*Prepared for*

**Florida Power & Light Company**
700 Universe Boulevard, JES/JB
Juno Beach, Florida 33408

# CORRECTIVE ACTION GROUNDWATER MONITORING PLAN
## FLORIDA POWER & LIGHT COMPANY
## PLANT SMITH ASH POND

*Prepared by*

Geosyntec consultants

engineers | scientists | innovators

1120 North 12th Avenue
Pensacola, Florida 32501

Project Number FR8308

October 27, 2022

# TABLE OF CONTENTS

\

## TABLE OF CONTENTS (Continued)

### LIST OF TABLES



### LIST OF FIGURES

\

## LIST OF ACRONYMS

| | |
|---|---|
| ACM | Assessment of Corrective Measures |
| CAMP | Corrective Action Monitoring Plan |
| CCR | Coal Combustion Residuals |
| CFR | Code of Federal Regulations |
| CQA | Construction Quality Assurance |
| FDEP | Florida Department of Environmental Protection |
| FPL | Florida Power & Light Company |
| GWPS | Groundwater Protection Standard |
| MNA | Monitored Natural Attenuation |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| NAVD88 | North American Vertical Datum of 1988 |
| NELAP | National Environmental Laboratory Accreditation Program |
| ORP | Oxidation-Reduction Potential |
| RPD | Relative Percent Differences |
| QA/QC | Quality Assurance/Quality Control |
| SAP | Statistical Analysis Plan |
| SOP | Standard Operating Procedures |
| SSL | Statistically Significant Level |

# 1. INTRODUCTION

On behalf of Florida Power & Light Company ("FPL"), Geosyntec Consultants, Inc. ("Geosyntec") prepared this *Corrective Action Groundwater Monitoring Plan* ("CAMP") for FPL's Plant Lansing Smith ("Plant Smith" or "Site") Ash Pond, a coal combustion residuals ("CCR") unit. The CAMP outlines the monitoring program required pursuant to 40 Code of Federal Regulations ("CFR") §257.98 to evaluate the performance of the selected remedy: source control, a slurry wall, and monitored natural attenuation ("MNA").

## 1.1 Facility Background and Description

Plant Smith is an electric power generating facility located at 4300 County Road 2300, Bay County, Southport, Florida. Plant Smith is situated on approximately 1,560 acres, and the former operational area is approximately 730 acres with a relatively flat topography. The Site is bordered by undeveloped land to the north and east, Alligator Bayou to the west, and North Bay to the south. A Site location map is presented in **Figure 1**.

The Plant Smith Ash Pond is located on the southern portion of the Site near North Bay and occupies approximately 193 acres. The Ash Pond will be consolidated as part of source control into 64 acres, which is a 67% reduction in the footprint. The Ash Pond was historically used to support coal-fired operations at Plant Smith; fly ash, bottom ash, and other low-volume wastes associated with coal-fired operations were sluiced to the Ash Pond. In March 2016, Plant Smith ceased coal-fired operations, and CCR was no longer sent to the Ash Pond after the second quarter 2016. In 2021, FPL completed pre-closure activities, which included the construction of new wastewater ponds, and ceased sending non-CCR wastewater to the Ash Pond. Closure activities, which are source control measures, are discussed further below.

The CCR groundwater monitoring network wells and piezometers were installed in 2015 and are screened in the uppermost aquifer (**Figure 2**). The uppermost aquifer consists primarily of sand, silt, and clay mixtures. Groundwater flow is toward Alligator Bayou on the west side of the Ash Pond and toward North Bay on the southern side of the Ash Pond as evidenced by historic potentiometric surfaces.

Statistical analysis of data collected from the Ash Pond's CCR groundwater monitoring network indicate statistically significant levels ("SSLs") of arsenic and lithium in groundwater downgradient of the Ash Pond. As discussed in the *2021 Annual*

*Groundwater Monitoring and Corrective Action Report* (Geosyntec, 2022a), arsenic and lithium are above their applicable groundwater protection standards ("GWPSs") at MW-11 and MW-13, respectively[1]. As documented in the *Selection of Remedy Report* (Geosyntec, 2022b) and the *Monitored Natural Attenuation Evaluation* (Geosyntec, 2022c), concentrations of arsenic and lithium are decreasing, and the arsenic and lithium plumes are: (i) small; (ii) isolated; (iii) delineated; and (iv) remain on-site. To address the arsenic and lithium SSLs, a remedy was selected in July 2022.

## 1.2 Description of Remedy

The selected remedy which combines source control, a slurry wall, and MNA is briefly discussed herein. The remedy selection process and the supporting field, laboratory, and desktop evaluations demonstrating the anticipated effectiveness of the remedial technologies are detailed in the *Selection of Remedy Report* (Geosyntec, 2022b).

### 1.2.1 Source Control

Source control at Plant Smith will be achieved by the closure of the Ash Pond per the Florida Department of Environmental Protection ("FDEP") approved closure plan (Gulf Power, 2016). The selection of source control is supported by the findings and evaluations presented in the *Summary of Source Control and Slurry Wall Measures* (Golder, 2022). Additional information on source control is provided in the *Selection of Remedy Report* (Geosyntec, 2022b).

Closure includes (i) dewatering, consolidation, and capping of CCR, and (ii) installation of a subsurface (toe) drain system.

- CCR will be dewatered and excavated from the southern and eastern areas of the Ash Pond and relocated to the upland northwest corner of the Ash Pond and placed over the existing CCR. The entire closure area will be capped with a ClosureTurf™ final cover system. The consolidated footprint is approximately 64 acres, resulting in an approximate 67% reduction in the overall footprint. The approximate footprint of the consolidated area roughly coincides with the aerial extent of the slurry wall illustrated in **Figure 2**.

[1] MW-11 and MW-13 were abandoned in August 2020 to allow for pre-closure activities (*i.e.,* removal of the perimeter dike system). These wells were replaced with MW-11R in September 2022 and with MW-13R in November 2021, respectively.

- A geocomposite drainage layer will be placed on the cut slope in the CCR around the perimeter of the final closure area to collect and direct post-closure remnant drainage to a toe drain system. The toe drain will be around the entire perimeter of the final closure area. Water collected in the toe drain system will be pumped and combined with industrial wastewater and stormwater from the facility and will be discharged in accordance with FDEP-issued water discharge permits for the Site.

A *Notification of Intent to Initiate Closure* was completed on May 7, 2021, and posted to the FPL CCR Website. Final closure certification is expected in the 2023-2024 timeframe.

### 1.2.2 Slurry Wall

The addition of a slurry wall to the Ash Pond closure plan was reviewed and approved by FDEP on September 14, 2017. Additional information on the slurry wall evaluations is provided in the *Summary of Source Control and Slurry Wall Measures* (Golder, 2022) and briefly described here. The slurry wall will be installed around the entire perimeter of the final closure area from elevation 10 to -15 feet relative to the North American Vertical Datum of 1988 ("ft NAVD88") (*i.e.,* to an approximate depth of 25 feet below land surface). The maximum permeability of the slurry wall is designed to be $1 \times 10^{-7}$ centimeters per second ("cm/s"). The wall will be constructed by mixing natural subsurface soils and structural fill with bentonite using in-place mixing methods. To evaluate the permeability of the soil-bentonite mixture, field construction quality assurance ("CQA") will be conducted during the installation of the slurry wall in accordance with ASTM D5084.

Selection of the slurry wall as a component of the remedy was based on the findings and evaluations of Golder (2022) which details modeling results indicating that a slurry wall will limit migration of impacted groundwater beyond the final closure area.

### 1.2.3 MNA

MNA relies on natural attenuation processes to reduce dissolved concentrations of inorganic constituents in groundwater below groundwater protection standards within a reasonable timeframe. For Plant Smith, review of declining concentration trends, geochemical characterization, attenuation tests, and transport modeling conducted during a site-specific tiered MNA evaluation indicated that attenuation processes at the Site include mineral precipitation, sorption reactions, partitioning into organic matter, and/or

dilution and dispersion, as discussed in the *Monitored Natural Attenuation Evaluation* (Geosyntec, 2022c). MNA processes are expected to address the small, isolated, and separate arsenic and lithium plumes. As documented in the *Selection of Remedy Report* (Geosyntec, 2022b) and the *Monitored Natural Attenuation Evaluation* (Geosyntec, 2022c), temporal trends indicate that concentrations are already below GWPSs (*i.e.,* arsenic at MW-11) or expected to be below GWPS by the end of 2026 (*i.e.,* lithium at MW-13).

MNA at Plant Smith will be implemented through monitoring of groundwater to evaluate concentration data and, if needed, attenuation processes and/or changes to (geo)chemical or hydrological conditions. Changes in Site geochemical and hydrological conditions including those imposed by closure activities may affect MNA effectiveness. The projected remedial time frames may also change with potential perturbations to the groundwater. Consistent with MNA guidance (ITRC, 2010, USEPA, 2015, EPRI, 2018), this CAMP includes a contingency plan as described herein.

## 1.3 Objectives and Scope

An *Assessment of Corrective Measures* ("ACM") identified MNA, a slurry wall, and source control as potentially applicable remedial measures (Geosyntec, 2019). Remedial evaluations presented in the *Selection of Remedy Report* (Geosyntec, 2022b) indicated the selected remedy (source control, slurry wall, and MNA) was a viable remedy for the Site.

This CAMP was prepared to outline the monitoring program to evaluate the performance of the selected corrective action. The CCR Rule at 40 CFR §257.98(a)(1) specifies that the CAMP must:

- meet the requirements of the assessment monitoring program;
- document the effectiveness of the selected remedy; and
- be capable of determining whether or not downgradient concentrations comply with the GWPS.

This CAMP documents the approach for groundwater sampling and analysis at the Site to evaluate the performance of the selected remedy.

# 2. FIELD SAMPLING AND ANALYTICAL PLAN

This section specifies sampling locations and frequency, sampling methods, laboratory analytical methods, quality assurance/quality control ("QA/QC"), data evaluation, and statistical analysis. The monitoring program in this CAMP aligns with and includes a subset of the wells within the ongoing semi-annual assessment monitoring program for the Ash Pond. A contingency plan is discussed in Section 3.

## 2.1 Sampling Locations and Frequency

As documented in *Selection of Remedy Report* (Geosyntec, 2022b), the arsenic and lithium plumes are small, localized, spatially limited, and expected to remain on-site. For conditions similar to those observed at Plant Smith, Electric Power Research Institute (EPRI) guidance recommends that the CAMP include a monitoring well within the plume and/or immediately downgradient of the plume (EPRI, 2015). As such, the following wells will be sampled as part of this CAMP:

- Downgradient CCR monitoring wells:
  - MW-11R (the replacement well for MW-11) for the arsenic SSL; and
  - MW-13R (the replacement well for MW-13) for the lithium SSL.
- Horizontal delineation locations:
  - MWI-12A, which serves as the downgradient horizontal delineation point for the arsenic SSL; and
  - PZ-14, which serves as the downgradient horizontal delineation point for the lithium SSL.
- Background CCR monitoring wells:
  - MW-02;
  - MW-03; and
  - MW-12.

Monitoring well details are listed in **Table 1**, while well locations are shown in **Figure 2**.

Sampling will occur semi-annually in conjunction with the semi-annual assessment monitoring program.

## 2.2 Sampling Methods and Laboratory Analysis

This section outlines sampling and analysis procedures that will provide an accurate representation of groundwater quality at the background and downgradient CCR monitoring wells. The monitoring wells included in this CAMP are expected to yield groundwater samples that represent the groundwater quality within or immediately downgradient of the respective arsenic and lithium plumes.

Prior to sampling, depth to water measurements will be recorded from the wells included in this CAMP. Groundwater samples will be collected in general accordance with the FDEP Standard Operating Procedures ("SOP") FS2200 (FDEP, 2017) and 40 CFR §257.93 of the CCR Rule. Appropriate in-situ field instruments will be used to monitor and record field water quality parameters (pH, specific conductance, dissolved oxygen, oxidation-reduction potential ["ORP"], temperature, and turbidity) during well purging to evaluate stabilization prior to sampling.

Following sample collection, samples will be placed in ice-packed coolers and submitted to an accredited National Environmental Laboratory Accreditation Program ("NELAP") laboratory that maintains a NELAP certification for all parameters analyzed for this project and is certified to perform analyses by the State of Florida.

Samples will be analyzed for Appendix III and Appendix IV constituents. Sample collection and storage details, as well as analytical methods, are listed in **Table 2**.

## 2.3 Quality Assurance/Quality Control

This section outlines procedures and techniques for QA/QC in general accordance with U.S. Environmental Protection Agency (USEPA) guidance (USEPA, 2009, 2011). As listed in **Table 2**, QA/QC samples will include the following:

- Field duplicates will be collected at a frequency of one per group of ten or fewer groundwater samples, or one per day if ten samples are not collected.

- Equipment blank samples will be collected and analyzed at a rate of one per ten samples. If dedicated sampling equipment is used, then equipment blank samples will not be collected.

- Field blank samples will be collected and analyzed at a rate of one per ten samples.

- Matrix spike/matrix spike duplicate ("MS/MSD") samples will be collected and analyzed at a frequency of one per group of 20 or fewer groundwater samples.

These QA/QC samples will be supplemented by the analytical laboratory with additional QA/QC samples per the laboratory's SOP for each analytical method. Data from these QA/QC samples will be evaluated during data validation.

Groundwater quality data will be independently validated in accordance with USEPA guidance (USEPA, 2011) and the analytical methods. Data validation will generally consist of reviewing sample integrity, holding times, laboratory method blanks, laboratory control samples, MS/MSD, duplicate recoveries and relative percent differences ("RPDs"), post digestions spikes, laboratory and field duplicate RPDs, field and equipment blanks, and reporting limits. Where appropriate, validation qualifiers and flags are applied to the data using USEPA procedures as guidance (USEPA, 2017).

## 2.4 Data Evaluation and Statistical Analysis

Statistical analysis of corrective action groundwater monitoring data will be performed using the Sanitas™ v.9.6.05 groundwater statistical software. Sanitas™ is a decision support software package that incorporates statistical tests required of Subtitle C and D facilities by USEPA regulations and incorporates methods recommended in the *Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance* (USEPA, 2009). Statistical analysis will be performed in accordance with the *Statistical Analysis Plan* ("SAP") (Groundwater Stats Consulting, 2017).

The reported analytical concentrations for arsenic and lithium from MW-11R and MW-13R will be compared to the respective GWPSs. At least annually:

- trend analyses will be performed for each SSL well per the SAP;

- the estimated first-order attenuation rate constants will be (re)evaluated and compared to those reported previously (Geosyntec 2022c); and

- the remediation timeframe to reach GWPS will be (re)assessed.

Since the completion of closure activities may result in changes in groundwater and geochemical conditions at the Site, trend tests will begin following closure certification

and the completion of four groundwater sampling events, which is expected in the 2025-2026 timeframe. The statistical approach for comparing corrective action groundwater monitoring data is consistent with EPRI guidance (EPRI 2015).

## 3. CONTINGENCY PLAN

A tiered MNA evaluation documented the viability of MNA, when coupled with source control and the slurry wall, to address SSLs observed at Plant Smith (Geosyntec, 2022c). Consistent with applicable guidance documents (USEPA, 2015; ITRC, 2010; EPRI, 2018) and 40 CFR §257.98(b), this CAMP includes a remedial decision framework to evaluate contingencies. Contingency actions may range in scope from additional desktop or field evaluations to selection and implementation of alternative corrective measures.

If the selected remedy (source control, slurry wall, and MNA) is not performing as anticipated after the first five consecutive years following closure certification, as evidenced by decreasing trends of SSLs, Site conditions will be reevaluated. A five-year duration is warranted to allow time to observe the effects of the source control measures and the slurry wall at downgradient wells and for potential long-term changes to hydraulic and/or geochemical conditions to be realized. Groundwater conditions will continue to be monitored via the assessment monitoring program, including the monitoring outlined in this CAMP, before and after closure certification.

Reevaluation of Site conditions will be constituent specific to assess whether there are changes that require further study to understand the anticipated long-term success of the corrective action. This, for example, may include one or more of the following:

- Additional data collection to evaluate geochemical conditions (*e.g.,* major ions, pH, ORP, sulfide, speciation of arsenic) and geochemical and/or transport modeling to understand if conditions have changed that would affect chemical or physical attenuation mechanisms and rates.

- A review and potentially a field assessment of post-closure hydraulic conditions to assess if observed conditions are comparable to pre-closure groundwater flow conditions.

- Reevaluation of the attenuation rates and predicted remedial timeframe to achieve GWPS.

If these evaluations indicate that conditions promoting natural attenuation are no longer sufficient to meet remedial objectives within a reasonable timeframe, alternative remedial technologies may need to be considered. Alternative groundwater remedial technologies were evaluated in the ACM, including hydraulic containment (pump and treat), installation of a permeable reactive barrier, *in-situ* injection, and phytoremediation

(Geosyntec 2019). If this contingency step were to occur, the ACM process may need to be revisited to incorporate updated Site conditions. If an alternative corrective measure is selected, MNA may still be considered as a component of the newly selected remedy.

Separate components of the contingency plan are related to sampling frequency and vertical delineation.

- Sampling under this CAMP will occur semi-annually in conjunction with the semi-annual assessment monitoring program. While unlikely, more frequent sampling may be employed under certain conditions including but not limited to the following:
    - to enable faster completion of statistical evaluation for (re)installed wells and/or after the completion of source control activities; and/or
    - to assess groundwater conditions if substantial changes in geochemical conditions or SSL concentration trends are identified.
- The vertical delineation piezometers PZ-11D and PZ-13D were abandoned in 2020 to facilitate Ash Pond closure activities. The need for additional vertical delineation activities will be reassessed as additional monitoring data from CCR monitoring wells MW-11R and MW-13R, respectively, becomes available and is evaluated per the SAP.

The above contingency actions assume SSLs remain limited to arsenic and/or lithium at MW-11R and MW-13R, respectively.

- If SSLs for arsenic or lithium are observed at other CCR groundwater monitoring wells, the following will occur:
    - An evaluation of geochemical and hydraulic conditions to assess the suitability of MNA to meet remedial objectives within a reasonable timeframe.
    - Addition of the SSL location to the monitoring program outlined under this CAMP; and
    - Evaluation the nature and extent (delineation) of the SSL constituent.

- If SSLs for other Appendix IV constituents beyond arsenic and lithium are observed, a separate ACM will be performed for that constituent in accordance with 40 CFR §257.96.

## 4. REPORTING

Data collection and evaluation under this CAMP will be documented in each year's *Annual Groundwater Monitoring and Corrective Action Report*, which will include status updates on remedy implementation progress, compliance with the GWPS for each SSL constituent, and any changes to the anticipated implementation schedule. Following closure certification and completion of four groundwater sampling events, updated trend analyses and projected timeframes to attain GWPS will also be reported in the *Annual Groundwater Monitoring and Corrective Action Report*.

Corrective action will be considered complete when the compliance level, as defined in 40 CFR §257.98(c), is achieved, including a three consecutive year period of concentration confident intervals being statistically below GWPSs. Notification of remedy completion is due within 30 days per 40 CFR §257.98(e).

## 5. REFERENCES

EPRI, 2015. *Groundwater Monitoring Guidance for the Coal Combustion Residuals Rule*. Palo Alto, CA. 3002006287 November.

EPRI. 2018. *Framework and Demonstration for Monitored Natural Attenuation at Coal Combustion Product Sites*. Palo Alto, California. 3002013616.

Florida Department of Environment Protection (FDEP), 2017. *Department of Environmental Protection Standard Operating Procedures for Field Activities.* DEP-SOP-001/01. Florida Department of Environmental Protection. January.

Geosyntec Consultants, 2019. *Assessment of Corrective Measures Report*, Gulf Power Company, Plant Smith, Ash Pond, June.

Geosyntec, 2022a. *2021 Annual Groundwater Monitoring and Corrective Action Report*. Florida Power & Light Company – Plant Smith Ash Pond. January.

Geosyntec, 2022b. *Selection of Remedy Report*. Gulf Power Company – Plant Smith Ash Pond. July.

Geosyntec, 2022c. *Monitored Natural Attenuation Evaluation*. Gulf Power Company – Plant Smith Ash Pond. July.

Golder, 2022. *Summary of Source Control and Slurry Wall Measures.* Florida Power & Light Company – Plant Smith Ash Pond. July.

Groundwater Stats Consulting (GSC), 2017. *Gulf Power Company, Plant Smith, Ash Pond, Statistical Analysis Plan*. October.

Gulf Power Company, 2016. *Plant Smith Ash Pond Closure Plan*. May.

ITRC, 2010. *A Decision Framework for Applying Monitored Natural Attenuation Processes to Metals and Radionuclides in Groundwater*. APMR-1. Washington, D.C.: ITRC, Attenuation Processes for Metals and Radionuclides Team. December.

USEPA, 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance*. Office of Resource Conservation and Recovery – Program Implementation and Information Division. March.

USEPA, 2011. *Region* IV *Data Validation Standard Operating Procedures.* Science and Ecosystem Support Division. Region IV. Athens, GA. September.

USEPA, 2015. *Use of Monitored Natural Attenuation for Inorganic Contaminants in Groundwater at Superfund Sites*. Office of Solid Waste and Emergency Response, Directive 9283.1-36. August.

USEPA, 2017. *National Functional Guidelines for Inorganic Superfund Methods Data Review*. Office of Superfund Remediation and Technology Innovation. OLEM 9355.0-135 [EPA-540-R-2017-001]. Washington, DC. January.

# TABLES

# Table 1. Groundwater Monitoring Location Details
## Florida Power & Light Company - Plant Smith Ash Pond, Bay County, Florida

| Monitoring Location | Installation Date | Northing | Easting | Ground Elevation | Top of Casing Elevation | Top of Screen Elevation | Bottom of Screen Elevation | Designation |
|---|---|---|---|---|---|---|---|---|
| MW-02 | 11/10/2015 | 464419.66 | 1592286.78 | 10.26 | 13.29 | -2.71 | -12.71 | Background |
| MW-03 | 11/10/2015 | 464322.49 | 1594277.21 | 10.98 | 14.06 | -8.94 | -18.94 | Background |
| MW-12 | 11/11/2015 | 462362.00 | 1589322.96 | 8.21 | 11.14 | -10.56 | -20.56 | Background |
| MW-11R | 8/17/2022 | 462151.51 | 1593304.67 | 10.96 | 14.11 | -7.04 | -17.04 | Downgradient |
| MWI-12A | Unknown | 461669.34 | 1593482.68 | Unknown | 9.82 | 4.32 | -5.68 | Delineation Well |
| MW-13R | 11/2/2021 | 462673.45 | 1590519.02 | 11.51 | 14.81 | -6.99 | -16.99 | Downgradient |
| PZ-14 | 12/4/2018 | 462584.13 | 1590334.98 | 10.08 | 9.87 | -4.92 | -14.92 | Delineation Piezometer |

**Notes:**

1. Northing and easting are in feet relative to the State Plane Florida North Datum of 1983.
2. Elevations are in feet relative to the North American Vertical Datum of 1988.

# Table 2. Sampling and Analysis Summary
## Florida Power & Light Company - Plant Smith Ash Pond, Bay County, Florida



| Parameter | Analytical Method[1] | No. of Samples | Field Duplicates[2] | Field Blanks[3] | Equipment Blanks[3] | MS/MSD[4] | Total[5] | Container Type | Preservation (Cool to 4 °C for all samples) | Sample Hold Time from Collection Date |
|---|---|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | | | |
| Metals[6] | 6020 | 7 | 2[7] | 1 | 1 | 1 | 12 | plastic | $HNO_3$ to pH<2 | 6 months |
| Mercury | 7470A | 7 | 2 | 1 | 1 | 1 | 12 | plastic | $HNO_3$ to pH<2 | 28 days |
| **Inorganic Parameters** | | | | | | | | | | |
| Fluoride | 300 or SM 4500 | 7 | 2 | 1 | 1 | 1 | 12 | plastic | Cool to 4 °C | 28 days |
| Chloride | SM 4500 | 7 | 2 | 1 | 1 | 1 | 12 | plastic | Cool to 4 °C | 28 days |
| Sulfate | SM 4500 | 7 | 2 | 1 | 1 | 1 | 12 | plastic | Cool to 4 °C | 28 days |
| Total Dissolved Solids | SM 2540 C | 7 | 2 | 1 | 1 | 1 | 12 | plastic | Cool to 4 °C | 7 days |
| **Radium** | | | | | | | | | | |
| Radium 226 | 9315 | 7 | 2 | 1 | 1 | 1 | 12 | plastic | $HNO_3$ to pH<2 | 6 months |
| Radium 228 | 9320 | 7 | 2 | 1 | 1 | 1 | 12 | plastic | $HNO_3$ to pH<2 | 28 days |
| **Field Parameters** | | | | | | | | | | |
| pH | SM 4500-H+ B | 7 | N/A | N/A | N/A | N/A | 7 | flow-through cell | none | immediately |
| Dissolved Oxygen | SM 4500-O/405.1 | 7 | N/A | N/A | N/A | N/A | 7 | flow-through cell | none | immediately |
| Temperature | SM 2550 | 7 | N/A | N/A | N/A | N/A | 7 | flow-through cell | none | immediately |
| Oxidation-Reduction Potential | SM 2580 B | 7 | N/A | N/A | N/A | N/A | 7 | flow-through cell | none | immediately |
| Specific Conductance | SM 2510 B | 7 | N/A | N/A | N/A | N/A | 7 | flow-through cell | none | immediately |
| Turbidity[8] | SM 2130 B | 7 | N/A | N/A | N/A | N/A | 7 | flow-through cell/ hand-held turbiditv meter | none | immediately |
| Depth to Water | N/A | 7 | N/A | N/A | N/A | N/A | 7 | N/A | none | immediately |

**Notes:**

[1]Analytical method numbers are from SW-846 unless otherwise indicated. Analytical methods may be updated with more recent versions as appropriate.

[2]Field duplicates will be collected at a frequency of one per group of ten groundwater samples, or one per day if ten samples are not collected.

[3]Field blanks will be collected at a rate of one per ten samples; Equipment blanks will be collected at a rate of one per ten samples, if non-dedicated equipment is used.

[4]Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples will be collected at a frequency of one per group of 20 or fewer investigative samples per CCR unit/multi-unit. Additional volume to be determined by laboratory.

[5] Total refers to the total number of samples and QA/QC samples.

[6]Metals = antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, lead, lithium, molybdenum, selenium, thalllium.
Metals may be analyzed via ICP/ICP-MS USEPA methods 6010 or 6020 depending on laboratory instrument availability.

[7]Two days sampling event assumed. Need to be adjusted according to Note 2.

[8]The target sample turbidity is less than 5 NTU. However, samples with a turbidity above 5 NTU can be collected if a minimum of 5 well volumes have been purged and the turbidity trend is not decreasing.

< = less than

°C = degrees Celsius

$HNO_3$ = nitric acid

N/A = not applicable

NTU = nephelometric turbidity unit

# FIGURES


**Legend**

- Approximate Ash Pond Boundary (CCR Unit)
- Approximate Property Boundary

Notes:
1. CCR indicates Coal Combustion Residuals.
2. Aerial phtography shown is blended from an aerial image provided by Florida Power & Light on 10/6/2022 and 2020 World Imagery by Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.
3. Source of inset World Street Map: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community.

## Site Location Map

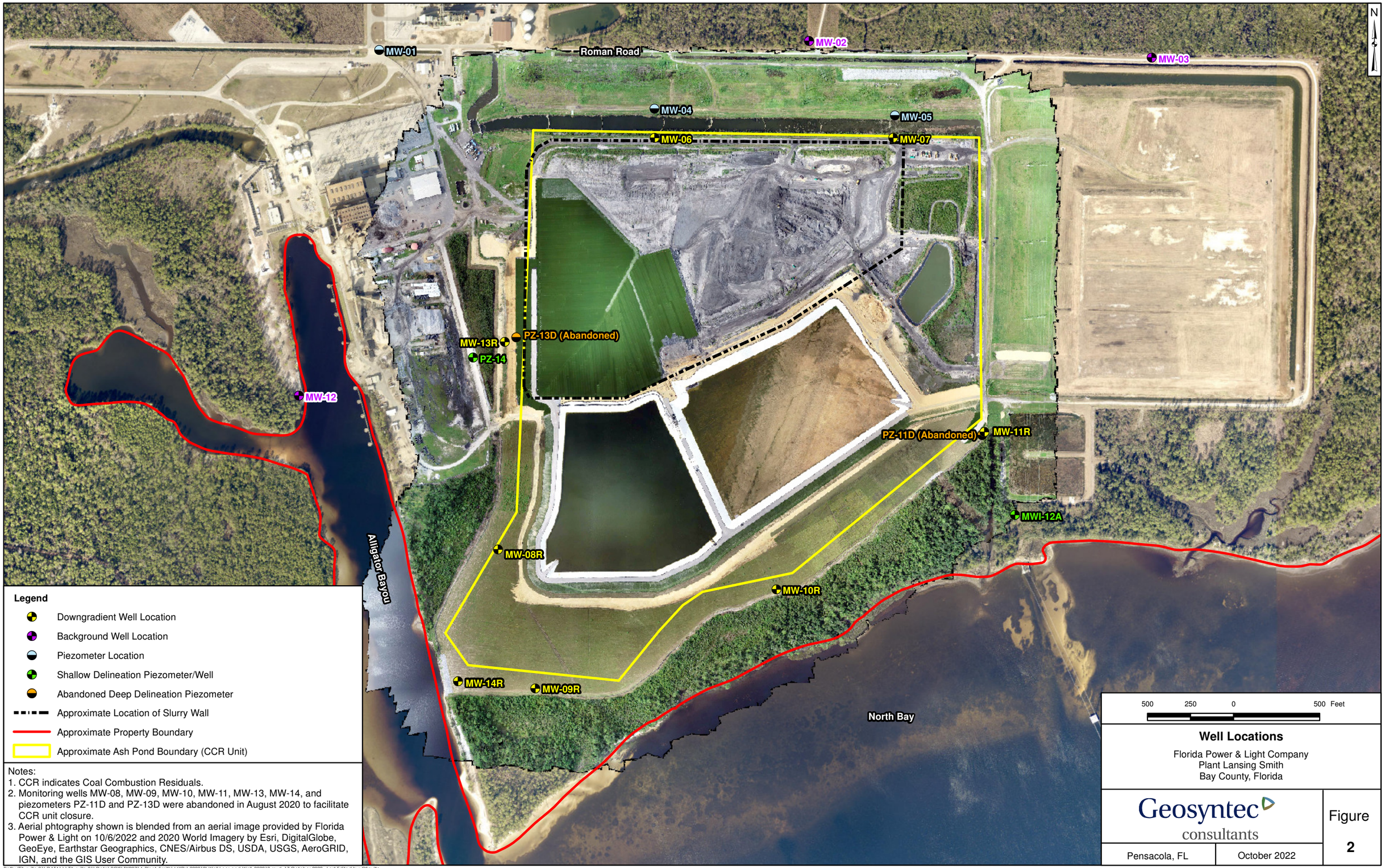
Florida Power & Light Company
Plant Lansing Smith
Bay County, Florida

Geosyntec consultants

Pensacola, FL | October 2022

Figure 1

Path: (Titusville-01\DATA) \\Titusville-01\Data\0GIS\TXR0714_Plant_Smith\MXDs\202210\SiteLocationMap_PlantSmith.mxd 14 October 2022, Last Edited by: CSaville




**Legend**

- Downgradient Well Location
- Background Well Location
- Piezometer Location
- Shallow Delineation Piezometer/Well
- Abandoned Deep Delineation Piezometer
- Approximate Location of Slurry Wall
- Approximate Property Boundary
- Approximate Ash Pond Boundary (CCR Unit)

Notes:
1. CCR indicates Coal Combustion Residuals.
2. Monitoring wells MW-08, MW-09, MW-10, MW-11, MW-13, MW-14, and piezometers PZ-11D and PZ-13D were abandoned in August 2020 to facilitate CCR unit closure.
3. Aerial phtography shown is blended from an aerial image provided by Florida Power & Light on 10/6/2022 and 2020 World Imagery by Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

# Well Locations

Florida Power & Light Company
Plant Lansing Smith
Bay County, Florida

Geosyntec consultants

Pensacola, FL | October 2022

Figure 2

Path: [Tifusville-01\DATA] \\Tifusville-01\Data\0GIS\TXR0714_Plant_Smith\MXDs\202210\Well Locs and Wall_202210.mxd 17 October 2022. Last Edited by: CSaville