2021 Annual Groundwater Monitoring and Corrective Action Report - Material Storage Runoff Basin, Metal Cleaning Waste Basin, and Drying Area

NIPSCO LLC R. M. Schahfer Generating Station

Prepared Pursuant to 40 CFR §257.90(e) and Corresponding Regulations under 329 Indiana Administrative Code 10-9-1

Submitted to:

Northern Indiana Public Service Company LLC
R.M. Schahfer Generating Station
Wheatfield, Indiana

Submitted by:

Golder Associates USA Inc.
670 North Commercial Street, Suite 103
Manchester, NH 03101
+1 603 668-0880

191-21567

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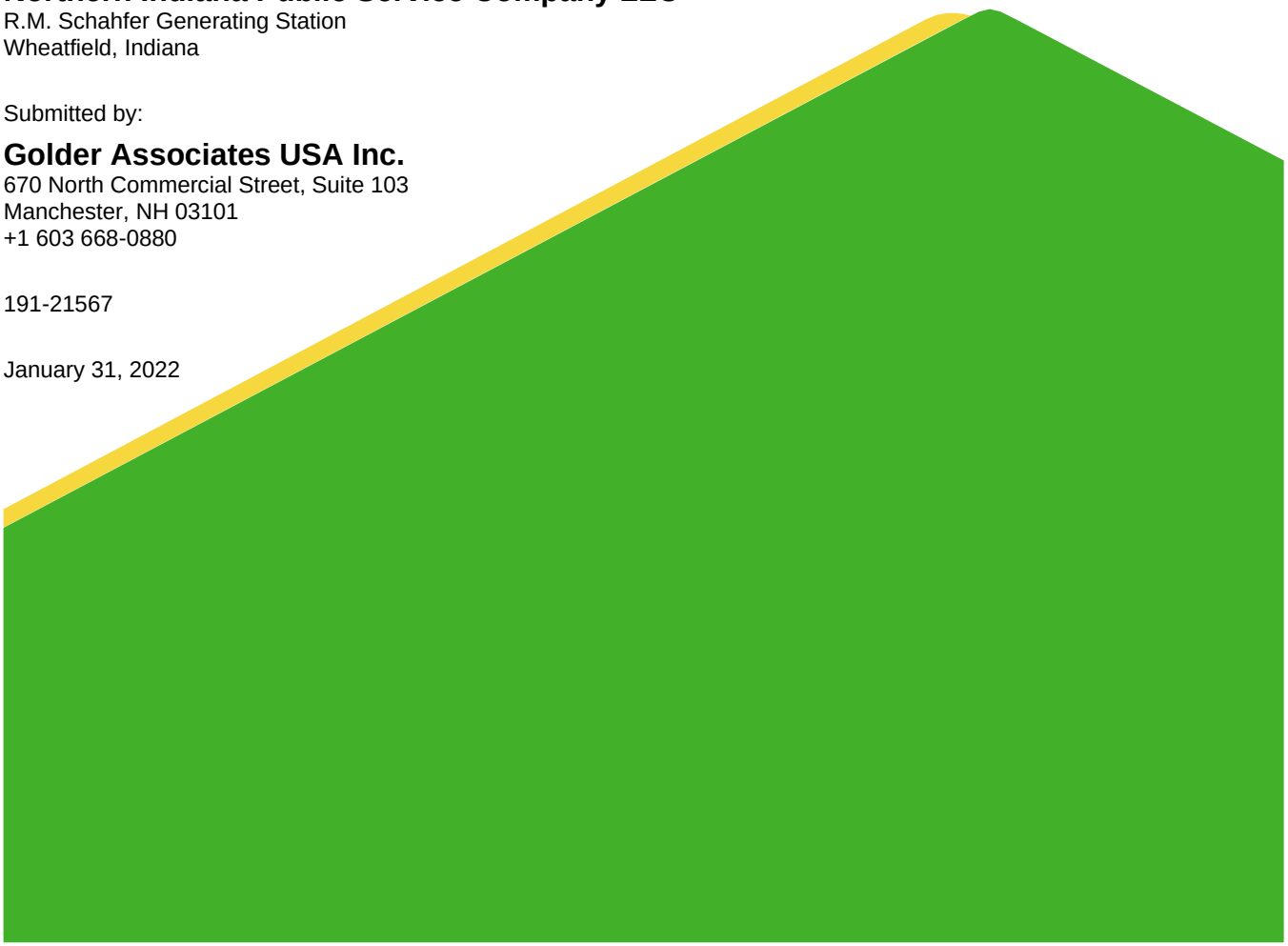

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1.0 INTRODUCTION

On behalf of Northern Indiana Public Service Company LLC (NIPSCO), Golder Associates USA Inc., *a member of WSP* (Golder), prepared this 2021 Annual Groundwater Monitoring and Corrective Action Report (2021 Annual Report) for the Rollin M. Schahfer Generating Station (RMSGS, Schahfer) Material Storage Runoff Basin (MSRB), Metal Cleaning Waste Basin (MCWB), and the Drying Area (together, the CCR Unit) located at 2723 E 1500 N, Wheatfield, Jasper County, Indiana (Latitude 41° 12' 36" and Longitude 87° 01' 48", see Figure 1). As shown in Figure 2, the Drying Area is an approximately 5.5-acre impoundment that has been filled with CCR. The MSRB and MCWB consist of two rectangular, approximately 15-acre impoundments, separated by a narrow berm, located adjacent to one another. Golder prepared the 2021 Annual Report in accordance with 40 Code of Federal Regulations (CFR) Parts 257 and 261, “Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule” (CCR Rule), as amended, and corresponding regulations under 329 Indiana Administrative Code (IAC) 10-9-1.

To comply with the CCR Rule, NIPSCO and Golder decided to monitor the MSRB, MCWB, and Drying Area as one CCR Unit due to the proximity of the MSRB, MCWB, and the Drying Area to one another, and because there are no practical means of monitoring groundwater between the impoundments. The CCR Unit is currently in Assessment Monitoring pursuant to 40 CFR §257.95. Routine monitoring activities performed during the reporting period include inspection of wells for integrity and security, measurement of groundwater levels prior to sample collection to assess groundwater flow direction, and collection of groundwater samples for laboratory analysis.

In conformance with the applicable requirements of 40 CFR §257.90(e)(1) through (5) and corresponding State of Indiana requirements, the 2021 Annual Report:

- Documents the status of the groundwater monitoring and corrective action program
- Provides figures showing the CCR Unit and monitoring well locations
- Summarizes key CCR Rule groundwater activities completed during calendar year 2021
- Includes CCR Rule groundwater monitoring data obtained in calendar year 2021
- Describes any problems encountered during the monitoring activities
- Discusses actions taken to resolve the problems, if applicable
- Projects key activities for the upcoming year

2.0 GROUNDWATER MONITORING AND CORRECTIVE ACTION PROGRAM OVERVIEW OF CURRENT STATUS

Starting in 2016 following the installation of a groundwater monitoring system (Table 1) and throughout calendar year 2017, Golder collected background groundwater samples and performed Detection Monitoring at the CCR Unit pursuant to the requirements of 40 CFR §257.94. Due to the identification of significantly statistical increases (SSIs) in January 2018, NIPSCO established an Assessment Monitoring program in April 2018 pursuant to the requirements of 40 CFR §257.95. In 2018, Golder performed the first and second Assessment Monitoring sampling events. Following the first Assessment Monitoring sampling event, including verification sampling, NIPSCO posted a notification to the publicly-accessible website that there were detections of 40 CFR Part 257 Appendix IV parameters downgradient of the MSRB, MCWB, and Drying Area above applicable groundwater

protection standards (GWPS). Consequently, NIPSCO initiated the assessment of corrective measures (ACM). process in November 2018. Golder performed subsequent monitoring events including:

- Third and fourth Assessment Monitoring events in 2019
- Fifth and sixth Assessment Monitoring events in 2020
- Seventh and Eighth Assessment Monitoring events in 2021

The sampling dates, number of groundwater samples collected from each background and downgradient well, and the purpose of sampling associated with the seventh and eighth Assessment Monitoring events are provided in Table 2. The 2021 analytical results are presented in Table 3. The CCR Unit began and ended the current annual reporting period in Assessment Monitoring pursuant to §257.95. Golder identified cobalt as an Appendix IV statistically significant level (SSL) in a groundwater sample collected from monitoring well GAMW-08 in 2021.

NIPSCO completed the assessment of corrective measures for groundwater impacts and prepared the ACM Report in April 2019. NIPSCO prepared Addendum #1 to the ACM Report in November 2020 and Addendum #2 to the ACM Report in July 2021. NIPSCO is continuing to evaluate the feasibility and design of potential groundwater remedial alternatives in accordance with the provisions of 40 CFR §259.97(a). NIPSCO has not selected a groundwater remedy nor completed the pond closure activities; therefore, no remediation activities were performed in 2021. NIPSCO will schedule a public meeting to present the proposed remedial approach for public comment at least 30 days prior to the selection of remedy.

2.1 Key Actions Completed - 2021

NIPSCO completed the following key actions relative to CCR Rule groundwater monitoring at the MSRB, MCWB, and Drying Area during calendar year 2021:

- Preparation of the 2020 Groundwater Monitoring and Corrective Action Annual Report in January 2021 (2020 Annual Report, 40 CFR §257.90(e))
- Evaluation of the results of the sixth Assessment Monitoring event in February 2021 (40 CFR §257.95)
- Notification that constituents in 40 CFR Part 257 Appendix IV exceeded the GWPS in March 2021 (40 CFR §257.95(g))
- Performance of the seventh Assessment Monitoring event in April 2021 (40 CFR §257.95)
- Preparation of the fourth semi-annual Selection of Remedy Progress Report in April 2021 (40 CFR §257.97)
- Preparation of Addendum #2 to the Assessment of Corrective Measures Report in July 2021 (40 CFR §257.96)
- Evaluation of the results of the seventh Assessment Monitoring event in August 2021 (40 CFR §257.95)
- Notification that constituents in 40 CFR Part 257 Appendix IV exceeded the GWPS in September 2021 (40 CFR §257.95(g))
- Performance of the eighth Assessment Monitoring event in September/October 2021 (40 CFR §257.95)
- Preparation of the fifth semi-annual Selection of Remedy Progress Report in October 2021 (40 CFR §257.97)

2.2 Monitoring System Modifications

The groundwater monitoring system did not require any modifications in 2021 (see Figure 2). Attached Table 1 provides a summary of the well rationale/purpose and date of installation. An overview of the modified groundwater monitoring network is provided in the embedded table below.

Background Monitoring Wells	Downgradient Monitoring Wells	Assessment Monitoring Wells
GAMW-04, GAMW-07, GAMW-07B, GAMW-15 and GAMW-15B	GAMW-08, GAMW-08B, GAMW-09, GAMW-09B, GAMW-16R, GAMW-16BR, GAMW-17, GAMW-17B, GAMW-18 and GAMW-18B	GAMW-46, GAMW-46B, GAMW-52, GAMW-52B, GAMW-53, GAMW-53B, GAMW-54, GAMW-54B, GAMW-55R, GAMW-55B, GAMW-56, and GAMW-56B

2.3 Background Monitoring (2016 to 2017)

Per the requirements of 40 CFR §257.94, Golder collected eight independent background groundwater samples from each background and downgradient well between July 2016 and August 2017. Golder used the results of the background monitoring phase to develop appropriate, statistically valid background values for each constituent/monitoring well. Golder submitted the samples to a contract laboratory, in accordance with chain of custody and quality assurance/quality control procedures, for analysis of 40 CFR Part 257 Appendix III and Appendix IV constituents. In addition, Golder personnel measured field water quality parameters including specific conductance, temperature, dissolved oxygen, turbidity, oxidation-reduction potential, and pH. The background data set is included in the 2017 CCR Annual Groundwater Monitoring and Corrective Action Report, dated January 31, 2018 (2017 Annual Report, Golder 2018).

Golder performed a periodic update of background datasets, which includes incorporation of additional background data, to improve statistical power and accuracy by providing a more conservative estimate of the true background populations. The CCR Rule Groundwater Monitoring Program Implementation Manual (GMPIM, Golder 2017) allows for the statistical limits to be updated after four to eight new measurements are available (i.e., every two to four years of semi-annual monitoring). Golder incorporated the new data into the background dataset, updated the GWPS, in March 2020.

2.4 Detection Monitoring

Golder performed the first Detection Monitoring event in October 2017, followed by a statistical evaluation and data analysis in January 2018. Golder collected groundwater samples from the CCR Unit background and downgradient monitoring wells for analysis of Appendix III constituents per 40 CFR §257.94 and included the results in the 2017 Annual Report. Following receipt and validation of laboratory results, Golder evaluated the results of the first Detection Monitoring sampling event to compare the concentration of 40 CFR Part 257 Appendix III constituents relative to facility background concentrations. Using Sanitas™ software, Golder pooled the background data to calculate prediction limits and compared the October 2017 results to the calculated prediction limits to identify SSIs. Due to the identification of SSIs, NIPSCO established an Assessment Monitoring program in April 2018.

2.5 Assessment Monitoring

Golder performed the first Assessment Monitoring event (i.e., Assessment and Verification sampling) in March and April 2018, followed by a statistical evaluation and data analysis in August 2018. In March 2018, Golder collected groundwater samples from each background and downgradient monitoring well for analysis of Appendix IV constituents per 40 CFR §257.95. In April 2018, groundwater samples were collected at the downgradient monitoring well locations and analyzed for Appendix III and detected Appendix IV constituents per 40 CFR §257.95. In August 2018, Golder developed GWPS to compare with the Assessment Monitoring results. Following receipt and validation of laboratory results, Golder evaluated the 40 CFR Part 257 Appendix IV constituent results relative to CCR Unit-specific GWPS (see Table 4). At the time of the statistical evaluation the GWPS was the higher value of either the Maximum Contaminant Level (MCL) or the CCR Unit-specific background concentration for each analyte calculated using a tolerance/prediction limit procedure in accordance with 40 CFR §257.95(h)(2). Results from the downgradient monitoring wells were evaluated by comparing the lower confidence limit (LCL) to the CCR Unit-specific GWPS for each 40 CFR Part 257 Appendix IV analyte at each well. If the LCL exceeds the GWPS, there is statistical evidence of a statistically significant level (SSL). Golder determined that SSLs existed for the MSRB, MCWB, and Drying Area in August 2018 and initiated the assessment of corrective measures in November 2018.

Golder performed additional Assessment Monitoring events by collecting groundwater samples from each background and downgradient monitoring well per 40 CFR §257.95 including:

- Second Assessment Monitoring Event – October 2018: Golder performed the second Assessment Monitoring event by collecting groundwater samples for analysis of Appendix III and detected Appendix IV constituents. Golder performed the statistical evaluation of the analytical results of the second Assessment Monitoring sampling event in February 2019. The results identified an SSL for cobalt at GAMW-08. The results from the first and second Assessment Monitoring events are included in the 2018 Annual Groundwater Monitoring and Corrective Action Report, dated January 31, 2019 (2018 Annual Report, Golder 2019).
- Third Assessment Monitoring Event – April 2019: Golder performed the third Assessment Monitoring event by collecting groundwater samples for analysis of Appendix III and Appendix IV constituents. Golder performed the statistical evaluation of the analytical results of the third Assessment Monitoring sampling event in August 2019. The results confirmed the SSLs cobalt at GAMW-08.
- Fourth Assessment Monitoring Event – November 2019: Golder performed the fourth Assessment Monitoring event by collecting groundwater samples for analysis of Appendix III and detected Appendix IV constituents. Golder performed the statistical evaluation of the analytical results of the second Assessment Monitoring sampling event in March 2020. The groundwater results confirmed the SSL for cobalt at well GAMW-08. The results from the third Assessment Monitoring event are included in the 2019 Annual Groundwater Monitoring and Corrective Action Report, dated January 31, 2020 (2019 Annual Report, Golder 2020).
- Boundary Well Sampling – 2019: Golder collected groundwater samples from property boundary Assessment Monitoring wells GAMW-46/46B (see Figure 2) in March, April, June, July, August, October, and November 2019. SSLs were not identified in these groundwater samples. These results are included in the 2019 Annual Report (Golder, 2020).

- Fifth Assessment Monitoring Event – April/May 2020: Golder performed the fifth Assessment Monitoring event by collecting groundwater samples for analysis of Appendix III and Appendix IV constituents. Golder performed the statistical evaluation of the analytical results of the third Assessment Monitoring sampling event in September 2020. The results confirmed the SSLs cobalt at GAMW-08.
- Sixth Assessment Monitoring Event – October 2020: Golder performed the sixth Assessment Monitoring event by collecting groundwater samples for analysis of Appendix III and detected Appendix IV constituents. Golder performed the statistical evaluation of the analytical results of the second Assessment Monitoring sampling event in February 2021. The groundwater results confirmed the SSL for cobalt at well GAMW-08. The results from the fifth and sixth Assessment Monitoring events are included in the 2020 Annual Report (Golder 2021).
- Seventh Assessment Monitoring Event – April 2021: Golder performed the seventh Assessment Monitoring event by collecting groundwater samples for analysis of Appendix III and Appendix IV constituents. Golder performed the statistical evaluation of the analytical results of the third Assessment Monitoring sampling event in August 2021. The results confirmed the SSLs cobalt at GAMW-08.
- Eighth Assessment Monitoring Event – September/October 2021: Golder performed the eighth Assessment Monitoring event by collecting groundwater samples for analysis of Appendix III and detected Appendix IV constituents. Golder will perform the statistical evaluation of the analytical results of the eighth Assessment Monitoring sampling event in January 2022.

2.6 Corrective Action

NIPSCO is evaluating the feasibility and design of the potential groundwater remedial alternatives presented in the Assessment of Corrective Measures (ACM) report (Golder, 2019). As discussed in the ACM, NIPSCO plans to close this CCR Unit by removal in accordance with 40 CFR §257.102(c). NIPSCO submitted a Closure Application to the Indiana Department of Environmental Management (IDEM) in April 2019. In November 2020, Golder submitted Addendum #1 to the Assessment of Corrective Measures Report that provided further details of Golder's evaluation of the potential corrective measures. Golder performed the following remedy selection-related activities in 2021:

- NIPSCO continued to refine the Closure Application/Design of the MCU in response to IDEM comments and submitted the final Closure Application on May 13, 2021.
- Following submittal of the final Closure Application and confirmation that IDEM was in general agreement with the modified cap design, Golder prepared the MCU Assessment of Corrective Measures - Addendum #2 to reevaluate the list of potential corrective measures identified in the ACM based on their compatibility with the modified cap design. ACM Addendum #2 revised and updated information provided in the predecessor documents and incorporated the low permeability cap design in all corrective measure alternatives identified in the ACM and in Addendum #1, effectively eliminating four of the ACM alternatives from further consideration.
- Golder performed additional engineering evaluations of the four remaining alternatives accounting for the low permeability cap design and its impact on the selection of remedy for groundwater Corrective Measures.

In 2022, Golder will continue to prepare a detailed evaluation/comparison of the groundwater corrective measure alternatives, including conceptual designs and engineering cost estimates, that will provide NIPSCO with sufficient

information to select a remedy that effectively meets the requirements of 40 CFR §257.97 including protection of public health and the environment. This detailed evaluation/comparison of corrective measures will be documented in a future Selection of Remedy Report for the CCR Unit.

2.7 Statistical Evaluation

After each monitoring event, Golder assessed the analytical data for outliers, anomalies, and trends that might be an indication of a sampling or analytical error. Outliers and anomalies are generally defined as inconsistently large or small values that can occur because of sampling, laboratory, transportation, or transcription errors, or even by chance alone. Significant trends may indicate natural geochemical variability, a source of systematic error, influence of an upgradient/off-site source, or an actual occurrence of CCR Unit influence upon groundwater quality. Appropriate statistical methods are used to remove outliers from the database and manage trends with detrending routines, prior to the calculation of statistical limits. To assess the data for outliers, anomalies, and trends, Golder assessed the data using time vs. concentration graphs, and statistical routines included in the Sanitas™ statistical analysis software package.

In addition to the outliers identified in the 2018 Annual Report and 2020 Annual Report, Golder identified the following outliers in 2021 (no outliers were identified in the 2019 Annual Report).

Golder identified all groundwater data obtained from GAMW-15, GAMW-15B, GAMW-16R, and GAMW-16BR in October 2020 and April 2021 as outliers and removed these data from the data set for the following reasons:

- Statistical testing, including the Dixon outlier test, identified several of the results from each event as outliers; and
- In Summer 2020, NIPSCO performed planned dewatering activities in near these wells during construction activities to divert discharges to the MCU. Trend charts indicate that the dewatering activities drastically affected the October 2020 data. The April 2021 data indicate that the results are trending toward preconstruction concentrations.

Golder identified the April 2021 pH results from GAMW-09, GAMW-09B, and GAMW-18 as outliers and removed these data from the data set for the following reasons:

- Statistical testing, including the Dixon outlier test, identified these results as outliers;
- Trend charts indicated that these results were inconsistent with other concentrations detected in these wells; and
- The pH field calibration check associated with these samples failed.

Golder evaluated the background data set for trends using Sanitas™ software. Golder will continue to monitor trends and apply detrending routines, if applicable, before using these data to calculate GWPS. Golder identified the following 40 CFR Part 257 Appendix IV parameter trends in background monitoring wells:

- Antimony concentrations detected in groundwater samples collected from GAMW-07 show a decreasing trend. Antimony has never been detected at concentrations above the laboratory reporting limit in groundwater samples collected from this well and all background results are below the MCL, therefore, the GWPS is equal to the MCL. No detrending routines are required.

- Arsenic concentrations detected in groundwater samples collected from wells GAMW-07 and GAMW-15B show a decreasing trend, arsenic has never been detected at concentrations above the above the MCL, therefore, the GWPS is equal to the MCL. No detrending routines are required.
- Barium concentrations detected in groundwater samples collected from well GAMW-15B show an increasing trend. All barium background results are below the MCL, therefore, the GWPS is equal to the MCL. No detrending routines are required.
- Beryllium concentrations detected in groundwater samples collected from wells GAMW-07, GAMW-15, and GAMW-15B show a decreasing trend. Beryllium has never been detected at concentrations above the laboratory reporting limit in these wells and all background results are below the MCL, therefore, the GWPS is equal to the MCL. No detrending routines are required.
- Cadmium concentrations detected in groundwater samples collected from wells GAMW-04, GAMW-15, and GAMW-15B show a decreasing trend. All background results are below the MCL, therefore, the GWPS is equal to the MCL. No detrending routines are required.
- Lead concentrations detected in groundwater samples collected from well GAMW-15B show a decreasing trend. Lead has never been detected at concentrations above the laboratory reporting limit in this well and all background results are below the health-based standard, therefore, the GWPS is equal to the health-based standard. No detrending routines are required.
- Lithium concentrations detected in groundwater samples collected from well GAMW-15B show an increasing trend. All results are below the health-based standard, therefore, the GWPS is equal to the health-based standard. No detrending routines are required.
- Thallium concentrations detected in groundwater samples collected from wells GAMW-04, GAMW-07, and GAMW-15 show a decreasing trend. All results are below the laboratory reporting limit and the MCL, therefore, the GWPS is equal to the MCL. No detrending routines are required.

2.8 Problems Encountered and Follow-Up Corrective Actions

One cooler containing the radium samples collected from GAMW-54 and GAMW-54B in the seventh Assessment Monitoring event (April 2021), was delayed during shipping. The samples were received approximately one month after collection. Since the radium analyses have no temperature requirements and the samples were received within the method holding time, the samples were analyzed despite the shipping delay. No follow-up corrective action was required.

During the seventh Assessment Monitoring event (April 2021), the pH calibration check failed on April 20, 2021. Samples were collected from wells GAMW-09, GAMW-09B, and GAMW-18 on this date. The pH values for these samples were 1 to 3 standard pH units higher than all previous events and were removed from the dataset as outliers. Golder performed maintenance on the groundwater quality meter used for sampling on April 20, 2021 and subsequent calibration checks passed.

During the seventh Assessment Monitoring event (April 2021), Golder collected groundwater from monitoring wells GAMW-15, GAMW-16BR, GAMW-54, GAMW-54B, and GAMW-56B at turbidity levels of approximately 9.82, 7.82, 6.79, 6.74, and 6.72 nephelometric turbidity units (NTUs), respectively. During the eighth Assessment Monitoring event (September/October 2021), groundwater was sampled from monitoring wells GAMW-04, GAMW-15, GAMW-16BR at turbidity levels of approximately 7.06, 6.36, and 20.19NTUs, respectively. According

to the CCR Groundwater Monitoring Program Implementation Manual (Golder 2017), groundwater samples will be collected once groundwater has achieved a turbidity level below 5 NTUs. Due to time constraints in the field, Golder purged groundwater from the wells for a minimum of two hours and sampled when turbidity appeared to stabilize (e.g., no downward or upward trend over three consecutive readings five minutes apart). Evaluation of the analytical results from these wells suggests that the slightly elevated turbidity levels had no significant effect on the representativeness of the samples of groundwater quality. During future monitoring events, Golder will purge groundwater for two hours or five well volumes, whichever is shorter. Golder will use professional judgement to assess whether purge water is representative of groundwater for sampling. If an acceptable turbidity level cannot be achieved within a reasonable timeframe (e.g., three hours), Golder will redevelop the affected monitoring wells prior to the next sampling event.

3.0 KEY ACTIVITIES PROJECTED FOR 2022

During calendar year 2022, NIPSCO anticipates conducting the following key CCR Rule groundwater monitoring activities for the MSRB, MCWB, and Drying Area:

- Prepare and submit the appropriate notifications according to the CCR Rule;
- Continue semi-annual Assessment Monitoring groundwater sampling per CCR Rule requirements;
- Continue to evaluate potential remedial alternatives and prepare semi-annual reports describing the progress in selecting and designing the remedy; and
- Inspect and maintain the monitoring system including wells, pumps, and equipment.

4.0 REFERENCES

Golder Associates, “2017 Annual Groundwater Monitoring and Corrective Action Report- Material Storage Runoff Basin, Metal Cleaning Waste Basin, and Drying Area NIPSCO R. M. Schahfer Generating Station”, January 31, 2018.

Golder Associates, “2018 Annual Groundwater Monitoring and Corrective Action Report- Material Storage Runoff Basin, Metal Cleaning Waste Basin, and Drying Area NIPSCO R. M. Schahfer Generating Station”, January 31, 2019.

Golder Associates, “2019 Annual Groundwater Monitoring and Corrective Action Report- Material Storage Runoff Basin, Metal Cleaning Waste Basin, and Drying Area NIPSCO R. M. Schahfer Generating Station”, January 31, 2020.

Golder Associates, “2020 Annual Groundwater Monitoring and Corrective Action Report- Material Storage Runoff Basin, Metal Cleaning Waste Basin, and Drying Area NIPSCO R. M. Schahfer Generating Station”, January 31, 2021.

Golder Associates, “CCR Assessment of Corrective Measures,” April 19, 2019.

Golder Associates, “CCR Groundwater Monitoring Implementation Manual” October 2017.

Golder Associates, “NIPSCO R.M. Schahfer Generating Station, CCR Unit Consisting of MSRB, MCWB, and DA Corrective Measures Selection of Remedy, Semi-Annual Progress Report #19-01” October 16, 2019.

Golder Associates, “NIPSCO R.M. Schahfer Generating Station, CCR Unit Consisting of MSRB, MCWB, and DA Corrective Measures Selection of Remedy, Semi-Annual Progress Report #20-01” April 13, 2020.

Golder Associates, “NIPSCO R.M. Schahfer Generating Station, CCR Unit Consisting of MSRB, MCWB, and DA Corrective Measures Selection of Remedy, Semi-Annual Progress Report #20-02” October 9, 2020.

Golder Associates, “CCR Assessment of Corrective Measures Report – Addendum” November 30, 2020.

Golder Associates, “NIPSCO R.M. Schahfer Generating Station, CCR Unit Consisting of MSRB, MCWB, and DA Corrective Measures Selection of Remedy, Semi-Annual Progress Report #21-01” April 9, 2021.

Golder Associates, “CCR Assessment of Corrective Measures Report- Addendum #2” July 29, 2021.

Golder Associates, “NIPSCO R.M. Schahfer Generating Station, CCR Unit Consisting of MSRB, MCWB, and DA Corrective Measures Selection of Remedy, Semi-Annual Progress Report #21-02” October 11, 2021.

TABLES

Table 1 Monitoring Well Network
CCR Unit Schahfer MSRB, MCWB, and Drying Area
NIPSCO LLC Rollin M. Schahfer Generating Station
Wheatfield, Indiana

CCR Unit	Well Purpose	Monitoring Well ID	Installation Date	Decommission Date (If Applicable)	Basis For Action
Material Storage Runoff Basin, Metal Cleaning Waste Basin, and Drying Area	Background Monitoring Well	GAMW-04	6/27/2015	-	Installed for groundwater quality monitoring(1)
		GAMW-07	6/29/2015	-	
		GAMW-15	5/25/2016	-	
		GAMW-15B	5/24/2016	-	
		GAMW-07B	7/25/2018	-	Installed to provide additional groundwater quality data
	Downgradient Monitoring Well	GAMW-08	6/28/2015	-	Installed for groundwater quality monitoring(1)
		GAMW-09	6/28/2015	-	
		GAMW-09B	5/24/2016	-	
		GAMW-16	5/26/2016	NA	Removed during construction activities(5)
		GAMW-16R	9/23/2020	-	Installed to replace GAMW-16(5)
		GAMW-16B	5/25/2016	9/22/2020	Decommissioned due to construction activities(6)
		GAMW-16BR	9/22/2020	-	Installed to replace GAMW-16B(6)
		GAMW-17	5/25/2016	-	Installed for groundwater quality monitoring(1)
		GAMW-17B	5/25/2016	-	
		GAMW-18	5/24/2016	-	
		GAMW-08B	7/25/2018	-	Installed to characterize the nature and extent of a potential release(2)
		GAMW-18B	7/26/2018	-	
		GAMW-52	7/30/2018	-	
		GAMW-52B	7/30/2018	-	
		GAMW-53	7/30/2018	-	
		GAMW-53B	7/30/2018	-	
		GAMW-54	7/30/2018	-	
		GAMW-54B	7/27/2018	-	
		GAMW-55	7/26/2018	6/8/2019	Decommissioned due to well casing damage(4)
		GAMW-55R	6/8/2019	-	Installed to replace GAMW-55(4)
		GAMW-55B	7/26/2018	-	Installed to characterize the nature and extent of a potential release(2)
		GAMW-56	7/27/2018	-	
		GAMW-56B	7/27/2018	-	
		GAMW-46	5/15/2018	-	Installed to monitor groundwater quality at the property boundary(3)
		GAMW-46B	5/15/2018	-	

Notes:

1) Per 40 CFR §257.93, Golder collected eight rounds of background data prior to October 17, 2017.

2) Per 40 CFR §257.95(g)(1)(i) Rule requirements, Golder collected additional data to further characterize the nature and extent of potential groundwater impacts.

3) Per 40 CFR §257.95(g)(1)(iii), Golder collected data to monitor groundwater quality in the direction of flow at the property boundary

4) Golder field personnel were unable to collect a groundwater sample from monitoring well GAMW-55 during the April 2019 Assessment Monitoring sampling event due to surface damage (i.e., tubing above the permanent pump was pinched at less than 10 feet below ground surface). The well was replaced with GAMW-55R in June 2019.

5) Monitoring well GAMW-16 was completely removed during construction excavation activities in 2020. No decommissioning was required. The well was replaced with GAMW-16R in September 2020.

6) Monitoring well GAMW-16B was decommissioned during construction activities in 2020. The well was replaced with GAMW-16BR in September 2020.

NA= Not applicable

Prepared by: KMC
Checked by: DFSC
Reviewed by: JSP

Table 2: Summary of Sampling Events
CCR Unit Schahfer MSRB, MCWB, and Drying Area
NIPSCO LLC Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Well Purpose	Monitoring Well ID	Sample Event #16	Sample Event #17	Total Number of Samples
Purpose of Sample		Annual Assessment Monitoring	Semi-Annual Assessment Monitoring	
Sample Parameters		Appendix III and Appendix IV	Appendix III and Detected Appendix IV	
Background Monitoring Well	GAMW-04	4/15/2021	9/23/2021	2
	GAMW-07	4/16/2021	9/21/2021	2
	GAMW-07B	4/16/2021	9/23/2021	2
	GAMW-15	4/16/2021	9/22/2021	2
	GAMW-15B	4/16/2021	9/22/2021	2
Downgradient Monitoring Well	GAMW-08	4/22/2021	9/24/2021	2
	GAMW-08B	4/22/2021	9/24/2021	2
	GAMW-09	4/20/2021	9/23/2021	2
	GAMW-09B	4/20/2021	9/23/2021	2
	GAMW-16R	4/22/2021	9/21/2021	2
	GAMW-16BR	4/22/2021	9/21/2021	2
	GAMW-17	4/14/2021	9/22/2021	2
	GAMW-17B	4/14/2021	9/22/2021	2
	GAMW-18	4/20/2021	9/16/2021	2
	GAMW-18B	4/21/2021	9/17/2021	2
	GAMW-46	4/27/2021	9/15/2021	2
	GAMW-46B	4/27/2021	9/15/2021	2
	GAMW-52	4/16/2021	9/30/2021	2
	GAMW-52B	4/16/2021	9/30/2021	2
	GAMW-53	4/16/2021	9/30/2021	2
	GAMW-53B	4/16/2021	9/30/2021	2
	GAMW-54	4/19/2021	10/1/2021	2
	GAMW-54B	4/19/2021	10/1/2021	2
	GAMW-55R	4/20/2021	10/1/2021	2
	GAMW-55B	4/20/2021	10/1/2021	2
	GAMW-56	4/20/2021	10/4/2021	2
	GAMW-56B	4/21/2021	10/4/2021	2
Total Number of Samples		27	27	54

Notes:
Sample counts do not include QA/QC samples.
(1) Sample events #1-#15 were completed prior to 2021. The purpose, sample parameters, and sample dates are included in the 2017, 2018, 2019, and 2020 Annual Reports.
(2) Semi-annual assessment monitoring parameters did not include radium.
(3) Sample events #16 and 17 correspond to the seventh and eighth Assessment Monitoring events, respectively.

Prepared by: KMC
Checked by: DFSC
Reviewed by: JSP

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying Area
NIPSCO LLC R. M. Schahfer Generating Station
Wheatfield, Indiana

	Location	GAMW04			GAMW07			GAMW07B		GAMW08		GAMW08B		GAMW09		GAMW09B			GAMW15	
	Sample Date	2021-04-15	2021-09-23		2021-04-16	2021-09-21		2021-04-16	2021-09-23	2021-04-22	2021-09-24	2021-04-22	2021-09-24	2021-04-20	2021-09-23	2021-04-20		2021-09-23	2021-04-16	2021-09-22
	Sample Type	N	FD	N	N	FD	N	N	N	N	N	N	N	N	N	FD	N	N	N	N
Chemical Name	Unit																			
CCR Appendix III																				
Boron	mg/L	1.1	0.36	0.35	0.81	0.91	0.85	5.9	6.9	0.89	1.1	7.7	8.4	3.5	3.8	6.1	6.2	6.7	8 O	3.5
Calcium	mg/L	178	108	107	198	215	212	327	373	266	260	198	235	168	227	169	171	163	160 O	136
Chloride	mg/L	6.2	3.7	3.6	11.7	11.9	12	38	60.3	50	14.9	178	179	41.6	54.7	102	94	113	99.3 O	49.8
Fluoride	mg/L	0.2	0.35	0.35	0.66	0.85	0.85	0.79	0.95	0.97	0.44	0.9	0.73	0.26	0.34	1.4	1.4	1.3	0.76 O	0.77 J-
pH	SU	7.26		7.4	7.14		7.14	7.94	7.58	7.04	7.04	7.49	7.44	8.48 O	7.51		10.49 O	7.56	7.1 O	7.12
Sulfate	mg/L	375	116	121	352	362	359	1010	1060	477	841	751	1060	418	509	582 J	1040 J	773	371 O	265
Total Dissolved Solids	mg/L	726	381	380	846	887	894	1700	1790	1120	2380	1620	2040	659	1040	1030	982	1430	770 O	675
CCR Appendix IV																				
Antimony	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 UO	0.001 U
Arsenic	mg/L	0.0019	0.0041	0.0036	0.001 U	0.0012	0.0013	0.0022	0.0022	0.001 U	0.0013	0.001 U	0.001 U	0.001 U	0.001 U	0.0033	0.0034	0.0031	0.046 O	0.09
Barium	mg/L	0.079	0.057	0.056	0.046	0.053	0.052	0.041	0.037	0.07	0.076	0.039	0.046	0.037	0.053	0.036	0.035	0.059	0.058 O	0.05
Beryllium	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UO	0.0002 U
Cadmium	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00022	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UO	0.0002 U
Chromium	mg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 UO	0.002 U
Cobalt	mg/L	0.0016	0.001 U	0.001 U	0.0056	0.0061	0.006	0.0011	0.001 U	0.017	0.015	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.003 O	0.0021
Fluoride	mg/L	0.2	0.35	0.35	0.66	0.85	0.85	0.79	0.95	0.97	0.44	0.9	0.73	0.26	0.34	1.4	1.4	1.3	0.76 O	0.77 J-
Lead	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 UO	0.001 U
Lithium	mg/L	0.008 U	0.008 U	0.008 U	0.008 U	0.0091	0.0088	0.008 U	0.013	0.012	0.015	0.012	0.014	0.008 U	0.008 U	0.008 U	0.008 U	0.0095	0.008 UO	0.01
Mercury	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UO	0.0002 U
Molybdenum	mg/L	0.066	0.015	0.016	0.0078	0.01	0.01	0.029	0.023	0.034	0.043	0.011	0.011	0.04	0.058	0.012	0.012	0.015	0.028 O	0.027
Radium, Total	pci/l	0.659 U			1.29 U			2.16		1.57		2.53		0.649 U		0.924 U	1.67 U		0.191 UO	
Selenium	mg/L	0.0033	0.001 U	0.001 U	0.0069	0.0044	0.0039	0.001 U	0.001 U	0.01	0.005	0.001 U	0.001 U	0.0053	0.0079	0.001 U	0.001 U	0.001 U	0.0036 O	0.001 U
Thallium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 UO	0.001 U
Field Parameters																				
Dissolved Oxygen	mg/L	1.71		0.31	0.39		0.25	0.23	0.26	1	0.35	0.29	0.27	3.42	6.2		0.2	0.31	0.2	0.28
Oxidation-Reduction Potential	millivolts	-29		0.149	55.5		0.1	-124.1	0.224	22	19.3	-120.1	0.218	-20.6	0.2		-113.1	0.204	-64.1	0.193
pH	SU	7.26		7.4	7.14		7.14	7.94	7.58	7.04	7.04	7.49	7.44	8.48	7.51		10.49	7.56	7.1	7.12
Specific Conductance	uS/cm	950		595	1064		123	1970	222.4	1432	167.2	2151	286.3	970	138.4		1459	201.2	1153	104.8
Temperature	deg c	9.24		15.9	11.06		17	12.2	14.7	11.2	18.8	13	15.2	10.6	18.7		13.4	16.4	14.38	19.2
Turbidity	ntu	4.67		7.06	3.4		2.65	2.6	4.84	1.99	1.48	2.78	3.9	1.02	2.95		4.26	3.02	9.82	6.36

Notes:
mg/L = milligrams per liter
uS/cm = micro Siemens per centimeter
deg C = degrees Celsius
NTU = Nephelometric Turbidity Units
pCi/L = picocuries per liter
SU = Standard Units
"U" = Indicates the result was not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.
"J" = Indicates the result is estimated.
"J-" = Indicates the result is estimated and may be biased low.
"J+" = Indicates the result is estimated and may be biased high.

"R" = Indicates the result is unusable. The sample result was rejected due to serious deficiencies in meeting quality control criteria, the analyte may or may not be present in the sample.
"O" = Indicates result is an outlier.

GOLDER
MEMBER OF WSP

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying Area
NIPSCO LLC R. M. Schahfer Generating Station
Wheatfield, Indiana

Location		GAMW15B			GAMW16R		GAMW16BR		GAMW17		GAMW17B		GAMW18		GAMW18B			GAMW46	
Sample Date		2021-04-16		2021-09-22	2021-04-22	2021-09-21	2021-04-22	2021-09-21	2021-04-14	2021-09-22	2021-04-14	2021-09-22	2021-04-20	2021-09-16	2021-04-21	2021-09-17		2021-04-27	2021-09-15
Sample Type		FD	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N
Chemical Name	Unit																		
CCR Appendix III																			
Boron	mg/L	32.7 O	32.5 O	28.1	3.6 O	4.1	24.8 O	25.3	4.3	12.5	10.2	7.3	3.1	5.9	8.4	8.2	8.2	0.1 U	0.1 U
Calcium	mg/L	335 O	321 O	352	410 O	275	380 O	265	139	346	164	155	436	456	317	325	323	29.1	29.3
Chloride	mg/L	372 O	396 O	269	81.1 O	112	331 O	516	79	175	135	105	40.3	97	112	85.8	86.3	2.1	2.1
Fluoride	mg/L	0.37 O	0.35 O	0.44 J-	0.39 O	0.57	0.41 O	2.6	1.2	1.3 J-	0.3	0.49 J-	0.16	0.16 J-	0.35	0.6	0.6	0.078	0.11
pH	SU		7.15 O	7.08	7.16 O	7.1	7.21 O	7.5	7.3	7.16	7.84	7.6	10.36 O	7.1	7.51		7.34	8.36	8.16
Sulfate	mg/L	596 O	643 O	900	1060 O	633	723 O	2970	358	964	549	365	1310	1160	1260	1100	1120	33 J+	31.8
Total Dissolved Solids	mg/L	1740 O	1870 O	2030	1850 O	1370	2080 O	5970	806	1890	1250	928	1440	2020	3340	1930	2010	112	137
CCR Appendix IV																			
Antimony	mg/L	0.001 UO	0.001 UO	0.001 U	0.001 UO	0.001 U	0.001 UO	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Arsenic	mg/L	0.001 UO	0.001 UO	0.001 U	0.0042 O	0.0088	0.001 UO	0.0042	0.0024	0.0027	0.0012	0.0021	0.001 U	0.001 U	0.0025	0.0028	0.0027	0.001 U	0.001 U
Barium	mg/L	0.18 O	0.18 O	0.17	0.074 O	0.06	0.073 O	0.041	0.059	0.17	0.094	0.053	0.044	0.057	0.041	0.028	0.029	0.005	0.0044
Beryllium	mg/L	0.0002 UO	0.0002 UO	0.0002 U	0.0002 UO	0.0002 U	0.0002 UO	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Cadmium	mg/L	0.0002 UO	0.0002 UO	0.0002 U	0.0002 UO	0.0002 U	0.0002 UO	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Chromium	mg/L	0.002 UO	0.002 UO	0.002 U	0.002 UO	0.002 U	0.002 UO	0.0023	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cobalt	mg/L	0.0011 O	0.001 O	0.001 U	0.0064 O	0.0038	0.001 UO	0.001 U	0.0012	0.001 U	0.0015	0.001 U	0.001 U	0.0011	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Fluoride	mg/L	0.37 O	0.35 O	0.44 J-	0.39 O	0.57	0.41 O	2.6	1.2	1.3 J-	0.3	0.49 J-	0.16	0.16 J-	0.35	0.6	0.6	0.078	0.11
Lead	mg/L	0.001 UO	0.001 UO	0.001 U	0.001 UO	0.001 U	0.001 UO	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Lithium	mg/L	0.011 O	0.012 O	0.026	0.008 UO	0.011	0.033 O	0.031	0.008 U	0.021	0.008 U	0.008 U	0.008 U	0.011	0.037	0.031	0.028	0.008 U	0.008 U
Mercury	mg/L	0.0002 UO	0.0002 UO	0.0002 U	0.0002 UO	0.0002 U	0.0002 UO	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Molybdenum	mg/L	0.0012 O	0.0012 O	0.0029	0.027 O	0.019	0.001 UO	0.043	0.012	0.01	0.0058	0.012	0.082	0.14	0.074	0.03	0.031	0.001 U	0.001 U
Radium, Total	pci/l	2.96 O	2.15 O		0.968 UO		2.06 O		1.05 U		1.47 U		0.538 U		2.14			1.28 U	
Selenium	mg/L	0.001 UO	0.001 UO	0.001 U	0.001 UO	0.001 U	0.001 UO	0.0013	0.01	0.0036	0.001 U	0.001 U	0.042	0.028	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Thallium	mg/L	0.001 UO	0.001 UO	0.001 U	0.001 UO	0.001 U	0.001 UO	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Field Parameters																			
Dissolved Oxygen	mg/L		0.26	0.32	0.27	0.29	0.28	0.31	2.52	3.75	0.21	0.29	6.82	5.39	0.25		0.19	1.59	1.26
Oxidation-Reduction Potential	millivolts		-65.7	0.164	-78.9	0.208	-95.1	0.212	29.8	10.2	-117.5	0.215	-64.3	56.8	-104.5		0.192	109.8	-130
pH	SU		7.15	7.08	7.16	7.1	7.21	7.5	7.3	7.16	7.84	7.6	10.36	7.1	7.51		7.34	8.36	8.16
Specific Conductance	uS/cm		2491	286.6	2025	185	2510	795.5	1152	236.5	1778	138.8	1699	245.9	2494		247.3	238.2	238
Temperature	deg c		17.6	17	15.08	25	16.38	19.5	11.95	21.8	15.19	16.7	10.29	21.4	12.15		15.8	10.7	15.1
Turbidity	ntu		1.1	1.7	4.65	1.79	7.82	20.19	1.25	1.47	1.44	4.22	2.84	3.74	4.19		4.59	1.73	3.21

Notes:
mg/L = milligrams per liter
uS/cm = micro Siemens per centimeter
deg C = degrees Celsius
NTU = Nephelometric Turbidity Units
pCi/L = picocuries per liter
SU = Standard Units
"U" = Indicates the result was not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.
"J" = Indicates the result is estimated.
"J-" = Indicates the result is estimated and may be biased low.
"J+" = Indicates the result is estimated and may be biased high.

"R" = Indicates the result is unusable. The sample result was rejected due to serious deficiencies in meeting quality control criteria, the analyte may or may not be present in the sample.
"O" = Indicates result is an outlier.

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying Area
NIPSCO LLC R. M. Schahfer Generating Station
Wheatfield, Indiana

	Location	GAMW46B		GAMW52		GAMW52B		GAMW53		GAMW53B		GAMW54		GAMW54B		GAMW55R	
	Sample Date	2021-04-27	2021-09-15	2021-04-16	2021-09-30	2021-04-16	2021-09-30	2021-04-16	2021-09-30	2021-04-16	2021-09-30	2021-04-19	2021-10-01	2021-04-19	2021-10-01	2021-04-20	2021-10-01
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Chemical Name	Unit																
CCR Appendix III																	
Boron	mg/L	0.1 U	0.1 U	0.1	0.1	1.2	0.64	0.1 U	0.1 U	1.9	2.7	0.5	0.63	3.1	3.1	0.87	1.7
Calcium	mg/L	54.3	51	59.9	62.5	94.9	120	17.5	28.3	142	128	164	114	236	190	237	197
Chloride	mg/L	5.5	5.4	18.7	15.9	131	135	2.4	2.7	84.8	66.4	53.9	24.6	83.9	70.4	51.4	44.1
Fluoride	mg/L	0.077	0.12	0.22	0.31	0.24	0.38	0.05 U	0.05 U	0.4	0.46	0.2	0.3	0.53	0.52	0.46	0.51
pH	SU	7.69	7.73	7.5	7.6	7.46	7.57	5.76	6.17	7.28	7.48	6.52	6.82	7.3	7.36	7.6	7.27
Sulfate	mg/L	61.6 J+	55.3	55.8	50.1	181	156	35.2	49.4	304	295	492	191	891	501	867	389
Total Dissolved Solids	mg/L	190	243	269	276	673	667	97	147	748	802	735	506	1120	1030	842	948
CCR Appendix IV																	
Antimony	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Arsenic	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.0011	0.0011	0.0012	0.0012	0.001 U	0.0014	0.0075	0.024	0.0044	0.004	0.001 U	0.001 U
Barium	mg/L	0.025	0.023	0.011	0.014	0.15	0.14	0.027	0.033	0.067	0.051	0.071	0.048	0.063	0.056	0.032	0.038
Beryllium	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Cadmium	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Chromium	mg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cobalt	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0011	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Fluoride	mg/L	0.077	0.12	0.22	0.31	0.24	0.38	0.05 U	0.05 U	0.4	0.46	0.2	0.3	0.53	0.52	0.46	0.51
Lead	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Lithium	mg/L	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.01
Mercury	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Molybdenum	mg/L	0.0018	0.0018	0.0021	0.0025	0.013	0.011	0.0052	0.0097	0.015	0.011	0.011	0.025	0.017	0.025	0.013	0.017
Radium, Total	pci/l	1.65 U		0.23 U		1.05 U		0 U		1.21 U		0.694 U		1.43		1.47 R	
Selenium	mg/L	0.001 U	0.001 U	0.0011	0.001 U	0.001 U	0.001 U	0.001 U	0.0019	0.001 U	0.001 U	0.0044	0.001 U	0.001 U	0.001 U	0.0029	0.0046
Thallium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Field Parameters																	
Dissolved Oxygen	mg/L	0.64	0.2	0.91	0.56	0.42	0.28	1.99	0.92	0.39	0.24	0.68	0.29	0.45	0.26	1.19	0.47
Oxidation-Reduction Potential	millivolts	-101.3	-241	-23.1	0.38	-123.5	0.241	111.7	94.9	-104	-232.6	81.2	-153.9	-105.3	-211.7	32.3	-16.8
pH	SU	7.69	7.73	7.5	7.6	7.46	7.57	5.76	6.17	7.28	7.48	6.52	6.82	7.3	7.36	7.6	7.27
Specific Conductance	uS/cm	351	388	545	501	1159	110.4	173	204	1227	125.6	1097	782	1626	149.4	1319	139.1
Temperature	deg c	11.37	12.2	12	20	15.8	18	13	20.4	17.6	20	11.8	20.1	14.3	17.3	11.3	20.6
Turbidity	ntu	4.58	4.3	1.79	1.39	3.9	1.27	4.56	4.51	3.27	3.62	6.79	3.79	6.74	3.54	2.35	1.59

Notes:
mg/L = milligrams per liter
uS/cm = micro Siemens per centimeter
deg C = degrees Celsius
NTU = Nephelometric Turbidity Units
pCi/L = picocuries per liter
SU = Standard Units
"U" = Indicates the result was not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.
"J" = Indicates the result is estimated.
"J-" = Indicates the result is estimated and may be biased low.
"J+" = Indicates the result is estimated and may be biased high.

"R" = Indicates the result is unusable. The sample result was rejected due to serious deficiencies in meeting quality control criteria, the analyte may or may not be present in the sample.
"O" = Indicates result is an outlier.

GOLDER
MEMBER OF WSP

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying Area
NIPSCO LLC R. M. Schahfer Generating Station
Wheatfield, Indiana

	Location	GAMW55B		GAMW56		GAMW56B	
	Sample Date	2021-04-20	2021-10-01	2021-04-20	2021-10-04	2021-04-21	2021-10-04
	Sample Type	N	N	N	N	N	N
Chemical Name	Unit						
CCR Appendix III							
Boron	mg/L	9.9	8.3	0.23	0.19	1.6	1.4
Calcium	mg/L	254	205	130	108	157	160
Chloride	mg/L	120	79.4	2.9	1.7	70.8	73.7
Fluoride	mg/L	0.3	0.3	0.05 U	1	0.41	0.46
pH	SU	7.7	7.44	7.05	7.09	7.55	7.34
Sulfate	mg/L	985	496	57.6	64.8	277	268
Total Dissolved Solids	mg/L	1370	1120	480	379	738	802
CCR Appendix IV							
Antimony	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Arsenic	mg/L	0.001 U	0.001 U	0.007	0.0018	0.001 U	0.001 U
Barium	mg/L	0.061	0.05	0.042	0.04	0.071	0.081
Beryllium	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Cadmium	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Chromium	mg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cobalt	mg/L	0.001 U	0.001 U	0.016	0.0045	0.001 U	0.001 U
Fluoride	mg/L	0.3	0.3	0.05 U	1	0.41	0.46
Lead	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Lithium	mg/L	0.008 U	0.012	0.008 U	0.008 U	0.008 U	0.0091
Mercury	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Molybdenum	mg/L	0.0068	0.0058	0.0083	0.011	0.0074	0.0062
Radium, Total	pci/l	1.49 U		0.222 U		2.97	
Selenium	mg/L	0.001 U	0.001 U	0.0011	0.001 U	0.001 U	0.001 U
Thallium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Field Parameters							
Dissolved Oxygen	mg/L	0.65	0.26	1	0.37	0.23	0.29
Oxidation-Reduction Potential	millivolts	-97.3	-213.9	65.9	-133.7	-110.5	-214.1
pH	SU	7.7	7.44	7.05	7.09	7.55	7.34
Specific Conductance	uS/cm	1896	162.3	740	655	1100	124.4
Temperature	deg c	15.3	18.7	9	17.2	12	14.3
Turbidity	ntu	4.78	4.48	2.67	3.48	6.72	4.65

Notes:
mg/L = milligrams per liter
uS/cm = micro Siemens per centimeter
deg C = degrees Celsius
NTU = Nephelometric Turbidity Units
pCi/L = picocuries per liter
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"R" = Indicates the result is unusable. The sample result was rejected due to serious deficiencies in meeting quality control criteria, the analyte may or may not be present in the sample.
"O" = Indicates result is an outlier.

Prepared by: SLG
Checked by: DFSC
Reviewed by JSP

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Table 4: Groundwater Protection Standards
CCR Unit Schahfer MSRB, MCWB, and Drying Area
NIPSCO LLC Rollin M. Schahfer Generating Station
Wheatfield, Indiana

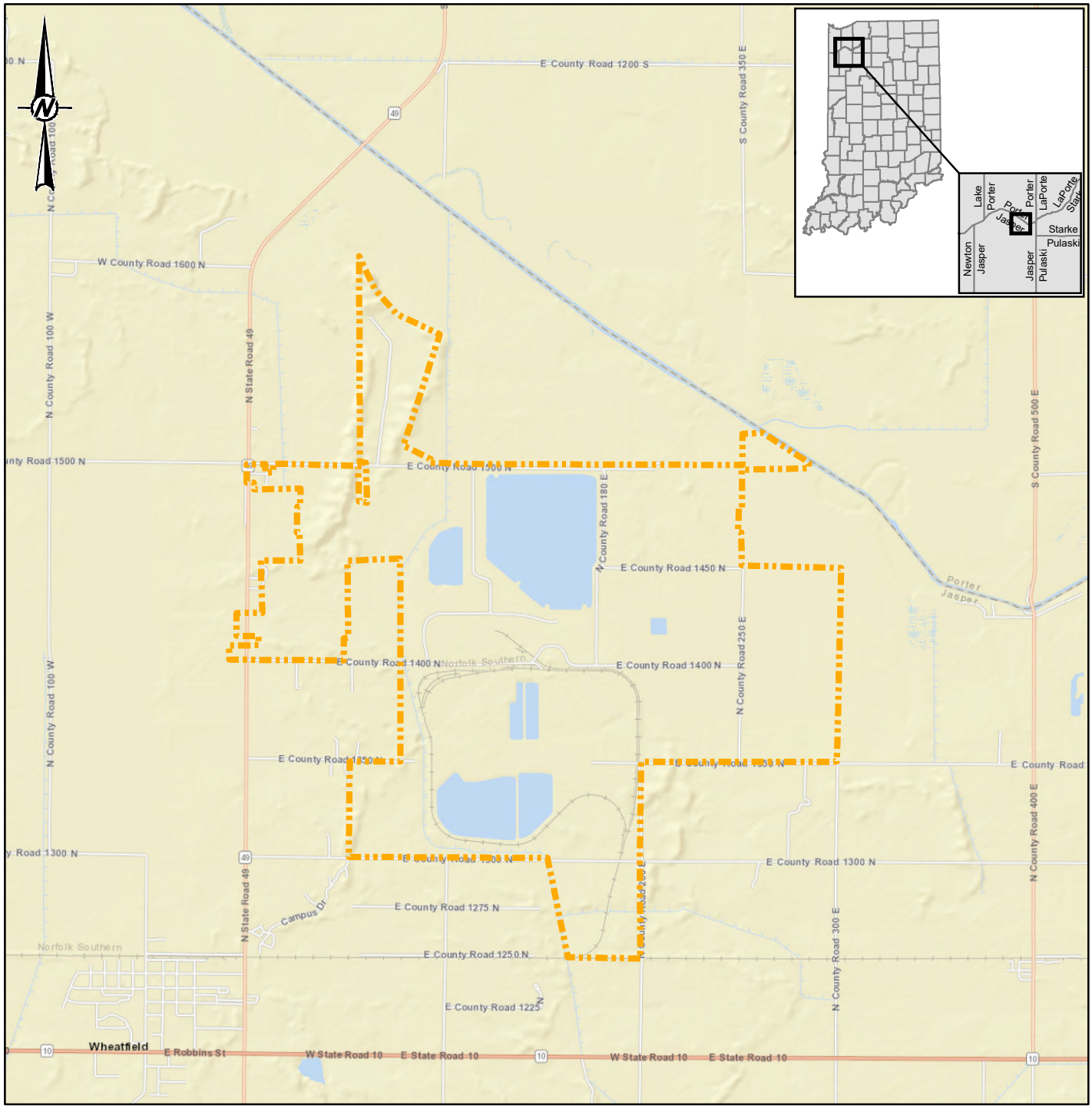
Analyte	MCL (mg/L)	GWPS (mg/L)[2]	GWPS (mg/L)[3]
Antimony	0.006	0.006	0.006
Arsenic	0.01	0.078	0.091
Barium	2	2	2
Beryllium	0.004	0.004	0.004
Cadmium	0.005	0.005	0.005
Chromium	0.1	0.1	0.1
Cobalt[1]	0.006	0.01	0.01
Fluoride	4	4	4
Lead[1]	0.015	0.015	0.015
Lithium[1]	0.04	0.04	0.04
Mercury	0.002	0.002	0.002
Molybdenum[1]	0.1	0.1	0.1
Radium 226+228	5	5	5
Selenium	0.05	0.05	0.05
Thallium	0.002	0.002	0.002

Notes:
MCL= Environmental Protection Agency Maximum Contaminant Level
GWPS= Groundwater Protection Standard
mg/L= milligrams per liter

1) As of August 29, 2018, these four constituents have health-based standards that can be used when calculating the GWPS, these health-based standards are not MCLs but are provided in the MCL column.
2) GWPS calculated in August 2018.
3) GWPS calculated in March 2020.

Prepared by: KMC
Checked by: DFSC
Review by: JSP

FIGURES



LEGEND

Approximate Property Line

0 0.75 1.5

1 " = 0.75 miles Miles

REFERENCE(S)

SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, USGS, INTERMAP, INCREMENT P, NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI KOREA, ESRI (THAILAND), NGCC, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT

NORTHERN INDIANA PUBLIC SERVICE COMPANY LLC

PROJECT

R.M. SCHAHFER GENERATING STATION
WHEATFIELD, INDIANA

TITLE

SITE LOCATION MAP

CONSULTANT

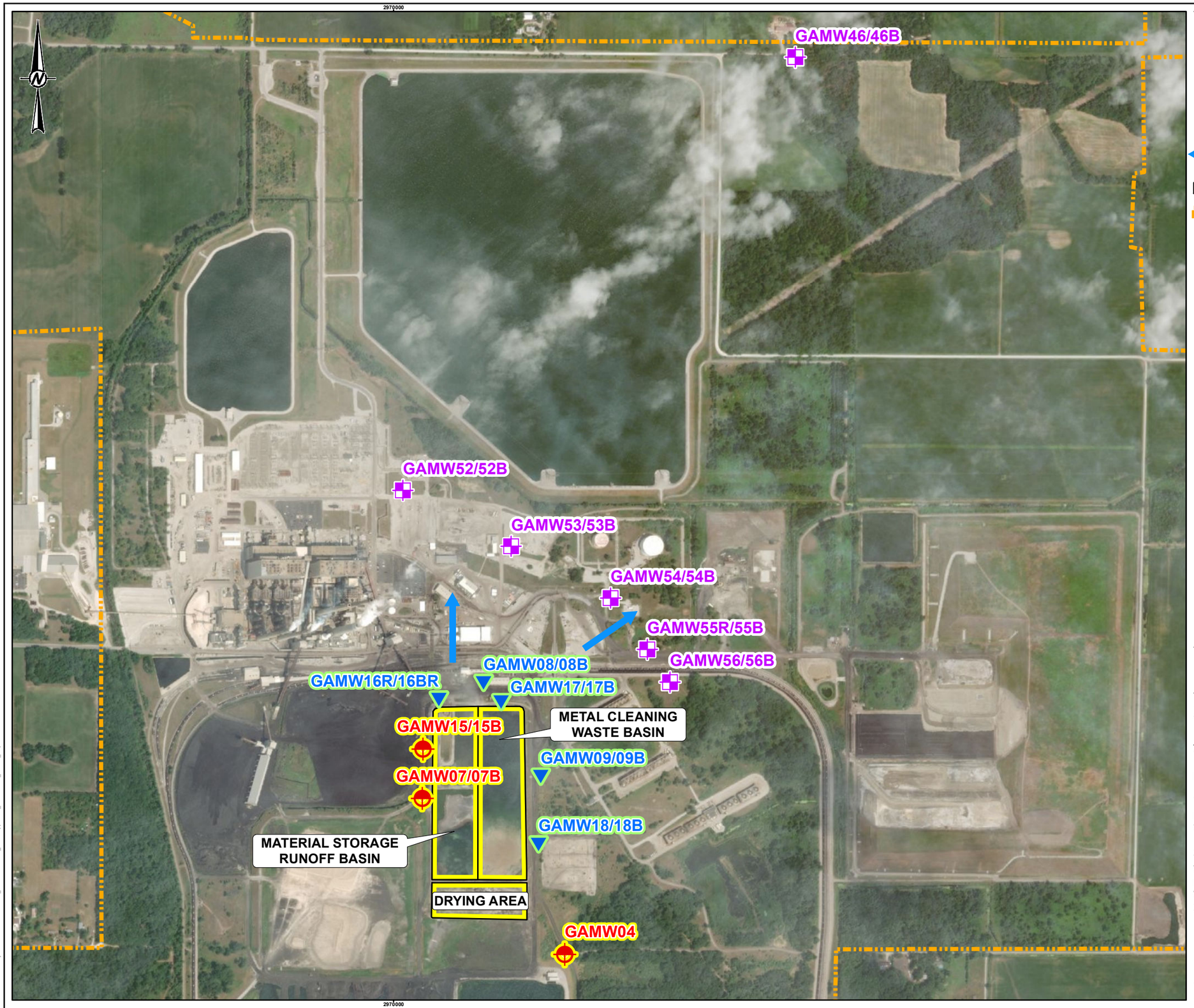
GOLDER
MEMBER OF WSP

YYYY-MM-DD	1/4/2021
DESIGNED	DFS
PREPARED	SHL
REVIEWED	JSP
APPROVED	MAH

PROJECT NO.	CONTROL	REV.	FIGURE
19121567	A	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

PATH: V:\001 GIS Projects\NIPSCO\Schahfer\09_PROJ\19121567_2019Support\40_PROD\0002_Annual_Report\19121567-0002-HS-0001.mxd PRINTED ON: 2019-12-31 AT 12:30:17 PM



LEGEND

- Assessment Monitoring Well
- Background Monitoring Well
- Downgradient Monitoring Well
- Generalized Groundwater Flow Direction
- CCR Units
- Approximate Property Line

0 850 1,700

1 " = 850 feet Feet

NOTE(S)

REFERENCE(S)

1. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

CLIENT

NORTHERN INDIANA PUBLIC SERVICE COMPANY LLC

PROJECT

R.M. SCHAHFER GENERATING STATION
WHEATFIELD, INDIANA

TITLE

WELL LOCATION MAP
MATERIAL STORAGE RUNOFF BASIN, METAL CLEANING WASTE BASIN, AND DRYING AREA

CONSULTANT

GOLDER
MEMBER OF WSP

YYYY-MM-DD	1/8/2021
DESIGNED	DFS
PREPARED	TBH
REVIEWED	DFS
APPROVED	MAH

PROJECT NO.	CONTROL	REV.	FIGURE
19121567	A	0	2

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