016 FYR

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
2	Existing soil data may be inadequate to identify all Site-affected properties that need use restrictions.	Evaluate existing soil data and conduct additional sampling if needed to identify all Site-affected properties not available for UU/UE.	Completed	EPA evaluated the existing shallow soil data. This evaluation is documented in the April 2019 report entitled "Review of Shallow Soil Data" by S.S. Papadopulos & Associates, Inc. (SSPA) prepared for EPA (EPA, 2019). EPA concluded that the existing shallow soil data is adequate to identify affected properties that need use restrictions. No further sampling is planned at the current time, however, soil will be sampled and tested to support future projects for utility repairs/installation or site redevelopment. Future sampling will be done in accordance with a work plan approved by EPA and MPCA. EPA and or MPCA will oversee the City's future soil sampling.	4/3/2019
2	A decision document is needed to require ICs for soil and groundwater as appropriate.	Complete a decision document clarifying ICs requirements.	Completed	The 2020 amended CD and amended RAP require ICs.	7/30/2020
2	ICs for areas of the site where UU/UE has not been achieved are not in place. An IC Plan needs to be developed to aid in the determination of ICs that are needed and in the implementation of such ICs.	An IC Plan should be developed to evaluate existing ICs and the need for additional ICs. The IC Plan should also discuss the implementation and maintenance of any additional ICs.	Addressed in Next FYR	The 2020 amended CD/RAP required the City to submit an ICIAP. The City submitted a draft ICIAP that will be incorporated into the approved amended CD/RAP when the ICIAP is finalized. The ICIAP addresses areas of the Site where UU/UE has not been achieved.	NA
2	Planning for LTS is required to ensure that the ICs are maintained, monitored and enforced so that the remedy continues	Develop a LTS Plan or an amendment to the O&M Plan that outlines procedures for inspecting and monitoring	Addressed in Next FYR	The draft 2017 ICIAP contains LTS procedures and will be incorporated into the approved amended CD/RAP when the ICIAP is finalized. The ICIAP requires LTS procedures such as ICs inspections, compliance	NA

	to function as intended.	compliance with the ICs. An annual report should be submitted to EPA and MPCA to demonstrate that the site was inspected, that no inconsistent uses have occurred, that ICs remain in place and are effective, and that any necessary contingency actions have been executed.		monitoring, annual reporting, and certification to EPA and MPCA that the required ICs are in place and effective.	
2	ICs are not in place for soils where UU/UE has not been achieved.	Develop and implement appropriate ICs.	Addressed in Next FYR	Ongoing	NA
2	Safety protocols for work involving excavation in on- and off-Site affected areas, and notification procedures for work on off-Site areas, need additional clarity.	Clarify safety and notification protocols for excavation work in Site-affected areas.	Completed	The 2020 amended CD/RAP require the City to submit an ICIAP and soil cover report. The City submitted a draft ICIAP and a draft soil cover report that will be incorporated into the approved amended CD/RAP when they are finalized. The draft ICIAP and the soil cover report clarified safety and notification protocols for excavation work in Site-affected Area.	7/30/2020
2	Benzene and ethylbenzene are newly recognized as likely Site-related groundwater contaminants that exceed current drinking water standards.	Consider Site-related benzene and ethylbenzene in evaluation of plume capture.	Completed	EPA evaluated the plume capture. This evaluation is documented in the June 2017 report entitled "Volatile Organic Chemical (VOC) Target Zone Maps, Prairie du Chien/Jordan Aquifer" by SSPA prepared for EPA (EPA, June 2017). EPA concluded that plume capture includes Site related benzene and ethylbenzene.	6/21/2017
2,3,5	Pumping well W439 in the Drift is unable to attain the pumping rate specified in the gradient control plan and pumping well W434 in the Platteville is	Continue to evaluate capture and stability of the Site-related plume in the Drift/Platteville aquifer and adjust pumping if required.	Completed	EPA evaluated the capture and stability of Site related plume. This evaluation is documented in the May 2017 memo entitled "Groundwater Elevation Mapping in the Prairie du Chien/Jordan Aquifer" by SSPA for EPA (EPA, May 2017). EPA determined that additional	5/29/2017

	currently in approved shut-down mode; however down-gradient monitoring wells contain benzene that may be Site-related.			pumping was not required to improve capture. Also, monitoring well W444 was installed in 2019 and is the closest down-gradient Drift aquifer monitoring well to former pumping well W439. W439 stopped pumping on April 5, 2018 due to pump failure and was kept out of service for the Pumping Pilot Cessation Pilot Test.	
2	Well W48 (now plugged) is not pumping as intended by the CD-RAP and low concentrations of Reilly COCs continue to be detected in Edina drinking water wells prior to treatment.	Increase gradient control pumping in the Prairie du Chien/Jordan aquifer if required following completion of EPA's capture zone analysis.	Completed	EPA evaluated the capture and stability of Site related plume. This evaluation is documented in the May 2017 memo entitled "Groundwater Elevation Mapping in the Prairie du Chien/Jordan Aquifer" by SSPA for EPA (EPA, May 2017). EPA determined that increased gradient control pumping was not required. Pumping of gradient control wells are preventing migration of Site-related contaminants at concentrations that exceed Amended CD/RAP Drinking Water Criteria from reaching drinking water wells in the City of Edina.	5/29/2017
2	Additional leaky multi-aquifer wells may be present at the Site.	Continue to evaluate leaky multi-aquifer wells that may be present at the Site and plug or re-complete as needed.	Completed	The 2020 amended RAP became incorporated when the amended CD was approved. The amended RAP includes a contingency to evaluate and address potential leaky multi-aquifer wells. EPA and the City are not aware of any multi-aquifer wells requiring corrective action/plugging.	7/30/2020
2,4	Well W410 in the St. Peter aquifer is unable to meet its required pumping rate and down-gradient PAH concentrations are increasing, although they do not exceed current drinking water standards.	Re-evaluate capture of the Site-related plume in the St. Peter aquifer and increase pumping if needed.	Completed	EPA evaluated the capture and stability of Site related plume in the St. Peter aquifer. This evaluation is documented in the May 2017 memo entitled "Groundwater Elevation Mapping in the Prairie du Chien/Jordan Aquifer" by SSPA for EPA (EPA, May 2017). EPA determined that increased pumping was not required to improve capture. Also, well W410 was not pumped since	5/29/2017

				2018 because it is part of the Pumping Cessation Pilot Test Plan.	

Other Findings from the 2016 FYR and Status Update

In addition, the 2016 FYR identified the following recommendations that may improve performance of the remedy, but do not affect current nor future protectiveness:

- *Evaluate whether RODs should be modified to include benzene and ethylbenzene as additional Site-related contaminants in groundwater*. The 2020 Amended CD/RAP includes the HRL for benzene among Site-related contaminants (Tables 7-9). Monitoring wells that contain benzene above the HRL also contain ethylbenzene above the HRL. There were no exceedances for ethylbenzene in wells that did not exceed HRL for benzene. The benzene exceedance map covers all the locations where ethylbenzene exceeds the HRL. The City will continue to analyze all samples for VOCs, including ethylbenzene.
- *Evaluate the apparent discrepancy between use of CD/RAP Drinking Water Criteria as TBCs in the RODs and proposal to use current drinking water standards as one element of the pumping cessation criteria.* The 2020 Amended CD/RAP established current drinking water standards as one element of the pumping cessation criteria.
- *Continue the ongoing evaluation of Site pumping scenarios and determine whether it could capture both the Site-related Reilly COC plume and the non-Site related VOC plume.* EPA determined that Site pumping scenarios capture both the Site-related COC plume and non-Site related VOC plume.
- *Evaluate whether it is advisable to continue pumping source control wells beyond the cessation criteria required by the CD-RAP. Cessation criteria for source control wells defined by the CD/RAP are above current drinking water standards. Although the source area plume as defined by current drinking water standards does not appear to be expanding, the drift aquifer remains the most highly contaminated aquifer and continued pumping may serve to protect deeper drinking water aquifers.* The on-going Pumping Cessation Pilot Test Plan will address this issue once it is completed later in 2021.
- *Evaluate the potential for resuming pumping of well W105 in the Wonewoc (Ironton-Galesville) aquifer located on-Site. Although this well meets cessation criteria of the CD-RAP, it remains significantly contaminated and pumping may serve to protect deeper drinking water aquifers. MPCA and MDH are currently evaluating whether this well could be leaking contaminants to deeper aquifers. If so, it will need plugging, recompletion, or replacement.* EPA, MPCA, and the City decided not to resume pumping at well W105. The source control well W105 is currently not pumping because it has met cessation criteria in 1991 and is being monitored as part of the on-going Pumping Cessation Pilot Test Plan. The need for continuing monitoring of well W105 or evaluating the potential of sealing it will be determined once the Pilot Test Plan is completed later in 2021.
- *Add summaries of GAC treatment compliance and NPDES permit compliance to the Annual Monitoring Report.* GAC filters are not needed to achieve drinking water quality for PAHs. Compliance information was not included in the annual monitoring reports. EPA and MPCA will request the City to summarize NPDES permit compliance in future Annual Monitoring Reports.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

A public notice was made available by publication in the local newspaper, the *St. Louis Park Sun Sailor* on 7/9/2020, stating that there was a FYR and inviting the public to submit any comments to EPA. EPA received no comments. The public notice is shown in Appendix C. The results of the review and the report will be made available at the Site information repository located at St. Louis Park Public Library, 3240 Library Lane, St. Louis Park, Minnesota 55426 and at www.epa.gov/superfund/reilly-tar.

Data Review

This FYR consisted of reviewing relevant documents, including groundwater monitoring data, and any applicable groundwater cleanup standards, as listed in the 1986 CD/RAP and Amended CD/RAP. These documents, along with other documents reviewed during this FYR, are included in the reference list in Appendix A.

The Amended CD/RAP incorporates updated scientific knowledge of the health effects of chemicals of interest at the Site and are the values used for this data review. Tables 7-9 in Appendix B contain these updated drinking water criteria. The drinking water treatment plants at the Site are operated to meet the Amended CD/RAP Drinking Water Criteria and are required to meet MCLs under the SDWA. The drinking water treatment plants must also meet the HRLs and HBVs established by MDH.

Annual sampling events were conducted during this FYR period and included analyses for PAHs, total phenols, and BTEX compounds. BTEX compounds were added to the analysis because of the frequent occurrence of benzene in soil data during the original remedial investigations for the Site, combined with its presence in groundwater. Seventy-nine municipal and monitoring wells were sampled, and water level measurements were taken at 93 locations at the Site during this FYR period. The locations of the wells for the Drift, Platteville, and St. Peter aquifers are shown on Figure 5 and the locations of the wells for the Prairie du Chien/Jordan, Wonewoc, and Mt. Simon/Hinckley aquifers are shown in Figure 6 (both figures are in Appendix B).

Groundwater Treatment

Water Treatment Plant 1

WTP1 treats water from wells SLP10 and SLP15. WTP1 was sampled quarterly for PAH and VOCs during this FYR period. The July 2019 sample from well SLP10 contained benzo(c)fluorene in exceedance of the MDH HBV for carcinogenic PAHs. However, the quarterly samples of treated water from WTP1 did not contain detectable benzo(c)fluorene or other carcinogenic PAHs. Fluoranthene was detected at 0.01 micrograms per liter (µg/L) in the July 2019 sample from WTP1, which is below MDH's HBV of 70 µg/L. In accordance with the 1986 CD/RAP Section 4.1.3, WTP1 was required to handle a flow rate of 1200 gpm and attain the drinking water criteria specified in the Amended CD/RAP (Tables 7-9). The GAC plant meets both requirements and the treated water is used in the City's municipal water supply system.

Water Treatment Plant 4

WTP4 treats water from well SLP4. The GAC filters were removed from WTP4 in 2016 because they are no longer needed to achieve drinking water quality for PAHs. WTP4 currently uses air-stripping technology to remove VOCs unrelated to the Site and was sampled quarterly during this FYR period for

PAHs and VOCs. SLP4 treated water met the Amended CD/RAP Drinking Water Criteria during this FYR period.

Groundwater Treatment Facility
Since the City's implementation of the Pumping Cessation Pilot Test Plan in 2018, the GTF only treats water from well W23. The GTF is sampled monthly to ensure that the treated water meets effluent limits of its NPDES/State Disposal System permit. Monthly reports and laboratory analytical reports for samples collected at the GTF show that the water is being treated to meet effluent limits of its NPDES/State Disposal System permit. Treated water from the plant is routed to South Oak Pond, which has an outfall to Minnehaha Creek.

Groundwater Pumping

The groundwater flow direction from the Site is generally to the east or southeast. Counting co-located wells SLP10/15 as one well, three pumping wells currently operate as part of the Site remedy: wells SLP4, SLP10/15, and W23. The location of these wells and other wells that previously pumped as part of the remedy are shown in Figure 7 in Appendix B. Wells W410, W420, W421, and W439 ceased pumping in 2018 because they are part of the Pumping Cessation Pilot Test Plan. Average annual pumping rates for all pumping wells included in the remedy are reported in Table 10 in Appendix B.

Drift Aquifer
During this FYR period, two pumping wells operated in the Drift aquifer as part of the remedy: wells W420 and W439. Both W420 and W439 are part of the Pumping Cessation Pilot Test and stopped pumping on July 2, 2018 and April 5, 2018, respectively. For well W420, the 1986 CD/RAP requires a pumping rate of 25 gpm. However, in a letter to EPA and MPCA dated June 30, 1989, Reilly, the Potentially Responsible Party at the time, stated that a rate of 40 gpm for W420 was shown to effectively control groundwater flow in the bog area. Since that time, all parties (EPA, MPCA, and the City) have considered 40 gpm to be the required pumping rate for W420. W420 pumped at an average annual rate of 25 gpm in 2016 and 24 gpm in 2017 and thus did not meet its required rate of 40 gpm prior to its cessation in 2018.

For well W439, the required pumping rate is established at 50 gpm in a report entitled *Northern Area Drift Aquifer Gradient Control Work Plan,* dated February 22, 1994. Neither the 1986 CD/RAP nor the OU3 ROD specify a pumping rate for this well or area. W439 stopped pumping on April 5, 2018 due to pump failure and was kept out of service for the Pumping Pilot Cessation Pilot Test. In prior years, the City has redeveloped W439 without success. Prior to its cessation in 2018, W439 achieved average annual pumping rates of 22-29 gpm.

Platteville Aquifer
W421 is the only pumping well that operated in the Platteville aquifer as part of the remedy during this FYR period. W421 is part of the Pumping Cessation Pilot Test and stopped pumping on July 2, 2018. The 1986 CD/RAP requires a pumping rate of 25 gpm. However, prior to its cessation in 2018, W421 pumped at an average annual rate of 23 gpm and 20 gpm in 2016 and 2017, respectively.

St. Peter Aquifer
During this FYR period, only W410 operated in the St. Peter aquifer as part of the remedy. W410 is part of the Pumping Cessation Pilot Test and stopped pumping on May 22, 2018. The pumping rate for this

well is specified in the 1990 ROD as 65-100 gpm. Prior to its cessation in 2018, W410 was unable to meet its required rate. In 2016 and 2017, W410 pumped at rates of 39 and 38 gpm, respectively.

Prairie du Chien/Jordan Aquifer

The Prairie du Chien/Jordan aquifer is a major drinking water aquifer for the City and surrounding cities. During this FYR period, three pumping wells operated in the Prairie du Chien/Jordan aquifer as part of the remedy: wells W23, SLP4, and SLP10/15 (co-located wells considered as one well).

For well W23, 1986 CD/RAP Section 4.2.1 requires a monthly average pumping rate of 50 gpm. During this FYR period, W23 largely met or exceeded its required monthly rates. W23 achieved annual pumping rates above 50 gpm from 2016-2019, with the exception of 2018. In 2018, W23 pumped at an average annual rate of 34 gpm. In 2019, the well was pulled and the pump was replaced. The 1986 CD/RAP Section 7.1.4 requires pumping in well W23 to continue until the mean plus one standard deviation of at least six consecutive samples collected bimonthly contains less than 10 µg/L total PAH. Currently well W23 contains approximately 10.25 µg/L total PAH, and the City continues to pump it as required and sample it annually. PAH concentrations in this well have decreased significantly since it began pumping in 1988. At that time, total PAH concentrations were approximately 111 µg/L.

For well SLP4, 1986 CD/RAP Section 7.2.7 requires pumping at its capacity (900 gpm or as near as practicable) from October through April and 300 gpm from May through September. The 1986 CD/RAP also specifies that if all parties agree, the rate can be adjusted up or down by up to 250 gpm. Well SLP4 did not pump in 2017 or 2018 and was returned to service in January 2019 after WTP4 was updated to address VOCs unrelated to the Site. Monthly VOC monitoring was done at WTP1 during the period Well SLP4 was offline and WTP4 was upgraded to provide VOC treatment. The City currently pumps SLP4 for water demand more than PAH control. In 2016, well SLP4 did not meet its required pumping rates and achieved an average annual rate of 842 gpm. Well SLP4 did not meet its required pumping rate in 2019 and achieved an average annual rate of 533 gpm.

For well SLP10/15, 1986 CD/RAP Section 4.2.1 requires operation of the treatment system at a minimum annual pumping rate of 200 million gallons per year (Mgal/yr), and a minimum pumping volume of 10 Mgal in any calendar month. The CD/RAP does not include a pumping requirement independent of operation of the treatment system. For this FYR period, the SLP10/15 treatment plant met or exceeded its required and achieved annual rates of 216 to 562 Mgal/yr.

Groundwater Monitoring

Drift Aquifer

Groundwater in the Drift aquifer exceeds the Amended CD/RAP Drinking Water Criteria for other (non-carcinogenic) PAHs (oPAHs) beneath the Site at most monitoring locations. PAHs exceeding current drinking water standards in the Drift aquifer were limited to three locations: W420, W439 and W444, seen in Figure 8 (Appendix B). Well W420 exceeded the 0.1 µg/L HRL for benzo(a)pyrene-equivalents ($B(a)P_{eq}$) in each of the four quarterly sampling events in 2019, the highest detection being 0.195 µg/L in October 2019. W439 exceeded the acenaphthene and naphthalene drinking water standards for the past six quarterly sampling events. Well 444 exceeded the naphthalene drinking water standard following its installation in 2019, which is consistent with earlier findings that PAH distribution is limited to an area upgradient of P307. In the Drift aquifer, the extent of PAH exceedances of health-based concentrations following the implementation of the Pumping Cessation Pilot Test Plan was consistent with pre-2018 conditions.

Benzene exceeded drinking water standards at locations P307, P309, P310, P312, W420, W422, W429 and W442, seen in Figure 9 (Appendix B). The exceedances in these eight wells is consistent with what was observed during pumping conditions. While benzene was detected above its drinking water standard in W422 during the July 2019 sampling event, the March, May, and October 2019 results at W422 for benzene were all below the drinking water standards. Benzene also exceeded its drinking water standard in new monitoring well W444. Wells W439 and W444 exceeded the drinking water standard for ethylbenzene.

Some wells in the Drift aquifer (P307 and P310) have shown increasing PAH trends during recent years (Figures 10-11, Appendix B). Long-term PAH concentration trends should continue to be monitored in the Drift aquifer.

Platteville Aquifer

Groundwater in the Platteville aquifer exceeds the Amended CD/RAP Drinking Water Criteria for oPAH beneath the Site at most monitoring locations. PAH exceedances of current drinking water standards were observed in three monitoring wells, W421, W426 and W437, which also were impacted above health-based reference concentrations (reference concentrations), which are the MDH HRL or HBV, previously and during pumping conditions. Figure 12 (Appendix B) shows the locations of these three PAH exceedances. The only change from pre-2019 PAH extent was that in 2019 W27 showed no exceedances, where reference concentrations were exceeded previously at this location. The location with the greatest degree of PAH impacts continued to be the former pumping well W421, where $B(a)P_{eq}$, fluorene, fluoranthene and pyrene exceeded their reference concentrations.

Prior to 2019, benzene exceeded its drinking water standard HRL of 2 µg/L at nine locations: W101, W143, W20, W27, W421, W431, W434, W437, and W438. In the July 2019 sampling event, six of the nine locations exceeded the benzene HRL, seen in Figure 13 (Appendix B). The presence of benzene in these wells shows that it remains fairly well distributed in Platteville monitoring wells.

Some wells in the Platteville aquifer (W410 and W414) have shown increasing PAH trends during recent years (Figures 14-15). Long-term PAH concentration trends should continue to be monitored in the Platteville aquifer.

St. Peter Aquifer

In the 2019 sampling results for the St. Peter aquifer, the COC extent was unchanged relative to pre-2018 conditions. Well 410 exceeded the Amended CD/RAP Drinking Water Criteria for the sum of B(a)P and dibenzo(a,h)anthracene (BaP-DahA) and the current drinking water standards for $B(a)P_{eq}$. Well W129 also exceeded the drinking water standards for benzene and ethylbenzene. Well W129 is within a few hundred feet of petroleum release site #565, which is considered the source of benzene impacting W129; however, other downgradient monitoring wells such as W411 and W414 are not impacted by benzene. With the exception of wells W129 and W410, benzene is mostly absent from the St. Peter aquifer.

Some wells in the St. Peter aquifer (W128 and W129) have shown increasing PAH trends during recent years (Figures 16-17, Appendix B). Long-term PAH concentration trends should continue to be monitored in the Platteville aquifer.

Prairie du Chien/Jordan Aquifer

The Prairie du Chien and Jordan aquifers are separate formations that are in hydraulic communication with each other. For the purposes of this FYR, they are considered one aquifer. The Prairie du Chien/Jordan aquifer is a major drinking water aquifer for the City and surrounding cities.

Twenty-six wells were sampled from the Prairie du Chien/Jordan aquifer during this FYR period. Three wells, W23, SLP10 and SLP5, exceeded the Amended CD/RAP Drinking Water Criteria for BaP-DahA and exceeded the drinking water standards for $B(a)P_{eq}$. These exceedances were likely due to the presence of benzo(c)fluorene in these wells. While benzo(c)fluorene was not detected in the May 2019 sample, the July 2019 sample from well SLP10 contained 0.062 µg/L benzo(c)fluorene, causing an exceedance of the MHD HBV for $B(a)P_{eq}$. Well SLP10 is an active drinking water supply well for the City and the quarterly samples of treated water from WTP1 did not contain detectable benzo(c)fluorene or other carcinogenic PAHs in 2019. Low levels of benzene have been detected in some Prairie du Chien wells. Wells W119R and W23 had benzene levels above quantifiable limits but the concentrations remain below drinking water standards.

Apart from the exceedances of $B(a)P_{eq}$ seen in wells W23, SLP10 and SLP5, the absence of COC reference value exceedances, which are the MDH HRL or HBV, at the Prairie du Chien/Jordan aquifer wells indicates that there have been no significant changes in conditions due to shallow aquifer pumping cessation following the implementation of the Pumping Cessation Pilot Test Plan in 2018. It should be noted, however, that benzo(c)fluorene data were not available prior to pumping cessation.

Wonewoc (formerly Ironton/Galesville) Aquifer

The only monitoring well in the Wonewoc aquifer is W105, which ceased pumping after meeting cessation criteria in 1991. The Wonewoc aquifer is not used as a drinking water aquifer preventing exposure concerns. Well W105 currently exceeds the Amended CD/RAP Drinking Water Criteria for oPAH, BaP-DahA and the current drinking water standards for $B(a)P_{eq}$.

Mt. Simon/Hinckley Aquifer

Monitoring is ongoing for St. Louis Park municipal supply wells SLP11, SLP12, and SLP13; however, SLP12 was undergoing maintenance in 2019 and was not available for sampling. Water from wells SLP11 and SLP13 were largely below quantifiable limits and do not exceed any current drinking water standards. Monitoring results show that this aquifer remains predominantly unaffected by Site contamination and the groundwater does not exceed any current drinking water standard or criteria for Site COCs.

Pumping Cessation Pilot Test Plan

The City ceased pumping in 2018, on a pilot test basis, from wells W410, W420, W421, and W439, and is conducting groundwater monitoring to demonstrate whether the RAO to prevent, reduce, and control the spread of contamination in groundwater in the Drift, Platteville, and St. Peter aquifers is being met. The City reports COC concentrations and water level data to EPA and MPCA annually. Concentrations of COCs were observed to decrease in the hydraulically downgradient direction from the Site, which is to the east and southeast, in the Drift, Platteville and St. Peter aquifers. The same concentration distribution was observed in the area downgradient of the pumped wells, indicating that monitored natural attenuation without pumping may be an effective method to contain the spread of contaminated groundwater in the Drift, Plattville and St. Peter aquifers. Post-pumping COC concentrations were monitored quarterly starting in mid-2018 and continuing through 2020. The COC concentration data set is not yet large enough to support the use of statistical tools to evaluate post-cessation temporal trends.

The use of statistical tools is planned to follow the 2020 monitoring year and a discussion of these results will be included in the next FYR.

Site Inspection

Due to the COVID-19 work travel restrictions, the FYR Site inspection could not be completed by EPA. The most recent inspection of the Site was conducted on April 7, 2021, by Mark Hanson and Jay Hall, representing the City, and Bill Gregg (Summit Envirosolutions, the City's contractor). The purpose of the inspection was to make a visual survey of the Site to help assess the protectiveness of the remedy. The inspection covered the land portion of the Site, the athletic field, the on-Site mound known as Mount Reilly, well houses, treatment buildings, and the groundwater monitoring network. Also, the following on-Site documentations and records were verified: O&M Manuals; Maintenance Logs; Contingency/Emergency Response Plan; Effluent Discharge Records; Groundwater Monitoring Records; Water (Effluent) Discharge Compliance Records; and Daily Access/Security Logs. The inspection team made the following observations:

- The On-Site documentations and records were readily available and up to date
- Well houses, treatment buildings, and wells were locked and secured
- Some minor well vandalism was noted and repaired at wells W402 and W143
- The Soil Cover showed no signs of settlement, stress, cracking, erosion, holes, or bulges
- Grass over the Soil Cover is properly established
- Pumps, wellhead plumbing, and electrical were in good condition

The inspection's overall observations support an effective and functioning remedy as described in the amended 2020 CD/RAP. The groundwater monitoring network continued to be sufficient as old wells are sealed and new wells are considered. No other issues were noted that could affect the current protectiveness of the remedy. The Inspection Checklist and photographs from the Site Inspection are included in Appendix C.

Since the City has done an inspection recently (2021) of Site conditions, recorded observations, filled out an Inspection Checklist, taken photographs, and submitted inspection documentation to EPA and MPCA, EPA will conduct a follow-up Site Visit/Inspection to verify these Site conditions and observations by the City when it is feasible to do so and has been included as a recommendation under Other Finding Section of this FYR.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Yes.

Question A Summary:

Overall, the remedy is functioning as intended by the decision documents. Once treated, water from well SLP10/15 satisfies all Amended CD/RAP and promulgated criteria for drinking water. Before treatment, groundwater in drinking water well SLP10, located approximately 2,000 feet north of the Site, exceeds

the Amended CD/RAP Drinking Water Criteria for oPAH and BaP-DahA. Source control wells effectively remove contaminants from groundwater in the source area. Pumping of gradient control wells are preventing migration of Site-related contaminants at concentrations that exceed Amended CD/RAP Drinking Water Criteria from reaching drinking water wells in the City of Edina.

Remedial Action Performance

With the approval of EPA and MPCA, the City began implementing the Pumping Cessation Pilot Test Plan in 2018. The City ceased pumping in 2018, on a pilot test basis, from wells W410, W420, W421, and W439 and is conducting groundwater monitoring to demonstrate whether monitored natural attenuation will contain the spread of contamination in the Drift, Platteville, and St. Peters aquifers. Post-pumping COC concentrations were monitored quarterly starting in mid-2018 and continuing through 2020. Concentrations of COCs were observed to decrease in the hydraulically downgradient direction from the Site, which is to the east and southeast, in the Drift, Platteville and St. Peter aquifers. The same concentration distribution was observed in the area downgradient of the pumped wells, indicating that monitored natural attenuation without pumping may be an effective method to contain the spread of contaminated groundwater in the Drift, Plattville and St. Peter aquifers. At this time, there is insufficient data for statistical analysis. However, the use of statistical tools is planned to follow the 2020 monitoring year and a discussion of these results will be included in the next FYR.

System Operations/O&M

The groundwater treatment systems that operate as part of the remedy at WTP1, WTP4, and the GTF continue to meet treatment requirements. In 2018, air stripping equipment was added to WTP4 to address VOCs unrelated to the Site. The GAC filters were removed at this time because they were not needed to meet the Amended CD/RAP Drinking Water Criteria and drinking water standards for Site-related contaminants at WTP4.

Implementation of Institutional Controls and Other Measures

Groundwater ICs in the form of governmental controls are in place for the Site; however, ICs for soil are not in place yet and need to be placed on those parcels not meeting UU/UE. This work is expected to be completed by December 2021. A draft ICIAP was developed to ensure ICs remain in place and effective and also includes LTS procedures. The draft ICIAP will be incorporated into the approved amended CD/RAP when it is finalized, which is expected to be completed by December 2021. This is an action item for this FYR that is expected to be completed by 12/30/2021. Further, implementation of ICs for the Site is necessary in order to achieve long-term protectiveness at the Site.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

No.

Question B Summary:

The exposure assumptions, cleanup levels, and RAOs used during remedy selection remain valid. This FYR did not identify any new anticipated land uses or exposure pathways, and the cleanup levels specified in the Amended CD/RAP are as stringent or more stringent than promulgated drinking water standards. The Amended CD/RAP incorporates significant advances in knowledge of PAH toxicology since selection of the remedy.

Changes in Standards and TBCs

As noted in the last FYR, there have been significant advances in risk assessment for PAHs since the time of the RODs. These advances should be incorporated into the remedy. The City, EPA, MPCA and MDH agreed that revisions to the 1986 CD/RAP were needed to accommodate changes in the conceptual site model and toxicological knowledge of PAHs reflected in new health-based criteria. The CD/RAP was amended in 2020 to incorporate the cumulative knowledge that has been gained since 1986. This includes an update of the chemicals of interest - PAHs, benzene, and phenolics - with their MCL, HRL or HBV, and an update of the chemicals of interest that have no MCL, HRL or HBV (Tables 7-9 in Appendix B).

Changes in Toxicity and Other Contaminant Characteristics

Noted in the 2016 FYR, EPA and MPCA recognized benzene and ethylbenzene as Site-related contaminants because of the frequent occurrence of benzene in soil data during the original remedial investigations for the Site combined with its presence in groundwater. These contaminants are not included in the RODs; however, the Amended CD/RAP includes the HRL for benzene.

Changes in Risk Assessment Methods

There have been no changes in risk assessment methods that would impact remedy protectiveness.

Changes in Exposure Pathways

During the period of this FYR, there have not been changes in current or reasonably anticipated future land use on or near the Site, nor newly identified exposure pathways that could change the protectiveness of the remedy.

Expected Progress Towards Meeting RAOs

Contaminant concentrations in groundwater near the source have declined significantly since the time of the remedy selection and most monitoring wells throughout the Site show either no trend or a downward trend in concentration. Some wells appear to show increasing PAH trends during recent years so long-term PAH concentration trends should continue to be monitored. However, long-term PAH trends show significant and adequate improvement in groundwater quality. Overall, the remedy is progressing toward meeting RAOs.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

No.

The Site has not been impacted by any natural disasters and has no new climate change vulnerabilities. No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the Five-Year Review:
None

OU(s): 2	Issue Category: Institutional Controls			
	Issue: ICs are not in place for soils where UU/UE has not been achieved.			
	Recommendation: Develop and implement restrictive covenants.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	City	EPA/State	12/30/2021

OU(s): 2	Issue Category: Institutional Controls			
	Issue: ICs for soil include deed notices to make property owners aware of contamination on their property. The City was unable to confirm that the deeds for the 21 parcels listed in Appendix C contain the appropriate notice.			
	Recommendation: Confirm that all 21 parcels have deed notices to make property owners aware of contamination on their property; place deed notices on those parcels without one.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	City	EPA/State	12/30/2021

OU(s): 1, 2, 3, 4, 5	Issue Category: Institutional Controls			
	Issue: The draft ICIAP needs to be finalized**.**			
	Recommendation: EPA and MPCA will work with the City on finalizing the draft ICIAP.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	EPA	State	12/30/2021

OU(s): 3, 4, 5	Issue Category: Monitoring			
	Issue: Wells W410, W420, W421, and W439 are part of the Pumping Cessation Pilot Test Plan which was initiated in 2018 and is scheduled to be completed later in 2021.			
	Recommendation: Re-evaluate the stability of the plume and gradient control pumping based on the findings of the Pumping Cessation Pilot Test Plan and adjust or stop pumping, if needed, of the Site-related plume in the Drift/Platteville aquifer.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	City	EPA/State	12/30/2022

OTHER FINDINGS

In addition, the following recommendations were identified during the FYR and may improve performance of the remedy, but do not affect either the current or future protectiveness:

- Due to the COVID-19 work travel restrictions, the FYR Site inspection could not be completed. Since the City has done an inspection recently (2021) of Site conditions, recorded observations, filled out an Inspection Checklist, taken photographs, and submitted inspection documentation to EPA and MPCA, EPA will conduct a follow-up Site Visit/Inspection to verify these Site conditions and observations by the City when it is feasible to do so.
- Summaries of GAC treatment compliance and NPDES permit compliance were not included in Annual Monitoring Report. EPA and MPCA will request the City to summarize NPDES permit compliance in future Annual monitoring Reports.

- The need for continuing monitoring of well W105 or evaluating the potential of sealing it will be determined once the Pilot Test Plan is completed later in 2021.

VII. PROTECTIVENESS STATEMENT

Protectiveness Statement(s)	
Operable Unit: 1	*Protectiveness Determination:* Short-term Protective
Protectiveness Statement: The remedy at OU1 currently protects human health and the environment. Exposure pathways that could result in unacceptable risks are being controlled by filtering groundwater from wells SLP10 and SLP15 through GAC prior to introduction to the St. Louis Park municipal supply. RAOs for OU1 are being met through treatment of drinking water and by pumping at a required rate that contributes to gradient control in the Prairie du Chien/Jordan aquifer. Long-term groundwater monitoring has demonstrated that the concentrations of the chemicals of concern have declined towards groundwater	

cleanup standards. Long-term trends show significant and adequate improvements in groundwater quality. However, in order for the remedy to be protective in the long-term, the following action needs to be taken to ensure protectiveness: finalizing the draft ICIAP.

Protectiveness Statement(s)	
Operable Unit:	*Protectiveness Determination:*
2	Short-term Protective

Protectiveness Statement:
The remedy at OU2 currently protects human health and the environment because drinking water affected by Site-related contamination is being treated prior to use, and most source control and gradient control groundwater pumping wells are operating as required. In addition, the remedy and pre- and post-ROD actions have resulted in the covering of source materials to prevent future exposures. Long-term groundwater monitoring has demonstrated that the concentrations of the chemicals of concern have declined towards groundwater cleanup standards. Long-term trends show significant and adequate improvements in groundwater quality. A draft ICIAP was prepared by the City and submitted to EPA and MPCA in November 2017. The Final ICIAP will require regular inspections and an annual certification to ensure that ICs remain in place and effective. However, in order for the remedy to be protective in the long-term, the following actions need to be taken to ensure protectiveness: confirm that all 21 parcels have deed notices to make property owners aware of contamination on their property and place deed notices on those parcels without one; develop and implement restrictive covenants for soils; and finalize the draft ICIAP.

Protectiveness Statement(s)	
Operable Unit:	*Protectiveness Determination:*
3	Short-term Protective

Protectiveness Statement:
The remedy at OU3 currently protects human health and the environment because gradient control well W439 prevented the spread of COCs in the Drift/Platteville aquifer. Wells W420 and W421 are part of the Pumping Cessation Pilot Test Plan which was initiated in 2018 and is scheduled to be completed later in 2021. Conclusions regarding the stability of the plume and pumping for gradient control will be documented once the pilot test is complete. However, in order for the remedy to be protective in the long-term, the following actions need to be taken to ensure protectiveness: re-evaluate the stability of the plume and gradient control pumping based on the findings of the Pumping Cessation Pilot Test Plan and adjust or stop pumping, as necessary, of the Site-related plume in the Drift/Platteville aquifer; and finalize the draft ICIAP.

Protectiveness Statement(s)	
Operable Unit:	*Protectiveness Determination:*
4	Short-term Protective

Protectiveness Statement:
The remedy at OU4 currently protects human health and the environment. Although the groundwater down-gradient of Well W410 exceeds Amended CD/RAP Drinking Water Criteria, it does not exceed current drinking water standards (MCLs, HRLs, or HBVs). Wells W410 and W439 are part of the Pumping Cessation Pilot Test Plan which was initiated in 2018 and is scheduled to be completed later in 2021. Conclusions regarding the stability of the plume and pumping for gradient control will be

documented once the pilot test is completed. However, in order for the remedy to be protective in the long-term, the following actions need to be taken to ensure protectiveness: re-evaluate the stability of the plume and gradient control pumping based on the findings of the Pumping Cessation Pilot Test Plan and adjust or stop pumping, as necessary, of the Site-related plume in the St. Peter aquifer; and finalize the draft ICIAP .

Protectiveness Statement(s)	
Operable Unit:	*Protectiveness Determination:*
5	Short-term Protective

Protectiveness Statement:
The remedy at OU5 currently protects human health and the environment because the Platteville member of the Drift/Platteville aquifer is not known to be a current source of drinking water, meaning there are no complete exposure pathways. Wells W420 and W421 are part of the Pumping Cessation Pilot Test Plan, which was initiated in 2018 and is scheduled to be completed later in 2021. Conclusions regarding the stability of the plume and pumping for gradient control will be documented once the pilot test is completed. However, in order for the remedy to be protective in the long-term, the following actions need to be taken to ensure protectiveness: re-evaluate the stability of the plume and gradient control pumping based on the findings of the Pumping Cessation Pilot Test Plan and adjust or stop pumping, as necessary, of the Site-related plume in the Drift/Platteville aquifer; and finalize the draft ICIAP .

Sitewide Protectiveness Statement
Protectiveness Determination: Short-term Protective

Protectiveness Statement:
The remedy at the Site currently protects human health and the environment because drinking water affected by Site-related contamination is being treated prior to use. In addition, the remedy and pre- and post-ROD actions have resulted in the covering of source materials to prevent future exposures. Long-term groundwater monitoring has demonstrated that the concentrations of the chemicals of concern have declined towards groundwater cleanup standards. Long-term trends show significant and adequate improvements in groundwater quality. An ICIAP was prepared by the City and submitted to EPA and MPCA in November 2017. The ICIAP requires regular inspections and an annual certification to ensure that ICs remain in place and effective. Wells W410, W420, W421, and W439 are part of the Pumping Cessation Pilot Test Plan, which was initiated in 2018 and is scheduled to be completed later in 2021. Conclusions regarding the stability of the plume and pumping for gradient control will be documented once the pilot test is completed. However, in order for the remedy to be protective in the long-term, the following actions need to be taken to ensure protectiveness: re-evaluate the stability of the plume and gradient control pumping based on the findings of the Pumping Cessation Pilot Test Plan and adjust or stop pumping, as necessary, of the Site-related plume in the Drift/Platteville and St. Peter aquifers; confirm that all 21 parcels have deed notices to make property owners aware of contamination on their property; develop and implement restrictive covenants for soils; and finalize the draft ICIAP .

VIII. NEXT REVIEW

The next FYR report for the Reilly Tar & Chemical Corp. (St. Louis Park Plant) Superfund Site is required five years from the completion date of this review.

APPENDIX A: Reference List

EPA, 1984. Reilly Tar and Chemical Site Record of Decision (ROD OU1); 6/6/1984; SEMS ID: 234602
EPA, 1986. Reilly Tar and Chemical Site Enforcement Decision Document (EDD OU2); 5/30/1986; SEMS ID: 234508
Court, 1986. Reilly Tar and Chemical Site Consent Decree and Remedial Action Plan (CD-RAP); 9/4/1986; SEMS ID: 234601
City of St. Louis Park, 1989a. Reilly Tar and Chemical Site Soil Investigation Report; 4/18/1989
City of St. Louis Park, 1989b. Reilly Tar and Chemical Site Letter to EPA and MPCA; 6/30/1989
EPA, 1990. Reilly Tar and Chemical Site Record of Decision (ROD OU4); 9/29/1990; SEMS ID: 234608
City of St. Louis Park, 1991. Reilly Tar and Chemical Site RIFS for the Northern area of the Drift and Platteville Aquifers (OU3 and OU4); 1991
City of St. Louis Park, 1992. Reilly Tar and Chemical Site RIFS for the St. Peter Aquifer (OU5); 1992
EPA, 1992. Reilly Tar and Chemical Site Record of Decision (ROD OU3); 9/30/1992; SEMS ID: 234593
City of St. Louis Park, 1994. Reilly Tar and Chemical Site Northern Area Drift Aquifer Gradient Control Work Plan; 2/22/1994; SEMS ID: 497687
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City of St. Louis Park, 2019. Reilly Tar and Chemical Site 2018 Reilly Site Annual Monitoring Report; 3/15/2019
City of St. Louis Park, 2020. Reilly Tar and Chemical Site 2019 Reilly Site Annual Monitoring Report; 3/15/2020
Court, 2019. Reilly Tar and Chemical Site Amended Consent Decree and Remedial Action Plan (Amended CD-RAP); 11/4/2019; SEMS ID: 951651
City of St. Louis Park, 2020. Reilly Tar and Chemical Site Draft Soil Cover Report; 10/21/20

City of St. Louis Park, 2021. Reilly Tar and Chemical Site Draft 2020 ICIAP Monitoring Report; 3/10/2021

APPENDIX B: Figures and Additional Tables

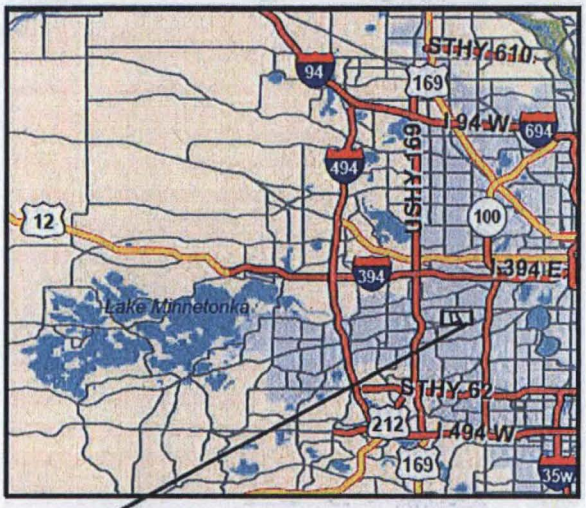
Figure 1
Site Location

Superfund
U.S. Environmental Protection Agency

Reilly Tar and Chemical Corp.
Hennepin County, MN

MND980609804

State



County

Site

Created by Sarah Backhouse
U.S. EPA Region 5 on 9/22/06
Image Date: 2003

Legend
Reilly Tar and Chemical Corp.

N

GEOS

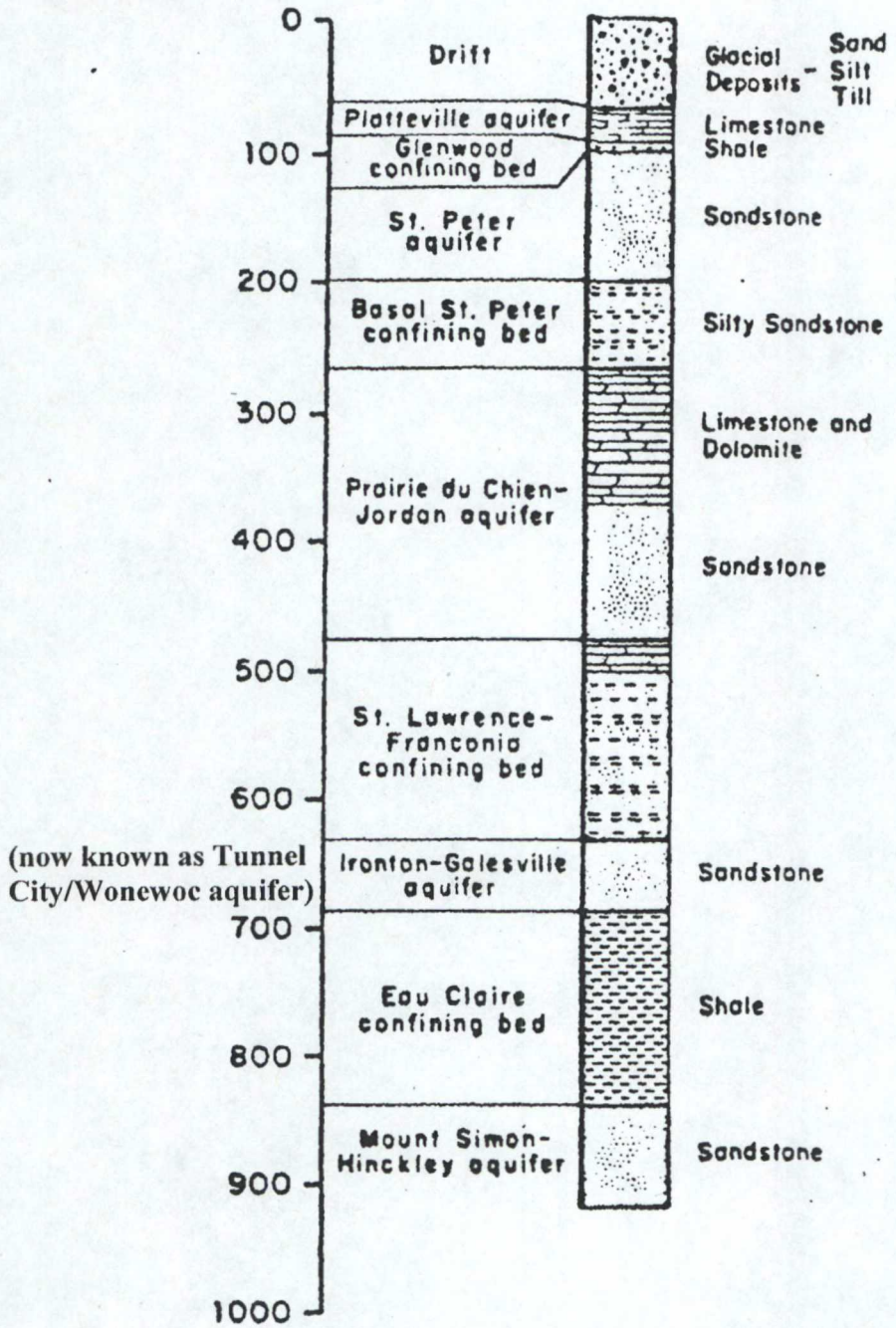


FIG. 2 GENERALIZED STRATIGRAPHIC COLUMN BASED ON WELL LOGS FROM W 23 ON SITE
(AFTER HULT AND SCHOENBERG 1984)

Ground Elevation Contours based on LIDAR dataset available from Minnesota Geospatial Information Office

DRAFT 12/29/15

Explanation

Approximate Reilly Site Boundary

Estimated Soil Cover Thickness

0.5 to 3 feet

Over 3 feet

Ground Elevation Contours

10 foot contours

2 foot contours

0 400 Feet

1 inch = 200 feet

Note: "Estimated Soil Cover Thickness" excludes areas covered by impervious surfaces such as roads, sidewalks, parking lots, buildings, etc.

SOIL COVER THICKNESS
Reilly Site
St. Louis Park, MN

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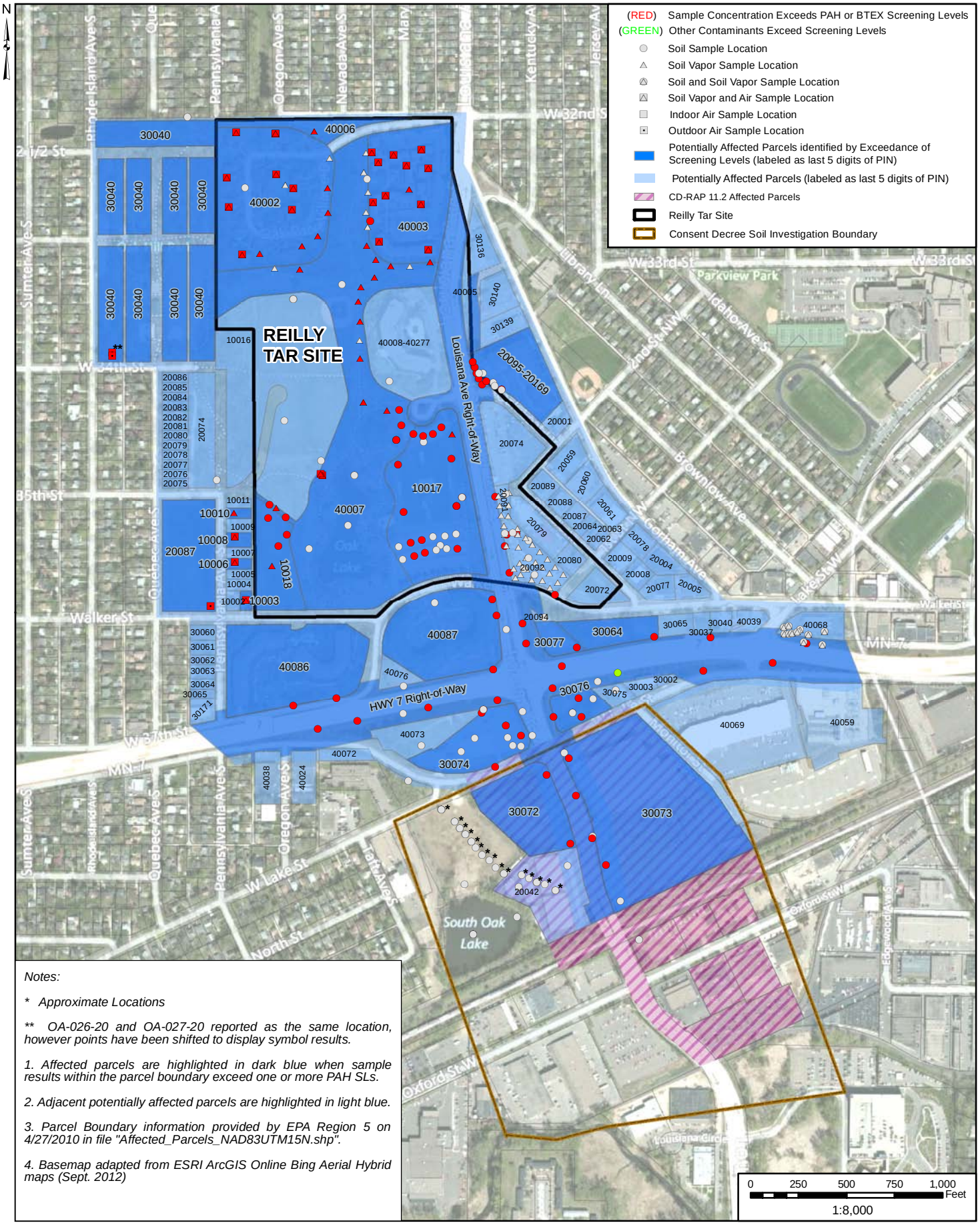
Figure 3

File: Soil_Map
Summit Proj. No.: 0987-0009
Plot Date: 12/29/15
Arc Operator: RLA
Reviewed by: WMG



Notes:

** Approximate Locations*

*** OA-026-20 and OA-027-20 reported as the same location, however points have been shifted to display symbol results.*

1. Affected parcels are highlighted in dark blue when sample results within the parcel boundary exceed one or more PAH SLs.

2. Adjacent potentially affected parcels are highlighted in light blue.

3. Parcel Boundary information provided by EPA Region 5 on 4/27/2010 in file "Affected_Parcels_NAD83UTM15N.shp".

4. Basemap adapted from ESRI ArcGIS Online Bing Aerial Hybrid maps (Sept. 2012)

Figure 4. Location of Samples, Samples Exceeding Screening Levels, and Potentially Affected Parcels

Figure 5. Location of Wells (Drift-Platteville and St. Peter aquifers)

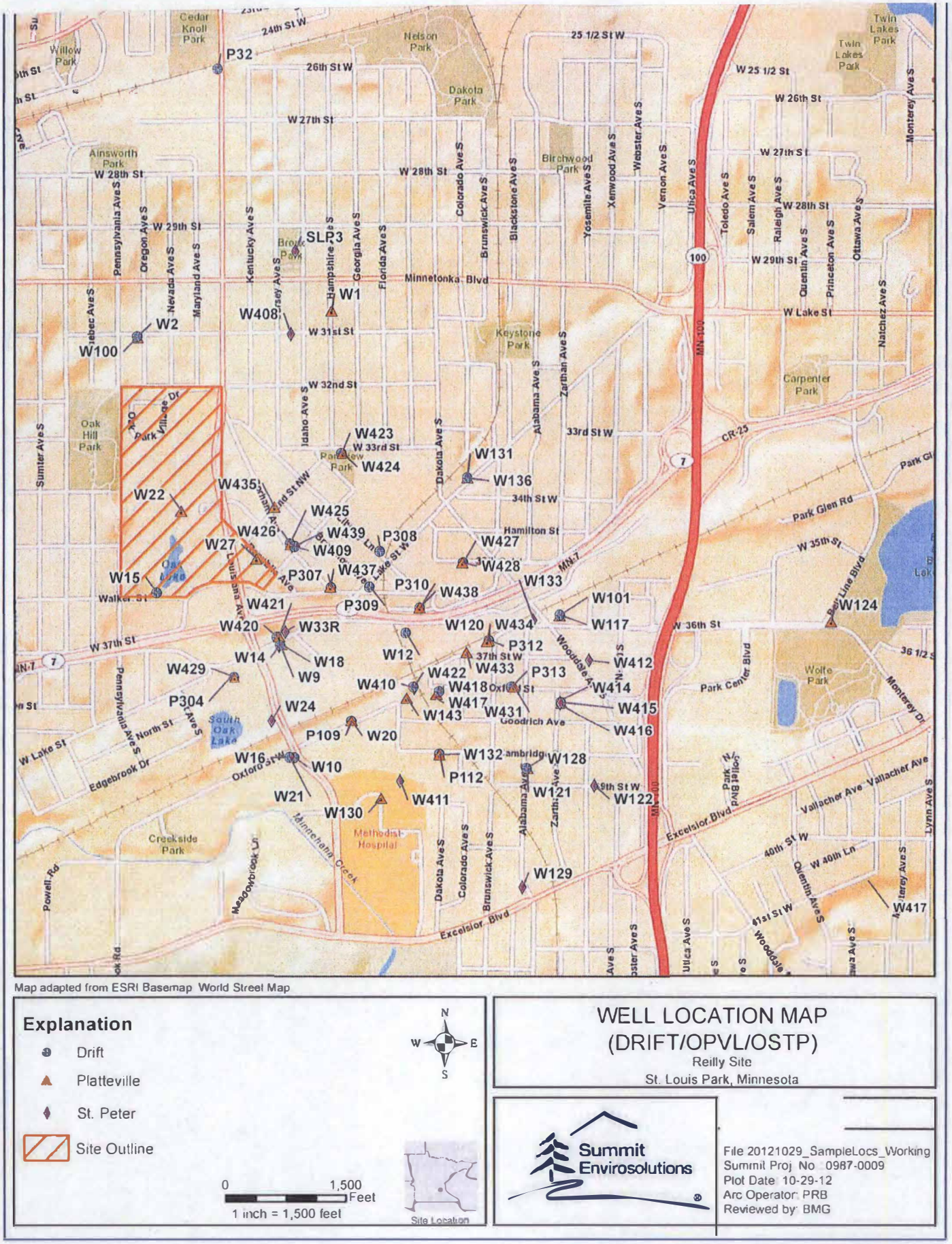


Figure 6. Location of Wells (Prairie du Chien-Jordan, Ironton-Galesville or Wonewoc, and Mt. Simon-Hinkley aquifers)

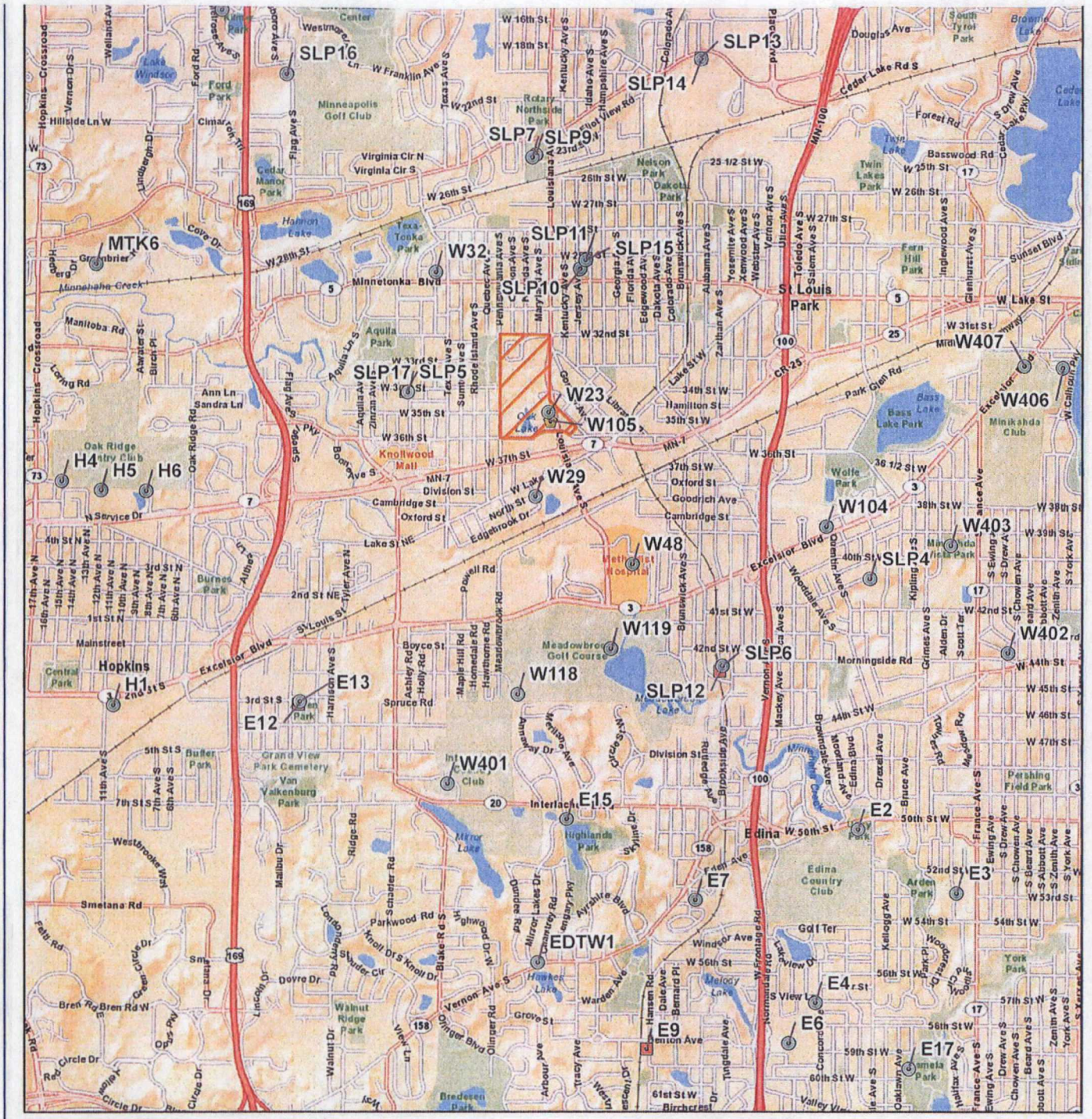
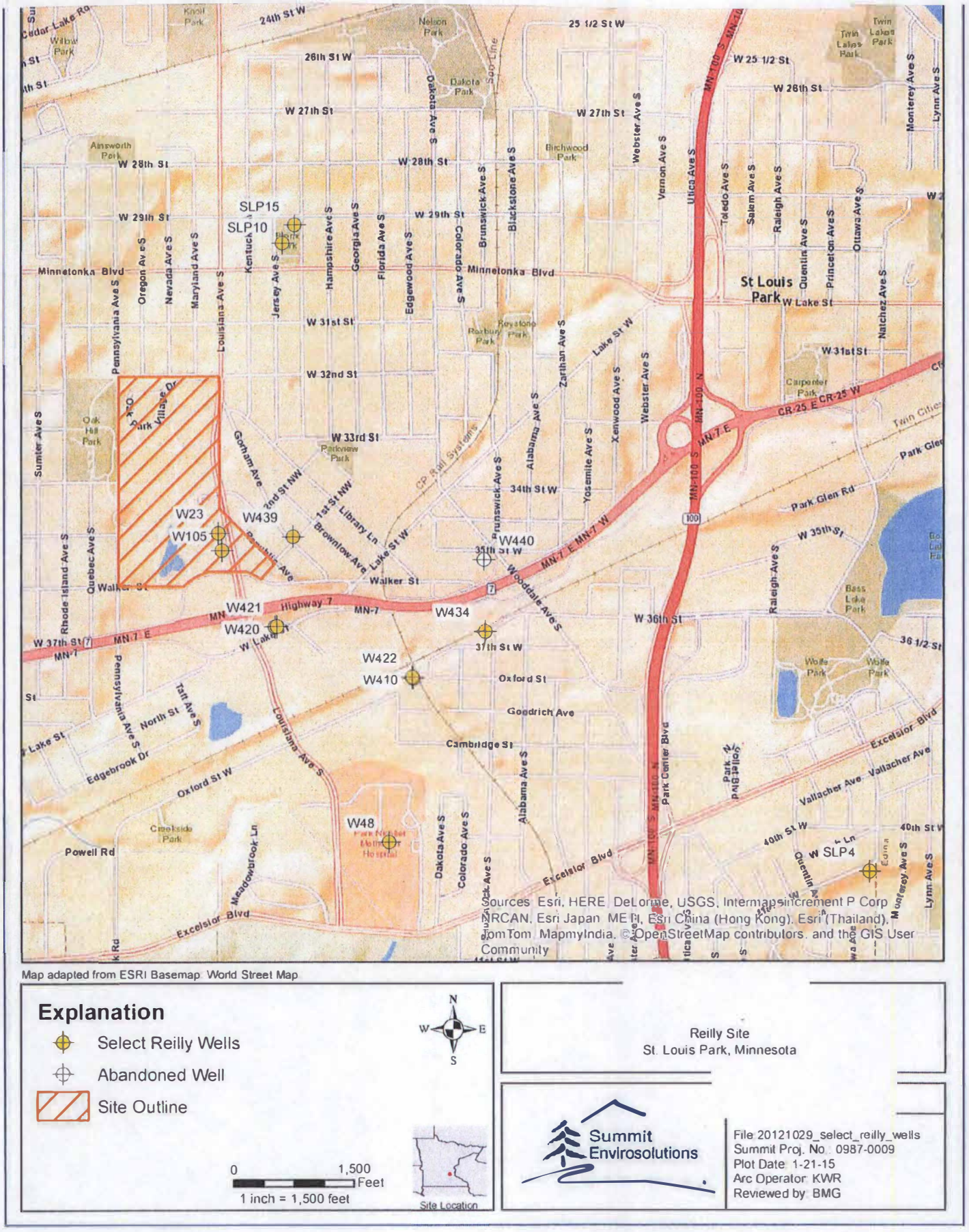
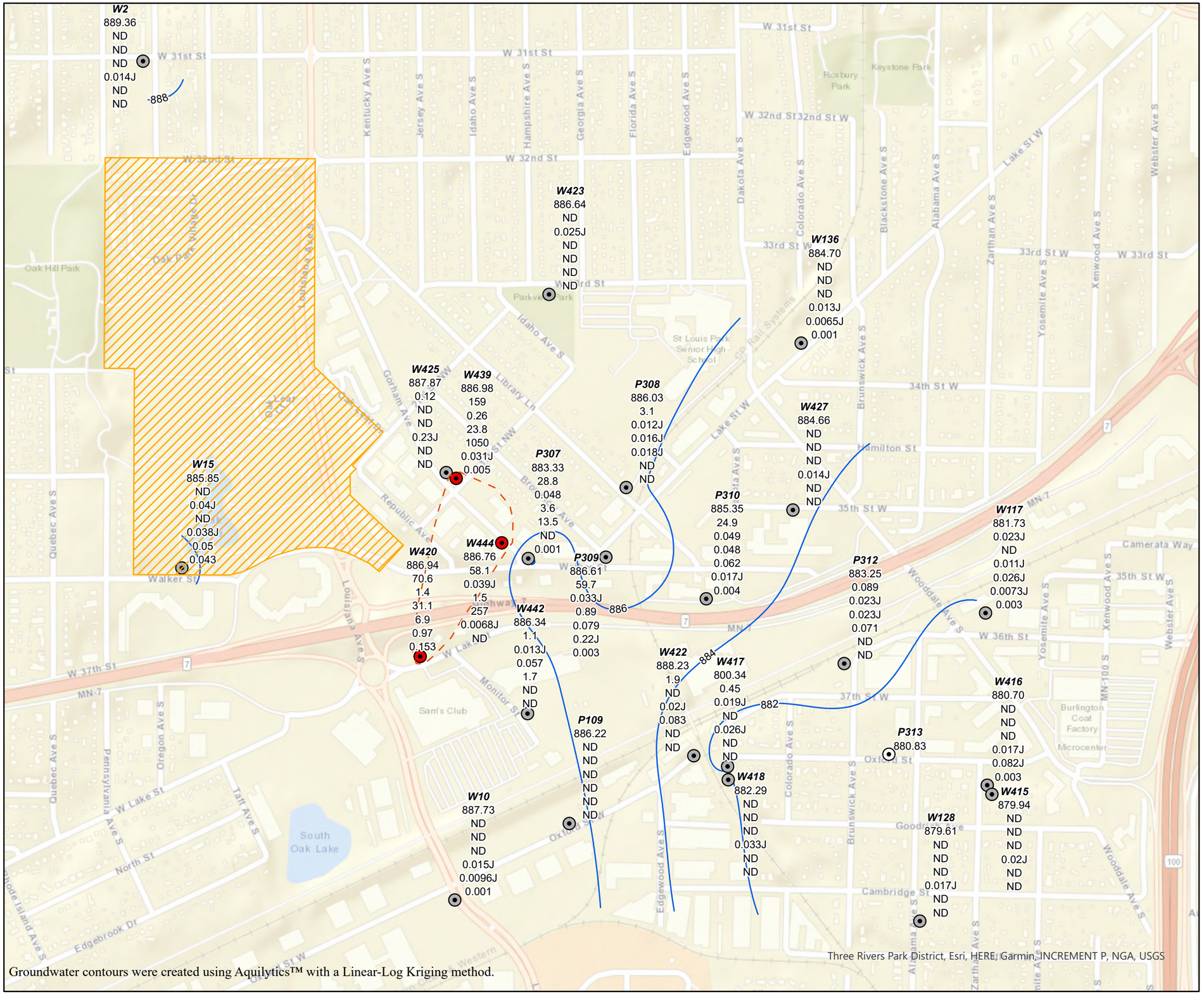


Figure 7. Location of Reilly Site Pumping and Previously-Pumping Wells





Groundwater contours were created using Aquilytics™ with a Linear-Log Kriging method.

Explanation

- Reilly Site
- Groundwater Elevation Contour (CI = 2FT)
- Group of wells with at least one reference concentration exceedance
- Well where 2019 sampling results were less than reference concentration (See table 5)
- Well where 2019 sampling result was greater than reference concentration (See table 5)
- Not Sampled

Well Name
Groundwater Elevation-Measured 7/9/2019-7/12/2019
Concentration of Acenaphthene (ug/L)
Concentration of Anthracene (ug/L)
Concentration of Fluorene (ug/L)
Concentration of Naphthalene (ug/L)
Concentration of Pyrene (ug/L)
Concentration of BaP_Eqv_MDH2016 (ug/L)
--- = Not Sampled/Not Available
J = The compound was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
L =The identification of the compound is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.

Results are summarized in Table 19 and complete results are provided in Appendix D.

N

0 500 1,000 Feet

1:7,200

Figure 8
Drift Aquifer
July 2019 PAH Results
2019 Annual Report
Reilly Site, City of St. Louis Park, Minnesota

File: Fig_9_drift_Aquifer
Summit Proj. No.: 0987-0009
Plot Date: 3/1/2020
Arc Operator: KWR
Reviewed by: WMG

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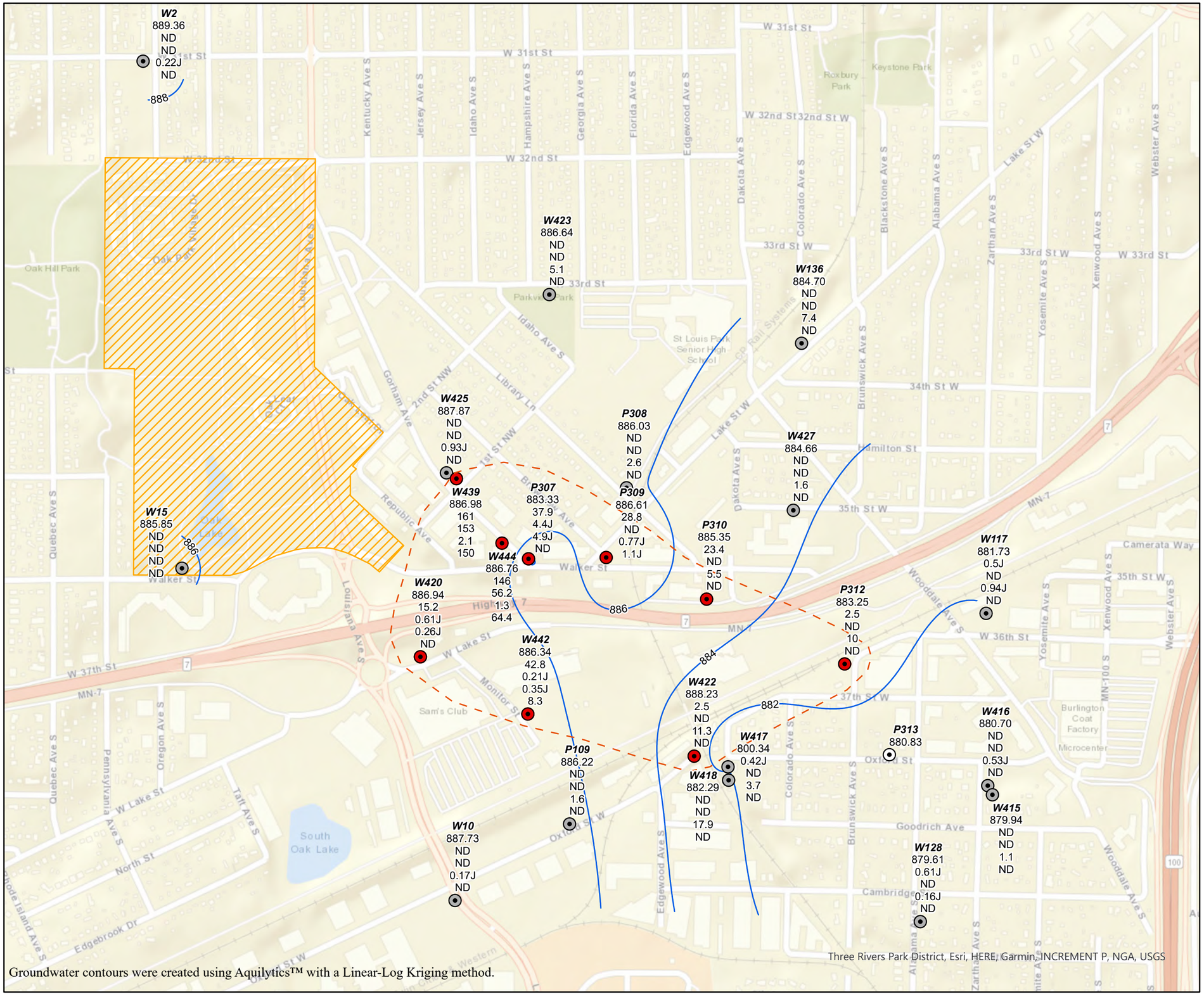

Groundwater contours were created using Aquilytics™ with a Linear-Log Kriging method.

Explanation

- Reilly Site
- Groundwater Elevation Contour (CI = 2FT)
- Group of wells with at least one reference concentration exceedance
- Well where 2019 sampling results were less than reference concentration (See table 5)
- Well where 2019 sampling result was greater than reference concentration (See table 5)
- Not Sampled

Well Name
Groundwater Elevation-Measured 7/9/2019-7/12/2019
Concentration of Benzene (ug/L)
Concentration of Ethylbenzene (ug/L)
Concentration of Toluene (ug/L)
Concentration of Xylene (total) (ug/L)
--- = Not Sampled/Not Available

J = The compound was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
L =The identification of the compound is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.

Results are summarized in Table 19 and complete results are provided in Appendix D.

N

0 500 1,000 Feet

Figure 9
Drift Aquifer
July 2019 BTEX Results
2019 Annual Report
Reilly Site, City of St. Louis Park, Minnesota

File: Fig_10_drift_Aquifer
Summit Proj. No.: 0987-0009
Plot Date: 3/1/2020
Arc Operator: KWR
Reviewed by: WMG

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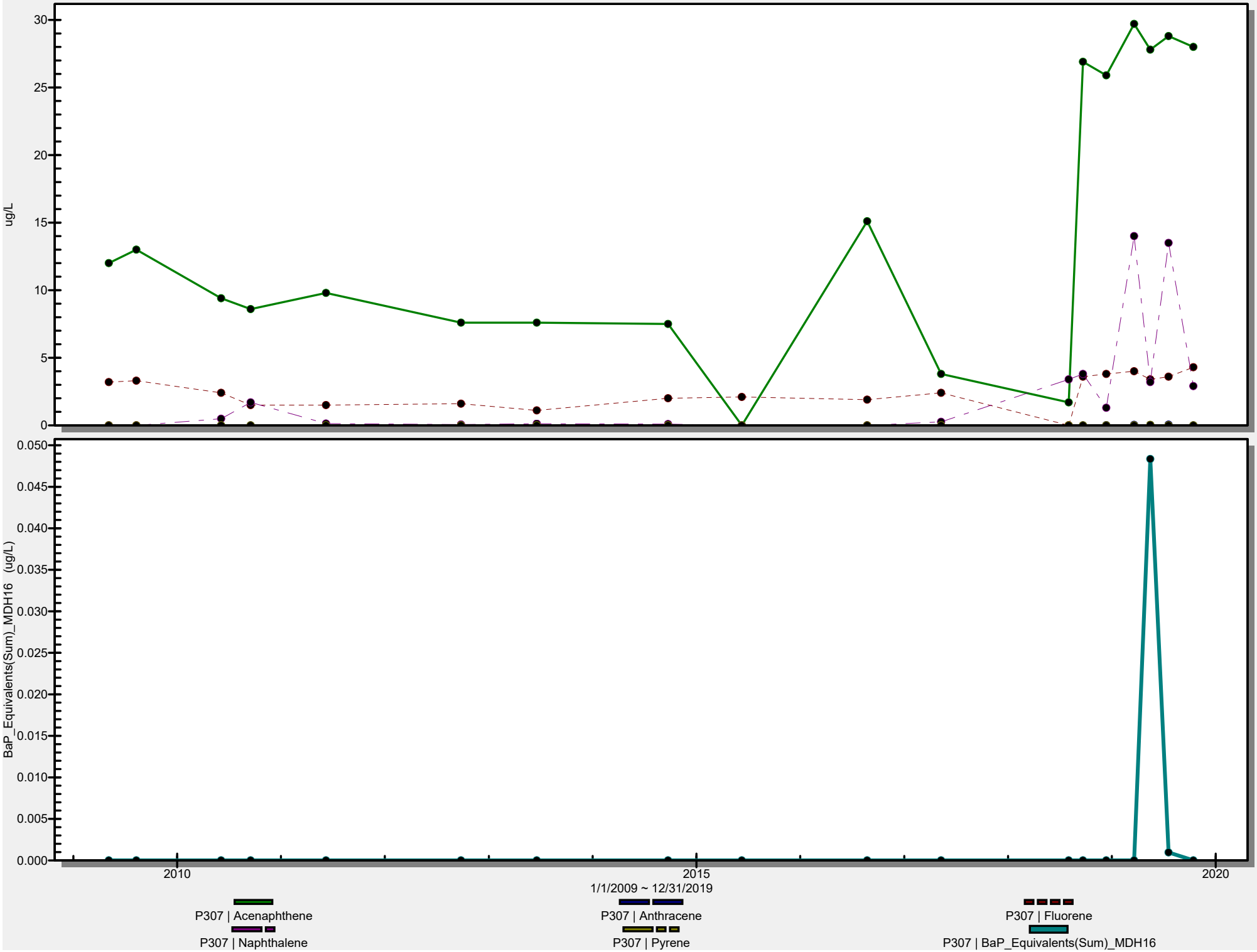
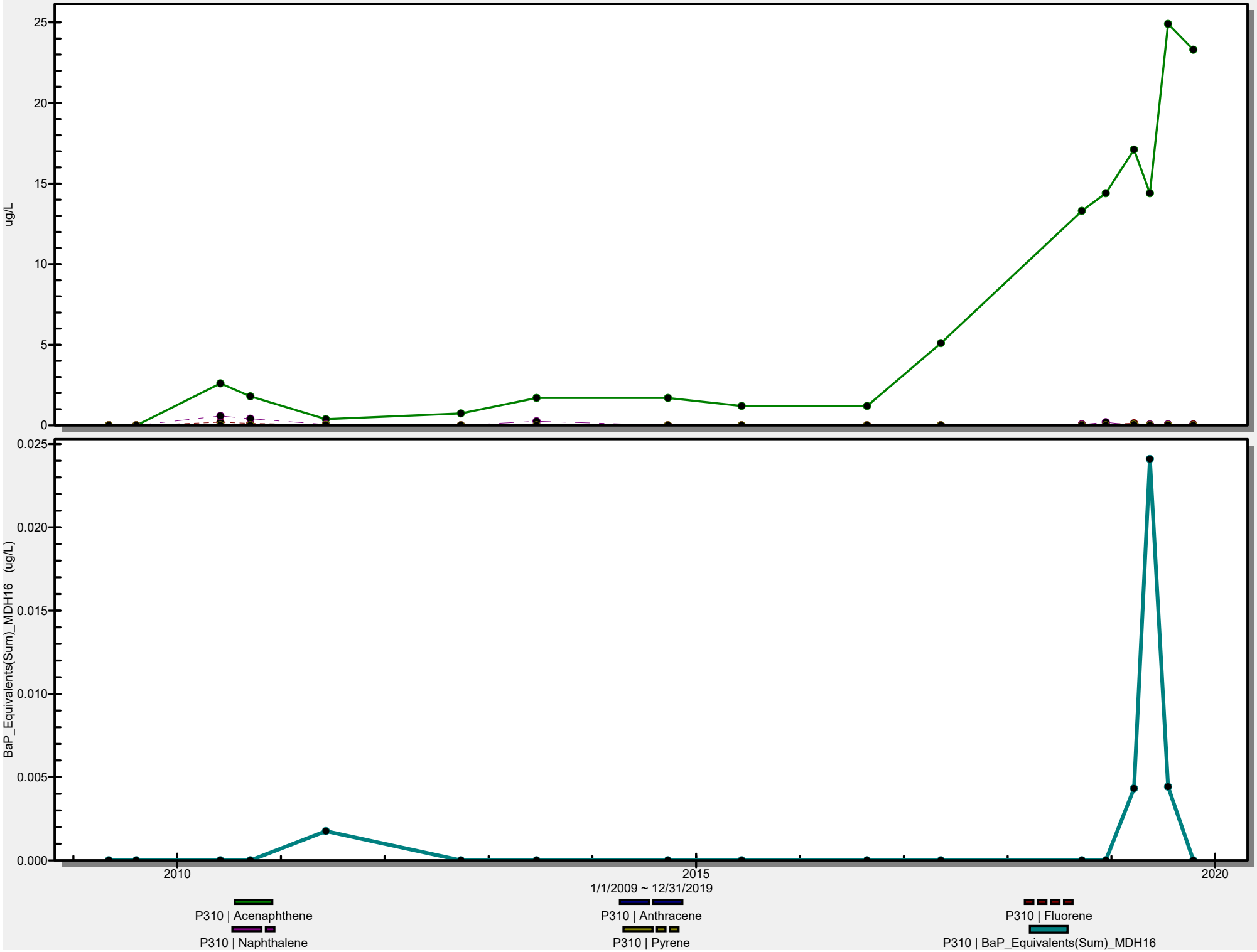
P307

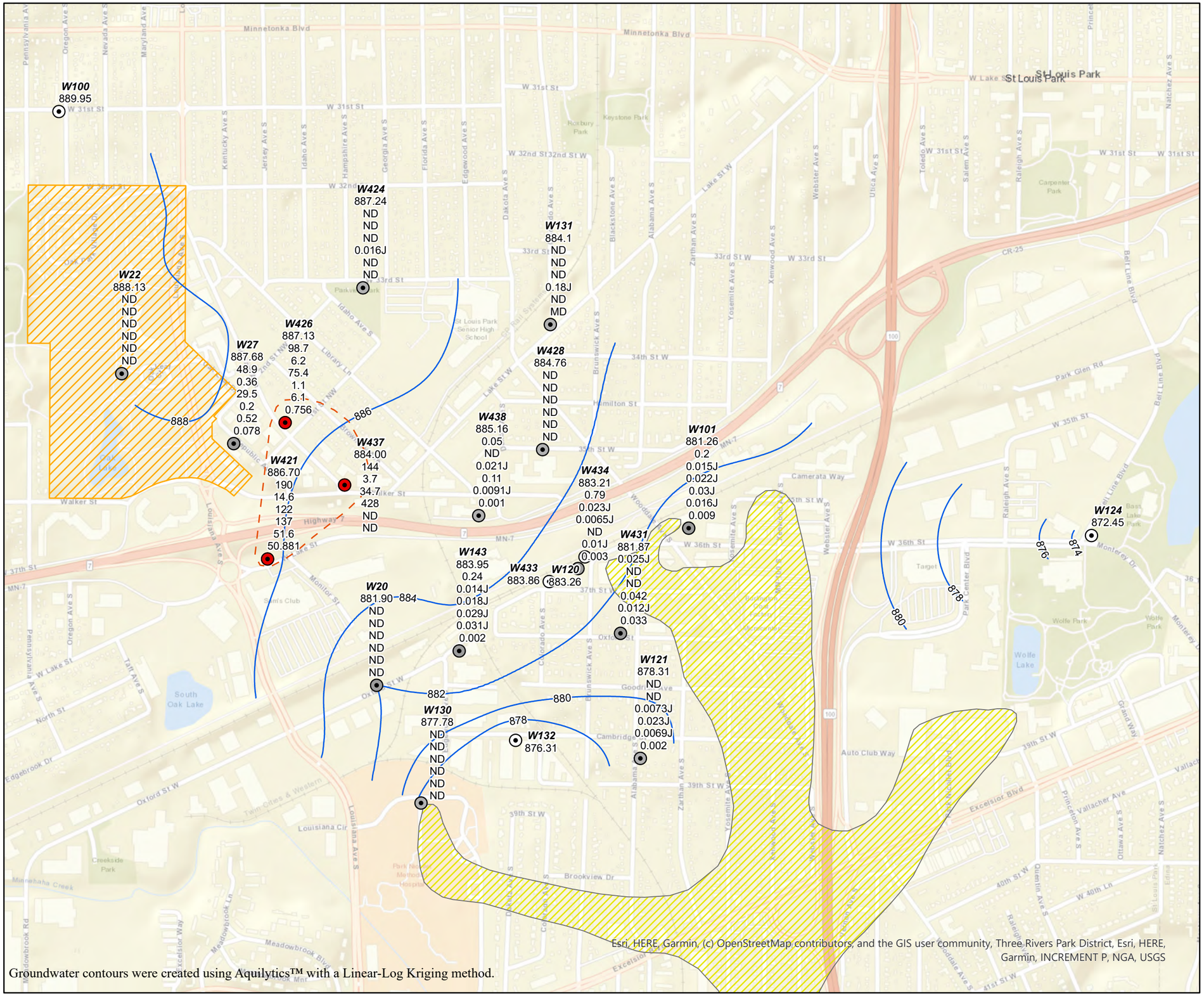
PAH With MDH Values, 2009-2019



P310

PAH With MDH Values, 2009-2019





Groundwater contours were created using Aquilytics™ with a Linear-Log Kriging method.

Explanation

- Reilly Site
- Groundwater Elevation Contour (CI = 2FT)
- Group of wells with at least one reference concentration exceedance
- Well where 2019 sampling results were less than reference concentration (See table 5)
- Well where 2019 sampling result was greater than reference concentration (See table 5)
- Not Sampled
- St. Peter Formation is the uppermost bedrock unit

Well Name
Groundwater Elevation-Measured 7/9/2019-7/12/2019
Concentration of Acenaphthene (ug/L)
Concentration of Anthracene (ug/L)
Concentration of Fluorene (ug/L)
Concentration of Naphthalene (ug/L)
Concentration of Pyrene (ug/L)
Concentration of BaP_Eqv_MDH2016 (ug/L)
--- = Not Sampled/Not Available
J = The compound was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
L =The identification of the compound is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.

Results are summarized in Table 19 and complete results are provided in Appendix D.

i. St Peter Sandstone and Platteville Limestone and Glenwood Shale (undiff.) geology provided by the Minnesota Geological Survey.

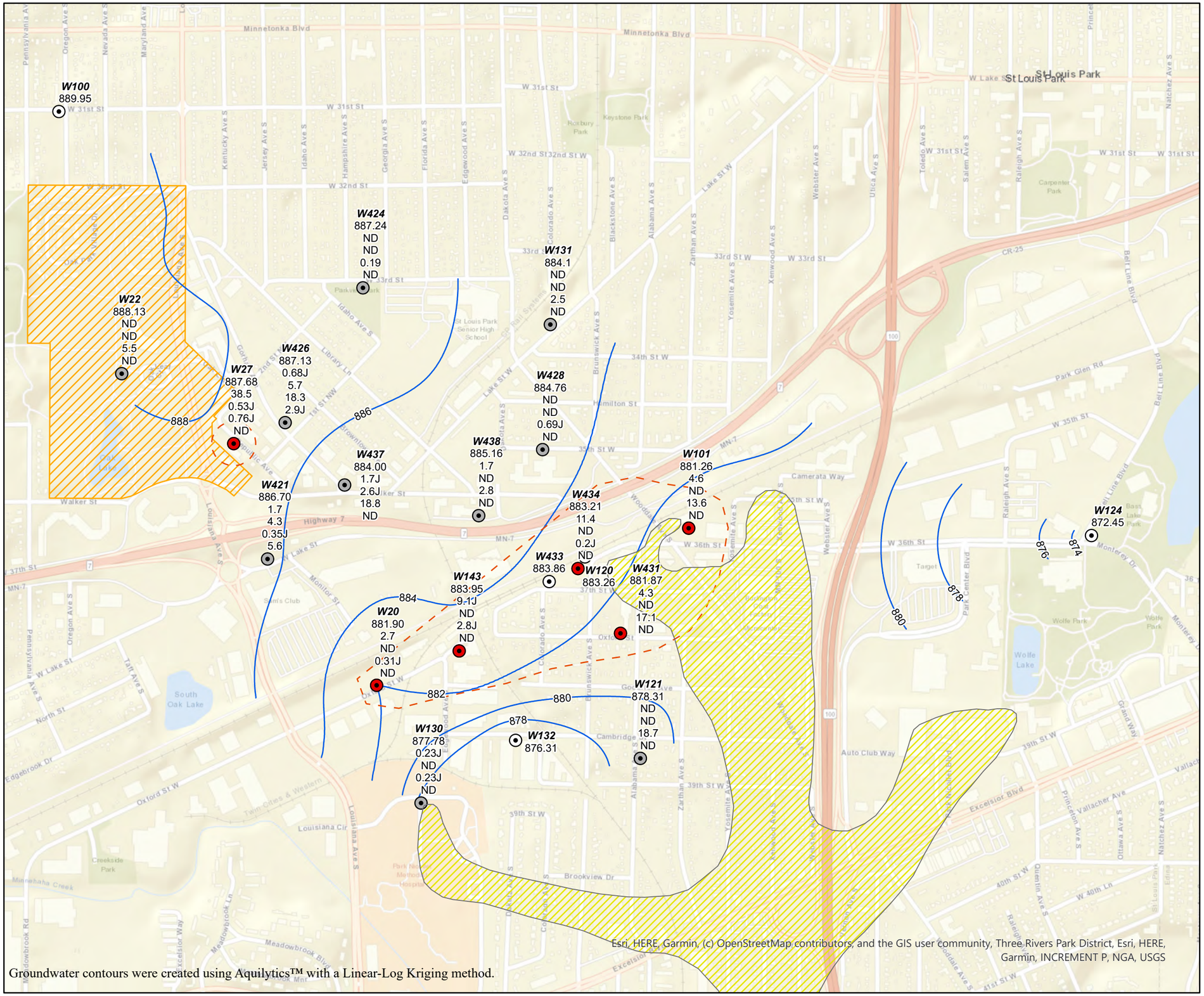
N

0 500 1,000 Feet

Figure 10
Platteville Aquifer
July 2019 PAH Results
2019 Annual Report
Reilly Site, City of St. Louis Park, Minnesota

File: Fig_7_Platteville_Aquifer
Summit Proj. No.: 0987-0009
Plot Date: 3/1/2020
Arc Operator: KWR
Reviewed by: WMG

Summit Envirosolutions



Groundwater contours were created using Aquilytics™ with a Linear-Log Kriging method.

Explanation

- Reilly Site
- Groundwater Elevation Contour (CI = 2FT)
- Group of wells with at least one reference concentration exceedance
- Well where 2019 sampling results were less than reference concentration (See table 5)
- Well where 2019 sampling result was greater than reference concentration (See table 5)
- Not Sampled
- St. Peter Formation is the uppermost bedrock unit

Well Name
Groundwater Elevation-Measured 7/9/2019-7/12/2019
Concentration of Benzene (ug/L)
Concentration of Ethylbenzene (ug/L)
Concentration of Toluene (ug/L)
Concentration of Xylene (total) (ug/L)
--- = Not Sampled/Not Available

J = The compound was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
L =The identification of the compound is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.

Results are summarized in Table 19 and complete results are provided in Appendix D.

i. St Peter Sandstone and Platteville Limestone and Glenwood Shale (undiff.) geology provided by the Minnesota Geological Survey.

N

0 500 1,000 Feet

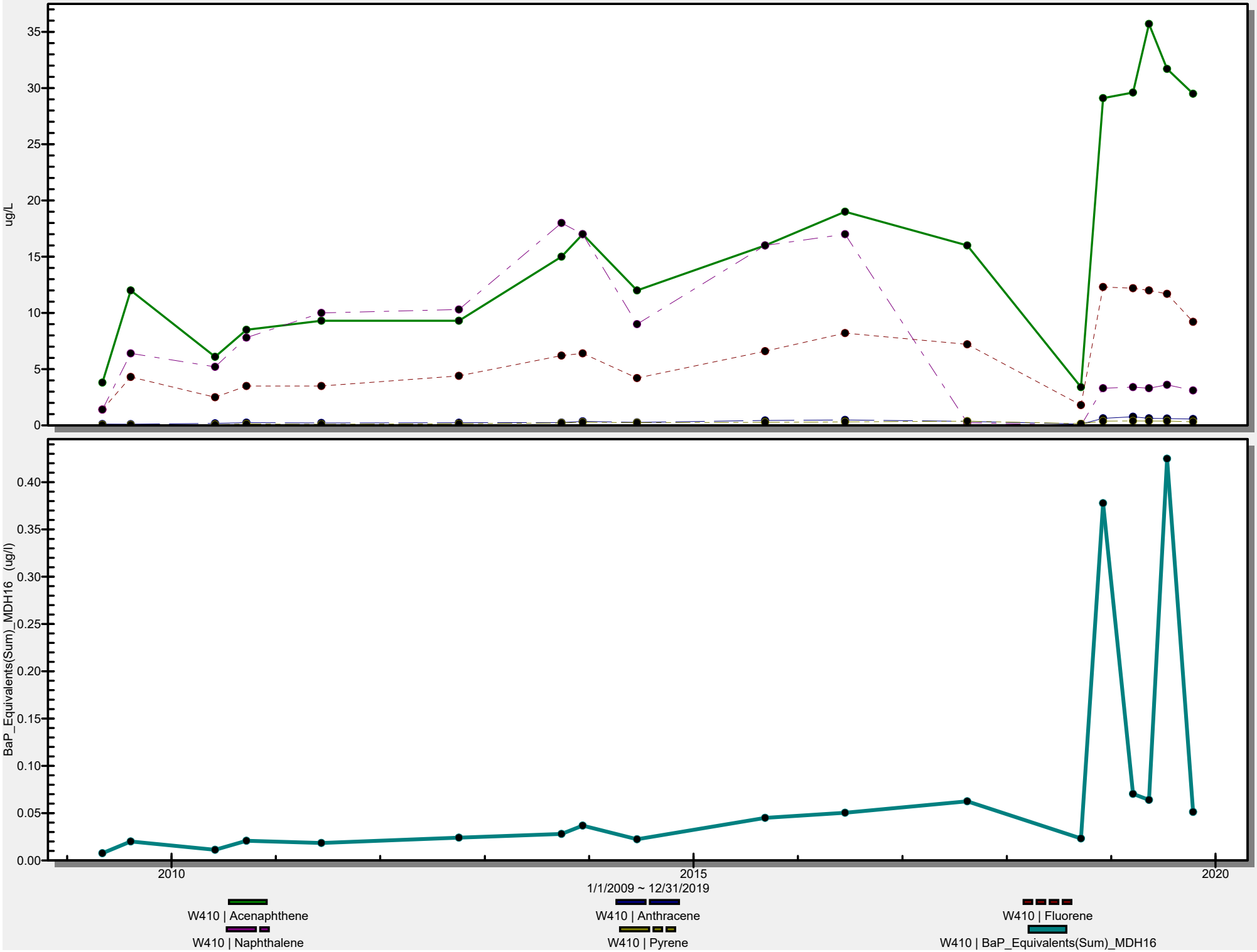
Figure 11
Platteville Aquifer
July 2019 BTEX Results
2019 Annual Report
Reilly Site, City of St. Louis Park, Minnesota

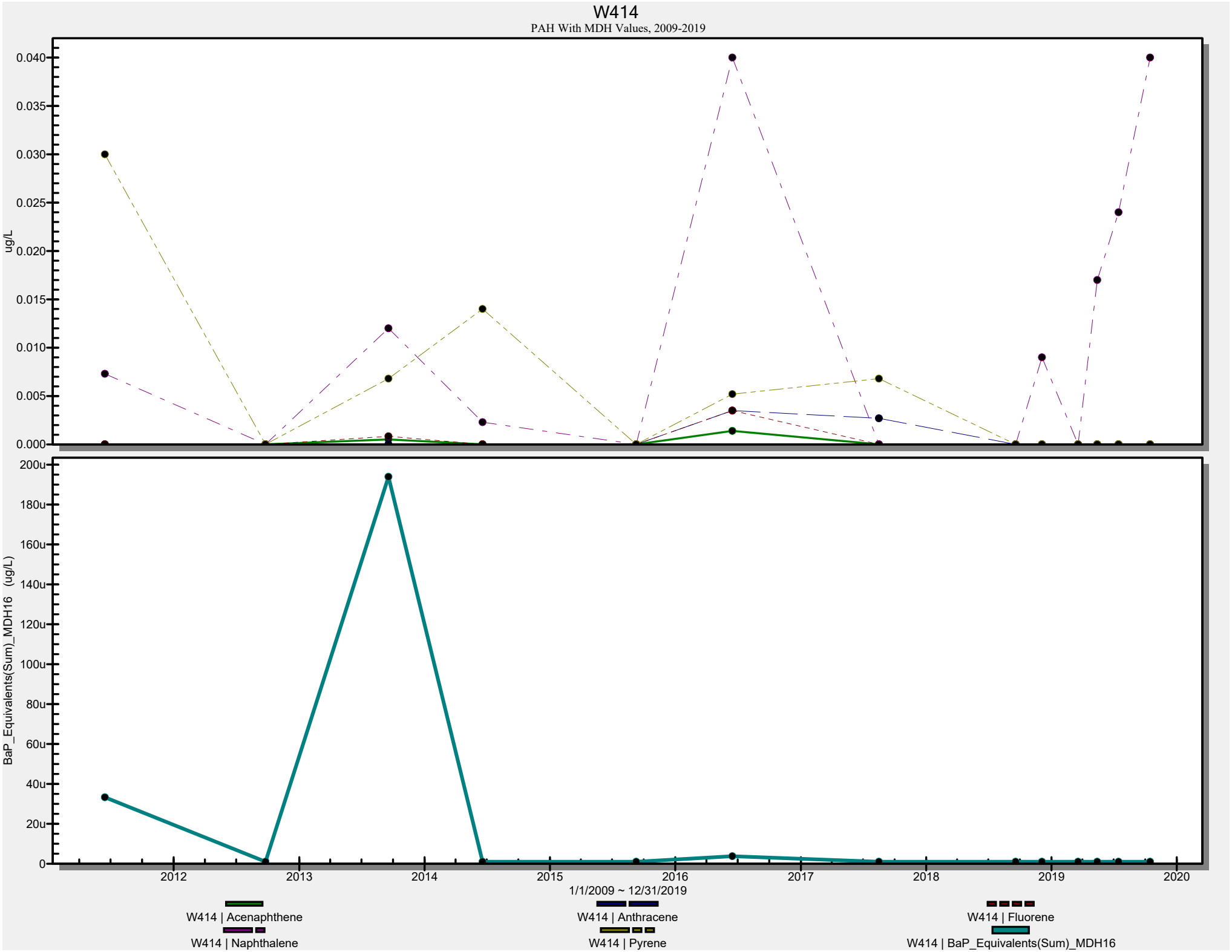
File: Fig_8_Platteville_Aquifer
Summit Proj. No.: 0987-0009
Plot Date: 3/1/2020
Arc Operator: KWR
Reviewed by: WMG

Summit Envirosolutions

W410

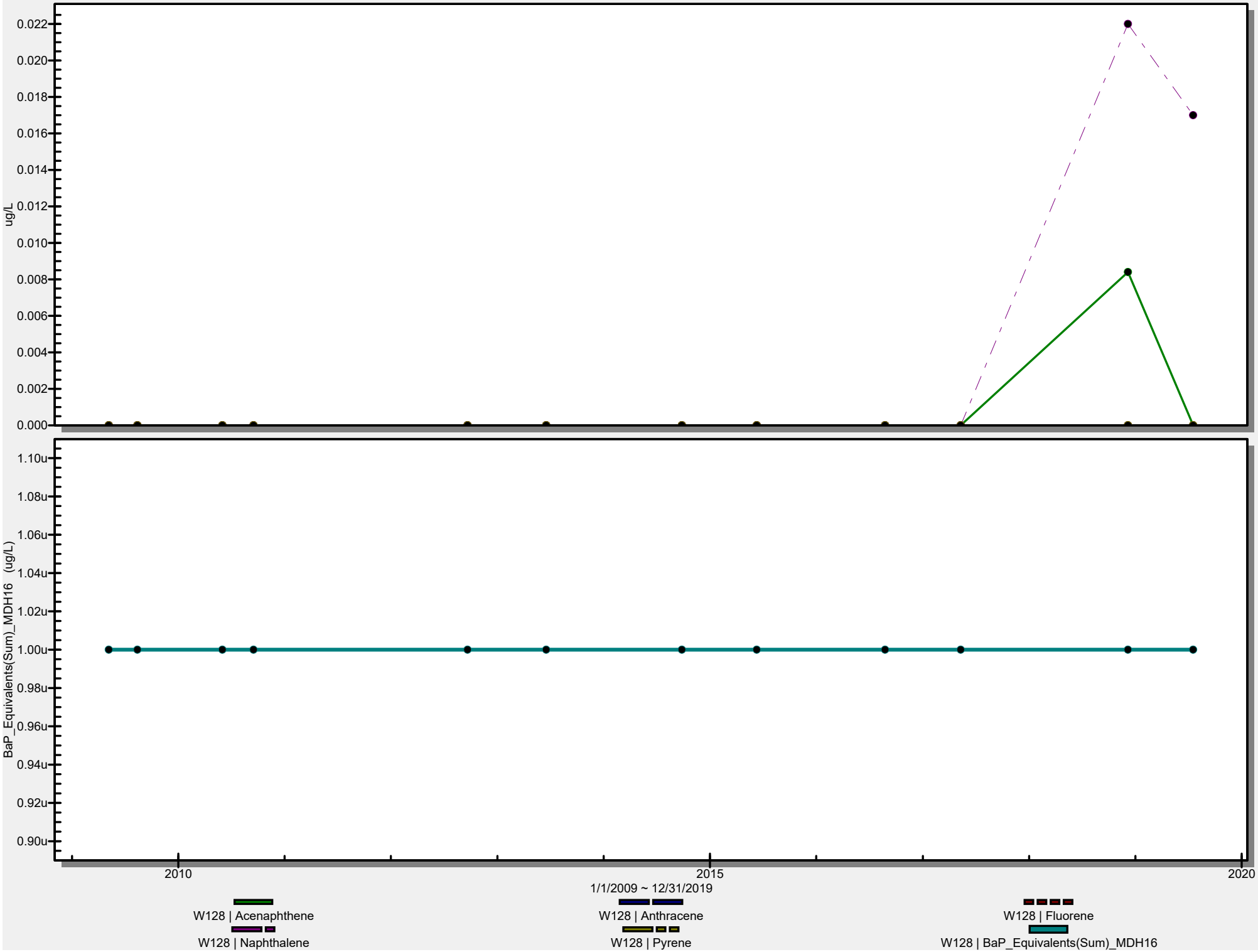
PAH With MDH Values, 20098-2019




W414
PAH With MDH Values, 2009-2019
ug/L
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
BaP_Equivalents(Sum)_MDH16 (ug/L)
200u
180u
160u
140u
120u
100u
80u
60u
40u
20u
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
1/1/2009 ~ 12/31/2019
W414 | Acenaphthene
W414 | Anthracene
W414 | Fluorene
W414 | Naphthalene
W414 | Pyrene
W414 | BaP_Equivalents(Sum)_MDH16

W128

PAH With MDH Values, 2009-2019



W129

PAH With MDH Values, 2009-2019

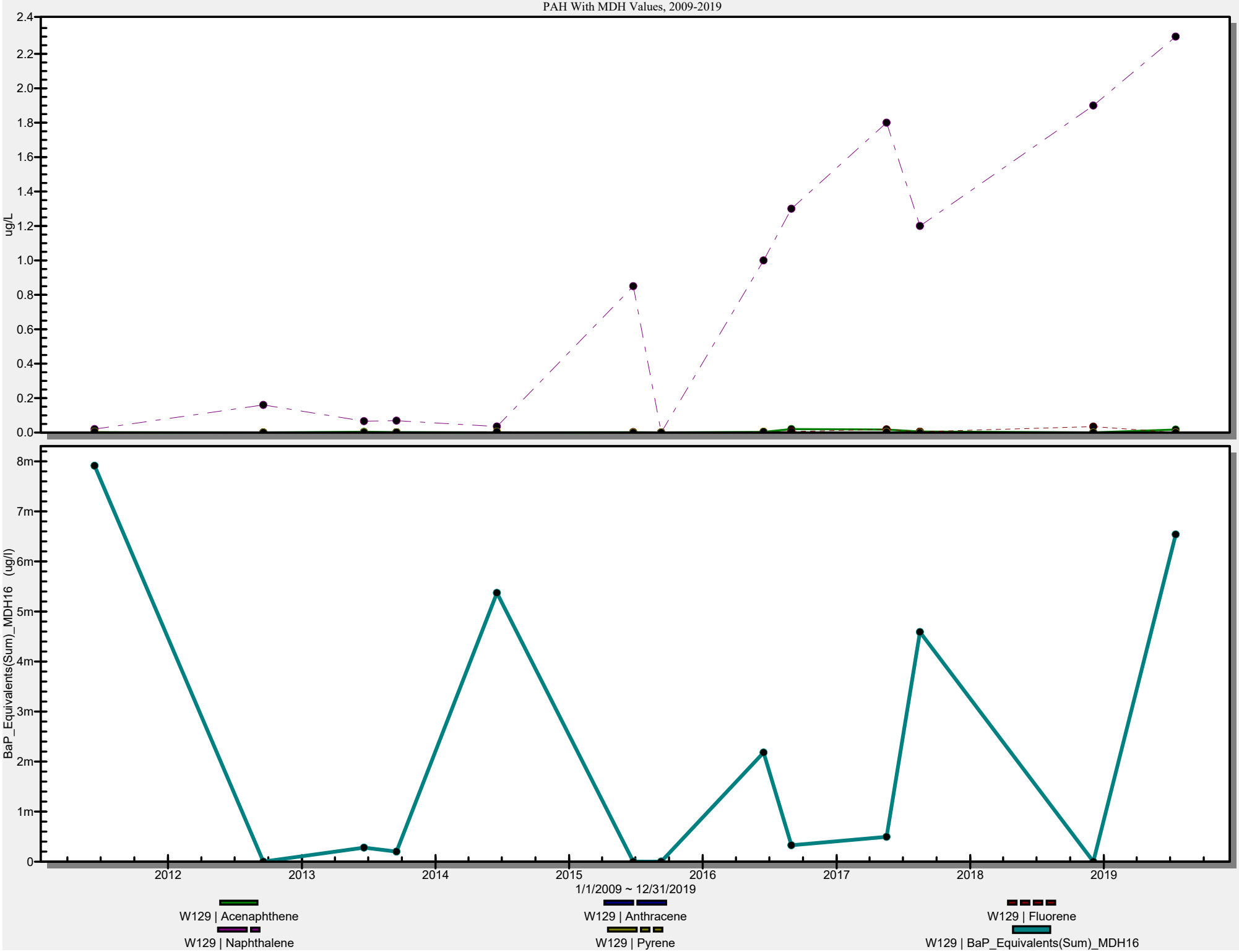


Table 4: Well Maintenance

Well	Aquifer/Address	Pumping Set Point	Actual Yearly Average	CD-RAP Pumping Requirement	Status	Repair History (BC=Bergerson-Caswell) (K=Keys) (R=Renner)
W23	**Prairie du Chien** **3508 Louisiana** **Pumps to GTF**	2019: 65 gpm 2018: 65 gpm 2017: 65 gpm 2016: 65 gpm 2015: 65 gpm 2014: 50 gpm 2013: 50 gpm 2012: 50 gpm 2011: 50 gpm 2010: 50 gpm	2019: 57 gpm 2018: 34 gpm 2017: 65 gpm 2016: 65 gpm 2015: 67 gpm 2014: 57 gpm 2013: 54 gpm 2012: 54 gpm 2011: 60 gpm 2010: 60 gpm	Section 7.1.3 monthly average rate of 50 gpm.	**Good**, pumps to GTF Set point was increased to 65 gpm on July of 2014. Previously set to 50 gpm. **GTF GAC is exchanged every year.**	**BC, 10-1-93** replaced discharge pipe. **BC 10-15-93** replaced drop pipe. **BC, 8-22-94** replaced pump motor. **6-6-95** repair discharge pipe. **BC, 10-22-01** replaced pump, motor, drop pipe, and video investigated. **BC, 7-29-05** replaced drop pipe and videoed. **7-21-08** replaced drop pipe. **BC, 9-21-09** pulled and tested flow capacity. **BC, 5-26-10** replaced drop pipe. **BC, 9-2-11** replaced drop pipe to stainless steel. Tested pump at 56 gpm at 35 psi **Staff, 2017** Meter replaced. **BC, 7-25-19** pulled well and replaced pump.
W48	**Prairie du Chien**	**Sealing 2/15**	**Sealing 2/15**	**Methodist Hospital**	Sealed 2015	Sealed 2015
W105	**Ironton-Galesville** **3512 Louisiana**	**OFF**	**OFF**	Section 6.1.3 monthly average rate of **25 gpm**.	**OFF** 1992 ROD states that Agencies approved discontinuing pumping in 1991 after well met the cessation criteria.	No maintenance since shut down.
W410	**St. Peter** **6411 Oxford Street** **Pumps to sanitary**	2019: 0 gpm 2018: 40 gpm 2017: 40 gpm 2016: 40 gpm 2015: 50 gpm 2014: 50 gpm 2013: 50 gpm 2012: 50 gpm 2011: 50 gpm 2010: 50 gpm	2019: 0 gpm 2018: 15 gpm 2017: 40 gpm 2016: 40 gpm 2015: 40 gpm 2014: 42 gpm 2013: 42 gpm 2012: 57 gpm 2011: 56 gpm 2010: 51 gpm	1990 ROD selected 1 well operated at **65-100 gpm**.	**OFF** Pumping Cessation Pilot Test **Operational**, but can only pump 40 gpm.	**1991** well was constructed and pumped 70gpm. **BC, 2-20-03** disassembled and cleaned, but well still broke suction. **BC, 7-30-03** redeveloped well with Nuwell, air surging and surge block. **BC, 10-31-08** redeveloped well, 45 gallon of HCI acid & surge pad. **BC, 9-27-13** pumping dropped from 54 gpm to 19.5 gpm, well was redeveloped and put back in operation and can only pump 40 gpm. **Staff, 2017** Meter replaced. **BC & Agencies, 5-22-18** low water level, pumping air, remained off for pilot study
W420 **W421**	**Drift Platteville** **7130 Lake Street** **Pumps to GTF**	2019: 0 & 0 gpm 2018: 30 & 21 gpm 2017: 30 & 21 gpm 2016: 30 & 25 gpm 2015: 45 &20 gpm 2014: 45 & 20 gpm 2013: 45 & 20 gpm 2012: 45 & 20 gpm 2011: 45 & 35 gpm 2010: 45 & 20 gpm	2019: 0 & 0 gpm 2018: 5 & 7 gpm 2017: 30 & 21 gpm 2016: 30 & 21 gpm 2015: 45 & 21 gpm 2014: 45 & 21 gpm 2013: 44 & 21 gpm 2012: 45 & 22 gpm 2011: 42 & 33 gpm 2010: 46 & 21 gpm	**W420 40 gpm** **W421 25 gpm**	**OFF** Pumping Cessation Pilot Test **Operational** W420, but can only pump 30 gpm. Pumps to GTF. **Operational** W 421, but can only pump 21 gpm. Pumps to GTF. **GTF GAC has beeen exchanged every year.**	**W420: BC, 6-25-01** replaced some pipe, brushed casing, video inspect. **BC, 7-30-03** redeveloped well with NuWell 100, air surging & surge block, extended pipe to 58', replaced some drop pipe and pump set to 26 gpm. **BC, 7-4-06** replaced pump, motor, wire, pipe, tested at 40 gpm at 34' pwl. **BC, 2-07** Performance tested pump 23.4 gpm at 22' pwl. **BC, 5-1-12** pulled well, brushed casing, video inspected, options to repair screen. **BC, 9-15-13** removed pump, screen repair, added 2" stainless steel pipe, air lift. **BC, 1-7-16** removed debris (rock and sand) can only pump at 40 gpm. **BC, 4-10-16** hole in casing above the screen and middle of screen. Installed 4" flow sleeve to cover hole can only pump 30 gpm, then pulls rock and sand. Airlifted and changed pump motor. **Staff, 2017** Meter replaced. **W421 BC, 6-25-01** replaced pump, videoed, bailed gravel, tested 28.8 gpm. **BC, 8-11-06** replaced entire pumping equipment, tested 40 gpm at 34' pwl. **BC, 6-24-08** inspected, no problem found, set pump to 30 gpm at 51' pwl. **BC, 6-29-09** replace drop pipe and repair well head. **BC, 5-16-13** replaced pump motor and 1-1/2" stainless steel pipe. Breaks suction at 22.7 gpm. **BC, 8-21-13** redeveloped well, air surging, air lifting. Can only pump at 21 gpm. **Staff, 2017** Meter replaced. **Agencies, July 2, 2018** Shut off for pilot study.
W422	**Drift Platteville** **6411 Oxford**	**OFF**	**OFF**	**50 gpm**	**OFF** Shut off in 2000.	No maintenance since shut down.
W434	**Platteville** **3600 Brunswick**	**OFF**	**OFF**	**20-25 gpm**	**OFF** Met cessation criteria in 2006.	No maintenance since shut down.

Table 4: Well Maintenance

W439 **W440**	**Drift Platteville** **3301 Gorham Ave** **Pumps to sanitary**	2019: 0 gpm 2018: 25 gpm 2017: 25 gpm 2016: 25 gpm 2015: 50 gpm 2014: 50 gpm 2013: 50 gpm 2012: 50 gpm 2011: 50 gpm 2010: 50 gpm	2019: 0 gpm 2018: 6 gpm 2017: 25 gpm 2016: 25 gpm 2015: 50 gpm 2014: 49 gpm 2013: 49 gpm 2012: 49 gpm 2011: 47 gpm 2010: 60 gpm	**W439 50 gpm**	**OFF** Pumping Cessation Pilot Test **1-8-16** can only pump at 30 gpm, will pull sand. **Good** W439, **May 2013** dropped to 38 gpm in. **May 2012** began surging and dropped to 23 gpm. **W440** is sealed because it never produced enough water.	**BC, 8-2-04** replaced drop pip cleaned pump and redeveloped well. **BC, 4-17-08** replaced everything below the well head. **BC, 6-27-12** replaced pump end and drop pipe, videoed, bailed well casing/screen. **BC, 7-8-13** redeveloped acid treated & HV jetting to well screen. Pumps at 50 gpm. **BC, 4-13-15** Pulled, bailed sand reconfigured and reinstalled. Needs a new well. 3-10 year fix. **BC, 1-8-16** replaced pump and pump motor, can only pump at 30 gpm. **Staff**, **1-21-17,** Meter replaced. **BC, 4-5-18** needs smaller pump and air lift, column pipe removed out of service. **Agencies 2018,** kept out of service for pilot study.
SLP4	**Prairie du Chien** **4701 West 41st Street** **Potable Water**	2019: 1000 gpm 2018: 0 gpm 2017: 0 gpm 2016: 900 gpm 2015: 900 gpm 2014: 900 gpm 2013: 1,000 gpm 2012: 1,000 gpm 2011: 1,000 gpm 2010: 1,000 gpm	2019: 533 gpm 2018: 0 gpm 2017: 0 gpm 2016: 900 gpm 2015: 891 gpm 2014: 883 gpm 2013: 936 gpm 2012: 844 gpm 2011: 993 gpm 2010: 999 gpm	**900 gpm** from October to April. **300 gpm** from May to Sept. GAC Maybe adjusted upward or downward by 250 gpm on agreement Page 38 2nd section	**Well taken out of service 8:10 a.m. on 12-28-16. City concerned about TCE increase. 2017 – 2018 Offline for upgrades. Air stripping added and GAC removed. Restarted January 2019.**	**K, 2003** Rehab: rebuild pump, replace column pipe, line shaft bearings, bowl shaft, and suction pipe. **K, 2009** Rehab: replace shaft, column pipe, line shaft bearings, head shaft, & motor bearing, rebuild pump. **K, 2012** Rehab: suction pipe, head shaft, replace pump, replace & epoxy column pipe, line shaft bearings, transducer. **BC, 8-12-16,** tail piece of pump broke off and is down in the bottom of the well, not posing a problem. Well rehabbed and pump replaced and turbine reconditioned. **Calgon,** GAC removed because of VOC. Then by-passed carbon vessels because of VOC issues with liner. Well 4 taken out of service December 2016 to January 2020.
SLP10/15	**Prairie du Chien** **2936 Idaho** **Potable Water**	2019: 1,250 gpm 2018: 1,250 gpm 2017: 1,250 gpm 2016: 1,250 gpm 2015: 1,250 gpm 2014: 1,000 gpm 2013: 1,000 gpm 2012: 1,000 gpm 2011: 1,000 gpm 2010: 1,000 gpm	2019: total 284,912,000 2018: total 398,556,000 2017: total 562,836,000 2016: total 216,029,000 2015: total 283,272,000 2014: total 293,143,000 2013: total 279,588,000 2012: total 331,570,000 2011: total 245,767,000 2010: total 133,248,000	Minimum of 200,000,000 gallons pumped a year and minimum of 10,000,000 gallons in any calendar month. GAC	**Good.** Began pumping SLP 15 at 1,250 gpm in July of 2014. **GAC was exchanged October 2015** **GAC was exchanged September 2017** **GAC was exchanged September 2019** **GAC is exchanged every other year.**	**K, SLP 10: 2004** Rehab: replace pump, line shaft bearings, head shaft, column pipe, rewind motor, suction pipe. **K, SLP 10 2009** inspect motor, replace excess sleeve, motor bearings. **B, SLP 10 2014** Rehab: suction pipe, head shaft, replace pump, replace & epoxy column pipe, line shaft bearings, transducer. **B SLP 15:** Rehabbed **8-2015**, upgraded to Premium efficient VHS motor DT79, suction pipe, head shaft, replace & epoxy column pipe, line shaft bearings, transducer. **Eagan Electric, 5-24-16** VFD installed that was donated by the Rec Center. Transducer was also installed by Eagan and Automatic system.

TABLE 7
CHEMICALS OF INTEREST, PAHS AND BENZENE, WITH MCL, HRL, OR HBV

Reilly Site
St. Louis Park, Minnesota

Chemical	CAS Number	Drinking Water Standard (MCL)	Value	Source	MDH Relative Potency Factor (RPF)	Concentration at HBV if one PAH Detected
Polycyclic Aromatic Hydrocarbons						
Acenaphthene[1]	83 32 9		100	HBV	--	--
Anthracene	120 12 7		2,000	HRL	--	--
Biphenyl	92-52-4		300	HRL	--	--
Fluorene	86 73 7		300	HRL	--	--
Naphthalene	91 20 3		70	HRL	--	--
Pyrene[2]	129 00 0		50	HBV	--	--
Polycyclic Aromatic Hydrocarbons with Values Based on B(a)P Equivalency Factor						
5-Methylchrysene	3697-24-3		0.06	HBV*	1	0.06
6-Nitrochrysene	7496-02-8		0.06	HBV*	10	0.006
Anthanthrene	191-26-4		0.06	HBV*	0.4	0.2
benz[a]anthracene	56-55-3		0.06	HBV*	0.2	0.3
benzo[a]pyrene	50 32 8	0.2	0.06	HBV*	1	0.06
benzo[b]fluoranthene	205-99-2		0.06	HBV*	0.8	0.08
benzo[c]fluorene	205-12-9		0.06	HBV*	20	0.003
benzo[g,h,i]perylene	191-24-2		0.06	HBV*	0.009	7
benzo[j]fluoranthene	205-82-3		0.06	HBV*	0.3	0.2
benzo[k]fluoranthene	207-08-9		0.06	HBV*	0.03	2
Chrysene	218-01-9		0.06	HBV*	0.1	0.6
cyclopenta[c,d]pyrene	27208-37-3		0.06	HBV*	0.4	0.2
dibenz[a,h]anthracene	53-70-3		0.06	HBV*	10	0.006
dibenzo[a,e]pyrene	192-65-4		0.06	HBV*	0.4	0.2
dibenzo[a,h]pyrene	189-64-0		0.06	HBV*	0.9	0.07
dibenzo[a,i]pyrene	189-55-9		0.06	HBV*	0.6	0.1
dibenzo[a,l]pyrene	191-30-0		0.06	HBV*	30	0.002
Fluoranthene[3]	206-44-0		0.06	HBV*	0.08	0.8
indeno[1,2,3-cd]pyrene	193-39-5		0.06	HBV*	0.07	0.9

TABLE 7
CHEMICALS OF INTEREST, PAHS AND BENZENE, WITH MCL, HRL, OR HBV

Reilly Site
St. Louis Park, Minnesota

Chemical	CAS Number	Drinking Water Standard (MCL)	Value	Source	MDH Relative Potency Factor (RPF)	Concentration at HBV if one PAH Detected
Other Chemical of Interest						
Benzene	71-43-2	5	2	HRL	--	--

Notes:

Units are in micrograms per liter (µg/L).

* For these, the sum of the products of concentration and RPF is the B[a]P equivalent, the standard (HBV) for which is 0.06 µg/L.

CAS Chemical Abstracts Service

HRL Minnesota Department of Health Health Risk Limit

HBV Minnesota Department of Health Health-Based Value

MCL EPA Maximum Contaminant Level

-- Not applicable

1 Acenaphthene has a HRL of 400 µg/L.

2 Pyrene has a HRL of 200 µg/L

3 Fluoranthene has an HBV of 70 µg/L

TABLE8
CHEMICALS OF INTEREST, PHENOLICS, WITH VALUES

Reilly Site
St. Louis Park, Minnesota

Chemical	CAS Number	Drinking Water Standard (MCL)	Value	Source for Value
Total phenolics*	NA	NA	NA	NA
Bisphenol A (BPA)	80-05-7	NA	20	HRL
2-Chlorophenol	95-57-8	NA	30	HRL
2,4-Dichlorophenol	120-83-2	NA	20	HRL
2,4-Dimethylphenol	105-67-9	NA	100	HRL
2,4-Dinitrophenol	51-28-5	NA	10	HRL
2-Methylphenol (o-cresol)	95-48-7	NA	30	HRL
3-Methylphenol (m-cresol)	108-39-4	NA	30	HRL
4-Methylphenol (p-cresol)	106-44-5	NA	3	HRL
Nonylphenol	84852-15-3	NA	20	HBV
4-tert-Octylphenol	140-66-9	NA	100	HBV
Pentachlorophenol	87-86-5	1	0.3	HRL
Phenol	108-95-2	NA	4000	HRL
2,4,6-Trichlorophenol	88-06-2	NA	30	HRL

Notes:

NA Not applicable or not available
HRL Minnesota Department of Health Health Risk Limits
HBV Minnesota Department of Health Health-Based Values
CAS Chemical Abstracts Service
Units are in micrograms per liter
While there are values for Bisphenol A, Nonylphenol and 4-tert-Octylphenol, they are not considered to be creosote related.
* Total phenolics will be used as an indicator parameter for monitoring shallower aquifers. Where total phenolics result is greater than detection limit, individual phenolics listed in this table will be included in subsequent monitoring.

TABLE 9
CHEMICALS OF INTEREST, HAVING NO MCL, HRL OR HBV

Reilly Site
St. Louis Park, Minnesota

Chemical	CAS Number
1-Methylnaphthalene	90-12-0
2,3-benzofuran	271-89-6
2-Methylnaphthalene *	91-57-6
2,3-dihydroindene	496-11-7
3-methylcholanthrene	56-49-5
7,12-dimethylbenz(a)anthracene	57-97-6
Acenaphthylene	208-96-8
Acridine	260-94-6
benzo[b]thiophene	95-15-8
benzo[c]phenanthrene	195-19-7
benzo[e]pyrene	192-97-2
Carbazole	86-74-8
dibenz[a,c]anthracene	215-58-7
dibenzofuran	132-64-9
dibenzothiophene	132 65 0
Indene	95-13-6
Indole	120-72-9
Perylene	198-55-0
Phenanthrene	85-01-08
Quinoline	91-22-5

Notes:

CAS - Chemical Abstracts Service

* MDH has 2013 Risk Assessment Advice for 2-Methylnaphthalene of 8 µg/L

Table 10. Average Annual Pumping Rates 2000-2019

in Gallons Per Minute

Year	W23	W410	W420	W421	W422	W434	W439	SLP4	SLP10/15
2000	50	80	28	28	51	30	50	889	572
2001	44	78	29	26	0	29	53	954	719
2002	49	65	34	27	0	27	52	782	675
2003	47	48	33	23	0	26	44	876	687
2004	47	52	34	27	0	31	44	954	681
2005	46	85	33	30	0	32	49	831	615
2006	53	69	37	29	0	29	55	906	648
2007	54	58	43	25	0	0	47	935	589
2008	49	38	28	24	0	0	40	920	669
2009	54	45	50	18	0	0	42	976	525
2010	55	58	49	20	0	0	48	999	391
2011	56	53	40	31	0	0	58	985	462
2012	50	58	36	20	0	0	42	919	631
2013	53	44	44	16	0	0	42	938	530
2014	57	42	36	29	0	0	49	881	512
2015	60	37	39	21	0	0	43	884	537
2016	65	39	25	23	0	0	22	842	411
2017	54	38	24	20	0	0	29	0	1071
2018	34	15	5	7	0	0	6	0	758
2019	57	0	0	0	0	0	0	533	542

APPENDIX C: Attachments

Attachment 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

June 16, 2020 Reply to: SR 6J

Jennifer Jevnisek
Environmental Specialist/Project Manager
Minnesota Pollution Control Agency
520 Lafayette Rd North
St. Paul, MN 55155

Re: Notification of Five-Year Review Start for the Reilly Tar and Chemical Corp. Superfund Site, St. Louis Park, Minnesota

Dear Ms. Jevnisek:

This letter is to notify you that the U.S. Environmental Protection Agency (EPA) is starting the Five-Year Review for the Reilly Tar and Chemical Corp. Superfund Site (the Site).

EPA is conducting a statutory Five-Year Review for the Site as required by Section 121 of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). The purpose of the Review is to evaluate the remedy implemented at the Site and determine if the remedy remains protective of human health and the environment.

The Five-Year Review for the Site is due on June 14, 2021. EPA is providing Minnesota Pollution Control Agency (MPCA) with notification so EPA and MPCA can begin the necessary coordination activities. EPA will notify the public of the Review. EPA and MPCA should conduct a Site Inspection before the due date of the Five-Year Review Report.

If you have any questions or would like to discuss the Five-Year Review for the Site further, please feel free to contact me at 312-886-6840.

X Nabil Fayoumi

Nabil Fayoumi
Remedial Project Manager
Signed by: Fayoumi, Nabil

cc: Mark Hanson, City of St. Louis Park
William Greeg, Summit Envirosolution

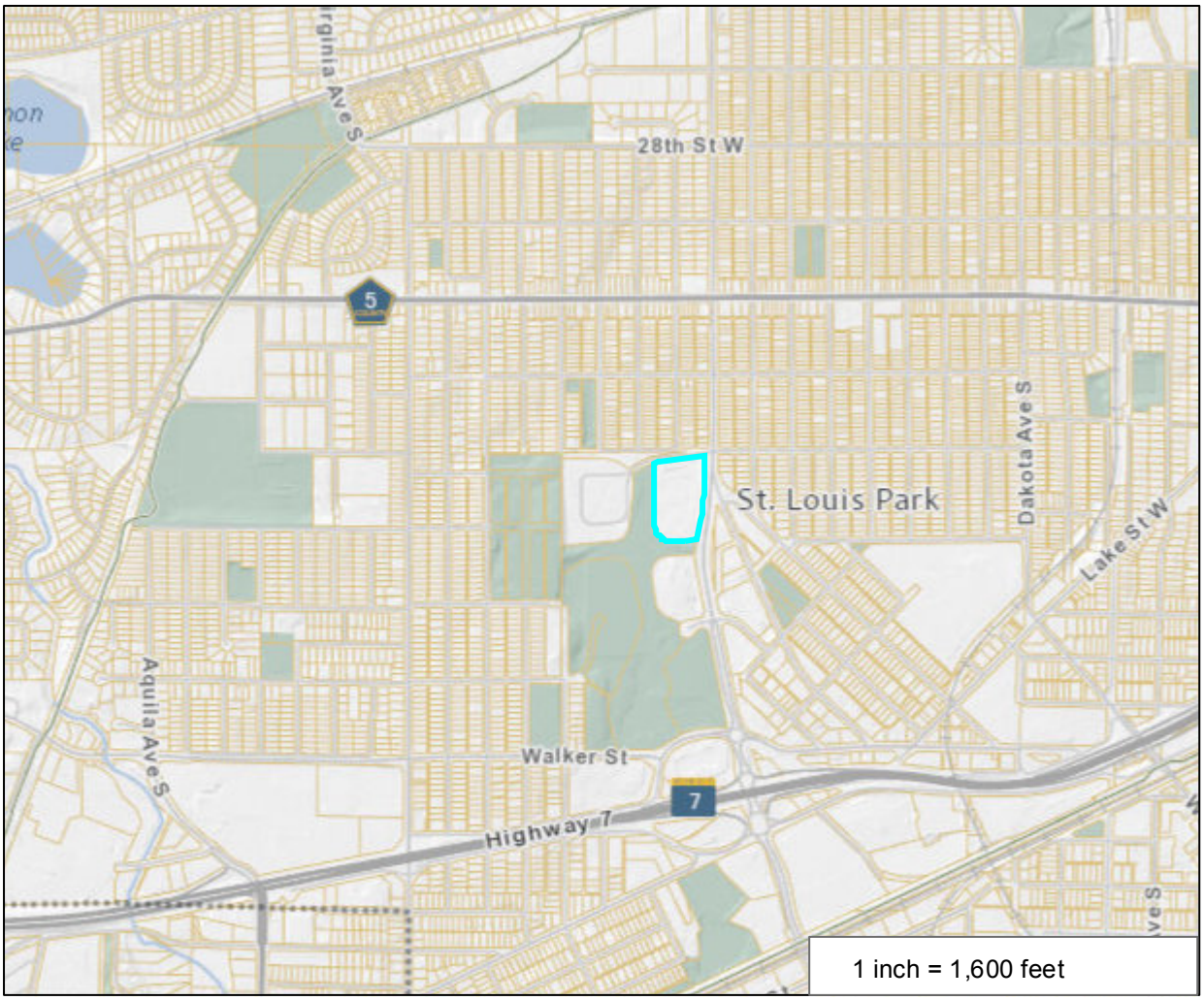
Steve Kaiser, EPA
Heriberto Leon, EPA

Attachment 2

DRAFT

Hennepin County Property Map

Date: 8/7/2017



PARCEL ID: 1711721240003

OWNER NAME: Oak Park Village Aparts Llc

PARCEL ADDRESS: 7267 Oak Park Village Dr,
St. Louis Park MN 55426

PARCEL AREA: 6.58 acres, 286,812 sq ft

A-T-B: Abstract

SALE PRICE:

SALE DATA:

SALE CODE:

ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Low Income Rental
HOMESTEAD: Non-Homestead
MARKET VALUE: $8,800,000
TAX TOTAL: $94,954.86

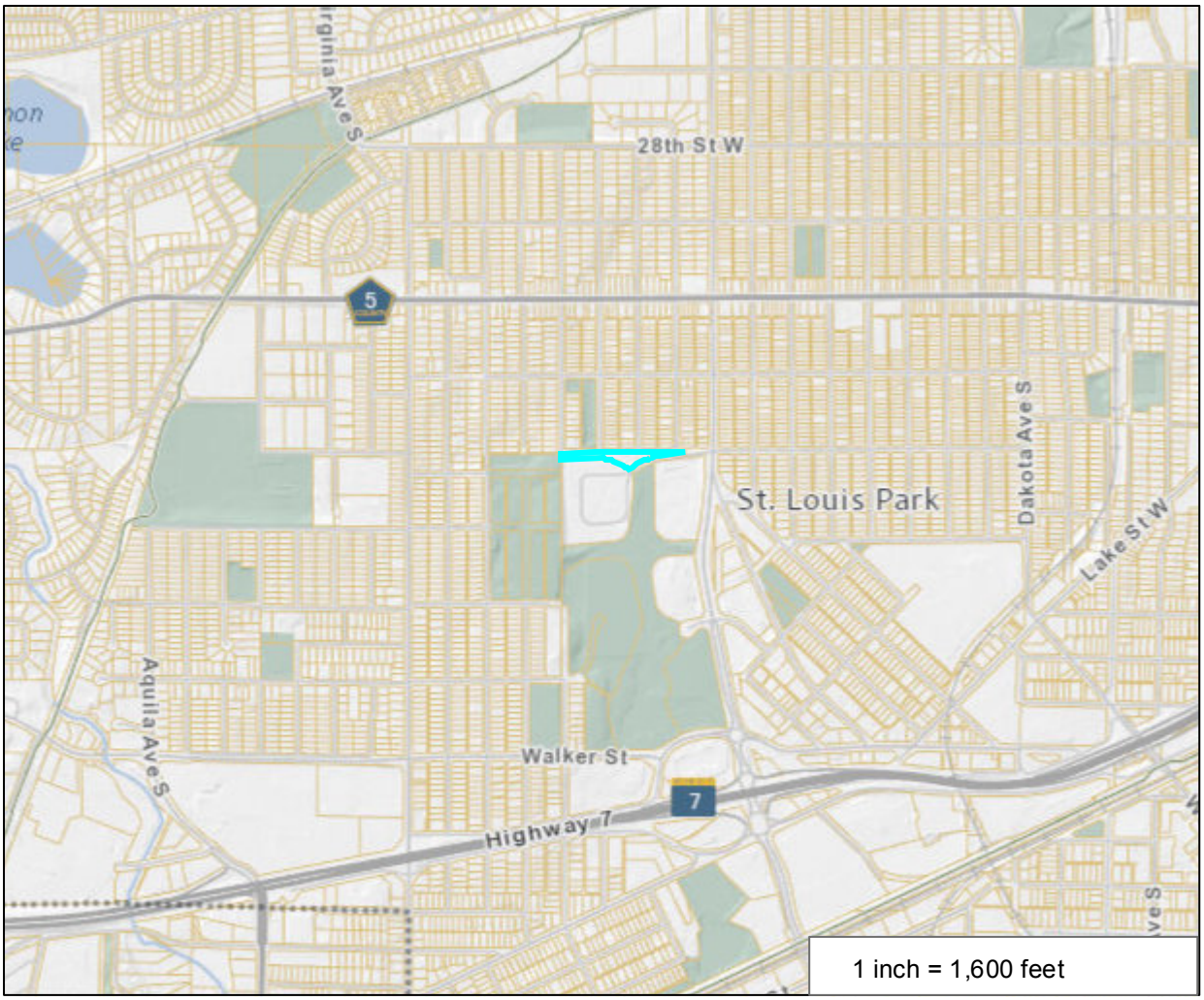
ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Low Income Rental
HOMESTEAD: Non-homestead
MARKET VALUE: $9,293,000

Comments:

DRAFT

Hennepin County Property Map

Date: 8/7/2017



PARCEL ID: 1711721240006

OWNER NAME: City Of St Louis Park

PARCEL ADDRESS: 7300 Oak Park Village Dr,
St. Louis Park MN 55426

PARCEL AREA: 1.35 acres, 59,009 sq ft

A-T-B: Abstract

SALE PRICE:

SALE DATA:

SALE CODE:

ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Vacant Land-Apartment
HOMESTEAD: Non-Homestead
MARKET VALUE: $0
TAX TOTAL: $0.00

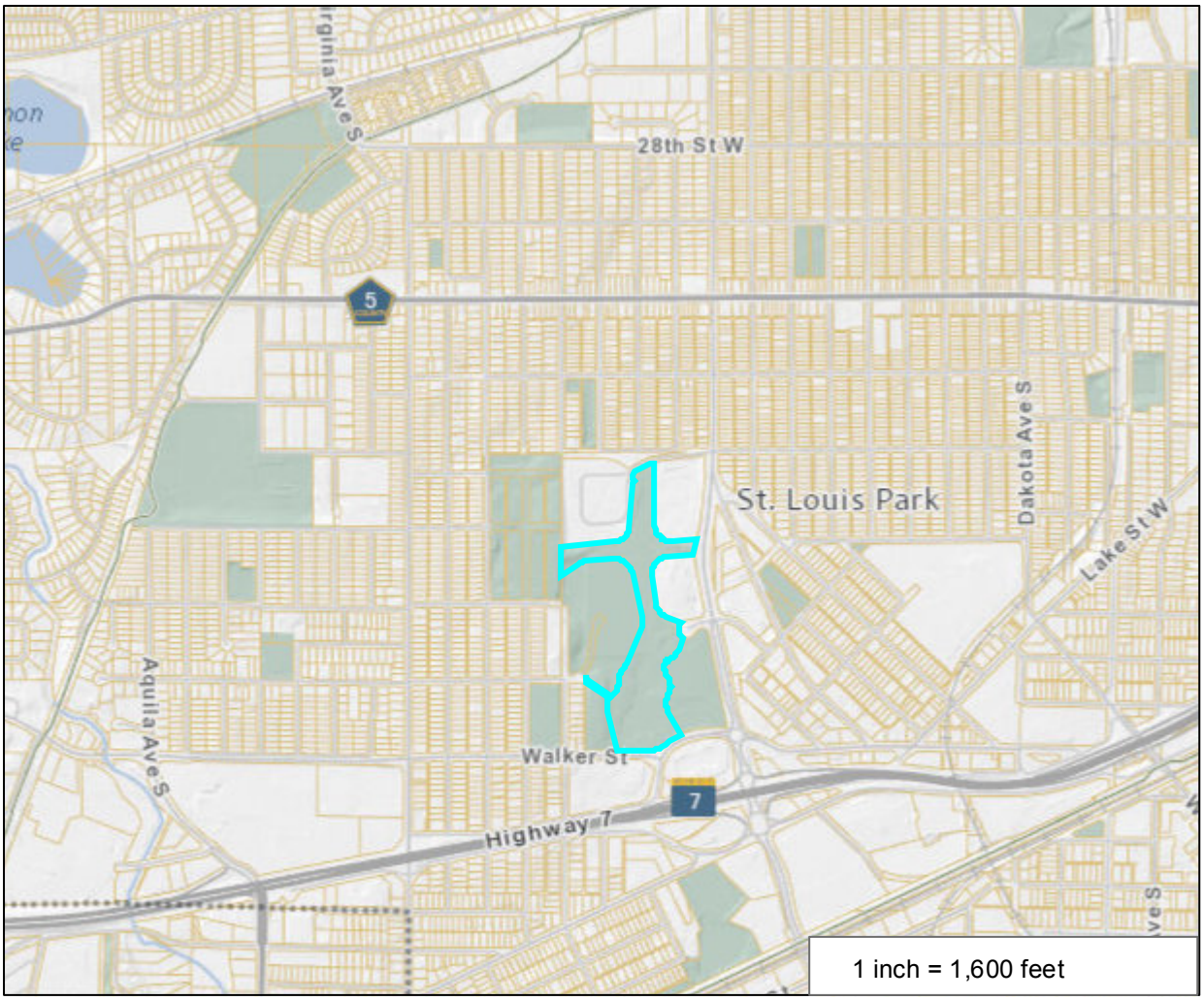
ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Vacant Land-apartment
HOMESTEAD: Non-homestead
MARKET VALUE: $0

Comments:

DRAFT

Hennepin County Property Map

Date: 8/7/2017



PARCEL ID: 1711721240007

OWNER NAME: City Of St Louis Park

PARCEL ADDRESS: 3280 Louisiana Ave S,
St. Louis Park MN 55426

PARCEL AREA: 20.54 acres, 894,684 sq ft

A-T-B: Abstract

SALE PRICE:

SALE DATA:

SALE CODE:

ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Vacant Land-Apartment
HOMESTEAD: Non-Homestead
MARKET VALUE: $0
TAX TOTAL: $0.00

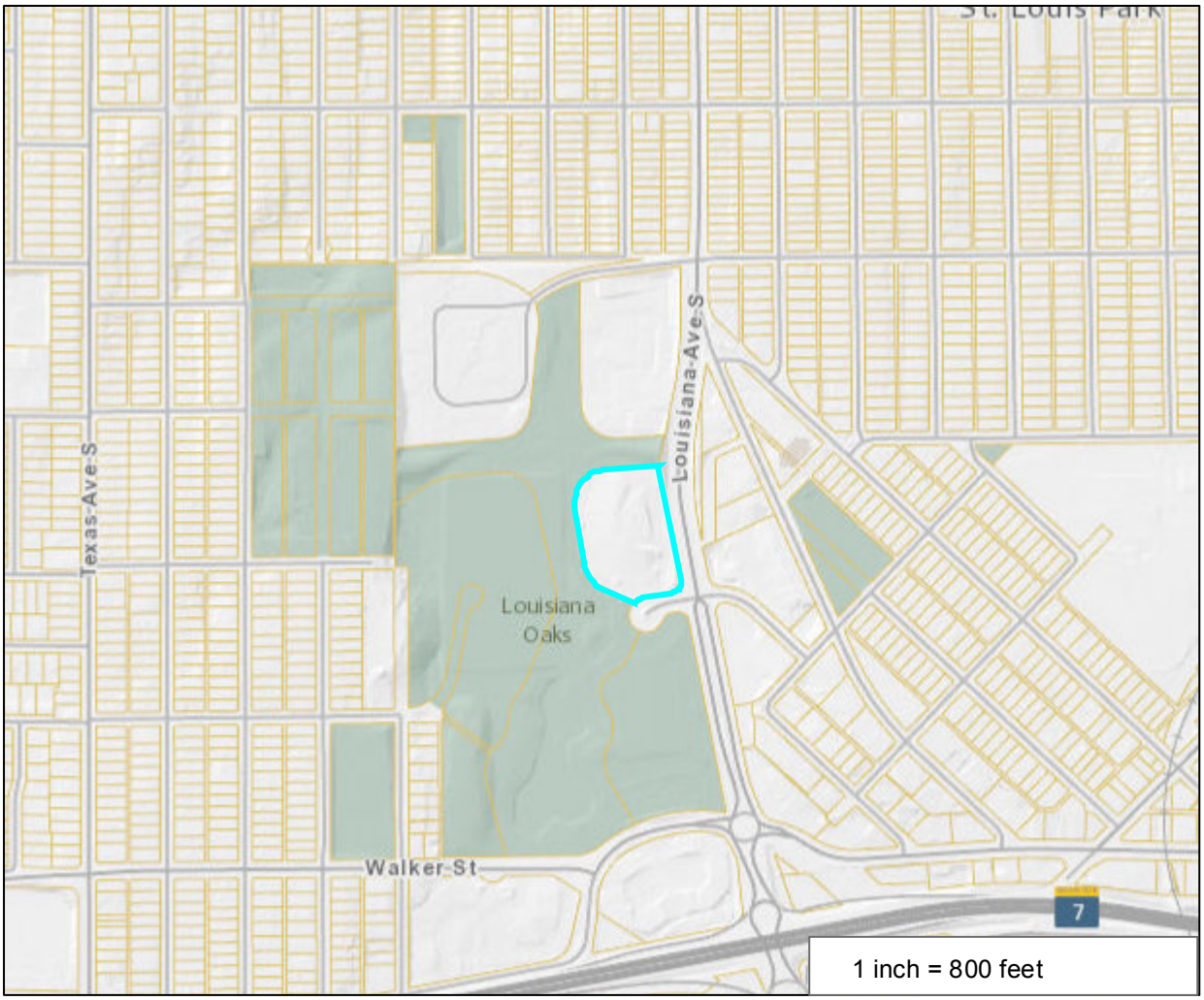
ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Commercial-preferred
HOMESTEAD: Non-homestead
MARKET VALUE: $0

Comments:

DRAFT

Hennepin County Property Map

Date: 8/31/2017



PARCEL ID: 1711721240139

OWNER NAME: Thirty Three Hundred On Park

PARCEL ADDRESS: 3300 Louisiana Ave S,
St. Louis Park MN 55426

PARCEL AREA: 4.78 acres, 208,174 sq ft

A-T-B: Abstract

SALE PRICE:

SALE DATA:

SALE CODE:

ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Condo Garage/Miscellaneous
HOMESTEAD: Non-Homestead
MARKET VALUE: $4,700
TAX TOTAL: $82.56

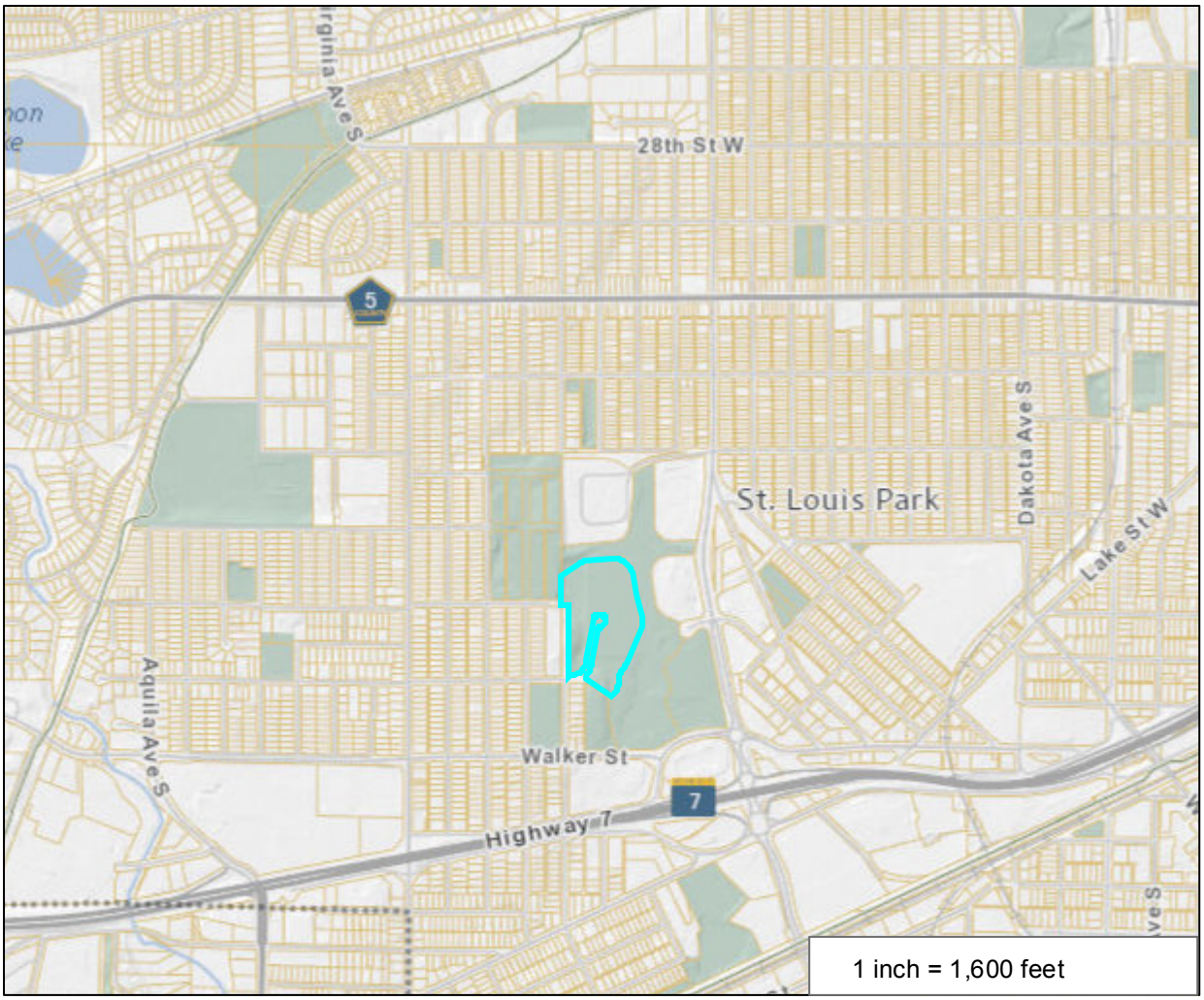
ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Condo Garage/miscellaneous
HOMESTEAD: Non-homestead
MARKET VALUE: $4,700

Comments:

DRAFT

Hennepin County Property Map

Date: 8/7/2017



PARCEL ID: 1711721310016

OWNER NAME: City Of St Louis Park

PARCEL ADDRESS: 7450 Walker St, St. Louis Park MN 55426

PARCEL AREA: 13.15 acres, 572,816 sq ft

A-T-B: Both

SALE PRICE:

SALE DATA:

SALE CODE:

ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Vacant Land-Apartment
HOMESTEAD: Non-Homestead
MARKET VALUE: $0
TAX TOTAL: $0.00

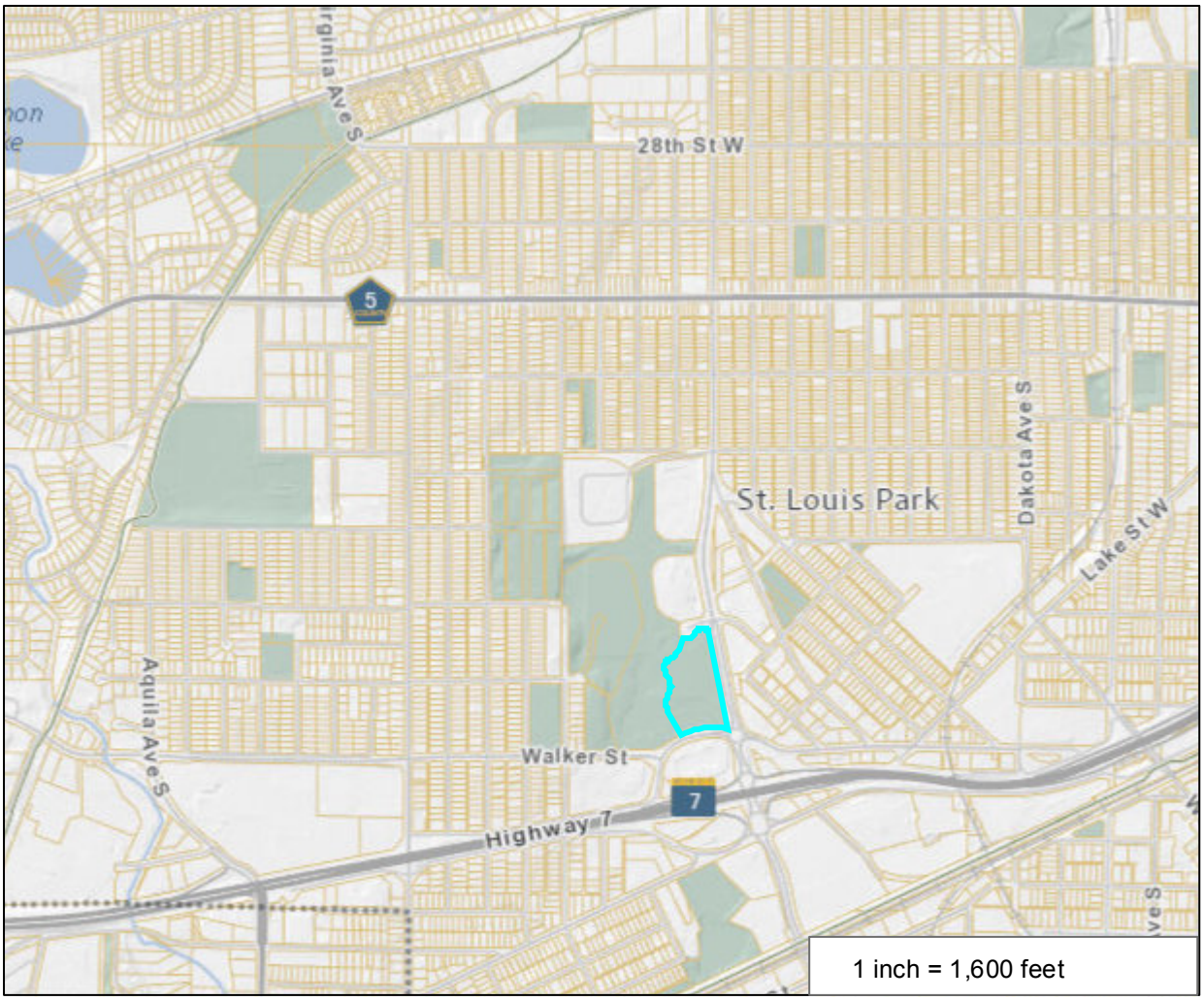
ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Vacant Land-apartment
HOMESTEAD: Non-homestead
MARKET VALUE: $0

Comments:

DRAFT

Hennepin County Property Map

Date: 8/7/2017



PARCEL ID: 1711721310017

OWNER NAME: City Of St Louis Park

PARCEL ADDRESS: 3500 Louisiana Ave S,
St. Louis Park MN 55426

PARCEL AREA: 7.52 acres, 327,451 sq ft

A-T-B: Abstract

SALE PRICE:

SALE DATA:

SALE CODE:

ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Vacant Land-Apartment
HOMESTEAD: Non-Homestead
MARKET VALUE: $0
TAX TOTAL: $0.00

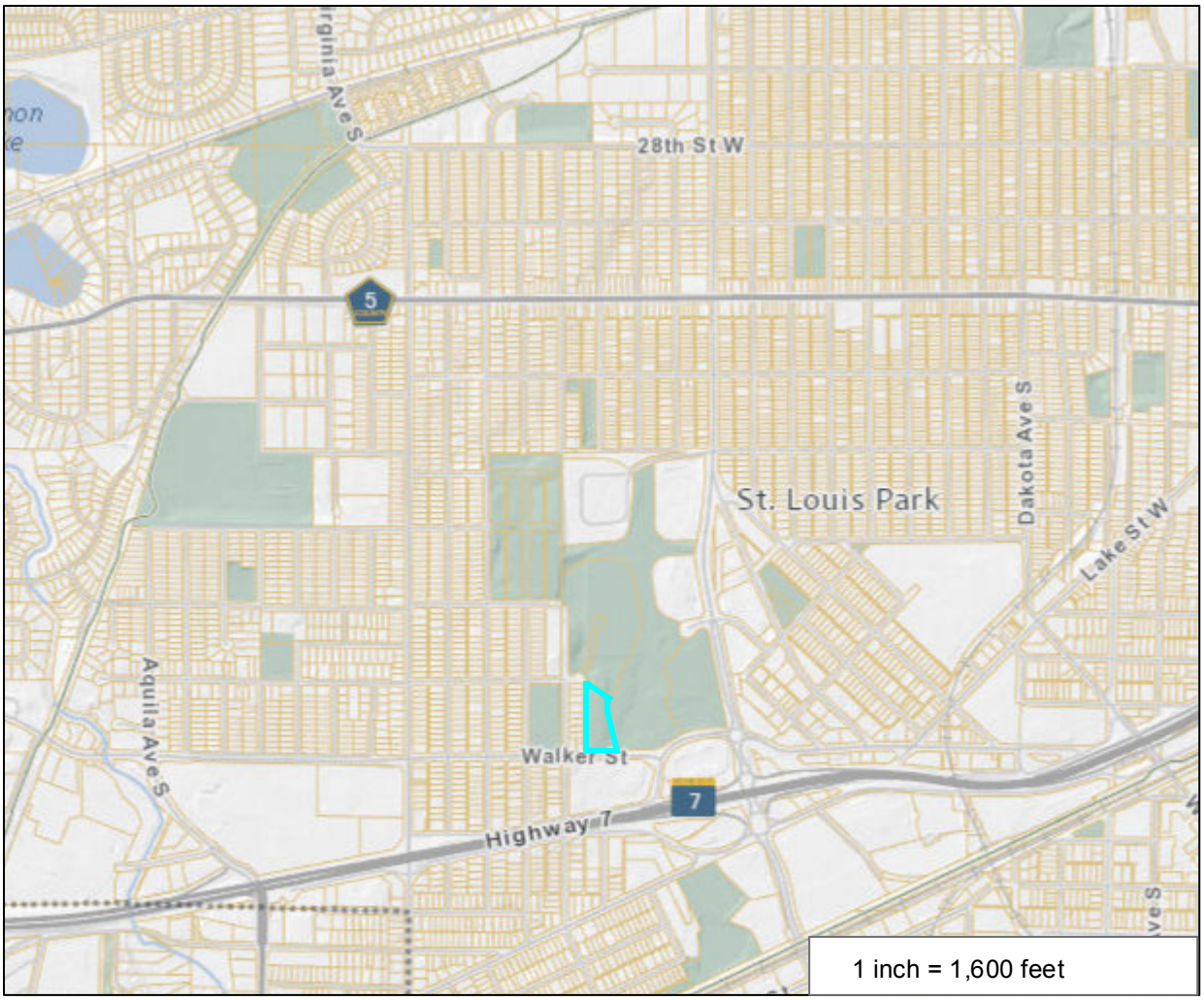
ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Vacant Land-apartment
HOMESTEAD: Non-homestead
MARKET VALUE: $0

Comments:

DRAFT

Hennepin County Property Map

Date: 8/7/2017



PARCEL ID: 1711721310018

OWNER NAME: City Of St Louis Park

PARCEL ADDRESS: 7400 Walker St, St. Louis Park MN 55426

PARCEL AREA: 2.59 acres, 112,955 sq ft

A-T-B: Abstract

SALE PRICE:

SALE DATA:

SALE CODE:

ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Vacant Land-Residential
HOMESTEAD: Non-Homestead
MARKET VALUE: $0
TAX TOTAL: $0.00

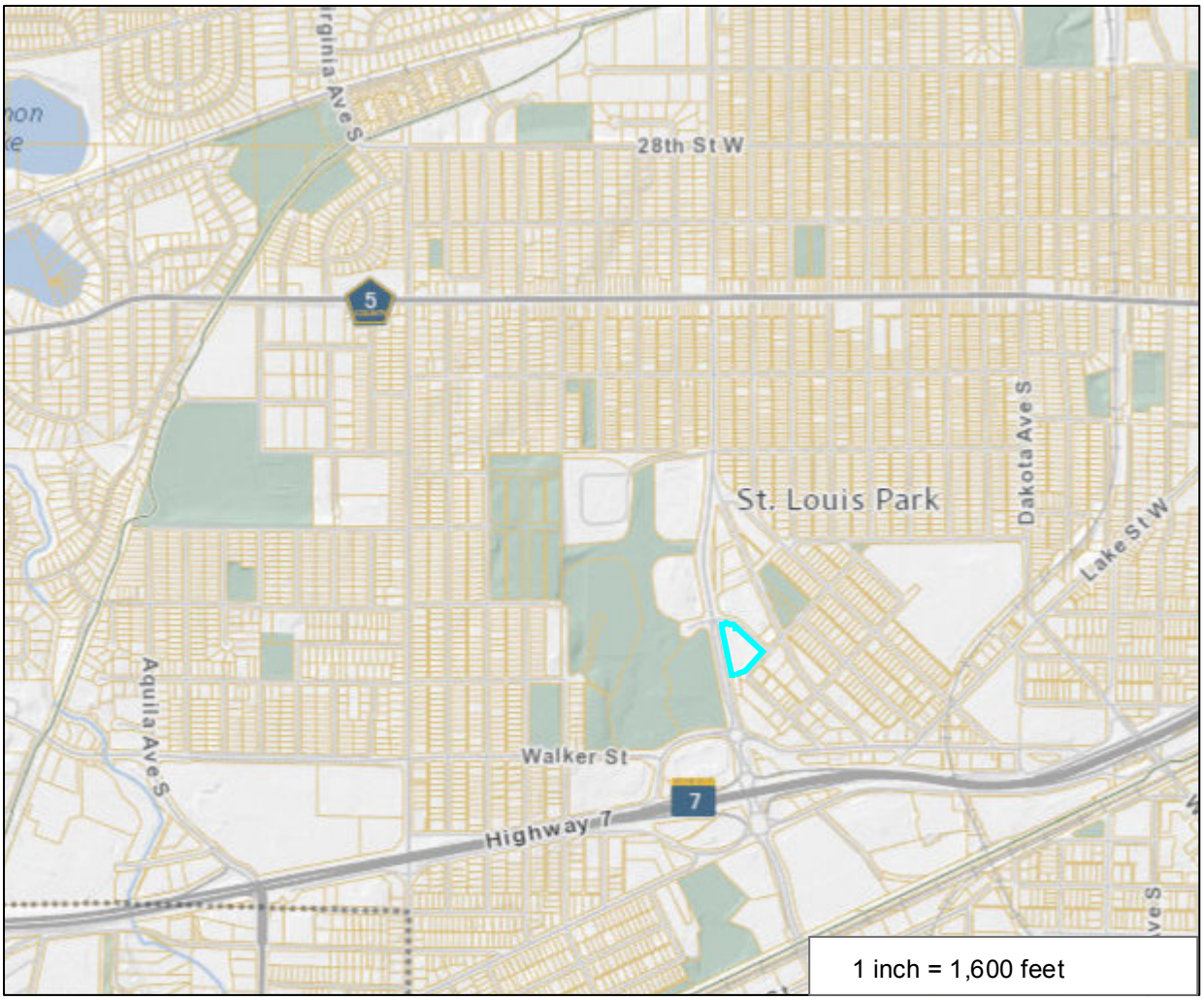
ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Vacant Land-apartment
HOMESTEAD: Non-homestead
MARKET VALUE: $0

Comments:

DRAFT

Hennepin County Property Map

Date: 8/7/2017



PARCEL ID: 1711721420074

OWNER NAME: Philip's Investment Co

PARCEL ADDRESS: 3401 Louisiana Ave S,
St. Louis Park MN 55426

PARCEL AREA: 2.03 acres, 88,304 sq ft

A-T-B: Abstract

SALE PRICE:

SALE DATA:

SALE CODE:

ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Commercial-Preferred
HOMESTEAD: Non-Homestead
MARKET VALUE: $1,947,000
TAX TOTAL: $72,006.32

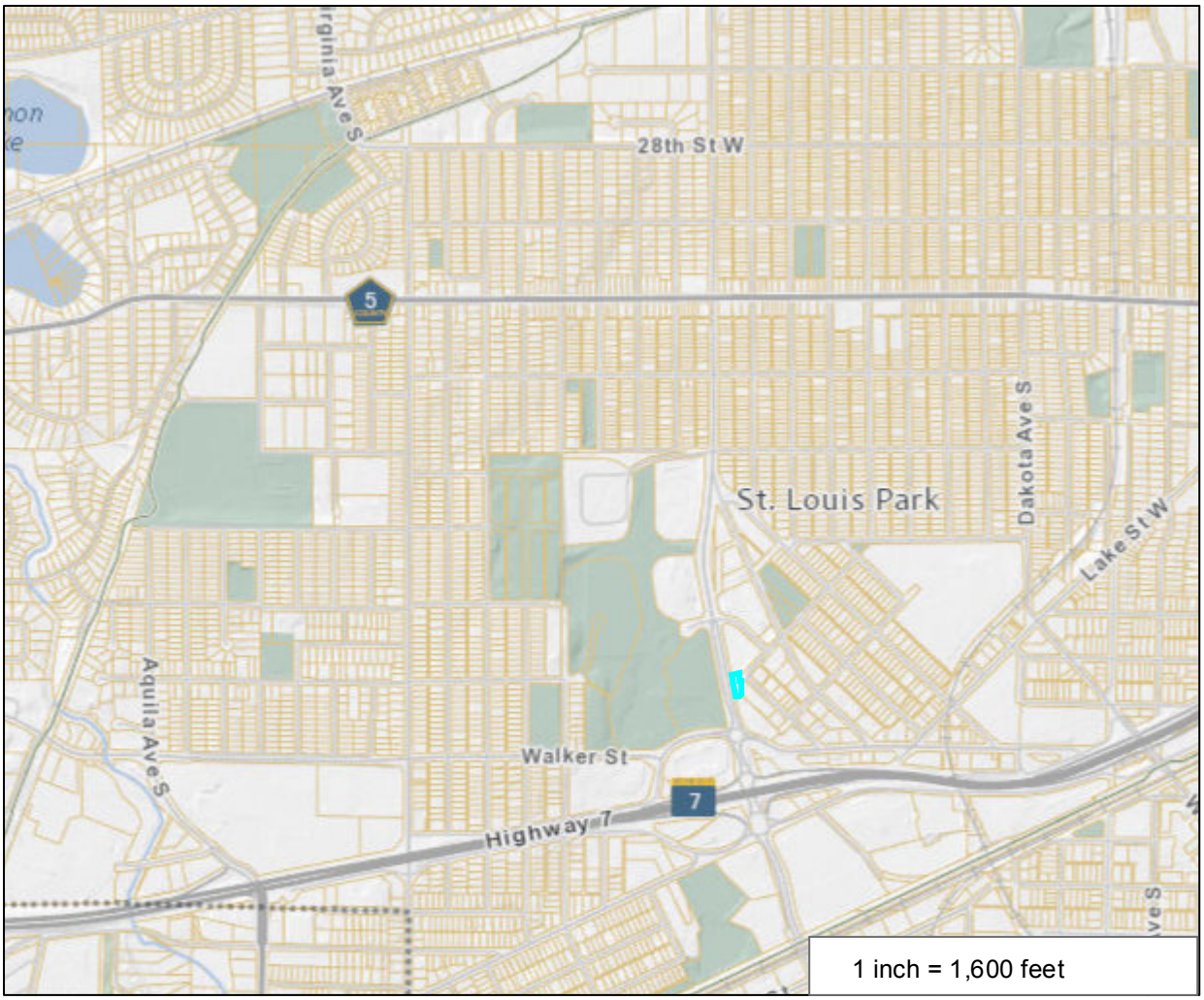
ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Commercial-preferred
HOMESTEAD: Non-homestead
MARKET VALUE: $1,989,000

Comments:

DRAFT

Hennepin County Property Map

Date: 8/7/2017



PARCEL ID: 1711721420091

OWNER NAME: Philip's Investment Co

PARCEL ADDRESS: 3451 Louisiana Ave S,
St. Louis Park MN 55426

PARCEL AREA: 0.28 acres, 12,291 sq ft

A-T-B: Abstract

SALE PRICE: $9,143

SALE DATA: 09/2004

SALE CODE: Vacant Land

ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Vacant Land-Commercial
HOMESTEAD: Non-Homestead
MARKET VALUE: $143,400
TAX TOTAL: $5,402.12

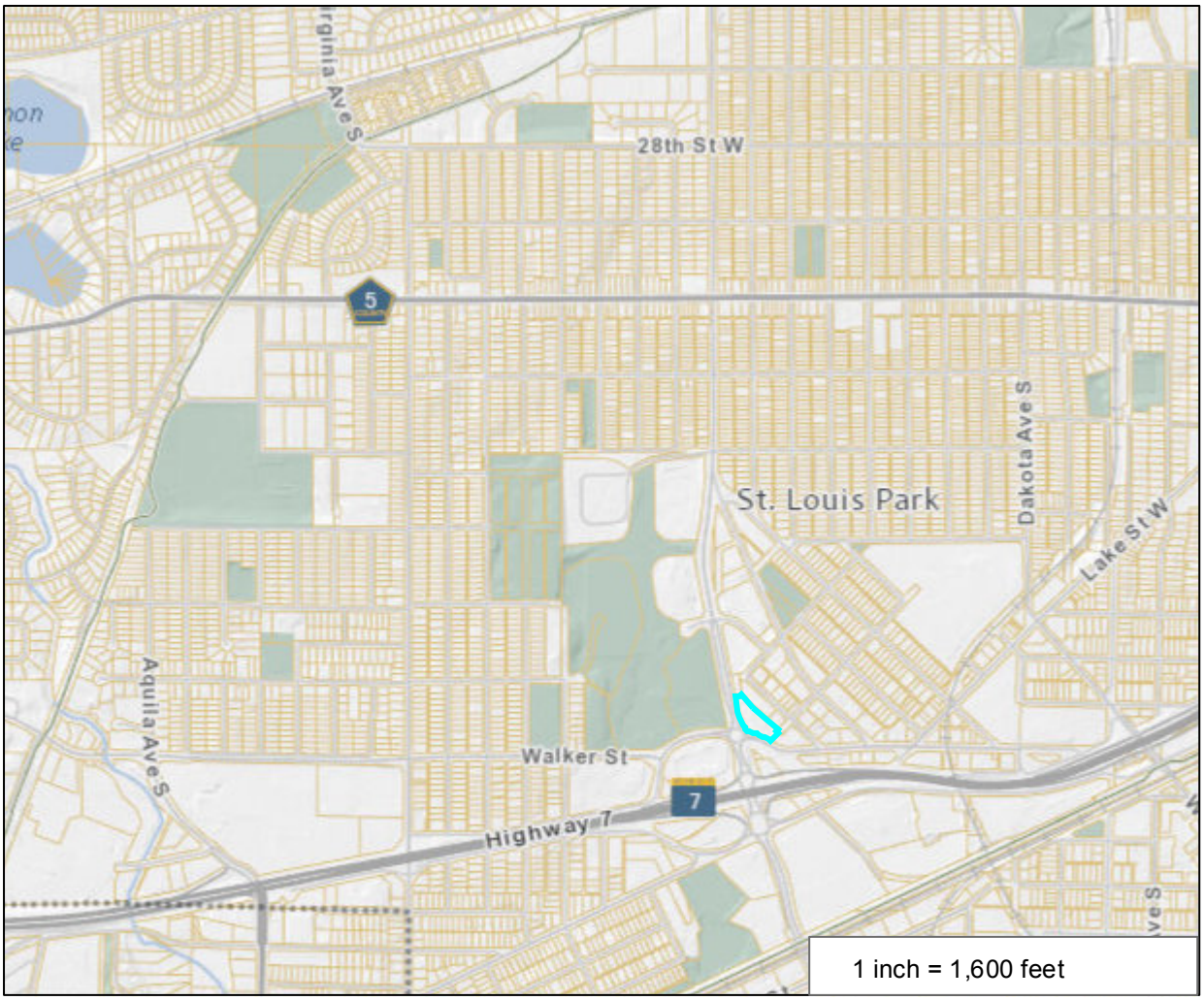
ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Vacant Land-commercial
HOMESTEAD: Non-homestead
MARKET VALUE: $143,400

Comments:

DRAFT

Hennepin County Property Map

Date: 8/7/2017



PARCEL ID: 1711721420092

OWNER NAME: R & N Real Estate Llc

PARCEL ADDRESS: 3501 Louisiana Ave S,
St. Louis Park MN 55426

PARCEL AREA: 1.5 acres, 65,454 sq ft

A-T-B: Abstract

SALE PRICE: $3,200,000

SALE DATA: 10/2008

SALE CODE: Warranty Deed

ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Commercial-Preferred
HOMESTEAD: Non-Homestead
MARKET VALUE: $3,263,000
TAX TOTAL: $121,582.60

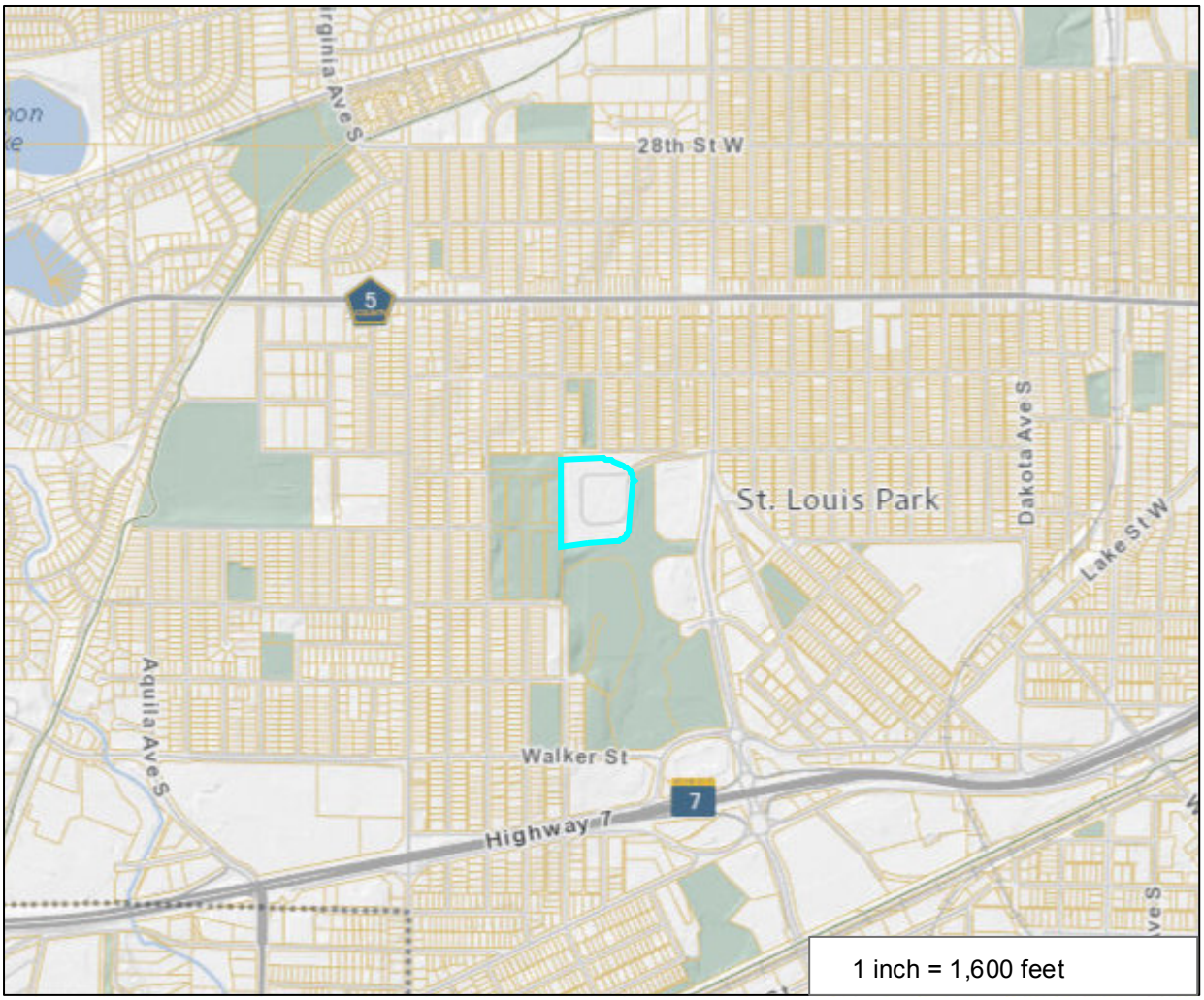
ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Commercial-preferred
HOMESTEAD: Non-homestead
MARKET VALUE: $3,397,000

Comments:

DRAFT

Hennepin County Property Map

Date: 8/7/2017



PARCEL ID: 1711721240002

OWNER NAME: Oak Park Properties Ltd

PARCEL ADDRESS: 7400 Oak Park Village Dr,
St. Louis Park MN 55426

PARCEL AREA: 9.68 acres, 421,725 sq ft

A-T-B: Abstract

SALE PRICE:

SALE DATA:

SALE CODE:

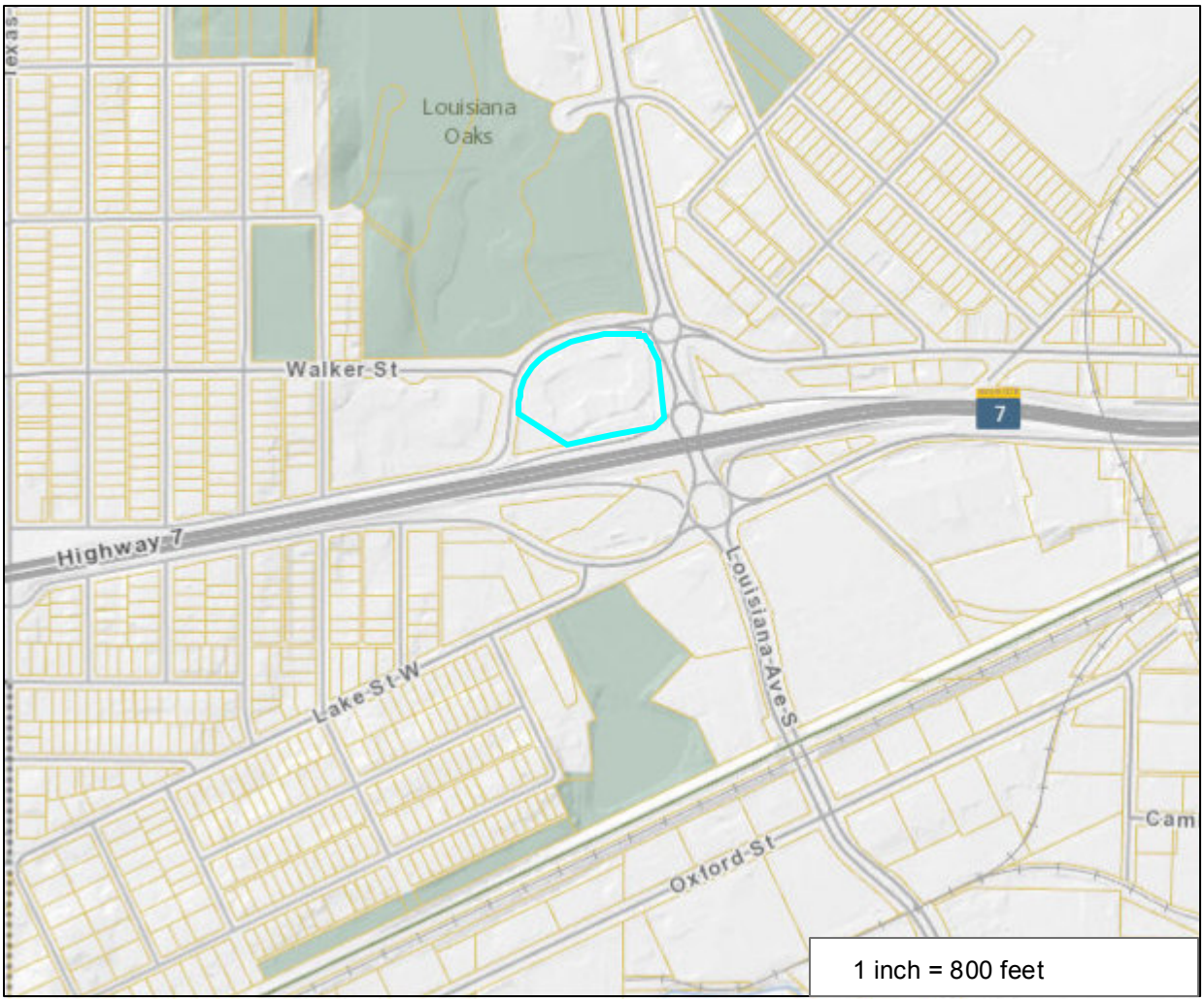
ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Apartment
HOMESTEAD: Non-Homestead
MARKET VALUE: $9,000,000
TAX TOTAL: $157,551.52

ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Apartment
HOMESTEAD: Non-homestead
MARKET VALUE: $9,500,000

Comments:

Hennepin County Property Map

Date: 10/27/2017



PARCEL ID: 1711721340087

OWNER NAME: Sidal Crossroads Co Llc

PARCEL ADDRESS: 7201 Walker St, St. Louis Park MN 55426

PARCEL AREA: 5.25 acres, 228,855 sq ft

A-T-B: Both

SALE PRICE: $39,100,000

SALE DATA: 04/2015

SALE CODE: Warranty Deed

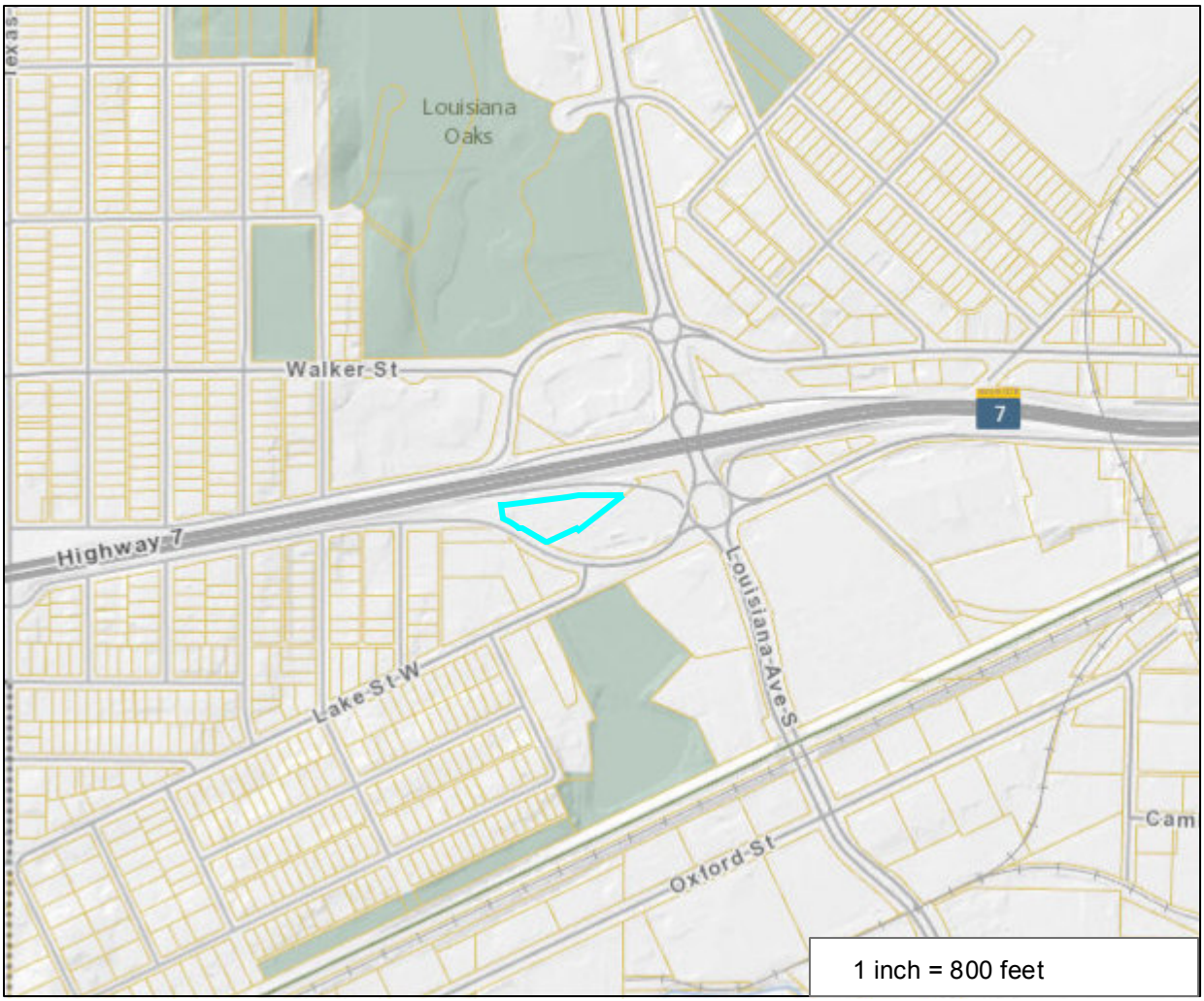
ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Apartment
HOMESTEAD: Non-Homestead
MARKET VALUE: $34,966,000
TAX TOTAL: $612,105.16

ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Apartment
HOMESTEAD: Non-homestead
MARKET VALUE: $37,000,000

Comments:

Hennepin County Property Map

Date: 10/27/2017



PARCEL ID: 1711721340073

OWNER NAME: City Of St Louis Park

PARCEL ADDRESS: 7341 State Hwy No 7,
St. Louis Park MN 55426

PARCEL AREA: 1.36 acres, 59,354 sq ft

A-T-B: Torrens

SALE PRICE: $513,653

SALE DATA: 06/2016

SALE CODE: Excluded From Ratio Studies

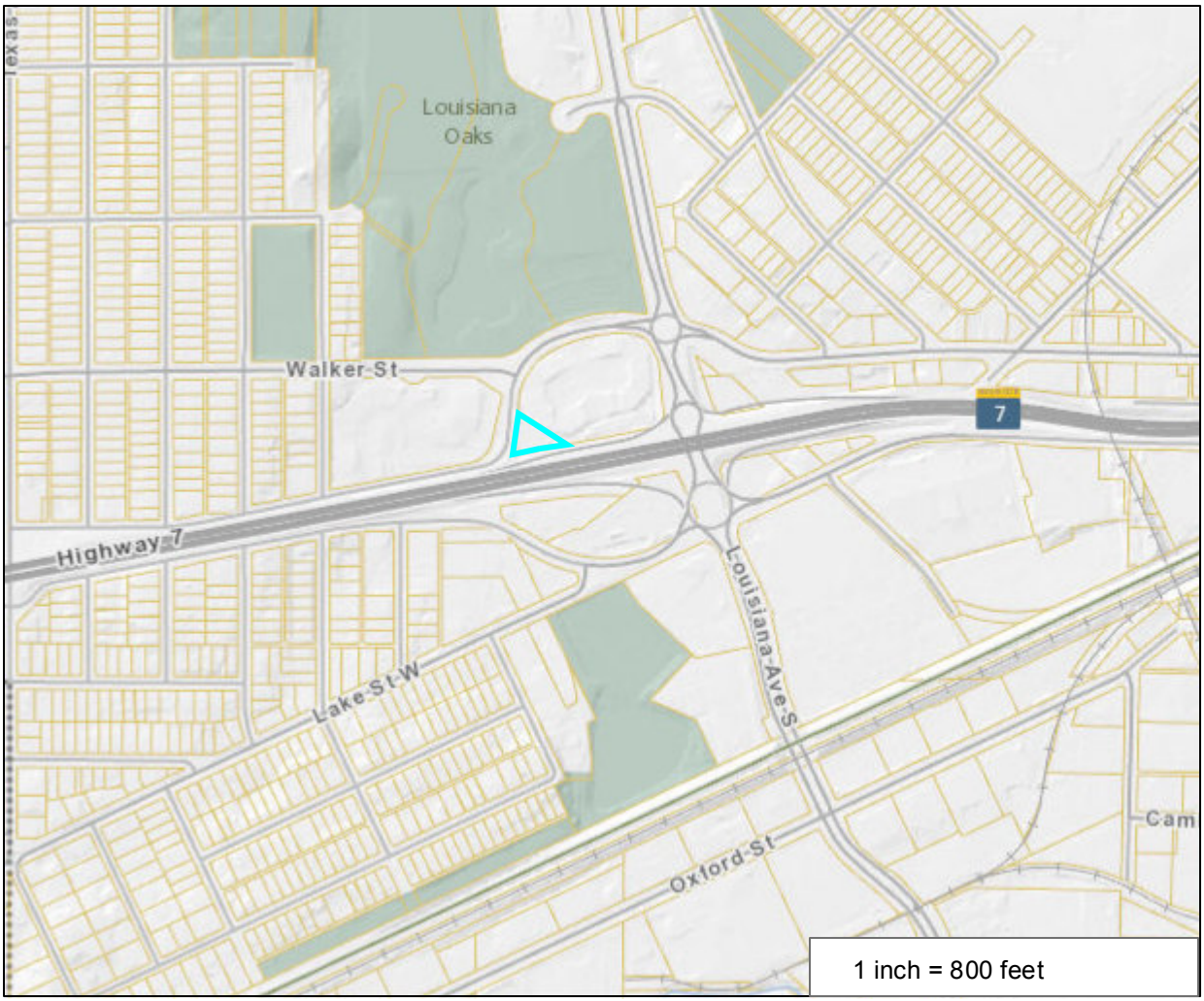
ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Vacant Land-Commercial
HOMESTEAD: Non-Homestead
MARKET VALUE: $0
TAX TOTAL: $0.00

ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Vacant Land-commercial
HOMESTEAD: Non-homestead
MARKET VALUE: $0

Comments:

Hennepin County Property Map

Date: 10/27/2017



PARCEL ID: 1711721340076

OWNER NAME: Naegele Outdoor Adv Inc

PARCEL ADDRESS: 7330 State Hwy No 7,
St. Louis Park MN 55426

PARCEL AREA: 0.46 acres, 20,125 sq ft

A-T-B: Torrens

SALE PRICE:

SALE DATA:

SALE CODE:

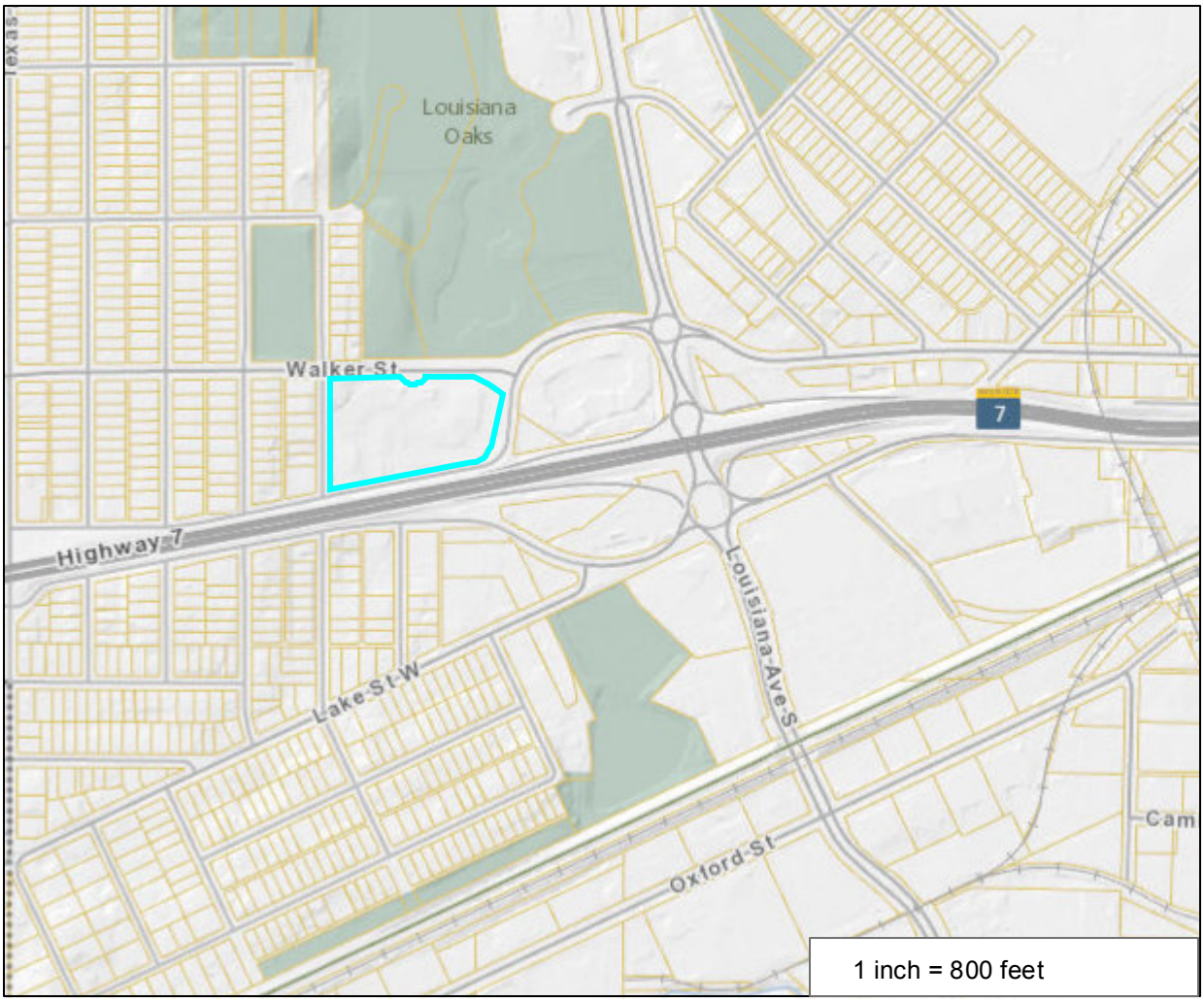
ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Vacant Land-Industrial
HOMESTEAD: Non-Homestead
MARKET VALUE: $271,200
TAX TOTAL: $10,216.52

ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Vacant Land-industrial
HOMESTEAD: Non-homestead
MARKET VALUE: $271,200

Comments:

Hennepin County Property Map

Date: 10/27/2017



PARCEL ID: 1711721340086

OWNER NAME: Bre Silver Mf Seven Mn Llc

PARCEL ADDRESS: 7400 State Hwy No 7,
St. Louis Park MN 55426

PARCEL AREA: 6.65 acres, 289,680 sq ft

A-T-B: Both

SALE PRICE: $27,559,000

SALE DATA: 12/2015

SALE CODE: Warranty Deed

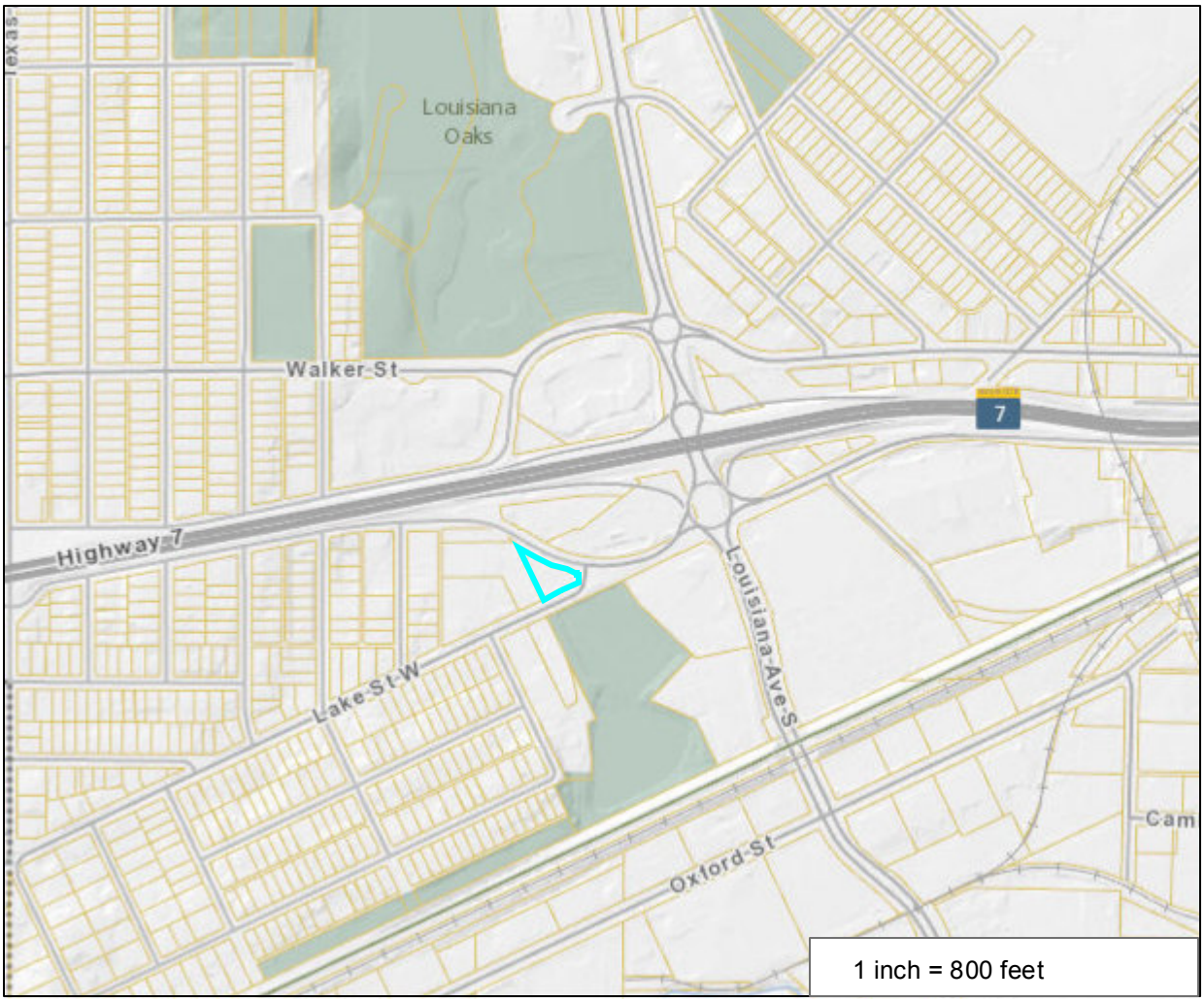
ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Apartment
HOMESTEAD: Non-Homestead
MARKET VALUE: $27,555,000
TAX TOTAL: $482,370.86

ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Apartment
HOMESTEAD: Non-homestead
MARKET VALUE: $29,225,000

Comments:

Hennepin County Property Map

Date: 10/27/2017



PARCEL ID: 1711721340088

OWNER NAME: City Of St Louis Park

PARCEL ADDRESS: 7260 Lake St W, St. Louis Park MN 55426

PARCEL AREA: 0.56 acres, 24,220 sq ft

A-T-B: Both

SALE PRICE:

SALE DATA:

SALE CODE:

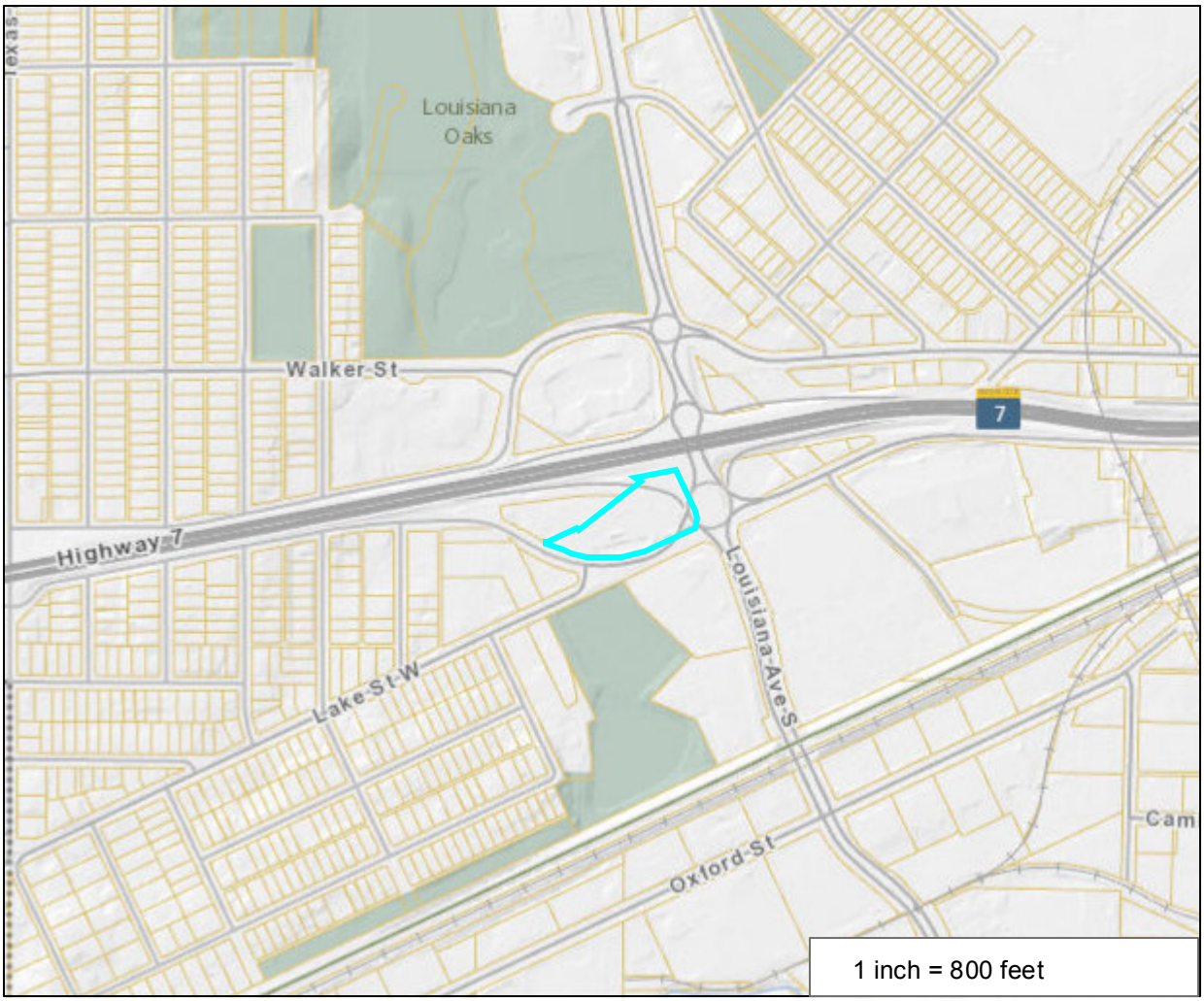
ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Vacant Land-Commercial
HOMESTEAD: Non-Homestead
MARKET VALUE: $0
TAX TOTAL: $0.00

ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Vacant Land-commercial
HOMESTEAD: Non-homestead
MARKET VALUE: $0

Comments:

Hennepin County Property Map

Date: 10/27/2017



PARCEL ID: 1711721430074

OWNER NAME: St. Louis Park Econ Dev Auth

PARCEL ADDRESS: 7250 State Hwy No 7,
St. Louis Park MN 55426

PARCEL AREA: 2.93 acres, 127,596 sq ft

A-T-B: Both

SALE PRICE:

SALE DATA:

SALE CODE:

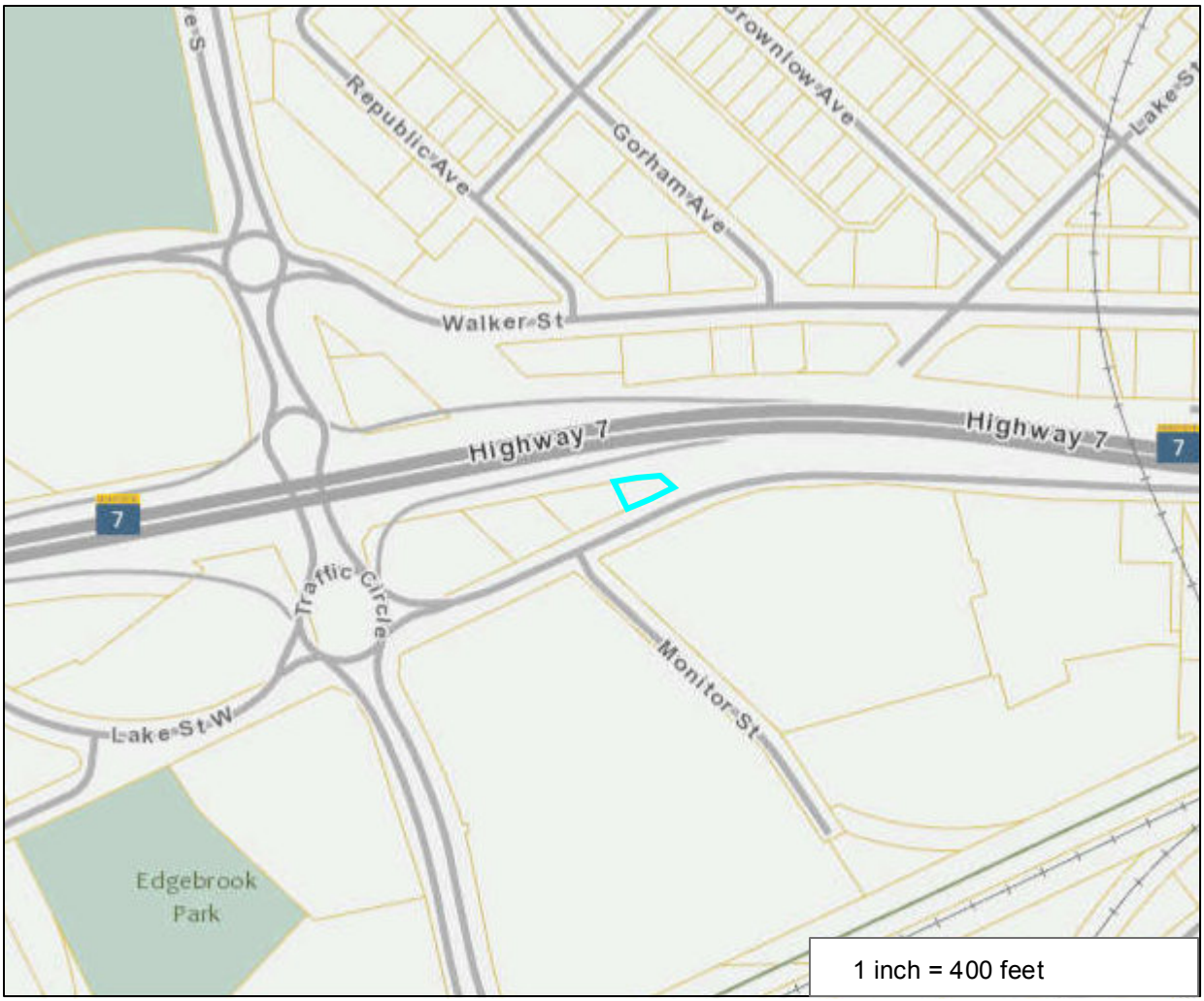
ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Vacant Land-Commercial
HOMESTEAD: Non-Homestead
MARKET VALUE: $0
TAX TOTAL: $0.00

ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Vacant Land-commercial
HOMESTEAD: Non-homestead
MARKET VALUE: $0

Comments:

Hennepin County Property Map

Date: 10/27/2017



PARCEL ID: 1711721430002

OWNER NAME: Ball Ranch Co Llc Et Al

PARCEL ADDRESS: 7102 Lake St W, St. Louis Park MN 55426

PARCEL AREA: 0.12 acres, 5,128 sq ft

A-T-B: Torrens

SALE PRICE: $735,000

SALE DATA: 12/2014

SALE CODE: Sale Includes More Than One Parcel

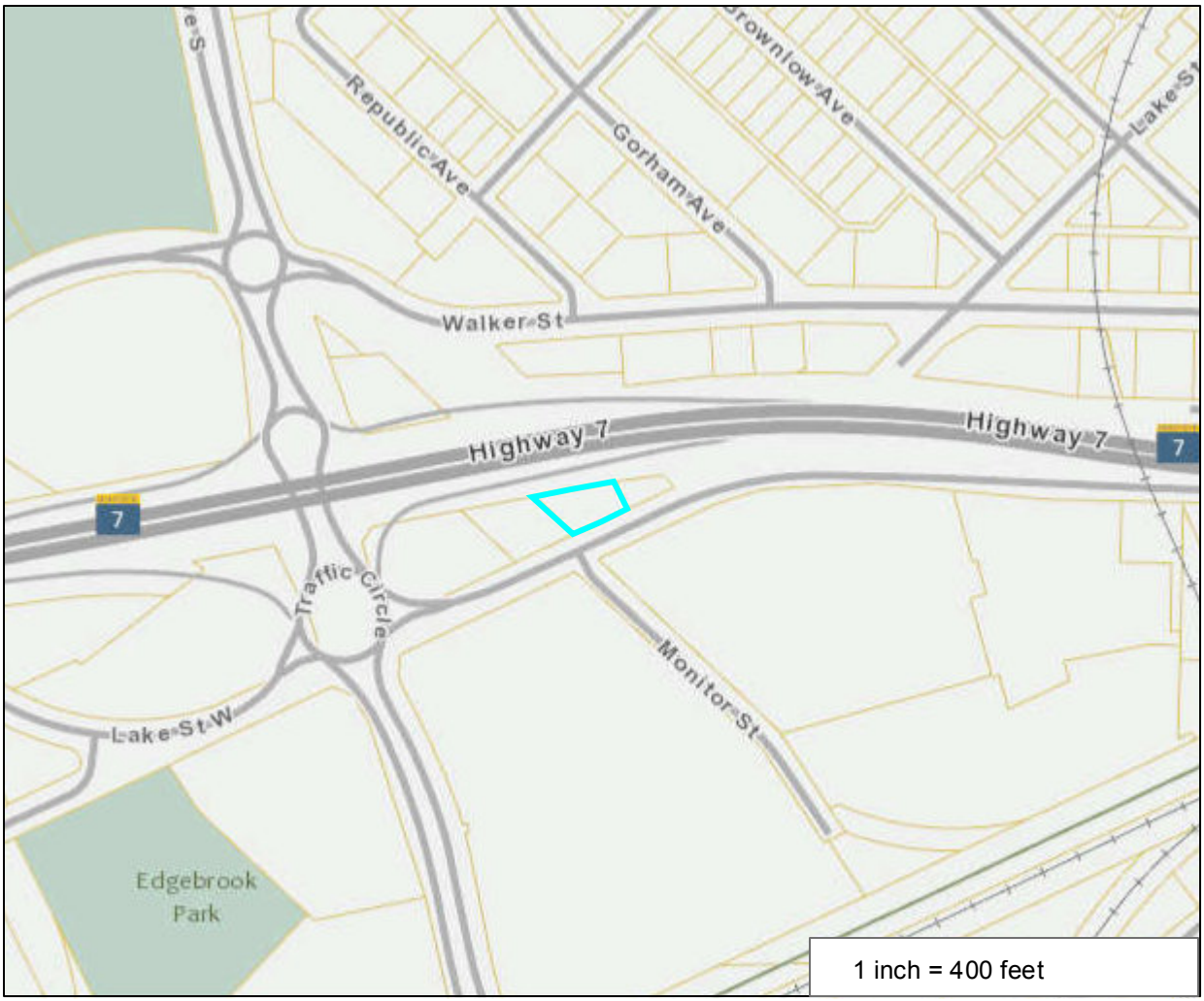
ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Vacant Land-Commercial
HOMESTEAD: Non-Homestead
MARKET VALUE: $105,000
TAX TOTAL: $3,955.62

ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Vacant Land-commercial
HOMESTEAD: Non-homestead
MARKET VALUE: $105,000

Comments:

Hennepin County Property Map

Date: 10/27/2017



PARCEL ID: 1711721430003

OWNER NAME: Ball Ranch Co Llc Et Al

PARCEL ADDRESS: 7104 Lake St W, St. Louis Park MN 55426

PARCEL AREA: 0.29 acres, 12,622 sq ft

A-T-B: Torrens

SALE PRICE:

SALE DATA: 03/2007

SALE CODE: Vacant Land

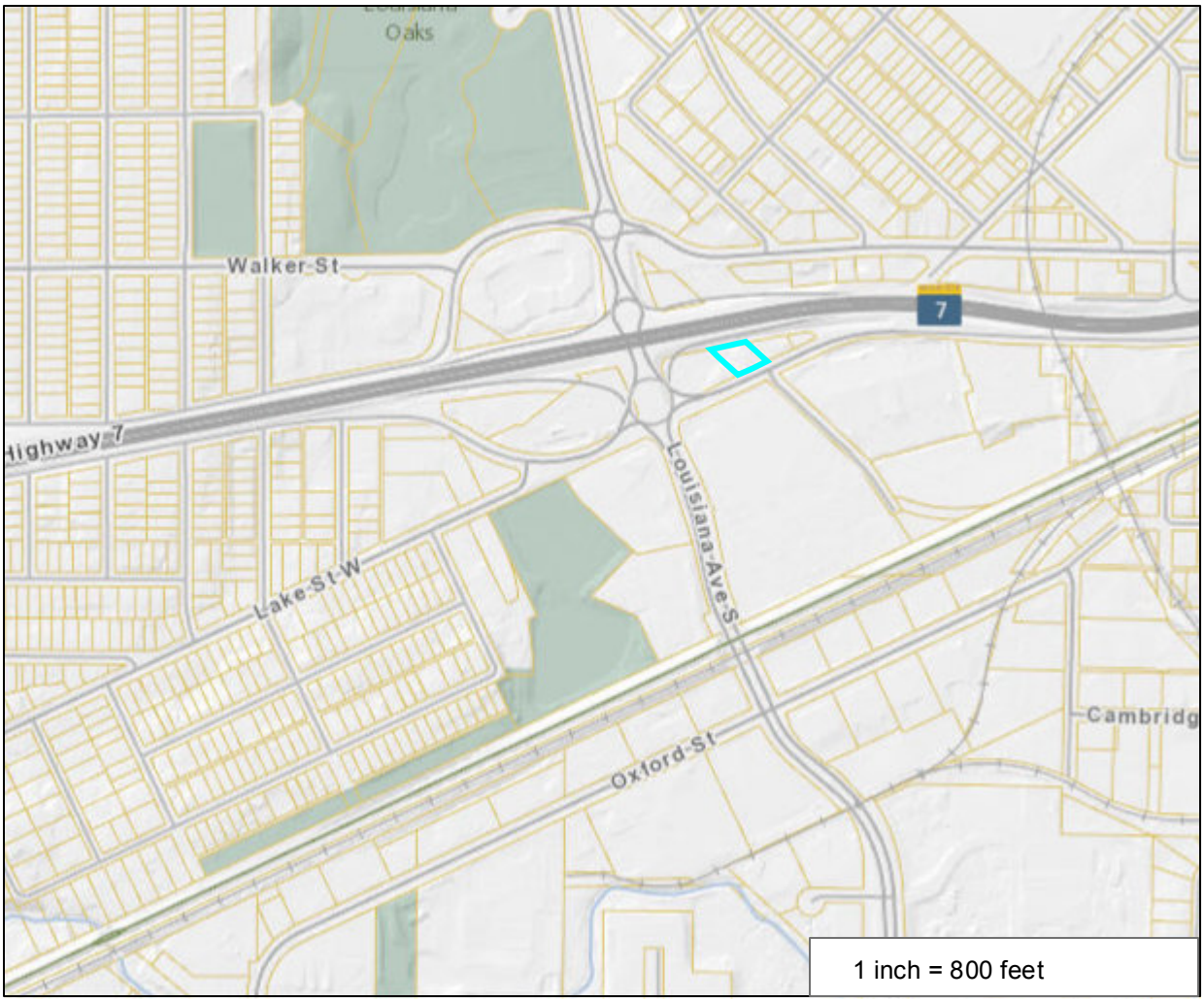
ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Commercial-Preferred
HOMESTEAD: Non-Homestead
MARKET VALUE: $610,000
TAX TOTAL: $21,638.88

ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Commercial-preferred
HOMESTEAD: Non-homestead
MARKET VALUE: $643,000

Comments:

Hennepin County Property Map

Date: 10/27/2017



PARCEL ID: 1711721430075

OWNER NAME: City Of St Louis Park

PARCEL ADDRESS: 7180 Lake St W, St. Louis Park MN 55426

PARCEL AREA: 0.42 acres, 18,151 sq ft

A-T-B: Abstract

SALE PRICE:

SALE DATA:

SALE CODE:

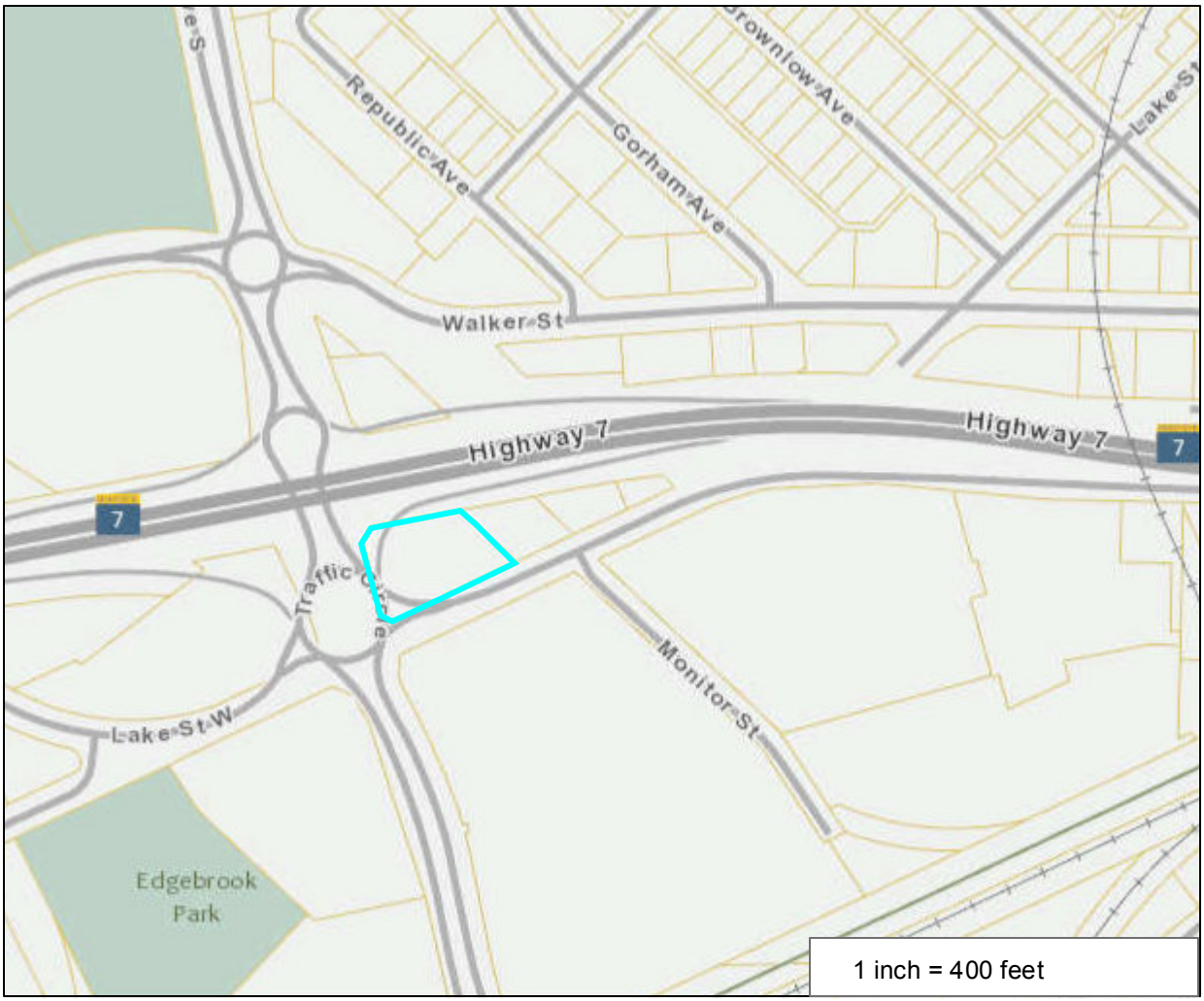
ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Commercial-Preferred
HOMESTEAD: Non-Homestead
MARKET VALUE: $0
TAX TOTAL: $0.00

ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Commercial-preferred
HOMESTEAD: Non-homestead
MARKET VALUE: $0

Comments:

Hennepin County Property Map

Date: 10/27/2017



PARCEL ID: 1711721430076

OWNER NAME: City Of St Louis Park

PARCEL ADDRESS: 7200 Lake St W, St. Louis Park MN 55426

PARCEL AREA: 1.07 acres, 46,729 sq ft

A-T-B: Abstract

SALE PRICE:

SALE DATA:

SALE CODE:

ASSESSED 2016, PAYABLE 2017
PROPERTY TYPE: Vacant Land-Commercial
HOMESTEAD: Non-Homestead
MARKET VALUE: $0
TAX TOTAL: $0.00

ASSESSED 2017, PAYABLE 2018
PROPERTY TYPE: Vacant Land-commercial
HOMESTEAD: Non-homestead
MARKET VALUE: $0

Comments:

Attachment 3

Draft Reilly Site ICIAP Monitoring Report for 2020

Status of the institutional controls:

Institutional controls for the Site are listed in Table 1 of the Institutional Control Implementation and Assurance Plan (ICIAP). Institutional controls for groundwater include three state-wide rules that ensure that new groundwater supply wells are built correctly with the knowledge of the MDH, and that municipal water supplies are used in all buildings. The City further requires that private wells do not connect with the municipal system in St. Louis Park. These rules remain in place and provide adequate groundwater protection. No new water supply wells have been constructed in St. Louis Park in 2020. Additionally, the city is not aware of any leaky multi-aquifer wells requiring corrective action.

Annual certification/summary of institutional controls monitoring results:

Ensuring that the deed restrictions on Site properties remain in force at the Hennepin County, Minnesota, Office of the Registrar of Titles:

- Institutional controls for soil include deed notices to make property owners aware of contamination on their property. Unfortunately, the City Attorney was unable to confirm the deeds for the 21 parcels listed in Appendix A contain the appropriate notice. The MPCA and EPA may need to consider how they can assist with resolution of this issue..

Verifying that the City building permit process continues to have a functioning mechanism to provide notifications to permit applicants of potential hazardous substances that could be encountered at properties where soil was potentially impacted by the Site:

- The ICIAP Appendix A identifies 21 parcels that are subject to these soil controls, consisting of the Site and bog areas to the south of the Site. These sites are flagged in the City's permit notification system to ensure that property owners, contractors, and other third parties are aware of contamination that may be encountered during excavation work at the Site. These same 21 parcels are also flagged in the City's right-of-way permit system and will be flagged in the City's One-Call locate system once a scheduled Spring 2021 upgrade is complete.

- The City's inspection department issues permits for new projects that involves excavation. If permits are requested for any of the 21 parcels identified in the ICIAP Appendix A, those projects are flagged for notification to the City's Reilly Site Project Manager (Mark Hanson, PW Superintendent). A guidance document has been prepared to explain the requirements for excavations in contaminated areas (Attachment 1). The City will provide the guidance document after a permit application has been made, and the City's Reilly Site Project Manager will ensure the requirements are met. The City intends to provide this guidance whenever possible for excavation work that takes place on the Reilly Site or bog area including emergency utility repairs or work that is outside of the permit process.

- The City submitted a more detailed generic work plan for its own work at the Site or bog area as part of the October 2020 Soil Cover Update Report.

Verifying the state-wide/City-wide institutional controls listed in Table 1 remain in place and effective:

- See ***Status of the institutional controls*** above.

Determining whether any institutional controls deficiencies have been identified and if they have been addressed in a timely manner:

- No deficiencies were identified.

Reviewing the institutional controls in regard to changed conditions, if any, that would require modifications.

- No changed conditions (including leaky multi-aquifer wells) were identified.

Institutional controls deficiencies or inconsistencies identified, if any, and corrective actions that have been implemented or will be proposed:

No soil excavations or emergency utility repairs were conducted in 2020.

Changes in site conditions, such as ownership for properties affected by institutional controls:

Also, no changes in ownership occurred in 2020 for any of the 21 parcels identified in ICIAP Appendix A.

Attachment 1. Requirements for Safe Soil Excavation at the Reilly Site

The Reilly Site is a federal Superfund site administered by the City, Minnesota Pollution Control Agency, and the United States Environmental Protection Agency. You must follow the minimum requirements outlined below because your project involves excavation in an area where soil may be impacted by a group of chemicals called polycyclic aromatic hydrocarbons (PAH). Health effects from exposure to PAH can include skin or eye irritation, and PAH can produce nuisance odors. Persons planning a soil excavation in this area must use safe practices and trained personnel to ensure that workers and the public are not exposed to PAH during or after the project. You must contact the City's Reilly Site representative for notification and guidance prior to undertaking any excavation activities at the Reilly Site. The work will require a written plan to completely describe the project, procedures, personnel, and schedule.

As a reminder, whether you are a professional excavator or homeowner, in accordance with Minnesota State law, you must contact Gopher State One Call (GSOC) before starting any excavation project if you are using any machine-powered equipment of any kind. Follow Occupational Safety and Health Administration (OSHA) requirements for hazardous waste operations (OSHA 1910.120) and other applicable OSHA requirements.

Excavation must be planned to meet the following requirements:

Work Site Safety

- Wear appropriate personal protective equipment including, but not limited to, eye protection, gloves, long sleeves, and pants to avoid direct skin contact with soil.
- Excavations must be backfilled the same day and not left unattended. Pedestrians must be excluded from excavation areas using fencing or tape barriers during the work.
- Work performed by personnel within an excavation (e.g., utility work) must be accompanied by air quality monitoring for organic vapors. Monitoring must be conducted by trained personnel who can identify levels that are of potential health concern and actions to take if such levels were exceeded. Perimeter air monitoring is required to protect public health, if the in-excavation monitoring exceeds action levels.
- Creosote odors or dust containing PAH may emanate from the excavation or from excavated soil. In the event odors or dust are noted, take steps to minimize the amount of time the excavation is left open and cover exposed soil with plastic sheeting or odor-suppressing foam.

Soil Excavation/Backfill

- Place excavated soil on plastic sheeting (at least 10-mil thickness). Using plywood on top of the plastic to facilitate soil handling is acceptable.
- Backfill shallow excavations (less than one-foot deep) to at least the level of the former ground surface with excavated soil. Backfill in deeper excavations must be covered with one foot of clean imported soil.
- Use clean imported soil for final cover or general landscaping, as needed.
- Provide the City a sample of the clean imported soil for testing. A refrigerated one-quart zip lock baggie of soil will suffice for this purpose. Soil that does not meet laboratory testing requirements will be removed and replaced at the property owner's expense.
- Masses of tarry soil, building rubble, railroad ties, contaminated plywood, other debris, or excess soil must be containerized and disposed of at a suitable landfill off Site.

Site Restoration/Reporting Requirements

- Restore the ground surface with sod or pavement.
- Provide a written report including a map of excavations, total depths, conditions encountered, and any data generated for the project.

For more information regarding PAH, see https://www.atsdr.cdc.gov/toxfaqs/tfacts69.pdf.
For more information regarding the Reilly Site, see https://www.stlouispark.org/our-city/about-us/st-louis-parks-industrial-legacy/reilly-tar-chemical-corp

Attachment 4

Racial disparities, COVID-19 top of mind for county candidates

By **ANDREW WIG**
andrew.wig@apgecm.com

The next county commissioner for Hennepin County's District 6 will face the twin challenges of heightened tensions surrounding racial justice following the killing of George Floyd and tightening budgets due to the COVID-19 pandemic.

Those two issues were front and center during a League of Women Voters candidate forum last month as six hopefuls made their case ahead of the Hennepin County District 6 primary, set for Tuesday, Aug. 11. The candidates, who seek to fill the seat being vacated by Jan Callison, met via videoconference for the June 18 forum, which was moderated by Peggy Kvam, president of the Minnetonka/Eden Prairie/Hopkins League of Women Voters. District 6 covers much of the western suburbs, including Edina, northern Eden Prairie, Hopkins, Minnetonka, Wayzata and Excelsior.

One of Kvam's questions was posed in light of the calls to defund Minneapolis Police that reached fevered pitch following Floyd's death at the hands an officer. The moderator asked the candidates how Hennepin County would be affected if Minneapolis goes through with the proposal, which has been endorsed by a majority of the city council there.

If Minneapolis were to defund its police department, it could put more responsibility at the feet of the county, said candidate Dario Anselmo of Edina, an entrepreneur and former state representative. "Having a well-run police department is important to Minneapolis, and Hennepin County can't do all of it. So I just hope that we don't get caught in their overreaction," Anselmo said.

While he is opposed to the idea of defunding police, he does favor bolstering the social component of law enforcement. "Embedding more mental health workers is something I've been an advocate for for a long time," Anselmo said.

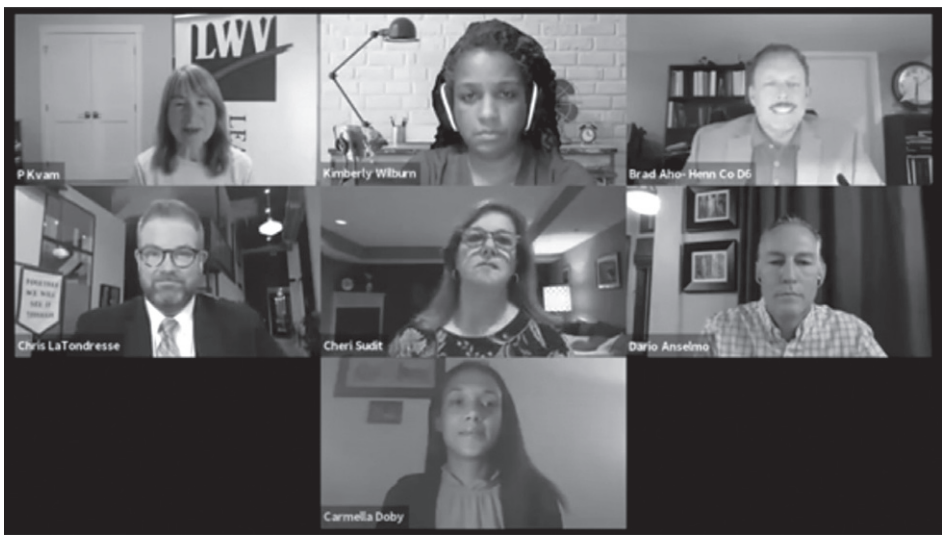
He also condemned racial disparities in the criminal justice system, observing, "Too many people of color end up in that system for the wrong reasons."

Candidates Brad Aho and Cheri Sudit also came out explicitly against defunding police. "I think we need to look at our policing policies," said Aho, who sits on the Eden Prairie City Council. But, agreeing with Anselmo, he predicted defunding Minneapolis Police would unduly shift the law enforcement burden onto the Hennepin County Sheriff's Office.

Aho said bad actors filled a "leadership void" during the unrest that following the killing of Floyd. "We can and must do better," he declared. But regarding the objections behind the unrest, he added, "The time is now to have action to fight against these different discriminations and racism in our community."

Sudit, a Minnetonka resident, also voiced openness to exploring reform despite being "very much against defunding the police department." As for staffing at the sheriff's office, "I think we need more people of color," Sudit said. "I certainly think we could use more women in this department and training" regarding racism and sexual harassment.

In presenting her credentials on issues surrounding bias, Sudit cited her experience as an attorney for Hennepin County specializing in employment discrimination. "I have personally dedicated my career to this issue," she said.



(SCREENSHOT VIA YOUTUBE)

Candidates for the Hennepin County Commission District 6 seat take part in a League of Women Voters online candidate forum June 18. Top row: Peggy Kvam, Kimberly Wilburn, Brad Aho. Middle row: Chris LaTondresse, Cheri Sudit, Dario Anselmo. Bottom row: Carmella Doby.

But implicit bias training doesn't get to the root of the problem, according to Minnetonka resident Kimberly Wilburn, who described herself as a scientist, veterinarian and community organizer. "Implicit bias training doesn't work if you're dealing with a systemic racist system," Wilburn said. She added, "This is not a push for or against defunding, but if you don't understand why, after continual murder of our people, why people are calling for defunding, I think that's a problem."

Wilburn, a person of color, called for more diversity in county government. "There are not enough faces and voices like mine at the table," she said.

Wilburn wants the county to embrace the NAACP's Twin Cities Economic Inclusion Plan, which addresses the region's the deep racial disparities. "It's time to start governing with more inclusion," she said.

Chris LaTondresse, a member of the Hopkins School Board, spoke against the traditional policing model when it comes to most law enforcement interactions. "An armed officer with a badge and a gun is not the right answer for many – or even most – situations," LaTondresse said. "I think we need to give Hutch (Hennepin County Sheriff David Hutchinson) the funding he needs to dispatch social workers and mental health professionals into the field for some of these calls."

See **County**, Page 8

Attachment 5

SITE PHOTOGRAPHS

Site Name: Reilly Tar and Chemical Corp

Photo No. **1**	**Date:** 4/7/21
Direction Facing: North	
Description: Exterior View of the Reilly Site and well houses for W23 and W105.	

Photo No. **2**	**Date:** 4/7/21
Direction Facing: Northwest	
Description: Exterior View of the soccer fields and park shelter at the Reilly Site.	

SITE PHOTOGRAPHS

Photo No. 3	**Date:** 4/7/21
Direction Facing: Southwest	
Description: Exterior View of the soccer fields at the Reilly Site. (Snow pile in parking lot in the background)	
Photo No. 4	**Date:** 4/7/21
Direction Facing: Northwest	
Description: Exterior View if the western portion of the Reilly Site with well W15 and “Mount Reilly”.	

SITE PHOTOGRAPHS

Photo No. 5	**Date:** 4/7/21
Direction Facing: Southeast	
Description: Exterior View of the Reilly Site park shelter constructed in 2013.	
Photo No. 6	**Date:** 4/7/21
Direction Facing: West	
Description: Exterior View of the western portion of the Reilly Site with well W22.	

SITE PHOTOGRAPHS

Photo No. **7**	**Date:** 4/7/21
Direction Facing: North	
Description: Exterior View of the condominiums on Site.	

Photo No. **8**	**Date:** 4/7/21
Direction Facing: South	
Description: Exterior View of Oak Park Village northern portion of the Site and pedestrian bridge in the background.	

SITE PHOTOGRAPHS

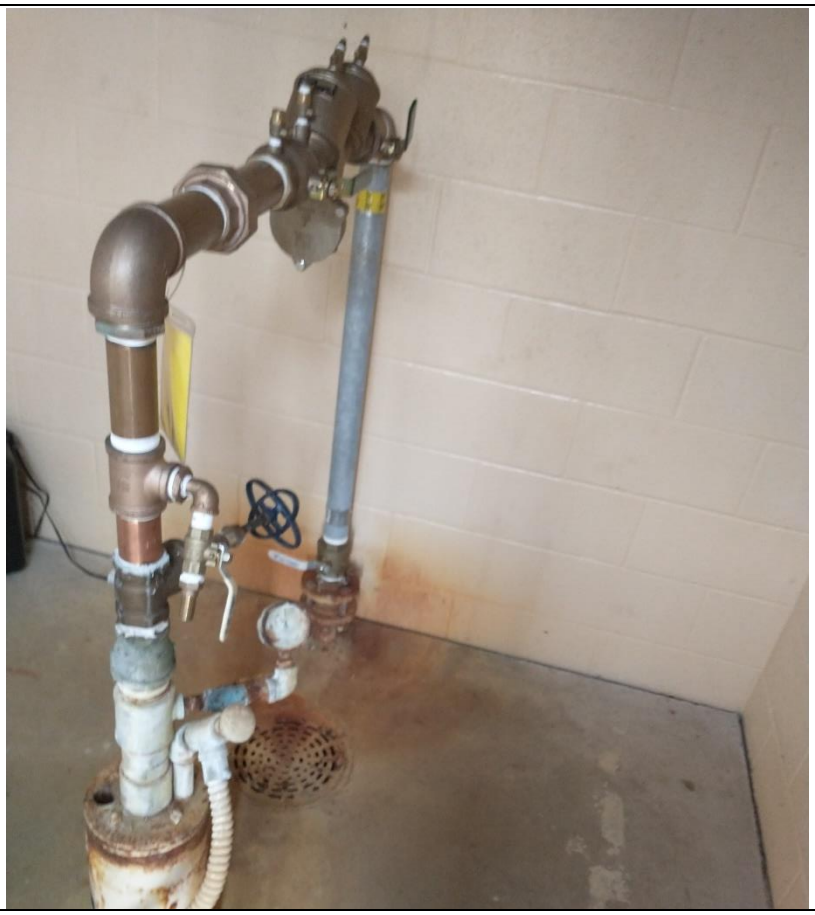
Photo No. 9	**Date:** 4/7/21
Direction Facing: East	
Description: Interior View of the inactive pumping well W105.	

Photo No. 10	**Date:** 4/7/21
Direction Facing: East	
Description: Interior View of the active pumping well W23.	

SITE PHOTOGRAPHS

Photo No. 11	**Date:** 4/7/21
Direction Facing: East	
Description: Exterior View of the well house for wells W410 and W422.	

Photo No. 12	**Date:** 4/7/21
Direction Facing: Southeast	
Description: Interior View of the inactive pumping well W410 with transducer cable (blue wire).	

SITE PHOTOGRAPHS

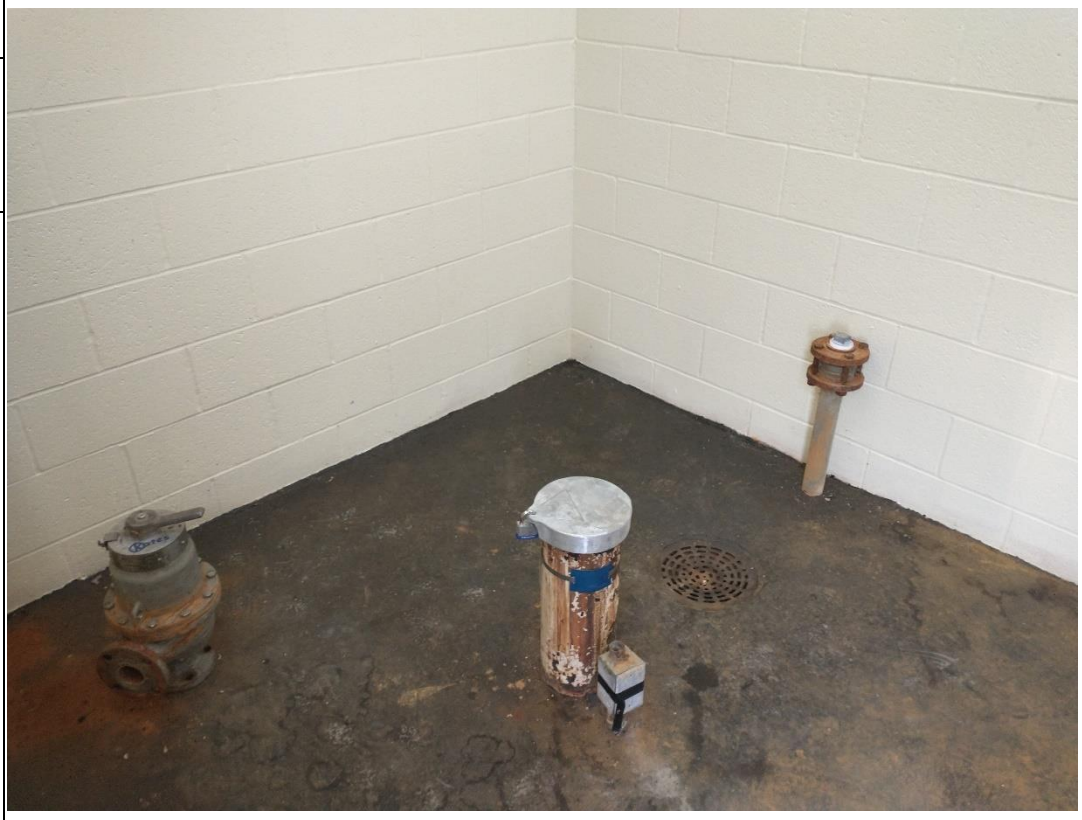
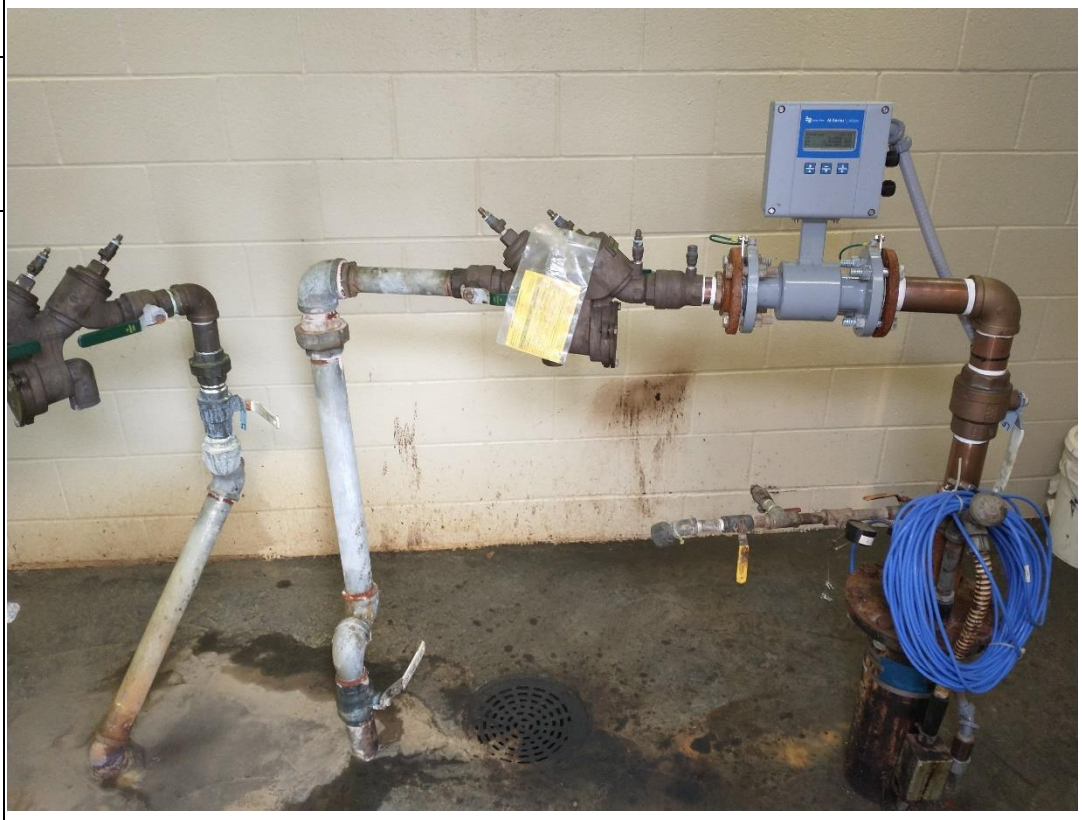
Photo No. 13	**Date:** 4/7/21
Direction Facing: Northeast	
Description: Interior View of well W422 next to W410.	

Photo No. 14	**Date:** 4/7/21
Direction Facing: North	
Description: Interior View of the inactive pumping well W421 with transducer cable (blue wire).	

SITE PHOTOGRAPHS

Photo No. 15	Date: 4/7/21
Direction Facing: North	
Description: Interior View of the inactive pumping well W420 with transducer cable (blue wire).	

Photo No. 16	Date: 4/7/21
Direction Facing: West	
Description: Interior View of the inactive pumping well W439. Note that the pump as been removed.	

SITE PHOTOGRAPHS

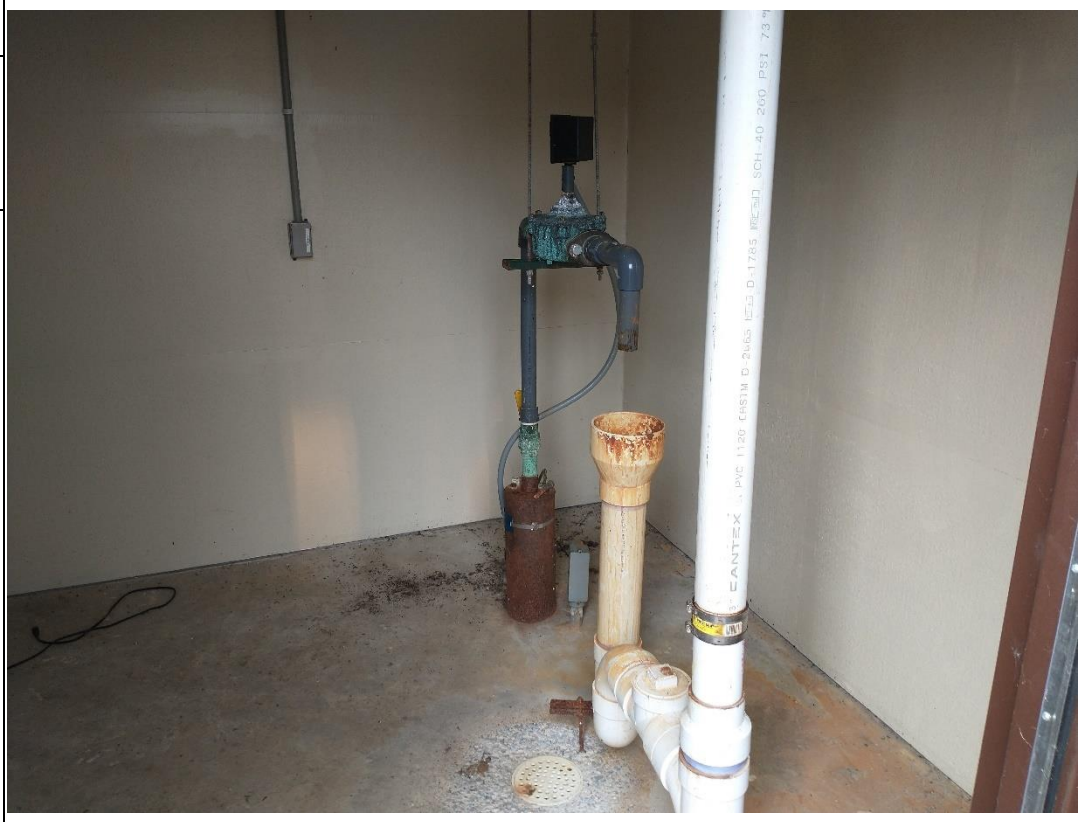
Photo No. 17	**Date:** 4/7/21
Direction Facing: South	
Description: West View of the inactive pumping well W434.	

Photo No. 18	**Date:** 4/7/21
Direction Facing: Northwest	
Description: Interior View of the Granular Activated Carbon (GAC) tanks inside the Groundwater Treatment Facility.	

SITE PHOTOGRAPHS

Photo No. 19	**Date:** 4/7/21
Direction Facing: Northeast	
Description: Exterior View of the well houses for SLP10, SLP11, and SLP15; also a municipal reservoir.	

Photo No. 20	**Date:** 4/7/21
Direction Facing: South	
Description: Interior View of the municipal well SLP10.	

SITE PHOTOGRAPHS

Photo No. 21	**Date:** 4/7/21
Direction Facing: West	
Description: Interior View of the municipal well SLP15.	

Photo No. 22	**Date:** 4/7/21
Direction Facing: Southeast	
Description: Interior View of the municipal well SLP11.	

SITE PHOTOGRAPHS

Photo No. 23	**Date:** 4/7/21
Direction Facing: South	
Description: Interior View of the GAC tanks located at Water Treatment Plant 1, servicing wells SLP10 and SLP15.	

Photo No. 24	**Date:** 4/7/21
Direction Facing: North	
Description: Interior View of the municipal well SLP4	

SITE PHOTOGRAPHS

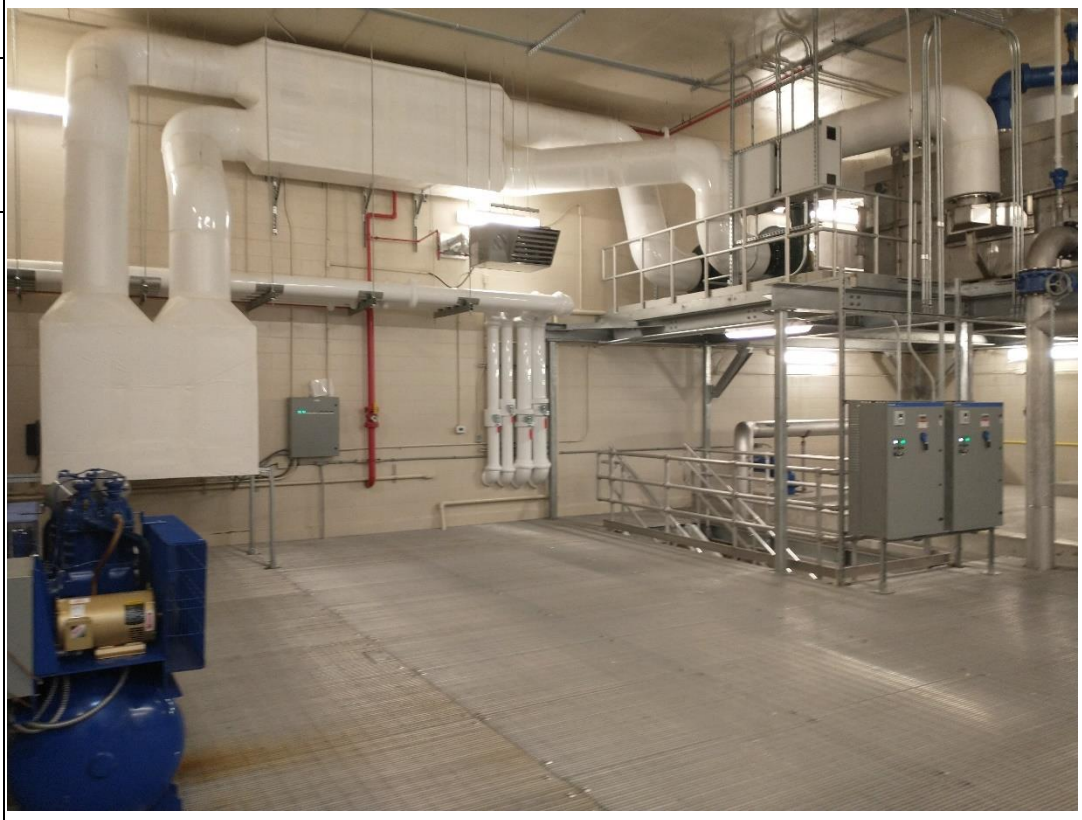
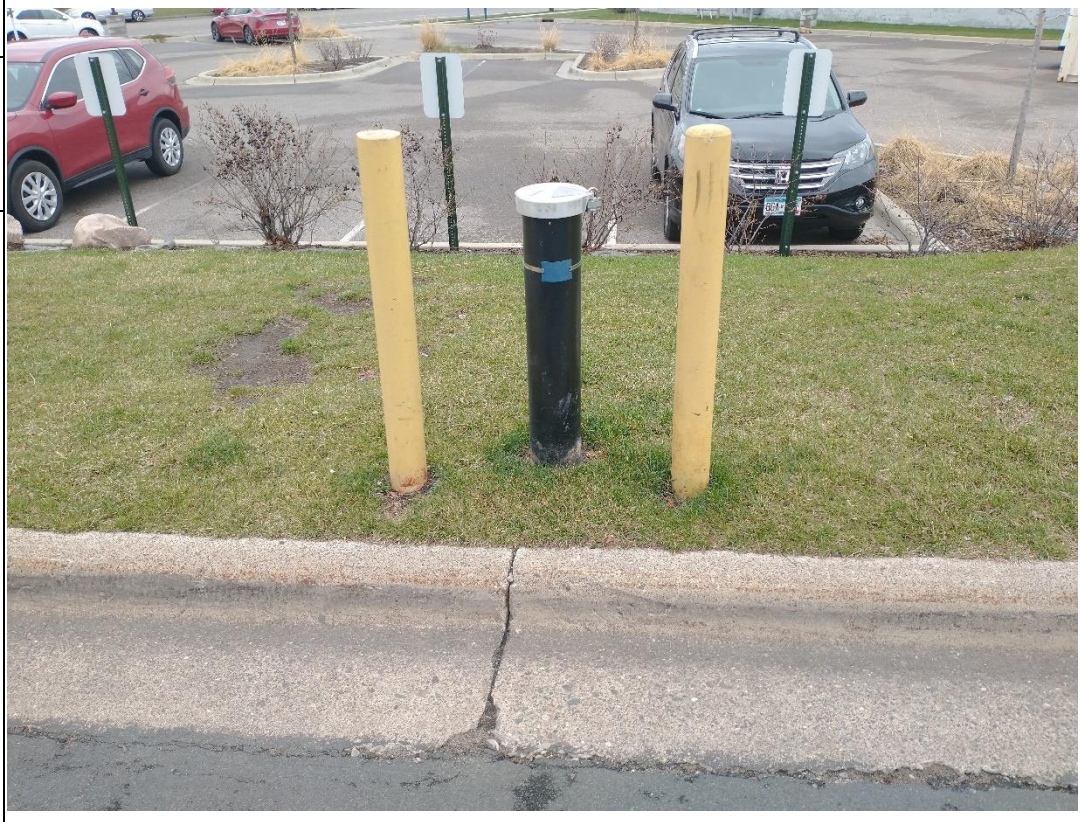
Photo No. **25**	**Date:** 4/7/21
Direction Facing: East	
Description: Interior View of where the removed GAC tanks were located at Water Treatment Plant 4.	

Photo No. **26**	**Date:** 4/7/21
Direction Facing: East	
Description: Interior View of the air stripping treatment added to Water Treatment Plant 4 in 2018.	

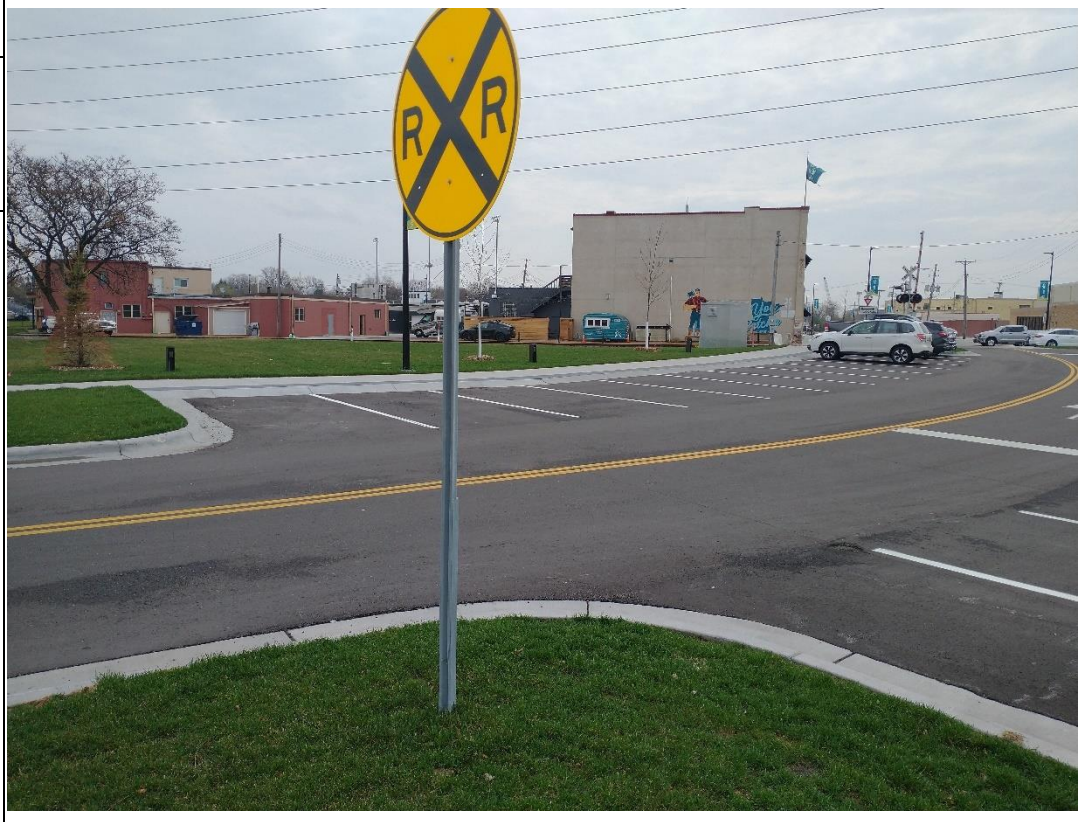
SITE PHOTOGRAPHS

Photo No. 27	**Date:** 4/7/21
Direction Facing: Southeast	
Description: Exterior View of the new Drift Aquifer well W442 located on Monitor Street.	
Photo No. 28	**Date:** 4/7/21
Direction Facing: West	
Description: Exterior View of the new Drift Aquifer well W444 located on Gorham Avenue.	

SITE PHOTOGRAPHS

Photo No. 29	Date: 4/7/21
Direction Facing: Northeast	
Description: Exterior View of well W136 and the abandoned well W131.	

Photo No. 30	Date: 4/7/21
Direction Facing: Northeast	
Description: Exterior View of the realigned Walker street and parking lot where well P309 was located.	



Attachment 6

Site Inspection Checklist

I. SITE INFORMATION	
Site name: **Reilly Tar and Cehmical Corp.**	**Date of inspection:** **4/7/2021**
Location and Region: **St. Lousi Park, MN/Region 5**	**EPA ID:** **MND 980609804**
Agency, office, or company leading the FYR: EPA	**Weather/temperature:** Click or tap here to enter text.

Remedy Includes: (Check all that apply)

☒ Landfill cover/containment	☒ Monitored natural attenuation
☐ Access controls	☐ Groundwater containment
☐ Institutional controls	☐ Vertical barrier walls
☒ Groundwater pump and treatment	☐ Other: Click or tap here to enter text.
☐ Surface water collection and treatment	

Attachments:

☒ Inspection team roster attached	☒ Site map attached

Site Inspection Checklist

II. INTERVIEWS (Check all that apply)
1. **O&M Site Manager** **Mark Hanson,** **Public Works Superintendent,** **4/7/2021** Interviewed: ☒ at site ☐ at office ☐ by phone Phone Number: 952-924-2186 Problems, suggestions: ☐ Report attached Click or tap here to enter text.
2. **O&M Staff** **Jay Hall,** **Utilities Superintendent,** **4/7/2021** Interviewed: ☒ at site ☐ at office ☐ by phone Phone Number: 952-924-2557 Problems, suggestions: ☐ Report attached Click or tap here to enter text.
3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply. Agency: Click or tap here to enter text. Contact: Name , Title , Click or tap to enter a date., P: Phone Number Problems, suggestions: ☐ Report attached Click or tap here to enter text. Agency: Click or tap here to enter text. Contact: Name , Title , Click or tap to enter a date., P: Phone Number Problems, suggestions: ☐ Report attached Click or tap here to enter text. Agency: Click or tap here to enter text. Contact: Name , Title , Click or tap to enter a date., P: Phone Number Problems, suggestions: ☐ Report attached Click or tap here to enter text. Agency: Click or tap here to enter text. Contact: Name , Title , Click or tap to enter a date., P: Phone Number Problems, suggestions: Click or tap here to enter text.
4. **Other Interviews (optional):** ☐ Report attached Click or tap here to enter text.

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)			
1. O&M Documents			
☒ O&M manual	☒ Readily available	☒ Up to date	☐ N/A
☒ As-built drawings	☒ Readily available	☒ Up to date	☐ N/A
☒ Maintenance logs	☒ Readily available	☒ Up to date	☐ N/A
Remarks: Click or tap here to enter text.			
2. Site-Specific Health and Safety Plan		☐ Readily available	
☒ Contingency Plan/Emergency Response Plan		☒ Readily available	
Remarks: Click or tap here to enter text.			
3. O&M and OSHA Training Records			
	☒ Readily available	☒ Up to date	☐ N/A
Remarks: Click or tap here to enter text.			
4. Permits and Service Agreements			
☐ Air discharge permit	☐ Readily available	☐ Up to date	☒ N/A
☒ Effluent discharge	☒ Readily available	☒ Up to date	☐ N/A
☒ Waste disposal, POTW	☒ Readily available	☒ Up to date	☐ N/A
☒ Other permits: MNDNR			
Remarks: MNDR Water Appropriations			
5. Gas Generation Records			
	☐ Readily available	☐ Up to date	☒ N/A
Remarks: Click or tap here to enter text.			
6. Settlement Monument Records			
	☐ Readily available	☐ Up to date	☒ N/A
Remarks: Click or tap here to enter text.			
7. Groundwater Monitoring Records			
	☒ Readily available	☒ Up to date	☐ N/A
Remarks: Click or tap here to enter text.			
8. Leachate Extraction Records			
	☐ Readily available	☐ Up to date	☒ N/A
Remarks: Click or tap here to enter text.			

9. Discharge Compliance Records

☐ Air	☐ Readily available	☐ Up to date	☒ N/A
☒Water (effluent)	☒ Readily available	☒ Up to date	☐ N/A

Remarks: Click or tap here to enter text.

10. Daily Access/Security Logs

☒ Readily available ☒ Up to date ☐ N/A

Remarks: Municpal pump building and treatment plants have security systems. All pumping wells inspected daily Monday through Friday.

IV. O&M COSTS

1. O&M Organization

☐ State in-house ☐ Contractor for State

☒ PRP in-house ☐ Contractor for PRP

☐ Federal Facility in-house ☐ Contractor for Federal Facility

Remarks: City of St. Louis Park

2. O&M Cost Records

☒Readily available ☒ Up to date ☐ Funding mechanism/agreement in place

Original O&M cost estimate $20K/year ☐ Breakdown attached

Total annual cost by year for review period if available

From 1/1/2020	To 12/31/2020	Total cost $425K	☐ Breakdown attached
From 1/19/2019	To 12/31/2019	Total cost $556K	☐ Breakdown attached
From 1/18/2018	To 12/31/2018	Total cost $545K	☐ Breakdown attached
From 1/1/2017	To 12/31/2017	Total cost $601K	☐ Breakdown attached
From 1/1/2016	To 12/31/2016	Total cost $534K	☐ Breakdown attached

3. Unanticipated or Unusually High O&M Costs During Review Period

Describe costs and reasons:

GTF plant needed an earlier than expected carbon change in 2019 (originally scheduled for 2020).

V. ACCESS AND INSTITUTIONAL CONTROLS

☒ Applicable ☐ N/A

1. Fencing Damaged ☐ Location shown on site map ☐ Gates secured ☒ N/A

Remarks: Click or tap here to enter text.

2. Other Access Restrictions ☐ Location shown on site map ☐ Gates secured

Remarks: Well houses, treatment buildings, and wells all locked and secured.

3. Institutional Controls (ICs)

A. Implementation and Enforcement

Site conditions imply ICs not properly implemented	☐ Yes	☒ No	☐ N/A
Site conditions imply ICs not being fully enforced	☐ Yes	☒ No	☐ N/A
Type of monitoring (*e.g.*, self-reporting, drive by)	Self reported		
Frequency	As needed		
Responsible party/agency	Property owners		

Contact: Name , Title , Click or tap to enter a date., P: Phone Number

Reporting is up-to-date	☒ Yes	☐ No	☐ N/A
Reports are verified by the lead agency	☒ Yes	☐ No	☐ N/A
Specific requirements in deed or decision documents have been met	☐ Yes	☐ No	☒ N/A
Violations have been reported	☐ Yes	☐ No	☒ N/A

Other problems or suggestions:

Work plans are submitted to the agencies as needed. Confirmation of the deed notices was unavailable.

B. Adequacy ☒ ICs are adequate ☐ ICs are inadequate ☐ N/A

Remarks: **Deed notices require confirmation.**

4. General

A. Vandalism/Trespassing ☐ Location shown on site map ☐ No vandalism evident

Remarks: Some minor well vandalism was noted and repaired at wells W402 and W143.

B. Land use changes on site ☒ N/A

Remarks: Click or tap here to enter text.

C. Land use changes off site ☐ N/A

Remarks: Southwest Light Rail construction to the southeast of the site. Realignment of Walker Street at Lakewood Street.

VI. GENERAL SITE CONDITIONS

1. Roads ☒ Applicable ☐ N/A

A. Roads damaged ☒ Location shown on site map ☒ Roads adequate ☐ N/A

Remarks: Click or tap here to enter text.

B. Other Site Conditions

Remarks: The semi-annual soil cover report performed by the City of St. Louis Park and submitted in the Annual Monitoring Report.

VII. LANDFILL COVERS

1. Landfill Surface ☒ Applicable ☐ N/A

A. Settlement (Low Spots) ☐ Location Shown on Site Map ☒ Settlement Not Evident

Areal Extent: Click or tap here to enter text. Depth: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

B. Cracks ☐ Location Shown on Site Map ☒ Cracking Not Evident

Lengths: Click or tap here to enter text. Widths: Click or tap here to enter text. Depths: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

C. Erosion ☐ Location Shown on Site Map ☒ Erosion Not Evident

Areal Extent: Click or tap here to enter text. Depth: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

D. Holes ☐ Location Shown on Site Map ☒ Holes Not Evident

Areal Extent: Click or tap here to enter text. Depth: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

E. Vegetative Cover ☒ Grass ☒ Cover Properly Established

☐ Tress/Shrubs (indicate size and locations on a diagram ☒ No Signs of Stress

Remarks: Click or tap here to enter text.

F. Alternative Cover (armored rock, concrete, etc.) ☒ N/A

Remarks: Click or tap here to enter text.

G. Bulges ☐ Location Shown on Site Map ☒ Bulges Not Evident

Areal Extent: Click or tap here to enter text. Height: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

H. Wet Areas/Water Damage ☒ Wet Areas/Water Damage Not Evident

☐ Wet Areas	☐ Location Shown on Site Map	Areal Extent: Click or tap here to enter text.
☐ Ponding	☐ Location Shown on Site Map	Areal Extent: Click or tap here to enter text.
☐ Seeps	☐ Location Shown on Site Map	Areal Extent: Click or tap here to enter text.
☐ Soft Subgrade	☐ Location Shown on Site Map	Areal Extent: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

I. Slope Instability ☐ Location Shown on Site Map ☒ Slope Instability Not Evident

☐ Slides Areal Extent: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

2. Benches ☐ Applicable ☒ N/A

(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

A. Flows Bypass Bench ☐ Location Shown on Site Map ☒ N/A or Okay

Remarks: Click or tap here to enter text.

B. Bench Breached ☐ Location Shown on Site Map ☒ N/A or Okay

Remarks: Click or tap here to enter text.

C. Bench Overtopped ☐ Location Shown on Site Map ☒ N/A or Okay

Remarks: Click or tap here to enter text.

3. Letdown Channels ☐ Applicable ☒ N/A

(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

A. Settlement ☐ Location Shown on Site Map ☐ Settlement Not Evident

Areal Extent: Click or tap here to enter text. Depth: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

B. Material Degradation ☐ Location Shown on Site Map ☐ Degradation Not Evident

Material Type: Click or tap here to enter text. Areal Extent: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

C. Erosion ☐ Location Shown on Site Map ☐ Erosion Not Evident

Areal Extent: Click or tap here to enter text. Depth: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

D. Undercutting ☐ Location Shown on Site Map ☐ Undercutting Not Evident

Areal Extent: Click or tap here to enter text. Depth: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

E. Obstructions ☐ Location Shown on Site Map ☐ Undercutting Not Evident

Type: Click or tap here to enter text.

Areal Extent: Click or tap here to enter text. Size: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

F. Excessive Vegetative Growth ☐ Location Shown on Site Map ☒ Excessive Growth Not Evident

Areal Extent: Click or tap here to enter text. ☐ Vegetation in channels does not obstruct flow

Remarks: Click or tap here to enter text.

4. Cover Penetrations ☐ Applicable ☒ N/A

A. Gas Vents ☐ Active ☐ Passive

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled

☐ Good condition ☐ Evidence of leakage at penetration

☐ Needs Maintenance ☒ N/A

Remarks: Click or tap here to enter text.

B. Gas Monitoring Probes

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled

☐ Good condition ☐ Evidence of leakage at penetration

☐ Needs Maintenance ☒ N/A

Remarks: Click or tap here to enter text.

C. Monitoring Wells

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled

☐ Good condition ☐ Evidence of leakage at penetration

☐ Needs Maintenance ☒ N/A

Remarks: Click or tap here to enter text.

D. Leachate Extraction Wells

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled

☐ Good condition ☐ Evidence of leakage at penetration

☐ Needs Maintenance ☒ N/A

Remarks: Click or tap here to enter text.

E. Settlement Monuments ☐ Located ☐ Routinely Surveyed ☒ N/A

Remarks: Click or tap here to enter text.

5. Gas Collection and Treatment ☐ Applicable ☒ N/A

A. Gas Treatment Facilities

☐ Flaring ☐ Thermal Destruction ☐ Collection for Reuse

☐ Good condition ☐ Needs Maintenance

Remarks: Click or tap here to enter text.

B. Gas Collection Wells, Manifolds, and Piping

☐ Good condition ☐ Needs Maintenance ☒ N/A

Remarks: Click or tap here to enter text.

C. Gas Monitoring Facilities (e.g. gas monitoring of adjacent homes or buildings)

☐ Good condition ☐ Needs Maintenance ☒ N/A

Remarks: Click or tap here to enter text.

6. Cover Drainage Layer ☐ Applicable ☒ N/A

A. Outlet Pipes Inspected ☐ Functioning ☒ N/A

Remarks: Click or tap here to enter text.

B. Outlet Rock Inspected ☐ Functioning ☒ N/A

Remarks: Click or tap here to enter text.

7. Detention/Sediment Ponds ☐ Applicable ☒ N/A

A. Siltation ☐ Siltation Not Evident ☒ N/A

Areal Extent: Click or tap here to enter text. Depth: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

B. Erosion ☒ Erosion Not Evident

Areal Extent: Click or tap here to enter text. Depth: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

C. Outlet Works ☐ Functioning ☒ N/A

Remarks: Click or tap here to enter text.

D. Dam ☐ Functioning ☒ N/A

Remarks: Click or tap here to enter text.

8. Retaining Walls ☐ Applicable ☒ N/A

A. Deformations ☐ Location Shown on Site Map ☒ Deformation Not Evident

Horizontal Displacement: Click or tap here to enter text.

Vertical Displacement: Click or tap here to enter text.

Rotational Displacement: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

B. Degradation ☐ Location Shown on Site Map ☒ Deformation Not Evident

Remarks: Click or tap here to enter text.

9. Perimeter Ditches/Off-Site Discharge ☐ Applicable ☒ N/A

A. Siltation ☐ Location Shown on Site Map ☒ Siltation Not Evident

Areal Extent: Click or tap here to enter text. Depth: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

B. Vegetative Growth ☐ Location Shown on Site Map ☒ N/A

☐ Vegetation Does Not Impede Flow

Areal Extent: Click or tap here to enter text. Type: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

C. Erosion ☐ Location Shown on Site Map ☒ Erosion Not Evident

Areal Extent: Click or tap here to enter text. Depth: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

D. Discharge Structure ☐ Functioning ☒ N/A

Remarks: Click or tap here to enter text.

VIII. VERTICAL BARRIER WALLS

☐ Applicable ☒ N/A

1. Settlement ☐ Location Shown on Site Map ☒ Settlement Not Evident

Areal Extent: Click or tap here to enter text. Depth: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

2. Performance Monitoring Type of Monitoring: Click or tap here to enter text.

☐ Performance Not Monitored ☐ Evidence of Breaching

Frequency: Click or tap here to enter text. Head Differential: Click or tap here to enter text.

Remarks: Click or tap here to enter text.

IX. GROUNDWATER/SURFACE WATER REMEDIES

☒ Applicable ☐ N/A

1. Groundwater Extraction Wells, Pumps, and Pipelines ☒ Applicable ☐ N/A

A. Pumps, Wellhead Plumbing, and Electrical ☐ N/A

☒ Good Condition ☒ All Required Wells Properly Operating ☐ Needs Maintenance

Remarks: Due to the ongoing Cessation Test, wells W410, W420, W421, and W439 were all turned off or disabled. Resuming pumping at the above listed wells would require maintenance.

B. Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances

☒ Good Condition ☐ Needs Maintenance

Remarks: Click or tap here to enter text.

C. Spare Parts and Equipment ☐ Needs to be Provided

☒ Readily Available ☒ Good Condition ☐ Requires Upgrade

Remarks: Click or tap here to enter text.

2. Surface Water Collection Structures, Pumps, and Pipelines ☐ Applicable ☒ N/A

A. Collection Structures, Pumps, and Electrical

☐ Good Condition ☐ Needs Maintenance

Remarks: Click or tap here to enter text.

B. Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances

☐ Good Condition ☐ Needs Maintenance

Remarks: Click or tap here to enter text.

C. Spare Parts and Equipment ☐ Needs to be Provided

☐ Readily Available ☐ Good Condition ☐ Requires Upgrade

Remarks: Click or tap here to enter text.

3. Treatment System ☒ Applicable ☐ N/A

A. Treatment Train (Check components that apply)

☐ Metals removal ☐ Oil/Water Separation ☐ Bioremediation

☐ Air Stripping ☒ Carbon Absorbers

☐ Filters Click or tap here to enter text.

☐ Additive (e.g. chelation agent, flocculent) Click or tap here to enter text.

☐ Others Click or tap here to enter text.

☒ Good Condition ☐ Needs Maintenance

☒ Sampling ports properly marked and functional

☒ Sampling/maintenance log displayed and up to date

☒ Equipment properly identified

☒ Quantity of groundwater treated annually See Annual Monitoring Report

☐ Quantity of surface water treated annually Click or tap here to enter text.

Remarks: Click or tap here to enter text.

B. Electrical Enclosures and Panels (properly rated and functional)

☐ N/A ☒ Good Condition ☐ Needs Maintenance

Remarks: Click or tap here to enter text.

C. Tanks, Vaults, Storage Vessels ☐ N/A

☐ Proper Secondary Containment ☒ Good Condition ☐ Needs Maintenance

Remarks: Treatment tanks/water reservoirs

D. Discharge Structure and Appurtenances

☐ N/A ☒ Good Condition ☐ Needs Maintenance

Remarks: Click or tap here to enter text.

E. Treatment Building(s)

☐ N/A ☒ Good condition (esp. roof and doorways)

☐ Needs repair ☒ Chemicals and equipment properly stored

Remarks Click or tap here to enter text.

F. Monitoring Wells (Pump and Treatment Remedy) ☐ N/A

☒ Properly secured/locked ☒ Functioning

☒ Routinely sampled ☒ All required wells located

☒ Good condition ☐ Needs Maintenance

Remarks Click or tap here to enter text.

4. Monitoring Data

A. Monitoring Data:

☒ Is Routinely Submitted on Time ☒ Is of Acceptable Quality

B. Monitoring Data Suggests:

☒ Groundwater plume is effectively contained ☒ Contaminant concentrations are declining

5. Monitored Natural Attenuation

A. Monitoring Wells (natural attenuation remedy) ☐ N/A

☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled

☒ All required wells located ☐ Needs Maintenance ☒ Good condition

Remarks: Click or tap here to enter text.

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

1. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).
Remedy is intended to contain plume, treat drinking water, and cap Site soils. Overall observations support an effective and functioning remedy as described in the amended CD-RAP.

2. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.
O&M of the City of St. Louis Park's municipal water supply system is critical to current and long term protectiveness. The new SCADA upgrade will assist with future O&M. The groundwater monitoring network continues to be sufficient as old wells are sealed and new wells are considered.

3. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.
The pump and treat remedy for shallow aquifers may be replaced by monitored natural attenuation in the future. If that doesn't happen, new pumping wells would be needed to resume a pump and treat remedy.

4. Early Indicators of Potential Remedy Problems

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

Besides the new SCADA for municipal water supply wells, the groundwater monitoring program (sampling and analysis plan) can be optimized based on the new drinking water criteria identified in the amended CD-RAP and based on the results of monitoring to date. This is an ongoing activity.