HLW Engineering Group
Engineering Management

June 14, 2024

Brian L. Rath, P.E.
Environmental Engineer Senior
IDNR - Land Quality Bureau
6200 Park Avenue, Suite 200
Des Moines, Iowa 50321

RE: SDP PERMIT RENEWAL
CEDAR RAPIDS WPCF ASH SANITARY LANDFILL
IDNR PERMIT NO. 57-SDP-07-85P
HLW PN 3422-21A.110

Dear Mr. Rath:

Enclosed for review and approval is the completed IDNR Form 50 for the Cedar Rapids WPCF Ash Sanitary Landfill and documentation supporting the permit renewal application. The SDP Permit for the Cedar Rapids WPCF Ash Sanitary Landfill expires on October 29, 2024.

Please let me know if you have any questions.

Respectfully Submitted,
HLW Engineering Group

Douglas J. Luzbetak, P.E.
Project Manager

cc: Jason Decker, Environmental and Compliance Program Manager, Cedar Rapids WPCF *(electronic copy)*

CEDAR RAPIDS WPCF ASH MONOFILL

2024 INDUSTRIAL MONOFILL PERMIT RENEWAL

IDNR PERMIT NO. 57-SDP-07-85P

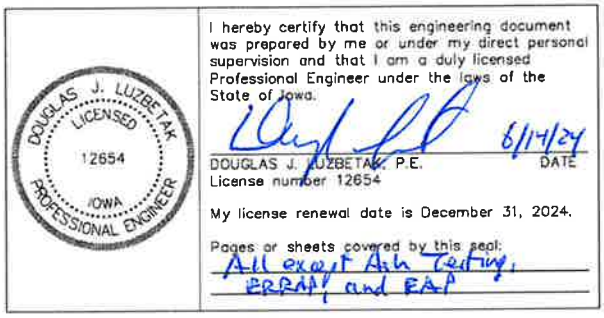
HLW Engineering Group, LLC
204 West Broad Street, PO Box 314
Story City, Iowa 50248
(515) 733-4144

HLW Project Number 3422-21A

2024 INDUSTRIAL MONOFILL PERMIT RENEWAL

CEDAR RAPIDS WPCF ASH MONOFILL

IDNR PERMIT NO. 57-SDP-07-85P



Prepared by
HLW Engineering Group
Consulting Engineers
Story City, Iowa 50248

HLW PN: 3422-21A

EXECUTIVE SUMMARY

Permit Renewal Documentation:

A completed IDNR Industrial Monofill Permit Application Form 50 is included in Appendix A.

Figures and aerial photographs showing the ash disposal areas were included in the 2021 Industrial Monofill Permit Renewal dated June 7, 2021 (Doc #100630) and the Request for Permit Modification dated April 18, 2024 (Doc #109868) and are still applicable.

An Organizational Chart is included in Appendix B.

A detailed description of the disposal process is included in Appendix C.

A list of equipment used during the landfilling process was included in the 2021 Industrial Monofill Permit Renewal dated June 7, 2021 (Doc #100630) and is still applicable.

A contingency plan was included in the 2021 Industrial Monofill Permit Renewal dated June 7, 2021 (Doc #100630) and is still applicable.

Proof of the applicant's ownership of the site was included in the 2015 Permit Renewal Application dated February 25, 2015 (Doc #82547). This documentation is still applicable.

An updated Hydrologic Monitoring System Plan (HMSP) was included in the Request for Permit Modification dated April 18, 2024 (Doc #109868) that was approved by IDNR in SDP Permit Revision #2 dated May 17, 2024.

Updated design and operational plans and specifications for the facility are included in Appendix D.

Discussion regarding the previously approved Closure/Postclosure Plan, including financial assurance requirements, is included in Appendix E.

An explosive gas control plan is not required in accordance with the variance granted by the IDNR on May 5, 1995 (Doc #33539).

The Emergency Response and Remedial Action Plan is included in Appendix F.

Summary of each Special Provision of the existing SDP Permit:

1. No changes.
2.
    a. No changes.
    b. No changes.
    c. The TCLP metals testing required by this provision is included in Attachment 1 to this Executive Summary. Note that the report in Attachment 1 also contains testing results for a sample collected at another City facility. The TCLP results from the ash sampling on March 13, 2024 are on Page 9; however, the entire laboratory report has

been provided for transparency. The testing documents that the TCLP metals in the ash are below regulatory levels.

d. No changes.
e. The Emergency Response and Remedial Action Plan (ERRAP) is included in Appendix F.
f. No changes.
g. No changes.
h. No changes.
i. No changes.
j. No changes.

3. No changes.
4. No changes.
5. No changes.
6. No changes.
7. No changes.

Summary of each Permit Amendment:

No amendments have been issued during this permit period as IDNR has issued Permit Revisions to replace permit amendments. The following Permit revisions have been issued:

Permit Revision #1 (04/20/22): Approved the reduction of the frequency of groundwater measurements from quarterly to semiannually.

Permit Revision #2: (05/17/24): Approved the Request for Permit Modification dated April 18, 2024 (Doc #109868) for construction of the North 2 Lagoon and removal of the South Disposal Area. Also approved revisions to the HMSP associated with these projects.

Summary of new Permit Amendment Requests:

None at this time.

Summary of Equivalency Review Requests:

None at this time.

Summary of new Variance Requests:

None at this time.

ATTACHMENT 1

TCLP Metals Analysis

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Jason Decker
Cedar Rapids Water
City of Cedar Rapids-Finance
PO BOX 2148
Cedar Rapids, Iowa 52406

Generated 3/22/2024 5:16:33 PM

JOB DESCRIPTION

Beneficial Use

JOB NUMBER

310-276671-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

myEO

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

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3/22/2024 5:16:33 PM

Authorized for release by
Emily Mathews, Project Management Assistant I
Emily.Mathews@et.eurofinsus.com
(319)277-2401

Table of Contents

Job Narrative
310-276671-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 3/13/2024 3:10 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 11.9°C.

HPLC/IC
Method 9056A_ORGFM_28D - SPLP: 1212 - General Chemistry

	Initial pH	Final pH
276671-1	11.10	11.59
276671-2	9.56	9.61

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
Method 6010D - TCLP: WPC North Ash Lagoon (310-276671-2); Initial pH: 9.56; Final pH: 5.58

Method 6010D - TCLP: J Ave Well Field Lime Sludge (310-276671-1); Initial pH: 11.10; Final pH: 6.36

Method 6010D - TCLP: The following sample(s) was diluted due to the presence of an interferent. J Ave Well Field Lime Sludge (310-276671-1). Elevated reporting limits (RLs) are provided.

Method 7470A - TCLP: WPC North Ash Lagoon (310-276671-2); Initial pH: 9.56; Final pH: 5.58

Method 7470A - TCLP: J Ave Well Field Lime Sludge (310-276671-1); Initial pH: 11.10; Final pH: 6.36

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
Method 9040C: Sample J Ave Well Field Lime Sludge (310-276671-1) was above the top standard for pH.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Cedar Rapids Water
Project/Site: Beneficial Use

Job ID: 310-276671-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-276671-1	J Ave Well Field Lime Sludge	Solid	03/13/24 10:15	03/13/24 15:10
310-276671-2	WPC North Ash Lagoon	Solid	03/13/24 09:45	03/13/24 15:10

Detection Summary

Client: Cedar Rapids Water
Project/Site: Beneficial Use

Job ID: 310-276671-1

Client Sample ID: J Ave Well Field Lime Sludge — Lab Sample ID: 310-276671-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.114	J	0.200	0.0750	mg/L	1		9056A	SPLP
Barium	0.723		0.600	0.120	mg/L	3		6010D	TCLP
Chromium	0.0239	J	0.0600	0.0180	mg/L	3		6010D	TCLP
Arsenic	2.75		1.83	0.768	mg/Kg	5		6020B	Total/NA
Barium	292		1.83	0.914	mg/Kg	5		6020B	Total/NA
Chromium	4.47		2.74	1.19	mg/Kg	5		6020B	Total/NA
Cobalt	0.827	J	0.914	0.329	mg/Kg	5		6020B	Total/NA
Copper	1.51	J	2.74	1.12	mg/Kg	5		6020B	Total/NA
Lithium	1.31	J	4.57	1.24	mg/Kg	5		6020B	Total/NA
Manganese	1510		4.57	2.38	mg/Kg	5		6020B	Total/NA
Nickel	3.47		2.74	1.24	mg/Kg	5		6020B	Total/NA
Vanadium	3.83		2.74	0.677	mg/Kg	5		6020B	Total/NA
Zinc	24.3		9.14	4.76	mg/Kg	5		6020B	Total/NA
pH	13.0	HF	1.00	1.00	SU	1		9040C	Total/NA

Client Sample ID: WPC North Ash Lagoon — Lab Sample ID: 310-276671-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.247		0.200	0.0750	mg/L	1		9056A	SPLP
Barium	0.477		0.200	0.0400	mg/L	1		6010D	TCLP
Antimony	2.60		1.96	0.843	mg/Kg	5		6020B	Total/NA
Arsenic	2.98		1.96	0.823	mg/Kg	5		6020B	Total/NA
Barium	1080		7.84	3.92	mg/Kg	20		6020B	Total/NA
Cadmium	1.36		0.980	0.372	mg/Kg	5		6020B	Total/NA
Chromium	80.3		2.94	1.27	mg/Kg	5		6020B	Total/NA
Cobalt	60.4		0.980	0.353	mg/Kg	5		6020B	Total/NA
Copper	477		2.94	1.20	mg/Kg	5		6020B	Total/NA
Lead	96.7		4.90	1.53	mg/Kg	5		6020B	Total/NA
Lithium	3.27	J	4.90	1.33	mg/Kg	5		6020B	Total/NA
Manganese	486		4.90	2.55	mg/Kg	5		6020B	Total/NA
Molybdenum	23.6		1.96	0.961	mg/Kg	5		6020B	Total/NA
Nickel	135		2.94	1.33	mg/Kg	5		6020B	Total/NA
Selenium	8.71		2.94	1.25	mg/Kg	5		6020B	Total/NA
Silver	3.60		0.980	0.569	mg/Kg	5		6020B	Total/NA
Vanadium	29.2		2.94	0.725	mg/Kg	5		6020B	Total/NA
Zinc	1670		39.2	20.4	mg/Kg	20		6020B	Total/NA
pH	9.28	HF	1.00	1.00	SU	1		9040C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: J Ave Well Field Lime Sludge
Date Collected: 03/13/24 10:15
Date Received: 03/13/24 15:10

Lab Sample ID: 310-276671-1
Matrix: Solid

Method: SW846 9056A - Anions, Ion Chromatography - SPLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.114**	**J**	0.200	0.0750	mg/L			03/20/24 11:13	1

Method: SW846 6010D - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0900		0.300	0.0900	mg/L		03/21/24 10:00	03/22/24 10:30	3
Barium	**0.723**		0.600	0.120	mg/L		03/21/24 10:00	03/22/24 10:30	3
Cadmium	<0.0117		0.0600	0.0117	mg/L		03/21/24 10:00	03/22/24 10:30	3
Chromium	**0.0239**	**J**	0.0600	0.0180	mg/L		03/21/24 10:00	03/22/24 10:30	3
Lead	<0.0780		0.300	0.0780	mg/L		03/21/24 10:00	03/22/24 10:30	3
Selenium	<0.0870		0.300	0.0870	mg/L		03/21/24 10:00	03/22/24 10:30	3
Silver	<0.0420		0.150	0.0420	mg/L		03/21/24 10:00	03/22/24 10:30	3

Method: SW846 6020B - Metals (ICP/MS) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400		0.00800	0.00400	mg/L		03/21/24 10:00	03/21/24 18:13	4
Arsenic	<0.00336		0.00800	0.00336	mg/L		03/21/24 10:00	03/21/24 18:13	4
Barium	<0.0120		0.0400	0.0120	mg/L		03/21/24 10:00	03/21/24 18:13	4
Beryllium	<0.00136		0.00400	0.00136	mg/L		03/21/24 10:00	03/21/24 18:13	4
Cadmium	<0.000400		0.00200	0.000400	mg/L		03/21/24 10:00	03/21/24 18:13	4
Chromium	<0.00680		0.0200	0.00680	mg/L		03/21/24 10:00	03/21/24 18:13	4
Copper	<0.00720		0.0200	0.00720	mg/L		03/21/24 10:00	03/21/24 18:13	4
Lead	<0.00128		0.00400	0.00128	mg/L		03/21/24 10:00	03/21/24 18:13	4
Selenium	<0.00664		0.0200	0.00664	mg/L		03/21/24 10:00	03/21/24 18:13	4
Thallium	<0.00104		0.00400	0.00104	mg/L		03/21/24 10:00	03/21/24 18:13	4

Method: SW846 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00150		0.00200	0.00150	mg/L		03/21/24 11:56	03/22/24 12:27	1

Method: SW846 7470A - Mercury (CVAA) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00150		0.00200	0.00150	mg/L		03/21/24 11:59	03/22/24 12:40	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 9040C)	**13.0**	**HF**	1.00	1.00	SU			03/15/24 13:24	1
Percent Moisture (EPA Moisture)	**53.3**		0.1	0.1	%			03/13/24 22:52	1
Percent Solids (EPA Moisture)	**46.7**		0.1	0.1	%			03/13/24 22:52	1

Client Sample ID: J Ave Well Field Lime Sludge

Lab Sample ID: 310-276671-1

Date Collected: 03/13/24 10:15
Matrix: Solid
Date Received: 03/13/24 15:10
Percent Solids: 46.7

Method: SW846 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<15.0		40.1	15.0	mg/Kg	☼		03/14/24 19:51	10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.786		1.83	0.786	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Arsenic	**2.75**		1.83	0.768	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Barium	**292**		1.83	0.914	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Beryllium	<0.366		0.914	0.366	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Boron	<45.7		91.4	45.7	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Cadmium	<0.347		0.914	0.347	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Chromium	**4.47**		2.74	1.19	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Cobalt	**0.827**	**J**	0.914	0.329	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Copper	**1.51**	**J**	2.74	1.12	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Lead	<1.43		4.57	1.43	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Lithium	**1.31**	**J**	4.57	1.24	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Manganese	**1510**		4.57	2.38	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Molybdenum	<0.896		1.83	0.896	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Nickel	**3.47**		2.74	1.24	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Selenium	<1.17		2.74	1.17	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Silver	<0.530		0.914	0.530	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Thallium	<0.421		0.914	0.421	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Vanadium	**3.83**		2.74	0.677	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5
Zinc	**24.3**		9.14	4.76	mg/Kg	☼	03/18/24 10:15	03/18/24 15:48	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0136		0.0332	0.0136	mg/Kg	☼	03/19/24 15:54	03/21/24 11:59	1

Client: Cedar Rapids Water
Project/Site: Beneficial Use

Job ID: 310-276671-1

Client Sample ID: WPC North Ash Lagoon

Date Collected: 03/13/24 09:45
Date Received: 03/13/24 15:10

Lab Sample ID: 310-276671-2

Matrix: Solid

Method: SW846 9056A - Anions, Ion Chromatography - SPLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.247**		0.200	0.0750	mg/L			03/20/24 11:55	1

Method: SW846 6010D - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0300		0.100	0.0300	mg/L		03/21/24 10:00	03/21/24 16:35	1
Barium	**0.477**		0.200	0.0400	mg/L		03/21/24 10:00	03/21/24 16:35	1
Cadmium	<0.00390		0.0200	0.00390	mg/L		03/21/24 10:00	03/21/24 16:35	1
Chromium	<0.00600		0.0200	0.00600	mg/L		03/21/24 10:00	03/21/24 16:35	1
Lead	<0.0260		0.100	0.0260	mg/L		03/21/24 10:00	03/21/24 16:35	1
Selenium	<0.0290		0.100	0.0290	mg/L		03/21/24 10:00	03/21/24 16:35	1
Silver	<0.0140		0.0500	0.0140	mg/L		03/21/24 10:00	03/21/24 16:35	1

Method: SW846 6020B - Metals (ICP/MS) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400		0.00800	0.00400	mg/L		03/21/24 10:00	03/21/24 18:22	4
Arsenic	<0.00336		0.00800	0.00336	mg/L		03/21/24 10:00	03/21/24 18:22	4
Barium	<0.0120		0.0400	0.0120	mg/L		03/21/24 10:00	03/21/24 18:22	4
Beryllium	<0.00136		0.00400	0.00136	mg/L		03/21/24 10:00	03/21/24 18:22	4
Cadmium	<0.000400		0.00200	0.000400	mg/L		03/21/24 10:00	03/21/24 18:22	4
Chromium	<0.00680		0.0200	0.00680	mg/L		03/21/24 10:00	03/21/24 18:22	4
Copper	<0.00720		0.0200	0.00720	mg/L		03/21/24 10:00	03/21/24 18:22	4
Lead	<0.00128		0.00400	0.00128	mg/L		03/21/24 10:00	03/21/24 18:22	4
Selenium	<0.00664		0.0200	0.00664	mg/L		03/21/24 10:00	03/21/24 18:22	4
Thallium	<0.00104		0.00400	0.00104	mg/L		03/21/24 10:00	03/21/24 18:22	4

Method: SW846 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00150		0.00200	0.00150	mg/L		03/21/24 11:49	03/22/24 11:52	1

Method: SW846 7470A - Mercury (CVAA) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00150		0.00200	0.00150	mg/L		03/21/24 11:59	03/22/24 12:45	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 9040C)	**9.28**	**HF**	1.00	1.00	SU			03/15/24 13:25	1
Percent Moisture (EPA Moisture)	**59.2**		0.1	0.1	%			03/13/24 22:52	1
Percent Solids (EPA Moisture)	**40.8**		0.1	0.1	%			03/13/24 22:52	1

Client Sample ID: WPC North Ash Lagoon

Date Collected: 03/13/24 09:45
Date Received: 03/13/24 15:10

Lab Sample ID: 310-276671-2

Matrix: Solid
Percent Solids: 40.8

Method: SW846 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<17.7		47.2	17.7	mg/Kg	☼		03/14/24 20:05	10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**2.60**		1.96	0.843	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Arsenic	**2.98**		1.96	0.823	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Barium	**1080**		7.84	3.92	mg/Kg	☼	03/18/24 10:15	03/19/24 15:52	20
Beryllium	<0.392		0.980	0.392	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Boron	<49.0		98.0	49.0	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Cadmium	**1.36**		0.980	0.372	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Chromium	**80.3**		2.94	1.27	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Cobalt	**60.4**		0.980	0.353	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Copper	**477**		2.94	1.20	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Lead	**96.7**		4.90	1.53	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Lithium	**3.27**	J	4.90	1.33	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Manganese	**486**		4.90	2.55	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Molybdenum	**23.6**		1.96	0.961	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Nickel	**135**		2.94	1.33	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Selenium	**8.71**		2.94	1.25	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Silver	**3.60**		0.980	0.569	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Thallium	<0.451		0.980	0.451	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Vanadium	**29.2**		2.94	0.725	mg/Kg	☼	03/18/24 10:15	03/18/24 15:50	5
Zinc	**1670**		39.2	20.4	mg/Kg	☼	03/18/24 10:15	03/20/24 15:10	20

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0174		0.0425	0.0174	mg/Kg	☼	03/18/24 12:36	03/19/24 10:24	1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-415947/1-A
Matrix: Solid
Analysis Batch: 416111

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<7.35		19.6	7.35	mg/Kg			03/14/24 15:51	10

Lab Sample ID: LCS 310-415947/2-A
Matrix: Solid
Analysis Batch: 416111

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	196	213.5		mg/Kg		109	90 - 110

Lab Sample ID: LB 310-416411/1-A
Matrix: Solid
Analysis Batch: 416578

Client Sample ID: Method Blank
Prep Type: SPLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.0750		0.200	0.0750	mg/L			03/20/24 10:45	1

Lab Sample ID: LCS 310-416411/2-A
Matrix: Solid
Analysis Batch: 416578

Client Sample ID: Lab Control Sample
Prep Type: SPLP

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.00	2.121		mg/L		106	90 - 110

Lab Sample ID: 310-276671-1 MS
Matrix: Solid
Analysis Batch: 416578

Client Sample ID: J Ave Well Field Lime Sludge
Prep Type: SPLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.114	J	1.00	1.149		mg/L		104	80 - 120

Lab Sample ID: 310-276671-1 MSD
Matrix: Solid
Analysis Batch: 416578

Client Sample ID: J Ave Well Field Lime Sludge
Prep Type: SPLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.114	J	1.00	1.130		mg/L		102	80 - 120	2	15

Method: 6010D - Metals (ICP)

Lab Sample ID: LB 310-416402/1-B
Matrix: Solid
Analysis Batch: 416732

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 416496

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0300		0.100	0.0300	mg/L		03/21/24 10:00	03/21/24 17:09	1
Barium	<0.0400		0.200	0.0400	mg/L		03/21/24 10:00	03/21/24 17:09	1
Cadmium	<0.00390		0.0200	0.00390	mg/L		03/21/24 10:00	03/21/24 17:09	1
Chromium	<0.00600		0.0200	0.00600	mg/L		03/21/24 10:00	03/21/24 17:09	1
Lead	<0.0260		0.100	0.0260	mg/L		03/21/24 10:00	03/21/24 17:09	1
Selenium	<0.0290		0.100	0.0290	mg/L		03/21/24 10:00	03/21/24 17:09	1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LB 310-416402/1-B
Matrix: Solid
Analysis Batch: 416732

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 416496

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	<0.0140		0.0500	0.0140	mg/L		03/21/24 10:00	03/21/24 17:09	1

Lab Sample ID: LCS 310-416402/2-B
Matrix: Solid
Analysis Batch: 416732

Client Sample ID: Lab Control Sample
Prep Type: TCLP
Prep Batch: 416496

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	4.00	3.733		mg/L		93	80 - 120
Barium	2.00	1.910		mg/L		95	80 - 120
Cadmium	2.00	1.787		mg/L		89	80 - 120
Chromium	2.00	1.831		mg/L		92	80 - 120
Lead	4.00	3.566		mg/L		89	80 - 120
Selenium	8.00	7.491		mg/L		94	80 - 120
Silver	2.00	1.748		mg/L		87	80 - 120

Lab Sample ID: 310-276671-1 MS
Matrix: Solid
Analysis Batch: 416732

Client Sample ID: J Ave Well Field Lime Sludge
Prep Type: TCLP
Prep Batch: 416496

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	<0.0900		4.00	3.737		mg/L		93	75 - 125
Barium	0.723		2.00	2.659		mg/L		97	75 - 125
Cadmium	<0.0117		2.00	1.740		mg/L		87	75 - 125
Chromium	0.0239	J	2.00	1.813		mg/L		89	75 - 125
Lead	<0.0780		4.00	3.504		mg/L		88	75 - 125
Selenium	<0.0870		8.00	7.471		mg/L		93	75 - 125
Silver	<0.0420		2.00	1.846		mg/L		92	75 - 125

Lab Sample ID: LB 310-416401/1-B
Matrix: Solid
Analysis Batch: 416662

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 416498

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0300		0.100	0.0300	mg/L		03/21/24 10:00	03/21/24 16:13	1
Barium	<0.0400		0.200	0.0400	mg/L		03/21/24 10:00	03/21/24 16:13	1
Cadmium	<0.00390		0.0200	0.00390	mg/L		03/21/24 10:00	03/21/24 16:13	1
Chromium	<0.00600		0.0200	0.00600	mg/L		03/21/24 10:00	03/21/24 16:13	1
Lead	<0.0260		0.100	0.0260	mg/L		03/21/24 10:00	03/21/24 16:13	1
Selenium	<0.0290		0.100	0.0290	mg/L		03/21/24 10:00	03/21/24 16:13	1
Silver	<0.0140		0.0500	0.0140	mg/L		03/21/24 10:00	03/21/24 16:13	1

Lab Sample ID: LCS 310-416401/2-B
Matrix: Solid
Analysis Batch: 416662

Client Sample ID: Lab Control Sample
Prep Type: TCLP
Prep Batch: 416498

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	4.00	3.897		mg/L		97	80 - 120
Barium	2.00	1.938		mg/L		97	80 - 120
Cadmium	2.00	1.828		mg/L		91	80 - 120
Chromium	2.00	1.875		mg/L		94	80 - 120

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 310-416401/2-B
Matrix: Solid
Analysis Batch: 416662

Client Sample ID: Lab Control Sample
Prep Type: TCLP
Prep Batch: 416498

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	4.00	3.647		mg/L		91	80 - 120
Selenium	8.00	7.870		mg/L		98	80 - 120
Silver	2.00	1.832		mg/L		92	80 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-416013/1-A ^5
Matrix: Solid
Analysis Batch: 416292

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 416013

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.388		0.902	0.388	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Arsenic	<0.379		0.902	0.379	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Barium	<0.451		0.902	0.451	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Beryllium	<0.180		0.451	0.180	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Boron	<22.5		45.1	22.5	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Cadmium	<0.171		0.451	0.171	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Chromium	<0.586		1.35	0.586	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Cobalt	<0.162		0.451	0.162	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Copper	<0.550		1.35	0.550	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Lead	<0.703		2.25	0.703	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Lithium	<0.613		2.25	0.613	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Manganese	<1.17		2.25	1.17	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Molybdenum	<0.442		0.902	0.442	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Nickel	<0.613		1.35	0.613	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Selenium	<0.577		1.35	0.577	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Silver	<0.261		0.451	0.261	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Thallium	<0.207		0.451	0.207	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Vanadium	<0.334		1.35	0.334	mg/Kg		03/18/24 10:15	03/18/24 15:14	5
Zinc	<2.34		4.51	2.34	mg/Kg		03/18/24 10:15	03/18/24 15:14	5

Lab Sample ID: LCS 310-416013/2-A ^20
Matrix: Solid
Analysis Batch: 416292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 416013

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	176	164.7	J	mg/Kg		94	80 - 120
Lithium	176	170.7		mg/Kg		97	80 - 120

Lab Sample ID: LB 310-416410/1-B ^4
Matrix: Solid
Analysis Batch: 416699

Client Sample ID: Method Blank
Prep Type: SPLP West
Prep Batch: 416495

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400		0.00800	0.00400	mg/L		03/21/24 10:00	03/21/24 17:59	4
Arsenic	<0.00336		0.00800	0.00336	mg/L		03/21/24 10:00	03/21/24 17:59	4
Barium	<0.0120		0.0400	0.0120	mg/L		03/21/24 10:00	03/21/24 17:59	4
Beryllium	<0.00136		0.00400	0.00136	mg/L		03/21/24 10:00	03/21/24 17:59	4
Cadmium	<0.000400		0.00200	0.000400	mg/L		03/21/24 10:00	03/21/24 17:59	4
Chromium	<0.00680		0.0200	0.00680	mg/L		03/21/24 10:00	03/21/24 17:59	4

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LB 310-416410/1-B ^4
Matrix: Solid
Analysis Batch: 416699

Client Sample ID: Method Blank
Prep Type: SPLP West
Prep Batch: 416495

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	<0.00720		0.0200	0.00720	mg/L		03/21/24 10:00	03/21/24 17:59	4
Lead	<0.00128		0.00400	0.00128	mg/L		03/21/24 10:00	03/21/24 17:59	4
Selenium	<0.00664		0.0200	0.00664	mg/L		03/21/24 10:00	03/21/24 17:59	4
Thallium	<0.00104		0.00400	0.00104	mg/L		03/21/24 10:00	03/21/24 17:59	4

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LB 310-416401/1-C
Matrix: Solid
Analysis Batch: 416777

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 416602

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00150		0.00200	0.00150	mg/L		03/21/24 11:49	03/22/24 11:21	1

Lab Sample ID: LCS 310-416401/2-C
Matrix: Solid
Analysis Batch: 416777

Client Sample ID: Lab Control Sample
Prep Type: TCLP
Prep Batch: 416602

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.0167	0.01759		mg/L		106	80 - 120

Lab Sample ID: LB 310-416402/1-C
Matrix: Solid
Analysis Batch: 416777

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 416604

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00150		0.00200	0.00150	mg/L		03/21/24 11:56	03/22/24 12:23	1

Lab Sample ID: LCS 310-416402/2-C
Matrix: Solid
Analysis Batch: 416777

Client Sample ID: Lab Control Sample
Prep Type: TCLP
Prep Batch: 416604

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.0167	0.01769		mg/L		106	80 - 120

Lab Sample ID: 310-276671-1 MS
Matrix: Solid
Analysis Batch: 416777

Client Sample ID: J Ave Well Field Lime Sludge
Prep Type: TCLP
Prep Batch: 416604

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.00150		0.0167	0.01711		mg/L		103	80 - 120

Lab Sample ID: LB 310-416410/1-C
Matrix: Solid
Analysis Batch: 416777

Client Sample ID: Method Blank
Prep Type: SPLP West
Prep Batch: 416607

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00150		0.00200	0.00150	mg/L		03/21/24 11:59	03/22/24 12:35	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 310-416410/2-C
Matrix: Solid
Analysis Batch: 416777

Client Sample ID: Lab Control Sample
Prep Type: SPLP West
Prep Batch: 416607

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.0167	0.01724		mg/L		103	80 - 120

Lab Sample ID: 310-276671-1 MS
Matrix: Solid
Analysis Batch: 416777

Client Sample ID: J Ave Well Field Lime Sludge
Prep Type: SPLP West
Prep Batch: 416607

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.00150		0.0167	0.01714		mg/L		103	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 310-416241/1-A
Matrix: Solid
Analysis Batch: 416352

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 416241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00653		0.0159	0.00653	mg/Kg		03/18/24 12:36	03/19/24 10:02	1

Lab Sample ID: LCS 310-416241/2-A
Matrix: Solid
Analysis Batch: 416352

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 416241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.136	0.1319		mg/Kg		97	80 - 120

Lab Sample ID: MB 310-416382/1-A
Matrix: Solid
Analysis Batch: 416631

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 416382

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00776		0.0189	0.00776	mg/Kg		03/19/24 15:54	03/21/24 11:27	1

Lab Sample ID: LCS 310-416382/2-A
Matrix: Solid
Analysis Batch: 416631

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 416382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.163	0.1592		mg/Kg		97	80 - 120

Method: 9040C - pH

Lab Sample ID: LCS 310-416090/1
Matrix: Solid
Analysis Batch: 416090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.020		SU		100	98 - 102

HPLC/IC

Leach Batch: 415947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	Soluble	Solid	DI Leach	
310-276671-2	WPC North Ash Lagoon	Soluble	Solid	DI Leach	
MB 310-415947/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 310-415947/2-A	Lab Control Sample	Soluble	Solid	DI Leach	

Analysis Batch: 416111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	Soluble	Solid	9056A	415947
310-276671-2	WPC North Ash Lagoon	Soluble	Solid	9056A	415947
MB 310-415947/1-A	Method Blank	Soluble	Solid	9056A	415947
LCS 310-415947/2-A	Lab Control Sample	Soluble	Solid	9056A	415947

Leach Batch: 416411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	SPLP	Solid	1312	
310-276671-2	WPC North Ash Lagoon	SPLP	Solid	1312	
LB 310-416411/1-A	Method Blank	SPLP	Solid	1312	
LCS 310-416411/2-A	Lab Control Sample	SPLP	Solid	1312	
310-276671-1 MS	J Ave Well Field Lime Sludge	SPLP	Solid	1312	
310-276671-1 MSD	J Ave Well Field Lime Sludge	SPLP	Solid	1312	

Analysis Batch: 416578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	SPLP	Solid	9056A	416411
310-276671-2	WPC North Ash Lagoon	SPLP	Solid	9056A	416411
LB 310-416411/1-A	Method Blank	SPLP	Solid	9056A	416411
LCS 310-416411/2-A	Lab Control Sample	SPLP	Solid	9056A	416411
310-276671-1 MS	J Ave Well Field Lime Sludge	SPLP	Solid	9056A	416411
310-276671-1 MSD	J Ave Well Field Lime Sludge	SPLP	Solid	9056A	416411

Metals

Prep Batch: 416013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	Total/NA	Solid	3050B	
310-276671-2	WPC North Ash Lagoon	Total/NA	Solid	3050B	
MB 310-416013/1-A ^5	Method Blank	Total/NA	Solid	3050B	
LCS 310-416013/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	

Prep Batch: 416241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-2	WPC North Ash Lagoon	Total/NA	Solid	7471B	
MB 310-416241/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 310-416241/2-A	Lab Control Sample	Total/NA	Solid	7471B	

Analysis Batch: 416292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	Total/NA	Solid	6020B	416013
310-276671-2	WPC North Ash Lagoon	Total/NA	Solid	6020B	416013
MB 310-416013/1-A ^5	Method Blank	Total/NA	Solid	6020B	416013
LCS 310-416013/2-A ^20	Lab Control Sample	Total/NA	Solid	6020B	416013

Metals

Analysis Batch: 416352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-2	WPC North Ash Lagoon	Total/NA	Solid	7471B	416241
MB 310-416241/1-A	Method Blank	Total/NA	Solid	7471B	416241
LCS 310-416241/2-A	Lab Control Sample	Total/NA	Solid	7471B	416241

Prep Batch: 416382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	Total/NA	Solid	7471B	
MB 310-416382/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 310-416382/2-A	Lab Control Sample	Total/NA	Solid	7471B	

Leach Batch: 416401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-2	WPC North Ash Lagoon	TCLP	Solid	1311	
LB 310-416401/1-B	Method Blank	TCLP	Solid	1311	
LB 310-416401/1-C	Method Blank	TCLP	Solid	1311	
LCS 310-416401/2-B	Lab Control Sample	TCLP	Solid	1311	
LCS 310-416401/2-C	Lab Control Sample	TCLP	Solid	1311	

Leach Batch: 416402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	TCLP	Solid	1311	
LB 310-416402/1-B	Method Blank	TCLP	Solid	1311	
LB 310-416402/1-C	Method Blank	TCLP	Solid	1311	
LCS 310-416402/2-B	Lab Control Sample	TCLP	Solid	1311	
LCS 310-416402/2-C	Lab Control Sample	TCLP	Solid	1311	
310-276671-1 MS	J Ave Well Field Lime Sludge	TCLP	Solid	1311	

Leach Batch: 416410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	SPLP West	Solid	1312	
310-276671-2	WPC North Ash Lagoon	SPLP West	Solid	1312	
LB 310-416410/1-B ^4	Method Blank	SPLP West	Solid	1312	
LB 310-416410/1-C	Method Blank	SPLP West	Solid	1312	
LCS 310-416410/2-B ^4	Lab Control Sample	SPLP West	Solid	1312	
LCS 310-416410/2-C	Lab Control Sample	SPLP West	Solid	1312	
310-276671-1 MS	J Ave Well Field Lime Sludge	SPLP West	Solid	1312	

Analysis Batch: 416425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-2	WPC North Ash Lagoon	Total/NA	Solid	6020B	416013

Prep Batch: 416495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	SPLP West	Solid	3010A	416410
310-276671-2	WPC North Ash Lagoon	SPLP West	Solid	3010A	416410
LB 310-416410/1-B ^4	Method Blank	SPLP West	Solid	3010A	416410
LCS 310-416410/2-B ^4	Lab Control Sample	SPLP West	Solid	3010A	416410
310-276671-1 MS	J Ave Well Field Lime Sludge	SPLP West	Solid	3010A	416410

Metals

Prep Batch: 416496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	TCLP	Solid	3010A	416402
LB 310-416402/1-B	Method Blank	TCLP	Solid	3010A	416402
LCS 310-416402/2-B	Lab Control Sample	TCLP	Solid	3010A	416402
310-276671-1 MS	J Ave Well Field Lime Sludge	TCLP	Solid	3010A	416402

Prep Batch: 416498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-2	WPC North Ash Lagoon	TCLP	Solid	3010A	416401
LB 310-416401/1-B	Method Blank	TCLP	Solid	3010A	416401
LCS 310-416401/2-B	Lab Control Sample	TCLP	Solid	3010A	416401

Analysis Batch: 416557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-2	WPC North Ash Lagoon	Total/NA	Solid	6020B	416013

Prep Batch: 416602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-2	WPC North Ash Lagoon	TCLP	Solid	7470A	416401
LB 310-416401/1-C	Method Blank	TCLP	Solid	7470A	416401
LCS 310-416401/2-C	Lab Control Sample	TCLP	Solid	7470A	416401

Prep Batch: 416604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	TCLP	Solid	7470A	416402
LB 310-416402/1-C	Method Blank	TCLP	Solid	7470A	416402
LCS 310-416402/2-C	Lab Control Sample	TCLP	Solid	7470A	416402
310-276671-1 MS	J Ave Well Field Lime Sludge	TCLP	Solid	7470A	416402

Prep Batch: 416607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	SPLP West	Solid	7470A	416410
310-276671-2	WPC North Ash Lagoon	SPLP West	Solid	7470A	416410
LB 310-416410/1-C	Method Blank	SPLP West	Solid	7470A	416410
LCS 310-416410/2-C	Lab Control Sample	SPLP West	Solid	7470A	416410
310-276671-1 MS	J Ave Well Field Lime Sludge	SPLP West	Solid	7470A	416410

Analysis Batch: 416631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	Total/NA	Solid	7471B	416382
MB 310-416382/1-A	Method Blank	Total/NA	Solid	7471B	416382
LCS 310-416382/2-A	Lab Control Sample	Total/NA	Solid	7471B	416382

Analysis Batch: 416662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-2	WPC North Ash Lagoon	TCLP	Solid	6010D	416498
LB 310-416401/1-B	Method Blank	TCLP	Solid	6010D	416498
LCS 310-416401/2-B	Lab Control Sample	TCLP	Solid	6010D	416498

Analysis Batch: 416699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	SPLP West	Solid	6020B	416495

Metals (Continued)

Analysis Batch: 416699 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-2	WPC North Ash Lagoon	SPLP West	Solid	6020B	416495
LB 310-416410/1-B ^4	Method Blank	SPLP West	Solid	6020B	416495
LCS 310-416410/2-B ^4	Lab Control Sample	SPLP West	Solid	6020B	416495
310-276671-1 MS	J Ave Well Field Lime Sludge	SPLP West	Solid	6020B	416495

Analysis Batch: 416732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	TCLP	Solid	6010D	416496
LB 310-416402/1-B	Method Blank	TCLP	Solid	6010D	416496
LCS 310-416402/2-B	Lab Control Sample	TCLP	Solid	6010D	416496
310-276671-1 MS	J Ave Well Field Lime Sludge	TCLP	Solid	6010D	416496

Analysis Batch: 416777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	SPLP West	Solid	7470A	416607
310-276671-1	J Ave Well Field Lime Sludge	TCLP	Solid	7470A	416604
310-276671-2	WPC North Ash Lagoon	SPLP West	Solid	7470A	416607
310-276671-2	WPC North Ash Lagoon	TCLP	Solid	7470A	416602
LB 310-416401/1-C	Method Blank	TCLP	Solid	7470A	416602
LB 310-416402/1-C	Method Blank	TCLP	Solid	7470A	416604
LB 310-416410/1-C	Method Blank	SPLP West	Solid	7470A	416607
LCS 310-416401/2-C	Lab Control Sample	TCLP	Solid	7470A	416602
LCS 310-416402/2-C	Lab Control Sample	TCLP	Solid	7470A	416604
LCS 310-416410/2-C	Lab Control Sample	SPLP West	Solid	7470A	416607
310-276671-1 MS	J Ave Well Field Lime Sludge	SPLP West	Solid	7470A	416607
310-276671-1 MS	J Ave Well Field Lime Sludge	TCLP	Solid	7470A	416604

General Chemistry

Analysis Batch: 415920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	Total/NA	Solid	Moisture	
310-276671-2	WPC North Ash Lagoon	Total/NA	Solid	Moisture	

Analysis Batch: 416090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-276671-1	J Ave Well Field Lime Sludge	Total/NA	Solid	9040C	
310-276671-2	WPC North Ash Lagoon	Total/NA	Solid	9040C	
LCS 310-416090/1	Lab Control Sample	Total/NA	Solid	9040C	

Client Sample ID: J Ave Well Field Lime Sludge

Lab Sample ID: 310-276671-1

Date Collected: 03/13/24 10:15
Date Received: 03/13/24 15:10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
SPLP	Leach	1312			416411	HSP8	EET CF	03/19/24 15:45 - 03/20/24 06:30 [1]
SPLP	Analysis	9056A		1	416578	QTZ5	EET CF	03/20/24 11:13
TCLP	Leach	1311			416402	HSP8	EET CF	03/19/24 15:45 - 03/20/24 06:30 [1]
TCLP	Prep	3010A			416496	QTZ5	EET CF	03/21/24 10:00
TCLP	Analysis	6010D		3	416732	ZRI4	EET CF	03/22/24 10:30
SPLP West	Leach	1312			416410	HSP8	EET CF	03/19/24 15:45 - 03/20/24 06:30 [1]
SPLP West	Prep	3010A			416495	QTZ5	EET CF	03/21/24 10:00
SPLP West	Analysis	6020B		4	416699	NFT2	EET CF	03/21/24 18:13
SPLP West	Leach	1312			416410	HSP8	EET CF	03/19/24 15:45 - 03/20/24 06:30 [1]
SPLP West	Prep	7470A			416607	A6US	EET CF	03/21/24 11:59
SPLP West	Analysis	7470A		1	416777	A6US	EET CF	03/22/24 12:40
TCLP	Leach	1311			416402	HSP8	EET CF	03/19/24 15:45 - 03/20/24 06:30 [1]
TCLP	Prep	7470A			416604	A6US	EET CF	03/21/24 11:56
TCLP	Analysis	7470A		1	416777	A6US	EET CF	03/22/24 12:27
Total/NA	Analysis	9040C		1	416090	A3GU	EET CF	03/15/24 13:24
Total/NA	Analysis	Moisture		1	415920	ZJX4	EET CF	03/13/24 22:52

Client Sample ID: J Ave Well Field Lime Sludge

Lab Sample ID: 310-276671-1

Date Collected: 03/13/24 10:15
Date Received: 03/13/24 15:10

Matrix: Solid
Percent Solids: 46.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Soluble	Leach	DI Leach			415947	QTZ5	EET CF	03/14/24 09:17
Soluble	Analysis	9056A		10	416111	QTZ5	EET CF	03/14/24 19:51
Total/NA	Prep	3050B			416013	QTZ5	EET CF	03/18/24 10:15
Total/NA	Analysis	6020B		5	416292	NFT2	EET CF	03/18/24 15:48
Total/NA	Prep	7471B			416382	DHM5	EET CF	03/19/24 15:54
Total/NA	Analysis	7471B		1	416631	A6US	EET CF	03/21/24 11:59

Client Sample ID: WPC North Ash Lagoon

Lab Sample ID: 310-276671-2

Date Collected: 03/13/24 09:45
Date Received: 03/13/24 15:10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
SPLP	Leach	1312			416411	HSP8	EET CF	03/19/24 15:45 - 03/20/24 06:30 [1]
SPLP	Analysis	9056A		1	416578	QTZ5	EET CF	03/20/24 11:55
TCLP	Leach	1311			416401	HSP8	EET CF	03/19/24 15:45 - 03/20/24 06:30 [1]
TCLP	Prep	3010A			416498	QTZ5	EET CF	03/21/24 10:00
TCLP	Analysis	6010D		1	416662	ZRI4	EET CF	03/21/24 16:35
SPLP West	Leach	1312			416410	HSP8	EET CF	03/19/24 15:45 - 03/20/24 06:30 [1]
SPLP West	Prep	3010A			416495	QTZ5	EET CF	03/21/24 10:00
SPLP West	Analysis	6020B		4	416699	NFT2	EET CF	03/21/24 18:22
SPLP West	Leach	1312			416410	HSP8	EET CF	03/19/24 15:45 - 03/20/24 06:30 [1]
SPLP West	Prep	7470A			416607	A6US	EET CF	03/21/24 11:59
SPLP West	Analysis	7470A		1	416777	A6US	EET CF	03/22/24 12:45

Lab Chronicle

Client: Cedar Rapids Water
Project/Site: Beneficial Use

Job ID: 310-276671-1

Client Sample ID: WPC North Ash Lagoon

Lab Sample ID: 310-276671-2

Date Collected: 03/13/24 09:45

Matrix: Solid

Date Received: 03/13/24 15:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
TCLP	Leach	1311			416401	HSP8	EET CF	03/19/24 15:45 - 03/20/24 06:30 [1]
TCLP	Prep	7470A			416602	A6US	EET CF	03/21/24 11:49
TCLP	Analysis	7470A		1	416777	A6US	EET CF	03/22/24 11:52
Total/NA	Analysis	9040C		1	416090	A3GU	EET CF	03/15/24 13:25
Total/NA	Analysis	Moisture		1	415920	ZJX4	EET CF	03/13/24 22:52

Client Sample ID: WPC North Ash Lagoon

Lab Sample ID: 310-276671-2

Date Collected: 03/13/24 09:45

Matrix: Solid

Date Received: 03/13/24 15:10

Percent Solids: 40.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Soluble	Leach	DI Leach			415947	QTZ5	EET CF	03/14/24 09:17
Soluble	Analysis	9056A		10	416111	QTZ5	EET CF	03/14/24 20:05
Total/NA	Prep	3050B			416013	QTZ5	EET CF	03/18/24 10:15
Total/NA	Analysis	6020B		5	416292	NFT2	EET CF	03/18/24 15:50
Total/NA	Prep	3050B			416013	QTZ5	EET CF	03/18/24 10:15
Total/NA	Analysis	6020B		20	416425	NFT2	EET CF	03/19/24 15:52
Total/NA	Prep	3050B			416013	QTZ5	EET CF	03/18/24 10:15
Total/NA	Analysis	6020B		20	416557	NFT2	EET CF	03/20/24 15:10
Total/NA	Prep	7471B			416241	A6US	EET CF	03/18/24 12:36
Total/NA	Analysis	7471B		1	416352	A6US	EET CF	03/19/24 10:24

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: Cedar Rapids Water
Project/Site: Beneficial Use

Job ID: 310-276671-1

Laboratory: Eurofins Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020B	3050B	Solid	Lithium
9040C		Solid	pH
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Cedar Rapids Water
Project/Site: Beneficial Use

Job ID: 310-276671-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6010D	Metals (ICP)	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
7471B	Mercury (CVAA)	SW846	EET CF
9040C	pH	SW846	EET CF
Moisture	Percent Moisture	EPA	EET CF
1311	TCLP Extraction	SW846	EET CF
1312	SPLP Extraction	SW846	EET CF
3010A	Preparation, Total Metals	SW846	EET CF
3050B	Preparation, Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
7471B	Preparation, Mercury	SW846	EET CF
DI Leach	Deionized Water Leaching Procedure	ASTM	EET CF

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

eurofins | Environment Testing America

310-276671 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: City of Cedar Rapids			
City/State: CITY: "		STATE: IA	Project:
Receipt Information			
Date/Time Received:	DATE: 3/13/2024	TIME: 1520	Received By: BS

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☑ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____

Condition of Cooler/Containers			
Sample(s) received in Cooler?	☑ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☑ No	*If yes:* Cooler # ____ of ____
Cooler Custody Seals Present? No	☐ Yes	☑ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐
Sample Custody Seals Present? No	☐ Yes	☑ No	*If yes:* Sample custody seals intact? ☐ Yes ☐
Trip Blank Present?	☐ Yes	☑ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☐ Wet ice ☑ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE

Thermometer ID: T	Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C):	Corrected Temp (°C):

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:	32oz glass jar ←→	
Uncorrected Temp (°C):	11.9	11.9
Corrected Temp (°C):	11.9	11.9

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way

Cedar Falls, IA 50613-6907
phone 319 277 2401 fax 319 277.2425

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Emily Mathews	Site Contact:	Date:	COC No
Cedar Rapids Water	Email emily mathews@et.eurofinsus.com	Lab Contact:	Carrier:	1 of 1 COCs
Jason Decker	Cell			Sampler:
7525 Betram	Analysis Turnaround Time			For Lab Use Only:
Cedar Rapids, IA 52406	☐ CALENDAR DAYS ☒ WORKING DAYS			Walk-in Client:
Project Number: 31002886	Other:			Lab Sampling
Project Name: Beneficial Use	☐ 2 weeks ☒ 1 week ☐ 2 days ☐ 1 day			Job / SDG No
Site				
P O #				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	6020 Total Metals	Total Mercury	6010 TCLP RCRA 8 Metals	6020 SPLP Metals	SPLP Mercury	Fluoride	SPLP Flouride	pH	Moisture	Sample Specific Notes
~~J Ave Centrifuge Lime Sludge~~	~~3~~		G	Solid	2												
J Ave Well Field Lime Sludge	3/13/24	10:15	G	Solid	2			X	X	X	X	X	X	X	X	X	
WPC North Ash Lagoon	3/13/24	09:45	G	Solid	2			X	X	X	X	X	X	X	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No	Cooler Temp (°C) Obs'd _____ Corr'd _____	Therm ID No _____

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
[signature]	City of Cedar Rapids	3/13/24 11:30	[signature]	Eurofins	3/13/24 1510
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time

Form No. CA-C-WI-002, Rev. 4.23, dated 4/16/2019

3/22/2024

Login Sample Receipt Checklist

Client: Cedar Rapids Water

Job Number: 310-276671-1

Login Number: 276671
List Number: 1
Creator: Bennett, Samantha

List Source: Eurofins Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX A

Industrial Monofill Permit Application
DNR Form 50 (542-1609)

IOWA DEPARTMENT OF NATURAL RESOURCES

INDUSTRIAL MONOFILL

PERMIT APPLICATION FORM 50

☐ **New Permit**

☒ **Permit Renewal (permit number)** **57 -SDP- 07 - 85P**

☐ **Closure Permit**

SECTION 1: PERMIT APPLICATION REQUIREMENTS

Owner of site

Name: Cedar Rapids Water Pollution Control Facilities Phone: 319-286-5286

Address: 7525 Bertram Road SE Fax: 800-980-6863

City, State, Zip: Cedar Rapids, IA 52403 E-mail: l.oneil@cedar-rapids.org

Certified Operator Responsible for Operation at Facility

Name: NA as per Variance granted by IDNR April 27, 2005 (Doc #33554) Phone:

Address: Fax:

City, State, Zip: E-mail:

Permit Applicant

Name: Cedar Rapids Water Pollution Control Facilities Phone: 319-286-5286

Address: 7525 Bertram Road SE Fax: 800-980-6863

City, State, Zip: Cedar Rapids, IA 52403 E-mail: l.oneil@cedar-rapids.org

Design Engineer (PE)

Name: Douglas J. Luzbetak Phone: 515-733-4144

Address: 204 W. Broad St., PO Box 314 Fax: 515-733-4146

City, State, Zip: Story City, IA 50248 E-mail: dluzbetak@hlwengineering.com

Iowa Engineer License #: 12654 Expiration Date: 12/31/24

Responsible Official for the Facility

Name: Lauren O'Neil Phone: 319-286-5033

Address: 7525 Bertram Road SE Fax: 800-980-6863

City, State, Zip: Cedar Rapids, IA 52403 E-mail: l.oneil@cedar-rapids.org

Agency and Responsible Official of Agency Served (if any)

Name: Cedar Rapids Water Pollution Control Facilities Phone: 319-286-5286

Address: 7525 Bertram Road SE Fax: 800-982-6863

City, State, Zip: Cedar Rapids, IA 52403 E-mail: l.oneil@cedar-rapids.org

Facility

Name: Cedar Rapids Water Pollution Control Facilities (CRWPCF)

Address: 7525 Bertram Road SE City, State, Zip: Cedar Rapids, IA 52403

Legal Description:

NE 1/4, NE 1/4, Sec. 32, T83N, R6W

Type, source, and expected volume or weight of waste to be handled per day, per week, or year.

Type: The waste is the byproduct resulting from the incineration of sludge from the CRWPCF.

Source: Incinerator ash primary and secondary sludge from the CRWPCF.

Volume: Approximately 2,540 tons per year (average 2021-2023).

SECTION 2: PERMIT APPLICATION SUPPORTING DOCUMENTATION

PLANS AND SPECIFICATIONS

Checking the appropriate boxes below certifies that the documents submitted in conjunction with this application form are complete and in compliance with the applicable chapters of the Iowa Administrative Code. While some of the documents below may have been submitted previously, updated copies of each are required to be provided with each permit renewal application, unless a prior document remains current and is identified by Doc ID#, Section, and Page.

Required Plans and Specifications

☒ Executive Summary

An executive summary shall address the following:

- Summary of modifications, if any, to the approved plans and specifications that occurred during the current permit cycle.
- Summary of each special provision of the current permit to determine if it is to remain the same, be revised or be removed.
- Provide documentation and certification as required for new permit amendment requests, if any.
- Provide documentation and certification as required for new waiver requests from Iowa Administrative Code requirements, if any.

☐ A map or aerial photograph locating boundaries and other environs in accordance with Iowa Administrative Code 567 paragraphs 115.13(3)"a-f".

No Revision Required - See Doc ID#, Section, and Page: 100630, 109868

☒ An organizational chart in accordance with subrule 115.13(5).

No Revision Required - See Doc ID#, Section, and Page: _____

☒ A detailed description of the disposal process to be used in accordance with subrule 115.13(6).

No Revision Required - See Doc ID#, Section, and Page: _____

☐ A table listing the equipment to be used, its design capacities and expected loads in accordance with subrule 115.13(7).

No Revision Required - See Doc ID#, Section, and Page: 100630

☐ A contingency plan detailing specific procedures to be followed in case of equipment breakdown, or fire in equipment or vehicles, including methods to be used to remove or dispose of accumulated waste in accordance with subrule 115.13(8).

No Revision Required - See Doc ID#, Section, and Page: 100630

☐ Proof of the applicant's ownership of the site or legal entitlement to use the site for the disposal of solid waste for the term of the permit for which application is made in accordance with subrule 115.13(9).

No Revision Required - See Doc ID#, Section, and Page: 82547

☐ A hydrogeologic investigation Report and a hydrologic monitoring system plan in accordance with subrules 115.14(455B) through 115.24(455B) and subrules 115.26(3) through 115.26(9).

No Revision Required - See Doc ID#, Section, and Page: 82547,109868

☒ Design and operational plans and specifications for the facility, including quality control and assurance, in accordance with subrules 115.26(1) through 115.26(2); subrules 115.26(11) through 115.26(12); and rules 115.27(455B) through 115.29(455B).

No Revision Required - See Doc ID#, Section, and Page: _____

☐ A closure and postclosure plan in accordance with subrules 115.13(10); 115.26(10); and 115.26(13) through 115.26(14).

No Revision Required - See Doc ID#, Section, and Page: 100630

☐ An explosive gas control plan in accordance with subrule 115.26(15).

No Revision Required - See Doc ID#, Section, and Page: _____

☒ An emergency response and remedial action plan in accordance with rule 115.30(455B).

No Revision Required - See Doc ID#, Section, and Page: _____

If the department finds the permit application information to be incomplete, the department shall notify the applicant of that fact and of the specific deficiencies. If the applicant fails to correct the noted deficiencies within 30 days, the department may reject the application and return the application materials to the applicant. The applicant may reapply without prejudice.

SECTION 3: APPLICANT SIGNATURE

Signature of Permit Applicant: Lauren O'Neil **Date:** 06/14/2024

Printed Name: Lauren O'Neil **Title:** WPC Plant Manager

Applications for sanitary disposal projects must be accompanied by the plans, specifications and additional information required by the applicable solid waste rules under Iowa Administrative Code.

Send completed applications with attached information to the DNR project officer via email or file sharing platform.

For questions concerning this application contact Brian Rath at 515-537-4051, brian.rath@dnr.iowa.gov

APPENDIX B

Organizational Chart

ORGANIZATIONAL CHART

115.13(5) Organizational Chart

Administration of the ash disposal process is as follows:

Applicant Representative:

Lauren O'Neil, WPC Plant Manager
Cedar Rapids Water Pollution Control Facilities
7525 Bertram Road SE
Cedar Rapids, Iowa 52403
Phone: (319)286-5033
FAX: (800)980-6863
l.oneil@cedar-rapids.org

Project Manager:

Justin Schroeder, Utilities Environmental Manager
Cedar Rapids Water Pollution Control Facilities
7525 Bertram Road SE
Cedar Rapids, Iowa 52403
Phone: (319)286-5948
FAX: (800)980-6863
j.schroeder@cedar-rapids.org

Operational Staff:

Other staff from the Cedar Rapids WPCF will be involved with the operation of the ash disposal areas as needed.

APPENDIX C

Disposal Process

DISPOSAL PROCESS

115.13(6) Detailed Description of Disposal Process

The sludge generated by the wastewater treatment process at the Cedar Rapids WPCF is incinerated. The ash resulting from the incineration process is conveyed in slurry form to one of the two ash disposal areas. Each ash disposal area has a liner exceeding EPA Subtitle D requirements and a leachate collection system. Ash in the disposal areas is allowed to dewater – water removed from the ash is conveyed to the Cedar Rapids WPCF for treatment and disposal.

After dewatering, the ash is removed for disposal under Beneficial Use Determination (BUD) Authorization #57-BUD-23-97. The BUD is authorized from January 2, 2023 to January 2, 2027.

Ash conveyance and dewatering is rotated between the two disposal areas as needed to maintain adequate disposal and dewatering capacity on site.

The SDP Permit Revision #2 dated May 17, 2024 authorizes the construction of a new disposal aera (North 2 Lagoon) and removal of one of the existing disposal areas (South Disposal Area). The disposal process will remain unchanged.

APPENDIX D

Design and Operational Plans and Specifications

DESIGN AND OPERATIONAL PLANS AND SPECIFICATIONS

115.26(1) Plan Requirements

a. Aerial photos and figures showing the facility were included in the 2021 Industrial Monofill Permit Renewal dated June 7, 2021 (Doc #100630) and they Request for Permit Modification dated April 18, 2024 (Doc #109868) and are still applicable.

b. Aerial photos and figures showing the facility were included in the 2021 Industrial Monofill Permit Renewal dated June 7, 2021 (Doc #100630) and the Request for Permit Modification dated April 18, 2024 (Doc #109868) and are still applicable.

c. Detailed engineering drawings have been submitted in conjunction with past lining and development projects. Plans and specifications for the development of the south disposal area were included in the Project Manual for the 2011 Ash Lagoon Liner dated April 6, 2011 (Doc #64507). Record drawings for the south disposal area were included in the Quality Control and Assurance (QC&A) Report for the Ash Lagoon Liner dated December 16, 2011 (Doc #67950). Plans and specifications for the development of the north disposal area were included in the Project Manual for the Water Pollution Control Facility North Ash Lagoon Liner dated June 9, 2015 (Doc #84055). Record drawings for the north disposal area were included in the QC&A Report for the North Ash Lagoon Liner dated October 13, 2016 (Doc #87418).

   Detailed engineering drawings for the proposed North 2 Lagoon expansion area were submitted to IDNR on April 30, 2024 (Doc #109947). The construction of the North 2 Lagoon was authorized by IDNR in SDP Permit Revision #2 dated May 17, 2024.

d. Liner Systems

   (1) Not applicable – the monofill is not a municipal solid waste landfill.

   (2) The south disposal area and the north disposal area have been constructed with liner systems exceeding the requirements in this section. The liners consist of a Subtitle D compliant composite liner with an additional 60 mil HDPE Flexible Membrane Liner (FML) over the top of the composite liner. Future disposal areas will be constructed with the same type of liner system.

e. Not applicable – liner systems exceed Subtitle D requirements.

f. The berms for each disposal area have been constructed with stable slopes and the exteriors of the berms have been vegetated. If needed, additional drainage and diversion structures will be designed to handle a 25-year, 24-hour rainfall event.

g. Leachate collection has been installed in the north and south disposal areas. Note each disposal area has a dedicated leachate collection system. Future disposal areas will be constructed with leachate collection systems as well. The leachate collection systems have been designed and constructed to function for the entire active life of the facility and the postclosure period.

(1) Current plans are for the construction of the North 2 Lagoon expansion area in 2024 with abandonment of the South Disposal Area in 2025. The North 2 Lagoon will be constructed with a leachate collection system that will connect to the leachate conveyance system for the existing disposal areas.

(2) The potential for leachate generation from the disposal areas was evaluated during the design of the disposal areas. Leachate generated in the disposal areas is returned to the Cedar Rapids WPCF for treatment and disposal.

(3) Quality assurance and quality control testing was conducted during the installation of the leachate collection system. The installation of the leachate collection system in the south disposal area is documented in the QC&A Report for the Ash Lagoon Liner dated December 16, 2011 (Doc #67950). The installation of the leachate collection system in the north disposal area is documented in the QC&A Report for the North Ash Lagoon Liner dated October 13, 2016 (Doc #87418). A Construction Quality Assurance Plan for the North 2 Lagoon was included in the Request for Permit Modification dated April 18, 2024 (Doc #109868) that was approved by IDNR in SDP Permit Revision #2 dated May 17, 2024.

Leachate head monitoring points in each disposal area are measured on a monthly basis to monitor leachate head on the liner. Existing and future leachate collection piping in the disposal areas will be a minimum of 6 inches in diameter to allow cleaning activities to occur throughout the life of the pipe. Long radius bends and sweeps will be used at alignment changes as necessary to maintain access to the piping. The leachate collection lines are cleaned every 3 years at a minimum.

h. Ash slurry is pumped to the disposal areas for storage and dewatering prior to removal for beneficial reuse. Since the material comes to the disposal areas in a slurry no development or fill progressions are provided for the disposal areas. The maximum depth of material in each disposal area is controlled by an overflow pipe.

i. Due to the nature of the disposal process, no excavating, trenching, or filling is needed for the disposal process.

j. The general development of the monofill was reviewed by the local soil conservation district commissioner. The response from the District Conservationist was provided in the 2015 Permit Renewal Application dated February 25, 2015 (Doc #82547). Areas disturbed during the construction of the disposal areas have been seeded in accordance with Cedar Rapids Metropolitan Area Standard Specifications for Public Improvements. Areas disturbed during the construction of future disposal areas will be seeded in accordance with the same specifications.

k. If use of the disposal areas is stopped in the future, all ash material will be removed and disposed of in accordance with regulations at the time of closure, the dikes and all infrastructure will be removed, and the sites regraded and repurposed for other uses by the Cedar Rapids WPCF.

l. The lined area of the south disposal area is approximately 2.5 acres. The lined area of the north disposal area is approximately 0.8 acres. The lined area of the proposed North 2 Lagoon is approximately 0.8 acres. If use of the disposal areas is stopped in the future, all ash material will be removed and disposed of in accordance with regulations in effect at the time of closure, the dikes and all infrastructure will be removed, and the sites regraded and repurposed for other uses by the Cedar Rapids WPCF.

m.

(1) Both disposal areas have been constructed with a liner system exceeding Subtitle D standards and leachate collection systems to eliminate any predictable movement of significant quantities of leachate from the site. Future disposal areas will be constructed with the same type of liner system.

(2) A groundwater diversion system was installed under the south disposal area to maintain at least 5 feet of separation between the base of the ash and the high groundwater table. Documentation on the groundwater diversion system for the south disposal area is documented in the QC&A Report for the Ash Lagoon Liner dated December 16, 2011 (Doc #67950). Due to the design of the north disposal areas, at least 5 feet of separation is provided between the base of the ash and the high water table without using a groundwater diversion system. Documentation on the groundwater separation for the north disposal area was provided in the HLW letter dated June 10, 2015 (Doc #84054) that was approved by

IDNR in Permit Amendment #1 dated August 12, 2015. Documentation on the groundwater separation for the proposed North 2 Lagoon was included in the Request for Permit Modification dated April 18, 2024 (Doc #109868) that was approved by IDNR in SDP Permit Revision #2 dated May 17, 2024.

(3) The ash disposal areas are protected by the Cedar Rapids WPCF Flood Protection System. Documentation on the WPCF Flood Protection System was included in the 2021 Industrial Monofill Permit Renewal dated June 7, 2021 (Doc #100630) and is still applicable. The Flood Protection System provides protection to the Cedar Rapids WPCF to a level 3 feet above the record flood experienced in Cedar Rapids in 2008.

(4) The "Supplemental Hydrogeologic Report and Hydrologic Monitoring System Plan" contained in the 2015 Permit Renewal Application dated February 25, 2015 (Doc #82547) contains an Inventory of Water Supply Wells starting on page II-18. One well was reported approximately 500 feet north-northeast of the site in the referenced document; however, groundwater flow in this area is from northeast to southwest placing the well upgradient of the site.

(5) As reported in the 2015 Permit Renewal Application (Doc #82547), there are no community water sources within one mile of the site.

(6) The boundaries of the ash disposal areas are greater than 50' from the property line.

(7) There are no habitable residences within 500 feet of the existing or proposed waste boundaries.

n. No violations of 115.26(1)"m" (1), (2), (3), (4), or (5) exist.

o. Ash resulting from the incineration of sewage sludge generated by the wastewater treatment process at the Cedar Rapids WPCF is disposed of in the monofill. TCLP testing of the ash in accordance with the SDP Permit is included in the Executive Summary of this permit renewal documentation.

p. Soil and hydrogeologic information has been previously provided several times, most recently in the 2015 Permit Renewal Application dated February 25, 2015 (Doc #82547). Additional hydrogeologic information was included in the Request for Permit Modification dated April 18, 2024 (Doc #109868).

q. Not applicable.

r. There are no airports used by turbojet aircraft within 10,000 feet of the ash disposal areas or used by piston-type aircraft within 5,000 feet of the ash disposal areas. The ash disposal areas are located over 8 miles from the Eastern Iowa Airport so notification of the FAA is not required.

s. Faults that have been active in Holocene time are not recorded within 200 feet of the disposal areas.

t. An earthquake hazard map published by USGS was included in the 2021 Industrial Monofill Permit Renewal dated June 7, 2021 (Doc #100630) and is still applicable. Based on this documentation, the site is located in the "Lowest Hazard" area for an earthquake as determined by USGS.

u. Based on the hydrologic and geotechnical explorations conducted to date at the facility, no unstable soil conditions, no unstable on-site or local geologic or geomorphic features, and/or no unstable on-site or local human-made features are known to exist on site.

The facility is not located near any documented coal mines and is not located in that portion of Iowa recognized as a karst terrain (Northeast Iowa).

It must be recognized that <u>any</u> sloping soil surface is subject to shallow surface creep behavior. These movements generally occur within the surface zone subject to frost penetration, water seepage near the ground surface, and erosion events. Surface creep behavior is not considered slope failure; however, general slope failure may occur despite reasonable stability measures if excessive creep is experienced.

<u>115.26(2) General Operating Requirements for All Sanitary Landfills</u>

a. Not applicable - ash slurry is conveyed to the disposal areas in underground piping.

b. The Cedar Rapids WPCF and the ash disposal areas are located in a fenced area. Gates are locked and access to the fenced area of the Cedar Rapids WPCF is restricted to those with proper credentials

c. Copies of the permit and documents, engineering plans, and applicable reports are kept on site.

d. Not applicable – the ash disposal areas are a part of the wastewater treatment process at the Cedar Rapids WPCF, as opposed to a solid waste landfill, so signage is not required.

e. Disposal areas have been constructed with a liner system exceeding Subtitle D standards and leachate collection systems to protect groundwater and surface water at the site. Future disposal areas will be constructed with the same type of liner system.

f. Not applicable – ash slurry is conveyed to the disposal areas in underground piping.

g. Not applicable – cover is not required for operation of the ash disposal areas.

h. Not applicable – ash slurry is disposed of in diked, lined enclosures constructed above grade so surface water flow onto or into the disposal areas is not likely.

i. Not applicable – ash material will be removed and disposed of in accordance with regulations in effect at the time of closure, the dikes and all infrastructure will be removed, and the sites regraded and repurposed for other uses by the Cedar Rapids WPCF.

j. The site is inspected by a professional engineer registered in Iowa semi-annually in accordance with the SDP Permit. Written reports documenting the inspections are submitted to the IDNR.

k. The Subtitle D compliant disposal areas were constructed in the footprints of the original ash monofill. Therefore, no sand pockets or seams were encountered during construction of the lined ash disposal areas. The North 2 Lagoon will also be constructed within the footprint of the original ash monofill.

l. Leachate generated in the disposal areas is returned to the Cedar Rapids WPCF for treatment and disposal. Leachate volumes are not measured.

115.26(11) Leachate Control Systems for New Landfills

a. Leachate Collection System

(1) The leachate collection system has been designed to maintain less than a 12 inch depth of leachate on the liner(s). Leachate head measuring piezometers have been installed in each of the Subtitle D Composite Lined ash disposal areas and will be installed in future areas.

(2) The landfill liner in each disposal area was graded toward the leachate collection piping at a 2% minimum slope.

(3) The drainage layer on the base of each disposal area is clean sand at least 12 inches in depth with a hydraulic conductivity of $1x10^{-2}$ cm/sec or

greater. The drainage layer on the sideslopes of each disposal area is a 200 mil geonet geocomposite (200 mil HDPE geonet with an 8 oz/sy nonwoven, needle punched geotextile filter fabric bonded to each side). The extent of each type of drainage layer is included in the QC&A Report for the Ash Lagoon Liner dated December 16, 2011 (Doc #67950) for the south disposal area and in the QC&A Report for the North Ash Lagoon Liner dated October 13, 2016 (Doc #87418) for the north disposal area.

Future disposal areas will be constructed with the same type of liner system.

(4) Leachate collection piping was installed in trenches excavated at least 18 inches into the liner. The thickness of the Subtitle D liner system is maintained beneath the trenches.

(5) Leachate collection piping is installed in clean, highly permeable river rock backfill overlain by a clean sand drainage layer.

(6) The perforated leachate collection pipe is located under the upper flexible membrane liner. The presence of a flexible membrane liner between the ash slurry and the leachate collection pipe and the clean sand drainage layer material and rock bedding will minimize the potential for infiltration of fine-grained materials into the leachate collection pipe. The leachate collection system has been constructed with SDR 11 HDPE piping. HDPE pipe is highly chemical resistant and has strengths capable of handling the anticipated loading from the ash slurry in each disposal area. Minimum 6" diameter piping is used for leachate collection to facilitate future pipe cleaning activities.

(7) The leachate collection system is equipped with valves to allow for the control of leachate flows during site repairs, maintenance, or emergency conditions.

(8) The leachate collection lines are cleaned every 3 years at a minimum. The most recent cleaning of the leachate collection lines was on March 12, 2021. Staff is aware that the lines need to be cleaned in 2024.

b. Leachate generated in the disposal areas is returned to the Cedar Rapids WPCF facility for treatment and disposal. Leachate storage is not required.

c. Leachate generated in the disposal areas is returned to the Cedar Rapids WPCF for treatment and disposal. The Cedar Rapids WPCF conforms to wastewater treatment design standards established by the IDNR.

d. Both ash disposal areas were inspected by IDNR Field Office (FO) #1 prior to use. The south ash disposal area was inspected by IDNR FO #1 on January 31, 2012. The north ash disposal area was inspected by IDNR FO #1 on November 18, 2016. Documentation on the construction of the leachate collection and control system was included in the QC&A Report for the Ash Lagoon Liner dated December 16, 2011 (Doc #67950) for the south disposal area and in the QC&A Report for the North Ash Lagoon Liner dated October 13, 2016 (Doc #87418) for the north disposal area.

   Future disposal areas will be inspected by IDNR Field Office #1 prior to accepting any waste.

115.26(12) Leachate Control Systems for Existing Landfills

Not applicable – both of the ash disposal areas are constructed with liners and leachate collection systems meeting Subtitle D requirements. Future disposal areas will be constructed with the same type of liner system.

115.27 Operating Requirements for All Sanitary Disposal Projects

115.27(1) Open Burning

Open burning is prohibited at the Cedar Rapids WPCF.

115.27(2) Litter

Due to the nature of the waste, no litter is generated by the operation of the ash disposal areas.

115.27(3) Scavenging

Due to the nature of the waste, no materials that would be scavengeable are generated by the operation of the ash disposal areas.

115.27(4) Vectors

The ash material is inert and not a vector attractant.

115.27(5) Equipment

The on-site equipment needed to operate the ash disposal areas are two ash slurry pumps located in the incinerator building at the Cedar Rapids WPCF. No other equipment besides the required valving is needed to operate the ash disposal areas.

115.27(6) Internal Roads

Not applicable – ash slurry is conveyed to the disposal areas in underground piping so internal roads are not needed for waste disposal. However, on an as need basis, dewatered ash is exhumed from the disposal area(s) and transported off site for disposal. The haul route for dewatered ash is east on Bertram Road for approximately 1/4 mile, then north or south on Iowa Highway 13. None of the roads have load limits or other restrictions.

115.27(7) Signage

Not applicable – the ash disposal areas are a part of the wastewater treatment process at the Cedar Rapids WPCF, as opposed to a solid waste landfill, so signage is not required.

115.27(8) Free Liquids

The disposal of waste containing free liquids is allowed at this facility as per the variance granted by the IDNR on May 12, 2011 (Doc #65122).

115.27(9) General Closure Requirements

a. Not applicable - ash slurry is conveyed to the disposal areas in underground piping.

b. The Cedar Rapids WPCF and the ash disposal areas are located in a fenced area. Gates are locked and access to the fenced area of the Cedar Rapids WPCF is restricted to those with proper credentials

c. Copies of the permit and documents, engineering plans, and applicable reports are kept on site.

115.28 Specific Requirements for a Sanitary Landfill Proposing to Accept a Specific Type of Solid Waste

The disposal areas are currently utilized to store and dewater ash slurry resulting from the incineration of the sludge generated by the wastewater treatment process at the Cedar Rapids WPCF. Dewatered ash is currently disposed of under Beneficial Use Determination (BUD) Authorization No. 57-BUD-23-97. TCLP test results of the ash material are submitted in conjunction with the Beneficial Use Determination authorization.

115.29 Operator Certification

Operator certification is not required as per the variance granted by the IDNR on April 27, 2005 (Doc #33554).

APPENDIX E

Closure/Postclosure Plan

CLOSURE AND POSTCLOSURE PLAN

A Closure and Postclosure Plan was included in the 2021 Industrial Monofill Permit Renewal dated June 7, 2021 (Doc #100630) that was approved in the SDP Permit dated October 29, 2021. The approved Closure and Postclosure Plan is still applicable except as noted below:

113.13(3) Written Postclosure Plan

a) The following will be the contact during the postclosure period:

Justin Schroeder, Utilities Environmental Manager
Cedar Rapids Water Pollution Control Facilities
7525 Bertram Road SE
Cedar Rapids, Iowa 52403
Phone: (319)286-5948
FAX: (800)980-6863
j.schroeder@cedar-rapids.org

The IDNR will be notified if the contact person changes prior to or during the postclosure period.

115.26(13) Closure Requirements

j. The 2024 Financial Assurance documentation was submitted to IDNR on April 17, 2024 (Doc #109851). Comments on the 2024 Financial Assurance documentation have not been received to date. The Financial Assurance approval for 2023 is included in Attachment 1 to this section.

ATTACHMENT 1

Financial Assurance Documentation

MARCH 29, 2023

ROY HESEMANN
UTILITIES DIRECTOR
CITY OF CEDAR RAPIDS WATER POLLUTION CONTROL FACILITIES
7525 BERTRAM ROAD SE
CEDAR RAPIDS IA 52403-7111

Re: Cedar Rapids Water Pollution Control Facilities Sanitary Landfill
Permit #57-SDP-07-85P
Approval of Financial Assurance Documents for 2023

Dear Mr. Hesemann:

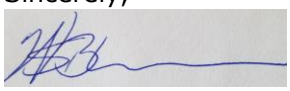
This is notification by the Department of Natural Resources (DNR) that the City of Cedar Rapids (the City) has, for calendar year 2023, adequately complied with the financial assurance requirements of Iowa Administrative Code [567] section 115.31 for the Cedar Rapids Water Pollution Control Facilities Monofill. The City's financial assurance documentation received here February 13, 2023, are in the DNR's record files.

The Local Government Financial Test that the City established on June 30, 2022, sufficiently covers the updated engineer's combined Cost Estimates, $974,600, for Closure/Postclosure for the City's facility. As a result, no additional action is necessary for calendar year 2023.

As a reminder, compliance with IAC 567-115.31 is to be submitted annually, by April 1st, confirming that all applicable financial assurance documents are updated as required.

Please contact me with any questions at (515) 240-6048 or bill.blum@dnr.iowa.gov

Sincerely,



Bill Blum, program planner
Land Quality Bureau

Cc: ▪IDNR Field Office #1, Manchester, IA

▪Jason Decker, City of Cedar Rapids, Water Pollution Control Facilities, 7525 Bertram Road S.E., Cedar Rapids, IA 52403-7111

APPENDIX F

Emergency Response and Remedial Action Plan

EMERGENCY RESPONSE AND REMEDIAL ACTION PLAN

An updated Emergency Response and Remedial Action Plan (ERRAP) is included in Attachment 1 to this Appendix.

An updated Emergency Action Policy for the City of Cedar Rapids WPCF is included in Attachment 2 to this Appendix.

ATTACHMENT 1

Emergency Response and Remedial Action Plan

EMERGENCY RESPONSE & REMEDIAL ACTION PLAN (ERRAP)

ASH MONOFILLS

PERMIT #57-SDP-07-85P

CITY OF CEDAR RAPIDS

WATER POLLUTION CONTROL FACILITIES

May 2024

Emergency Response & Remedial Action Plan (ERRAP)

a. Facility information

City of Cedar Rapids Water Pollution Control Facilities (CRWPCF)
7525 Bertram Rd SE
Cedar Rapids, IA 52403-7111

Permit #57-SDP-07-85P

Facility Description:	CRWPCF is the wastewater treatment facility for Cedar Rapids, Marion, Hiawatha, Robins and portions of Palo. Approximately 90% of sludge generated from treatment operation is incinerated onsite and residual ash is slurried with plant effluent and conveyed to one of two ash lagoons located at CRWPCF. Ash is excavated on an as-needed basis and is used beneficially at Lee Crawford Quarry in Cedar Rapids (IDNR ID #57-BUD-23-97, authorized from January 2, 2023 to January 2, 2027).
Responsible Official:	Lauren O'Neil, CRWPCF Plant Manager Voice: (319)286-5033 Cell: (319)206-3295 Fax: (800)980-6863 E-mail: L.O'neil@cedar-rapids.org
Facility Contact:	Justin Schroeder, Utilities Environmental Manager Voice: (319)286-5948 Cell: (319)450-1856 Fax: (800)980-6863 E-mail: J.schroder@cedar-rapids.org
24-hour Contact:	CRWPCF – Shift Supervisor Voice: (319)286-5280
Project Location:	Section 32, Township T83N, Range 6W, County – Linn
Site Map:	See Emergency Action Plan submitted with the ERRAP.

b. Regulatory Requirements

455B.306(6)(d):	Material stored in onsite lagoons at CRWPCF is inert residual ash remaining after incineration of sewage sludge. Based on current handling practices, (wet slurry) it does not represent a hazard to human health.
Permit:	Special provisions require or state that the permitted service area is limited to sewage sludge incinerator ash generated or stored onsite. There are an extensive number of provisions for

groundwater monitoring that require up-gradient and down-gradient monitoring wells to allow evaluation of groundwater quality which is used in preparation of the Annual Water Quality Report.

c. Emergency Conditions - Response Activities – Remedial Action

(1) Failure of Utilities

Short-term (<48 hours): CRWPCF maintains onsite emergency generator capacity capable of supplying most essential facility needs in the short or long term. Generally, loss of utilities in the short or long term will require the incinerator process to be shut down, thus there would be no ash generated. Any remaining excess ash in the incinerator can still be mixed with water and pumped to the lagoons. Water used to slurry and transport the ash is returned to headworks of the facility by gravity flow.

Long-term (>48 hours): See response for short-term.

(2) Weather-related Events

1. Tornado: Other than the lagoons themselves, all equipment related to ash transport or storage is below grade or buried underground.
2. Windstorms: Other than the lagoons themselves, all equipment related to ash transport or storage is below grade or buried underground.
3. Intense rainstorms and erosion: Flow into the ash lagoons is based only on pumping rate and is not subject to external rainfall or erosion.
4. Lightning strikes: See “Failure of Utilities” response.
5. Flooding: Lagoons are located outside the 100-year flood plain.
6. Event and post-event conditions: Loss of power or other utilities is the most likely outcome from a weather-related event (see “Failure of Utilities” response).

(3) Fire and Explosions

1. Waste materials – Waste (ash) is inert material.
2. Buildings and site – Waste (ash) is inert material.
3. Equipment – Waste (ash) is inert material.
4. Fuels – Gas burners are used in the incinerator process, but there is no possible connection to a fire or explosion hazard due to ash.

5. Utilities – Natural gas is used in the incinerator process, but is not impacted by ash.
6. Facilities – Waste (ash) is inert material.
7. Working area – Waste (ash) is inert material.
8. Hot loads – Waste (ash) is inert material.
9. Waste gases – Waste (ash) is inert material.
10. Evacuation – Unnecessary, waste (ash) is inert material.

(4) Regulated Waste Spills and Releases

1. Waste materials – Sole material stored onsite is ash.
2. Leachate – Leachate is collected and remains onsite.
3. Waste Gases – no methane monitoring or reporting is required (CRWPCF exempted by IDNR letter dated May 5, 1995).
4. Waste stockpiles and storage facilities – Ash is stored in open lagoons.
5. Waste transport systems – Conveyance system is routinely monitored for leaks.
6. Litter and airborne particulates – Ash is handled as wet material.
7. Site drainage systems – Permit requires up-gradient and down-gradient groundwater monitoring wells. Lagoon site drainage is incorporated with gravity return flow.
8. Off-site releases – Minimal potential for ash conveyance leak to discharge offsite.

(5) Hazardous Material Spills and Releases

1. Load check control points – Not applicable, sole material stored onsite is ash.
2. Mixed waste deliveries – Not applicable, sole material stored onsite is ash.
3. Fuels – Natural gas and biogas are fuels used in the incineration process, but there is no connection to a hazardous material spill or release due to ash.
4. Waste gases – No methane monitoring or reporting is required (CRWPCF exempted by IDNR letter dated May 5, 1995).
5. Site drainage systems – Permit requires up-gradient and down-gradient groundwater monitoring wells. Lagoon leachate collection is incorporated with gravity return flow to the plant headworks.
6. Off-site releases – Waste (ash) is inert and is considered non-hazardous material. Ash is analyzed quarterly (as required by Beneficial Use Determination Authorization IDNR ID #57-BUD-23-97) for the following:

Total Metals:	Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, F, Pb, Li, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn;
TCLP Metals:	As, Ba, Cd, Cr, Pb, Hg, Se, Ag;
SPLP Metals:	Sb, As, Ba, Be, Cd, Cr, Cu, F, Pb, Hg, Se, Tl.

(6) Mass Movement of Land and Waste

1. Earthquakes – Ash storage lagoons are generally at grade and would suffer minimal damage from an earthquake.
2. Slope failures – Ash storage lagoons are generally at grade and not susceptible to slope failure.
3. Waste shifts – Material (ash) deposited in the lagoons is very stable and not subject to shifting.
4. Waste subsidence – Material (ash) deposited in the lagoons is very stable and not subject to subsidence.

(7) Emergency and Release Notification and Reporting

1. Federal, State, County and City agencies:

Federal:	
General (non EPCRA 304 or CERCLA 103) Spill Reporting	
EPA Hotline	(800)424-9346
EPA Region 7	(913)281-0991
State:	
IDNR Emergency Response 24-Hour	(515)725-8694
Region #1 Field Office	(563)927-2640
County:	
Linn County Emergency Management	(319)363-2671
Linn County Public Health Department	(319)890-6000
City:	
Cedar Rapids Fire Department (Haz Mat)	(319)286-5200
Cedar Rapids Police Department	(319)286-5491
Cedar Rapids Sewer Maintenance	(319)286-5815

2. News Media – will be notified as necessary.
3. Public and private facilities with special populations within 5 miles – No emergency or release notification will be required of public or private facilities due to a spill or release of ash to the environment.
4. Emergency response and contact information – See response for (7)(1-3).
5. Reporting requirements and forms – Initial verbal report (phone call) to IDNR and follow-up written report

documenting date and time spill was discovered and reported, duration of spill, and amount of ash spilled or released.

(8) Emergency Waste Management Procedures

1. Communications – Primary action for emergency repair of ash conveyance system is to take the incinerator out of service and then repair the ash line. The only communication required is to coordinate facility maintenance and operation staff.
2. Temporary discontinuation of services (short and long term) – This type of repair typically takes from 1-4 hours of incinerator downtime. Utilizing other sludge storage or processing options (land application of alkaline stabilized biosolids or landfilling) as necessary can replace lost incinerator downtime.
3. Facilities access and rerouting – Utilizing other sludge storage or processing options as necessary can replace lost incinerator downtime.
4. Waste acceptance – Not applicable, utilizing other sludge storage or processing options as necessary can replace lost incinerator downtime.
5. Wastes in process – Not applicable, utilizing other sludge storage or processing options as necessary can replace lost incinerator downtime.

(9) Primary Emergency Equipment Inventory

1. Major equipment – Replacement inventory for pipe used to convey ash maintained onsite. Maintenance staff and excavating equipment available as necessary.
2. Fire hydrants and water sources – Not applicable.
3. Off-site equipment resources – Outside contractors could be called dependent upon available staff resources.

(10) Emergency Aid

1. Responder contacts – No outside responder use anticipated except for possible use of an outside contractor for ash conveyance system repair.
2. Medical services – no use of outside medical service is anticipated.
3. Contracts and agreements – No outside contracts or agreements are anticipated except for possible use of an outside contractor for ash conveyance system repair.

(11) ERRAP Training Requirements

1. Training providers – City and municipal utility training and safety staff provide new employee orientation and continuing employee training on a wide variety of topics. Outside providers may be used for specialty topics that support plant wastewater treatment efforts.
2. Employee orientation – Ash handling and storage responsibilities contribute a very minimal part of day-to-day employee tasks and employee orientation would reflect that minor contribution. Many tasks associated with the ash handling and storage system maintenance are addressed 1-2 times/year during scheduled extended incinerator shutdowns.
3. Annual training updates – Ash handling and storage responsibilities contribute a very minimal part of day-to-day employee tasks and employee training would reflect that minor contribution. Many tasks associated with the ash handling and storage system maintenance are addressed 1-2 times/year during extended scheduled incinerator shutdowns. Employees receive periodic training for heavy equipment operations, personal protective equipment and confined space entry for facility maintenance activities to include ash handling and storage system maintenance or repair. Additionally, operators receive annual training on incinerator operations (including the ash handling system) to comply with 40 CFR Part 60 Subpart MMMM.
4. Training completion and recordkeeping – Signup sheets for each training session topic are collected and maintained. Testing, if necessary, is conducted and results are evaluated to determine if necessary proficiency has been obtained.

(12) Reference Tables, Figures, Maps

1. Copy of City of Cedar Rapids Water Pollution Control Facilities - Sanitary Disposal Project Permit for Industrial Monofils (Permit #57-SDP-07-85P).
2. Ash sampling results (collected 3/13/2024).
3. Copies of the Annual Water Quality Report (AWQR) have been submitted annually to IDNR as required by the current permit.

ATTACHMENT 2

Emergency Action Policy

EMERGENCY ACTION POLICY
WPC (Water Pollution Control)

I. INTRODUCTION

This Emergency Action Plan (EAP) has been developed to enhance the protection and safety of all employees and building patrons in an emergency (fire, tornado, severe weather, chlorine release etc.). The personal safety of each occupant is and always will be of primary importance to the City of Cedar Rapids. The written EAP must contain the following:

- Procedures for reporting a fire or other emergency.
- Procedures for evacuation including type and routes.
- Procedures to account for all employees and patrons after evacuation.
- Name and job title of employees who may be contacted for information about the EAP.

II. SCOPE

This policy is applicable to all City of Cedar Rapids WPC employees and visitors.

III. REFERENCES

- OSHA 29 CFR 1910.38 : Emergency Action Plans
- OSHA 29 CFR 1910.165 (b) (4) : Employee Alarm Systems
- OSHA 29 CFR 1910.120 : Hazardous Waste
- OSHA 29 CFR 1910.119 : Risk Management Plan
- EPA CFR 40 Part 68 : Chemical Accident Prevention Provisions
- American Water Works Association, AWWA Manual M19, *Emergency Planning for Water Utilities*, 4th Edition (2001).

IV. DEFINITIONS

- **Appoint**: assign a job or role to someone.
- **Assembly Area:** an area in which a command is assembled preparatory to further action.
- **Buddy system** means a system of organizing employees into work groups so that each employee of the work group is designated to be observed by at least one other person in the work group. The purpose of the buddy system is to provide rapid assistance to employees in the event of an emergency.
- **Clean-up operation** means an operation where hazardous substances are removed, contained, neutralized, stabilized, cleared-up, or in some other manner processed or handled with the ultimate goal of making the site safer for people or the environment.
- **Conspicuous Locations:** easily seen, noticed, readily visible or observable location.
- **Contractor Site Safety person** means person on-site who represents the contractor and has knowledge and authority to address safety related issues or concerns.
- **Decontamination** means the removal of hazardous substances from employees, equipment, or facilities to the extent necessary to prevent the occurrence of foreseeable adverse health effects.

- **Designee:** a person who has been designated.
- **Distress Lights –** exterior warning lights outside major WPC buildings to guide emergency responders to correct location for medical response.
- **Emergency response or "responding to emergencies"** means a response by employees from outside the immediate release area or by other designated responders (i.e., local fire department) to an event that results, or is likely to result, in an uncontrolled release of a hazardous substance. Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency responses. Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.
- **Employee:** Any full-time, part-time, temporary, student co-op, summer seasonal, intern, or contracted individual under the direct control of the City of Cedar Rapids, receiving compensation for services rendered to the department.
- **Evacuation:** the action of leaving a place of danger to a safe place.
- **Hazardous Materials (HazMat) Response Team** means an organized group of employees, designated by the employer, who are expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance. The team members perform responses to releases or potential releases of hazardous substances for the purpose of control or stabilization of the incident.
- **Hazardous Substance** means any substance to which an exposure results or may result in adverse effects on the health or safety of employees. It includes any substance defined under section 101(14) of CERCLA; any substance listed by the U.S. Department of Transportation as hazardous materials under 49 CFR 172.101 and appendices; and hazardous wastes as defined in 40 CFR 261.3 or 49 CFR 171.8.
- **Health hazard** means a chemical, mixture of chemicals, or a pathogen for which there is evidence that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals that are carcinogens, toxic agents, reproductive toxins, irritants, corrosives, sensitizers, etc. (Further definition of the terms used above can be found in Appendix A to 29 CFR 1910.1200).
- **Immediately dangerous to life or health (IDLH)** means an atmospheric concentration of any toxic, corrosive or asphyxiate substance that poses an immediate threat to life or would interfere with an individual's ability to escape from a dangerous atmosphere.
- **Incident Commander** means ranking person in charge in an emergency situation. This designation starts with the Operations Supervisor on duty. The role then moves to WPC Management team that is available on-site, or Emergency Response team leader.
- **Notice Boards:** a bulletin board or surface intended for posting messages.
- **Obstructions:** items that impede or prevent passage or progress; an obstacle or blockage.
- **Occupant:** a person who resides or is present in a particular place at a given time.
- **Patrons:** refers to a customer.

- **Post emergency response** means that portion of an emergency response performed after the immediate threat of a release has been stabilized or eliminated and clean-up of the site has begun.
- **Post Incident Analysis and Critique** means reconstruction of the incident to establish a clear picture of the events that took place during the emergency. It is conducted to evaluate emergency response and the need for improvements, determine the probable cause of the accident, and ensure that the incident is properly documented and reported.
- **Roll Call:** the process of calling out a list of names to establish who is present.
- **Routes:** way or course taken in getting from a starting point to a destination.
- **Routes of Egress:** a continuous and unobstructed way of exit travel from any point in a building or structure to a public way and consists of the way of exit access, the exit, and the way of exit discharge.
- **Shelter-in-place** means a protective response measure to a toxic gas release where people remain indoors, closing all windows and doors, and shutting down all ventilation equipment.
- **Strobes:** flash of light intermittently.
- **Windsock:** orange colored device indicating wind direction.

V. RESPONSIBILITIES

Plant Management in coordination with Safety Department:

- Each Manager (Plant, Operations, Maintenance, Lab, Environmental), is responsible for the development, implementation, administration, and decision-making process of the EAP policy and provides guidance and policy interpretation to employees at all levels of responsibility and monitors federal and state regulations.
- Is responsible for this policy and has authority to make necessary decisions to administer, improve, or enhance the policy.
- Provide EAP access to all employees and facility patrons.
- Provide each employee with documented training.

Supervisors:

- Responsible for verifying that training is completed and documented for all employees covered under EAP.
- Request additional information or assistance from the Plant Management and/or Safety Department Office as necessary.

Employees:

- Attend required training.
- Request additional information or assistance from your supervisor as necessary.
- Review safety material to stay up to date on material and protocol.

Contractors:

- Contractors (Contractor site safety person) are responsible for accounting for their employees, including their subcontractors, and reporting the results of their roll call to the WPC Incident Commander or City assigned Construction Inspector – see **Appendix D** for more information on contractors.

VI. METHODS

Emergency action procedures shall be conducted utilizing the following methods of compliance:

A. Fire Alarm Pre-Planning
B. Emergency Escape Procedures
C. Procedures to Account for Employees
D. Procedure for Reporting Emergencies
E. Rescue and Medical Duties
F. Training and Recordkeeping

A. Fire Pre-Planning

All employees:

- Know all fire exits in the facility in which you work.
- Do not use elevator as an exit
- Make sure all routes of egress remain clear and free of obstructions.
- In case of **EMERGENCY**
  1. DIAL 911.
  2. State your name, location and the nature of the emergency.
  3. Stay on the line until you are assured your message has been received.
  4. Never assume that someone else has reported the emergency. It is always better to have several calls for emergency assistance than none at all.

B. Emergency Escape Procedures

- General emergency procedures are provided below. **For chlorine emergencies, refer to Appendix E.**
- In the initial stages of an emergency, cell phones will be the primary method for communicating at the plant.
- Any employee who observes or discovers an emergency, such as an injured employee, fire, or hazardous chemical release/spill, must immediately report the incident to your supervisor or On Duty Operations Shift Supervisor.

- Call 9-1-1 directly if the Operations Shift Supervisor is not immediately available and there are serious injuries, uncontained fire, or other emergencies.

- Sound an alarm by yelling out to warn others in the area if necessary and report the emergency in the best way possible while keeping personal safety in mind.

- Do not stop to make a call or remain anywhere in the building if your exit route could be cut off by fire, smoke, or chemical fumes.

- When reporting an emergency, be sure to provide the location and type of emergency as well as the names of affected people, the nature of any injuries, etc.

- If manpower is available, have someone meet the emergency vehicle(s) at the gate and direct them to the proper building.

C. Procedures to Account for Employees

- There are visible alarm systems at the disinfection building for chlorine gas. There are SCADA alarms that notify Operations Control Room when something goes wrong in the Chlorine system. In the event of an emergency, personnel will be notified by phone, in-person, or by runners.

- On – site supervisors/managers will be responsible for accounting for all employees within their department or division after an emergency evacuation, and providing an accurate roll call to the Incident Commander

- After an emergency has been cleared (tornado or chlorine release) or employees have removed themselves from harm's way (fire), all employees must report immediately to the evacuation assembly point for roll call.

  General Assembly points:

  The primary assembly point is the O&M Building Lounge Area.

  The secondary assembly point is the Administration Building Reception Area.

- If it is safely possible to do so, the **Incident Commander** may designate certain individuals to stay behind to shut down equipment before they evacuate. Only individuals who have received proper training on procedures, required PPE and safety equipment may be designated to stay behind, but may not perform tasks beyond their

level of training. All other employees and visitors must evacuate immediately and report to the assembly point for further instructions.

- For Severe Weather alerts, the shelter and roll call locations are:

  Primary: Tunnel at West End of the Solids Dewatering Building (access from the stairway in the O&M Building).

  Secondary: Administration Building (Male & Female Locker Rooms)

  Intermediate Lift Building (Lower Level)

  Final Lift Building (Lower Level)

D. Procedure for Reporting Emergencies

- The quicker and more efficient emergencies are reported, the greater the chance for saving lives and property. The following is the procedure for reporting an emergency.

EMERGENCY SITUATION	REPORTING CONTACTS
FIRE	Call 911 Call SHIFT Supervisor – (319) 286-5280 or Cell – (319) 329-0396 Call Aaron Orcutt – (319) 538-1073
SEVERE WEATHER	Call 911 – If injuries occur Call SHIFT Supervisor – (319) 286-5280 Call Aaron Orcutt – (319) 538-1073
MEDICAL	Call 911 Call SHIFT Supervisor – (319) 286-5280 Call Aaron Orcutt – (319) 538-1073 Call Safety – (319) 291-6811
HAZARDOUS MATERIAL RELEASE	Call 911 Call SHIFT Supervisor – (319) 286-5280 Call Aaron Orcutt – (319) 538-1073 Call Safety – (319) 291-6811
Iowa Department of Natural Resources	Call Aaron Orcutt – (319) 538-1073 Lauren O'Neil – (319) 206-3295 Justin Schroeder – (319) 450-1856

- Emergency phone numbers will be posted on or near telephones, or employee notice boards and other conspicuous locations where telephones will be used as the means of reporting emergencies. [29 CFR 1910.165 (b) (4)].

- **DISTRESS Lights** – several lights outside major buildings on WPC campus used to guide emergency responders to appropriate location. The lights are activated from local controls at or near each building. An alarm tone sounds in Ops and Admin areas.

Distress Lights Locations

Building	Specific Message	General Message (common to all)
Anaerobic Pre-Treatment	Someone activated the emergency light at the Anaerobic Pretreatment Area. Buttons are on the light pole by Main Street, at the south entry to the Biogas Building, and at the east entry to the Anaerobic Process Building.	Immediate Action Required! Determine the problem – quickly dispatch someone there or go yourself. Call for assistance as required.
Cryogenic Plant	Someone activated the emergency light at the Cryogenic Plant near the cooling tower. The button is on the light pole by East Gate Road.	Send or take SCBA, AED, and other emergency equipment. Do not mark alarm as 'in progress' or acknowledge alarm or turn light off until after emergency services arrives or alarm is determined to be false. After situation is resolved, acknowledge the alarm. Include complete but brief description of the event in the acknowledgement notes.
Decant Tanks	Someone activated the emergency light at the Decant Tanks south of the Solids Dewatering Building. The button is on the light pole by West Gate Road.	
Final Lift	Someone activated the emergency light at the Final Lift Building. Buttons are on the light pole by East Gate Road, at the east entry to the Final Lift Building, and at the north entry into the Disinfection Building.	
Intermediate Lift Area	Someone activated the emergency light at the Intermediate Lift Building. Emergency Button located on East exterior wall near entrance walk-in door.	
Administration Building	Someone activated the emergency light at the Lab entrance to the Administration Building. Buttons are on the light pole by Main Street and inside the laboratory entrance doors.	

Main Lift	Someone activated the emergency light at Main Lift. Buttons are on the light pole by Main Lift and near the east entrance doors.	
O&M Building	Someone activated the emergency light at the O&M Building near the parking lot. Buttons are on the light pole by Main Lift and near the east entrance doors.	
Solids Dewatering Building	Someone activated the emergency light at the Solids Dewatering Building. Buttons are on the light pole by Main Street, at the west entry to the Solids Dewatering Building, by the door to the Control Room, and the east entry to the Solids Dewatering Building.	
Solids Pump Building	Someone activated the emergency light at the Solids Pump Building. Buttons are on the light pole by Main Lift and at the west entry to the Gravity Belt Thickener Building.	

E. Rescue and Medical Duties

- If you are trained in First Aid/CPR/AED and feel comfortable in rendering such care, do so. Emergency Response must also be contacted at the earliest possible moment. For non-emergency medical care, contact Occupational Health Coordinator at (319) 286-5056

F. Training and Records

- Safety Department will have training records for general training of Employees. WPC will keep records of training related to Process Safety Management Program and Chlorine handling. All records for WPC training will be kept on-line and/or in paper form in Files room at WPC Admin building.

VII. TRAINING DETERMINATIONS

- Employees must be trained upon initial assignment, when an employee's responsibilities change under this policy, when the policy is changed and annually or as regulated thereafter.

- Employees responsible for leading the evacuation will be trained in evacuation inspections of closed rooms, alternate escape routes, employees that may need additional or specialized assistance, and hazardous areas to avoid during evacuation procedures.

- New equipment, facility construction, or personnel changes might affect the policy's procedures. The City of Cedar Rapids WPC PSM coordinator, in coordination with WPC Plant Management shall ensure that the basic components of Emergency Action Policy for the City is covered and a designated division liaison will be responsible for providing employees with Division Specific information. This policy will be reviewed/updated on or before December 31st of each year.

Handling Public and News Media Inquiries:

- During emergency situations, WPC employees should courteously and tactfully direct any inquiries from the news media or other outsiders to the Utilities Director, WPC Plant Manager or the Utilities Communications Coordinator.

VIII. RECORDKEEPING

- It is the responsibility of each department to ensure compliance with obtaining and ensuring availability of the Emergency Action Policy in work areas. Records shall be kept in a manner that is easily accessible and can be readily presented upon audit. Safety will request records upon investigation as well as during routine departmental program audits.

- **Post-incident Analysis** will be conducted by the Plant Manager and/or a team of managers. The analysis should focus on the following topics:

1. Was the emergency response organized according to the existing emergency response plan?
2. Were emergency response operations conducted in a timely and coordinated manner? What procedures worked and which ones did not?
3. Were human and material resources adequate to conduct the response effectively? Are improvements to equipment or facilities needed?
4. Were support services adequate and provided in a timely manner?
5. Were the emergency response plan and procedures current? Did they adequately cover notification, initial assessment, response, recovery and termination? Were roles and responsibilities clearly defined?
6. Did the incident highlight the need for additional basic or advanced training?

IX. APPENDICES

- Appendix A: Designated Assembly Areas – WPC
- Appendix B: Severe Weather Emergency Action Procedures – WPC
- Appendix C: Telephone Contact List
- Appendix P: Off-site phone call list
- Appendix D: Contractor Responsibilities
- Appendix E: Chlorine Release Emergency Plan

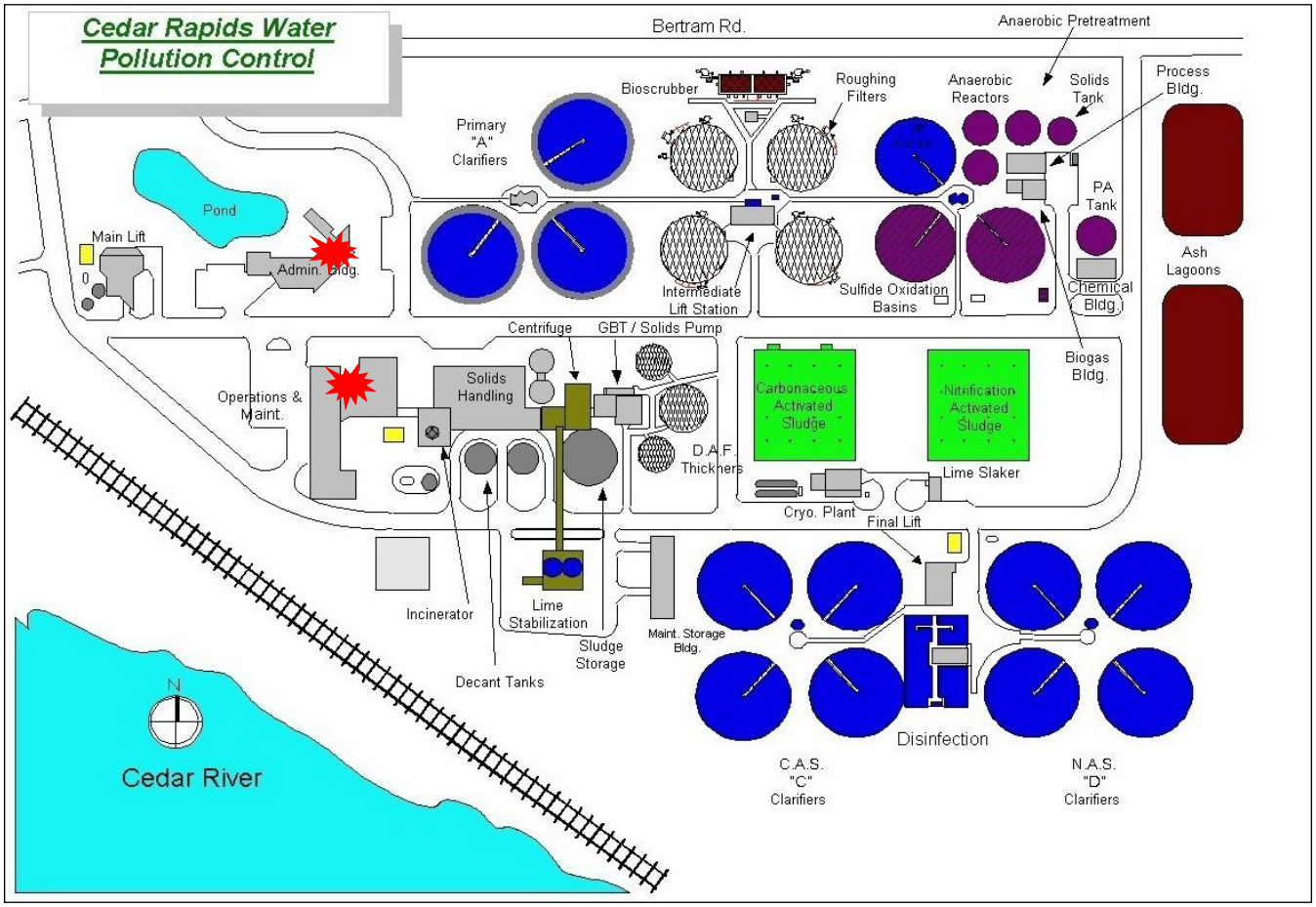
X. DOCUMENT CONTROL

Title: **Emergency Action Plan (EAP) – WPC**		Print Date: **electronic**
Revision # **3.3**	Prepared By: **Alec Matthew**	Date Prepared: **2/28/2024**
Effective Date: **2/28/2024, supersedes 04/11/23 v. 3.2**	Reviewed By: **Alec Matthew/Justin Schroeder**	Date Reviewed: **2/28/2024**
Standard: **OSHA 29 CFR 1910.38 1910.165 (b)(4)**	Approved By: **Lauren O'Neil**	Date Approved: **2/28/2024**

APPENDIX A

DESIGNATED ASSEMBLY AREAS – WPC

EMERGENCY SITUATION	DEPARTMENT	DESIGNATED SAFE AREA
FIRE	ALL	Primary Assembly Point – Flag Pole or O&M bldg. break area (map below)
SEVERE WEATHER	ALL	See Appendix B
CHLORINE	ALL	See Chlorine Appendix E



Fire assembly points

APPENDIX B

SEVERE WEATHER EMERGENCY ACTION PROCEDURES - WPC

TORNADO PROTECTION PROCEDURES

The National Weather Service is the only agency authorized to issue severe weather advisories including watches and warnings. The procedure described below is intended to assure that advisories issued for the City of Cedar Rapids are correctly interpreted by city employees during business hours.

Definitions:

- **Tornado Watch:** Weather conditions are such that the formation of tornadoes is likely. Tornadoes have not necessarily been sighted in the area.
- **Tornado Warning**: Tornadoes have been sighted in the area or are approaching the area. Take cover.

It is the policy of the City of Cedar Rapids to ensure that all City of Cedar Rapids employees and citizens that are on city properties during the event of a tornado are provided with instruction and a shelter area until the tornado warning is over. We will provide all citizens on the premise the opportunity for shelter, however we cannot require them to participate if they choose not to once they leave city property.

During a Tornado Watch the City of Cedar Rapids Management will determine the whereabouts of their employees and ensure that they make contact with them in the event of a Tornado Warning.

WHEN A TORNADO WARNING IS ISSUED

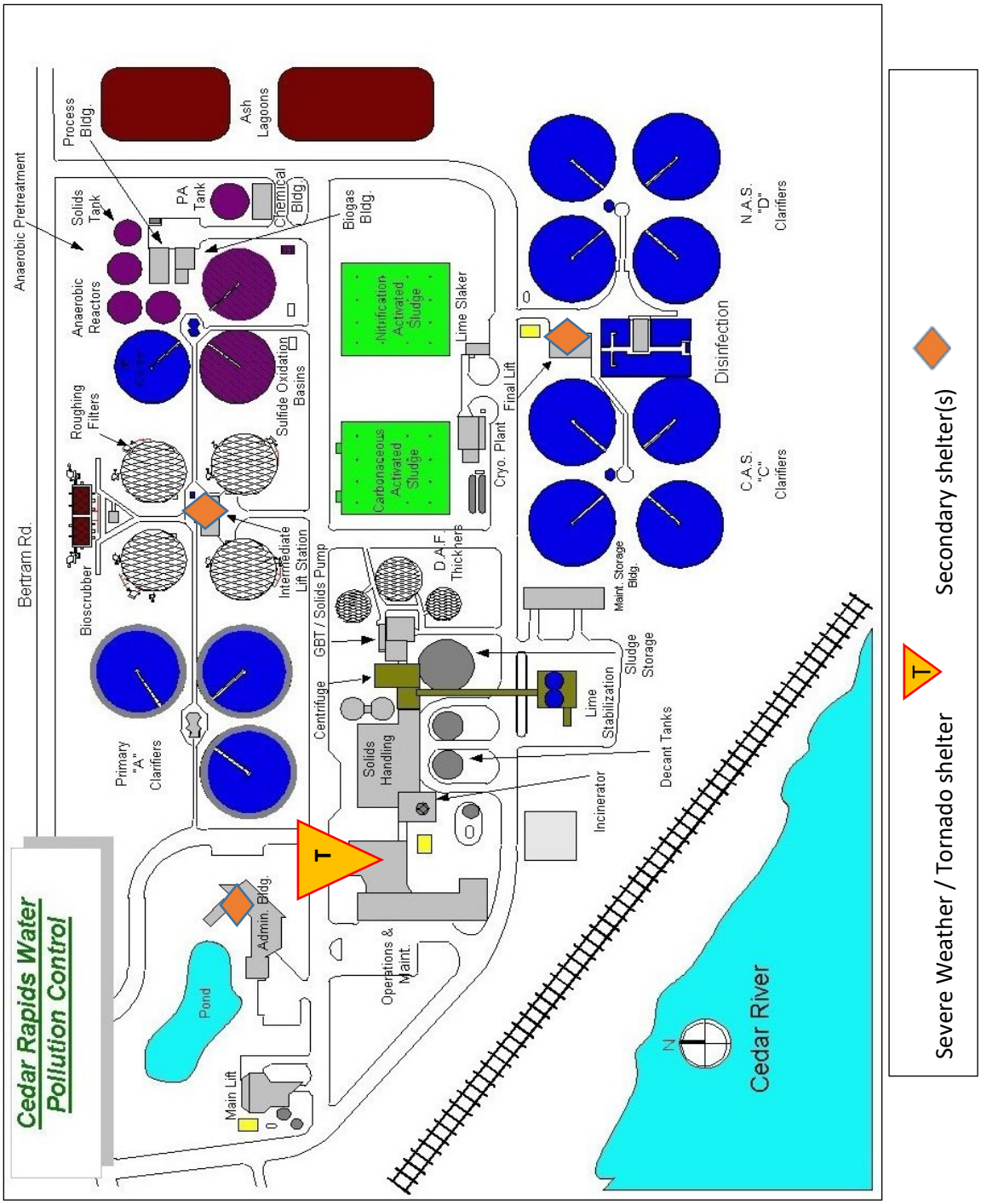
In southern Linn County or Cedar Rapids, the Civil Defense sirens will sound when a tornado warning is issued.

1. When the sirens are sounded, or if otherwise instructed by City Management or Safety Team members all city employees and public citizens on premise are to evacuate to the designated Tornado Shelter.
2. Walk calmly and quickly to the shelter area nearest you.
3. Once inside the shelter area On-Site Supervisors will provide an accurate roll call.

- The Facility has backup generation for emergency lighting, and all required areas have battery powered emergency lighting. There still may be a few areas that do not require backup lighting.
- Office doors should be closed upon leaving for tornado relocation.

Primary: Tunnel at West End of the Solids Dewatering Building (access from the stairway in the O&M Building).

Secondary: Administration Building (Male & Female Locker Rooms)
Intermediate Lift Building (Lower Level)
Final Lift Building (Lower Level)


Cedar Rapids Water Pollution Control
Bertram Rd.
Anaerobic Pretreatment
Process Bldg.
Ash Lagoons
Solids Tank
PA Tank
Chemical Bldg.
Biogas Bldg.
Anaerobic Reactors
Nitrification Activated Sludge
Lime Slaker
N.A.S. "D" Clarifiers
Roughing Filters
Sulfide Oxidation Basins
Carbonaceous Activated Sludge
Final Lift
Cryo. Plant
Disinfection
C.A.S. "C" Clarifiers
Bioscrubber
Intermediate Lift Station
D.A.F. Thickners
Maint. Storage Bldg.
GBT / Solids Pump
Centrifuge
Solids Handling
Lime Stabilization
Sludge Storage
Primary "A" Clarifiers
Decant Tanks
Incinerator
Admin. Bldg.
Operations & Maint.
Pond
Main Lift
Cedar River
N
T
Severe Weather / Tornado shelter
Secondary shelter(s)

APPENDIX C

SITE SPECIFIC EMERGENCY POSTING INFORMATION

City of Cedar Rapids

POSTING OF
EMERGENCY INFORMATION
Utilities Department
Water Pollution Control Facility

Gathering Point(s) / Area(s) of Refuge: (*Designate Primary & Secondary*)

	Primary	**Secondary**
Gathering Point / Assembly Area:	O&M Building Lounge Area	Admin Bldg Reception Area
Off-Site Gathering Point:	Indian Creek Nature Center(old parking lot)	Don Murphy Lake entrance
Tornado Shelter(s):	Tunnel Area (West End)	Admin Bldg Locker Rooms
		Intermediate Lift (low level)
		Final Lift (lower level)

IMPORTANT CONTACT INFORMATION:

Police Department / Fire Department / Ambulance:			9-1-1
Building Manager:	*Aaron Orcutt*	PhoneNumber:	319-538-1073
Division Manager:	*Lauren ONeil*	Phone Number:	319-206-3295
Environmental:	*Justin Schroeder*	Phone Number:	319-450-1856
Department Director:	*Roy Hesemann*	Phone Number:	319-521-5752
Public Information Officer:	*Kelli Albert*	Phone Number:	319-451-8720
Safety/Compliance:	*On-Duty Safety Officer*	Phone Number:	319-521-5652

This Notice Must Be Posted In All Facilities

Date Last Revised: 2/28/2024

Telephone Contact List

Emergency Contact (On-Duty Shift Supervisor) …….	319-286-5280
CHEMTREC……	800-424-9300
Department of Natural Resources (DNR):	
24 Hour Emergency ……..	515-281-8694
Manchester Office ……..	563-927-2640
Emergency Medical ……..	9-1-1
Environmental Protection Agency (Region VII) ……	913-551-7006
Fire Department ……	9-1-1
Hazardous Materials (HazMat) Team ……..	9-1-1
Hospitals	
St. Luke's Hospital ……..	369-7105
Mercy Medical Center ……..	398-6041
Linn County Health Department ……..	319-892-6000
National Response Center ……..	800-424-8802
Chemical Safety Board ……	202-261-7600
Occupational Safety & Health Administration (Iowa)	
Days ……..	800-562-4692
Weekends & Holidays ……..	515-281-5668
Poison Control Center ……..	369-7654 or 398-6770 *or* 800-332-5470
City Safety Office …….	286-5167 Cell: 515-291-6811 (Sam Heinricy)

Chlorine IMPACT OFFSITE Call List …… Appendix P.

Appendix P

Chlorine IMPACT OFFSITE Call List …… (WPC EAP 2022 v 3.3)

Union Pacific Railroad	1-888-877-7267	(Environmental Hazards reporting line)
Indian Creek Nature Center	(319) 362-0664	
CIPCO	(319) 366-8011	
Dave Brown Plumbing Warehouse	(319) 363-2034	Owner cell phone (319) 533-2830
Jim Hess Farm	(319) 366-0022	Owner cell phone (319) 899-7706
Larry Hess Farm	(319) 981-1826	Owner of sand quarry near farm
Bryan Hess	(319) 241-3611	
Kevin & Judy Reilly	(319) 363-0415	
Cheyenne City Park	(319) 286-5750	Parks Superintendent (319) 521-5861
Murphy Lake Park	same above, Cheyenne contact	
Third Base / Diamond Sports Park	(319) 329-4472	
Martin Marietta Sand Plant	(319) 848-4157	

APPENDIX D
Contractor Safety

Contractor Safety minimum requirements are described in project contract documents well before projects begin. Projects are covered under Metro Area Standards or SUDAS General Conditions or Supplemental Conditions. Sections covering "drug –free" workplace, post-accident testing, weekly safety meetings, "lock-out/tag-out", and plant access are included. Project documents may vary in how the requirements are listed for contractors working on-site of City Facilities and property.

In addition to requirements listed above contractors and their employees are required to attend OSHA 10 hour training and attend WPC site specific training offered by "GATEFEED" or another which describes the unique risks present at the facility. Chlorine and Hydrogen Sulfide information along with other chemical information is presented.

Proof of attending these trainings along with Drivers' License information is required to obtain an entry badge to WPC. Entry badge is issued for each person accessing the facility. The proxy badge system logs entry and exit from the facility. Chlorine Facility has restricted access. Only WPC employees specifically trained to work with Chlorine are allowed badge entry to Chlorine areas. Contractors are restricted from working on the chlorine system without WPC personnel escort.

In event of long-term project work on the Chlorine system – work will be restricted to November 15th through March 15th. This winter time period is the only allowed time frame for major contractor work on the Chlorine system. Details about contractor safety and procedures specific to Chlorine are described in WPC Process Safety Management (PSM) Manual, section 6.

APPENDIX E
CHLORINE RELEASE

Local alarms for high chlorine (3 ppm and above) include an exterior horn and strobe light at the Disinfection Building. Chlorine is immediately dangerous to life and health at concentrations of 10 ppm and above. These alarms are also connected to SCADA so that operators in the Operations Control Room are notified when these alarms activate.

Only the Cedar Rapids Fire Department Hazardous Materials (HAZMAT) Response Team will enter Immediately Dangerous to Life and Health (IDLH) atmospheres of 10 ppm chlorine and above. WPC employees are required to evacuate the disinfection building if chlorine concentrations are 1 ppm or above. The chlorine gas detectors alarm at chlorine concentrations of 1 ppm and the dry scrubber system is activated at chlorine concentrations of 3 ppm. The dry scrubber automatically turns on when gas detectors within the chlorine storage and feed rooms detect 3 ppm chlorine or greater.

Form of Chlorine

Ton Containers
At WPC, connections are made to the lower ton container valve for withdrawal of chlorine liquid.

Emergency Equipment and PPE Location

Diagram below includes the locations of the rooms within the Disinfection Building, the loading dock, and identifies the locations for permanent gas detectors, emergency equipment and personal protective equipment (PPE). The general site map below identifies locations of windsocks and a flag located on site that are used to indicate wind direction during evacuations. Table below identifies the type and location of emergency equipment and PPE used for chlorine related emergencies.

Emergency Equipment and PPE	
Emergency Equipment	**Location**
Windsocks	NW Rooftop Solids Dewatering; SW Rooftop Final Building; SE corner of AP process building
Flag	Admin building
Emergency Eyewash/Showers	▪ Inside the disinfection building lab/control room. ▪ Inside the disinfection building electrical/sample room. ▪ Outside on the east side of the disinfection building, between the MBS building and MBS bulk storage tanks.
Chlorine Institute Kit B for Ton Containers	O&M Building - break room
Portable Chlorine Gas Monitor	O&M Building – operations control room

Required Multi-Gas portable monitor	Individually assigned, kept in employee locker when not in use.
Fire Extinguishers	▪ Electrical/sample room - 1 ▪ Chlorine storage room - 3 ▪ Chlorine feed room - 1 ▪ Lab/control room - 1
First Aid Kits	▪ Admin Lab ▪ Operations Control Room ▪ Admin mailboxes area
PPE	**Location**
SCBAs (3)	Chlorine Lab/Control Room locker
Full face mask for Inline Breathing Air	Chlorine Lab/Control Room locker
Thermal gloves	Employees personal lockers
Chemically resistant gloves	Vending machines in O&M break area
Hard hat	Employees personal lockers
Steel toe shoes	Provided by employee. Employees personal lockers
Safety glasses	Vending machine in O & M Break Area
AEDs (auto external defibrillators)	▪ O&M break area ▪ Solids Control ▪ O2/Cryo Control ▪ Admin Lab ▪ Anaerobic Control

Possible Scenarios Resulting in Release

- Ton container is dropped during unloading activity in dock area, container is damaged and chlorine is released outside.
- Ton container valve is damaged during unloading activity in dock area, chlorine is released outside.
- Dry scrubber capacity is exceeded or fails, chlorine is released outside through vent.

Alert

- Visual observation. Shouted warnings from employees present. Phone calls and text messages.

Actions

- Immediately evacuate area and follow a route upwind to reach evacuation area. Warn others along the way. As soon as a safe position upwind is reached, call and alert Operations Shift Supervisor.

- When evacuating to designated areas due to a potential or confirmed chlorine release, use windsocks located on site to stay in an upwind direction of the chlorine disinfection building area.

- If an employee is injured in the area of the chlorine release and it is possible, remove them quickly from the area.

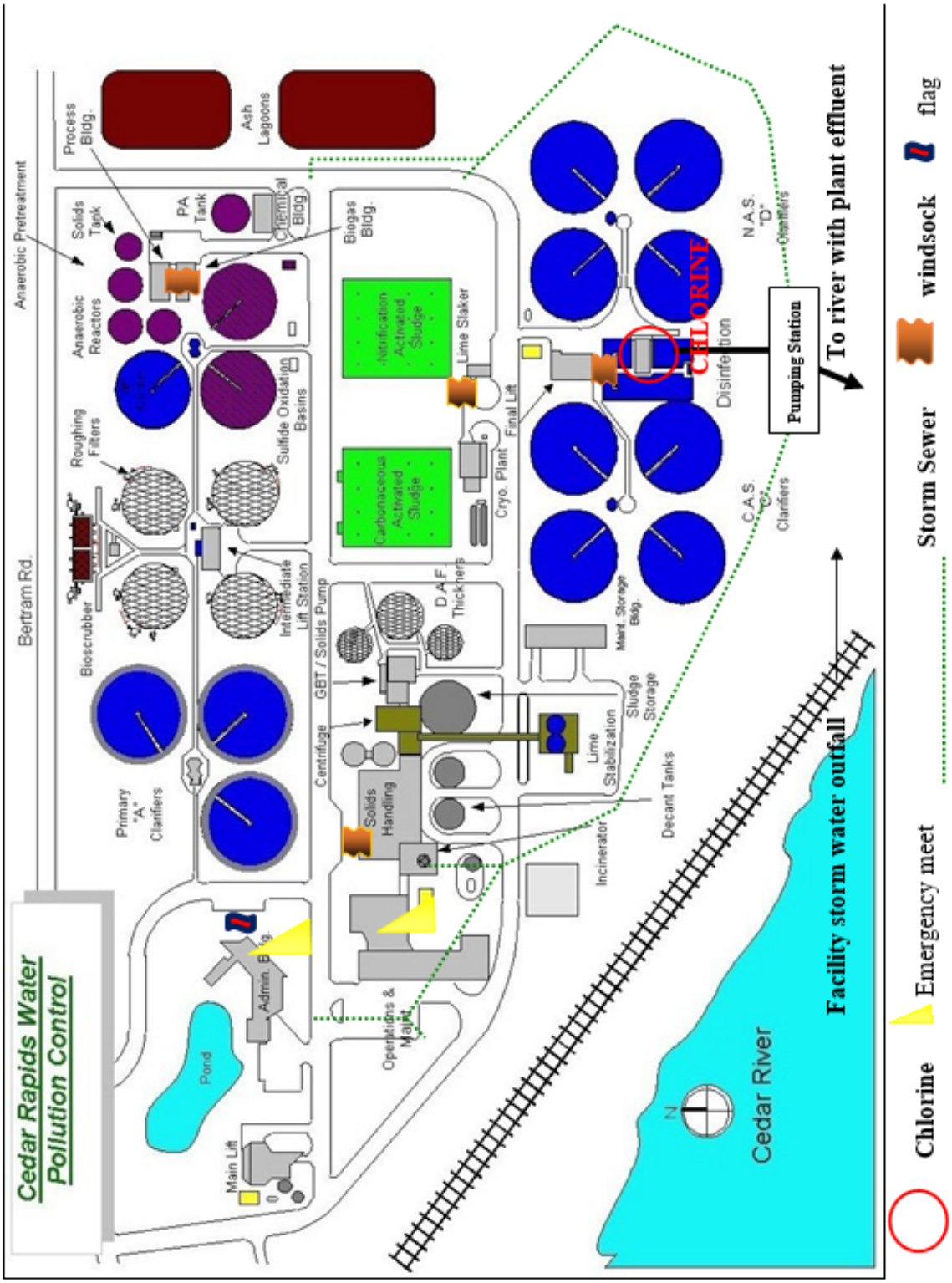
- Sound an alarm by yelling out to warn others in the area if necessary and report the emergency in the best way possible while keeping personal safety in mind.

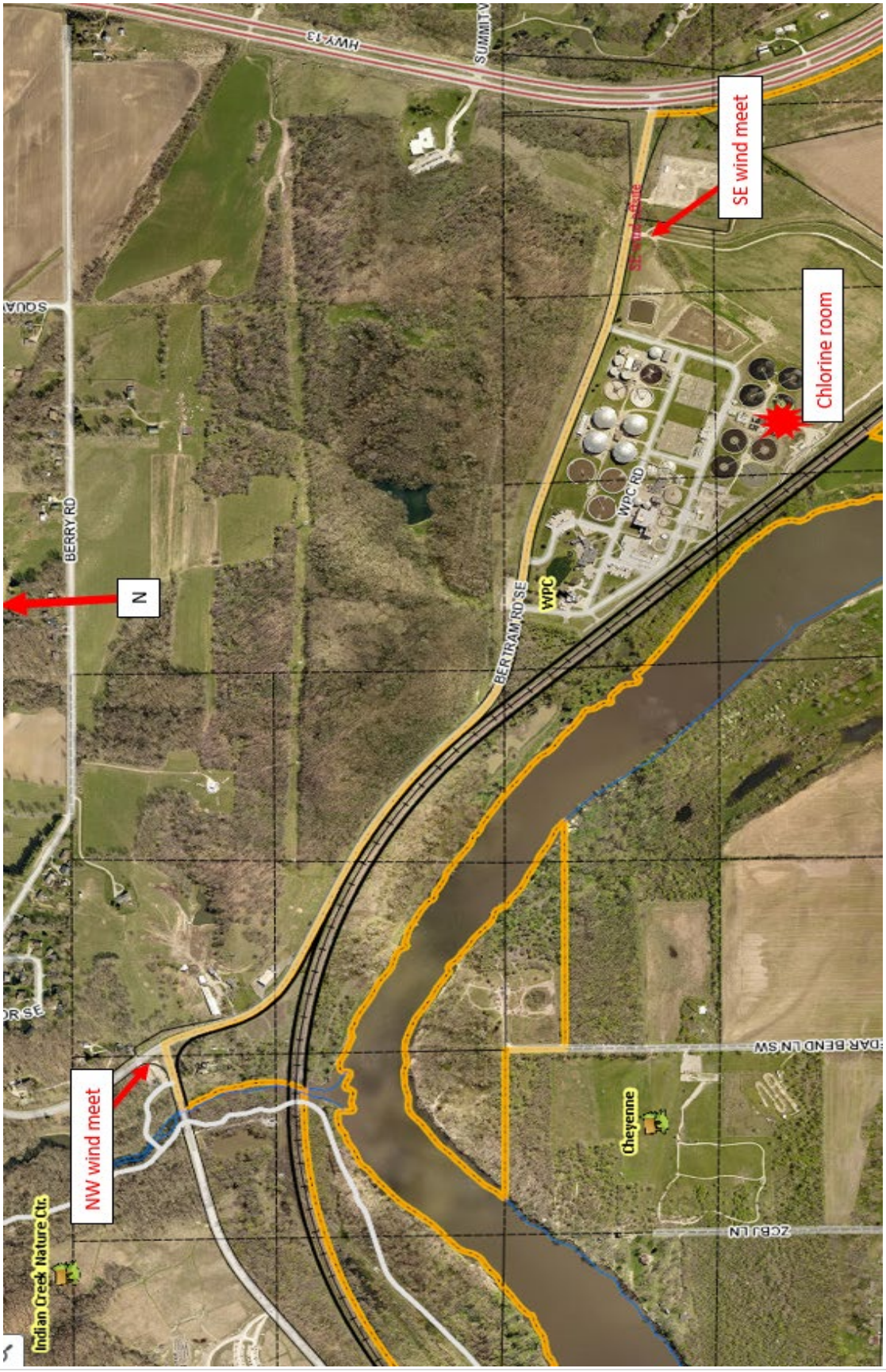
- Do not stop to make a call or remain anywhere in the building if your exit route could be cut off by Chlorine fumes.

- **IF Chlorine leak is large enough to trigger SHIFT SUPERVISOR, OPERATIONS MANAGER or INCIDENT COMMANDER to call for evacuation of the plant facility;**
    - **please evacuate to either the Indian Creek Nature Center parking lot at corner of Otis Road and Bertram Road OR to the Entrance area to Murphy Lake. (SEE attached map of locations)**
    - **<u>Wind direction is KEY factor for choosing which OFF-SITE location to go</u>**

- HAZ MAT responders are Cedar Rapids firefighters. Firefighters take periodic tours of WPC and are aware of WPC chlorine location. If manpower is available and conditions are safe, WPC personnel will meet the emergency vehicle(s) at the appropriate gates for access to the Chlorine facility.

Diagrams and Maps next four pages:


Cedar Rapids Water Pollution Control
Anaerobic Pretreatment
Bertram Rd.
Process Bldg.
Ash Lagoons
Solids Tank
PA Tank
Chemical Bldg.
Biogas Bldg.
Anaerobic Reactors
Roughing Filters
Sulfide Oxidation Basins
Nitrification Activated Sludge
Lime Slaker
Carbonaceous Activated Sludge
Cryo. Plant
Final Lift
Biosrubber
Intermediate Lift Station
D.A.F. Thickners
GBT / Solids Pump
Centrifuge
Solids Handling
Primary "A" Clarifiers
Lime Stabilization
Sludge Storage
Maint. Storage Bldg.
Decant Tanks
Incinerator
Operations & Maint.
Admin. Bldg.
Pond
Main Lift
N.A.S. "D" Clarifiers
C.A.S. "C" Clarifiers
CHLORINE
Disinfection
Pumping Station
To river with plant effluent
Facility storm water outfall
Cedar River
N
Chlorine
Emergency meet
Storm Sewer
windsock
flag


SE wind meet
Chlorine room
N
NW wind meet
WPC
WPC RD
BERTRAM RD SE
BERRY RD
Cheyenne
Indian Creek Nature Ctr.


SE wind meet
Entrance lane
to Murphy Lake
- parking
BERTRAM RD SE

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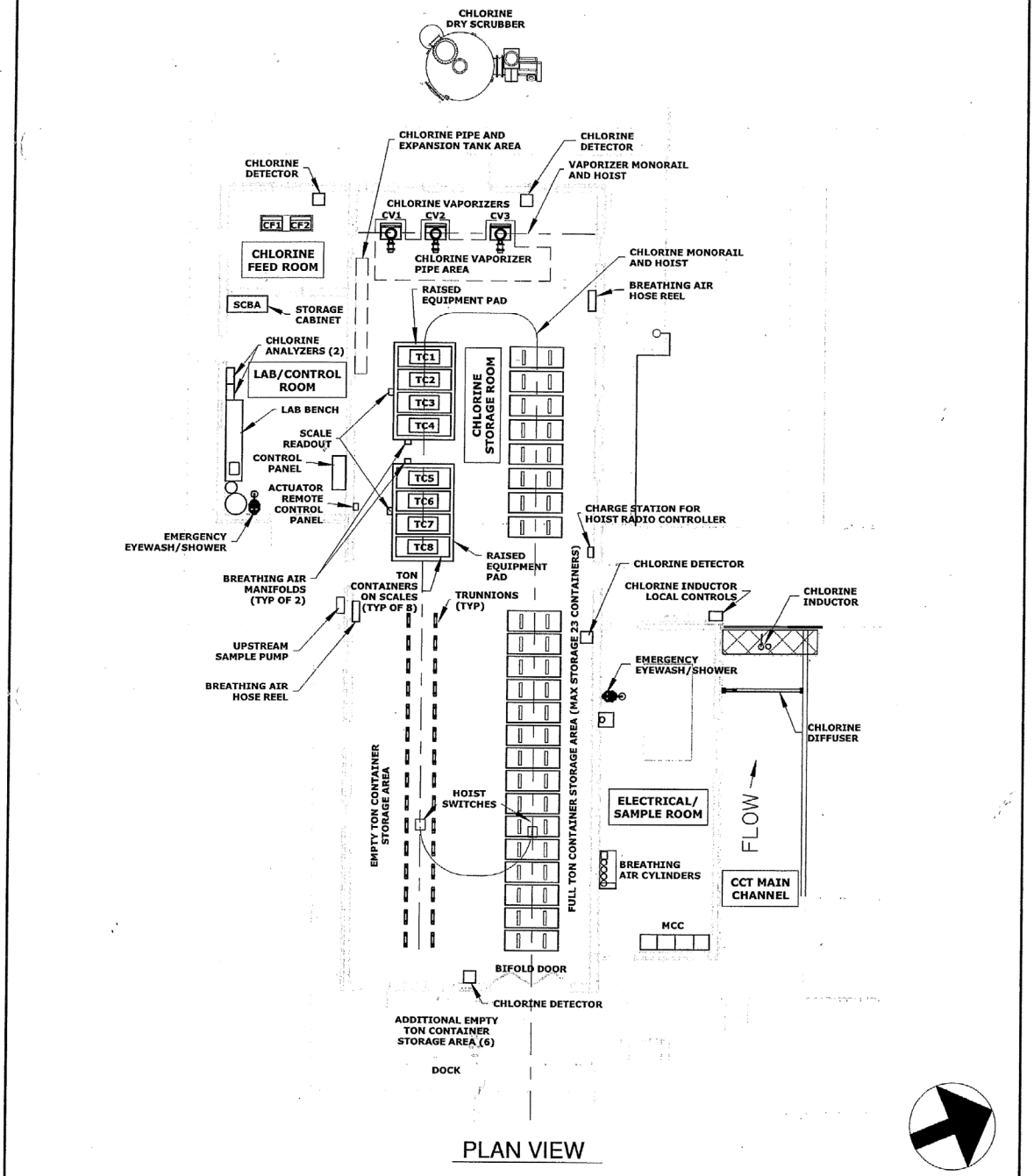

FOX engineering	**WPCF DISINFECTION BUILDING** CITY OF CEDAR RAPIDS WPCF CHLORINE SYSTEM UPGRADE CONTRACT #615148-03 CEDAR RAPIDS, IOWA	**FIGURE: 1** REVISION / NO. / DATE DRAWN JAK / PROJECT NO. 2384-13B / DATE 02-19-18