NIPSCO LLC R. M. Schahfer Generating Station
Waste Disposal Area Closure Plan - Version #5

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

Submitted to:

Northern Indiana Public Service Company LLC
2755 Raystone Drive
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Submitted by:

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203-68079

October 2020

Certification

Professional Engineer Certification Statement [40 CFR 257.102(b)(4)]

I hereby certify that, having reviewed the attached documentation and being familiar with the provisions of Title 40 of the Code of Federal Regulations Section 257.102 (40 CFR Part 257.102), I attest that this Closure Plan is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of 40 CFR Part 257.102.

Golder Associates Inc.

Signature

October 28, 2020
Date of Report Certification

Richard Wesenberg
Name

PE11500584
Professional Engineer Certification Number

Table of Contents

TABLES

FIGURES

1.0 INTRODUCTION

Northern Indiana Public Service Company LLC (NIPSCO LLC, the owner/operator) maintains and operates the Waste Disposal Area (WDA), an active unlined CCR surface impoundment (the CCR Unit) at its R. M. Schahfer Generating Station, 2723 East 1500 North, Wheatfield, Jasper County, Indiana (RMSGS, Site). See Figure 1 – Site Location Map and Figure 2 – Existing Conditions Plan.

The WDA, located in the southwest area of RMSGS station operations, is formed by an approximately 17-foot high perimeter earth-fill dike with slurry trench core that encloses an area of approximately 80 acres. The WDA receives both CCR (historically bottom ash/boiler slag and sluice water as the predominant CCR influents and, beginning only recently, an FGD stream) and non-CCR waste streams from the generating station. All flow to the WDA is pumped through primarily subsurface lines which daylight and discharge directly into the northern end of the CCR Unit. As determined by bathymetric surveys and overwater drilling programs, most of the deposited ash/slag is in the northern one-third to one-half of the WDA. Due to the size of the unit, percentage of solids to liquids in the influent, location of ash discharge outfalls, and settling/depositional properties of the materials, preliminary studies have shown little ash/slag is present in the southern half of the WDA. Based on these characteristics of the WDA and the potential for future beneficial reuse applications of content CCR, which would remove bottom ash inventory from the impoundment, NIPSCO LLC will pursue a closure by removal from the CCR Unit pursuant to 40 CFR §257.10.This written closure plan, prepared in accordance with the requirements of 40 CFR §257.102(b), describes the steps necessary to close the WDA consistent with recognized and generally accepted good engineering practices.

2.0 CLOSURE PLAN CONTENT [40 CFR §257.102(b)(1)]

This closure plan complies with 40 CFR §257.102(b)(1), which outlines the content required in the written closure plan for CCR units including the information specified in 40 CFR §§257.102(b)(1)(i), (b)(1)(ii), (b)(1)(iv), and (b)(1)(vi) when closing by removal of CCR. The following sections provide a narrative of how the CCR Unit will be closed including procedures, estimated quantities of material management, and schedule of activities and associated durations.

2.1 Narrative Description [40 CFR §257.102(b)(1)(i-ii)]

The WDA will be closed by removing and decontaminating all areas affected by releases from the CCR Unit. For the purposes of this closure plan, removal addresses a) the CCR inventory, and b) affected soils in the perimeter embankments and/or the floor of the impoundment that were in direct contact with the CCR. Removal will be performed during the closure construction activities and certified complete by no later than October 17, 2028.

Decontamination relates to groundwater impacts, if any, above the CCR Unit-specific groundwater protection standards (GWPS). Groundwater decontamination will be achieved and demonstrated following completion of CCR removal activities by one or more of the following: post-closure monitoring, monitored natural attenuation, or other passive (e.g., permeable reactive barrier [PRB]) or active (e.g., groundwater extraction and treatment) methods as deemed appropriate following removal activities and stabilization of the groundwater regime. Post-closure groundwater decontamination and monitoring will be conducted after the 2028 WDA closure certification.

WDA CCR removal and decontamination will be complete when constituent concentrations throughout the CCR Unit and any areas affected by releases from the CCR Unit have been removed and groundwater monitoring concentrations do not exceed the GWPS established pursuant to 40 CFR 257.95(h).

Prior to removal of CCR, discharge of influent waste streams into the WDA will cease and/or be redirected, pipelines will be properly abandoned and associated infrastructure removed as necessary, and the CCR unit will be dewatered by means of gravity discharge and actively pumping surficial and interstitial water downstream (conveyed through the Recycle Basin and Final Settling Basin and ultimately discharged into the Kankakee River) in a manner that maintains National Pollutant Discharge Elimination System (NPDES) permitted effluent limits.

Once the WDA is dewatered and hydraulic structures are abandoned, the remaining CCR and all areas affected by releases from the CCR Unit (i.e., perimeter embankment or underlying soils in direct contact with impoundment CCR contents) will be removed. Anticipated CCR depths were determined by historic Sargent and Lundy drawings and an assessment of CCR depths performed by Golder Associates Inc. (Golder) in summer 2019. Based on the available information, the WDA excavation design extends to a bottom elevation of approximately 663.0' NAD83 as provided in Figure 3 – Proposed CCR Excavation Grades and Figure 5 – WDA Cross Sections. A detailed description and estimated schedule for the dewatering and CCR removal activities are provided in Section 3.

Construction Quality Assurance, including but not limited to, photographic documentation will be conducted in the field during closure construction activities to provide evidence documenting CCR removal. This and related information about construction contractor activities will support the qualified Indiana-licensed professional engineer's certification of closure, to be completed by no later than October 17, 2028. Satisfactory decontamination of any groundwater affected by releases from the CCR Unit will be confirmed when at least two consecutive quarterly groundwater monitoring events demonstrate that groundwater monitoring concentrations do not exceed the GWPS established pursuant to 40 CFR 257.95(h).

2.2 WDA Quantity and Area [40 CFR §257.102(b)(1)(iv,v)]

Golder performed an investigation between July and November 2019 of the relative placement/location and volume of CCR materials in the WDA. Through visual observation of gridded random and supplemental focused core samples, the investigation sampling determined CCR extended to depths that ranged from 0.5 to 20 feet, corresponding to elevations of approximately 653 to 665 (NAVD88) (Golder 2020). In 2017, DLZ Industrial, LLC, on the behalf of NIPSCO LLC, completed a survey mapping the top of CCR deposition topography. The maximum CCR inventory was estimated with AutoCAD Civil 3D by comparing the current surface of the WDA (estimated top of CCR deposition) to the investigation-derived estimated bottom of CCR material surface provided in Figure 3 - Proposed CCR Excavation Grades. Based on this comparison, the estimated maximum documented inventory of CCR in the 80-acre WDA was approximately 1 million cubic yards.

2.3 CCR Removal and Unit Decontamination [40 CFR §257.102(b)(1)(ii)]

Per 40 CFR 257.102(b)(1)(ii), if closure of the WDA will be accomplished through removal of CCR from the CCR Unit, a description of the procedures to remove the CCR and decontaminate the CCR Unit in accordance with this section must be provided in the closure plan. Per 40 CFR §257.102(c), CCR removal and decontamination of the CCR Unit are complete when constituent concentrations throughout the CCR Unit and any areas affected by releases from the CCR unit have been removed, and groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to 40 CFR §257.95(h) for constituents listed in Table 2.1.1. The following description includes the procedures to remove and decontaminate the WDA.

The WDA will be dewatered, its hydraulic structures will be abandoned, and CCR will be removed. It is anticipated that the excavation will extend to elevation 663.0 NAD83. Proposed conceptual excavation limits with approximate elevations are provided in Figures 3 and 5. Photographic documentation will be conducted in the

field during closure to provide evidence documenting CCR removal. Further details on construction methods and timelines are provided in Section 3.2.

Groundwater monitoring will be conducted to document that constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit do not exceed the groundwater protection standards per 40 CFR 257.95(h) for constituents listed in Table 2.1.1. Closure will be complete when two consecutive quarterly groundwater monitoring events demonstrate no exceedances.

3.0 SCHEDULE [40 CFR §257.102(b)(1)(vi)]

3.1 Introduction

NIPSCO LLC will initiate closure of the WDA by providing notification pursuant to 40 CFR §257.102(g) when CCR placement is expected to cease and at least one of the following actions or activities have been completed:

- Steps taken to implement the written closure plan
- Completed application submitted for any required state or agency permit or permit modification
- Necessary steps taken to comply with any state or other agency standards that are a prerequisite, or are otherwise applicable, to initiating or completing the closure of a CCR unit

Closure construction activities are anticipated to commence by September 15, 2025 and expected to be completed within approximately three years of the notification of intent to initiate closure (by August 17, 2028).

3.2 Closure Construction

NIPSCO LLC anticipates the WDA will cease receipt of CCR and non-CCR waste streams by August 31, 2025 and initiation of closure activities will commence no later than 30 days after final receipt waste. The principal components to complete the WDA closure by removal project include permitting/engineering/procurement, dewatering, CCR excavation and soil backfill as further detailed in the following sections.

3.2.1 Permitting/Engineering/Procurement

Prior to the scheduled final cessation of influent discharge into the WDA, NIPSCO LLC will develop construction plans and specifications for the closure by removal project. In accordance with current State of Indiana CCR surface impoundment closure procedures, these plans will be reviewed and approved by the Indiana Department of Environmental Management (IDEM) prior to NIPSCO LLC initiating closure activities. A temporary or modified NPDES permit for dewatering activities may also be required and will be secured by NIPSCO LLC, if necessary. A duration of six months was assumed for the construction plan development, twelve months for IDEM review and approval of construction plans, four months for the NPDES Permit (if necessary), and three months for contractor selection and procurement. Based on its previous experience conducting CCR surface impoundment closures, NIPSCO LLC believes these are reasonable timeframes for this aspect of the WDA closure process.

3.2.2 Dewatering Activities

Following the cessation and/or redirect of all waste streams out of the WDA and in accordance with applicable NPDES permit requirements, NIPSCO LLC will initiate dewatering activities. Phase 1 of the dewatering activities will involve gravity drainage through the existing overflow weir (drop-inlet structure) into the Recycle Basin. Discharge from the Recycle Basin is pumped via eight existing submersible pumps with a total capacity of 30,000 gallons per minute (gpm) and conveyed to the Final Settling Basin. The surficial water volume is conservatively

estimated to be approximately 263 million gallons (MG, water surface elevation of 669.0' NAD83). The maximum flow through the 36-inch diameter overflow pipe from the WDA into the Recycle Basin is approximately 52 cubic feet per second (cfs) or 23,000 gpm. Therefore, it is estimated that with continuous discharge and full-time pumping operations the surficial water could be removed from the WDA within 8-days. However, to allow for a gradual drawdown of the water, accommodate possible pump repair and maintenance needs, account for precipitation during the surficial dewatering period, and realize passive dewatering of the interstitial water within the CCR deposition, a 90-day period for surficial water removal has been applied to the schedule.

Dewatering of interstitial water and ongoing precipitation will commence following completion of the removal of the surficial water and in conjunction with CCR excavation. Given the WDA is surrounded by a slurry wall, negligible inflow from groundwater is expected. It is anticipated that interstitial water will be removed to an elevation of 2-ft below the bottom of excavation providing a relatively dry, stable floor to complete CCR removal and associated closure verification activities. An interstitial water volume of approximately 206MG with an additional 90MG of precipitation (based on average annual precipitation) is expected to be managed and removed during CCR excavation activities. Actual dewatering means and methods will be determined by the contractor including but not limited to well points and/or internal sump and trenching techniques. A conservative dewatering rate of at least two dewatering systems operating at a rate of 400 gpm (800 gpm total) was used to estimate a twelve month duration for interstitial and precipitation dewatering activities.

3.2.3 CCR Excavation

CCR excavation will be accomplished primarily though mechanical means by excavators, low ground pressure (LGP) dozers and off-road haul trucks. Excavated CCR will be transported to the onsite RMSGS IDEM permitted Landfill located approximately 1.5 miles from the WDA. An excavation rate of 5,000 cubic yards per day (CYD/day) was applied to the schedule and is an appropriate excavation rate assuming at least two excavators and dozers and approximately 10 off-road haul trucks. A 30-cubic yard capacity off-road truck equates to approximately 17 round trips per truck per day to the landfill located 1.5-miles from the WDA. Removal of the estimated 1M CYD of CCR at a rate of 5,000 CYD/day and assuming 5-day work weeks, equates to a duration of ten months for CCR excavation. Given all excavation activities occur within the Site, no seasonal downtime was assumed due to local frost laws on public highways. If necessary, additional means and methods may be employed to adjust the schedule and/or duration of excavation activities, such as increased equipment support and increased work-week and/or work-day schedules.

3.2.4 Soil Backfill / Site Stabilization

Once the CCR has been removed from the WDA, soil backfill will be imported from a local borrow source to efficiently shed stormwater from the closed configuration of the WDA as provided in Figure 4 – Backfill Grading Plan. Approximately 1.6M CYD of soil backfill and 70,000 CYD of topsoil will be required. It should be noted that the 1.6M CYD soil backfill volume assumes that all soil will be imported from an off-site borrow source and that un-impacted berm material outside the slurry wall will not be replaced as soil backfill. NIPSCO LLC may, at a later date, determine that the existing berm material (included in the CCR excavation estimate in Section 2.2) is suitable for soil backfill to reduce the off-site soil backfill volume. In addition, advancement of the closure design may yield other suitable closed configurations resulting in a reduction of required import material.

It is reasonable to apply a placement rate of 6,500 CYD/day for soil backfill assuming two excavators at the soil borrow site, 30 – 35 commercial haul trucks and up to three dozers and two compactors placing, grading and compacting the soil backfill in the WDA. Applying the placement rate to 5 working days per week, omitting soil import during the Jasper County frost law period (January 15th – April 15th), and a suitable borrow site located

within a 20-mile radius, equates to a duration of approximately fourteen months for soil backfill. A reduced placement rate of 1,000 CYD/day for topsoil was applied to account for seeding, fertilizing and mulching the topsoil, equating to three months for initial site stabilization. If necessary, additional means and methods may be employed to adjust the schedule and/or duration of backfill activities such as, increased borrow and on-site stockpile prior to periods of frost law restrictions, increased work-week and/or work-day schedules.

Table 3.2 – WDA CCR Removal Schedule Milestones contains a list of milestone dates that were developed as part of the closure construction planning and scheduling to demonstrate that closure will be completed within the self-implementing closure schedule per 40 CFR 257.102(f)(1)(ii).

Table 3.2: WDA CCR Removal Schedule Milestones

Closure Component	Start Date	End Date	Duration (Months)
WDA Final Closure Construction Plans	7/19/2024	1/15/2025	6
WDA Final Closure Review/Approval by IDEM	1/15/2025	1/15/2026	12
WDA NPDES Permit Review/Approval for Dewatering	5/19/2025	9/16/2025	4
Contractor Bidding/Procurement	11/16/2025	2/14/2026	3
Cease Receipt of WDA Waste Streams	**8/31/2025**	**9/1/2025**	0
Notification of Intent to Initiate Closure	9/2/2025	9/3/2025	0
Begin WDA Closure Construction	**9/15/2025**	**9/16/2025**	0
Surficial Dewatering	9/16/2025	12/15/2025	3
Contractor Mobilization	4/15/2026	5/1/2026	1
Interstitial Dewatering	4/24/2026	4/24/2027	12
CCR Excavation	7/18/2026	5/8/2027	10
Soil Backfill Placement and Grading	4/16/2027	6/22/2028	14
Topsoil / Seed / Fertilizer / Mulch	5/10/2028	8/16/2028	3
WDA Closure Construction Complete	**8/16/2028**	**8/17/2028**	0
PE Closure Certification	8/17/2028	9/17/2028	1

4.0 CLOSURE PLAN AMENDMENTS

NIPSCO LLC may amend the closure approach and closure plan details in the future as provided for in 40 CFR §257.102(b)(3). However, under no circumstances will any closure plan revision propose a closure completion date beyond October 17, 2028. A record of amendments to the closure plan will be tracked below. The latest

version of the closure plan will be noted on the front cover of the closure plan which will be included in the Facility operating record and posted to the NIPSCO LLC's publicly accessible internet website.

Table 4.1: WDA Closure Plan Amendment Log

Version	Date	Description of Changes Made
1	October 12, 2016	Initial Issue (Haley & Aldrich, Inc)
2	February 7, 2019	Date of Closure Updated (Haley & Aldrich, Inc)
3	June 12, 2019	Update to Introductory Text (Haley & Aldrich, Inc)
4	October 8, 2020	Update to Closure by Removal, or Hybrid Closure Approach and Schedule Revision (Haley & Aldrich, Inc)
5	October 30, 2020	Revision to Closure by Removal Approach and Development of Detailed Closure Schedule (Golder Associates, Inc)

5.0 REFERENCES

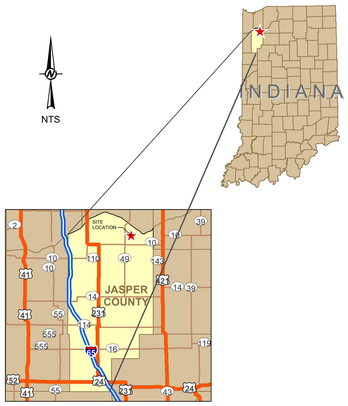
"Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" Title 40 – Protection of the Environment Part 257 – Criteria for Classification of Solid Waste Disposal Facilities and Practices Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments

Golder Associates, R. M. Schahfer Generating Station Ash Pond Assessment Report, Revised June 2020.

Figures

RMSGS FIGURE 01

PROJECT LOCATION MAP



LEGEND

EXISTING SLURRY WALL

NOTES

REFERENCE

1. AERIAL PHOTO COURTESY OF BING IMAGES, 2020 MICROSOFT CORPORATION, 2020 MAXAR, CNES (2020) DISTRIBUTION AIRBUS DS, PHOTO DATE MARCH-MAY 2019.

0 400 800
1" = 400' FEET

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GOLDER
Golder Associates, Inc.
1133 Quail Court, Suite 115, Pewaukee, WI 53072
Phone: +1(262) 347-0561

REV.	W.O.	DESCRIPTION	DATE	APP'D DRAFT	APP'D ENGR.	FILM
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3						
2						
1						

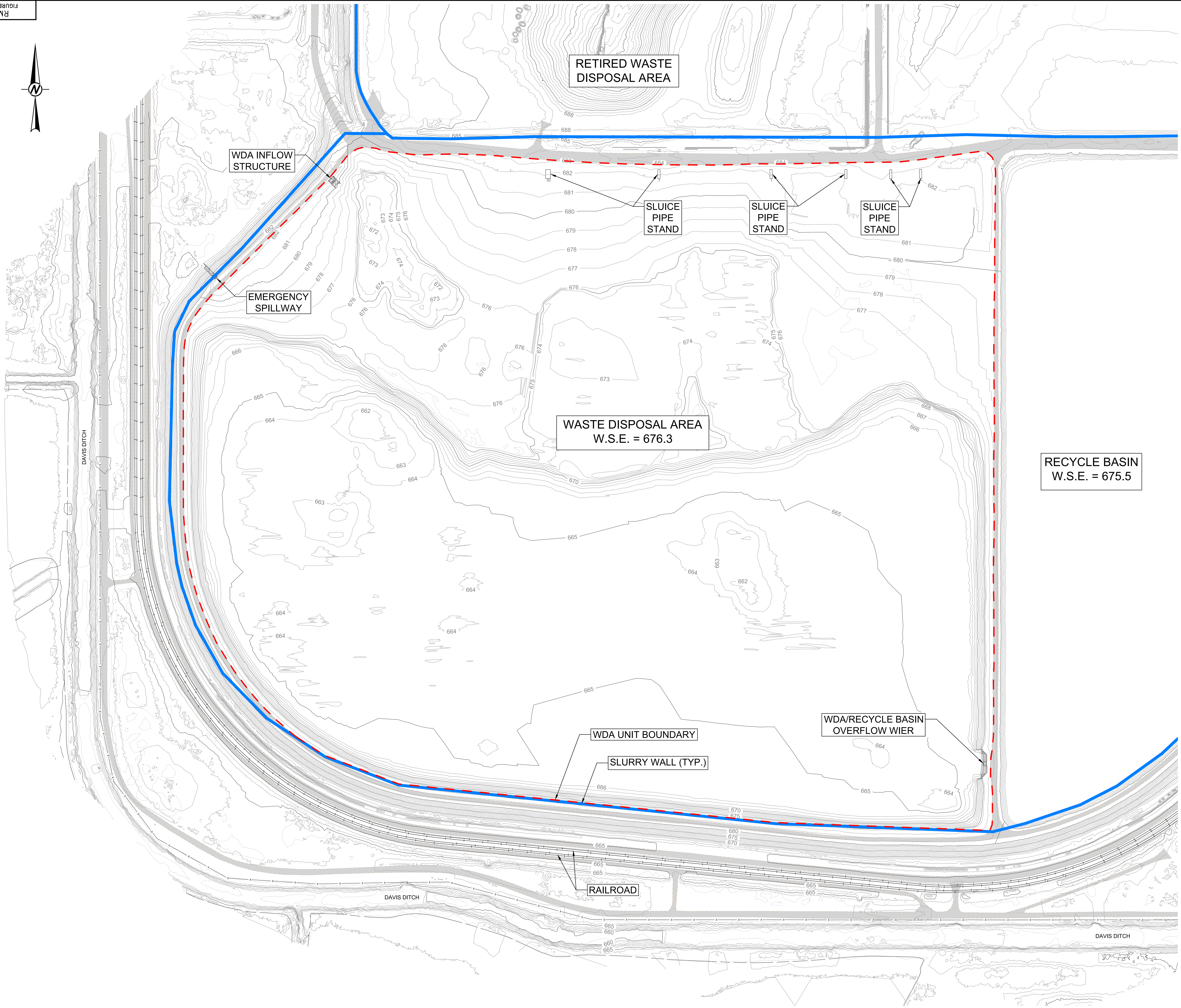
NIPSCO

DRAWN:	SDA
ENGINEER:	JDP
APPROVED:	RAW
DATE:	2020-10-27
SCALE:	AS SHOWN

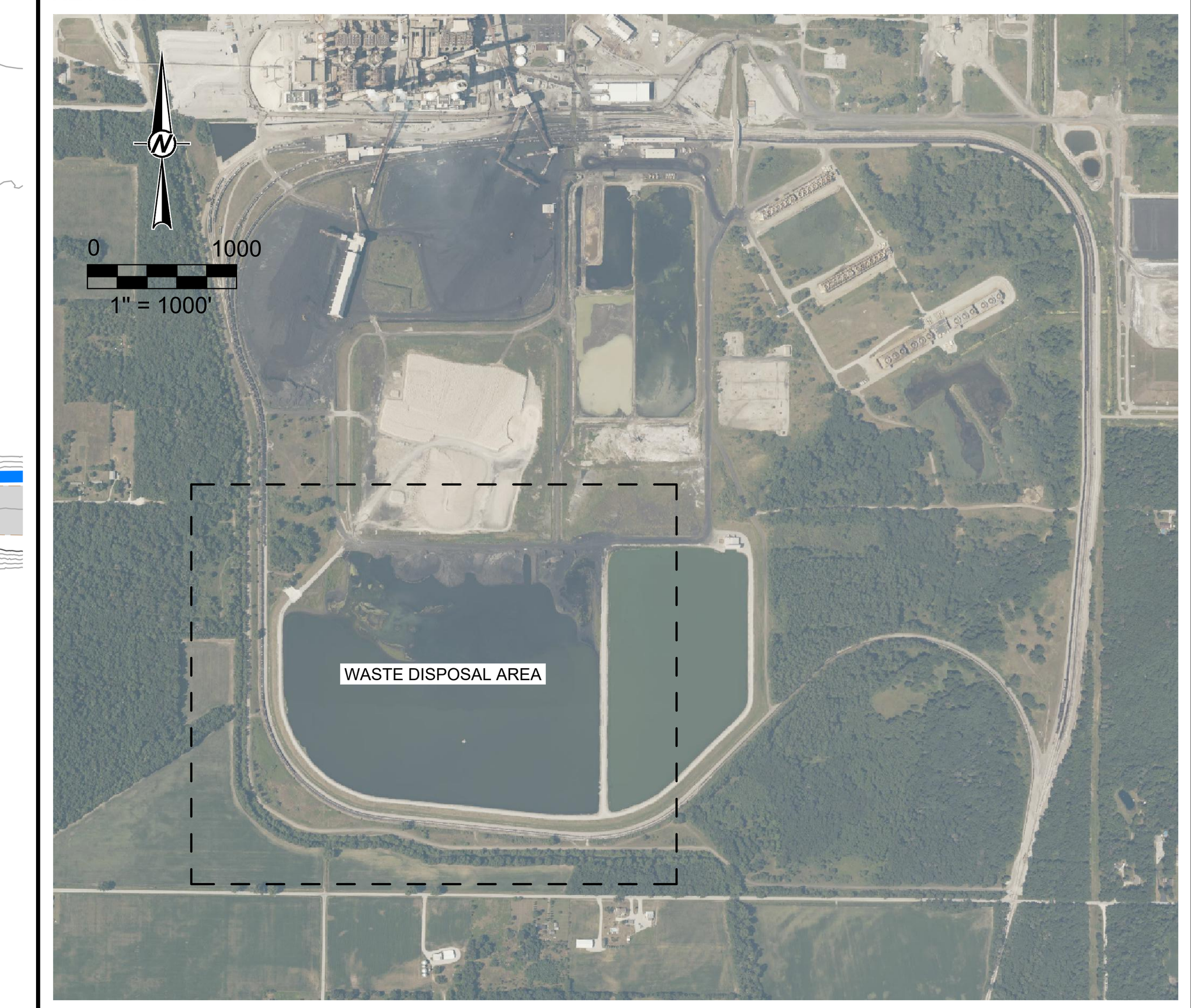
TITLE RM SCHAHFER GENERATING STATION
LOCATION WHEATFIELD, INDIANA
DETAIL SITE LOCATION MAP
WASTE DISPOSAL AREA CLOSURE
W.O./ACCT. NO. 20368079

FIGURE 01 REV. 0

0" 1" 2"



KEY MAP



LEGEND

- EXISTING ACCESS ROAD (GRAVEL)
- EXISTING RAILROAD
- EXISTING SLURRY WALL
- EXISTING WDA UNIT BOUNDARY
- 680 EXISTING GROUND ELEVATION CONTOUR (5ft INTERVAL)
- 679 EXISTING GROUND ELEVATION CONTOUR (1ft INTERVAL)

NOTES

1. ONLY UTILITIES OBSERVED AT THE TIME OF SURVEY WERE RECORDED. ADDITIONAL UTILITIES EXIST IN ADDITION TO THOSE SHOWN HEREON.
2. ADDITIONAL INFORMATION:
   STREET ADDRESS: 2723 E 1500 N,WHEATFIELD, INDIANA 46392
   COUNTY: JASPER
   USGS QUADRANGLE MAP: DUNE ACRES
3. USE CAUTION WHEN WORKING BENEATH OVERHEAD ELECTRICAL TRANSMISSION LINES, IN ACCORDANCE WITH THE OWNER'S REQUIREMENTS. VERIFY ADEQUATE CLEARANCE FOR EQUIPMENT. PRIOR TO PERFORMING WORK, SELECT EQUIPMENT AND CONDUCT OPERATIONS TO MAINTAIN ADEQUATE CLEARANCE BENEATH ELECTRICAL CONDUCTORS.

REFERENCES

1. EXISTING TOPOGRAPHIC MAPPING SHOWN WAS DEVELOPED BY DLZ INDUSTRIAL, LLC, 316 TECH DRIVE, BURNS HARBOR, INDIANA 46304, DATED OCTOBER 6, 2017. MAPPING PROVIDED BY WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, INC. CONTAINED WITHIN AUTOCAD DRAWING FILE "8103TO-RMSGS 2017-09-27.DWG" RECEIVED SEPTEMBER 28, 2020.
2. EXISTING TOPOGRAPHIC CONTOURS SHOWN PROVIDED BY WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, INC. BASED ON 3D SURFACE MODEL "EXIST" CONTAINED WITHIN AUTOCAD DRAWING FILE "20190507_WDA PERMIT SET.DWG" RECEIVED OCTOBER 15, 2020.
3. HORIZONTAL SURVEY CONTROL HEREON SHOWS COORDINATE VALUES IN INDIANA COORDINATE SYSTEM OF 1983 (NAD 83, WEST ZONE). UNITS ARE IN US FEET.
4. VERTICAL SURVEY CONTROL BASED ON NAVD88 (NORTH AMERICAN DATUM 1988).

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NIPSCO

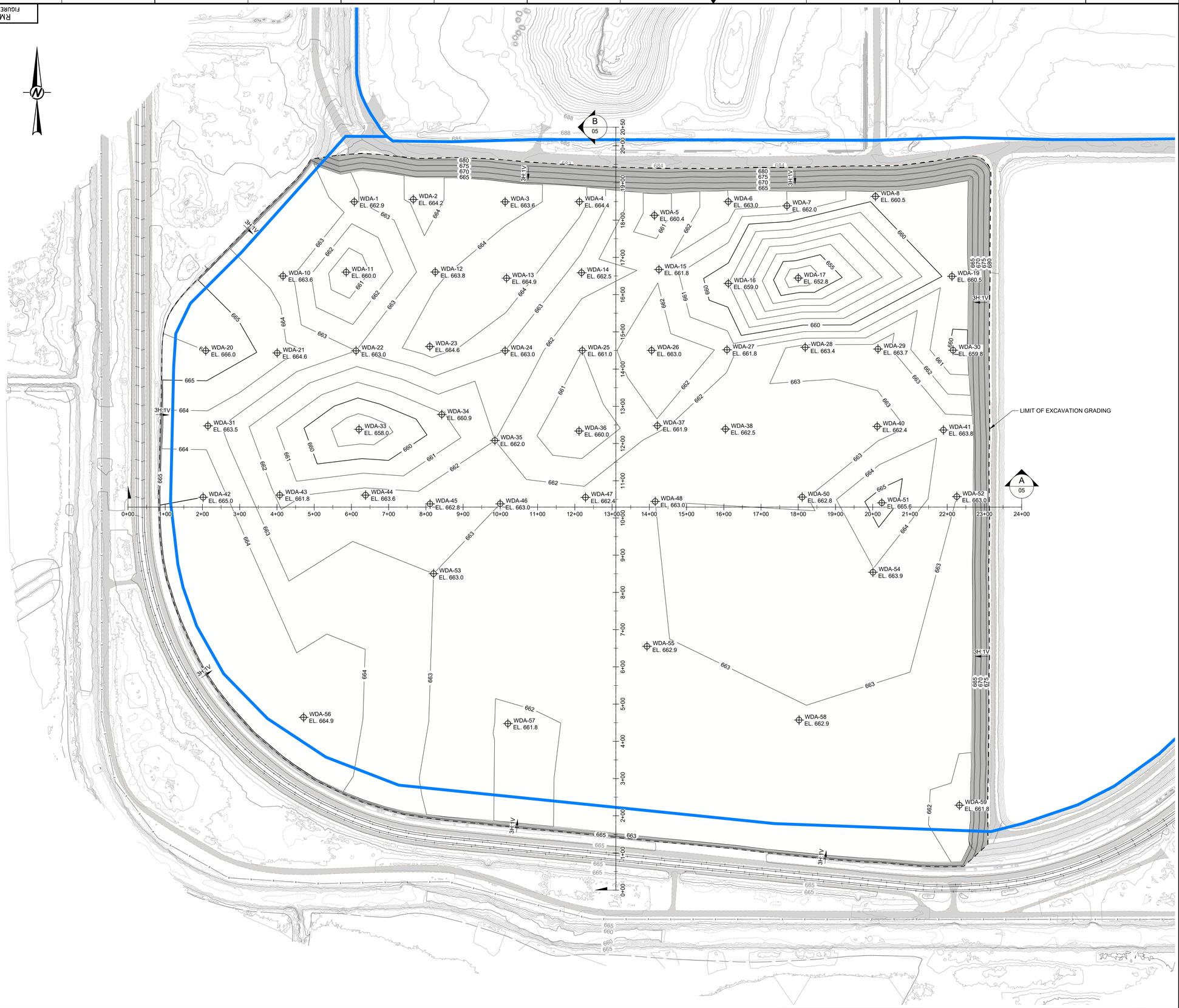
DRAWN:	SDA
ENGINEER:	JDP
APPROVED:	RAW
DATE:	2020-10-27
SCALE:	AS SHOWN

TITLE RM SCHAHFER GENERATING STATION
LOCATION WHEATFIELD, INDIANA
DETAIL EXISTING CONDITIONS PLAN
WASTE DISPOSAL AREA CLOSURE
W.O./ACCT. NO. 20368079

FIGURE 02 REV. 0

RMSGS FIGURE 02

RMSGS
FIGURE 03



KEY MAP

LEGEND

- EXISTING ACCESS ROAD (GRAVEL)
- EXISTING RAILROAD
- EXISTING SLURRY WALL
- 680 — EXISTING GROUND ELEVATION CONTOUR (5ft INTERVAL)
- 679 — EXISTING GROUND ELEVATION CONTOUR (1ft INTERVAL)
- 665 — PROPOSED EXCAVATION CONTOUR (5ft INTERVAL)
- 663 — PROPOSED EXCAVATION CONTOUR (1ft INTERVAL)
- WDA-1 EL. 662.9 — CPT/SPT BORING LOCATION / ID / EXISTING BOTTOM OF CCR ELEVATION

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4. VERTICAL SURVEY CONTROL BASED ON NAVD88 (NORTH AMERICAN DATUM 1988).
5. PROPOSED EXCAVATION TOPOGRAPHY WITHIN THE WDA BASED ON CPT AND SPT BORING LOGS COMPLETED BY GOLDER BETWEEN JULY AND NOVEMBER 2019. LOGS INCLUDED IN GOLDER REPORT "R. M. SCHAHFER GENERATING STATION ASH POND ASSESSMENT REPORT" REVISED JUNE 2020.

CUT DEPTH TABLE

RANGE NUMBER	MAX. DEPTH	MIN. DEPTH	3D AREA (SQ. FT)	2D AREA (ACRES)	VOLUME (CY)
1	-23.8	-15.0	540,607	12.34	62,944
2	-15.0	-10.0	983,618	22.40	196,805
3	-10.0	-5.0	262,076	5.81	302,198
4	-5.0	0.0	1,940,326	44.36	472,198

CUT TOTAL VOLUME ESTIMATE

Base Surface	EG-RMSGS-WDA-ExTopo-2017-10-06
Comparison Surface	DG-RMSGS-WDA-PropExcavation-Concept-1
Cut Factor	1.00
Fill Factor	1.00
Cut volume	1,034,144.85 Cu. Yd.
Fill volume	0.00 Cu. Yd.
Net volume	**1,034,144.85 Cu. Yd.**

0 100 200
1" = 100' FEET

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3						
2						
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NIPSCO

DRAWN:	SDA
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APPROVED:	RAW
DATE:	2020-10-27
SCALE:	AS SHOWN

TITLE RM SCHAHFER GENERATING STATION
LOCATION WHEATFIELD, INDIANA
DETAIL PROPOSED CCR EXCAVATION GRADES
WASTE DISPOSAL AREA CLOSURE
W.O./ACCT. NO. 20368079

FIGURE 03 REV. 0

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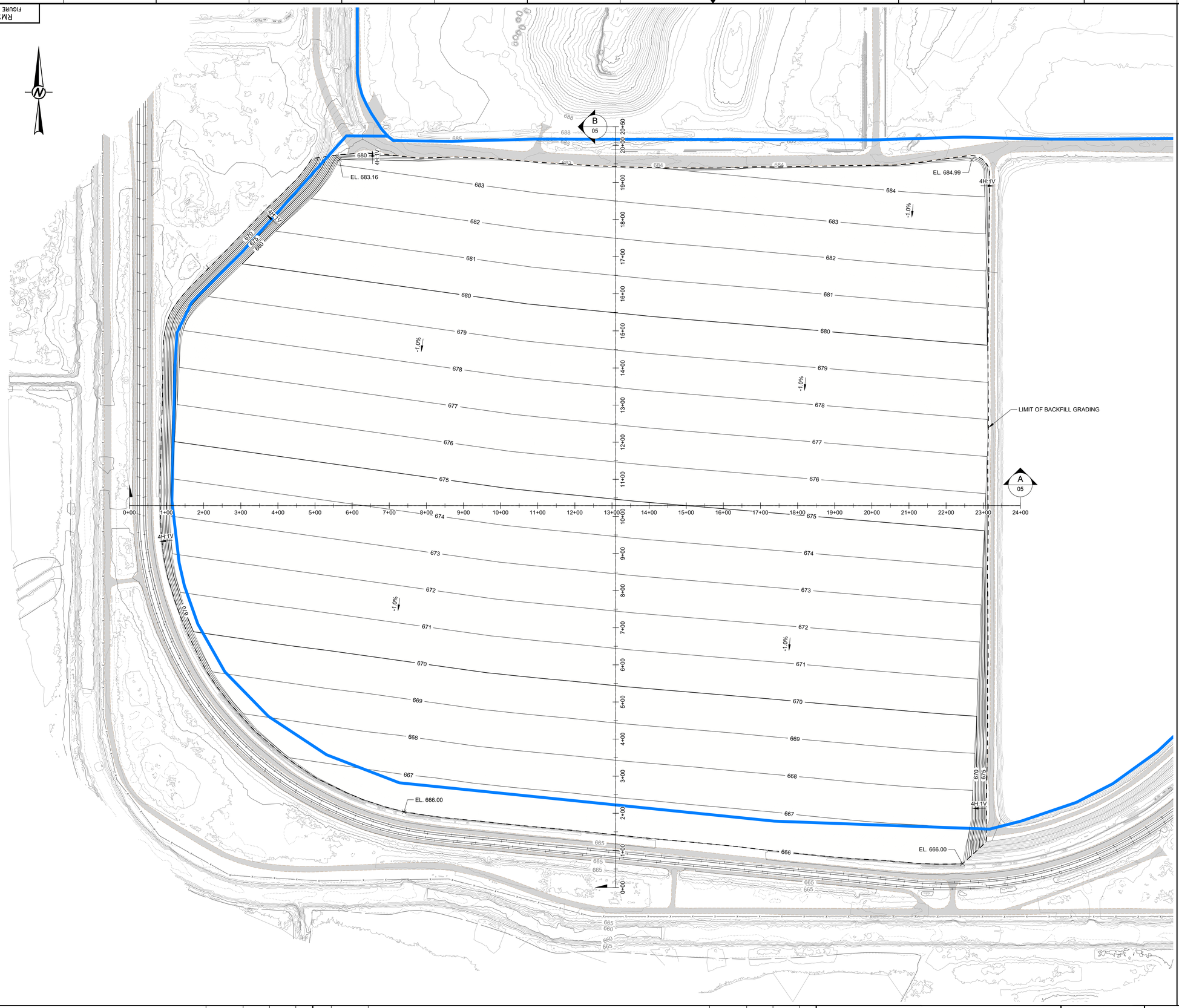
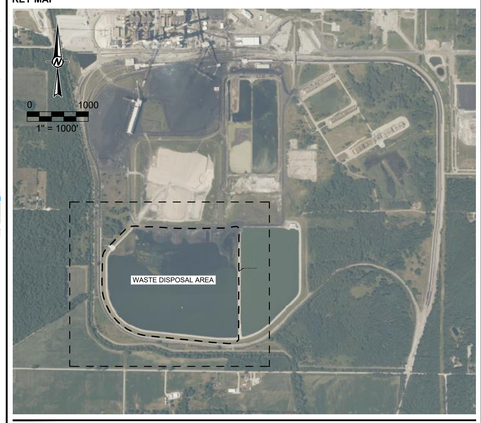
RMSGS
FIGURE 04





LEGEND

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- 679 — PROPOSED BACKFILL FINAL COVER CONTOUR (1ft INTERVAL)

NOTES

1. ONLY UTILITIES OBSERVED AT THE TIME OF SURVEY WERE RECORDED. ADDITIONAL UTILITIES EXIST IN ADDITION TO THOSE SHOWN HEREON.
2. ADDITIONAL INFORMATION:
   STREET ADDRESS: 2723 E 1500 N,WHEATFIELD, INDIANA 46392
   COUNTY: JASPER
   USGS QUADRANGLE MAP: DUNE ACRES
3. USE CAUTION WHEN WORKING BENEATH OVERHEAD ELECTRICAL TRANSMISSION LINES, IN ACCORDANCE WITH THE OWNER'S REQUIREMENTS. VERIFY ADEQUATE CLEARANCE FOR EQUIPMENT. PRIOR TO PERFORMING WORK, SELECT EQUIPMENT AND CONDUCT OPERATIONS TO MAINTAIN ADEQUATE CLEARANCE BENEATH ELECTRICAL CONDUCTORS.

REFERENCES

1. EXISTING TOPOGRAPHIC MAPPING SHOWN WAS DEVELOPED BY DLZ INDUSTRIAL, LLC, 316 TECH DRIVE, BURNS HARBOR, INDIANA 46304, DATED OCTOBER 6, 2017. MAPPING PROVIDED BY WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, INC. CONTAINED WITHIN AUTOCAD DRAWING FILE "8103TO-RMSGS 2017-09-27.DWG" RECEIVED SEPTEMBER 28, 2020.
2. EXISTING TOPOGRAPHIC CONTOURS SHOWN PROVIDED BY WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, INC. BASED ON 3D SURFACE MODEL "EXIST" CONTAINED WITHIN AUTOCAD DRAWING FILE "20190507_WDA PERMIT SET.DWG" RECEIVED OCTOBER 15, 2020.
3. HORIZONTAL SURVEY CONTROL HEREON SHOWS COORDINATE VALUES IN INDIANA COORDINATE SYSTEM OF 1983 (NAD 83, WEST ZONE). UNITS ARE IN US FEET.
4. VERTICAL SURVEY CONTROL BASED ON NAVD88 (NORTH AMERICAN DATUM 1988).

FILL DEPTH TABLE

RANGE NUMBER	MIN. DEPTH	MAX. DEPTH	3D AREA (SQ. FT)	2D AREA (ACRES)	VOLUME (CY)
1	0.0	5.0	442,232	10.01	683,874
2	5.0	10.0	1,199,149	27.45	512,939
3	10.0	15.0	937,250	21.45	311,937
4	15.0	28.6	1,238,608	28.37	157,998

FILL TOTAL VOLUME ESTIMATE

Base Surface	DG-RMSGS-WDA-PropExcavation-Concept-1
Comparison Surface	DG-RMSGS-WDA-PropFinalCover-Concept-1
Cut Factor	1.00
Fill Factor	1.00
Cut volume	0.00 Cu. Yd.
Fill volume	1,666,748.44.88 Cu. Yd.
Net volume	**1,666,748.44 Cu. Yd.<Fill>**

0 100 200
1" = 100' FEET

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REV.	W.O.	DESCRIPTION	DATE	APP'D DRAFT	APP'D ENGR.	FILM
4						
3						
2						
1						

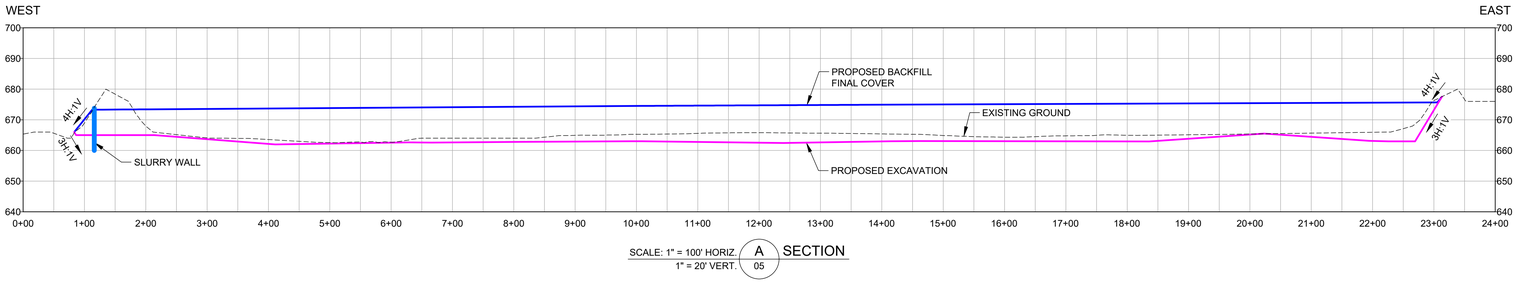
NIPSCO

DRAWN:	SDA
ENGINEER:	JDP
APPROVED:	RAW
DATE:	2020-10-27
SCALE:	AS SHOWN

TITLE RM SCHAHFER GENERATING STATION
LOCATION WHEATFIELD, INDIANA
DETAIL PROPOSED BACKFILL GRADES
WASTE DISPOSAL AREA CLOSURE
W.O./ACCT. NO. 20368079

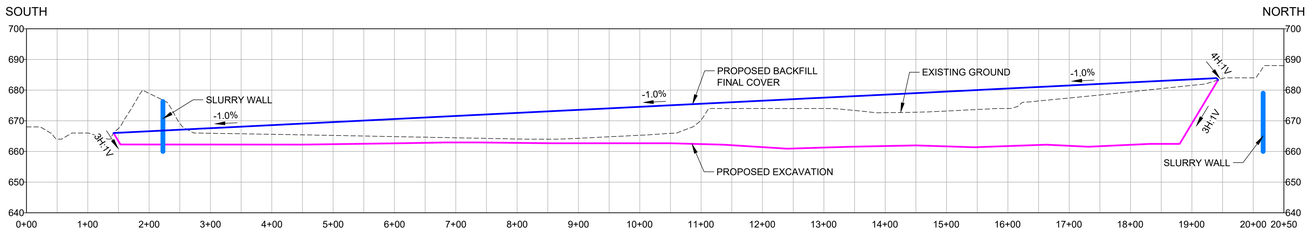
FIGURE 04 REV. 0

RMSGS FIGURE 05



SCALE: 1" = 100' HORIZ.
1" = 20' VERT.

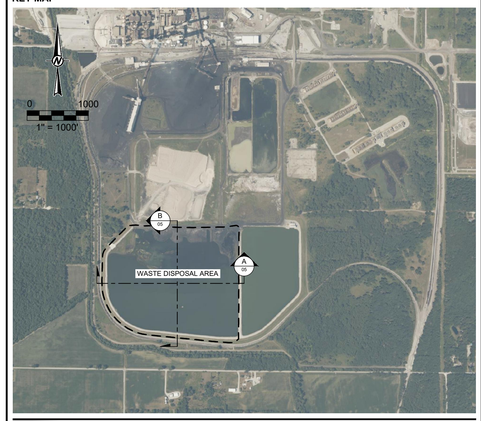
A 05 SECTION



SCALE: 1" = 100' HORIZ.
1" = 20' VERT.

B 05 SECTION

KEY MAP



LEGEND

- EXISTING GROUND (SEPTEMBER 2017 SURVEY)
- EXISTING SLURRY WALL
- PROPOSED EXCAVATION GRADE
- PROPOSED BACKFILL FINAL COVER GRADE

NOTES

REFERENCES

1. EXISTING GROUND SHOWN BASED ON MAPPING DEVELOPED BY DLZ INDUSTRIAL, LLC, 316 TECH DRIVE, BURNS HARBOR, INDIANA 46304, DATED OCTOBER 6, 2017.
2. EXISTING GROUND SHOWN PROVIDED BY WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, INC. BASED ON 3D SURFACE MODEL "EXIST" CONTAINED WITHIN AUTOCAD DRAWING FILE "20190507_WDA PERMIT SET.DWG" RECEIVED OCTOBER 15, 2020.
3. VERTICAL SURVEY CONTROL BASED ON NAVD88 (NORTH AMERICAN DATUM 1988).

0 100 200
1" = 100' HORIZ. FEET

0 20 40
1" = 20' VERT. FEET

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REV.	W.O.	DESCRIPTION	DATE	APP'D DRAFT	APP'D ENGR.	FILM
4						
3						
2						
1						

NIPSCO

DRAWN:	SDA
ENGINEER:	JDP
APPROVED:	RAW
DATE:	2020-10-27
SCALE:	AS SHOWN

TITLE RM SCHAHFER GENERATING STATION
LOCATION WHEATFIELD, INDIANA
DETAIL CROSS SECTIONS
WASTE DISPOSAL AREA CLOSURE
W.O./ACCT. NO. 20368079

FIGURE 05 REV. 0

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RMSGS
FIGURE 06

Oct-23 | Feb-24 | Jun-24 | Oct-24 | Feb-25 | Jun-25 | Oct-25 | Feb-26 | Jun-26 | Oct-26 | Feb-27 | Jun-27 | Sep-27 | Jan-28 | May-28 | Sep-28

WDA Final Closure Construction Plans

WDA Final Closure Review/Approval by IDEM

WDA NPDES Permit Review/Approval for Dewatering

Contractor Bidding/Procurement

9/1/2025
Cease Receipt of WDA Waste Streams

9/3/2025
Notification of Intent to Initiate Closure

9/16/2025
Begin WDA Closure Construction

Surficial Dewatering

Contractor Mobilization

Interstitial Dewatering

CCR Excavation

Soil Backfill Placement

Topsoil / Seed / Fertilizer / Mulch

8/17/2028
WDA Closure Construction Complete

Closure Certification

9/17/2028
PE Closure Certification

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REV.	W.O.	DESCRIPTION	DATE	APP'D DRAFT	APP'D ENGR.	FILM
4						
3						
2						
1						

NIPSCO

DRAWN:	SDA
ENGINEER:	JDP
APPROVED:	RAW
DATE:	2020-10-28
SCALE:	NTS

TITLE RM SCHAHFER GENERATING STATION
LOCATION WHEATFIELD, INDIANA
DETAIL WDA CCR CLOSURE BY REMOVAL SCHEDULE
WASTE DISPOSAL AREA CLOSURE
W.O./ACCT. NO. 20368079

FIGURE 06 | REV. 0

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