| | |
|---|---|
| **From:** | Wealing Brothers |
| **To:** | Weinzapfel, Adam |
| **Subject:** | Fwd: Linden lagoon closure plan AUGUST 2023 |
| **Date:** | Monday, August 21, 2023 5:11:33 PM |
| **Attachments:** | Wealing Copier_20230821_055401.pdf |



Adam-

This is the clean closure plan for Linden, IN wwtp lagoon for your review.

Thank you

--

**LANCE WEALING**
(765)-430-6473 CELL

**WEALING BROTHERS LLC**
**Fowler, IN**
**(219)-261-2520- office**
**(219)-261-2531- fax**

**www.wealingbrothers.com**

Biosolids Management

4161 N. 600 E.

Fowler, IN 47944

**August 2023**

# CLEAN CLOSURE PLAN

# WASTEWATER TREATMENT PLANT LAGOON

# LINDEN, IN

# Prepared for:

Town of Linden, IN

P.O. Box 352

Linden, IN 47955

Facility Location:

850 Linden Boulevard

Linden, Indiana 47955

Montgomery County

Prepared by:

Lance Wealing

Wealing Brothers

4161 N. 600 E.

Fowler, IN 47944

# Contents:



Attachments:

1. Site map
2. Background sampling map
3. Lagoon sample map
4. Lagoon analysis

# PROJECT BACKGROUND AND INTRODUCTION

Current Lagoon description:

- The town of Linden, IN has a lagoon that is no longer used. This lagoon was cleaned by Wealing Brothers several years ago and has only been used a few times since. Since the lagoon is not being utilized it is the intent of IDEM to have Linden perform a clean closure of the lagoon structure.

Lagoon Closure:

- The intent of Linden wastewater plant is to clean and close this lagoon since it is no longer used.
- All biosolids will be removed by using a dozer and excavator. The floor and banks of the lagoon will be scraped clean.
- All biosolids in the lagoon will be removed and hauled to Wealing Brothers bio center facility where it will be land applied at a later date.
- Once all the biosolids are removed and floor and sides are scraped clean, Wealing Brothers will pull samples of the soil of the lagoon floor and banks to test for contaminants.

Future property description:

- Once the testing is completed and it is verified that no contaminates remain, final grading will proceed. The lagoon banks will be pushed in and used for fill and entire will be returned to natural grade and grass will be sown.

# Closure plan:

Wealing Brothers will first dewater the free liquid off the lagoon and return it to the influent of the wastewater plant where it will be treated. After all free water is removed Wealing Brothers will remove all biosolids and transport it to the Wealing Biocenter where it will be stored, blended with other biosolids and land applied at a later date. It is estimated there will be less than 100,000 gallons to be removed from the lagoon. The total verified final amount of biosolids removed will be submitted to IDEM in the clean closure report upon completion. Once all sludge is removed detailed pictures will be taken and submitted to IDEM, soil sampling will take place at this time.

## SAMPLING:

Soil samples will be collected in order to compare soil conditions at the location of the proposed closure, with that of background locations which are unaffected by the Wastewater treatment facility activities. The background samples will serve as the benchmark to determine if contaminates are removed from the site, or if any additional lagoon liner removal will be necessary to be within the range of acceptable limits.

## BACKGROUND SAMPLING PROCESS:

Two background sampling areas will be selected at areas which are deemed to be unaffected by the facility operations. The samples will be collected from the top 6' of soil to provide a basis for comparison with that of the lagoon structure. The background sampling locations are in attachment 2.

The soil samples will be analysed for the following:

- Heavy Metals- Arsenic, Cadmium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc. (Sampled under 40 CFR, Part 503 biosolids land application guidance)
- Volatile and synthetic organic compounds and pesticides
- Polychlorinated biphenyls (PCB's) sampled under 40 CFR, Part 503.

Results of this sampling and analysis will be submitted to IDEM for review for final clean closure.

## LAGOON SAMPLING PROCESS:

Samples will be collected in order to capture an accurate representation of soil conditions below the lagoon liner. This lagoon will have 1 sample taken from the floor, and 2 taken from lagoon banks of opposite sides. The samples will be collected from the top 6" of soil immediately beneath the lagoon liner. The depth of this soil is anticipated to contain the highest levels of potential contaminants because of its proximity to the lagoon liner.

## SAMPLING METHODS:

- Test methods for evaluating solids waste, Physical/ Chemical methods (SW-846)
- EPA VOC sampling method 5035A or equal
- EPA metals testing sampling method 29 or equal
- Remediation closure guidance

The entity analyzing the soil samples will be required to comply completed with all testing and analytical procedures prescribed in the written testing methods. Any deviations from specified methods will be stated.

## QUALITY ASSURANCE PLAN:

**Sample analysis will be done by an independent lab which will be expected to follow the appropriate Quality Assurance Project Plan (QAPP) for each diffeenert method of sampling conducted.**

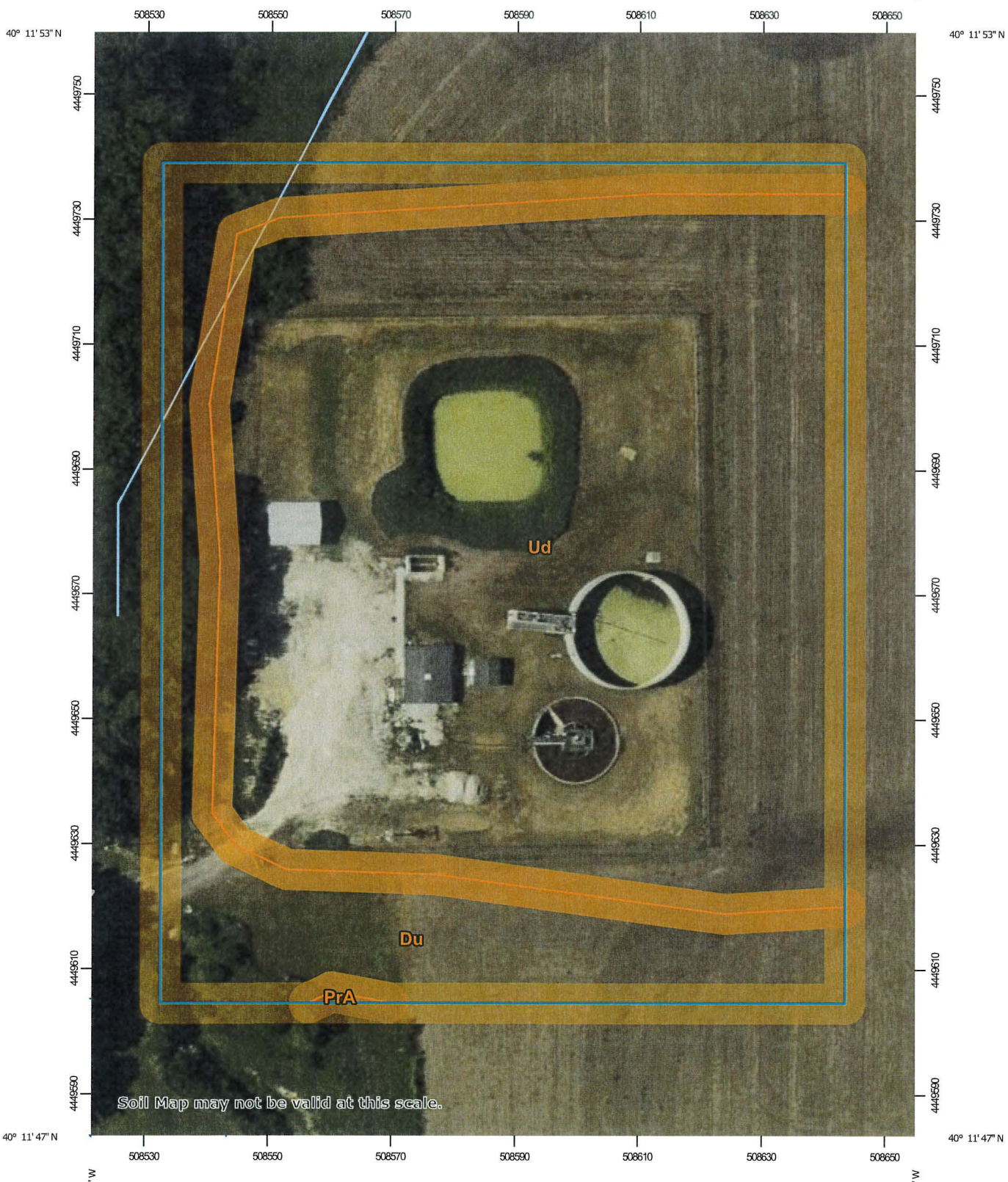
### Sampling Related Items:

- Completed COC with sampling time, date, and ID.
- Map of sampling locations
- Adequate sample volumes

## ESTIMATED SCHEDULE FOR CLOSURE ACTIVITIES:

**Wealing Brothers would like to have this work scheduled for summer 2024, contingent upon approval from IDEM to proceed with this Clean closure plan.**

Soil Map—Montgomery County, Indiana
(LINDEN WWTP)




Map Scale: 1:861 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 10 20 40 60

Feet
0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

# Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| Du | Drummer silty clay loam | 0.9 | 25.2% |
| PrA | Proctor silt loam, moderately wet, 0 to 2 percent slopes | 0.0 | 0.1% |
| Ud | Udorthents, loamy | 2.8 | 74.7% |
| **Totals for Area of Interest** | | **3.7** | **100.0%** |


LINDEN WWTP
background sample points:
1
2
Legend
Google Earth
N
100 ft


LINDEN WWTP
LAGOON sample points
FLOOR
2- LAGOON BANKS
2
1
3
N
100 ft
Legend
Google Earth

# Final Analytical Report

CF Environmental Laboratory, LLC
3711 Vanguard Drive Suite D
Fort Wayne, IN 46809

**Customer:** Wealing Brothers LLC
4161 N 600 E
Fowler, IN 47944

**Report Date:** 7/24/2023

**Date Received:** 7/13/2023
**Time Received:** 12:50 PM

**Laboratory ID:** 070384
**Project:** Linden Lagoon
**Sample Location:** Linden Lagoon grab

**Sampler:** L.W.
**Date Sampled:** 7/12/2023

| Parameter | Wet Weight Basis | | | Dry Weight Basis | | *Table 1* | *Table 3* | Loading Rate | | Analyst | Analysis Date | Method Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Result | Units | LOQ | Result | Units | *mg/kg* | *mg/kg* | lbs/Wet Ton | lbs/Dry Ton | | | |
| Arsenic, Total | 0.332 | mg/kg | *0.034* | **5.53** | mg/kg | *75* | *41* | 0.000664 | 0.011067 | CSF | 07/14/23 | SW846 6010D |
| Cadmium, Total | 0.125 | mg/kg | *0.004* | **2.08** | mg/kg | *85* | *39* | 0.000250 | 0.004167 | CSF | 07/14/23 | SW846 6010D |
| Copper, Total | 33.6 | mg/kg | *0.091* | **560** | mg/kg | *4300* | *1500* | 0.067200 | 1.120000 | CSF | 07/14/23 | SW846 6010D |
| Lead, Total | 1.28 | mg/kg | *0.023* | **21.3** | mg/kg | *840* | *300* | 0.002560 | 0.042667 | CSF | 07/14/23 | SW846 6010D |
| Selenium, Total | <0.068 | mg/kg | *0.068* | **<1.13** | mg/kg | *100* | *100* | 0.000136 | 0.002267 | CSF | 07/14/23 | SW846 6010D |
| Zinc, Total | 22.3 | mg/kg | *0.136* | **372** | mg/kg | *7500* | *2800* | 0.044600 | 0.743333 | CSF | 07/14/23 | SW846 6010D |
| Nickel, Total | 1.20 | mg/kg | *0.045* | **20.0** | mg/kg | *420* | *420* | 0.002400 | 0.040000 | CSF | 07/14/23 | SW846 6010D |
| Molybdenum, Total | 0.423 | mg/kg | *0.045* | **7.05** | mg/kg | *75* | | 0.000846 | 0.014100 | CSF | 07/14/23 | SW846 6010D |
| Mercury, Total | <0.1014 | mg/kg | *0.1014* | **<1.69** | mg/kg | | | 0.000203 | 0.003383 | BRM-Alloway | 07/18/23 | SW846-7471A |
| PCBs, Total | <0.0672 | mg/kg | *0.067* | **<1.12** | mg/kg | | | 0.000134 | 0.002233 | AOP-alloway | 07/18/23 | SW-8082A |
| Moisture, Percent | 94.0 | % | *0.1* | | | | | | | LND | 07/13/23 | SM2540 G |
| Solids, Total (%) | 6.0 | % | *0.1* | **100** | % | | | 120 | 2000 | LND | 07/13/23 | SM2540 G |

The reported results relate only to the samples as they have been received by the laboratory. The analytical methods used conform to the current version of 40 CFR part 136.3 unless otherwise noted. All Standard Methods for the Examination of Water and Wastewater test procedures, are performed in accordance with the 22nd edition (2012). Upon receipt at the laboratory, all samples were stored at 6°C or below.

"<" = analyzed for but not detected at or above the reported limit
"N" = see case narrative
"Alloway" = contract laboratory

"LOQ" = Limit of Quantification
BDL = Below Detection Limit
Table 1 & 3 : mg/kg Dry Weight Basis

Approved By: Cindi Fuhrman
Cindi Fuhrman, General Manager