

June 24, 2021

El Kromhout, PG
Environmental Administrator
Florida Department of Environmental Protection
Permitting and Compliance Assistance Program
2600 Blair Stone, MS #4565
Tallahassee, Florida 32399

RE: Citrus County Central Landfill
5-year Permit Report and Minor Operations Permit Modification Application
FDEP Solid Waste Operations Permit No.: 21375-025-SO-01
WACS# 39859
Jones Edmunds Project No.: 03860-087-01

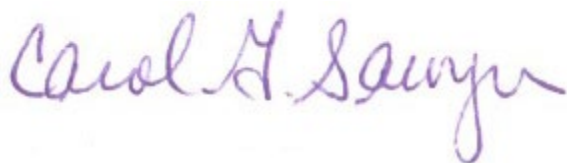
Dear Ms. Kromhout:

On behalf of the Citrus County Solid Waste Management Department, Jones Edmunds is submitting the enclosed 5-year report and application for a Minor Operations Permit Modification at the Citrus County Central Landfill in Lecanto, Florida. The current operation permit is a 10-year permit that was issued on August 15, 2016. In accordance with Specific Condition A.5, submittals are required every 5 years; accordingly, the enclosed document includes an updated Operation Plan, updated Closure and Long-Term Care Plan, recalculated closure and long-term care costs, and the leachate collection system cleaning report. The document also proposes the following minor permit modifications: revising the Class I landfill phasing plans and requesting approval for the occasional use of two working faces. The enclosed application includes Application Form 62-701.900(1) and supporting documentation.

The County will electronically submit the \$250 permit application fee.

If you have any questions or would like to discuss this application, please contact me at (352) 377-5821 or at csawyer@jonesedmunds.com.

Sincerely,



Carol G. Sawyer, PE
Project Manager
730 NE Waldo Road
Gainesville, Florida 32641

Enclosures

**CITRUS COUNTY CENTRAL LANDFILL
FIVE-YEAR REPORT AND
MINOR OPERATIONS PERMIT MODIFICATION APPLICATION**

Prepared for:

Citrus County Solid Waste Management Department
230 W. Gulf to Lake Hwy
Lecanto, Florida 34461



Prepared by:

Jones Edmunds
730 NE Waldo Road
Gainesville, Florida 32641

JonesEdmunds

Certificate of Engineering Authorization #1841

Jones Edmunds Project No.: 03860-087-01

June 2021

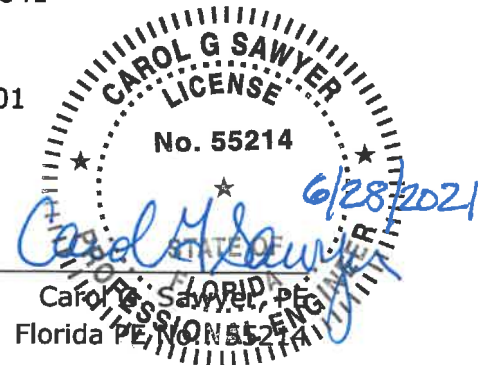


TABLE OF CONTENTS

INTRODUCTION

APPLICATION TO CONSTRUCT, OPERATE, MODIFY, OR CLOSE A SOLID WASTE MANAGEMENT FACILITY – FDEP FORM 62-701.900(1)

SUPPORTING DOCUMENTATION

PART K LANDFILL OPERATION REQUIREMENTS

PART N GAS MANAGEMENT SYSTEM REQUIREMENTS

Attachment N.2 Landfill Gas Monitoring Inventory

PART O LANDFILL FINAL CLOSURE REQUIREMENTS

PART P OTHER CLOSURE PROCEDURES

PART Q LONG-TERM CARE

PART R FINANCIAL ASSURANCE

Attachment R.1 Financial Assurance Closure and Long-Term Care Cost
Estimate

APPENDICES

Appendix A Operation Plan

Appendix B Closure and Long-Term Care Plan

Appendix C Florida Jetclean Report and Technical Memorandum

Introduction

INTRODUCTION

This 5-year report, permit application, and supporting documents are being submitted on behalf of the Citrus County Solid Waste Management Department (County) for the Citrus County Central Landfill (CCCL).

The CCCL is in Lecanto, Florida, at 230 W. Gulf to Lake Highway (State Highway [SR] 44). The facility consists of an active, lined 32-acre Class I Landfill (Phases 1, 1A, 2, and 3) and three closed Class I Landfills. Two of the three closed landfills are unlined. The active landfill began accepting waste in 1991. The active landfill has an active Gas Collection and Control System (GCCS). The closed landfills have primarily passive landfill gas (LFG) vents. In 2019, a small blower system was installed on the north side of the closed landfills to pull LFG from several of the vents in the closed cells; this system was installed to reduce LFG from migrating into the groundwater. The facility operates under the following Florida Department of Environmental Protection (FDEP) permits:

- Solid Waste Operations: Permit No. 21375-025-SO-01 (expires August 15, 2026).
- Title V Air Operations: Permit No. 0170366-007-AV (expires March 15, 2026).

The 5-year report was prepared in accordance with Specific Condition A.5 of the Solid Waste Operations Permit. The enclosed report includes the following:

- An updated Operation Plan.
- An updated Closure and Long-Term Care Plan (CLTCP).
- Revised closure and long-term care cost estimate by recalculating the total cost for closure and long-term care of the facility.
- Documentation showing that the leachate collection system has been water pressure cleaned.

In addition, the enclosed permit application is requesting a minor permit modification to the facility's solid waste operations permit. Additional details are provided below.

FIVE-YEAR REPORT SUMMARY

The Operation Plan was updated to reflect current personnel and equipment, figures and forms were updated to reflect current conditions, and appendices to the Plan were updated. No significant changes were made to Operation Plan, and the layout follows Part K of the permit application. Appendix A provides the updated Operation Plan.

Jones Edmunds prepared a CLTCP for the CCCL. The CLTCP provides guidelines and procedures for the closure requirements, closure construction, inspection, maintenance, repairs, monitoring, and recordkeeping for the CCCL. The closed landfill cells of the CCCL are not in long-term care because the groundwater monitoring network surrounds the whole facility; the County maintains the closed cells routinely (including mowing and regular inspections). Appendix B provides the CLTCP.

Part R provides the recalculated closure and long-term care cost estimates for the CCCL. The cost estimates are based on a third party performing the work on a per-unit basis.

The active landfill's leachate collection system was pressure cleaned and video inspected in July 2020 by Florida Jetclean. Appendix C includes a technical memorandum prepared by Jones Edmunds summarizing the recent leachate cleaning performed at the site and our observations. The technical memorandum includes the report by Florida Jetclean describing the most recent cleaning and inspection.

PROPOSED PERMIT MODIFICATIONS

This application proposes the following modifications to the solid waste operations permit:

1. Modifying the permit to allow the occasional use of two working faces at the Class I landfill.
2. Modifying the existing waste fill sequence plans.

The intent of the request for an additional working face is to improve site conditions at the CCCL by promoting efficient landfilling and safety for haulers and residents using the site for waste disposal. The CCCL has a high number of residential customers that direct haul their waste to the site. To keep the residential and commercial haulers separated at the working face, the County would like the option of operating two working faces. Each working face will have the required trained equipment operators/spotters. The second working face for residential users will be wide enough to accommodate vehicles discharging waste and related landfill equipment, minimize the exposed area, and prevent the use of unnecessary daily cover material. The secondary working face will not be constructed with slopes steeper than 3H:1V or as would violate normal safety practices. The Operations Crew Leader will be responsible for determining the alternate working face location. This modification will give the County the flexibility to operate two working faces simultaneously on an occasional basis. The Operation Plan provided with this application was revised to include the option for a second working face.

The County also proposes to revise the fill sequence plan (Appendix C to the Operation Plan). The revised fill sequence plans include filling Phases 1A, 2, and 3 to the current elevation of Phase 1; then to fill in each phase to the bench elevation of 183.5 feet; then to fill each phase to the peak permitted buildout elevation. The revised fill sequencing will provide the County greater flexibility in waste-filling operations at the active landfill.

**Application for a Permit to Construct,
Operate, Modify, or Close a Solid Waste
Management Facility**

FDEP Form 62-701.900(1)



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form #: 62-701.900(1), F.A.C.
Form Title: Application to Construct, Operate, Modify, or
Close a Solid Waste Management Facility
Effective Date: February 15, 2015
Incorporated in Rule: 62-701.330(3), F.A.C.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

APPLICATION TO CONSTRUCT, OPERATE, MODIFY, OR CLOSE A SOLID WASTE MANAGEMENT FACILITY

APPLICATION INSTRUCTIONS AND FORMS

Northwest District
160 Governmental Street
Suite 308
Pensacola, FL 32502-5794
850-595-8300

Northeast District
7777 Baymeadows Way West
Suite 100
Jacksonville, FL 32256-7590
904-256-1700

Central District
3319 Maguire Boulevard
Suite 232
Orlando, FL 32803-3767
407-897-4100

Southwest District
13051 North Telecom Pkwy
Temple Terrace, FL 33637
813-470-5700

South District
2295 Victoria Ave, Suite 364
P.O. Box 2549
Fort Myers, FL 33901-3881
239-344-5600

Southeast District
3301 Gun Club Road
MSC 7210-1
West Palm Beach, FL 33406
561-681-6600

INSTRUCTIONS TO APPLY FOR A SOLID WASTE MANAGEMENT FACILITY PERMIT

I. General

Solid Waste Management Facilities shall be permitted pursuant to Section 403.707, Florida Statutes (FS) and in accordance with Florida Administrative Code (FAC) Chapter 62-701. A permit application shall be submitted in accordance with the requirements of Rule 62-701.320(5)(a), F.A.C., to the appropriate Department office having jurisdiction over the facility. The appropriate fee in accordance with Rule 62-701.315, FAC, shall be submitted with the application by check made payable to the Department of Environmental Protection (DEP).

Complete appropriate sections for the type of facility for which application is made. Entries shall be typed or printed in ink. All blanks shall be filled in or marked "Not Applicable" or "No Substantial Change". Information provided in support of the application shall be marked "Submitted" and the location of this information in the application package indicated. The application shall include all information, drawings, and reports necessary to evaluate the facility. Information required to complete the application is listed on the attached pages of this form.

II. Application Parts Required for Construction and Operation Permits

- A. Landfills and Ash Monofills - Submit Parts A through S
- B. Asbestos Monofills - Submit Parts A, B, C, D, E, F, I, K, M, O through S
- C. Industrial Solid Waste Disposal Facilities - Submit Parts A through S

NOTE: Portions of some Parts may not be applicable.

NOTE: For facilities that have been satisfactorily constructed in accordance with their construction permit, the information required for A, B and C type facilities does not have to be resubmitted for an operation permit if the information has not substantially changed during the construction period. The appropriate portion of the form should be marked "no substantial change".

III. Application Parts Required for Closure Permits

- A. Landfills and Ash Monofills - Submit Parts A, B, L, N through S
- B. Asbestos Monofills - Submit Parts A, B, M, O through S
- C. Industrial Solid Waste Disposal Facilities - Submit Parts A, B, L through S

NOTE: Portions of some Parts may not be applicable.

IV. Permit Renewals

The above information shall be submitted at time of permit renewal in support of the new permit. However, facility information that was submitted to the Department to support the expiring permit, and which is still valid, does not need to be re-submitted for permit renewal. Portions of the application not re-submitted shall be marked "no substantial change" on the application form.

V. Application Codes

- S - Submitted
- LOCATION - Physical location of information in application
- N/A - Not Applicable
- N/C - No Substantial Change

VI. Listing of Application Parts

- PART A: GENERAL INFORMATION
- PART B: DISPOSAL FACILITY GENERAL INFORMATION
- PART C: PROHIBITIONS
- PART D: SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL
- PART E: LANDFILL PERMIT REQUIREMENTS
- PART F: GENERAL CRITERIA FOR LANDFILLS
- PART G: LANDFILL CONSTRUCTION REQUIREMENTS
- PART H: HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS
- PART I: GEOTECHNICAL INVESTIGATION REQUIREMENTS
- PART J: VERTICAL EXPANSION OF LANDFILLS
- PART K: LANDFILL OPERATION REQUIREMENTS
- PART L: WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS
- PART M: SPECIAL WASTE HANDLING REQUIREMENTS
- PART N: GAS MANAGEMENT SYSTEM REQUIREMENTS
- PART O: LANDFILL CLOSURE REQUIREMENTS
- PART P: OTHER CLOSURE PROCEDURES
- PART Q: LONG-TERM CARE
- PART R: FINANCIAL ASSURANCE
- PART S: CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
APPLICATION FOR A PERMIT TO CONSTRUCT, OPERATE, MODIFY OR CLOSE A
SOLID WASTE MANAGEMENT FACILITY

Please Type or Print

PART A. GENERAL INFORMATION

1. Type of disposal facility (check all that apply):

- | | |
|--|--|
| <input checked="" type="checkbox"/> Class I Landfill | <input type="checkbox"/> Ash Monofill |
| <input type="checkbox"/> Class III Landfill | <input type="checkbox"/> Asbestos Monofill |
| <input type="checkbox"/> Industrial Solid Waste | |
| <input type="checkbox"/> Other (describe): | |
- _____

NOTE: Waste Processing Facilities should apply on Form 62-701.900(4), FAC;
 Yard Trash Disposal Facilities should notify on Form 62-701.900(3), FAC;
 Compost Facilities should apply on Form 62-709.901(1), FAC; and
 C&D Disposal Facilities should apply on Form 62-701.900(6), FAC

2. Type of application:

- | |
|---|
| <input type="checkbox"/> Construction |
| <input checked="" type="checkbox"/> Operation |
| <input type="checkbox"/> Construction/Operation |
| <input type="checkbox"/> Closure |
| <input type="checkbox"/> Long-term Care Only |

3. Classification of application:

- | | |
|----------------------------------|--|
| <input type="checkbox"/> New | <input type="checkbox"/> Substantial Modification |
| <input type="checkbox"/> Renewal | <input type="checkbox"/> Intermediate Modification |
| | <input checked="" type="checkbox"/> Minor Modification |

4. Facility name: Citrus County Central Landfill

5. DEP ID number: 39859 County: Citrus

6. Facility location (main entrance):
230 W Gulf to Lake Highway, Lecanto, Florida 34461

7. Location coordinates:

Section: 1 Township: 19S Range: 18E
 Latitude: 28 ° 51 ' 7.16 " Longitude: 82 ° 26 ' 11.46 "
 Datum: NAD83 Coordinate method: Digital Aerial Photography (OCULUS)
 Collected by: Chad Spreadbury Company/Affiliation: Jones Edmunds

8. Applicant name (operating authority): Citrus County Solid Waste Management Department
Mailing address: 230 W. Gulf to Lake Highway Lecanto Florida 34461
Street or P.O. Box City State Zip
Contact person: Henry Norris, Jr. Telephone: (352) 527-7670
Title: Solid Waste Director
henry.norris@citrusbocc.com
E-Mail address (if available)

9. Authorized agent/Consultant: Jones Edmunds & Associates, Inc.
Mailing address: 730 NE Waldo Rd, Gainesville, Florida 32641
Street or P.O. Box City State Zip
Contact person: Carol G. Sawyer, PE Telephone: (352) 377-5821
Title: Project Manager
csawyer@jonesedmunds.com
E-Mail address (if available)

10. Landowner (if different than applicant): (same as applicant)
Mailing address: _____
Street or P.O. Box City State Zip
Contact person: _____ Telephone: (____) _____

E-Mail address (if available)

11. Cities, towns, and areas to be served:
Citrus County, including the municipalities of (but not limited to): Inverness, Lecanto,
and Crystal River.

12. Population to be served:
Current: 149,383 (2020 est., BEBR) Five-Year Projection: 157,062 (2025 projection, BEBR)

13. Date site will be ready to be inspected for completion: N/A

14. Expected life of the facility: 9 years

15. Estimated costs:
Total Construction: \$ N/A Closing Costs: \$ 6,544,269

16. Anticipated construction starting and completion dates:
From: N/A To: N/A

17. Expected volume or weight of waste to be received:
_____ yds³/day +/- 350 tons/day _____ gallons/day

PART B. DISPOSAL FACILITY GENERAL INFORMATION

1. Provide brief description of disposal facility design and operations planned under this application:
The permit application is requesting a minor permit modification to the facility's solid waste operations permit for updates to their fill sequence plan and the addition of a second working face to promote safe access for small and large waste haulers. This application is also part of the 5-year report required in accordance with Specific Condition A.5.

2. Facility site supervisor: Henry Norris, Jr.
Title: Solid Waste Director Telephone: (352) 527-7670
henry.norris@citrusbocc.com
E-Mail address (if available)

3. Disposal area: Total acres: 60 closed; 32 active Used acres: _____ Available acres: _____

4. Weighing scales used: Yes No

5. Security to prevent unauthorized use: Yes No

6. Charge for waste received: _____ \$/yds³ 30.00 _____ \$/ton

7. Surrounding land use, zoning:

- | | |
|--|---|
| <input type="checkbox"/> Residential | <input checked="" type="checkbox"/> Industrial |
| <input type="checkbox"/> Agricultural | <input type="checkbox"/> None |
| <input checked="" type="checkbox"/> Commercial | <input checked="" type="checkbox"/> Other (describe): |

Conservation

8. Types of waste received:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Household | <input checked="" type="checkbox"/> C & D debris |
| <input checked="" type="checkbox"/> Commercial | <input type="checkbox"/> Shredded/cut tires |
| <input type="checkbox"/> Incinerator/WTE ash | <input checked="" type="checkbox"/> Yard trash |
| <input type="checkbox"/> Treated biomedical | <input type="checkbox"/> Septic tank |
| <input type="checkbox"/> Water treatment sludge | <input type="checkbox"/> Industrial |
| <input type="checkbox"/> Air treatment sludge | <input checked="" type="checkbox"/> Industrial sludge |
| <input type="checkbox"/> Agricultural | <input checked="" type="checkbox"/> Domestic sludge |
| <input checked="" type="checkbox"/> Asbestos | <input type="checkbox"/> Other (describe): |

9. Salvaging permitted: Yes No
10. Attendant: Yes No Trained operator: Yes No
11. Trained spotters: Yes No Number of spotters used: Minimum of one
12. Site located in: Floodplain Wetlands Other (describe):
Upland
-
13. Days of operation: Monday-Saturday and some holidays
14. Hours of operation: Monday-Friday: 8:00am-4:30pm; Saturday and holidays: 8:00am-2:30pm
15. Days working face covered: Monday-Saturday
16. Elevation of water table: 7 ft. Datum Used: NGVD 1929
17. Number of monitoring wells: 28
18. Number of surface monitoring points: N/A
19. Gas controls used: Yes No Type controls: Active Passive
- Gas flaring: Yes No Gas recovery: Yes No
20. Landfill unit liner type:
- | | |
|---|--|
| <input type="checkbox"/> Natural soils | <input checked="" type="checkbox"/> Double geomembrane |
| <input type="checkbox"/> Single clay liner | <input type="checkbox"/> Geomembrane & composite |
| <input type="checkbox"/> Single geomembrane | <input checked="" type="checkbox"/> Double composite |
| <input type="checkbox"/> Single composite | <input type="checkbox"/> None |
| <input type="checkbox"/> Slurry wall | <input type="checkbox"/> Other (describe): |
-
21. Leachate collection method:
- | | |
|--|---|
| <input checked="" type="checkbox"/> Collection pipes | <input type="checkbox"/> Double geomembrane |
| <input checked="" type="checkbox"/> Geonets | <input type="checkbox"/> Gravel layer |
| <input type="checkbox"/> Well points | <input type="checkbox"/> Interceptor trench |
| <input type="checkbox"/> Perimeter ditch | <input type="checkbox"/> None |
| <input type="checkbox"/> Other (describe): | |
-

22. Leachate storage method:

- Tanks Surface impoundments
 Other (describe):

23. Leachate treatment method:

- Oxidation Chemical treatment
 Secondary Settling
 Advanced None
 Other (describe):

Aeration pretreatment.

24. Leachate disposal method:

- Recirculated Pumped to WWTP
 Transported to WWTP Discharged to surface water/wetland
 Injection well Percolation ponds
 Evaporation Spray irrigation
 Other (describe):

25. For leachate discharged to surface waters:

Name and Class of receiving water:

N/A

26. Storm Water:

Collected: Yes No

Type of treatment:

Dry retention/percolation.

Name and Class of receiving water:

None

27. Environmental Resources Permit (ERP) number or status:

ERP No. 09-0292195-001 (Closed Landfill)

ERP No. 09-0291076-001 (Active Landfill)

PART C. PROHIBITIONS (62-701.300, FAC)

LOCATION

- S _____ N/A N/C 1. Provide documentation that each of the siting criteria will be satisfied for the facility; (62-701.300(2), FAC)
- S _____ N/A N/C 2. If the facility qualifies for any of the exemptions contained in Rules 62-701.300(12), (13) and (16) through (18), FAC, then document this qualification(s);
- S _____ N/A N/C 3. Provide documentation that the facility will be in compliance with the burning restrictions; (62-701.300(3), FAC)
- S _____ N/A N/C 4. Provide documentation that the facility will be in compliance with the hazardous waste restrictions; (62-701.300(4), FAC)
- S _____ N/A N/C 5. Provide documentation that the facility will be in compliance with the PCB disposal restrictions; (62-701.300(5), FAC)
- S _____ N/A N/C 6. Provide documentation that the facility will be in compliance with the biomedical waste restrictions; (62-701.300(6), FAC)
- S _____ N/A N/C 7. Provide documentation that the facility will be in compliance with the Class I surface water restrictions; (62-701.300(7), FAC)
- S _____ N/A N/C 8. Provide documentation that the facility will be in compliance with the special waste for landfills restrictions; (62-701.300(8), FAC)
- S _____ N/A N/C 9. Provide documentation that the facility will be in compliance with the liquid restrictions; (62-701.300(10), FAC)
- S _____ N/A N/C 10. Provide documentation that the facility will be in compliance with the used oil and oily waste restrictions; (62-701.300(11), FAC)
- S _____ N/A N/C 11. Provide documentation that the facility will be in compliance with the CCA treated wood restrictions; (62-701.300(14), FAC)
- S _____ N/A N/C 12. Provide documentation that the facility will be in compliance with the dust control restrictions; (62-701.300(15), FAC)

PART D. SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL (62-701.320, FAC)

LOCATION

- | | | | | |
|----------------------------|-------|---|------------------------------|---|
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | 1. A minimum of one completed electronic application form, all supporting data and reports; (62-701.320(5)(a), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | 2. Engineering and/or professional certification (signature, date, and seal) provided on the applications and all engineering plans, reports, and supporting information for the application; (62-701.320(6), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | 3. A letter of transmittal to the Department; (62-701.320(7)(a), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | 4. A completed application form dated and signed by the applicant; (62-701.320(7)(b), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | 5. Permit fee specified in Rule 62-701.315, FAC in check or money order, payable to the Department; (62-701.320(7)(c), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | 6. An engineering report addressing the requirements of this rule and with the following format: a cover sheet, text printed on 8 ½ inch by 11 inch consecutively numbered pages, a table of contents or index, the body of the report and all appendices including an operation plan, contingency plan, illustrative charts and graphs, records or logs of tests and investigations, engineering calculations; (62-701.320(7)(d), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | 7. Operation Plan and Closure Plan; (62-701.320(7)(e)1, FAC) |
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | 8. Contingency Plan; (62-701.320(7)(e)2, FAC) |
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | 9. Plans or drawings for the solid waste management facilities in appropriate format (including sheet size restrictions, cover sheet, legends, north arrow, horizontal and vertical scales, elevations referenced to NGVD 1929) showing: (62-701.320(7)(f), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | a. A regional map or plan with the project location in relation to major roadways and population centers; |
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | b. A vicinity map or aerial photograph no more than one year old showing the facility site and relevant surface features located within 1000 feet of the facility; |
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | c. A site plan showing all property boundaries certified by a Florida Licensed Professional Surveyor and Mapper; |
| S <input type="checkbox"/> | _____ | N/A <input checked="" type="checkbox"/> | N/C <input type="checkbox"/> | d. Other necessary details to support the engineering report, including referencing elevations to a consistent, nationally recognized datum, and identifying the method used for collecting latitude and longitude data; |

LOCATION

PART D CONTINUED

S _____ N/A N/C

10. Documentation that the applicant either owns the property or has legal authority from the property owner to use the site; (62-701.320(7)(g), FAC)

S _____ N/A N/C

11. For facilities owned or operated by a county, provide a description of how, if any, the facilities covered in this application will contribute to the county's achievement of the waste reduction and recycling goals contained in Section 403.706, FS; (62-701.320(7)(h), FAC)

S _____ N/A N/C

12. Provide a history and description of any enforcement actions taken by the Department against the applicant for violations of applicable statutes, rules, orders, or permit conditions relating to the operation of any solid waste management facility in the state; (62-701.320(7)(i), FAC)

S _____ N/A N/C

13. Proof of publication in a newspaper of general circulation of notice of application for a permit to construct or substantially modify a solid waste management facility; (62-701.320(8), FAC)

S _____ N/A N/C

14. Provide a description of how the requirements for airport safety will be achieved, including proof of required notices if applicable. If exempt, explain how the exemption applies; (62-701.320(13), FAC)

S _____ N/A N/C

15. Explain how the operator and spotter training requirements and special criteria will be satisfied for the facility; (62-701.320(15), FAC)

PART E. LANDFILL PERMIT REQUIREMENTS (62-701.330, FAC)

LOCATION

S _____ N/A N/C

1. Regional map or aerial photograph no more than five years old showing all airports that are located within five miles of the proposed landfill; (62-701.330(3)(a), FAC)

S _____ N/A N/C

2. Plot plan with a scale not greater than 200 feet to the inch showing: (62-701.330(3)(b), FAC)

S _____ N/A N/C

a. Dimensions;

S _____ N/A N/C

b. Locations of proposed and existing water quality monitoring wells;

S _____ N/A N/C

c. Locations of soil borings;

S _____ N/A N/C

d. Proposed plan of trenching or disposal areas;

S _____ N/A N/C

e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;

LOCATION

PART E CONTINUED

S _____ N/A N/C

f. Any previously filled waste disposal areas;

S _____ N/A N/C

g. Fencing or other measures to restrict access;

S _____ N/A N/C

3. Topographic maps with a scale not greater than 200 feet to the inch with five foot contour intervals showing: (62-701.330(3)(c), FAC)

S _____ N/A N/C

a. Proposed fill areas;

S _____ N/A N/C

b. Borrow areas;

S _____ N/A N/C

c. Access roads;

S _____ N/A N/C

d. Grades required for proper drainage;

S _____ N/A N/C

e. Cross sections of lifts;

S _____ N/A N/C

f. Special drainage devices if necessary;

S _____ N/A N/C

g. Fencing;

S _____ N/A N/C

h. Equipment facilities;

S _____ N/A N/C

4. A report on the landfill describing the following: (62-701.330(3)(d), FAC)

S _____ N/A N/C

a. The current and projected population and area to be served by the proposed site;

S _____ N/A N/C

b. The anticipated type, annual quantity, and source of solid waste expressed in tons;

S _____ N/A N/C

c. Planned active life of the facility, the final design height of the facility, and the maximum height of the facility during its operation;

S _____ N/A N/C

d. The source and type of cover material used for the landfill;

S _____ N/A N/C

5. Provide evidence that an approved laboratory shall conduct water quality monitoring for the facility in accordance with Chapter 62-160, FAC; (62-701.330(3)(g), FAC)

S _____ N/A N/C

6. Provide a statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill; (62-701.330(3)(h), FAC)

PART F. GENERAL CRITERIA FOR LANDFILLS (62-701.340, FAC)

LOCATION

- S _____ N/A N/C 1. Describe (and show on a Federal Insurance Administration flood map, if available) how the landfill or solid waste disposal unit shall not be located in the 100 year floodplain where it will restrict the flow of the 100 year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste; (62-701.340(3)(b), FAC)
- S _____ N/A N/C 2. Describe how the minimum horizontal separation between waste deposits in the landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope; (62-701.340(3)(c), FAC)

PART G. LANDFILL CONSTRUCTION REQUIREMENTS (62-701.400, FAC)

LOCATION

- S _____ N/A N/C 1. Describe how the landfill shall be designed so the solid waste disposal units will be constructed and closed at planned intervals throughout the design period of the landfill, and shall be designed to achieve a minimum factor of safety of 1.5 using peak strength values to prevent failures of side slopes and deep-seated failures; (62-701.400(2), FAC)
- S _____ N/A N/C 2. Landfill liner requirements; (62-701.400(3), FAC)
- S _____ N/A N/C a. General construction requirements; (62-701.400(3)(a), FAC)
- S _____ N/A N/C (1) Provide test information and documentation to ensure the liner will be constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure;
- S _____ N/A N/C (2) Document foundation is adequate to prevent liner failure;
- S _____ N/A N/C (3) Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water;
- S _____ N/A N/C (4) Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table;
- S _____ N/A N/C (5) Installed to cover all surrounding earth which could come into contact with the waste or leachate;

LOCATION

PART G CONTINUED

- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C

- b. Composite liners; (62-701.400(3)(b), FAC)
 - (1) Upper geomembrane thickness and properties;
 - (2) Design leachate head for primary leachate collection and removal system (LCRS) including leachate recirculation if appropriate;
 - (3) Design thickness in accordance with Table A and number of lifts planned for lower soil component;
- c. Double liners; (62-701.400(3)(c), FAC)
 - (1) Upper and lower geomembrane thickness and properties;
 - (2) Design leachate head for primary LCRS to limit the head to one foot above the liner;
 - (3) Lower geomembrane sub-base design;
 - (4) Leak detection and secondary leachate collection system minimum design criteria ($k \geq 10$ cm/sec, head on lower liner ≤ 1 inch, head not to exceed thickness of drainage layer);
- d. Standards for geosynthetic components; (62-701.400(3)(d), FAC)
 - (1) Factory and field seam test methods to ensure all geomembrane seams achieve the minimum specifications;
 - (2) Geomembranes to be used shall pass a continuous spark test by the manufacturer;
 - (3) Design of 24-inch-thick protective layer above upper geomembrane liner;
 - (4) Describe operational plans to protect the liner and leachate collection system when placing the first layer of waste above a 24-inch-thick protective layer;
 - (5) HDPE geomembranes, if used, meet the specifications in GRI GM13, and LLDPE geomembranes, if used, meet the specifications in GRI GM17;
 - (6) PVC geomembranes, if used, meet the specifications in PGI 1104;

LOCATION

PART G CONTINUED

- | | | | |
|----------------------------------|--|-----|--|
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (7) | Interface shear strength testing results of the actual components which will be used in the liner system; |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (8) | Transmissivity testing results of geonets if they are used in the liner system; |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (9) | Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system; |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | e. | Geosynthetic specification requirements; (62-701.400(3)(e), FAC) |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (1) | Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program; |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (2) | Material specifications for geomembranes, geocomposites, geotextiles, geogrids, and geonets; |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (3) | Manufacturing and fabrication specifications including geomembrane raw material and roll QA, fabrication personnel qualifications, seaming equipment and procedures, overlaps, trial seams, destructive and non-destructive seam testing, seam testing location, frequency, procedure, sample size, and geomembrane repairs; |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (4) | Geomembrane installation specifications including earthwork, conformance testing, geomembrane placement, installation personnel qualifications, field seaming and testing, overlapping and repairs, materials in contact with geomembranes, and procedures for lining system acceptance; |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (5) | Geotextile and geogrids specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials; |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (6) | Geonet and geocomposites specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials and any overlying materials; |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (7) | Geosynthetic clay liner specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials; |

LOCATION

PART G CONTINUED

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

f. Standards for soil liner components; (62-701.400(3)(f), FAC)

- (1) Description of construction procedures including over-excavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil components in layers;
- (2) Demonstration of compatibility of the soil component with actual or simulated leachate in accordance with EPA Test Method 9100, or an equivalent test method;
- (3) Procedures for testing in situ soils to demonstrate they meet the specifications for soil liners;
- (4) Specifications for soil component of liner including at a minimum:
 - (a) Allowable particle size distribution, and Atterberg limits including shrinkage limit;
 - (b) Placement moisture and dry density criteria;
 - (c) Maximum laboratory-determined saturated hydraulic conductivity using simulated leachate;
 - (d) Minimum thickness of soil liner;
 - (e) Lift thickness;
 - (f) Surface preparation (scarification);
 - (g) Type and percentage of clay mineral within the soil component;
- (5) Procedures for constructing and using a field test section to document the desired saturated hydraulic conductivity and thickness can be achieved in the field;

g. If a Class III landfill is to be constructed with a bottom liner system, provide a description of how the minimum requirements for the liner will be achieved;

LOCATION

PART G CONTINUED

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

3. Leachate collection and removal system (LCRS); (62-701.400(4), FAC)

a. The primary and secondary LCRS requirements; (62-701.400(4)(a), FAC)

- (1) Constructed of materials chemically resistant to the waste and leachate;
- (2) Have sufficient mechanical properties to prevent collapse under pressure;
- (3) Have granular material or synthetic geotextile to prevent clogging;
- (4) Have a method for testing and cleaning clogged pipes or contingent designs for reducing leachate around failed areas;

b. Other LCRS requirements; (62-701.400(4)(b), (c) and (d), FAC)

- (1) Bottom 12 inches having hydraulic conductivity $\geq 1 \times 10^{-3}$ cm/sec;
- (2) Total thickness of 24 inches of material chemically resistant to the waste and leachate;
- (3) Bottom slope design to accommodate for predicted settlement and still meet minimum slope requirements;
- (4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load, and protection of geomembranes liner;
- (5) Schedule provided for routine maintenance of LCRS.

4. Leachate recirculation; (62-701.400(5), FAC)

a. Describe general procedures for recirculating leachate;

b. Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water;

c. Describe procedures for preventing perched water conditions and gas buildup;

LOCATION

PART G CONTINUED

S _____ N/A N/C

d. Describe alternate methods for leachate management when it cannot be recirculated due to weather or runoff conditions, surface seeps, wind-blown spray, or elevated levels of leachate head on the liner;

S _____ N/A N/C

e. Describe methods of gas management in accordance with Rule 62-701.530, FAC;

S _____ N/A N/C

f. If leachate irrigation is proposed, describe treatment methods and standards for leachate treatment prior to irrigation over final cover, and provide documentation that irrigation does not contribute significantly to leachate generation;

S _____ N/A N/C

5. Leachate storage tanks and leachate surface impoundments; (62-701.400(6), FAC)

S _____ N/A N/C

a. Surface impoundment requirements; (62-701.400(6)(b), FAC)

S _____ N/A N/C

(1) Documentation that the design of the bottom liner will not be adversely impacted by fluctuations of the ground water;

S _____ N/A N/C

(2) Designed in segments to allow for inspection and repair, as needed, without interruption of service;

S _____ N/A N/C

(3) General design requirements;

S _____ N/A N/C

(a) Double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane;

S _____ N/A N/C

(b) Leak detection and collection system with hydraulic conductivity ≥ 1 cm/sec;

S _____ N/A N/C

(c) Lower geomembrane place on subbase ≥ 6 inches thick with $k \leq 1 \times 10^{-5}$ cm/sec or on an approved geosynthetic clay liner with $k \leq 1 \times 10^{-7}$ cm/sec;

S _____ N/A N/C

(d) Design calculation to predict potential leakage through the upper liner;

S _____ N/A N/C

(e) Daily inspection requirements, and notification and corrective action requirements if leakage rates exceed that predicted by design calculations;

S _____ N/A N/C

(4) Description of procedures to prevent uplift, if applicable;

LOCATION

PART G CONTINUED

S _____ N/A N/C

(5) Design calculations to demonstrate minimum two feet of freeboard will be maintained;

S _____ N/A N/C

(6) Procedures for controlling vectors and off-site odors;

S _____ N/A N/C

b. Above-ground leachate storage tanks; (62-701.400(6)(c), FAC)

S _____ N/A N/C

(1) Describe tank materials of construction and ensure foundation is sufficient to support tank;

S _____ N/A N/C

(2) Describe procedures for cathodic protection for the tank, if needed;

S _____ N/A N/C

(3) Describe exterior painting and interior lining of the tank to protect it from the weather and the leachate stored;

S _____ N/A N/C

(4) Describe secondary containment design to ensure adequate capacity will be provided and compatibility of materials of construction;

S _____ N/A N/C

(5) Describe design to remove and dispose of stormwater from the secondary containment system;

S _____ N/A N/C

(6) Describe an overflow prevention system, such as level sensors, gauges, alarms, and shutoff controls to prevent overflowing;

S _____ N/A N/C

(7) Inspections, corrective action, and reporting requirements;

S _____ N/A N/C

(a) Weekly inspection of overflow prevention system;

S _____ N/A N/C

(b) Weekly inspection of exposed tank exteriors;

S _____ N/A N/C

(c) Inspection of tank interiors when tank is drained, or at least every three years;

S _____ N/A N/C

(d) Procedures for immediate corrective action if failures detected;

S _____ N/A N/C

(e) Inspection reports available for Department review;

S _____ N/A N/C

c. Underground leachate storage tanks; (62-701.400(6)(d), FAC)

LOCATION

PART G CONTINUED

S _____ N/A N/C

(1) Describe materials of construction;

S _____ N/A N/C

(2) A double-walled tank design system to be used with the following requirements:

S _____ N/A N/C

(a) Interstitial space monitoring at least weekly;

S _____ N/A N/C

(b) Corrosion protection provided for primary tank interior and external surface of outer shell;

S _____ N/A N/C

(c) Interior tank coatings compatible with stored leachate;

S _____ N/A N/C

(d) Cathodic protection inspected weekly and repaired as needed;

S _____ N/A N/C

(3) Describe an overflow prevention system, such as level sensors, gauges, alarms, and shutoff controls to prevent overflowing, and provide for weekly inspections;

S _____ N/A N/C

(4) Inspection reports available for Department review;

S _____ N/A N/C

6. Liner systems construction quality assurance (CQA); (62-701.400(7), FAC)

S _____ N/A N/C

a. Provide CQA Plan including:

S _____ N/A N/C

(1) Specifications and construction requirements for liner system;

S _____ N/A N/C

(2) Detailed description of quality control testing procedures and frequencies;

S _____ N/A N/C

(3) Identification of supervising professional engineer;

S _____ N/A N/C

(4) Identify responsibility and authority of all appropriate organizations and key personnel involved in the construction project;

S _____ N/A N/C

(5) State qualifications of CQA professional engineer and support personnel;

LOCATION

PART G CONTINUED

S _____ N/A N/C

(6) Description of CQA reporting forms and documents;

S _____ N/A N/C

b. An independent laboratory experienced in the testing of geosynthetics to perform required testing;

S _____ N/A N/C

7. Soil liner CQA; (62-701.400(8), FAC)

S _____ N/A N/C

a. Documentation that an adequate borrow source has been located with test results, or description of the field exploration and laboratory testing program to define a suitable borrow source;

S _____ N/A N/C

b. Description of field test section construction and test methods to be implemented prior to liner installation;

S _____ N/A N/C

c. Description of field test methods, including rejection criteria and corrective measures to insure proper liner installation;

S _____ N/A N/C

8. For surface water management systems at aboveground disposal units, provide documentation showing the design of any features intended to convey stormwater to a permitted or exempted treatment system; (62-701.400(9), FAC)

S _____ N/A N/C

9. Gas control systems; (62-701.400(10), FAC)

S _____ N/A N/C

a. Provide documentation that if the landfill is receiving degradable wastes, it will have a gas control system complying with the requirements of Rule 62-701.530, FAC;

S _____ N/A N/C

10. For landfills designed in ground water, provide documentation that the landfill will provide a degree of protection equivalent to landfills designed with bottom liners not in contact with ground water; (62-701.400(11), FAC)

PART H. HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS (62-701.410(2), FAC)

LOCATION

S _____ N/A N/C

1. Submit a hydrogeological investigation and site report including at least the following information:

S _____ N/A N/C

a. Regional and site specific geology and hydrology;

S _____ N/A N/C

b. Direction and rate of ground water and surface water flow including seasonal variations;

LOCATION

- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C

PART H CONTINUED

- c. Background quality of ground water and surface water;
- d. Any on-site hydraulic connections between aquifers;
- e. Site stratigraphy and aquifer characteristics for confining layers, semi-confining layers, and all aquifers below the site that may be affected by the disposal facility;
- f. Description of topography, soil types, and surface water drainage systems;
- g. Inventory of all public and private water wells within a one mile radius of the site including, where available, well top of casing and bottom elevations, name of owner, age and usage of each well, stratigraphic unit screened, well construction technique, and static water level;
- h. Identify and locate any existing contaminated areas on the site;
- i. Include a map showing the locations of all potable wells within 500 feet of the waste storage and disposal areas;

2. Report signed, sealed, and dated by P.E. and/or P.G.

PART I. GEOTECHNICAL INVESTIGATION REQUIREMENTS (62-701.410(3) and (4), FAC)

LOCATION

- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C

- 1. Submit a geotechnical site investigation report defining the engineering properties of the site including at least the following:
 - a. Description of subsurface conditions including soil stratigraphy and ground water table conditions;
 - b. Investigate for the presence of muck, previously filled areas, soft ground, and lineaments;
 - c. Estimates of average and maximum high water table across the site;
 - d. Evaluation of potential for fault areas and seismic impact zones;
 - e. Foundation analysis including:

LOCATION

PART I CONTINUED

S _____ N/A N/C

(1) Foundation bearing capacity analysis;

S _____ N/A N/C

(2) Total and differential subgrade settlement analysis;

S _____ N/A N/C

(3) Slope stability analysis;

S _____ N/A N/C

f. Evaluation of potential for sinkholes and sinkhole activity at the site that is based upon the investigations required in Rule 62-701.410(3)(f), F.A.C.;

S _____ N/A N/C

g. A geotechnical report providing a description of methods used in the investigation, and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations, conclusions, and a description of any engineering measures proposed for the site;

S _____ N/A N/C

2. Report signed, sealed, and dated by P.E. and/or P.G.

PART J. VERTICAL EXPANSION OF LANDFILLS (62-701.430, FAC)

LOCATION

S _____ N/A N/C

1. Describe how the vertical expansion shall not cause or contribute to any violations of water quality standards or criteria, shall not cause objectionable odors, or adversely affect the closure design of the existing landfill;

S _____ N/A N/C

2. Describe how the vertical expansion over unlined landfills will meet the requirements of Rule 62-701.400, FAC with the exceptions of Rule 62-701.430(1)(c), FAC;

S _____ N/A N/C

3. Provide foundation and settlement analysis for the vertical expansion;

S _____ N/A N/C

4. Provide total settlement calculations demonstrating that the final elevations of the lining system, gravity drainage, and no other component of the design will be adversely affected;

S _____ N/A N/C

5. Minimum stability factor of safety of 1.5 for the lining system component interface stability and for deep stability;

S _____ N/A N/C

6. Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;

S _____ N/A N/C

7. Provide gas control designs to prevent accumulation of gas under the new liner for the vertical expansion;

PART K. LANDFILL OPERATION REQUIREMENTS (62-701.500, FAC)

LOCATION

- | | |
|---|--|
| <p>S <input checked="" type="checkbox"/> <u>Part K.1</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>1. Provide documentation that the landfill will have at least one trained operator during operation and at least one trained spotter at each working face; (62-701.500(1), FAC)</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.2</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>2. Provide a landfill operation plan including procedures for: (62-701.500(2), FAC)</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.2.a</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>a. Designating responsible operating and maintenance personnel;</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.2.b</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>b. Emergency preparedness and response, as required in subsection 62-701.320(16), FAC;</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.2.c</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>c. Controlling types of waste received at the landfill;</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.2.d</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>d. Weighing incoming waste;</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.2.e</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>e. Vehicle traffic control and unloading;</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.2.f</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>f. Method and sequence of filling waste;</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.2.g</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>g. Waste compaction and application of cover;</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.2.h</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>h. Operations of gas, leachate, and stormwater controls;</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.2.i</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>i. Water quality monitoring;</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.2.j</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>j. Maintaining and cleaning the leachate collection system;</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.3</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>3. Provide a description of the landfill operation record to be used at the landfill, details as to location of where various operational records will be kept (i.e. DEP permit, engineering drawings, water quality records, etc.); (62-701.500(3), FAC)</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.4</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>4. Describe the waste records that will be compiled monthly and provided to the Department annually; (62-701.500(4), FAC)</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.5</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>5. Describe methods of access control; (62-701.500(5), FAC)</p> |
| <p>S <input checked="" type="checkbox"/> <u>Part K.6</u> N/A <input type="checkbox"/> N/C <input type="checkbox"/></p> | <p>6. Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized waste at the landfill; (62-701.500(6), FAC)</p> |

LOCATION

PART K CONTINUED

S Part K.7 N/A N/C

7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7), FAC)

S Part K.7.a N/A N/C

a. Waste layer thickness and compaction frequencies;

S Part K.7.b N/A N/C

b. Special considerations for first layer of waste placed above the liner and leachate collection system;

S Part K.7.c N/A N/C

c. Slopes of cell working face and side grades above land surface, and planned lift depths during operation;

S Part K.7.d N/A N/C

d. Maximum width of working face;

S Part K.7.e N/A N/C

e. Description of type of initial cover to be used at the facility that controls:

S Part K.7.e N/A N/C

(1) Vector breeding/animal attraction;

S Part K.7.e N/A N/C

(2) Fires;

S Part K.7.e N/A N/C

(3) Odors;

S Part K.7.e N/A N/C

(4) Blowing litter;

S Part K.7.e N/A N/C

(5) Moisture infiltration;

S Part K.7.f N/A N/C

f. Procedures for applying initial cover, including minimum cover frequencies;

S Part K.7.g N/A N/C

g. Procedures for applying intermediate cover;

S Part K.7.h N/A N/C

h. Time frames for applying final cover;

S Part K.7.i N/A N/C

i. Procedures for controlling scavenging and salvaging;

S Part K.7.j N/A N/C

j. Description of litter policing methods;

S Part K.7.k N/A N/C

k. Erosion control procedures;

LOCATION

PART K CONTINUED

S Part K.8 N/A N/C

8. Describe operational procedures for leachate management including: (62-701.500(8), FAC)

S Part K.8.a N/A N/C

a. Leachate level monitoring;

S Part K.8.b N/A N/C

b. Operation and maintenance of leachate collection and removal system, and treatment as required;

S Part K.8.c N/A N/C

c. Procedures for managing leachate if it becomes regulated as a hazardous waste;

S Part K.8.d N/A N/C

d. Identification of treatment or disposal facilities that may be used for off-site discharge and treatment of leachate;

S Part K.8.e N/A N/C

e. Contingency plan for managing leachate during emergencies or equipment problems;

S Part K.8.f N/A N/C

f. Procedures for recording quantities of leachate generated in gal/day and including this in the operating record;

S Part K.8.g N/A N/C

g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record;

S Part K.8.h N/A N/C

h. Procedures for water pressure cleaning or video inspecting leachate collection systems;

S Part K.9 N/A N/C

9. Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the requirements of Rule 62-701.530, FAC; (62-701.500(9), FAC)

S Part K.10 N/A N/C

10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-701.400(9), FAC; (62-701.500(10), FAC)

S Part K.11 N/A N/C

11. Equipment and operation feature requirements; (62-701.500(11), FAC)

S Part K.11.a N/A N/C

a. Sufficient equipment for excavating, spreading, compacting, and covering waste;

S Part K.11.b N/A N/C

b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;

S Part K.11.c N/A N/C

c. Communications equipment;

LOCATION

PART K CONTINUED

S Part K.11.d N/A N/C

d. Dust control methods;

S Part K.11.e N/A N/C

e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;

S Part K.11.f N/A N/C

f. Litter control devices;

S Part K.11.g N/A N/C

g. Signs indicating operating authority, traffic flow, hours of operation, and disposal restrictions;

S Part K.12 N/A N/C

12. Provide a description of all-weather access road, inside perimeter road, and other on-site roads necessary for access at the landfill; (62-701.500(12), FAC)

S Part K.13 N/A N/C

13. Additional record keeping and reporting requirements; (62-701.500(13), FAC)

S Part K.13.a N/A N/C

a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;

S Part K.13.b N/A N/C

b. Monitoring information, calibration and maintenance records, and copies of reports required by permit maintained for at least 10 years;

S Part K.13.c N/A N/C

c. Maintain annual estimates of the remaining life of constructed landfills, and of other permitted areas not yet constructed, and submit this estimate annually to the Department;

S Part K.13.d N/A N/C

d. Procedures for archiving and retrieving records which are more than five years old;

PART L. WATER QUALITY MONITORING REQUIREMENTS (62-701.510, FAC)

LOCATION

S _____ N/A N/C

1. A water quality monitoring plan shall be submitted describing the proposed ground water and surface water monitoring systems, and shall meet at least the following requirements:

S _____ N/A N/C

a. Based on the information obtained in the hydrogeological investigation and signed, dated, and sealed by the P.G. or P.E. who prepared it; (62-701.510(2)(a), FAC)

LOCATION

PART L CONTINUED

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

b. All sampling and analysis performed in accordance with Chapter 62-160, FAC; (62-701.510(2)(b), FAC)

c. Ground water monitoring requirements; (62-701.510(3), FAC)

(1) Detection wells located downgradient from and within 50 feet of disposal units;

(2) Downgradient compliance wells as required;

(3) Background wells screened in all aquifers below the landfill that may be affected by the landfill;

(4) Location information for each monitoring well;

(5) Well spacing no greater than 500 feet apart for downgradient wells and no greater than 1500 feet apart for upgradient wells, unless site specific conditions justify alternate well spacings;

(6) Properly selected well screen locations;

(7) Monitoring wells constructed to provide representative ground water samples;

(8) Procedures for properly abandoning monitoring wells;

(9) Detailed description of detection sensors, if proposed;

d. Surface water monitoring requirements; (62-701.510(4), FAC)

(1) Location of and justification for all proposed surface water monitoring points;

(2) Each monitoring location to be marked and its position determined by a registered Florida land surveyor;

e. Initial and routine sampling frequency and requirements; (62-701.510(5), FAC)

(1) Initial background ground water and surface water sampling and analysis requirements;

LOCATION

PART L CONTINUED

- | | | |
|----------------------------------|--|---|
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (2) Routine monitoring well sampling and analysis requirements; |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (3) Routine surface water sampling and analysis requirements; |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | f. Describe procedures for implementing evaluation monitoring, prevention measures, and corrective action as required; (62-701.510(6), FAC) |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | g. Water quality monitoring report requirements; (62-701.510(8), FAC) |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (1) Semi-annual report requirements; (see paragraphs 62-701.510(5)(c) and (d), FAC for sampling frequencies) |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (2) Documentation that the water quality data shall be provided to the Department in an electronic format consistent with requirements for importing into Department databases, unless an alternate form of submittal is specified in the permit; |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | (3) Two and one-half year, or annual, report requirements, or every five years if in long-term care, signed dated, and sealed by P.G. or P.E.; |

PART M. SPECIAL WASTE HANDLING REQUIREMENTS (62-701.520, FAC)

LOCATION

- | | | |
|----------------------------------|--|--|
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | 1. Describe procedures for managing motor vehicles; (62-701.520(1), FAC) |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | 2. Describe procedures for landfilling shredded waste; (62-701.520(2), FAC) |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | 3. Describe procedures for asbestos waste disposal; (62-701.520(3), FAC) |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | 4. Describe procedures for disposal or management of contaminated soil; (62-701.520(4), FAC) |
| S <input type="checkbox"/> _____ | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | 5. Describe procedures for disposal of biological wastes; (62-701.520(5), FAC) |

PART N. GAS MANAGEMENT SYSTEM REQUIREMENTS (62-701.530, FAC)

LOCATION

- | | | | |
|---------------------------------------|-------------------|--|---|
| S <input checked="" type="checkbox"/> | <u>Part N.1</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | 1. Provide documentation for a gas management system that will: (62-701.530(1), FAC) |
| S <input checked="" type="checkbox"/> | <u>Part N.1</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | a. Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary; |
| S <input checked="" type="checkbox"/> | <u>Part N.1</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | b. Be designed for site specific conditions; |
| S <input checked="" type="checkbox"/> | <u>Part N.1</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | c. Be designed to reduce gas pressure in the interior of the landfill; |
| S <input checked="" type="checkbox"/> | <u>Part N.1</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | d. Be designed to not interfere with the liner, leachate control system, or final cover; |
| S <input checked="" type="checkbox"/> | <u>Part N.2</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | 2. Provide documentation that will describe locations, construction details, and procedures for monitoring gas at ambient monitoring points and with soil monitoring probes; (62-701.530(2), FAC) |
| S <input checked="" type="checkbox"/> | <u>Part N.3</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | 3. Provide documentation describing how the gas remediation plan and odor remediation plan will be implemented; (62-701.530(3), FAC) |
| S <input checked="" type="checkbox"/> | <u>Part N.4</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | 4. Landfill gas recovery facilities; (62-701.530(5), FAC) |
| S <input type="checkbox"/> | <u>Part N.4.a</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | a. Provide information required in Rules 62-701.320(7) and 62-701.330(3), FAC; |
| S <input checked="" type="checkbox"/> | <u>Part N.4.b</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | b. Provide information required in Rule 62-701.600(4), FAC, where relevant and practical; |
| S <input checked="" type="checkbox"/> | <u>Part N.4.c</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | c. Provide estimates of current and expected gas generation rates and description of condensate disposal methods; |
| S <input checked="" type="checkbox"/> | <u>Part N.4.d</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | d. Provide description of procedures for condensate sampling, analyzing, and data reporting; |
| S <input checked="" type="checkbox"/> | <u>Part N.4.e</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | e. Provide closure plan describing methods to control gas after recovery facility ceases operation, and any other requirements contained in Rule 62-701.400(10), FAC; |

PART O. LANDFILL FINAL CLOSURE REQUIREMENTS (62-701.600, FAC)

LOCATION

- S Part O.1 N/A N/C 1. Closure permit requirements; (62-701.600(2), FAC)
- S Part O.1.a N/A N/C a. Application submitted to the Department at least 90 days prior to final receipt of wastes;
- S Part O.1.b N/A N/C b. Closure plan shall include the following:
 - S Part O.1.b(1) N/A N/C (1) Closure design plan;
 - S Part O.1.b(2) N/A N/C (2) Closure operation plan;
 - S Part O.1.b(3) N/A N/C (3) Plan for long-term care;
 - S Part O.1.b(4) N/A N/C (4) A demonstration that proof of financial assurance for long-term care will be provided;
- S Part O.2 N/A N/C 2. Closure design plan including the following requirements: (62-701.600(3), FAC)
 - S Part O.2.a N/A N/C a. Plan sheet showing phases of site closing;
 - S Part O.2.b N/A N/C b. Drawings showing existing topography and proposed final grades;
 - S Part O.2.c N/A N/C c. Provisions to close units when they reach approved design dimensions;
 - S Part O.2.d N/A N/C d. Final elevations before settlement;
 - S Part O.2.e N/A N/C e. Side slope design including benches, terraces, down slope drainage ways, energy dissipaters, and description of expected precipitation effects;
 - S Part O.2.f N/A N/C f. Final cover installation plans including:
 - S Part O.2.f N/A N/C (1) CQA plan for installing and testing final cover;
 - S Part O.2.f N/A N/C (2) Schedule for installing final cover after final receipt of waste;
 - S Part O.2.f N/A N/C (3) Description of drought resistant species to be used in the vegetative cover;

LOCATION

PART O CONTINUED

S Part O.2.f N/A N/C

(4) Top gradient design to maximize runoff and minimize erosion;

S Part O.2.f N/A N/C

(5) Provisions for cover material to be used for final cover maintenance;

S Part O.2.g N/A N/C

g. Final cover design requirements;

S Part O.2.g N/A N/C

(1) Protective soil layer design;

S Part O.2.g N/A N/C

(2) Barrier soil layer design;

S Part O.2.g N/A N/C

(3) Erosion control vegetation;

S Part O.2.g N/A N/C

(4) Geomembrane barrier layer design;

S Part O.2.g N/A N/C

(5) Geosynthetic clay liner design, if used;

S Part O.2.g N/A N/C

(6) Stability analysis of the cover system and the disposed waste;

S Part O.2.h N/A N/C

h. Proposed method of stormwater control;

S Part O.2.i N/A N/C

i. Proposed method of access control;

S Part O.2.j N/A N/C

j. Description of the proposed or existing gas management system which complies with Rule 62-701.530, FAC;

S Part O.3 N/A N/C

3. Closure operation plan shall include: (62-701.600(4), FAC)

S Part O.3.a N/A N/C

a. Detailed description of actions which will be taken to close the landfill;

S Part O.3.b N/A N/C

b. Time schedule for completion of closing and long-term care;

S Part O.3.c N/A N/C

c. Describe proposed method for demonstrating financial assurance for long-term care;

S Part O.3.d N/A N/C

d. Operation of the water quality monitoring plan required in Rule 62-701.510, FAC;

S Part O.3.e N/A N/C

e. Development and implementation of gas management system required in Rule 62-701.530, FAC;

LOCATION

PART O CONTINUED

- S Part O.4 N/A N/C 4. Certification of closure construction completion and final reports including: (62-701.600(6), FAC)
- S Part O.4.a N/A N/C a. Survey monuments; (62-701.600(6)(a), FAC)
- S Part O.4.b N/A N/C b. Final survey report; (62-701.600(6)(b), FAC)
- S Part O.4.c N/A N/C c. Closure construction quality assurance report; (62-701.400(7), FAC)
- S Part O.5 N/A N/C 5. Declaration to the public; (62-701.600(7), FAC)
- S Part O.6 N/A N/C 6. Official date of closing; (62-701.600(8), FAC)
- S Part O.7 N/A N/C 7. Justification for and detailed description of procedures to be followed for temporary closure of the landfill, if desired; (62-701.600(9), FAC)

PART P. OTHER CLOSURE PROCEDURES (62-701.610, FAC)

LOCATION

- S Part P.1 N/A N/C 1. Describe how the requirements for use of closed solid waste disposal areas will be achieved; (62-701.610(1), FAC)
- S Part P.2 N/A N/C 2. Describe how the requirements for relocation of wastes will be achieved; (62-701.610(2), FAC)

PART Q. LONG-TERM CARE (62-701.620, FAC)

LOCATION

- S Part Q.1 N/A N/C 1. Maintaining the gas collection and monitoring system; (62-701.620(5), FAC)
- S Part Q.2 N/A N/C 2. Stabilization report requirements; (62-701.620(6), FAC)
- S Part Q.3 N/A N/C 3. Right of access; (62-701.620(7), FAC)
- S Part Q.4 N/A N/C 4. Requirements for replacement of monitoring devices; (62-701.620(8), FAC)
- S Part Q.5 N/A N/C 5. Completion of long-term care signed and sealed by professional engineer; (62-701.620(9), FAC)

PART R. FINANCIAL ASSURANCE (62-701.630, FAC)

LOCATION

S Part R.1 N/A N/C

1. Provide cost estimates for closing, long-term care, and corrective action costs estimated by a P.E. for a third party performing the work, on a per unit basis, with the source of estimates indicated; (62-701.630(3) & (7), FAC)

S Part R.2 N/A N/C

2. Describe procedures for providing annual cost adjustments to the Department based on inflation and changes in the closing, long-term care, and corrective action plans; (62-701.630(4) & (8), FAC)

S Part R.3 N/A N/C

3. Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms. (62-701.630(5), (6), & (9), FAC)

PART S. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

The undersigned applicant or authorized representative of Citrus County BOCC

_____ is aware that statements made in this form and attached information are an application for a minor permit modification permit from the Florida Department of Environmental Protection, and certifies that the information in this application is true, correct, and complete to the best of his/her knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department. It is understood that the Permit is not transferable, and the Department will be notified prior to the sale or legal transfer of the permitted facility.



 Signature of Applicant or Agent
Henry Norris, Solid Waste Director
 Name and Title (please type)
henry.norris@citrusbocc.com
 E-Mail Address (if available)

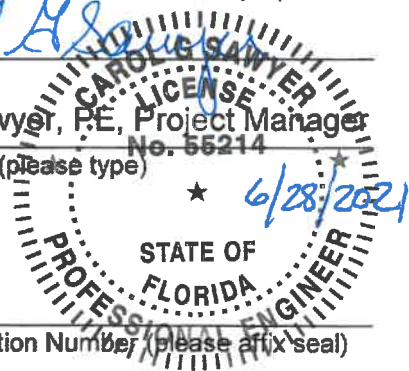
3600 W Sovereign Path, Suite 212
 Mailing Address
Lecanto, Florida 34461
 City, State, Zip Code
(352) 527-7670
 Telephone Number
 Date: 6/23/2021

Attach letter of authorization if agent is not a government official, owner, or corporate officer.

2. Professional Engineer registered in Florida (or Public Officer if authorized under Sections 403.707 and 403.7075, Florida Statutes):

This is to certify that the engineering features of this solid waste management facility have been designed/examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, this facility, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and rules of the Department. It is agreed that the undersigned will provide the applicant with a set of instructions of proper maintenance and operation of the facility.


 Signature
Carol G. Sawyer, PE, Project Manager
 Name and Title (please type)
55214
 Florida Registration Number (please affix seal)



730 NE Waldo Rd.
 Mailing Address
Gainesville, Florida 32641
 City, State, Zip Code
csawyer@jonesedmunds.com
 E-Mail Address (if available)
(352) 377-5821
 Telephone Number
 Date: 6/28/2021

Supporting Documentation

PART K—LANDFILL OPERATION REQUIREMENTS (62-701.500, FAC)

1 TRAINING AND CERTIFICATION OF OPERATORS AND SPOTTERS

Refer to Section K.1 of the Operation Plan in Appendix A.

2 LANDFILL OPERATION PLAN PROCEDURES

a. Designating Responsible Operating and Maintenance Personnel

Refer to Section K.2.a of the Operation Plan in Appendix A.

b. Emergency Preparedness and Response

Refer to Section K.2.b of the Operation Plan in Appendix A.

c. Control/Inspection of Incoming Waste

Refer to Section K.2.c of the Operation Plan in Appendix A.

d. Weighing Incoming Wastes

Refer to Section K.2.d of the Operation Plan in Appendix A.

e. Vehicle Traffic Control and Unloading

Refer to Section K.2.e of the Operation Plan in Appendix A.

f. Method and Sequencing of Filling Wastes

Refer to Section K.2.f of the Operation Plan in Appendix A.

g. Waste Compaction and Application of Cover

Refer to Section K.2.g of the Operation Plan in Appendix A.

h. Operations of Gas, Leachate, and Stormwater Controls

Refer to Section K.2.h of the Operation Plan in Appendix A.

i. Water Quality Monitoring

Refer to Section K.2.i of the Operation Plan in Appendix A.

j. Maintaining and Cleaning the Leachate Collection System

Refer to Section K.2.j of the Operation Plan in Appendix A.

3 OPERATING RECORDS

Refer to Section K.3 of the Operation Plan in Appendix A.

4 WASTE RECORDS

Refer to Section K.4 of the Operation Plan in Appendix A.

5 ACCESS CONTROL

Refer to Section K.5 of the Operation Plan in Appendix A.

6 LOAD CHECKING PROGRAM

Refer to Section K.6 of the Operation Plan in Appendix A.

7 PROCEDURES FOR SPREADING AND COMPACTING WASTE

Refer to Section K.7 of the Operation Plan in Appendix A.

a. Waste Layer Thickness and Compaction Frequencies

Refer to Section K.7.a of the Operation Plan in Appendix A.

b. Special Considerations – First Layer

Refer to Section K.7.b of the Operation Plan in Appendix A.

c. Slopes and Planned Lift Depths – Working Face

Refer to Section K.7.c of the Operation Plan in Appendix A.

d. Width of the Working Face

Refer to Section K.7.d of the Operation Plan in Appendix A.

e. Initial Cover

Refer to Section K.7.e of the Operation Plan in Appendix A.

f. Application Procedures of Initial Cover

Refer to Section K.7.f of the Operation Plan in Appendix A.

g. Application Procedures of Intermediate Cover

Refer to Section K.7.g of the Operation Plan in Appendix A.

h. Time Frames for Applying Final Cover

Refer to Section K.7.h of the Operation Plan in Appendix A.

i. Scavenging and Salvaging Control

Refer to Section K.7.i of the Operation Plan in Appendix A.

j. Litter Policing Methods

Refer to Section K.7.j of the Operation Plan in Appendix A.

k. Erosion Control

Refer to Section K.7.k of the Operation Plan in Appendix A.

8 OPERATIONAL PROCEDURES FOR LEACHATE MANAGEMENT

a. Level Monitoring

Refer to Section K.8.a of the Operation Plan in Appendix A.

b. Collection and Removal System Operation and Maintenance

Refer to Sections K.8.b of the Operation Plan in Appendix A.

c. Regulation as a Hazardous Waste

Refer to Section K.8.c of the Operation Plan in Appendix A.

d. Off-site Discharge and Treatment

Refer to Section K.8.d of the Operation Plan in Appendix A.

e. Contingency Management Plan

Refer to Section K.8.e of the Operation Plan in Appendix A.

f. Recording Quantities in Operating Record

Refer to Section K.8.f of the Operation Plan in Appendix A.

g. Comparing Precipitation with Leachate Generation

Refer to Section K.8.g of the Operation Plan in Appendix A.

h. Water Cleaning or Video Inspecting

Refer to Section K.8.h of the Operation Plan in Appendix A.

9 GAS MANAGEMENT SYSTEM

Refer to Section K.9 of the Operation Plan in Appendix A.

10 OPERATING AND MAINTAINING STORMWATER MANAGEMENT SYSTEM

Refer to Section K.10 of the Operation Plan in Appendix A.

11 EQUIPMENT AND OPERATION FEATURE REQUIREMENTS

a. Sufficient Equipment

Refer to Section K.11.a of the Operation Plan in Appendix A.

b. Reserve Equipment

Refer to Section K.11.b of the Operation Plan in Appendix A.

c. Communications Equipment

Refer to Section K.11.c of the Operation Plan in Appendix A.

d. Dust Control Methods

Refer to Section K.11.d of the Operation Plan in Appendix A.

e. Fire Protection and Emergencies

Refer to Sections K.11.e of the Operation Plan in Appendix A.

f. Litter Control Devices

Refer to Section K.11.f of the Operation Plan in Appendix A.

g. Signage

Refer to Section K.11.g of the Operation Plan in Appendix A.

12 ALL-WEATHER ACCESS ROAD, INSIDE PERIMETER ROAD, AND OTHER ROADS

Refer to Section K.12 of the Operation Plan in Appendix A.

13 ADDITIONAL RECORD KEEPING AND REPORTING

a. Permit Application Records

Refer to Section K.13.a of the Operation Plan in Appendix A.

b. Monitoring Information

Refer to Section K.13.b of the Operation Plan in Appendix A.

c. Remaining Lifespan

Refer to Section K.13.c of the Operation Plan in Appendix A.

d. Archiving and Retrieving after 5 Years

Refer to Section K.13.d of the Operation Plan in Appendix A.

PART N—GAS MANAGEMENT SYSTEM REQUIREMENTS (62-701.530, FAC)

1 GAS MANAGEMENT SYSTEM DESIGN

Landfill gas (LFG) generated at the Citrus County Central Landfill (CCCL) is managed passively and actively. At the closed Class I Landfill cells, gas is collected by a series of passive vents to minimize the potential for offsite migration of LFG.

At the active Class I Landfill (Phases 1, 1A, 2, and 3), gas is collected by an active gas collection and control system (GCCS) and thermally treated (flared). The County voluntarily installed the GCCS in 2010. The GCCS collects LFG generated in Phases 1, 1A, 2, and a portion of Phase 3. The LFG is flared on-site.

Three closed Class I Landfills are west of the active landfill. The landfills are identified as Closed Landfill Area A (4.25 acres, unlined), Closed Landfill Area B (24 acres, unlined), and Lined Closed Landfill Area (7 acres, lined). These disposal areas were active from 1975 through 1990. The closed landfill areas have passive gas control vents. The 7-acre closed lined landfill area originally had a minor passive gas extraction system with sparker-type flares on top of vents. The sparker flares were removed and modified to passive gas-control vents. As part of a permit modification in 2018, a LFG extraction system at the closed landfills was connected to the passive gas vents on the north end of the closed landfill areas and incorporated the gas extraction wells previously connected to the solar-powered extraction system. The vents and wells connect to a small dedicated blower system, which greatly increases the vacuum on the system compared to the solar-powered unit. This system was installed because of continued observations of groundwater parameter exceedances and discussions with the Florida Department of Environmental Protection (FDEP) Southwest District. The intent is to increase the LFG extraction efficiency in this area. The system has been in operation for approximately 18 months and the gas levels in the adjacent groundwater monitoring wells continue to be monitored.

The passive gas venting system and active GCCS have been designed to prevent gas concentrations of combustible gases from exceeding 25 percent of the lower explosive limit (LEL) in structures and 100-percent LEL at the property boundary.

The current and proposed active GCCS use a combination of vertical and horizontal gas collectors designed to meet the specific site conditions. The locations of vertical gas wells in Phases 1, 1A, and 2 are based on an assumed 100-foot radius of influence and are arranged to achieve adequate coverage of gas-producing areas. The horizontal collection wells have been located to manage gas generated from the upper two-thirds of waste in-place and future disposed waste. The passive gas collection system at the closed landfills is being revised to provide additional vacuum to improve gas extraction efficiency in this area.

Negative pressure will be applied to all vertical and horizontal gas collection wells installed to prevent gas migration from moving laterally in accordance with Subsection 62-701.530(1)(a)3, Florida Administrative Code (FAC).

The GCCS has been designed to avoid interfering with the bottom liner, the leachate control system, or the final cover system installed at the active and closed Class I Landfills.

2 GAS MONITORING INFORMATION

Gas monitoring is performed in accordance with Rule 62-701.530, FAC.

In 2017, 11 new LFG monitoring probes, GP-20 through GP-30, were installed along the north and east property boundaries in accordance with the approved *Landfill Gas Assessment and Groundwater Delineation Plan* submitted to FDEP on June 9, 2017. Construction details of the new probes were provided in the *Landfill Gas Assessment and Groundwater Delineation Report* submitted to FDEP on November 29, 2017. Additionally, the existing LFG monitoring probes were retrofitted with dedicated tubing to varying depths in the probe to allow gas measurements at varying intervals in each probe. Table N.2 shows the LFG monitoring probes construction details. All probes are monitored at each depth quarterly.

LFG is also monitored quarterly in the groundwater monitoring wells and at the following ambient locations:

- Administration Building.
- Modular Building.
- Shop.
- Scale House.
- Leachate Treatment Facility.
- Firing Range.
- Hazardous Waste Drop-Off Center.

Attachment N.2 provides the LFG monitoring tables.

Table N.2 Landfill Gas Probe Details

Gas Probe ID	Probe Depth (feet)	Length of Slotted Pipe (feet)	Solid Pipe Length Below Grade (feet)	Tubing lengths		
				Length of Clear (feet)	Length of Blue (feet)	Length of Black (feet)
GP-1	40	35	5	40	20	
GP-2	40	35	5	40	20	
GP-3	40	35	5	40	20	
GP-4	40	35	5	40	20	
GP-5	40	35	5	40	20	
GP-6	40	35	5	40	20	
GP-7	40	35	5	40	20	
GP-8	40	35	5	40	20	
GP-9	40	35	5	40	20	
GP-10	40	35	5	40	20	
GP-11	40	35	5	40	20	
GP-12	80	75	5	75	50	25
GP-13	80	75	5	75	50	25
GP-14	80	75	5	75	50	25
GP-15	80	75	5	75	50	25
GP-16	80	75	5	75	50	25
GP-17	80	75	5	75	50	25
GP-18	80	75	5	75	50	25
GP-19	75	70	5	70	50	25
GP-20	110	10	100		105	
GP-21	120	10	110		115	
GP-22	75	10	65	70		
GP-23	105	10	95	100		
GP-24	75	10	65	70		
GP-25	105	10	95	100		
GP-26	75	10	65	70		
GP-27	105	10	95	100		
GP-28	75	10	65	70		
GP-29	105	10	95	100		
GP-30	110	10	100		105	

3 GAS AND ODOR REMEDIATION

GAS REMEDIATION PLAN

The *Landfill Gas Assessment and Groundwater Delineation Report*, submitted to FDEP on November 29, 2017, describes the results of expanded gas and groundwater monitoring at the closed Class I Landfills. The report also identified that remediation of gas migration outside the limits of waste would be achieved by installing a dedicated soil-vapor extraction blower station and vent stack at the closed Class I Landfill Area (7-acre cell) and Area B. In 2018, a solid waste permit application was submitted to FDEP proposing modifying the active GCCS and installing an LFG migration control system at the closed landfills. The

project included decommissioning the solar-powered soil vapor extraction system, retrofitting 13 passive gas vents with LFG extraction wellheads, and installing a pre-fabricated blower-skid station. The installation was completed approximately 18 months ago. LFG levels in the adjacent groundwater monitoring wells continue to be monitored.

ODOR REMEDIATION PLAN

No changes are proposed to the odor remediation plan that was proposed with the permit renewal application submitted by SCS Engineers in April 2016.

4 LANDFILL GAS RECOVERY FACILITIES

- a. The active GCCS operates in accordance with a Title V Air Operation Permit (FDEP Permit No. 1250008-007-AV).
- b. Waste disposal activities are ongoing at the facility. At landfill closure, the Closure Permit Application will address any integration of the GCCS with the intended end use.
- c. The permitted GCCS is designed to handle the maximum expected landfill recovery rates over the life of the Class I Landfill. Gas condensate is collected in condensate sumps for disposal within the leachate force main system. The County meets the Title V GCCS reporting and operation requirements.
- d. Gas condensate is collected in condensate sumps for disposal to the leachate storage tanks. Condensate is not sampled or analyzed.
- e. Waste disposal activities are ongoing at the facility. At landfill closure, the landfill will continue to operate the GCCS in accordance with the Title V permit requirements. The Closure Plan will address methods to control gas after the recovery facility ceases operation and other requirements in Rule 62-701.400(10), FAC.

Attachment N.2
Landfill Gas Monitoring Inventory

**LANDFILL GAS MONITORING
CITRUS COUNTY CENTRAL LANDFILL**

General Data

Date:	Sampler:
Time:	Sky Conditions:
Air Temperature (deg C):	Measuring Device:

Sampling Data

Station I.D.	Date Sampled	Time Sampled	Depth of Intake (Feet)	O2 % Volume	CO2 % Volume	Methane		Station Type
						Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	
GP-1			20					Gas Well
GP-1			40					Gas Well
GP-2			20					Gas Well
GP-2			40					Gas Well
GP-3			20					Gas Well
GP-3			40					Gas Well
GP-4			20					Gas Well
GP-4			40					Gas Well
GP-5			20					Gas Well
GP-5			40					Gas Well
GP-6			20					Gas Well
GP-6			40					Gas Well
GP-7			20					Gas Well
GP-7			40					Gas Well
GP-8			20					Gas Well
GP-8			40					Gas Well
GP-9			20					Gas Well
GP-9			40					Gas Well
GP-10			20					Gas Well
GP-10			40					Gas Well
GP-11			20					Gas Well
GP-11			40					Gas Well
GP-12			25					Gas Well
GP-12			50					Gas Well
GP-12			75					Gas Well
GP-13			25					Gas Well
GP-13			50					Gas Well
GP-13			75					Gas Well
GP-14			25					Gas Well
GP-14			50					Gas Well

**LANDFILL GAS MONITORING
CITRUS COUNTY CENTRAL LANDFILL**

General Data

Date:	Sampler:
Time:	Sky Conditions:
Air Temperature (deg C):	Measuring Device:

Sampling Data

Station I.D.	Date Sampled	Time Sampled	Depth of Intake (Feet)	O2 % Volume	CO2 % Volume	Methane		Station Type
						Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	
GP-14			75					Gas Well
GP-15			25					Gas Well
GP-15			50					Gas Well
GP-15			75					Gas Well
GP-16			25					Gas Well
GP-16			50					Gas Well
GP-16			75					Gas Well
GP-17			25					Gas Well
GP-17			50					Gas Well
GP-17			75					Gas Well
GP-18			25					Gas Well
GP-18			50					Gas Well
GP-18			75					Gas Well
GP-19			25					Gas Well
GP-19			50					Gas Well
GP-19			75					Gas Well
GP-20			105					Gas Well
GP-21			115					Gas Well
GP-22			70					Gas Well
GP-23			100					Gas Well
GP-24			70					Gas Well
GP-25			100					Gas Well
GP-26			70					Gas Well
GP-27			100					Gas Well
GP-28			70					Gas Well
GP-29			100					Gas Well
GP-30			105					Gas Well
Admin Building			-					Structure
Mod Bldg			-					Structure
Shop			-					Structure

**LANDFILL GAS MONITORING
CITRUS COUNTY CENTRAL LANDFILL**

General Data

Date:		Sampler:	
Time:		Sky Conditions:	
Air Temperature (deg C):		Measuring Device:	

Sampling Data

Station I.D.	Date Sampled	Time Sampled	Depth of Intake (Feet)	O2 % Volume	CO2 % Volume	Methane		Station Type
						Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	
Scale House			-					Structure
Treatment Facility			-					Structure
Firing Range			-					7 Structures
Haz Waste Drop off Center			-					4 Structures

**LANDFILL GAS MONITORING
CITRUS COUNTY CENTRAL LANDFILL**

General Data

Date:	Sampler:
Time:	Sky Conditions:
Air Temperature (deg C):	Measuring Device:

Sampling Data

Station I.D.	Time Sampled	O2 % Volume	CO2 % Volume	Methane		Station Type
				Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	
MW-1R						GW Well
MW-2						GW Well
MW-3						GW Well
MW-5						GW Well
MW-6						GW Well
MW-7						GW Well
MW-8R						GW Well
MW-9						GW Well
MW-10						GW Well
MW-11						GW Well
MW-12						GW Well
MW-13						GW Well
MW-14						GW Well
MW-15						GW Well
MW-16						GW Well
MW-17						GW Well
MW-18						GW Well
MW-19						GW Well
MW-20						GW Well
MW-21						GW Well
MW-AA						GW Well
MW-B						GW Well
MW-E						GW Well
PZ-1						GW Well
PZ-2						GW Well

PART O—LANDFILL FINAL CLOSURE REQUIREMENTS (62-701.600, FAC)

1 CLOSURE PERMIT REQUIREMENTS

In accordance with Rule 62-701.600(2), Florida Administrative Code (FAC), Citrus County, Florida, will obtain authorization from the Florida Department of Environmental Protection (FDEP) before initiating closure of all or part of the Citrus County Central Landfill (CCCL).

a. Application

The County will submit an application to FDEP for final closure of the CCCL on Form 62-701.900(1) at least 90 days before final receipt of waste.

b. Closure Plan Requirements

Appendix B of this Permit Application provides the Closure and Long-Term Care Plan (CLTCP) and consists of the following:

- (1) Closure Design Plan: Refer to Section 3 of the CLTCP.
- (2) Closure Operation Plan: Refer to Section 4 of the CLTCP.
- (3) Long-Term Care Plan: Refer to Section 10 of the CLTCP.
- (4) Financial Responsibility: Refer to Section 4.3 of the CLTCP.

2 CLOSURE DESIGN PLAN

The Closure Design Plan includes the following in accordance with Rule 62-701.600(3), FAC:

a. Closure Phases

Refer to Section 3.1 of the CLTCP.

b. Existing Topography and Final Grading Plans

Refer to Section 3.2 of the CLTCP.

c. Closure Provisions

Refer to Section 3.3 of the CLTCP.

d. Final Elevations Before Settlement

Refer to Section 3.4 of the CLTCP.

e. Side Slope Design

Refer to Section 3.5 of the CLTCP.

f. Final Cover Installation

Refer to Section 3.6 of the CLTCP.

g. Final Cover Design Requirements

Refer to Section 3.7 of the CLTCP.

h. Stormwater Control

Refer to Section 3.8 of the CLTCP.

i. Access Control

Refer to Section 3.9 of the CLTCP.

j. Gas Management System

Refer to Section 3.10 of the CLTCP.

3 CLOSURE OPERATION PLAN

The CLTCP includes the following in accordance with Rule 62-701.600(4), FAC:

a. Closure Actions

Refer to Section 4.1 of the CLTCP.

b. Time Schedule

Refer to Section 4.2 of the CLTCP.

c. Financial Responsibility

Refer to Section 4.3 of the CLTCP.

d. Water Quality Monitoring Plan

Refer to Section 4.4 of the CLTCP.

e. Gas Management System

Refer to Section 4.5 of the CLTCP.

4 CLOSURE CERTIFICATION

Certification of closure construction will include the following in accordance with Rule 62-701.600(6), FAC.

a. Survey Monuments

Refer to Section 5.1 of the CLTCP.

b. Final Survey Report

Refer to Section 5.2 of the CLTCP.

c. Closure Construction Quality Assurance Report

A Closure Construction Quality Assurance Report will be submitted at the time of final closure.

5 DECLARATION TO THE PUBLIC REQUIREMENTS

The declaration to the public will be made in accordance with Rule 62-701.600(7), FAC. Refer to Section 6 of the CLTCP.

6 OFFICIAL DATE OF CLOSING

The official date of closing will be in accordance with Rule 62-701.600(8), FAC. Refer to Section 7 of the CLTCP.

7 TEMPORARY CLOSURE PROCEDURES

Temporary closure procedures will be followed in accordance with Rule 62-701.600(9), FAC. Refer to Section 8 of the CLTCP.

PART P—OTHER CLOSURE PROCEDURES (62-701.610, FAC)

1 USE OF CLOSED LANDFILL AREAS

The Florida Department of Environmental Protection (FDEP) will retain regulatory control over any activities that may affect the integrity of the environmental protection measures such as the cover, drainage, liners, monitoring systems, or leachate and stormwater controls. The County will consult with FDEP before conducting activities at the closed solid waste disposal facilities.

2 RELOCATION OF WASTES

The County may request permission from FDEP to move waste from one place to another within the footprint of the same solid waste disposal unit. If the landfill has a valid closure permit, the County shall seek a modification to reflect the relocation of waste. FDEP will approve such a request upon a demonstration that:

- a. The activity will not cause or contribute to any violations of water-quality standards or criteria and will not adversely affect the closure design of the landfill.
- b. Any leachate, stormwater runoff, or gas that is generated by the activity is controlled on site.
- c. Any hazardous waste that is generated by the activity will be managed in accordance with Chapter 62-730, Florida Administrative Code (FAC).
- d. Immediately after the activity is completed, the landfill will be covered, vegetated, and graded to comply with the closure requirements that apply to that landfill, which will include a final cover of at least 2 feet of soil or approved alternate such as an exposed geomembrane cover (EGC).
- e. The appropriate District Office of FDEP is notified at least 7 days before the activity occurs to have the opportunity to inspect the site.

PART Q—LONG-TERM CARE (62-701.620, FAC)

Citrus County, Florida owns the property of the active Class I Landfill and leases the property of the closed Class I Landfill cells at the Citrus County Central Landfill (CCCL). The Solid Waste Management Department (County) is responsible for operating, monitoring, and maintaining the facility in accordance with the Florida Department of Environmental Protection (FDEP)-approved closure plan for a minimum of 30 years from the date of closing. The long-term-care period may be extended by FDEP to be consistent with Rule 62-701.620(1), Florida Administrative Code (FAC). The County may apply for a reduced long-term care period or reduce some obligations associated with the long-term care requirements in accordance with Rule 62-701.620(2), FAC.

In accordance with Rule 62-701.620(1), FAC, the County will be responsible for monitoring and maintaining the integrity and effectiveness of the final cover and appurtenances of the facility, controlling erosion, filling subsidences, complying with the groundwater monitoring plan, and maintaining the stormwater system in accordance with the FDEP-approved closure plan for 30 years from the date of closing. The Closure and Long-Term Care Plan (CLTCP) in Appendix B provides additional details of long-term care.

1 GAS COLLECTION AND MONITORING SYSTEM

Refer to Section 10.2 of the CLTCP.

2 STABILIZATION REPORT

Refer to Section 10.5 of the CLTCP.

3 RIGHT OF ACCESS

Refer to Section 10.1 of the CLTCP.

4 REPLACEMENT OF MONITORING DEVICES

Refer to Sections 10.3 and 10.12 of the CLTCP.

5 COMPLETION OF LONG-TERM CARE

Refer to Section 10.14 of the CLTCP.

PART R—FINANCIAL ASSURANCE (62-701.630, FAC)

R.1 COST ESTIMATES

Refer to the Financial Assurance Cost Estimate in Attachment R.1.

R.2 PROCEDURES FOR PROVIDING ANNUAL COST ADJUSTMENTS

Cost estimates for closure and long-term care are adjusted and provided to the Florida Department of Environmental Protection (FDEP) before September 1 each year. Costs will be listed separately for closure and for long-term care. These estimates will be based on one of the following methods as appropriate:

- Prepared and certified by a Professional Engineer for a third party performing the work on a per-unit basis with the source of estimates indicated.
- Inflating the previous year's estimate by the appropriate inflation factor as required by Chapter 62-701.630(4), Florida Administrative Code (FAC).

R.3 FUNDING MECHANISMS

Citrus County uses and plans to continue using an escrow account to demonstrate financial responsibility. Appropriate audits and forms will be provided as required by Rule 62-701.630, FAC.

Attachment R.1
Financial Assurance and Long-Term Care
Cost Estimates

**FINANCIAL ASSURANCE CLOSURE AND
LONG-TERM CARE COST ESTIMATE
CITRUS COUNTY CENTRAL LANDFILL**

FACILITY ID NO.: 39859

Submitted to:

Florida Department of Environmental Protection
Division of Waste Management
2600 Blair Stone Road, MS #4565
Tallahassee, Florida 32399-2400

Prepared for:

Citrus County Solid Waste Management Department
3600 W. Sovereign Path, Suite 267
Lecanto, Florida 34461

Prepared by:

Jones Edmunds & Associates, Inc.
730 NE Waldo Road
Gainesville, Florida 32641

Certificate of Engineering Authorization #1841

Jones Edmunds Project No.: 03860-087-01

June 2021

TABLE OF CONTENTS

IV.	EXPLANATION OF CLOSURE COST ESTIMATES	IV-1
1.	Proposed Monitoring Wells	IV-1
2.	Slope and Fill.....	IV-1
3.	Cover Material (Barrier Layer)	IV-1
4.	Top Soil Cover	IV-1
5.	Vegetative Layer.....	IV-2
6.	Stormwater Control System	IV-2
	IV.6.1. Earthwork.....	IV-2
	IV.6.2. Grading	IV-2
	IV.6.3. Piping	IV-2
	IV.6.4. Ditches.....	IV-3
	IV.6.5. Berms	IV-3
	IV.6.6. Control Structures	IV-3
7.	Passive Gas Controls	IV-3
8.	Active Gas Extraction Controls	IV-3
9.	Security System	IV-4
10.	Engineering.....	IV-5
11.	Professional Services	IV-5
12.	Contingency	IV-5
13.	Site-Specific Costs	IV-6
V.	LONG-TERM CARE EXPLANATION OF COST ESTIMATES.....	V-1
1.	Groundwater Monitoring	V-1
2.	Surface Water Monitoring.....	V-1
3.	Gas Monitoring	V-1
4.	Leachate Monitoring	V-1
5.	Leachate Collection/Treatment Systems.....	V-1
	V.5.1 Lift Stations	V-2
	V.5.2 Cleaning	V-2
	V.5.3 Tanks	V-2
	V.5.4 Disposal	V-2
6.	Groundwater Monitoring Wells Maintenance	V-3
7.	Gas System Maintenance	V-3
	V.7.1 Passive Gas Wells	V-3

V.7.2	Active Gas	V-3
8.	Landscape Maintenance	V-4
9.	Erosion Control and Cover Maintenance	V-4
10.	Stormwater Management System Maintenance	V-5
11.	Security System Maintenance	V-5
12.	Utilities	V-5
13.	Leachate Collection/Treatment Systems Operation	V-6
14.	Administrative	V-6
15.	Contingency	V-6
16.	Site-Specific Costs	V-6

LIST OF TABLES

Table 1	General Information and Assumptions	2
Table 2	Soil Volume Calculations	2
Table 3	Geosynthetic Area Calculations	2
Table 4	List of Abbreviations	2

EXHIBITS

Exhibit 1	Financial Assurance Cost Estimate Form 62-701.900(28), FAC
Exhibit 2	Backup of Closure and Long-Term Care Unit Costs

INTRODUCTION

This document presents the estimated closure and long-term-care costs for the Citrus County Central Landfill (CCCL) as required by Rules 62-701.630 and 62-701.730, Florida Administrative Code (FAC). The landfill cells included in this cost estimate are the Active Class I cells (Phases 1, 1A, 2, and 3, approximately 32.5 acres combined) as well as the closed landfill cells (approximately 60 acres). Exhibit 1 provides Financial Assurance Cost Estimate Form 62-701.900(28) showing the detailed cost estimates for closure and long-term care (LTC) of the Class I Landfill cells. Exhibit 2 provides backup for the costs.

GENERAL INFORMATION AND ASSUMPTIONS

The following information provides justification for quantities and unit prices for the closure and LTC cost estimates in accordance with Rule 62-701.630(3)(a), FAC. This information is provided in support of the cost estimate provided in the *Closure Cost Estimating Form for Solid Waste Facilities*, FDEP Form 62-701.900(28). The cost estimates are based on a third party performing the work on a per-unit basis with the source of the estimates indicated. "Number of Units" (quantities) and "Costs/Unit" (unit costs) are explained for each line item where applicable based on the final cover design presented in the following Engineering Plans and details.

The final cover for Phases 1-3 will consist of a 12-inch intermediate bedding layer over the Class I waste, a 40-mil textured geomembrane, a drainage geocomposite, 24 inches of soil final cover, and vegetative cover. The CCCL closure system consists of the following, from top to bottom:

- Vegetative Cover: Sod.
- Soil Fill: 24-inch layer of soil (6-inch topsoil layer, 18-inch protective layer).
- Geocomposite: Double-sided geocomposite drainage layer.
- Barrier Layer: 40-mil LLDPE geomembrane.
- Intermediate Bedding Layer: 12 inches of soil.

A soil-loss factor is used to adjust for a reduction in volume due to soil compaction. The soil-loss factor is included in the quantity calculation because quantities of soil purchased will be greater than the quantity of soil in-place after compaction.

Table 1 presents the general information and assumptions used to calculate the closure and long-term-care cost estimates.

Table 1 General Information and Assumptions

Facility Name:	Citrus County Central Landfill
Facility Type:	Class I Landfill
Phase/Cell:	Active - Phases 1-3 Closed Site
Acres (footprint):	Active - 32 acres Closed - 60 acres
Closure Surface Area (3D, SF)*:	Active - 1,410,543 Closed - 2,201,060 (already closed)
Soil Loss Factor	20%
Synthetics Loss Factor	10%
Long-Term-Care Period	30 years (minimum)

*Assumes no new cell construction.

Table 2 presents calculations for soil volumes used in the closure cost estimates.

Table 2 Soil Volume Calculations

Thickness (feet)	Surface Area (SF)	Loss Factor (%)	Soil Volume (CF)	Soil Volume (CY)
0.5	1,410,543	20%	846,326	31,345
1.0	1,410,543	20%	1,692,652	62,691
1.5	1,410,543	20%	2,538,977	94,036
2.0	1,410,543	20%	3,385,303	125,382

Table 3 presents calculations for surface area units such as geosynthetics and maintenance.

Table 3 Geosynthetic Area Calculations

3D Surface Area	Unit	Loss Factor	Surface Area
1,410,543	SF	10%	1,551,597
156,727	SY	10%	172,400
32	Acres	10%	35

Table 4 defines the abbreviations used in the cost estimate.

Table 4 List of Abbreviations

AC	Acre	LF	Linear foot
CF	Cubic foot	LS	Lump sum
CY	Cubic yard	MSF	1,000 square feet
DY	Day	SF	Square foot
EA	Each	SY	Square yard
HR	Hour	YR	Year

The detailed closure and long-term-care cost estimates are based on the following assumptions:

- The unit costs provided with each item are costs from recent bids, County Contracts, Florida Department of Transportation (FDOT) Pay Item 12-Month Moving Averages, and RS Means Heavy Construction Cost Data.
- Item costs that were estimated using the RS Means Heavy Construction Cost Data are for Tampa, Florida, which is the closest location available in the online edition and is representative of costs for Lecanto, Florida.

IV. EXPLANATION OF CLOSURE COST ESTIMATES

1. PROPOSED MONITORING WELLS

No additional monitoring wells are required at the time of closure. As part of the operation of the landfill, the permit-required wells are installed.

2. SLOPE AND FILL

This item assumes grading and surface preparation (6 inches of excavation) will be required throughout the closure area and 12 inches of on-site material will be spread over the closure surface and compacted to serve as intermediate cover. The cost estimate is based on the estimates shown below:

Description	Unit	Number of Units	Cost/Unit	Cost Reference
Excavation	CY	31,345	\$5.45/CY	FDOT Item: 0120 1 <i>Regular Excavation</i>
Placement and Spreading	CY	62,691	\$2.10/CY	RS Means Item: 312323170020 <i>Fill, dumped material, spread, by dozer, excludes compaction</i>
Compaction	CY	62,691	\$0.43/CY	RS Means Item: 312323235100 <i>Compaction, Roller, 12" 4 Passes</i>

3. COVER MATERIAL (BARRIER LAYER)

The final cover of the landfill will consist of a layer of 40-mil textured LLDPE geomembrane and an overlying geocomposite. The cost estimate is based on the estimates shown below, including a loss factor of 10% (by area):

Description	Unit	Number of Units	Cost/Unit	Cost Reference
Geomembrane	SY	172,400	\$4.50/SY	<i>AGRU America Quote</i>
Geocomposite	SY	172,400	\$5.40/SY	<i>AGRU America Quote</i>

4. TOP SOIL COVER

The quantity for this item is based on 24 inches of final cover soil over the landfill closure area (including soil loss factor). This is divided by 6 inches of top soil and 18 inches of protective soil. This cost estimate assumes that on-site soil will be used for the protective soil layer, but that suitable off-site soil will need to be brought in for the top soil layer.

Description	Unit	Number of Units	Cost/Unit	Cost Reference
Top Soil (Off-Site)	CY	31,345	\$21.88/CY	FDOT Item: 0120 2 2 <i>Borrow Excavation, Truck Measure</i>
Placement and Spreading	CY	125,382	\$2.10/CY	RS Means Item: 312323170020 <i>Fill, dumped material, spread, by dozer, excludes compaction</i>

5. VEGETATIVE LAYER

Jones Edmunds assumes that the top of the landfill and the side slopes will be sodded (also assumes a 10% loss of material).

Description	Unit	Number of Units	Cost/Unit	Cost Reference
Sodding	SY	172,400	\$2.87/SY	FDOT Item: 0570 1 2, <i>Performance Turf, Sod</i>

6. STORMWATER CONTROL SYSTEM

The stormwater system for Phases 1–3 consists of building terraces at elevations 148.5 and 183.5 feet NGVD, where inlets will convey the water to swales and into the stormwater treatment areas. This cost estimate involves the following:

IV.6.1. EARTHWORK

This item is assumed to be covered in the cost of Slope and Fill items (2.).

IV.6.2. GRADING

This item is assumed to be covered in the cost of Slope and Fill items (2.).

IV.6.3. PIPING

This item includes lateral chute pipes and stormwater downchute pipes.

Description	Unit	Number of Units	Cost/Unit	Cost Reference
Piping – 12-inch	LF	1,832	\$85.23/LF	FDOT Items: 0430175112 <i>Pipe Culv, 12"</i>
Piping – 18-inch	LF	2,235	\$74.54/EA	FDOT Items: 0430174118 <i>Pipe Culv, 18"</i>
Piping - 24-inch	LF	1,250	\$86.61/EA	FDOT Items: 0430174124 <i>Pipe Culv. 24"</i>
Total =			\$431,001/LS	

IV.6.4. DITCHES

Ditches currently exist on-site for stormwater conveyance.

IV.6.5. BERMS

This item is assumed to be covered in the cost of Slope and Fill items (2.).

IV.6.6. CONTROL STRUCTURES

This item assumes that 14 control structures (downcomer inlets) will be needed.

Description	Unit	Number of Units	Cost/Unit	Cost Reference
Control Structures	EA	14	\$4,355.00/ EA	FDOT Item: 0425 1521 <i>Inlets, Type C, <10'</i>

7. PASSIVE GAS CONTROLS

The closed landfill site (approximately 60 acres) is the only area with passive gas vents; thus, no costs are anticipated for closure of the active landfill site (Phases 1–3), which will be subject to an active gas collection system with flare.

8. ACTIVE GAS EXTRACTION CONTROLS

An active gas system was constructed for the active phases (1–3) in 2010. This item includes the costs for expanding the vertical gas extraction system post-closure including wells and connection piping to the existing headers and gas collection and control system.

TRAPS

Additional traps are not required for the active gas extraction system at the time of closure.

SUMPS

Additional sumps are not required for the active gas extraction control.

FLARE ASSEMBLY

An additional flare assembly is not required.

FLAME ARRESTOR

An additional flame arrestor is not required.

MIST ELIMINATOR

An additional mist eliminator is not required.

FLOW METER

Additional flow meters are not required.

PIPING

This item includes the costs to extend header piping throughout the closed Phases 2 and 3 as well as construct lateral piping to connect the new wells to the collection system. It was assumed that the length of existing header pipe in Phases 1–3 would need to be doubled (hence, requiring approximately 4,200 additional LF of pipe) and that each new well will require on average 70 feet of new HDPE piping to be connected to the header system. Altogether, it is estimated that 5,600 LF of pipe will be required.

Description	Unit	Number of Units	Cost/Unit	Cost Reference
Header/Lateral Pipe	LF	5,600	\$127.26/LF	<i>FDOT Statewide (12 month): 1050 42208, HDPE Pipe 8", F&I</i>

COLLECTION SYSTEM

This item includes 20 additional vertical gas extraction wells with an average depth of 100 feet.

Description	Unit	Number of Units	Cost/Unit	Cost Reference
Collection System	LS	1	\$240,000/LS	<i>Quote from Sullivan Environmental, 9/29/2020</i>

OTHER (EXPLAIN)

This item includes the cost of wellheads for the additional vertical wells.

Description	Unit	Number of Units	Cost/Unit	Cost Reference
Wellheads	EA	20	\$817.05/EA	<i>QED Environmental, 7/14/2020</i>

9. SECURITY SYSTEM

Security System costs include the repair of 100 feet of fencing and the replacement of one gate and sign at the time of closure. The cost estimate figures are based on the following:

Description	Unit	Total Units	Cost/Unit	Cost Reference
Fence repairs	LF	100	\$25.00/LF	<i>FDOT Item: 0550 10251 Fencing, Type B, 8.1-10.0' with Barb Attmt</i>
Gate repairs	EA	1	\$2,900/EA	<i>FDOT Item: 0550 60214 Fence Gate, Type B, Single, 18.1-20.0' Opening</i>
Sign repairs	EA	1	\$340.94/EA	<i>FDOT Item: 0700 1 11 Single Post Sign, <12 SF</i>

10. ENGINEERING

Engineering costs for designing and permitting were estimated based on experience with previous landfill closure projects in Florida and were estimated at 7.5 percent of the total construction cost.

11. PROFESSIONAL SERVICES

This item consists of project management for the bidding, construction, construction quality assurance, and construction completion certification phases of the project and uses Jones Edmunds' standard rates.

Construction quality control (CQC) responsibilities belong to the general contractor and geomembrane installation subcontractor. Costs shown in Quality Assurance Testing are the third-party Construction Quality Assurance (CQA) activities, which are assumed to be administered by the consulting engineer. These costs were estimated from experience with previous landfill closure projects in Florida.

Position	HRs	Cost/HR	HRs	Cost/HR
	Contract Management		Quality Assurance	
PE Supervisor	130	\$215	100	\$215
On-Site Engineer	60	\$170	190	\$170
Office Engineer	280	\$130	250	\$130
On-Site Technician	110	\$85	1,460	\$85
Other: Administrative	110	\$85	30	\$85

QUALITY ASSURANCE TESTING

Quality assurance testing is estimated by Jones Edmunds based on a cost of \$2,400 per acre. This includes CQA for liner and soil. The estimate was based on a recent EGC closure project, but it is assumed to be a reasonable approximation for the quality assurance testing unit cost for a traditional soil closure.

Description	Unit	Number of Units	Cost/Unit	Cost Reference
Quality Assurance Testing	AC	32.0	\$2,400	<i>Costs from Bids for New River Phase I EGC closure (2019)</i>

12. CONTINGENCY

A contingency amount of 5 percent of the total construction cost is estimated to cover unforeseen costs that may be incurred during construction and price fluctuations in the construction industry.

13. SITE-SPECIFIC COSTS

Mobilization/Demobilization – This item is 7 percent of the subtotal of Items 1 through 11 to account for mobilization (5%) and bonds and insurance (2%).

CCCL also contains a waste tire facility that is assumed to be closed once the landfill itself is at closure. The waste tire facility has a maximum permitted capacity of 115 tons of tires with an average of 1.5 tons processed per day. The waste tire facility has a storage area of approximately 5,000 square feet. The cost to remove and deliver 115 tons of tires to a nearby facility was estimated based on the current agreement the CCCL has with their waste tire recycler.

Description	Unit	Number of Units	Cost/Unit	Cost Reference
Waste Tire Disposal	LS	1	\$14,850	<i>Jones Edmunds Estimate</i>

V. LONG-TERM CARE EXPLANATION OF COST ESTIMATES

1. GROUNDWATER MONITORING

The groundwater monitoring system for active and closed landfills consists of 16 monitoring wells that must be sampled semi-annually. Based on Jones Edmunds' estimates for the annual sampling, laboratory analyses, and reporting, the cost breakdown is as follows:

Description	Sampling Frequency (Events/Year)	Number of Wells	(Cost/Well)/Event	Cost Reference
Semi-Annual Well Sampling	2	16	\$1,194.38	Jones Edmunds Estimate

2. SURFACE WATER MONITORING

The existing permit (No. 21375-026-SO-MM) states that sampling is only required on "discharge." This estimate assumes that one discharge occurs annually.

Description	Sampling Frequency (Events/Year)	Number of Stations	Cost/Event	Cost Reference
Surface Water Monitoring	1	1	\$2,770.00	Jones Edmunds Estimate

3. GAS MONITORING

Gas monitoring occurs quarterly in 90 probes. This includes 57 landfill gas soil monitoring probes, 26 groundwater monitoring wells/piezometers, and 7 ambient/structure monitoring locations.

Description	Sampling Frequency (Events/Year)	Number of Wells	(Cost/Well)/Event	Cost Reference
Quarterly Gas Sampling	4	90	\$56.33	Jones Edmunds Estimate

4. LEACHATE MONITORING

Leachate monitoring is no longer required by Rule 62-701, FAC, as of the August 12, 2012 rule revision.

5. LEACHATE COLLECTION/TREATMENT SYSTEMS

This item covers maintenance for the lift stations, cleaning the leachate collection system, surface impoundment (tanks) as well as disposing the leachate at a local wastewater treatment plant (WWTP).

V.5.1 LIFT STATIONS

Yearly maintenance of the lift stations. This assumes that all lift stations on-site could be serviced in one day.

Description	Unit	Total Units	Frequency (Event/Years)	Cost/Unit	Cost Reference
Lift Station Maintenance	LS	1	1/YR	\$2,598/LS	<i>Florida Jet Clean Quote</i>

V.5.2 CLEANING

The leachate collection system must be cleaned, at minimum, at each permit renewal or every five years. This assumes cleaning is performed every 5 years and is prorated at an annual basis.

Description	Unit	Total Units	Frequency (Event/Years)	Cost/Unit	Cost Reference
Collection Pipes	LF	10,500	1/5YR	\$0.78/LF	<i>Florida Jet Clean Quote</i>

V.5.3 TANKS

The above ground leachate surface impoundment (tank) is cleaned, inspected, and repaired every 3 years; this is prorated annually.

Description	Unit	Total Units	Frequency (Event/Years)	Cost/Unit	Cost Reference
Tank Cleaning	EA	6	1/3 YR	\$1,248/EA	<i>FL. Pipe Tec., INC.</i>
Tank Inspection/ Repairs	EA	6	1/3 YR	\$4,648/EA	<i>Applied Technical Services, Inc.</i>
Total =				\$5,896/EA/Unit/Year	

V.5.4 DISPOSAL

Accumulated leachate is disposed of at a local wastewater treatment plant (WWTP) as per agreement with Citrus County Utilities Division and Citrus County Solid Waste Management Division. Annual leachate generation rates and disposal costs are based upon 4,442 thousand gallons, the approximate force main flow from April 2020 to March 2021.

Description	Unit	Total Units	Frequency (Event/Years)	Cost/Unit	Cost Reference
Leachate Disposal	KGAL	4,442	1/YR	\$8.40/KGAL	<i>Citrus BOCC, Dept. Water Resources Quote</i>

6. GROUNDWATER MONITORING WELLS MAINTENANCE

The cost for this item is based on replacing one groundwater well every 5 years. This includes abandoning and drilling a new well. The average depth of each well is assumed to be 126 feet.

Description	Unit	Total Units	Frequency (Event/Year)	Cost/Unit	Cost Reference
Replacement Well	EA	1	1/5YR	\$6,463.05/EA	<i>Preferred Drilling Solutions, Inc. Quote</i>
Abandonment	EA	1	1/5YR	\$1,856/EA	<i>Preferred Drilling Solutions, Inc. Quote</i>

7. GAS SYSTEM MAINTENANCE

V.7.1 PASSIVE GAS WELLS

An annual cost for replacing one passive vent annually is provided to cover any necessary maintenance costs associated with passive vents.

Description	Unit	Total Units	Frequency (Event/Years)	Cost/Unit	Cost Reference
Operation/Maintenance	LS	1	1/YR	\$8,054/LS	<i>Preferred Drilling Solutions, Inc. Quote</i>

V.7.2 ACTIVE GAS

This item includes the cost of performing gas system maintenance during the long-term care period including maintaining piping, vents, blowers, flares, meters, valves, compressor, flame arrestors, and operation.

V.7.2.1 Piping, Vents

This item includes the cost of replacing and abandoning one vertical well every 5 years. The well is assumed to be 72 feet deep.

Description	Unit	Total Units	Frequency (Event/Years)	Cost/Unit	Cost Reference
Operation/Maintenance	LS	1	1/5 YR	\$8,054/LS	<i>Preferred Drilling Solutions, Inc. Quote</i>

V.7.2.2 Blowers

Blower maintenance is included in the Operation cost item.

V.7.2.3 Flaring Units

Maintenance of existing flares is included in the Operation cost item.

V.7.2.4 Meters, Valves

Maintenance of existing Meters, Valves is included in the Operation cost item.

V.7.2.5 Compressors

Maintenance of existing Compressors is included in the Operation cost item.

V.7.2.6 Flame Arrestors

Maintenance of Flame Arrestors is included in the Operation cost item.

V.7.2.7 Operation

To account for operation of the gas system (e.g., performing inspections, adjustments, and minor repairs to the gas vents/wells), a Factor of Safety of 1.5 was added to the Piping, Vents cost item. The lump-sum cost for this cost item has been included under the operation line item.

Description	Unit	Total Units	Frequency (Event/Years)	Cost/Unit	Cost Reference
Operation/ Maintenance	LS	1	1/YR	\$12,081/LS	<i>Factor of Safety of 1.5 to Preferred Drilling Quote</i>

8. LANDSCAPE MAINTENANCE

The cost for this item is based on mowing the entire landfill facility property (surfaces of closed cells and surrounding area) approximately four times a year. The area to be mowed is based on the 3D surface area of Cell's closure surface.

Description	Unit	Total Units	Cost/Unit	Cost Reference
Mowing	AC	145	\$48.60/AC	FDOT Item: 0107 2 <i>Mowing</i>

9. EROSION CONTROL AND COVER MAINTENANCE

For erosion control and cover maintenance, Jones Edmunds assumed that the entire closure surface would be regraded and sodded over the 30-year closure period; this is approximately 5,225 SY per year. The repair of 1,000 square yards of liner and underlying geocomposite is assumed per year.

Description	Unit	Total Units	Frequency (Event/Years)	Cost/Unit	Cost Reference
Sodding	SY	5,225	1/YR	\$2.87/SY	FDOT Item: 0570 1 2, <i>Performance Turf, Sod</i>

Description	Unit	Total Units	Frequency (Event/Years)	Cost/Unit	Cost Reference
Regrading	SY	5,225	1/YR	\$30.88/MSF (\$0.28/SY)	RS Means: 312216103312 <i>Fine grading, slopes, steep, large quantities, finish grading</i>
Liner Repair	SY	1,000	1/YR	\$12.96/SY	<i>Thalle Schedule of Values</i>

10. STORMWATER MANAGEMENT SYSTEM MAINTENANCE

Jones Edmunds assumes that the perimeter ditch system will be cleaned annually, which is approximately 4,800 LF. Approximately 6 inches of sediment is assumed to be removed from the bottom of a 2-foot-wide ditch.

Description	Unit	Total Units	Frequency (Event/Years)	Cost/Unit	Cost Reference
Conveyance Maintenance	CY	178	1/YR	\$5.10/CY	FDOT Item: 0120 1 <i>Regular Excavation</i>

11. SECURITY SYSTEM MAINTENANCE

Security system maintenance assumes 100 feet of fencing repairs annually and a new sign and gate replacement annually.

Description	Unit	Total Units	Cost/Unit	Cost Reference
Fence repairs	LF	100	\$25.00/LF	FDOT Item: 0550 10251 <i>Fencing, Type B, 8.1-10.0' with Barb Attmt</i>
Gate repairs	EA	1	\$2,900/EA	FDOT Item: 0550 60214 <i>Fence Gate, Type B, Single, 18.1-20.0' Opening</i>
Sign repairs	EA	1	\$340.94/EA	FDOT Item: 0700 1 11 <i>Single Post Sign, <12 SF</i>

12. UTILITIES

This item is assumed to be \$10,000 annually to run the leachate pumps.

13. LEACHATE COLLECTION/TREATMENT SYSTEMS OPERATION

This item includes operation labor costs for managing the system and the current Jones Edmunds’ billing rates for the personnel.

Position	HRs/YR	Cost/HR
PE Supervisor	96	\$215
On-Site Engineer	0	\$170
Office Engineer	32	\$130
On-Site Technician	300	\$85
Materials	1	\$1,200

14. ADMINISTRATIVE

This item includes administration labor costs for managing the permitting and reporting requirements, inspections, and maintenance. The cost estimate is consistent with current Jones Edmunds’ labor rates and experience with similar facilities.

Position	HRs/YR	Cost/HR
PE Supervisor	48	\$215
Office Engineer	40	\$130
On-Site Technician	48	\$85

15. CONTINGENCY

The contingency is calculated as 5 percent of the total costs of Items 1 through 14. This number is based on Jones Edmunds’ engineering judgment and consideration of estimation of expected annual costs.

16. SITE-SPECIFIC COSTS

There are no long-term-care Site-Specific Costs identified for the CCCL.

Exhibit 1

Financial Assurance Cost Estimate Form 62-701.900(28), FAC



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(28), F.A.C.
Form Title: Closure Cost Estimating Form For
Solid Waste Facilities
Effective Date: January 6, 2010
Incorporated in Rule 62-701.630(3), F.A.C.

CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: Citrus County Central Landfill WACS ID: 39859
 Permit Application or Consent Order No.: 21375-026-SO-MM Expiration Date: 8/15/2026
 Facility Address: 230 W. Gulf to Lake Hwy, Lecanto, FL, 34461
 Permittee or Owner/Operator: Citrus County Board of County Commissioners
 Mailing Address: P.O. Box 340, Lecanto, FL, 34460
 Latitude: 28° 51' 07" Longitude: 82° 26' 12"
 Coordinate Method: Google Earth Datum: WGS84
 Collected by: Chad Spreadbury Company/Affiliation: Jones Edmunds & Associates, Inc.

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Active Life of Unit From Date of Initial Receipt of Waste	If active: Remaining life of unit	If closed: Date last waste received	If closed: Official date of closing
Phase 1	6.8	1991		11		
Phase 2	6	2005				
Phase 3	19.7	2011				
Closed Site	60	1975	Closed	Closed		
Waste Tire 126602-005-WT-02	0.125	N/A	On-going	On-going		

Total disposal unit acreage included in this estimate: Closure: 32 Long-Term Care: 92

Facility type: Class I Class III C&D Debris Disposal
 (check all that apply) Other: Waste Tire Facility

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check type)

Letter of Credit* Insurance Certificate Escrow Account
 Performance Bond* Financial Test Form 29 (FA Deferral)
 Guarantee Bond* Trust Fund Agreement

* - Indicates mechanisms that require the use of a Standby Trust Fund Agreement

Northwest District
160 Government Center
Pensacola, FL 32502-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-807-3300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
10351 N. Telecom Pky.
Temple Terrace, FL 33637
813-632-7600

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
239-332-6975

Southeast District
400 N. Congress Ave., Ste 200
West Palm Beach, FL 33401
561-681-6600

II. ESTIMATE ADJUSTMENT

40 CFR Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code, (F.A.C.) sets forth the method of annual cost estimate adjustment. Cost estimates may be adjusted by using an inflation factor or by recalculating the maximum costs of closure in current dollars. Select one of the methods of cost estimate adjustment below.

(a) Inflation Factor Adjustment

(b) Recalculated or New Cost Estimates

Inflation adjustment using an inflation factor may only be made when a Department approved closure cost estimate exists and no changes have occurred in the facility operation which would necessitate modification to the closure plan. The inflation factor is derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflatory by the Deflator for the previous year. The inflation factor may also be obtained from the Solid Waste website www.dep.state.fl.us/waste/categories/swfr or call the Financial Coordinator at (850) 245-8706.

This adjustment is based on the Department approved closing cost estimate dated: _____

Latest Department Approved Closing Cost Estimate:	x	Current Year Inflation Factor, e.g. 1.02	=	Inflation Adjusted Closing Cost Estimate:
_____		_____		_____

This adjustment is based on the Department approved long-term care cost estimate dated: _____

Latest Department Approved Annual Long-Term Care Cost Estimate:	x	Current Year Inflation Factor, e.g. 1.02	=	Inflation Adjusted Annual Long-Term Care Cost Estimate:
_____		_____		_____
Number of Years of Long Term Care Remaining:			x	_____
Inflation Adjusted Long-Term Care Cost Estimate:			=	_____

Signature by: Owner/Operator Engineer (check what applies)

_____ Signature	_____ Address
_____ Name & Title	_____ City, State, Zip Code
_____ Date	_____ E-Mail Address
_____ Telephone Number	

IV. ESTIMATED CLOSING COST (check what applies)

Recalculated Cost Estimate New Facility Cost Estimate

- Notes:
1. Cost estimates for the time period when the extent and manner of landfill operation makes closing most expensive.
 2. Cost estimate must be certified by a professional engineer.
 3. Cost estimates based on third party suppliers of material, equipment and labor at for market value.
 4. In some cases, a price quote in support of individual

Description	Unit	Number of Units	Cost / Unit	Total Cost
1. Proposed Monitoring Wells (Do not include wells already in existence.)				
	EA		\$ -	\$ -
		Subtotal Proposed Monitoring Wells:		\$ -
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY	31,345	\$ 5.45	\$ 170,830
Placement and Spreading	CY	62,691	\$ 2.10	\$ 131,651
Compaction	CY	62,691	\$ 0.43	\$ 26,957
Off-Site Material	CY		\$ -	\$ -
Delivery	CY		\$ -	\$ -
		Subtotal Slope and Fill:		\$ 329,438
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY		\$ -	\$ -
Synthetics - 40 mil	SY	172,400	\$ 4.50	\$ 775,800
Synthetics - GCL	SY		\$ -	\$ -
Synthetics - Geocomposite	SY	172,400	\$ 5.40	\$ 930,960
Synthetics - Other (explain)	SY		\$ -	\$ -
		Subtotal Cover Material:		\$ 1,706,760
4. Top Soil Cover:				
Off-Site Material	CY	31,345	\$ 21.88	\$ 685,829
Delivery	CY		\$ -	\$ -
Spread	CY	125,382	\$ 2.10	\$ 263,302
		Subtotal Top Soil Cover:		\$ 949,131
5. Vegetative Layer:				
Sodding	SY	172,400	\$ 2.87	\$ 494,788
Hydroseeding	AC		\$ -	\$ -
Fertilizer	AC		\$ -	\$ -
Mulch	AC		\$ -	\$ -
Other (explain)			\$ -	\$ -
		Subtotal Vegetative Layer:		\$ 494,788
6. Stormwater Control System:				
Earthwork	CY		\$ -	\$ -
Grading	SY		\$ -	\$ -
Piping	LS	1	\$ 431,001	\$ 431,001
Ditches	LF		\$ -	\$ -
Berms	LF		\$ -	\$ -
Control Structures	EA	14	\$ 4,355	\$ 60,970
Other (explain)	SY		\$ -	\$ -
		Subtotal Stormwater Control System:		\$ 491,971

Description	Unit	Number of Units	Cost / Unit	Total Cost
7. Passive Gas Control:				
Wells	EA		\$ -	\$ -
Pipe and Fittings	LF		\$ -	\$ -
Monitoring Probes	EA		\$ -	\$ -
NSPS/Title V Requirements	LS		\$ -	\$ -
Subtotal Passive Gas Control:				\$ -
8. Active Gas Extraction Control:				
Traps	EA		\$ -	\$ -
Sumps	EA		\$ -	\$ -
Flare Assembly	EA		\$ -	\$ -
Flame Arrestor	EA		\$ -	\$ -
Mist Eliminator	EA		\$ -	\$ -
Flow Meter	EA		\$ -	\$ -
Pipes	LF	5600	\$ 127.26	\$ 712,656
Blowers	EA		\$ -	\$ -
Collection System	LS	1	\$ 240,000	\$ 360,000
Other (explain)	EA	20	\$ 817.05	\$ 16,341
Wellheads				
Subtotal Active Gas Extraction:				\$ 1,088,997
9. Security System:				
Fencing	LF	100	\$ 25.00	\$ 2,500
Gate(s)	EA	1	\$ 2,900.00	\$ 2,900
Sign(s)	EA	1	\$ 340.94	\$ 341
Subtotal Security System:				\$ 5,741
10. Engineering:				
Closure Plan Report	LS		\$ -	\$ -
Certified Engineering Drawings	LS		\$ -	\$ -
NSPS/Title V Air Permit	LS		\$ -	\$ -
Final Survey	LS		\$ -	\$ -
Certification of Closure	LS		\$ -	\$ -
Other (explain)	LS	1	\$ 380,011.95	\$ 380,012
7.5% of Construction Costs				
Subtotal Engineering:				\$ 380,012

Description	Hours	Cost / Hour	Hours	Cost / Hour	Total Cost
11. Professional Services:					
	<u>Contract Management</u>		<u>Quality Assurance</u>		
P.E. Supervisor	130	\$ 215	100	\$ 215	\$ 49,450
On-Site Engineer	60	\$ 170	190	\$ 170	\$ 42,500
Office Engineer	280	\$ 130	250	\$ 130	\$ 68,900
On-Site Technician	110	\$ 85	1,460	\$ 85	\$ 133,450
Other (explain)	110	\$ 85	30	\$ 85	\$ 11,900
Administrative Assistant					

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	AC	32	\$ 2,400	\$ 76,800
Subtotal Professional Services:				\$ 383,000

Subtotal of 1-11 Above: \$ 5,829,838

12. Contingency: 5 % of Subtotal of 1-11 Above \$ 291,492

Subtotal Contingency: \$ 291,492

Estimated Closing Cost Subtotal: \$ 6,121,330

Description	Total Cost
13. Site-Specific Costs:	
Mobilization (5%)	\$ 291,492
Waste Tire Facility	\$ 14,850
Materials Recovery Facility	\$ -
Special Wastes	\$ -
Leachate Management System Modification - Annual Disposal	\$ -
Other (explain)	\$ 116,597
<u>Bonds and Insurance (2%)</u>	
Subtotal Site Specific Costs:	\$ 422,939
TOTAL ESTIMATED CLOSING COSTS (\$):	\$ 6,544,269

V. ANNUAL COST FOR LONG-TERM CARE

See 62-701.600(1)a.1., 62-701.620(1), 62-701.630(3)a. and 62-701.730(11)b. F.A.C. for required term length. For landfills certified closed and Department accepted, enter the remaining long-term care length as "Other" and provide years remaining. (Check Term Length) 5 Years 20 Years 30 Years Other, _ Years

- Notes: 1. Cost estimates must be certified by a professional engineer.
 2. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.
 3. In some cases, a price quote in support of individual item estimates may be required.

All items must be addressed. Attach a detailed explanation for all items marked not applicable (N/A)

Description	Sampling		(Cost / Well) / Event	Annual Cost
	Frequency (Events / Year)	Number of Wells		
1. Groundwater Monitoring [62-701.510(6), and (8)(a)]				
Monthly	12		\$ -	\$ -
Quarterly	4		\$ -	\$ -
Semi-Annual	2	16	\$ 1,194.38	\$ 38,220
Annual	1		\$ -	\$ -
Subtotal Groundwater Monitoring:				\$ 38,220
2. Surface Water Monitoring [62-701.510(4), and (8)(b)]				
Monthly	12		\$ -	\$ -
Quarterly	4		\$ -	\$ -
Semi-Annual	2		\$ -	\$ -
Annual	1	1	\$ 2,770.00	\$ 2,770
Subtotal Surface Water Monitoring:				\$ 2,770
3. Gas Monitoring [62-701.400(10)]				
Monthly	12		\$ -	\$ -
Quarterly	4	90	\$ 56.33	\$ 20,279
Semi-Annual	2		\$ -	\$ -
Annual	1		\$ -	\$ -
Subtotal Gas Monitoring:				\$ 20,279
4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)c]				
Monthly			\$ -	\$ -
Quarterly			\$ -	\$ -
Semi-Annual			\$ -	\$ -
Annual			\$ -	\$ -
Other (explain) _____			\$ -	\$ -
Subtotal Leachate Monitoring:				\$ -

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. Leachate Collection/Treatment Systems Maintenance				
<u>Maintenance</u>				
Collection Pipes	LF		\$ -	\$ -
Sumps, Traps	EA		\$ -	\$ -
Lift Stations	LS	1	\$ 2,597.50	\$ 2,598
Cleaning	LF	2,100	\$ 0.78	\$ 1,638
Tanks	EA	2	\$ 1,965.33	\$ 3,931

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. (continued)				
<u>Impoundments</u>				
Liner Repair	SY		\$ -	\$ -
Sludge Removal	CY		\$ -	\$ -
<u>Aeration Systems</u>				
Floating Aerators	EA		\$ -	\$ -
Spray Aerators	EA		\$ -	\$ -
<u>Disposal</u>				
Off-site (Includes transportation and disposal)	1,000 gallon	4,442	\$ 8.40	\$ 37,313
Subtotal Leachate Collection / Treatment Systems Maintenance:				\$ 45,480
6. Groundwater Monitoring Wells Maintenance				
Monitoring Wells	LF		\$ -	\$ -
Replacement	EA	1	\$ 1,292.61	\$ 1,293
Abandonment	EA	1	\$ 371.20	\$ 371
Miscellaneous Repairs	LS		\$ -	\$ -
Subtotal Groundwater Monitoring Well Maintenance:				\$ 1,664
7. Gas System Maintenance				
Piping, Vents (Passive System)	LS	1	\$ 8,054.22	\$ 8,054
Piping, Vents (Active System)	LS	1	\$ 1,610.84	\$ 1,611
Blowers	EA		\$ -	\$ -
Flaring Units	EA		\$ -	\$ -
Meters, Valves	EA		\$ -	\$ -
Compressors	EA		\$ -	\$ -
Flame Arrestors	EA		\$ -	\$ -
Operation (Active System)	LS	1	\$ 12,081.33	\$ 12,081
Subtotal Gas System:				\$ 21,746
8. Landscape Maintenance				
Mowing 4 /yr	AC	145.0	\$ 48.60	\$ 28,188
Fertilizer 0 /yr	AC	145.0	\$ -	\$ -
Subtotal Landscape Maintenance:				\$ 28,188
9. Erosion Control and Cover Maintenance				
Sodding	SY	5,225	\$ 2.87	\$ 14,996
Regrading	SY	5,225	\$ 0.28	\$ 1,452
Liner Repair	SY	1,000	\$ 12.96	\$ 12,960
Clay	CY		\$ -	\$ -
Subtotal Erosion Control and Cover Maintenance:				\$ 29,408
10. Storm Water Management System Maintenance				
Conveyance Maintenance	CY	178	\$ 5.10	\$ 908
Subtotal Storm Water System Maintenance:				\$ 908
11. Security System Maintenance				
Fences	LF	100	\$ 25.00	\$ 2,500
Gate(s)	EA	1	\$ 2,900.00	\$ 2,900
Sign(s)	EA	1	\$ 340.94	\$ 341
Subtotal Security System:				\$ 5,741

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
12. Utilities	LS	1	\$ 10,000	\$ 10,000

13. Leachate Collection/Treatment Systems Operation

Operation

P.E. Supervisor	HR	96	\$ 215	\$ 20,640
On-Site Engineer	HR	0	\$ 170	\$ -
Office Engineer	HR	32	\$ 130	\$ 4,160
On-Site Technician	HR	300	\$ 85	\$ 25,500
Materials	LS	1	\$ 1,200.00	\$ 1,200

Subtotal Leachate Collection/Treatment System Operation: \$ 51,500

14. Administrative

		Hours	\$/Hour	Total
P.E. Supervisor	HR	48	\$ 215	\$ 10,320
On-Site Engineer	HR	0	\$ 170	\$ -
Office Engineer	HR	40	\$ 130	\$ 5,200
On-Site Technician	HR	48	\$ 85	\$ 4,080
Other _____	HR		\$ -	\$ -

Subtotal Administrative: \$ 19,600

Subtotal of 1-14 Above: \$ 275,504

15. Contingency 5% % of Subtotal of 1-14 Above \$ 13,775

Subtotal Contingency: \$ 13,775

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
16 Site-Specific Costs (explain)			\$ -	\$ -
_____	_____	_____	\$ -	\$ -
_____	_____	_____	\$ -	\$ -
_____	_____	_____	\$ -	\$ -
_____	_____	_____	\$ -	\$ -
Subtotal Site Specific Costs:				\$ -

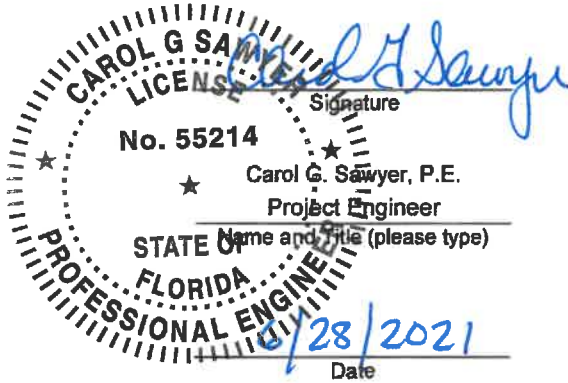
ANNUAL LONG-TERM CARE COST (\$ / Year): \$ **289,279**

Number of Years of Long-Term Care: 30

TOTAL LONG-TERM CARE COST (\$): \$ **8,678,370**

VI. CERTIFICATION BY ENGINEER

This is to certify that the Cost Estimates pertaining to the engineering features of this solid waste management facility have been examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, the Cost Estimates are a true, correct and complete representation of the financial liabilities for closing and/or long-term care of the facility and comply with the requirements of Rule 62-701.630 F.A.C. and all other Department of Environmental Protection rules, and statutes of the State of Florida. It is understood that the Cost Estimates shall be submitted to the Department annually, revised or adjusted as required by Rule 62-701.630(4), F.A.C.



730 NE Waldo Road
Mailing Address

Gainesville, Florida 32641
City, State, Zip Code

csawyer@jonesedmunds.com
E-Mail address (if available)

55214
Florida Registration Number
(please affix seal)

(352) 377-5821
Telephone Number

VII. SIGNATURE BY OWNER/OPERATOR

E-Mail address (if available) Telephone Number

Henry C. Norris, Jr.
Signature

230 W. Gulf to Lake Highway
Mailing Address

Henry C. Norris, Jr.
Solid Waste Director
Name and Title (please type)

Lecanto, Florida 34460
City, State, Zip Code

henry.norris@citrusbocc.com
E-Mail address (if available)

(352) 527-7870
Telephone Number

Exhibit 2

Backup of Closure and Long-Term Care Unit Costs

Closure Costs



Florida Department of Transportation
Item Average Unit Cost
From 2020/04/01 to 2021/03/31
Statewide

Market Area: 07
Contract Type: CC
Displaying: VALID ITEMS WITH HITS
From: 0102 1 To: 9999999

IV. 2.1 - Excavation



Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
0108 2	1	\$42,765.00	\$42,765.00	1.000	EA	N	MONITOR EXISTING STRUCTURES- VIBRATION MONITORING
0108 3	1	\$15,000.00	\$15,000.00	1.000	EA	N	MONITOR EXISTING STRUCTURES- GROUNDWATER MONITORING
0110 1 1	13	\$12,990.44	\$3,275,020.82	252.110	AC	N	CLEARING & GRUBBING
0110 2 2	1	\$17,000.00	\$17,170.00	1.010	AC	N	SELECTIVE CLEARING AND GRUBBING, AREAS WITH TREES TO REMAIN
0110 4 10	12	\$11.34	\$447,605.01	39,472.000	SY	N	REMOVAL OF EXISTING CONCRETE
0110 7 1	7	\$203.47	\$41,101.80	202.000	EA	N	MAILBOX, F&I SINGLE
0120 1	11	\$5.45	\$1,730,848.31	317,337.000	CY	N	REGULAR EXCAVATION
0120 2 2	1	\$37.72	\$34,362.92	911.000	CY	N	BORROW EXCAVATION, TRUCK MEASURE
0120 4	4	\$15.28	\$12,757.00	835.000	CY	N	SUBSOIL EXCAVATION
0120 6	11	\$6.98	\$1,708,621.69	244,784.000	CY	N	EMBANKMENT
0120 71	1	\$19,339.84	\$19,339.84	1.000	LS	N	REGULAR EXCAVATION (3-R PROJECTS ONLY)
0120 74	1	\$5.50	\$3,657.50	665.000	CY	N	SURCHARGE EMBANKMENT
0141 70	1	\$2,500.00	\$7,500.00	3.000	AS	N	SETTLEMENT PLATE ASSEMBLY
0160 4	9	\$7.03	\$2,517,687.92	357,886.000	SY	N	TYPE B STABILIZATION
0285701	8	\$14.33	\$2,229,545.06	155,552.000	SY	N	OPTIONAL BASE, BASE GROUP 01
0285702	3	\$23.81	\$71,189.50	2,990.000	SY	N	OPTIONAL BASE, BASE GROUP 02
0285703	1	\$55.00	\$14,355.00	261.000	SY	N	OPTIONAL BASE, BASE GROUP 03
0285704	2	\$25.11	\$56,676.25	2,257.000	SY	N	OPTIONAL BASE, BASE GROUP 04
0285708	1	\$36.84	\$11,088.84	301.000	SY	N	OPTIONAL BASE, BASE GROUP 08
0285709	5	\$21.89	\$595,861.04	27,224.000	SY	N	OPTIONAL BASE, BASE GROUP 09

Cost Estimate Report

Date: 06/01/2021

IV: 2.2 & 2.3 & 4.2 - Placement & Spread and
Compaction

Citrus County Central Landfill FACE 2021

Year 2021

Unit Detail Report

Prepared By: JoAnne Talamo

Jones Edmunds & Associates, Inc.

LineNumber	Description	Quantity	Unit	Total Incl. O&P	Ext. Total Incl. O&P
Division 31 Earthwork					
312323170020	Fill, dumped material, spread, by dozer, excludes compaction	0.00	L.C.Y.	\$2.10	\$0.00
312323235100	Compaction, riding, vibrating roller, 4 passes, 12" lifts	0.00	E.C.Y.	\$0.43	\$0.00
Division 31 Earthwork Subtotal					\$0.00
Subtotal					\$0.00
General Contractor's Markup on Subs				0.00%	\$0.00
Subtotal					\$0.00
General Conditions				0.00%	\$0.00
Subtotal					\$0.00
General Contractor's Overhead and Profit				0.00%	\$0.00
Grand Total					\$0.00

New River Solid Waste Association
 New River Regional Landfill
 EGC Closure Geosynthetic Material
 IFB #18-03

IV. 3-1 - Geomembrane

All Bids were received by 3:00 p.m on January 7, 2019

Bid Tabulation

BID FORM ITEMS				Solmax GSE Varenes, Quebec Michael Winterbourne mwinterbourne@solmax.com			National Lining Systems Inc. Fort Myers, FL Joe Irwin jirwin@nationalliningsystems.com			Agru Georgetown, SC Chris Eichelberger ceichelberger@arguamerica.com		
Item	Est. Quantity	Units		Est. Quantity	Unit Price	Total Price	Est. Quantity	Unit Price	Total Price			
1	Geomembrane	820,000	SF	830,898	\$ 0.354	\$ 294,138	820,000	\$ 0.4057	\$ 332,674			
2	Geotextile	31,500	SF	31,500	\$ -	\$ -	31,500	\$ 0.1457	\$ 4,590			
TOTAL BASE BID				\$ 294,138			\$ 337,264					
Notes:				20 lb spools of welding rod at \$63 each; final cost depends on contractor's estimate Only bidding on geomembrane.			weld rod does not include any tie-ins as none are described in the bid documents Installer teaming with Atarfil (EGC) and Skapps (geotextile).			email 12/12/18: not able to meet the project schedule so will not be providing a bid		
Bid Requirements:												
Signed Bid Form				Y			Y					
Sample warranty - 20 yrs from time of installation				Y			N			Bid: 20 years from date of sale		
Manufacturer Prequalification Info				Y			Y					

New River Solid Waste Association
 New River Regional Landfill
 Class I Landfill Cell 7 Expansion Construction
 IFB #20-01

All Bids were received by 3:00 p.m on September 25, 2020

Bid Tabulation

The IFB was emailed to four vendors and only one responded with a bid.

BID FORM ITEMS			Solmax Geosynthetics Houston, TX Michael Winterbourne mwinterbourne@solmax.com Bid Date: 9/17/2020		
Item	Est. Quantity	Units	Est. Quantity	Unit Price	Total Price
1A Geomembrane [60-mil textured HDPE black]	1,661,400	SF	1,661,400	\$ 0.264	\$ 438,609.60
1B Geomembrane [60-mil textured HDPE white]	1,661,400	SF	1,661,400	\$ 0.283	\$ 470,176.20

GMB	(15 acres)				
Solmax	2019	\$ 0.354	/SF	material plus delivery	
Solmax	2020	\$ 0.283	/SF	material plus delivery	
Agru	2019	\$ 0.406	/SF	material plus delivery	
	avg	\$ 0.348	/SF	material plus delivery	
		\$ 0.150	/SF	install	
	TOTAL	\$ 0.50	/SF		
		\$ 4.48	/SY		
	rounded	\$ 4.50	/SY		

IV. Closure Item 3.2 - Cover Material (Barrier Layer) Geocomposite

Matthew Morse

From: Matthew Morse
Sent: Tuesday, July 14, 2020 10:13 AM
To: Matthew Morse
Subject: FW: Landfill Closure Budget Pricing Update
Attachments: CT_ClosureOptions_Brochure CAE1.pdf

From: Chris Eichelberger <CEichelberger@AgruAmerica.com>
Sent: Tuesday, July 14, 2020 9:55 AM
To: Matthew Morse <MMorse@jonesedmunds.com>
Cc: Mike Gnau <MGnau@AgruAmerica.com>
Subject: RE: Landfill Closure Budget Pricing Update

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Matthew,

You can use \$0.60/SF for Supply / Install of Geocomposite and \$0.25 / SF for the 8 oz NW fabric.

I have attached our closure solutions offered, if your team would be interested in discussing these further with the client. Thank you

Best regards,

$$(\$0.60 / SF) \times (9 SF / SY) = \$5.40 / SY$$



Chris Eichelberger
VP – Technical Marketing
AGRU America, Inc.

Mobile: (843) 630-4160
500 Garrison Road
Georgetown, SC 29440 USA
agruamerica.com



CONFIDENTIALITY NOTICE: This message is intended to be viewed only by the listed recipient(s). It may contain information that is privileged, confidential and /or exempt from disclosure under applicable law. Any dissemination, distribution or copying of this message is strictly prohibited without prior written permission. If you are not an intended recipient, or if you have received this communication in error, please notify us immediately by return e-mail and permanently remove the original message and any copies from your computer and all back-up systems.



IV. Closure - 4
Off-Site Topsoil

Florida Department of Transportation
Item Average Unit Cost
From 2020/05/01 to 2021/04/30
Statewide

Contract Type: CC
Displaying: VALID ITEMS WITH HITS
From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
0110 4 10	139	\$20.72	\$5,214,463.86	251,708.000	SY	N	REMOVAL OF EXISTING CONCRETE
0110 7 1	32	\$188.49	\$118,748.95	630.000	EA	N	MAILBOX, F&I SINGLE
0110 21	11	\$3.78	\$162,932.95	43,088.000	LF	N	TREE PROTECTION BARRIER
0110 22	4	\$242.08	\$121,039.33	500.000	EA	N	TREE ROOT AND BRANCH PRUNING
0110 23	7	\$425.40	\$54,876.62	129.000	EA	N	TREE REMOVAL
0110 71 1	1	\$200.00	\$168,800.00	844.000	LF	N	BRIDGE FENDER SYSTEM, REMOVAL & DISPOSAL
0110 73	2	\$180.65	\$63,408.00	351.000	LF	N	REMOVE EXISTING BULKHEAD
0110 82	2	\$1,841.25	\$129,440.00	70.300	MB	N	REMOVE & DISPOSE OF STRUCTURAL TIMBER
0120 1	102	\$7.18	\$9,660,963.33	1,345,162.700	CY	N	REGULAR EXCAVATION
0120 2 2	41	\$21.88	\$945,144.61	43,197.900	CY	N	BORROW EXCAVATION, TRUCK MEASURE
0120 3	1	\$500.00	\$6,650.00	13.300	CY	N	LATERAL DITCH EXCAVATION
0120 4	19	\$16.94	\$884,403.74	52,220.100	CY	N	SUBSOIL EXCAVATION
0120 5	2	\$29.28	\$257,079.90	8,779.700	CY	N	CHANNEL EXCAVATION
0120 6	88	\$8.90	\$8,411,196.96	945,209.700	CY	N	EMBANKMENT
0120 6103	1	\$56.91	\$2,333,247.40	40,998.900	CY	N	EMBANKMENT, CHANNEL EMBANKMENT, PROJECT 443155-1-52-01
0120 71	33	\$31,696.56	\$1,109,379.65	35.000	LS	N	REGULAR EXCAVATION (3-R PROJECTS ONLY)
0120 74	2	\$24.52	\$244,372.56	9,966.200	CY	N	SURCHARGE EMBANKMENT
0125 1	3	\$17.57	\$13,090.16	745.000	CY	N	EXCAVATION FOR STRUCTURES
0141 70	2	\$2,038.46	\$26,500.00	13.000	AS	N	SETTLEMENT PLATE ASSEMBLY
0144 1 1	1	\$100.00	\$11,000.00	110.000	LF	N	DIGITAL INCLINOMETER CASING, VERTICAL
0145 2	11	\$5.40	\$550,907.94	101,960.000	SY	N	GEOSYNTHETIC REINFORCED FOUNDATION OVER SOFT SOIL



Florida Department of Transportation
 Item Average Unit Cost
 From 2020/03/01 to 2021/02/28
 Statewide

Closure IV.5 and LTC V.9.1 - Sodding

Market Area: 07
 Contract Type: CC
 Displaying: VALID ITEMS WITH HITS
 From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
0536 7 2	1	\$250.00	\$2,500.00	10.000	EA	N	SPECIAL GUARDRAIL POST- SPECIAL STEEL POST FOR CONCRETE STRUCTURE MOUNT
0536 7 3	2	\$165.44	\$992.64	6.000	EA	N	SPECIAL GUARDRAIL POST- ENCASED POST FOR SHALLOW MOUNT
0536 73	7	\$2.83	\$26,663.51	9,416.000	LF	N	GUARDRAIL REMOVAL
0536 85 20	6	\$1,117.87	\$11,178.74	10.000	EA	N	GUARDRAIL END TREATMENT- TRAILING ANCHORAGE
0536 85 24	6	\$2,999.83	\$32,998.11	11.000	EA	N	GUARDRAIL END TREATMENT- PARALLEL APPROACH TERMINAL
0536 85 26	1	\$3,020.00	\$3,020.00	1.000	EA	N	GUARDRAIL END TREATMENT- TYPE CRT
0546 72 3	4	\$2,279.70	\$90,677.35	39.776	GM	N	GROUND-IN RUMBLE STRIPS, 8" SINUSOIDAL
0548 12	1	\$66.00	\$3,260,730.00	49,405.000	SF	N	RETAINING WALL SYSTEM, PERMANENT, EXCLUDING BARRIER
0548 13	1	\$9.23	\$264,170.00	28,635.000	SF	N	RETAINING WALL SYSTEM, TEMPORARY, EXCLUDING BARRIER
0550 10110	1	\$12.00	\$18,564.00	1,547.000	LF	N	FENCING, TYPE A, 0.0-5.0', STANDARD
0550 10220	2	\$16.23	\$36,622.75	2,257.000	LF	N	FENCING, TYPE B, 5.1-6.0', STANDARD
0550 10228	1	\$25.25	\$505.00	20.000	LF	N	FENCING, TYPE B, 5.1-6.0, RESET EXISTING
0550 60214	1	\$2,900.00	\$2,900.00	1.000	EA	N	FENCE GATE, TYPE B, SINGLE, 18.1-20.0' OPENING
0550 60222	1	\$1,500.00	\$1,500.00	1.000	EA	N	FENCE GATE, TYPE B, DOUBLE, 6.1-12.0' OPENING
0570 1 2	14	\$2.87	\$2,905,973.19	1,013,576.000	SY	N	PERFORMANCE TURF, SOD
0570 1 3	2	\$3.08	\$173,402.90	56,327.000	SY	N	PERFORMANCE TURF, SOD AND SOIL- SHOULDER TREATMENT INDEX 570-010
0571 1 11	4	\$4.52	\$145,475.40	32,175.000	SY	N	PLASTIC EROSION MAT, TURF REINFORCED MAT, TYPE 1
0571 1 13	1	\$5.00	\$12,065.00	2,413.000	SY	N	PLASTIC EROSION MAT, TURF REINFORCED MAT, TYPE 3



Florida Department of Transportation
 Item Average Unit Cost
 From 2020/05/01 to 2021/04/30
 Statewide

Market Area: 07
 Contract Type: CC
 Displaying: VALID ITEMS WITH HITS
 From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
0425 7	1	\$500.47	\$500.47	1.000	EA	N	MANHOLE COVER- REPLACE
0425 10	1	\$2,100.00	\$10,500.00	5.000	EA	N	YARD DRAIN
0425 15 41	1	\$6,832.66	\$6,832.66	1.000	EA	N	INLET TOP, REPAIR, CURB INLET
0425 82	1	\$1,300.00	\$1,300.00	1.000	EA	N	REPLACE GRATE
0430174115	2	\$121.38	\$4,490.88	37.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 15"SD
0430174118	5	\$74.54	\$264,974.86	3,555.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18"SD
0430174124	3	\$86.61	\$91,025.56	1,051.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 24"SD
0430174130	2	\$120.74	\$62,180.00	515.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 30"SD
0430174136	1	\$150.00	\$33,900.00	226.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 36"SD
0430174218	3	\$71.80	\$166,586.00	2,320.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, OTHER SHAPE - ELLIP/ARCH, 18"SD
0430174224	3	\$82.59	\$102,575.00	1,242.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, OTHER SHAPE - ELLIP/ARCH, 24"SD
0430174230	1	\$120.00	\$70,560.00	588.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, OTHER SHAPE - ELLIP/ARCH, 30"SD
0430174236	1	\$150.00	\$19,050.00	127.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, OTHER SHAPE - ELLIP/ARCH, 36"SD
0430175112	1	\$500.00	\$2,000.00	4.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 12"S/CD
0430175115	5	\$64.78	\$197,454.65	3,048.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 15"S/CD
0430175118	7	\$70.84	\$558,820.66	7,889.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18"S/CD

IV. Closure 6 - 18" &
24" Piping



Florida Department of Transportation
Item Average Unit Cost
From 2020/05/01 to 2021/04/30
Statewide

Contract Type: CC
Displaying: VALID ITEMS WITH HITS
From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
0430174115	8	\$172.55	\$25,019.43	145.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 15"SD
0430174118	30	\$71.69	\$764,694.17	10,666.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18"SD
0430174124	19	\$91.76	\$299,147.74	3,260.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 24"SD
0430174130	7	\$125.06	\$103,550.29	828.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 30"SD
0430174136	6	\$111.75	\$112,528.20	1,007.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 36"SD
0430174142	2	\$122.10	\$55,676.00	456.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 42"SD
0430174148	1	\$233.21	\$6,996.30	30.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 48"SD
0430174215	2	\$119.79	\$9,103.92	76.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, OTHER SHAPE - ELLIP/ARCH, 15"SD
0430174218	20	\$84.06	\$325,903.87	3,877.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, OTHER SHAPE - ELLIP/ARCH, 18"SD
0430174224	9	\$98.68	\$273,152.15	2,768.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, OTHER SHAPE - ELLIP/ARCH, 24"SD
0430174230	3	\$115.38	\$110,076.70	954.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, OTHER SHAPE - ELLIP/ARCH, 30"SD
0430174236	2	\$136.49	\$30,845.85	226.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, OTHER SHAPE - ELLIP/ARCH, 36"SD
0430174242	1	\$280.00	\$37,520.00	134.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ELLIP/OTHER, 42"SD
0430175112	8	\$85.23	\$46,452.47	545.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 12"S/CD
0430175115	35	\$84.21	\$595,691.48	7,074.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 15"S/CD
0430175118	73	\$76.05	\$5,263,454.12	69,207.000	LF	N	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18"S/CD

IV. Closure 6 - 12"
Piping



Florida Department of Transportation
 Item Average Unit Cost
 From 2020/05/01 to 2021/04/30
 Statewide

Market Area: 07
 Contract Type: CC
 Displaying: VALID ITEMS WITH HITS
 From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
0425 1355	1	\$4,369.58	\$17,478.32	4.000	EA	N	INLETS, CURB, TYPE P-5, PARTIAL
0425 1361	1	\$5,400.00	\$10,800.00	2.000	EA	N	INLETS, CURB, TYPE P-6, <10'
0425 1421	1	\$13,400.00	\$13,400.00	1.000	EA	N	INLETS, CURB, TYPE J-2, <10'
0425 1429	1	\$13,500.00	\$13,500.00	1.000	EA	N	INLETS, CURB, TYPE J-2, MODIFY
0425 1455	1	\$4,369.58	\$17,478.32	4.000	EA	N	INLETS, CURB, TYPE J-5, PARTIAL
0425 1465	1	\$4,970.06	\$9,940.12	2.000	EA	N	INLETS, CURB, TYPE J-6, PARTIAL
0425 1471	1	\$9,200.00	\$9,200.00	1.000	EA	N	INLETS, CURB, TYPE 7, <10'
0425 1501	1	\$3,650.00	\$7,300.00	2.000	EA	N	INLETS, DT BOT, TYPE A, <10'
0425 1505	1	\$3,350.00	\$3,350.00	1.000	EA	N	INLETS, DT BOT, TYPE A, PARTIAL
0425 1511	2	\$6,835.00	\$34,175.00	5.000	EA	N	INLETS, DT BOT, TYPE B, <10'
0425 1515	2	\$6,187.50	\$24,750.00	4.000	EA	N	INLETS, DT BOT, TYPE B, PARTIAL
0425 1521	2	\$4,355.00	\$87,100.00	20.000	EA	N	INLETS, DT BOT, TYPE C, <10'
0425 1525	1	\$3,400.00	\$3,400.00	1.000	EA	N	INLETS, DITCH BOTTOM, TYPE C, PARTIAL
0425 1531	3	\$3,185.41	\$79,635.32	25.000	EA	N	INLETS, DITCH BOTTOM, TYPE C MODIFIED- BACK OF SIDEWALK, <10'
0425 1535	1	\$4,867.17	\$4,867.17	1.000	EA	N	INLETS, DITCH BOTTOM TYPE C MODIFIED- BACK OF SIDEWALK, PARTIAL
0425 1541	2	\$3,196.83	\$262,140.00	82.000	EA	N	INLETS, DT BOT, TYPE D, <10'
0425 1543	2	\$5,757.33	\$86,360.00	15.000	EA	N	INLETS, DITCH BOTTOM, TYPE D, J BOT, <10'
0425 1545	1	\$5,800.00	\$5,800.00	1.000	EA	N	INLETS, DITCH BOTTOM, TYPE D, PARTIAL
0425 1549	2	\$3,854.00	\$57,810.00	15.000	EA	N	INLETS, DT BOT, TYPE D, MODIFY

IV. Closure 6 -
Control Structure





Florida Department of Transportation
 Item Average Unit Cost
 From 2019/10/01 to 2020/09/30
 Statewide

IV. Closure 8 - Active Gas Extraction Control Piping

Weighted Average, 2020 and 2021:

$$(\$179,939.09 + \$42,259.09) / (1,216 \text{ LF} + 530 \text{ LF}) = \$127.26/\text{LF}$$

Contract Type: CC
 Displaying: VALID ITEMS WITH HITS
 From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
1050 31214	1	\$105.83	\$49,528.44	468.000	LF	N	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 14"
1050 31218	1	\$98.00	\$31,850.00	325.000	LF	N	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 18"
1050 31242	1	\$262.50	\$34,125.00	130.000	LF	N	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 42"
1050 41102	1	\$4.25	\$27,973.50	6,582.000	LF	N	UTILITY PIPE- POLYETHYLENE, FURNISH & INSTALL, CASING/CONDUIT, 2"
1050 41106	1	\$28.00	\$62,720.00	2,240.000	LF	N	UTILITY PIPE- POLYETHYLENE, FURNISH & INSTALL, CASING/CONDUIT, 6"
1050 41201	4	\$33.89	\$60,321.73	1,780.000	LF	N	UTILITY PIPE- POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 1"
1050 41202	2	\$33.60	\$41,128.40	1,224.000	LF	N	UTILITY PIPE- POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 2"
1050 42202	2	\$49.96	\$22,831.23	457.000	LF	N	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 2"
1050 42203	1	\$57.00	\$13,680.00	240.000	LF	N	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 3"
1050 42204	1	\$76.32	\$29,306.88	384.000	LF	N	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 4"
1050 42206	1	\$66.00	\$24,948.00	378.000	LF	N	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 6"
1050 42208	3	\$147.98	\$179,939.09	1,216.000	LF	N	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL,



Florida Department of Transportation
Item Average Unit Cost
From 2019/10/01 to 2020/09/30
Statewide

Contract Type: CC
Displaying: VALID ITEMS WITH HITS
From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
1050 42208							WATER/SEWER, 8"
1050 42210	3	\$107.59	\$107,910.00	1,003.000	LF	N	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 10"
1050 42212	3	\$113.34	\$375,045.00	3,309.000	LF	N	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 12"
1050 42214	1	\$111.00	\$256,965.00	2,315.000	LF	N	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 14"
1050 43306	1	\$46.29	\$67,120.50	1,450.000	LF	N	UTILITY PIPE- MEDIUM DENSITY POLYETHYLENE, FURNISH & INSTALL, GAS, 6"
1050 51206	6	\$46.97	\$142,364.75	3,031.000	LF	N	UTILITY PIPE- DUCTILE IRON/CAST IRON, FURNISH & INSTALL, WATER/SEWER, 6"
1050 51208	3	\$90.92	\$31,822.00	350.000	LF	N	UTILITY PIPE- DUCTILE IRON/CAST IRON, FURNISH & INSTALL, WATER/SEWER, 8"
1050 51210	1	\$135.99	\$129,190.50	950.000	LF	N	UTILITY PIPE- DUCTILE IRON/CAST IRON, FURNISH & INSTALL, WATER/SEWER, 10"
1050 51212	2	\$151.00	\$29,445.75	195.000	LF	N	UTILITY PIPE- DUCTILE IRON/CAST IRON, FURNISH & INSTALL, WATER/SEWER, 12"
1050 51216	1	\$90.00	\$140,130.00	1,557.000	LF	N	UTILITY PIPE- DUCTILE IRON/CAST IRON, FURNISH & INSTALL, WATER/SEWER, 16"
1050 51224	1	\$262.50	\$93,187.50	355.000	LF	N	UTILITY PIPE- DUCTILE IRON/CAST IRON, FURNISH & INSTALL, WATER/SEWER, 24"



Florida Department of Transportation
Item Average Unit Cost
From 2020/05/01 to 2021/04/30
Statewide

Contract Type: CC
Displaying: VALID ITEMS WITH HITS
From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
1050 31210	1	\$40.26	\$805.20	20.000	LF	N	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 10"
1050 31212	4	\$80.75	\$132,355.86	1,639.000	LF	N	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 12"
1050 31214	2	\$118.25	\$88,448.44	748.000	LF	N	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 14"
1050 31216	2	\$83.42	\$233,589.10	2,800.000	LF	N	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 16"
1050 31224	1	\$165.00	\$161,370.00	978.000	LF	N	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 24"
1050 31242	1	\$262.50	\$34,125.00	130.000	LF	N	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 42"
1050 41201	3	\$72.78	\$11,062.83	152.000	LF	N	UTILITY PIPE- POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 1"
1050 42202	1	\$51.29	\$3,179.98	62.000	LF	N	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 2"
1050 42208	2	\$79.73	\$42,259.09	530.000	LF	N	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 8"
1050 42212	1	\$105.00	\$19,425.00	185.000	LF	N	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 12"
1050 42218	1	\$187.00	\$39,270.00	210.000	LF	N	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 18"

Matthew Morse

From: Kristine Sullivan <kristine@sullivanenv.com>
Sent: Tuesday, September 29, 2020 10:48 AM
To: Carol Sawyer
Subject: RE: New River additional GCCS wells

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Carol,

Based on the footages you emailed me we can drill for the same price per foot as last time. **\$114.24 per foot** and **\$9,298.03 mob/demob and \$500 environmental protection.** I'll check with the driller on dates as soon as you give me the go ahead.

Kristine Sullivan

Sullivan Environmental, Inc.
4448 13th LN NE
St. Petersburg, FL 33703
813-625-2952

Total Collection System Cost:
Mobilization: \$9,298.03
Environmental Protection: \$500
Well drilling: \$114.24/LF * 20 wells * 100 LF/well = \$228,480
Total = \$9298.03 + \$500 + \$228,480 = \$238,278.03
Rounded to \$240,000

From: Carol Sawyer <CSawyer@jonesedmunds.com>
Sent: Friday, September 18, 2020 3:21 PM
To: Kristine Sullivan <kristine@sullivanenv.com>
Subject: RE: New River additional GCCS wells

Great news on the driller. Let's see what the other folks. Thanks.

Carol G. Sawyer, PE

Project Manager

p. 352.377.5821 x. 1356 | c. 352-214-5849

JONESEDMUNDS.COM

730 NE Waldo Road, Gainesville, FL, 32641

The information contained in this message including any attachment is confidential. It is intended for the private use of the intended addressee only. If you are not the intended addressee, please immediately notify the sender by reply email and destroy the original transmission and any attachment. Email transmission of information cannot be guaranteed to be free of error or other defect. If verification is required, request a hard-copy version. The sender disclaims liability for any defects in this message caused by email transmission including a virus. It is the responsibility of the recipient to ensure that this message is virus free.

From: Kristine Sullivan <kristine@sullivanenv.com>
Sent: Friday, September 18, 2020 3:18 PM
To: Carol Sawyer <CSawyer@jonesedmunds.com>
Subject: RE: New River additional GCCS wells

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.



IV. Closure 8 - Active Gas Extraction Control Wellheads

Quote No: R-48511, Jul 14, 2020

Site Reference: ORP215M

Prepared For:

Matthew Morse
352 377-5821
mmorse@jonesedmunds.com

JONES EDMUNDS & ASSOCIATES INC
730 NE WALDO RD
BUILDING A
GAINESVILLE, FL 32641-5699
USA

Represented By:

Ken Still, Regional Sales Mgr
770-856-7845
kstill@qedenv.com

Prepared By:

Jim Schnebelt
800-624-2026
jschnebelt@qedenv.com

QTY	PART NO.	DESCRIPTION	UM	UNIT PRICE	EXTENSION
1	ORP215M	Quick change orifice plate LFG wellhead assembly, 2" Vertical. Quick orifice plate change function for optimizing flow measurement. Glass-filled, polypropylene construction with snap-together design. Includes CV2000M Fine Tune Control Valve, and 4 Easy Port fittings (threaded nylon barb, cap with tether): 3 pressure/sampling, 1 temperature. Requires orifice plates.	EA	441.25	441.25
1	40770	Orifice plate set for ORP215(M) wellhead. 6 molded nylon plates with individual color for each size for easy identification. Plate sizes include: 0.40, 0.50, 0.75, 1.0, 1.25 and 1.40"	EA	29.35	29.35
1	GWC8284	Dual extraction 8" well cap for 2" gas pipe. Includes 8" Fernco sleeve, 4 x 2 reducing Fernco, pump support line eyebolt, pass through compression fittings for 1", 5/8" and 1/2" OD tubes, filter/regulator bracket and 2 spare plugged holes (3/4" NPT) for level measurement options.	EA	346.45	346.45
				TOTAL	817.05

TERMS & CONDITIONS: Payment Terms: NET 30

Estimated shipping time 5-10 working days after receipt of Purchase Order, transit time not included. Pricing valid for 30 days. All prices are in U. S. DOLLARS, FOB SHIPPING POINT, USA. A copy of your purchase order, or signed quote, is required at time of order. Payment terms (shown above) are calculated from invoice date, subject to credit approval. A service charge of 1% per month will be applied to all past due invoices.

Unless shown as separate line item(s), total price shown DOES NOT include applicable sales tax or shipping & handling charges. Applicable sales taxes, shipping and handling charges will be added to the invoice. Estimates available upon request.

After acceptance of an order, no order can be returned without QED approval. Standard equipment, not custom in nature, can generally be returned for credit within 30 days of purchase. The equipment must be unused and in its original packaging and is subject to a 15% restocking fee. Custom equipment or tubing cut



Florida Department of Transportation
 Item Average Unit Cost
 From 2020/01/01 to 2020/12/31
 Statewide

Contract Type: CC
 Displaying: VALID ITEMS WITH HITS
 From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
0550 10220	13	\$19.40	\$660,489.27	34,044.000	LF	N	FENCING, TYPE B, 5.1-6.0', STANDARD
0550 10222	1	\$20.99	\$28,315.51	1,349.000	LF	N	FENCING, TYPE B, 5.1-6.0, W/ VINYL COATING
0550 10228	1	\$25.25	\$505.00	20.000	LF	N	FENCING, TYPE B, 5.1-6.0, RESET EXISTING
0550 10251	1	\$25.00	\$1,000.00	40.000	LF	N	FENCING, TYPE B, 8.1-10.0', WITH BARBED WIRE ATTMT
0550 10354	1	\$99.00	\$29,799.00	301.000	LF	N	FENCING, TYPE R, 8.1-10.0', WITH PARTIAL ENCLOSURE, TYPE R ONLY
0550 10410	1	\$17.00	\$4,080.00	240.000	LF	N	FENCING, WOOD FENCE, 0.0-5.0'
0550 10420	1	\$60.00	\$2,760.00	46.000	LF	N	FENCING, WOOD FENCE, 5.1-6.0'
0550 10918	1	\$15.46	\$3,756.78	243.000	LF	N	FENCING, SPECIAL TYPE, 0.0-5.0', RESET EXISTING
0550 60112	1	\$2,925.00	\$2,925.00	1.000	EA	N	FENCE GATE, TYPE A, SINGLE, 6.1-12.0' OPENING
0550 60122	1	\$2,986.14	\$2,986.14	1.000	EA	N	FENCE GATE, TYPE A, DOUBLE, 6.1-12.0' OPENING
0550 60211	2	\$1,791.36	\$3,582.71	2.000	EA	N	FENCE GATE, TYPE B, SINGLE, 0- 6.0' OPENING
0550 60212	1	\$513.40	\$513.40	1.000	EA	N	FENCE GATE, TYPE B, SINGLE, 6.1 - 12.0' OPENING
0550 60214	1	\$2,900.00	\$2,900.00	1.000	EA	N	FENCE GATE, TYPE B, SINGLE, 18.1-20.0' OPENING
0550 60222	4	\$1,588.57	\$7,942.86	5.000	EA	N	FENCE GATE, TYPE B, DOUBLE, 6.1-12.0' OPENING
0550 60223	1	\$1,500.00	\$3,000.00	2.000	EA	N	FENCE GATE, TYPE B, DOUBLE, 12.1-18.0' OPENING
0550 60232	1	\$4,000.00	\$8,000.00	2.000	EA	N	FENCE GATE, TYPE B, SLIDING/CANTILEVER, 6.1-12' OPENING
0550 60234	1	\$4,119.15	\$8,238.30	2.000	EA	N	FENCE GATE, TYPE B, SLIDING/CANTILEVER, 18.1-20.0' OPENING
0550 60422	1	\$800.00	\$800.00	1.000	EA	N	FENCE GATE, WOOD, DOUBLE, 6.1-12.0 FOOT OPENING
0550 60424	1	\$2,650.00	\$2,650.00	1.000	EA	N	FENCE GATE, WOOD, DOUBLE, 18.1-20.0 FOOT OPENING
0561 1	9	\$1,837.87	\$7,019,387.00	3,819.300	TN	N	COATING EXISTING STRUCTURAL STEEL
0561 2	5	\$93.73	\$670,365.00	7,152.000	SF	N	COATING EXISTING STRUCTURAL STEEL

CL IV.9.1. & LTC V.11.1.

CL IV.9.2. & LTC V.11.2.



Florida Department of Transportation
Item Average Unit Cost
From 2020/05/01 to 2021/04/30
Statewide

CL IV.9.3. & LTC V.11.3.

Contract Type: CC
Displaying: VALID ITEMS WITH HITS
From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
0695 7131	2	\$4,516.87	\$22,584.36	5.000	EA	N	TRAFFIC MONITORING SITE CABINET, FURNISH & INSTALL, TYPE 3, BASE MOUNT
0695 7132	7	\$4,672.36	\$74,757.83	16.000	EA	N	TRAFFIC MONITORING SITE CABINET, FURNISH & INSTALL, TYPE 3, PEDESTAL MOUNT
0695 7141	2	\$5,762.90	\$11,525.79	2.000	EA	N	TRAFFIC MONITORING SITE CABINET, FURNISH & INSTALL, TYPE 4, BASE MOUNT
0695 7162	13	\$5,830.95	\$110,788.10	19.000	EA	N	TRAFFIC MONITORING SITE CABINET, F&I, TYPE 3, 2 PANE BACK, PEDESTAL MOUNT
0695 7163	1	\$7,233.00	\$7,233.00	1.000	EA	N	TRAFFIC MONITORING SITE CABINET, FURNISH & INSTALL, TYPE 3, 2 PLANE BACK, POLEMOUNT
0695 7171	1	\$4,750.00	\$9,500.00	2.000	EA	N	TRAFFIC MONITORING SITE CABINET, FURNISH & INSTALL, TYPE 4, 2 PLANE BACK, BASE MOUNT
0695 7600	23	\$646.72	\$31,689.12	49.000	EA	N	TRAFFIC MONITORING SITE CABINET, REMOVE EXISTING CABINET
0695 8 11	1	\$3,500.00	\$3,500.00	1.000	EA	N	TRAFFIC MONITORING SITE COMMUNICATIONS MODEM FURNISH & INSTALL
0700 1 11	135	\$340.94	\$1,627,283.39	4,773.000	AS	N	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF
0700 1 12	98	\$1,132.00	\$1,644,800.35	1,453.000	AS	N	SINGLE POST SIGN, F&I GROUND MOUNT, 12-20 SF
0700 1 13	51	\$1,567.73	\$561,247.10	358.000	AS	N	SINGLE POST SIGN, F&I GROUND MOUNT, 21-30 SF
0700 1 14	12	\$2,158.37	\$60,434.39	28.000	AS	N	SINGLE POST SIGN, F&I GROUND MOUNT, 31+ SF
0700 1 21	5	\$1,672.03	\$66,881.08	40.000	AS	N	SINGLE POST SIGN, F&I BARRIER MOUNT INDEX 11871/700-013 UP TO 12 SF

All quotes received by 3:00 PM on July 16, 2019

Quote Tabulation

Quote Item	Terracon Consultants, Inc. Jacksonville, FL Shane Whitter (904) 900-6494			GSE Engineering & Consulting, Inc. Gainesville, FL Kenneth Hill, P.E. (352) 377-3233			Cal-Tech Testing, Inc. Jacksonville, FL Mike Stalvey, Jr. (386) 755-3633				
	Item	ASTM Method	Quantity	Unit Price	Total Price	Quantity	Unit Price	Total Price	Quantity	Unit Price	Total Price
A. Soil and Gravel Tests											
1	Modified Proctor	ASTM D1557	3	\$ 125.00	\$ 375.00	3	\$ 90.00	\$ 270.00	3	\$ 115.00	\$ 345.00
2	Permeability	ASTM D2434	1	\$ 250.00	\$ 250.00	1	\$ 200.00	\$ 200.00	1	\$ 300.00	\$ 300.00
3	USCS Soil Classification	ASTM D2487	3	\$ 50.00	\$ 150.00	3	\$ 135.00	\$ 405.00	3	\$ 50.00	\$ 150.00
4	Organic Content	ASTM D2974	4	\$ 60.00	\$ 240.00	4	\$ 50.00	\$ 200.00	4	\$ 50.00	\$ 200.00
5	Gradation	ASTM D488	1	\$ 75.00	\$ 75.00	1	\$ 65.00	\$ 65.00	1	\$ 75.00	\$ 75.00
6	Carbonate Content	ASTM D4373	4	\$ 300.00	\$ 1,200.00	4	\$ 125.00	\$ 500.00	4	\$ 125.00	\$ 500.00
7	Density and Moisture Content	ASTM D6938	170	\$ 12.00	\$ 2,040.00	170	\$ 22.00	\$ 3,740.00	170	\$ 28.00	\$ 4,760.00
8	Synthetic Precipitation Leaching Procedure	SW-846 Test Method 1312	1	\$ 240.00	\$ 240.00	1	\$ 500.00	\$ 500.00	1	\$ 300.00	\$ 300.00
9	Thickness	-	84	\$ 10.00	\$ 840.00	84	\$ 15.00	\$ 1,260.00	84	\$ 20.00	\$ 1,680.00
SUBTOTAL TESTING					\$ 5,410.00	\$ 7,140.00			\$ 8,310.00		
B. Other Direct Costs											
	Travel Cost		34	\$ 70.00	\$ 2,380.00	70	\$ 150.00	\$ 10,500.00	165	\$ 100.00	\$ 16,500.00
	Engineering Review		5	\$ 135.00	\$ 675.00	0	\$ -	\$ -	60	\$ 110.00	\$ 6,600.00
	Administrative/Reporting		13	\$ 75.00	\$ 975.00	0	\$ -	\$ -	80	\$ 48.00	\$ 3,840.00
	Hourly Rate for Standby time Greater than 1/2 Hour		15	\$ 55.00	\$ 825.00	10	\$ 45.00	\$ 450.00	165	\$ 50.00	\$ 8,250.00
SUBTOTAL OTHER DIRECT COSTS					\$ 4,855.00	\$ 10,950.00			\$ 35,190.00		
C. Allowance for Retesting											
	Allowance		-	-	\$ 1,000.00	-	-	\$ 1,000.00	-	-	\$ 1,000.00
TOTAL BASE BID					\$ 11,265.00	\$ 19,090.00			\$ 44,500.00		

Total QA Testing per Acre:
 \$590.84 + \$1663.44 = \$2,254.28
 Inflation factor July 2019 to April 2021 = 1.041
 \$2,254.28 * 1.041 = \$2346.71

Rounded to \$2,400

5	Liner CQA	(15 acres)		
7				
3	TRI	2019	\$ 9,800.00	
3	Groupe CTT	2019	\$ 11,108.00	
0	Geotesting	2019	\$ 5,680.00	
1		avg	\$ 8,862.667	
2				
3		per acre	\$ 590.84	
4				

New River Solid Waste Association
New River Regional Landfill
 EGC Closure - Soil Materials Testing Services

Closure Item 11 - Soil CQA

All quotes received by 3:00 PM on July 16, 2019

Quote Tabulation

Quote Item	Terracon Consultants, Inc. Jacksonville, FL Shane Whitter (904) 900-6494			GSE Engineering & Consulting, Inc. Gainesville, FL Kenneth Hill, P.E. (352) 377-3233			Cal-Tech Testing, Inc. Jacksonville, FL Mike Stalvey, Jr. (386) 755-3633				
	Item	ASTM Method	Quantity	Unit Price	Total Price	Quantity	Unit Price	Total Price	Quantity	Unit Price	Total Price
A. Soil and Gravel Tests											
1	Modified Proctor	ASTM D1557	3	\$ 125.00	\$ 375.00	3	\$ 90.00	\$ 270.00	3	\$ 115.00	\$ 345.00
2	Permeability	ASTM D2434	1	\$ 250.00	\$ 250.00	1	\$ 200.00	\$ 200.00	1	\$ 300.00	\$ 300.00
3	USCS Soil Classification	ASTM D2487	3	\$ 50.00	\$ 150.00	3	\$ 135.00	\$ 405.00	3	\$ 50.00	\$ 150.00
4	Organic Content	ASTM D2974	4	\$ 60.00	\$ 240.00	4	\$ 50.00	\$ 200.00	4	\$ 50.00	\$ 200.00
5	Gradation	ASTM D488	1	\$ 75.00	\$ 75.00	1	\$ 65.00	\$ 65.00	1	\$ 75.00	\$ 75.00
6	Carbonate Content	ASTM D4373	4	\$ 300.00	\$ 1,200.00	4	\$ 125.00	\$ 500.00	4	\$ 125.00	\$ 500.00
7	Density and Moisture Content	ASTM D6938	170	\$ 12.00	\$ 2,040.00	170	\$ 22.00	\$ 3,740.00	170	\$ 28.00	\$ 4,760.00
8	Synthetic Precipitation Leaching Procedure	SW-846 Test Method 1312	1	\$ 240.00	\$ 240.00	1	\$ 500.00	\$ 500.00	1	\$ 300.00	\$ 300.00
9	Thickness	-	84	\$ 10.00	\$ 840.00	84	\$ 15.00	\$ 1,260.00	84	\$ 20.00	\$ 1,680.00
SUBTOTAL TESTING					\$ 5,410.00	\$ 7,140.00			\$ 8,310.00		
B. Other Direct Costs											
Travel Cost			34	\$ 70.00	\$ 2,380.00	70	\$ 150.00	\$ 10,500.00	165	\$ 100.00	\$ 16,500.00
Engineering Review			5	\$ 135.00	\$ 675.00	0	\$ -	\$ -	60	\$ 110.00	\$ 6,600.00
Administrative/Reporting			13	\$ 75.00	\$ 975.00	0	\$ -	\$ -	80	\$ 48.00	\$ 3,840.00
Hourly Rate for Standby time Greater than 1/2 Hour			15	\$ 55.00	\$ 825.00	10	\$ 45.00	\$ 450.00	165	\$ 50.00	\$ 8,250.00
SUBTOTAL OTHER DIRECT COSTS					\$ 4,855.00	\$ 10,950.00			\$ 35,190.00		
C. Allowance for Retesting											
Allowance			-	-	\$ 1,000.00	-	-	\$ 1,000.00	-	-	\$ 1,000.00
TOTAL BASE BID					\$ 11,265.00	\$ 19,090.00			\$ 44,500.00		

Soil CQA	(15 acres)		
Terracon	2019	\$ 11,265.00	
GSE	2019	\$ 19,090.00	
Cal-TECH	2019	\$ 44,500.00	
	avg	\$ 24,951.67	
	per acre	\$ 1,663.44	

IV. Closure 13 - Waste
Tire Facility Closure



PROJECT NUMBER: 03860-087-01
 PROJECT NAME: Citrus CCL 5-Year Report and Minor Mod
 SUBJECT: Site-Specific Closure Costs - Waste Tire Facility
 BY: C.Spreadbury DATE: 5/30/2021
 CHECKED BY: M.Morse DATE: 6/9/2021

OBJECTIVE: Calculate closure costs for a Waste Tire Processing Facility.

GIVEN:

Description	Quantity	Unit	Reference
Storage area	5,000	square feet	Facility Permit
Total quantity of tires stored at facility	115	tons	Facility Permit
Conversion	100	tires/ton	DEP form 62-701.900(22)
Conversion	10	tires/CY	DEP form 62-701.900(22)
Tire hauling and disposal fee	100	\$/ton	Exhibit 1

CALCULATIONS:

Calculate Hauling & Disposal Cost:

$$115 \text{ tons} \times \$100/\text{ton} = \underline{\$ 11,500}$$

Calculate Total Facility Closure Cost:

Total Tire Hauling & Disposal Cost = \$ 11,500
 Facility cleanup cost = \$ 2,000 (based on 40 hours at \$50/hour)
 10% contingency = \$ 1,350
Total Facility Closure Cost = \$ 14,850



PROJECT NUMBER: 03860-087-01
PROJECT NAME: Citrus CCL 5-Year Report and Minor Mod
SUBJECT: Site-Specific Closure Costs - Waste Tire Facility
BY: C.Spreadbury DATE: 5/30/2021
CHECKED BY: M.Morse DATE: 6/9/2021

EXHIBIT 1

IV. Closure 13 - Exhibit 1



419 S.W. 31 Road
Miami, FL 33129
Phone: (305) 856-3390
Fax: (305) 856-7482
Web Site: www.gtcrumbrubber.com

July 28, 2020

Michael Holst
Citrus County
Division of Solid Waste Management
230 W. Gulf to Lake Highway
P.O. Box 340
Lecanto, Florida 34460

RE: Site Closure

Dear Mr. Michael Holst:

In the event of site closure at your facility, Global Tire Recycling of Sumter Cty Inc. would accept up to 115 tons of whole tires for a disposal fee of \$100.00 per ton. This price includes the cost of loading, transporting, processing, and disposing of the tires at the Citrus County Central Landfill.

Sincerely,

Mark J. Bailey
President

GTR means ground tire rubber

Long-Term Care Costs



PROJECT NUMBER: 03860-087-01
 PROJECT NAME: Citrus County - Class I Central Landfill
 SUBJECT: FACE - Groundwater Monitoring
 BY: Tim Cully DATE: 6/2/2021
 CHECKED BY: Chad Spreadbury DATE: 6/2/2021

Citrus County - Class I Central Landfill - WACS # 39859
 Cost Estimate for Monitoring Services - Item 1 - Groundwater Monitoring

1. Groundwater Monitoring (62-701.510(6), and (8)(a))

	Sampling Frequency (events/yr)	Number of Wells	Cost/Well/Event	Annual Cost
Monthly	12			\$ -
Quarterly	4			\$ -
Semi-Annually	2	16	\$ 1,194.38	\$ 38,220.16
Annually	1			\$ -
Subtotal Groundwater Monitoring:				\$ 38,220.16

Estimates for above calculations:	\$/Year
<u>Semiannual Groundwater Monitoring (Annual Costs)</u>	
Total Sampling Cost for Groundwater Monitoring Wells	\$ 12,300.00
Total Laboratory Analytical Costs for Groundwater Monitoring Wells	\$ 7,880.00
Total Reporting Cost for Groundwater Monitoring Wells	\$ 18,040.00
Total Costs Related to Groundwater Monitoring (Annually)	* \$ 38,220.00

* Slight differences in Totals (if present) due to multiplication and rounding of Unit Costs

Notes: All costs are for a third party providing all materials and labor.

Number of wells based on:

Semiannually: 16 Groundwater Monitoring Wells
 Associated QA/QC Samples

FDEP Permit Minor Modification No. 21375-026-SO-MM



PROJECT NUMBER: 03860-087-01
 PROJECT NAME: Citrus County - Class I Central Landfill
 SUBJECT: FACE - Surface Water Monitoring
 BY: Tim Cully DATE: 6/2/2021
 CHECKED BY: Chad Spreadbury DATE: 6/2/2021

Citrus County - Class I Central Landfill - WACS # 39859
 Cost Estimate for Monitoring Services - Item 2 - Surface Water Monitoring

2. Surface Water Monitoring (62-701.510(4), and (8)(b))

	Sampling Frequency (events/yr)	Number of Stations	Cost/Station/Event	Annual Cost
Monthly	12			\$ -
Quarterly	4			\$ -
Semi-Annually	2			\$ -
Annually	1	1	\$ 2,770.00	\$ 2,770.00
Subtotal Surface Water Monitoring:				\$ 2,770.00

Estimates for above calculations:	\$/Year
<u>Annual Surface Water Monitoring (Annual Costs)</u>	
Total Sampling Cost for Surface Water Stations	\$ 730.00
Total Laboratory Analytical Costs for Surface Water Stations	\$ 960.00
Total Reporting Cost for Surface Water Stations	\$ 1,080.00
Total Costs Related to Surface Water Monitoring (Annually)	* \$ 2,770.00

* Slight differences in Totals (if present) due to multiplication and rounding of Unit Costs

Notes: All costs are for a third party providing all materials and labor.

Number of stations based on:

Annually: 1 Surface Water Station
 Associated QA/QC Samples

Permit states sampling only required upon "discharge".
 Estimate one discharge annually.

FDEP Permit Minor Modification No. 21375-026-SO-MM



PROJECT NUMBER: 03860-087-01
 PROJECT NAME: Citrus County - Class I Central Landfill
 SUBJECT: FACE - Landfill Gas Monitoring
 BY: Tim Cully DATE: 6/2/2021
 CHECKED BY: Chad Spreadbury DATE: 6/2/2021

Citrus County - Class I Central Landfill - WACS # 39859
 Cost Estimate for Monitoring Services - Item 3 - Landfill Gas Monitoring

3. Gas Monitoring (62-701.400(10))

	Sampling Frequency (events/yr)	Number of Stations	Cost/Station/Event	Annual Cost
Monthly	12			\$ -
Quarterly	4	90	\$ 56.33	\$ 20,278.80
Semi-Annually	2			\$ -
Annually	1			\$ -
Subtotal Landfill Gas Monitoring:				\$ 20,278.80

Estimates for above calculations:	\$/Year
<u>Quarterly Landfill Gas Monitoring (Annual Costs)</u>	
Total Sampling Cost for Landfill Gas Monitoring	\$ 10,800.00
Total Reporting Cost for Landfill Gas Monitoring	\$ 9,480.00
Total Costs Related to Landfill Gas Monitoring (Annually)	* \$ 20,280.00

* Slight differences in Totals (if present) due to multiplication and rounding of Unit Costs

Notes: All costs are for a third party providing all materials and labor.

Number of stations based on:

Quarterly: 57 Landfill Gas Soil Monitoring Probes
 26 Groundwater Monitoring Wells and/or Piezometers
 7 Ambient and/or Structure Monitoring Locations

FDEP Permit Minor Modification No. 21375-026-SO-MM

FLORIDA JETCLEAN

Long-Term Care V.5.1 and V.5.2
Collection Pipes and Sumps/Traps Maintenance

**HIGH PRESSURE WATER JETTING – EXPLOSION PROOF INSPECTION
PIPE LOCATING – NO DIG REPAIRS – VACUUM TRUCK SERVICES**

7538 Dunbridge Drive
Odessa, FL 33556
www.floridajetclean.com

TEL : 800-226-8013
FAX : 813-926-4616

PROPOSAL

DATE : 12/6/2019
TO : Matthew Morse - Jones Edmunds
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : 2019 - Lee/Hendry Landfill - Financial Assurance Jetcleaning Estimate

Thank you for your inquiry. We confirm our capability and interest in performing these jetcleaning services for Jones Edmunds at the Lee/Hendry Landfill.

Based on your email and our prior work at this location, we quote as follows:

High-pressure water-jetting of an estimated 10,387 LF of existing leachate collection piping \$ 7,790.25

Vacuum Truck for Vacuum Removal of Silting and Solids From Sump Areas and/or Pump Stations \$ 2,500.00 / day

Subject to:

Maintenance/Cleaning: \$7,790.25 / 10,387 ft = \$0.75/ft

- An adequate no-charge on site water supply for jetcleaning via hydrant or other high flow source.
- 2 wheel drive access to within 10' of all system access points.
- Exposed and opened cleanouts at ground level.
- Pricing is unrelated to actual or achieved footages but on the number of setups required and the time we anticipate being on site.
- Pipes affected by heavy non-routine silting or hardened blockages will require additional equipment or extended jetting/vacuum truck time, at additional expense.
- Day-rate pricing for jet-vac truck covers up to 8 hours, and includes all drive time, standby time, water fill time, and disposal time.
- No charge on site dumping of liquids and solids loaded onto vacuum truck.
- Payment : net 30 days

Regards,



Ralph Calistri – Florida Jetclean - 800-226-8013

Inflation factor December 2019 to April 2020 = 1.039

\$2,500/day * 1.039 = \$2,597.50/day

\$0.75/ft * 1.039 = \$0.78

		flpipetec@bellsouth.net P.O. BOX 1812 GREEN COVE SPRINGS, FL. 32043 OFFICE (904) 284-2141* FAX (904) 284-1938		PAGE 1 OF 1
PROPOSAL				
ATTN:	TIM CULLY	PHONE: 352.328.9786	DATE: 09/17/2019	
SUBMITTED TO: JONES EDMUNDS		JOB NAME: PUTNUM CO LEACHATE TANK		
STREET: 730 NE Waldo Road		JOB LOCATION (ADDRESS):		
CITY, STATE, ZIP CODE: GAINESVILLE, FL		PUTNUM CO LANDFILL, PALATKA FL		
SHIP TO ADDRESS: (IF DIFFERENT FROM BILLING)	STREET:	CITY, STATE, ZIP:		
ARCHITECT:	DATE OF PLANS:	FAX # :	EMAIL: TCULLY@jonesedmunds.com	
<p>PAYMENT IS DUE WITHIN 30 DAYS AFTER DATE OF INVOICE. IF NECESSARY TO TURN OVER FOR COLLECTIONS, YOU WILL BE RESPONSIBLE FOR COURT COSTS, FEES, AND/OR INTEREST FEES, AS ALLOWED BY LAW.</p>				
<p>ALL MATERIALS ARE GUARANTEED TO BE SPECIFIED. ALL WORK TO BE COMPLETED IN A WORKMANLIKE MANNER ACCORDING TO STANDARD PRACTICES. ANY ALTERATION OR DEVIATION FROM SPECIFICATIONS BELOW INVOLVING EXTRA COSTS WILL BE EXECUTED ONLY UPON WRITTEN ORDERS AND WILL BECOME AN EXTRA CHARGE OVER AND ABOVE THE ESTIMATE. ALL AGREEMENTS CONTINGENT UPON STRIKES, ACCIDENTS, OR DELAYS BEYOND OUR CONTROL. OWNER TO CARRY FIRE, TORNADO AND OTHER NECESSARY INSURANCE. OUR WORKERS ARE FULLY COVERED BY WORKMAN'S COMPENSATION INSURANCE. WE CANNOT BE HELD RESPONSIBLE FOR EXISTING CONCRETE SIDEWALKS, DRIVEWAYS, AND/OR PAVING ETC...</p>				
AUTHORIZED SIGNATURE		<i>Joey L. Lopez</i>		
		NOTE: This proposal may be withdrawn by us if not accepted within 30 days.		
THE FOLLOWING PROPOSAL IS BASED ON GIVEN ESTIMATES. ANY SIGNIFICANT CHANGES TO THE ESTIMATED QUANTITIES WILL REQUIRE AN UPDATED AND SIGNED PROPOSAL TO PROCEED.				
SCOPE OF WORK:	4 LEACHATE TANKS TO BE CLEANED (APPROX DAYS)			
Cost per tank = \$1,200.00; one tank on-site.				
DESCRIPTION	QUANTITY	COST	UNIT	SUBTOTAL
TANK 1	1	\$ 1,200.00	EA	\$ 1,200.00
TANK 2	1	\$ 1,200.00	EA	\$ 1,200.00
TANK 3	1	\$ 1,200.00	EA	\$ 1,200.00
TANK 4	1	\$ 1,200.00	EA	\$ 1,200.00
				\$ 4,800.00
ACCEPTANCE OF PROPOSAL:				
THE ABOVE PRICES, SPECIFICATIONS AND CONDITIONS ARE SATISFACTORY AND ARE HEREBY ACCEPTED. YOU ARE AUTHORIZED TO DO THE WORK AS SPECIFIED. PAYMENT WILL BE MADE AS OUTLINED ABOVE.				
SIGNATURE: _____		DATE: _____		

Inflation factor September 2019 to April 2021 =1.040

$\$1,200 * 1.040 = \$1,248$



APPLIED TECHNICAL SERVICES, INC.

4.0 Cost

Because the exact duration was not known at the time of this proposal, pricing has been provided on a "cost per day" basis as outlined below:

Item	Unit Cost	Estimated Quantity	Estimated Totals *
Mobilization	\$ 955 per trip	2	\$ 1,910
On-site inspection	\$ 2,210 per day	2	\$ 4,420
Analysis & Reporting	\$ 1,220 per equipment	4	\$ 4,880

* Total pricing of \$11,210 is an estimate only. Invoices will reflect actual quantities based upon the unit cost.

5.0 Schedule

At the time of preparation of this proposal a specific day for inspection shall be determined and begin 2 weeks after receipt of order. Inspection data analysis shall be completed within 10 business days post-inspection. All work and travel shall be performed Monday through Friday.

Cost Estimate:

- Assume one trip (\$955).
- Assume one day of inspection (\$2,210).
- One tank to be inspected (\$1,220).

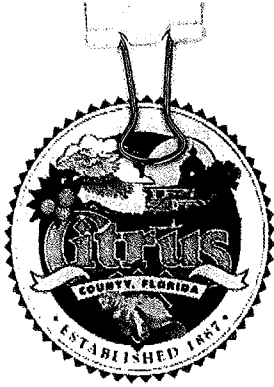
$$\text{Cost} = \$955 + \$2,210 + \$1,220 = \$4,385$$

$$\text{Inflation factor November 2018 to April 2021} = 1.060$$

$$\$4,385 * 1.060 = \$4,648.10$$

6.0 Additional Considerations

- 6.1 Pricing does not include costs for special access equipment (e.g. man-lifts, scissors lifts, scaffold, etc.).
- 6.2 Pricing does not include costs for on-site restroom facilities.
- 6.3 Pricing does not include costs for cleaning that is required.
- 6.4 Pricing includes costs for respirator masks. Costs associated with supplied air have not been included.
- 6.5 Pricing does not include costs for 3rd party CSE rescue services.
- 6.6 Testing equipment does not meet the requirements of NFPA 70 Class 1, Div. 1 (intrinsically safe).
- 6.7 Pricing is based on "general purpose" inspections. Any additional "exploratory inspections" or evaluations resulting from defects or deficiencies observed may incur additional costs that have not been included.
- 6.8 Delays or standby time that may extend the duration of the project shall incur additional costs that have not been included.
- 6.9 This proposal contains proprietary and privileged information which is competition sensitive and not for distribution to others without written authorization.
- 6.10 This proposal is valid for 60 days.
- ~~6.11 Payment terms are Net 30 days from receipt of invoice.~~



LTC V.5.4 - Leachate
Disposal

BOARD OF COUNTY COMMISSIONERS
DEPARTMENT OF WATER RESOURCES
DIVISION OF UTILITIES
3600 W Sovereign Path Suit 291
Lecanto, Florida 34461-9014
Telephone: (352) 527-7650 Fax: (352) 527-7644
Citrus Springs/Dunnellon/Inglis/Yankeetown area - Toll Free (352) 489-2120
TTY Telephone: (352) 527-5312
www.bocc.citrus.fl.us

MEMORANDUM

To: Larry Brock, Assistant Public Works Director

Thru: Ken Cheek, Water Resources Director
Jeff Rogers, Public Works Director *[Signature]*

From: Gary Loggins, Utilities Operations Division Director *[Signature]*

Date: May 27st, 2015

Re: Memorandum of Understanding

This Memo shall serve as a memorandum of understanding (MOU) between Citrus County Utilities Division (Utilities) and Citrus County Solid Waste Management Division (SWM).

Utilities agrees to secure and treat leachate produced at SWM landfill at a monthly base rate of \$752.98 plus \$8.40 per thousand gallons of leachate treated, not to exceed 100,000 gallons per day on an annual average basis. Flows may be adjusted accordingly by Utilities during extreme wet weather conditions.

SWM agrees to pay a Wastewater Capacity fee of \$56,000.00 for 36.15 Equivalent Residential Units (ERU's) at \$1,550.00 per ERU. SWM also agrees to pay the \$752.98 base rate (6" meter base charge) plus \$8.40 per thousand gallons.

SWM agrees to provide annual influent Toxicity Characteristic Leaching Potential test (TCLP) listed in 40 CFR, Part 261.24, Appendix XI, (at leachate storage tanks).

This MOU shall continue through the duration of SWM, landfill long-term care requirements.

Cc: Randy Oliver, Citrus County Administrator

**Supplement to Memorandum of Understanding
between Citrus County Utilities Division
and Citrus County Solid Waste Management Division**

Dated May 27, 2015

Leachate Force Main Billing

The Utilities Division will read the leachate force main meter at the landfill on a monthly basis and forward the invoicing through the Clerk's Office Finance / Accounts Payable Section for approval of payment by Solid Waste Management.

Leachate Hauling and Disposal Procedure

In the event Solid Waste Management is required to implement contractor hauling and disposal at one of the County's Wastewater Treatment plants, by the 10th of the following month, the Solid Waste Management will provide a monthly summary report to Utilities Division indicating the disposal amount (gallons per day) for each plant and the treatment fee (per day) at the rate of \$8.40 per thousand gallons.

Payment shall be through the Journal Voucher process initiated by the Utilities Division upon receipt of the monthly summary report from Solid Waste Management.



LTC Item V.6.1 - GW Well Maintenance
 Well Replacement

Contractor Name: JonesEdmunds

Site Name & Location: Walton County Central Landfill
 Near Defuniak Springs, FL

Date: 8/20/19

FAC ID#:

PROPOSED SCOPE OF WORK:

(1) 2" x 60' MW with 10' .010 screen, no soil sampling, soread cuttings, pad and AGP

4 Concrete filled bollards painted safety yellow

PDS Assumes location is truck accessible


*Note: It is against PDS policy to drill in Pea Gravel. Borings in Pea Gravel will be terminated or can proceed solely at the risk of the consultant, DEP or Property Owner

DRILLING	Unit	Unit Rate	Number of Units	Extended Price
Rig Type: Auger/Mud Rotary _____ Sonic _____ Other _____				
Split Spoon Collection (continuous or 5' intervals) (can be used in conjunction with well installation) (includes decon)				
<50 foot boring depth	per foot			\$0.00
50 foot to 100 foot boring depth	per foot			\$0.00
>100 foot boring depth	per foot			\$0.00
Borehole Grouting				
4 - inch borehole diameter	per foot			\$0.00
6 - inch borehole diameter	per foot			\$0.00
8 - inch borehole diameter	per foot			\$0.00
1" - 2" Well Installation (includes steamcleaning decon, screen, riser, sand pack, seal and grout)				
<50 foot boring depth	per foot	\$34.75	60	\$2,085.00
50 foot to 100 foot boring depth	per foot			\$0.00
>100 foot boring depth	per foot			\$0.00
4" Well Installation (includes steamcleaning decon, screen, riser, sand pack, seal and grout)				
<50 foot boring depth	per foot			\$0.00
50 foot to 100 foot boring depth	per foot			\$0.00
>100 foot boring depth	per foot			\$0.00
Recovery Well Diameter: 4-6"	per foot			\$0.00
Double Cased Wells				
6" Surface Casing	per foot			\$0.00
8" Surface Casing	per foot			\$0.00
Well Completion (includes AGP w/ cover, concrete pad, locking well cap, and saw/jackhammer prep.)				
	per well	\$250.00	1	\$250.00
1" - 2" Well Abandonment (includes grouting)	per foot			\$0.00
3" - 4" Well Abandonment (includes grouting)	per foot			\$0.00
5" - 6" Well Abandonment (includes grouting)	per foot			\$0.00
2' x 2' Well Pad Removal and Patch	each			\$0.00
MISCELLANEOUS				
Mobilization	roundtrip	\$775.00	1	\$775.00
Per Diem	per crew	\$300.00		\$0.00
DOT Approved 55-gal Drum	each	\$50.00		\$0.00
Permits (Drilling or abandonment only)	each	\$30.00		\$0.00
Well Development Time (30 minutes per well)	each	\$75.00		\$0.00
Concrete filled 4" bollard painted yellow	each	\$100.00	4	\$400.00

Additional Development Time
 Additional Decontamination Time
 Standby/Delay/Difficult Access Time

Assume average well depth is 126 LF
 Cost per Well: (without mobilization)
 $(\$34.75/LF)(126 LF) + (\$250) + (\$30) + (\$75) + (\$100)(4) = \$5,133.50/Well$
 Cost per Day: (assumes 1 day of work for 1 crew)
 $(\$775/roundtrip) + (\$300/crew) = \$1,075/Day$
 Cost per Well: (including mobilization)
 $[(\$5,133.50/Well)(1 Well) + (\$1,075)] / (1 Well) = \$6,208.50/Well$
 Inflation Factor, August 2019 to April 2021 = 1.041
 $\$6,208.50/well * 1.041 = \$6,463.05$

Days to Complete Scope of Work: 1

Signature and Title of Person Submitting Quote: 



Preferred Drilling Solutions, Inc.

11747 87th St. North, Largo
Ph: 727-561-7477 Fax:
www.pdsflorida.

LTC Item V.6.2 - GW Well Maintenance
Well Abandonment

Contractor Name: JonesEdmunds

Site Name & Location: Walton County Central Landfill
Near Defuniak Springs, FL

Date: 8/22/19

FAC ID#:

PROPOSED SCOPE OF WORK:

Abandon (2) 4" x 20' gas vent wells with bentonite hole plug, cap with grout

Abandon (1) 2" x 60' MW with cement bentonite grout from the bottom up'

Pad and manhole removal as needed

*Note: It is against PDS policy to drill in Pea Gravel. Borings in Pea Gravel will be terminated or can proceed solely at the risk of the consultant, DEP or Property Owner

DRILLING	Unit	Unit Rate	Number of Units	Extended Price
Rig Type: Auger/Mud Rotary _____ Sonic _____ Other _____				
Split Spoon Collection (continuous or 5' intervals) (can be used in conjunction with well installation) (includes decon)				
<50 foot boring depth	per foot			\$0.00
50 foot to 100 foot boring depth	per foot			\$0.00
>100 foot boring depth	per foot			\$0.00
Borehole Grouting				
4 - inch borehole diameter	per foot			\$0.00
6 - inch borehole diameter	per foot			\$0.00
8 - inch borehole diameter	per foot			\$0.00
1" - 2" Well Installation (includes steamcleaning decon, screen, riser, sand pack, seal and grout)				
<50 foot boring depth	per foot			\$0.00
50 foot to 100 foot boring depth	per foot			\$0.00
>100 foot boring depth	per foot			\$0.00
4" Well Installation (includes steamcleaning decon, screen, riser, sand pack, seal and grout)				
<50 foot boring depth	per foot			\$0.00
50 foot to 100 foot boring depth	per foot			\$0.00
>100 foot boring depth	per foot			\$0.00
Recovery Well Diameter: 4-6"	per foot			\$0.00
Double Cased Wells				\$0.00
6" Surface Casing	per foot			\$0.00
8" Surface Casing	per foot			\$0.00
Well Completion (includes AGP w/ cover, concrete pad, locking well cap, and saw/jackhammer prep.)	per well			\$0.00
1" - 2" Well Abandonment (includes grouting)	per foot	\$8.00	60	\$480.00
3" - 4" Well Abandonment (includes grouting)	per foot	\$20.00	40	\$800.00
5" - 6" Well Abandonment (includes grouting)	per foot			\$0.00
2' x 2' Well Pad Removal and Patch	each	\$150.00	1	\$150.00
MISCELLANEOUS				
Mobilization	roundtrip	\$575.00	1	\$575.00
Per Diem	per crew	\$300.00		\$0.00
DOT Approved 55-gal Drum	each	\$50.00		\$0.00
Permits (Drilling or abandonment only)	each	\$50.00	1	\$50.00
Well Development Time (30 minutes per well)	each	\$75.00		\$0.00
Concrete filled 4" bollard painted yellow	each	\$100.00		\$0.00
Additional Development Time	per hour			\$0.00
Additional Decontamination Time				
Standby/Delay/Difficult Access Time				

Assume average well depth is 126 LF
 Cost per Well: (with mobilization)
 $(\$8/LF)(126LF) + (\$150) + (\$575) + (\$50) = \$1,783/\text{Well}$
 Inflation Factor, August 2019 to April 2021 = 1.041
 $\$1,783/\text{well} * 1.041 = \$1856.10/\text{well}$

Days to Complete Scope of Work: 1

Signature and Title of Person Submitting Quote:

Kevin Bonacum, Estimator

Date: 8/22/19



Contractor Name: JonesEdmunds

Site Name & Location: Walton County Central Landfill
 Near Defuniak Springs, FL

Date: 8/22/19

FAC ID#:

PROPOSED SCOPE OF WORK:

(1) 4" x 20' Schedule 80 Landfill Gas Vent with 20' .050 screen, no soil sampling, pack with 3/4" river rock, seal with bentonite and grout

Well to be completed with 90° elbows approx 3' above grad

4 Concrete filled bollards painted safety yellow

PDS Assumes location is truck accessible

**Note: It is against PDS policy to drill in Pea Gravel. Borings in Pea Gravel will be terminated or can proceed solely at the risk of the consultant, DEP or Property Owner*

DRILLING	Unit	Unit Rate	Number of Units	Extended Price
Rig Type: Auger/Mud Rotary _____ Sonic _____ Other _____				
Split Spoon Collection (continuous or 5' intervals) (can be used in conjunction with well installation) (includes decon)				
<50 foot boring depth	per foot			\$0.00
50 foot to 100 foot boring depth	per foot			\$0.00
>100 foot boring depth	per foot			\$0.00
Borehole Grouting				
4 - inch borehole diameter	per foot			\$0.00
6 - inch borehole diameter	per foot			\$0.00
8 - inch borehole diameter	per foot			\$0.00
1" - 2" Well Installation (includes steamcleaning decon, screen, riser, sand pack, seal and grout)				
<50 foot boring depth	per foot			\$0.00
50 foot to 100 foot boring depth	per foot			\$0.00
>100 foot boring depth	per foot			\$0.00
4" Well Installation (includes steamcleaning decon, screen, riser, sand pack, seal and grout)				
<50 foot boring depth	per foot	\$83.50	20	\$1,670.00
50 foot to 100 foot boring depth	per foot			\$0.00
>100 foot boring depth	per foot			\$0.00
Recovery Well Diameter: 4-6"	per foot			\$0.00
Double Cased Wells				
6" Surface Casing	per foot			\$0.00
8" Surface Casing	per foot			\$0.00
Well Completion (includes AGP w/ cover, concrete pad, locking well cap, and saw/jackhammer prep.)				
	per well	\$250.00	1	\$250.00
MISCELLANEOUS				
Mobilization	roundtrip	\$775.00	1	\$775.00
Per Diem	per crew	\$300.00		\$0.00
DOT Approved 55-gal Drum	each	\$50.00		\$0.00
Permits (Drilling or abandonment only)	each	\$30.00		\$0.00
Well Development Time (30 minutes per well)	each	\$75.00		\$0.00
Concrete filled 4" bollard painted yellow	each	\$100.00	4	\$400.00

Additional Development Time	
Additional Decontamination Time	
Standby/Delay/Difficult Access Time	

Days to Complete Scope of Work: 1

Signature and Title of Person Submitting Quote: 

Assume vent is drilled to an average of 72 feet:

Cost per Vent: (without mobilization)
 $(\$83.50/LF)(72 LF) + (\$250) + (\$100)(4) = \$6,662/Vent$

Cost per Day: (assumes 1 day of work for 1 crew)
 $(\$775/roundtrip) + (\$300/crew) = \$1,075/Day$

Cost per Well: (including mobilization)
 $[(\$6,662/Vent)(1 Vent) + (\$1,075)] / (1 Vent) = \$7,737/Vent$

Inflation Factor, August 2019 to April 2021 = 1.041
 $\$7,737/Vent * 1.041 = \$8,054.22/Vent$



Florida Department of Transportation

Item Average Unit Cost

From 2020/03/01 to 2021/02/28

Statewide

Market Area: 07

Contract Type: CC

Displaying: VALID ITEMS WITH HITS

From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
0102 99	14	\$10.86	\$166,016.90	15,294.000	ED	N	PORTABLE CHANGEABLE MESSAGE SIGN, TEMPORARY
0102104	10	\$19.80	\$325,132.60	16,421.000	ED	N	TEMPORARY SIGNALIZATION AND MAINTENANCE, INTERSECTION
0102107 1	10	\$8.76	\$145,623.10	16,628.000	ED	N	TEMPORARY TRAFFIC DETECTION AND MAINTENANCE, INTERSECTION
0102115	4	\$3.37	\$11,171.82	30,094.000	ED	N	TYPE III BARRICADE
0102150 1	4	\$5.45	\$17,670.00	3,240.000	ED	N	PORTABLE REGULATORY, SIGN
0102150 2	6	\$5.36	\$20,270.00	3,784.000	ED	N	RADAR SPEED DISPLAY UNIT
0102909	3	\$23.75	\$13,893.00	585.000	DA	N	TEMPORARY RAISED RUMBLE STRIPS- PER DAY, INCLUDES ALL SETS AND RELOCATIONS
0104 1	3	\$2.54	\$19,407.50	7,628.000	SY	N	ARTIFICIAL COVERINGS / ROLLED EROSION CONTROL PRODUCTS
0104 7	1	\$225.00	\$900.00	4.000	EA	N	SEDIMENT BASIN / CONTAINMENT SYSTEM
0104 9	1	\$1,125.00	\$4,500.00	4.000	EA	N	SEDIMENT BASIN / CONTAINMENT SYSTEM- CLEANOUT
0104 10 3	12	\$1.60	\$245,189.85	153,221.000	LF	N	SEDIMENT BARRIER
0104 11	3	\$19.47	\$21,905.50	1,125.000	LF	N	FLOATING TURBIDITY BARRIER
0104 12	5	\$11.92	\$120,543.00	10,111.000	LF	N	STAKED TURBIDITY BARRIER- NYLON REINFORCED PVC
0104 15	7	\$2,643.14	\$76,650.98	29.000	EA	N	SOIL TRACKING PREVENTION DEVICE
0104 18	13	\$81.57	\$94,702.84	1,161.000	EA	N	INLET PROTECTION SYSTEM
0104 19	3	\$1.65	\$12,593.75	7,628.000	SY	N	CHEMICAL TREATMENT- POWDERED, FOR EROSION CONTROL
0107 1	10	\$39.36	\$338,348.87	8,597.300	AC	N	LITTER REMOVAL
0107 2	10	\$48.60	\$367,223.64	7,556.170	AC	N	MOWING

Cost Estimate Report

LTC Item V.9.2 -
Regrading

Date: 03/30/2021

Pasco County Ash Cells Vert Expansion

Year 2021

Unit Detail Report

Prepared By: JoAnne Talamo

Jones Edmunds & Associates, Inc.

LineNumber	Description	Quantity	Unit	Total Incl. O&P	Ext. Total Incl. O&P
Division 31 Earthwork					
312216103312	Fine grading, slopes, steep, large quantities, finish grading	0.00	M.S.F.	\$30.88	\$0.00
Division 31 Earthwork Subtotal					\$0.00
Subtotal					\$0.00
General Contractor's Markup on Subs				0.00%	\$0.00
Subtotal					\$0.00
General Conditions				0.00%	\$0.00
Subtotal					\$0.00
General Contractor's Overhead and Profit				0.00%	\$0.00
Grand Total					\$0.00

LTC Item V.9.3 - Liner Repair

Schedule of Values												
Slurry Wall Landfill Phase VI Sequential Closure (82-19-01)												
Brevard County Central Disposal Facility *Cost Items based on costs associated with a nearby landfill												
Description	Total Schedule of Values				Total Schedule of Values				Total Schedule of Values			
	Unit	Quantity	Unit Price (\$)	Value (\$)	Quantity	Unit Price (\$)	Value (\$)	Quantity	Unit Price (\$)	Value (\$)	Quantity	Unit Price (\$)
1. General Conditions and Indemnification												
A Mobilization	LS	1	\$ 500,000.00	\$ 412,500.00			\$ -			\$ -		
B Demobilization	LS	1	\$ 50,000.00	\$ 137,500.00			\$ -			\$ -		
C Bonds and Insurance	LS	1	\$ 127,010.00	\$ 127,010.00			\$ -			\$ -		
D Indemnification	LS	1	\$ 1,000.00	\$ 1,000.00			\$ -			\$ -		
Subtotal - General Conditions and Indemnification				\$ 678,010.00			\$ -			\$ -		
2. Closure Cover System Installation												
A Survey during construction (Layout, Layer Survey, As-built & Certification)	LS	1	\$ 98,551.00	\$ 98,551.00			\$ -			\$ -		
B Erosion Protection during construction on landfill	LS	1	\$ 125,000.00	\$ 125,000.00			\$ -			\$ -		
C Site preparation and clearing	LS	1	\$ 300,000.00	\$ 300,000.00			\$ -			\$ -		
D Exposing existing anchor trench	LS	1	\$ 186,800.00	\$ 186,800.00			\$ -			\$ -		
E 40-mil LLDPE geomembrane	SF	1,408,335	\$ 0.62	\$ 873,167.70			\$ -			\$ -		
F Composite Drainage Net	SF	1,408,335	\$ 0.82	\$ 1,154,834.70			\$ -			\$ -		
G Sodding	SY	156,482	\$ 2.10	\$ 328,612.20			\$ -			\$ -		
H Toe Drains and Discharge Pipes, Barrier Layer Transition	LS	1	\$ 130,000.00	\$ 130,000.00			\$ -			\$ -		
UNIT PRICE ITEMS												
I Solid waste grading/waste contouring/sub-base preparation	CY	65,000	\$ 4.25	\$ 276,250.00			\$ -			\$ -		
J Clean Granular Fill (6-inch Leveling Course)	CY	30,000	\$ 25.00	\$ 750,000.00			\$ -			\$ -		
K Clean Granular Fill (24-inch Protective Cover)	CY	170,000	\$ 25.00	\$ 4,250,000.00			\$ -			\$ -		
L Repair and Replacement of existing GCL at stormwater inlet transition and LFG tie-ins (Contractor providing GCL Material)	SF	10,000	\$ 5.50	\$ 55,000.00			\$ -			\$ -		
M Replacement of existing GCL at Southwest sideslope (County providing GCL material)	SF	12,000	\$ 3.20	\$ 38,400.00			\$ -			\$ -		
Subtotal - Closure Cover System				\$ 8,566,615.60			\$ -			\$ -		
3. Stormwater Management System Piping and Structures												
A HDPE piping-36 inch piping pipe trench & backfill, connect to structure	LF	1,410	\$ 108.00	\$ 152,280.00			\$ -			\$ -		
B HDPE piping 30 inch piping, pipe trench & backfill, connect to structure	LF	1,325	\$ 100.00	\$ 132,500.00			\$ -			\$ -		
C HDPE piping 24 inch piping, pipe trench & backfill, connect to structure	LF	560	\$ 84.90	\$ 47,544.00			\$ -			\$ -		
D Seepage flap and seepage barrier near existing inlets	EA	10	\$ 900.00	\$ 9,000.00			\$ -			\$ -		
E 36-inch dia. HDPE inlets structures installed complete with FFCRS	EA	18	\$ 10,500.00	\$ 189,000.00			\$ -			\$ -		
F Terrace Underdrain System	LF	7,760	\$ 38.00	\$ 294,880.00			\$ -			\$ -		
G Restoration of interface 30-ft wide terrace, swale shaping, grading & sodding	LS	1	\$ 75,000.00	\$ 75,000.00			\$ -			\$ -		
Subtotal-Secondary Stormwater Management System				\$ 900,204.00			\$ -			\$ -		
4. LFG Mains and Appurtenances LFG Wells												
A LFG wellhead with all piping, ferro coupling & fittings	EA	32	\$ 2,750.00	\$ 88,000.00			\$ -			\$ -		
B LFG header pipe 16-inch diameter HDPE SDR 17	LF	2,730	\$ 50.00	\$ 136,500.00			\$ -			\$ -		
C LFG header pipe-12-inch diameter HDPE SDR 11	LF	80	\$ 115.00	\$ 9,200.00			\$ -			\$ -		
D LFG header pipe-10-inch diameter HDPE SDR 12	LF	2,600	\$ 45.00	\$ 117,000.00			\$ -			\$ -		
E LFG header pipe-8-inch diameter HDPE SDR 11	LF	200	\$ 35.00	\$ 7,000.00			\$ -			\$ -		
F LFG header or lateral pipe-6-inch diameter HDPE SDR 11	LF	994	\$ 25.00	\$ 24,850.00			\$ -			\$ -		
G LFG lateral-4-inch diameter HDPE SDR 11	LF	3,260	\$ 20.00	\$ 65,200.00			\$ -			\$ -		
H Tie-in to existing Active LFG System	EA	6	\$ 3,000.00	\$ 18,000.00			\$ -			\$ -		
I LFG 16-inch valves	EA	2	\$ 10,000.00	\$ 20,000.00			\$ -			\$ -		
J LFG 10-inch valves	EA	2	\$ 9,000.00	\$ 18,000.00			\$ -			\$ -		
K Air supply piping-2 inch diameter HDPE Tube	LF	6,525	\$ 2.16	\$ 14,094.00			\$ -			\$ -		
L Air supply Valves	EA	5	\$ 740.00	\$ 3,700.00			\$ -			\$ -		
M Existing LFG Header Relocation, Repair and Replumbing Including Valves - SW sideslope	LS	1	\$ 130,000.00	\$ 130,000.00			\$ -			\$ -		
UNIT PRICE ITEMS												
N LFG Wells	LF	1,850	\$ 165.00	\$ 305,250.00			\$ -			\$ -		
O LFG Well Borehead Abandonment (allowance)	LF	350	\$ 55.00	\$ 19,250.00			\$ -			\$ -		
P Wellhead Extension (Allowance)	EA	20	\$ 400.00	\$ 8,000.00			\$ -			\$ -		
Q Wellhead Replacement (Allowance)	EA	10	\$ 1,800.00	\$ 18,000.00			\$ -			\$ -		
Subtotal-LFG Well Field, Headers and Collection Piping Systems				\$ 1,002,044.00			\$ -			\$ -		
5. Miscellaneous (provide a list on additional sheet if necessary)												
6. Owner's Contingency				\$ 100,000.00			\$ -			\$ -		
Total- Bid Amount (for parts 1 through 6)				\$ 11,246,873.60			\$ -			\$ -		

LTC Item V.9.3
 $\$0.62/SF \times 9SF/SY = \$5.58/SY$
 $\$0.82/SF \times 9SF/SY = \$7.38/SY$
 $\$12.96/SY$

NS:
 Mobilization and Demobilization Costs complies with the 5% of the project bid cost less owners Contingency. Twenty-five percent of this line item must be allocated to demobilization activities. Please revise items 1(A) and 1(B). -

Thalle:
Revised.

NS:
 Schedule of Values does not include cost for four (4) valves that are required in the Southwest LFG header repair/replacement portion of the work. Please revise Item 4(I) and any other affected items resulting from this change.

Thalle:
The Value for the Southwest LFG header repair/replacement portion of the work is under item 4M including the valves, fittings, and other components.



Florida Department of Transportation
 Item Average Unit Cost
 From 2020/05/01 to 2021/04/30
 Statewide

LTC V.10 - Conveyance
 Maintenance

Market Area: 07
 Contract Type: CC
 Displaying: VALID ITEMS WITH HITS
 From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
0108 2	1	\$42,765.00	\$42,765.00	1.000	EA	N	MONITOR EXISTING STRUCTURES- VIBRATION MONITORING
0108 3	1	\$15,000.00	\$15,000.00	1.000	EA	N	MONITOR EXISTING STRUCTURES- GROUNDWATER MONITORING
0110 1 1	12	\$13,359.71	\$3,004,998.82	224.930	AC	N	CLEARING & GRUBBING
0110 2 2	1	\$17,000.00	\$17,170.00	1.010	AC	N	SELECTIVE CLEARING AND GRUBBING, AREAS WITH TREES TO REMAIN
0110 4 10	11	\$10.34	\$297,404.76	28,749.000	SY	N	REMOVAL OF EXISTING CONCRETE
0110 7 1	6	\$205.28	\$37,771.80	184.000	EA	N	MAILBOX, F&I SINGLE
0120 1	9	\$5.10	\$1,477,868.71	289,846.000	CY	N	REGULAR EXCAVATION
0120 2 2	1	\$37.72	\$34,362.92	911.000	CY	N	BORROW EXCAVATION, TRUCK MEASURE
0120 4	4	\$15.28	\$12,757.00	835.000	CY	N	SUBSOIL EXCAVATION
0120 6	9	\$6.61	\$1,452,342.29	219,882.000	CY	N	EMBANKMENT
0120 71	1	\$19,339.84	\$19,339.84	1.000	LS	N	REGULAR EXCAVATION (3-R PROJECTS ONLY)
0120 74	1	\$5.50	\$3,657.50	665.000	CY	N	SURCHARGE EMBANKMENT
0141 70	1	\$2,500.00	\$7,500.00	3.000	AS	N	SETTLEMENT PLATE ASSEMBLY
0160 4	8	\$6.46	\$2,052,237.92	317,761.000	SY	N	TYPE B STABILIZATION
0285701	7	\$15.44	\$1,912,715.06	123,869.000	SY	N	OPTIONAL BASE, BASE GROUP 01
0285702	3	\$23.81	\$71,189.50	2,990.000	SY	N	OPTIONAL BASE, BASE GROUP 02
0285703	1	\$55.00	\$14,355.00	261.000	SY	N	OPTIONAL BASE, BASE GROUP 03
0285704	2	\$25.11	\$56,676.25	2,257.000	SY	N	OPTIONAL BASE, BASE GROUP 04
0285708	1	\$36.84	\$11,088.84	301.000	SY	N	OPTIONAL BASE, BASE GROUP 08
0285709	5	\$21.89	\$595,861.04	27,224.000	SY	N	OPTIONAL BASE, BASE GROUP 09



Florida Department of Transportation
 Item Average Unit Cost
 From 2020/05/01 to 2021/04/30
 Statewide

Market Area: 07
 Contract Type: CC
 Displaying: VALID ITEMS WITH HITS
 From: 0102 1 To: 9999999

Item	No. of Conts	Weighted Average	Total Amount	Total Quantity	Unit Meas	Obs?	Description
0685 1 12	1	\$4,800.00	\$9,600.00	2.000	EA	N	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, ONLINE/DOUBLE CONVERSION
0685 1 14	1	\$12,000.00	\$24,000.00	2.000	EA	N	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, ONLINE/DOUBLE CONVERSION WITH CABINET
0685 2 1	1	\$500.00	\$1,000.00	2.000	EA	N	REMOTE POWER MANAGEMENT UNIT- RPMU, FURNISH AND INSTALL
0695 1 1	7	\$1,519.73	\$66,868.02	44.000	EA	N	TRAFFIC MONITORING SITE VEHICLE SENSOR-NON-WEIGHT, FURNISH & INSTALL
0695 6 12	7	\$1,321.40	\$58,141.50	44.000	EA	N	TRAFFIC MONITORING SITE INDUCTIVE LOOP ASSEMBLY, FURNISH & INSTALL, 2 LOOPS
0695 7132	2	\$4,250.86	\$17,003.43	4.000	EA	N	TRAFFIC MONITORING SITE CABINET, FURNISH & INSTALL, TYPE 3, PEDESTAL MOUNT
0695 7162	4	\$5,783.19	\$23,132.76	4.000	EA	N	TRAFFIC MONITORING SITE CABINET, F&I, TYPE 3, 2 PANE BACK, PEDESTAL MOUNT
0695 7600	3	\$940.59	\$6,584.10	7.000	EA	N	TRAFFIC MONITORING SITE CABINET, REMOVE EXISTING CABINET
0700 1 11	10	\$295.67	\$116,197.25	393.000	AS	N	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF
0700 1 12	9	\$1,357.24	\$252,445.94	186.000	AS	N	SINGLE POST SIGN, F&I GROUND MOUNT, 12-20 SF
0700 1 13	5	\$1,469.86	\$39,686.21	27.000	AS	N	SINGLE POST SIGN, F&I GROUND MOUNT, 21-30 SF
0700 1 14	1	\$3,066.45	\$6,132.90	2.000	AS	N	SINGLE POST SIGN, F&I GROUND MOUNT, 31+ SF
0700 1 50	8	\$188.64	\$14,336.30	76.000	AS	N	SINGLE POST SIGN, RELOCATE
0700 1 60	10	\$18.27	\$10,435.00	571.000	AS	N	SINGLE POST SIGN, REMOVE

Appendix A
Operation Plan

**CITRUS COUNTY CENTRAL LANDFILL
OPERATION PLAN**

Prepared for:

Citrus County Solid Waste Management Department
230 W. Gulf to Lake Highway
Lecanto, Florida 34461

Prepared by:

Jones Edmunds & Associates, Inc.
730 NE Waldo Road
Gainesville, Florida 32641

Certificate of Engineering Authorization #1841

Jones Edmunds Project No.: 03860-087-01

June 2021

TABLE OF CONTENTS

EXECUTIVE SUMMARY	iv
OPERATION PLAN	1
K.1 Training and Certification of Operators and Spotters (Rule 62-701.500(1), FAC) ...	1
K.2 Landfill Operation Plan Procedures (Rule 62-701.500(2), FAC)	2
K.2.A Designating Responsible Operating and Maintenance Personnel (Rule 62-701.500(2)(a), FAC).....	2
K.2.B Emergency Preparedness and Response (Rule 62-701.500(2)(b), FAC).....	2
K.2.c Control/Inspection of Incoming Waste (Rule 62-701.500(2)(c), FAC).....	3
K.2.d Weighing Incoming Wastes (Rule 62-701.500(2)(d), FAC)	5
K.2.e Vehicle Traffic Control and Unloading (Rule 62-701.500(2)(e), FAC).....	5
K.2.f Method and Sequencing of Filling Wastes (Rule 62-701.500(2)(f), FAC)	5
K.2.g Waste Compaction and Application of Cover (Rule 62-701.500(2)(g), FAC)	5
K.2.h Operations of Gas, Leachate, and Stormwater Controls (Rule 62-701.500(2)(h), FAC).....	7
K.2.i Water Quality Monitoring (Rule 62-701.500(2)(i), FAC)	12
K.2.j Maintaining and Cleaning the Leachate Collection System (Rule 62-701.500(2)(j), FAC)	12
K.3 Operating Records (Rule 6-2701.500(3), FAC)	13
K.4 Waste Records (Rule 62-701.500(4), FAC)	13
K.5 Access Control (Rule 62-701.500(5), FAC)	14
K.6 Load Checking Program (Rule 62-701.500(6), FAC)	14
K.6.a Waste Inspection (Rule 62-701.500(6)(a), FAC)	14
K.6.b Hazardous Wastes and Handling Procedures (Rule 62-701.500(6)(b), FAC) ...	16
K.6.c Recording Inspection Results (Rule 62-701.500(6)(c), FAC)	16
K.7 Waste Handling Requirements (Rule 6-2701.500(7), FAC)	16
K.7.a Waste Thickness and Compaction Frequencies (Rule 62-701.500(7)(a), FAC).....	17
K.7.b First Layer of Waste (Rule 62-701.500(7)(b), FAC)	17
K.7.c Slopes of Working Face (Rule 62-701.500(7)(c), FAC).....	17
K.7.d Width of Working Face (Rule 62-701.500(7)(d), FAC)	17
K.7.e Initial/Daily Cover (Rule 62-701.500(7)(e), FAC).....	17
K.7.f Initial Cover Procedures (Rule 62-701.500(7)(f), FAC)	17
K.7.g Intermediate Cover (Rule 62-701.500(7)(g), FAC).....	17
K.7.h Final Cover (Rule 62-701.500(7)(h), FAC)	18

K.7.i	Scavenging and Salvaging Control (Rule 62-701.500(7)(i), FAC)	18
K.7.j	Litter Policing Methods (Rule 62-701.500(7)(j), FAC)	18
K.7.k	Erosion Control (Rule 62-701.500(7)(k), FAC).....	18
K.8	Leachate Management (Rule 62-701.500(8), FAC)	19
K.8.a	Leachate Level Monitoring (Rule 62-701.500(8)(a), FAC).....	19
K.8.b	Operation and Maintenance of Leachate Collection System (Rule 62-701.500(8)(b), FAC).....	20
K.8.c	Leachate Handling (If Regulated as Hazardous Waste) (Rule 62-701.500(8)(b), FAC).....	21
K.8.d	Off-Site Treatment (Rule 62-701.500(8)(c), FAC).....	21
K.8.e	Contingency Plan for Managing Leachate (Rule 62-701.500(8)(e), FAC).....	21
K.8.f	Recording Leachate Quantities (Rule 62-701.500(8)(f), FAC)	21
K.8.g	Recording Precipitation (Rule 62-701.500(8)(g), FAC).....	21
K.8.h	Inspection and Cleaning (Rule 62-101.500(8)(h), FAC)	21
K.9	Landfill Gas Monitoring (Rule 62-701.500(9), FAC)	21
K.9.a	Background Information	22
K.9.b	Landfill Areas	22
K.9.c	Monitoring of On-Site Structures	23
K.9.d	Gas Monitoring Procedures	24
K.9.e	Reporting	26
K.9.f	Routine Odor Control.....	26
K.10	Stormwater Management System and Maintenance (Rule 62-701.500(10), FAC)	29
K.10.a	Stormwater Best Management Practices.....	29
K.10.b	Stormwater Maintenance Procedures	29
K.10.c	Surface Drainage Structures.....	29
K.11	Equipment and Operation Features (Rule 62-701.500(11), FAC).....	30
K.11.a	Equipment (Rule 62-701.500(11)(a), FAC)	30
K.11.b	Reserve Equipment (Rule 62-701.500(11)(b), FAC)	30
K.11.c	Communication Equipment (Rule 62-701.500(11)(c), FAC)	30
K.11.d	Dust Control (Rule 62-701.500(11)(d), FAC).....	30
K.11.e	Fire Protection and Fire Fighting Capabilities (Rule 62-701.500(11)(e), FAC).....	30
K.11.f	Litter Control Devices (Rule 62-701.500(11)(f), FAC)	31
K.11.g	Signs (Rule 62-701.500(11)(g), FAC)	31
K.12	Roads (Rule 62-701.500(12), FAC)	31

K.12.a	All-Weather Access Road (Rule 62-701.500(12)(a), FAC).....	31
K.12.b	Perimeter and Other On-Site Roads (Rule 62-701.500(12)(b), FAC)	31
K.13	Additional Recordkeeping and Reporting (Rule 62-701.500(13), FAC).....	31
K.13.a	Permit Application Documentation (Rule 62-701.500(13)(a), FAC)	31
K.13.b	Monitoring Information (Rule 62-701.500(13)(b), FAC)	32
K.13.c	Remaining Life and Capacity Estimate (Rule 62-701.500(13)(c), FAC)	32
K.13.d	Archived Records (Rule 62-701.500(13)(d), FAC)	32

LIST OF FIGURES

Figure ES-1	Site Plan.....	v
Figure 9-1	Monitoring Network.....	28
Figure 9-2	LFG Monitoring Probe Detail.....	29

APPENDICES

Appendix A	Emergency Incidents and Contingency Plan
Appendix B	Citrus/Hernando Counties Interlocal Agreement
Appendix C	Fill Sequence Plan
Appendix D	Leachate Treatment Agreement
Appendix E	Daily Operator Log
Appendix F	Groundwater Monitoring Plan
Appendix G	Sample Load Checking Inspection Forms
Appendix H	Maintenance Summary Form
Appendix I	LFG Monitoring Form

EXECUTIVE SUMMARY

This document provides a consolidated manual of operating procedures for the Citrus County Central Landfill (CCCL). The enclosed Operation Plan was prepared and organized in accordance with the Florida Department of Environmental Protection (FDEP), Rule 62-701, FAC, and Part K of FDEP's permit application Form 62-701.900(1) for solid waste management facilities. If a conflict occurs between the Operation Plan and the Rule, the Rule will prevail. This Operation Plan supersedes previous plans submitted.

The CCCL is owned by Citrus County and operated by the Citrus County Solid Waste Management Department. The facility is in Lecanto, Florida, at 230 W. Gulf to Lake Highway (State Highway [SR] 44). The CCCL serves the residents and commercial businesses of the County and consists of an active Class I Landfill, closed landfills, a Citizens Service Area (CSA), hazardous waste drop-off center, scalehouse, and associated infrastructure necessary to operate the County's integrated solid waste management program. The CCCL includes three closed landfills west of the active landfill that the County maintains on property leased to the County by the Department of Forestry (DOF). Two of the closed landfills are unlined and predate Resource Conservation and Recovery Act (RCRA) Subtitle D liner requirements. The active Class I Landfill is lined and covers approximately 32 acres in Phases 1, 1A, 2, and 3; the active landfill began accepting waste in 1991.

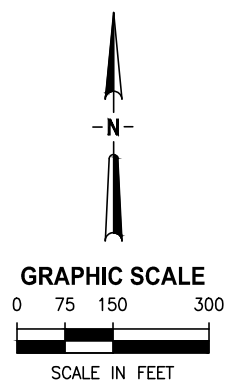
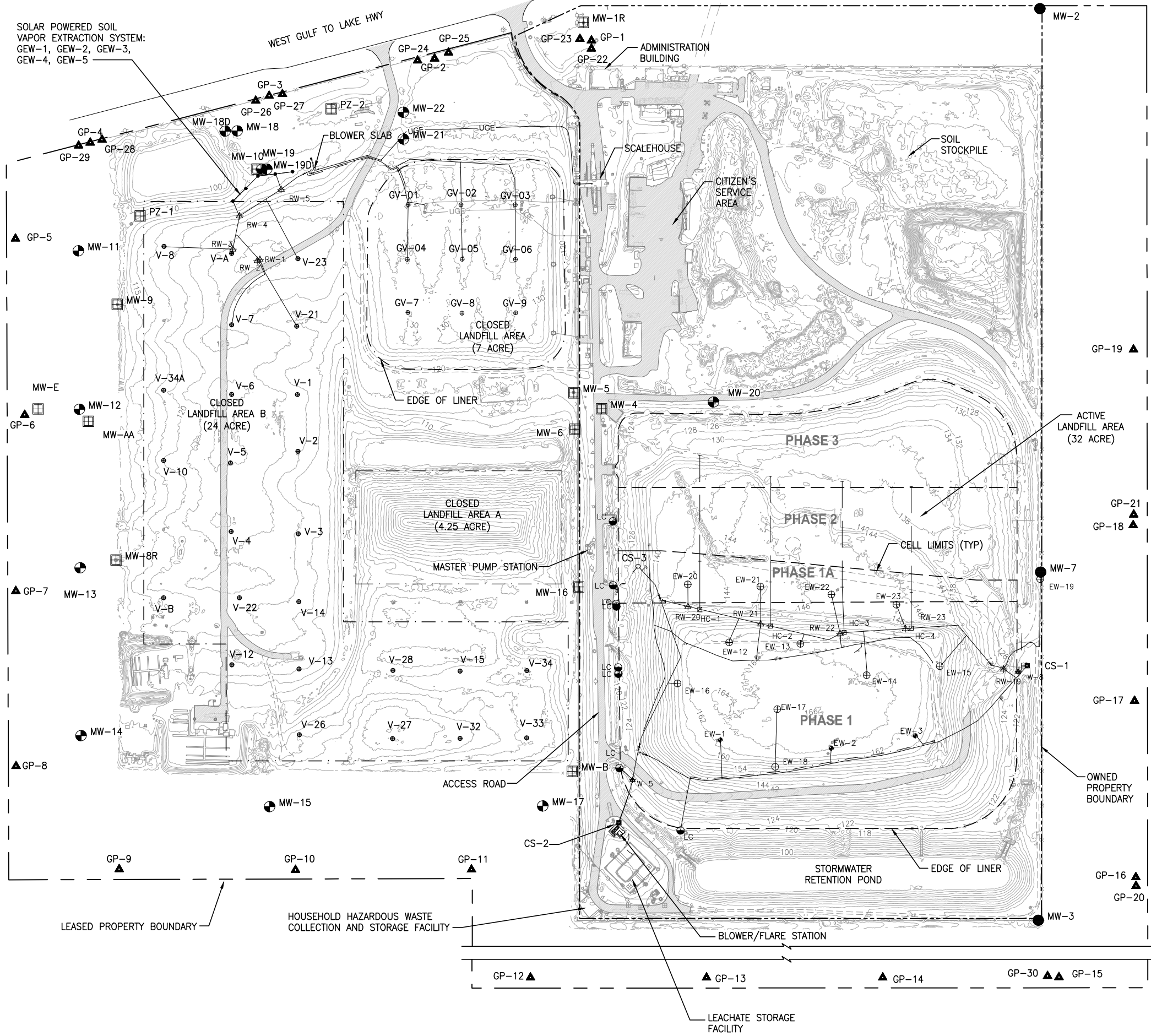
All waste arriving at the CCCL is weighed at the scalehouse. The scalehouse attendant directs vehicles carrying waste to the appropriate areas where the wastes are unloaded. The active landfill is accessed via central access roads. The CCCL is open Monday through Friday from 8:00 AM to 4:30 PM and on Saturdays from 8:00 AM to 2:30 PM.

The CSA provides drop-off areas for residents to dispose of items such as household garbage, waste tires, yard waste, recyclables (e.g., metals and fluorescent bulbs), electronic waste, metals, and used oils. Separate from the CSA, hazardous wastes are temporarily placed in the Hazardous Waste Collection and Storage Facility.

Leachate generated from the active landfill is pumped to the leachate storage tanks on the south side of the property and then transported via a force main to the Meadowcrest Wastewater Treatment Plant (WWTP).

Stormwater at the facility is managed by a combination of swales, perimeter ditches, and stormwater ponds. Stormwater run-off is directed away from open areas on the active face of the landfill by berms and swales along the side slopes of the landfill. The swales outside the disposal area divert stormwater into the perimeter ditches that are outside the lined berms and isolated from the leachate and solid waste. Stormwater run-off which contacts waste or mixes with leachate is treated as leachate.

Refer to Figure ES-1, Site Plan, Citrus County Central Landfill.



- LEGEND**
- ⊕ EW-1 EXISTING LFG EXTRACTION WELL
 - ⊕ EW-10 EXISTING DOWNSLOPE LFG EXTRACTION WELL
 - ⊕ EW-8R W-1 EXISTING REMOTE LFG EXTRACTION WELLHEAD OR EXISTING LEACHATE CLEANOUT RISER WELLHEAD
 - EXISTING LFG PIPING
 - ⊕ CS-2 EXISTING CONDENSATE SUMP
 - CT-1 EXISTING CONDENSATE TRAP
 - LC EXISTING LEACHATE CLEANOUT
 - MW-7 EXISTING BACKGROUND GROUNDWATER MONITORING WELL
 - MW-13 EXISTING COMPLIANCE GROUNDWATER MONITORING WELL
 - ⊕ V-33 EXISTING PASSIVE LFG VENT
 - ⊕ GV-06 EXISTING PASSIVE LFG VENT (INSTALLED 2009)
 - ⊕ PZ-1 EXISTING PIEZOMETER
 - ⊕ MW-9 EXISTING PIEZOMETER
 - ▲ GP-1 EXISTING GAS PROBE
 - ⊕ W-7 EXISTING LEACHATE CLEANOUT RISER WELLHEAD

- NOTES:**
1. TOPOGRAPHIC CONTOURS PREPARED BY COASTAL LAND SURVEYORS AND MAPPERS, DATED 10/15/2020.
 2. EXISTING LFG VENTS LABELING MAY VARY IN THE FIELD.

FIGURE ES-1
SITE PLAN
CITRUS COUNTY CENTRAL LANDFILL
LECANTO, FLORIDA

LAST SAVED: 4/21/2021 8:01 AM BY: PUPSTILL PATH: Y:\03860-CITRUS COUNTY PROJECTS\087-01 CLASSIFIED AND SALES GRADES\CAD FIGURES MINOR MOD\03860087-FIG-ES-1.DWG PLOTTED: 4/21/2021 08:56 AM BY: PAUL E. UPSTILL

OPERATION PLAN

The following Operation Plan was prepared and organized for the CCCL in accordance with FDEP Rule 62-701.500, FAC, and Part K of FDEP's permit application Form 62-701.900(1) for solid waste management facilities.

K.1 TRAINING AND CERTIFICATION OF OPERATORS AND SPOTTERS (RULE 62-701.500(1), FAC)

This training plan together with documents that record training plan implementation are kept on site and will be made available to FDEP's inspection staff upon request.

Landfill operators and managers at the CCCL will participate in 24 hours of initial training that may consist of the *Manager of Landfill Operations (MOLO)* or equivalent and must pass the State exam to be certified. Within 3 years after passing the exam and every 3 years thereafter, landfill operators must complete an additional 16 hours of training. Spotters are required to complete an initial 8-hour training course and 4 hours of continuing education every 3 years. Operator and spotter training will be FDEP-approved courses.

All courses, whether public or in-house, will meet the requirements of Rule 62-701.320(15), FAC. Courses conducted by the University of Florida Training, Research and Education for Environmental Occupations (TREEO) Center are approved by the Florida Solid Waste Management Training Committee and meet the requirements of Rule 62-701.320(15), FAC.

In accordance with Rule 62-701.500(1), FAC, at least one trained operator will be on duty at the CCCL whenever waste is received at the facility. At least one trained spotter will be present at each landfill active working face when waste is received. The compactor operator will be responsible for evaluating each load visually as it is dumped and serve as the spotter at the working face of the facility. Operator and spotter training will comply with Rule 62-701.320(15), FAC.

The facility may also employ interim spotters. An interim spotter is someone who, in the opinion of the Solid Waste Director, has shown competency in waste spotting through a combination of work experience, education, and training. An interim spotter will work under the direct supervision of a trained spotter or trained operator. The facility may employ an interim spotter in lieu of a trained spotter for no more than 3 consecutive months.

K.2 LANDFILL OPERATION PLAN PROCEDURES (RULE 62-701.500(2), FAC)

K.2.A DESIGNATING RESPONSIBLE OPERATING AND MAINTENANCE PERSONNEL (RULE 62-701.500(2)(A), FAC)

The persons directly responsible for major components of the CCCL are as follows:

Component	Responsible Party
Operations	Field Crew Leader
Maintenance	Maintenance Supervisor
Permitting Requirements	Solid Waste Management Division Director
Water-Quality Testing	Solid Waste Management Division Director
Hazardous Waste Operations	Hazardous Waste Coordinator

The landfill Field Crew Leader has overall responsibility for the operation of the landfill. The landfill Field Crew Leader is responsible for the day-to-day implementation of the Operation Plan and, together with the Solid Waste Management Division (SWMD) Director, is responsible for environmentally safe operations in accordance with state and federal regulations.

K.2.B EMERGENCY PREPAREDNESS AND RESPONSE (RULE 62-701.500(2)(B), FAC)

An Emergency Incidents and Contingency Plan was prepared in accordance with Rule 62-701.320(16), FAC; Appendix A of this Operation Plan includes the plan. The plan for the facility addresses the following:

- Equipment failure.
- Unusual operating conditions resulting from poor weather conditions.
- Accidents.
- Fire.
- Unavailable landfill capacity.

K.2.b.1 Equipment Failure

Sufficient back-up equipment will be provided on-site for equipment breakdowns and for downtime because of normal routine equipment maintenance. In the case of a major equipment failure, the following procedures will be followed:

- Maintain duplicate equipment capability.
- Contact contractors and rental equipment dealers as pre-arranged to furnish equipment on short-term notice (within 24 hours).

During equipment failure, the Field Crew Leader will contact the Landfill Maintenance Supervisor. Within 24 hours of notification by the Landfill Maintenance Supervisor, the equipment will be replaced with back-up capability if necessary or repaired and placed back in operating condition.

All equipment maintenance will be performed by the County or contracted by the County to a maintenance contractor.

Redundant pumping systems are provided for the leachate and stormwater transfer systems.

Emergency power generators are available for the administration building, office trailer, and stormwater and leachate facilities.

K.2.b.2 Poor Weather Conditions and Natural Disasters

Unusual operating conditions could result from excessive rainfall and electrical storms. The type and volume of materials to be disposed of after a hurricane or excessive storms will change normal landfill operations. During extremely high wind conditions or electrical storms, disposal operations will be temporarily suspended to protect the workers. Disposal operations will be suspended immediately before and during a hurricane or tornado.

During rainy weather, access to each working face along on-site roads must be maintained. Grading out ruts more frequently than during normal operations or applying additional material to the on-site access roads to counteract the effects of rain may be necessary.

K.2.b.3 Fire

Waste loads on fire that arrive at the CCCL will not be deposited at the working face. They will be deposited away from the working face on an area that has previously been covered with daily soil cover. The load will then be spread out and covered with daily cover soil to extinguish the fire. If a fire does occur at the landfill working face, a temporary area will be identified as far away from the fire as possible but still within the limits of the lined disposal area where daily soil cover has previously been placed. Berms will be constructed around the temporary area using on-site equipment and soil materials from the on-site stockpile. Solid waste entering the facility will be placed in the temporary area until the fire is extinguished.

Waste will be transported from the temporary area to the working face using on-site equipment. The soil berms around the temporary area will then be leveled and spread out over the surface at the temporary area.

K.2.b.4 Temporary Transfer Station

The Emergency Incidents and Contingency Plan, Appendix A, Section 7.7 provides procedures for the temporary transfer station. Appendix B provides a copy of the relevant Interlocal Agreement for emergency waste disposal.

K.2.C CONTROL/INSPECTION OF INCOMING WASTE (RULE 62-701.500(2)(c), FAC)

All solid waste arriving at the CCCL is routed through the scale house. Scale house attendants screen visible loads for unacceptable materials including recyclables, hazardous waste, and medical waste. From the scale house, loads are directed to the Class I disposal area or to the CSA. The CSA provides temporary storage for recyclable material, waste oils, yard waste, white goods, batteries, and tires. A spotter will be at the CSA and at each landfill working face to observe the types of waste actually deposited. If prohibited wastes are discovered, the spotter will direct the vehicle back to the office. If the waste has not yet

been unloaded, the person responsible for shipping the waste will be notified. If the waste has been deposited, the area of the waste load should be blocked from public access until the generator or hauler of the waste cleans up the waste. If the generator or hauler of the waste cannot be identified or is unable to remove the waste, the County will be responsible for cleanup, transportation, and disposal of the waste at an appropriate waste management facility.

Special waste shall be managed as follows:

- Used oil and antifreeze are each placed into double-wall containers within the CSA and collected by a contractor.
- Lawn debris is placed within the registered yard waste processing facility for management.
- Tires are placed into the permitted used tire facility for management.
- Appliances - all Freon-containing appliances shall have the Freon removed by County personnel and then placed within the scrap metal recycling container. The container is collected by a contractor.
- Lead acid batteries are placed on pallets and collected by a recycling contractor once several pallets are loaded.

Figure ES-1 shows that the CCCL has a permanent household hazardous waste collection and storage facility at the southwest corner of the landfill site. The facility is used for collecting and storing household hazardous waste (HHW) and Conditionally Exempt Small Quantity Generator (CESQG) waste. The building is engineered to comply with Environmental Protection Agency (EPA), National Fire Protection Association (NFPA), and Occupational Safety and Health Administration (OSHA) standards and regulations for storing hazardous chemicals and wastes. The household hazardous waste collection/storage (HHW C/S) Facility will be operated in accordance with the guidelines outlined in Appendix 4 of the Emergency Incidents and Contingency Plan (Appendix A of this Operation Plan). The current schedule allows for periodic program days for HHW and CESQG collection. The following is a summary of some HHW C/S Facility guidelines:

- HHW received at the CSA shall be identified and relocated for storage within the containment area of the HHW C/S Facility at the end of each collection day.
- Spillage shall be removed and properly packaged for disposal. Soils that have been contaminated by spills shall be removed and packaged for proper disposal on the same day that the spill occurred.
- Liquids, including contaminated rainwater, shall not be discharged outside the containment structures.
- Latex paints shall be stored within a secondary containment area and may be collected by a contractor or used as an approved alternate daily cover (ADC) process.
- Waste received at the HHW C/S Facility shall be stored in containment areas at all times.
- Records regarding the quantities of HHW collected and removed for disposal shall be compiled quarterly and maintained at the facility for FDEP review upon request.

K.2.D WEIGHING INCOMING WASTES (RULE 62-701.500(2)(D), FAC)

Weighing of incoming wastes will be performed at the scale house. Each customer receives a receipt made out by an automatic cash register showing the type of refuse, amount, and fee.

These receipts are used for financial accountability and to complete the necessary daily, weekly, monthly, and annual activities/materials reports required by FDEP and the County.

K.2.E VEHICLE TRAFFIC CONTROL AND UNLOADING (RULE 62-701.500(2)(E), FAC)

All traffic entering the CCCL must pass through the scale house. Vehicle traffic control and unloading is directed by signage for unloading areas and the attendant in the scale house. The attendant will direct the vehicle to the unloading point that is compatible with the waste. Additional traffic directions will be provided, when needed, by the equipment operator or spotters.

K.2.F METHOD AND SEQUENCING OF FILLING WASTES (RULE 62-701.500(2)(F), FAC)

The CCCL will be operated using the area fill method. Waste delivered to the CCCL will be directed to each working face of the landfill for unloading. Once unloaded, waste will be spread in layers approximately 2 feet thick and compacted to approximately 1 foot thick. Refer to Appendix C for the Fill Sequence Plan for the remainder of Phases 1/1A, 2, and 3.

The active Class I Landfill may operate two working faces to separate residential and commercial haulers disposing of waste. Each working face will have the required trained equipment operations/spotters. The secondary working face will only be wide enough to accommodate vehicles discharging waste and related landfill equipment to minimize the exposed area and prevent the use of unnecessary daily cover material. The secondary working face will not be constructed with slopes steeper than 3H:1V or as would violate normal safety practices.

K.2.G WASTE COMPACTION AND APPLICATION OF COVER (RULE 62-701.500(2)(G), FAC)

K.2.g.1 Method of Filling Wastes/Compaction

The procedure for filling and compacting of the initial waste lifts over areas of exposed liner will be as follows:

- To protect the integrity of the leachate collection system and liner, driving vehicles directly over the liner will be prohibited.
- The bottom liner of each phase will be covered with a minimum of 2 feet of protective soil before the placement of special waste.
- The landfill spotter directs equipment away from the sideslope liner during normal operations.
- The initial lift of waste will be 4 feet thick and selected for material that will not cause damage to the liner. The initial lift of waste will be spread with equipment that will preserve the integrity of the liner system.

The procedures for filling and compacting all waste will be as follows:

- Waste will be placed against the base of the previous days waste, so that the first row will act as a means of access and a berm to guide the placement of waste material for the remaining rows.
- The waste will be spread and completed in 2-foot layers and compacted to approximately 1 foot in thickness by a minimum of five passes using a landfill compactor.

K.2.g.2 Daily and Intermediate Cover

Cover material will be used to minimize vector breeding, animal attraction, and fire potential, as well as to prevent blowing litter and control odors. Daily cover will be composed of soil from the on-site stockpile, a 50/50 mixture of yard waste mulch and soil, synthetic materials such as tarps and geomembranes, or approved ADC material consisting of a spray on slurry of polymer recycled paper fibers and latex paint in accordance with the manufacturer's specifications. Daily soil cover will be placed and compacted to a minimum thickness of 6 inches; spray-on daily cover will be applied in accordance with the manufacturer's specifications and shall not be used in the rain. The intermediate cover will be comprised of soil from the on-site stockpile or a 50/50 mixture of yard waste mulch and soil.

The intermediate soil cover will be placed and compacted to a minimum thickness of 12 inches. Mulch will be from on-site recycled yard waste.

If tarps or geomembranes are used as temporary daily cover, the tarps or geomembranes will be spread to cover the waste material. Sand or the tarp spreader bar will be used to minimize wind uplift. When the working face area exceeds the area of available tarp, 6 inches of compacted soil will be placed to cover the waste material. A 50/50 mixture of yard waste mulch and soil may be spread over the initial soil cover for stabilization and erosion control measures.

When using ADC material, the waste shall be compacted within the working face before applying the ADC to ensure proper coverage of the waste and applied in accordance with the manufacturer's specifications. If uneven waste surfaces are present, spray-on materials will be applied from at least two different angles to ensure complete coverage of the waste. The landfill operator or designee will receive training in the proper mixing, application, and use of the spray-on material from the manufacturer or its representative. The operator who has received the manufacturer's training will apply the spray-on cover or provide direct supervision of the landfill staff applying the application to ensure that the material is properly applied.

K.2.g.3 Final Cover

The final cover system will be designed in accordance with Rule 62-701.600(5), FAC. The final cover will be placed on the intermediate cover as phases of the facility are closed. The conceptual final cover system for landfill closure, from top to bottom includes the following:

- Sod.
- 24-inch soil layer with the upper 6 inches capable of supporting vegetative growth.

- Double-sided geocomposite drainage layer.
- 40-mil textured linear low-density polyethylene (LLDPE) geomembrane.
- 12 inches of soil-leveling course to intermediate cover that has been prepared and compacted over the waste.

K.2.H OPERATIONS OF GAS, LEACHATE, AND STORMWATER CONTROLS (RULE 62-701.500(2)(H), FAC)

K.2.h.1 Landfill Gas Controls

The landfill gas (LFG) management system at the closed landfill cells currently consists of passive vents in the closed landfill, which serves to minimize the potential for off-site migration of LFG. A small blower skid station was installed at the closed site in 2018 that connects to the passive gas vents, which have been modified with extraction wellheads. This blower extraction system induces low pressure inside the closed landfill and inhibits lateral migration of LFG.

An active landfill gas collection and control system (GCCS) is installed at the active landfill (Phases 1, 1A, 2, and 3) that includes vertical extraction wells, horizontal collectors, and tie-ins to the existing leachate collection and removal system (LCRS). The vertical wells are installed in Phases 1, 1A, and 2. A limited number of horizontal collectors have been installed in Phase 3. The GCCS will continue to expand at the active landfill as waste filling continues. The LFG from this active system is routed via a header and lateral pipe to a blower/flare station where the gas is combusted in a candlestick flare. The GCCS is a voluntary active landfill GCCS that proactively reduces methane emissions to the atmosphere. This system is not required by the Federal New Source Performance Standards (NSPS) and therefore the operation, monitoring, reporting, and recordkeeping requirements of NSPS do not apply.

The operations procedures for the GCCS will be as follows:

1. The vertical extraction wells and LCRS tie-ins should be inspected periodically (i.e., on a monthly or bi-monthly basis) to ensure that all components are functioning properly.
2. As filling operations continue, vertical wells in the active area of the landfill will be raised.
3. The pneumatic pumps should be inspected periodically to ensure proper operation. The frequency of inspection will be determined based on field operations and whether the pumps are maintaining liquid levels in the sumps low enough not to impact vacuum distribution to the wellfield. Pump counters should be checked and cycle counts recorded and reviewed to ensure pump operation.
4. The following is a list of spare parts that may be kept on site:
 - Wellhead components.
 - Sample ports.
 - Dust caps.
 - Orifice plates (assorted diameters: 0.1 inch through 1.4 inches).
 - 2-inch Fernco quick caps.

- Fernco bushings and couplings (assorted 4- and 6-inch-diameter sizes).
- Worm-gear hose clamps, assorted sizes.
- Kanaflex flexible hoses and clamps.

K.2.h.2 Start-up and Shutdown Procedures

The GCCS is designed to operate continuously except for periods of automatic or manual shutdowns. Startup and shutdown events are generally planned events associated with system repair, maintenance, testing, and upgrades. Startup and shutdown procedures are outlined in the blower/flare station Operations and Maintenance (O&M) manual provided by the flare manufacturer, Shaw LFG Specialties, LLC, which is maintained on site.

GCCS shutdown events generally include shutdown of the gas collection system, the gas control system, and any ancillary equipment that could affect the operations or monitoring of the GCCS. There are two general types of shutdown events: (1) those that are initiated manually by an operator (e.g., for system maintenance), and (2) those that are initiated automatically by the control system in response to certain monitored conditions.

Some events that may cause the GCCS to shutdown automatically are listed below:

- Loss of gas flow to the flare.
- High inlet gas temperature.
- Flame sensor detects loss of flame.
- Elevated flame arrestor temperature.
- High liquid level in knockout pot.
- Loss of power from the grid.
- Treatment system component shutdowns.
- Power generation equipment shutdowns.

K.2.h.3 GCCS Operations and Maintenance

Extraction wells are inspected periodically to ensure that all components and fittings are functioning properly. Loose fittings and couplings can introduce air into the system and cumulatively reduce the collection efficiency of the GCCS. O&M procedures for the vertical wellheads include the following:

- Wellhead valves should be exercised across their entire range of operation to confirm their functionality periodically. If the valve does not move or is otherwise broken, it should be replaced.
- Wellhead sample ports and dust caps should be checked for leaks and repaired or replaced if necessary.
- Ensure all joints and mechanical fasteners (unions, Fernco couplings, hose clamps, etc.) are in good condition, secure, and provide a proper seal from leaks. Any loose or broken fittings should be tightened or repaired.
- Flexible hoses should be inspected for cracks and breaks that can occur resulting from the hose becoming brittle due to exposure to extreme weather conditions.
- The aboveground well casing should be checked for cracks or leaks, and the technician should make note of any voids or settlement which may have occurred on the ground near the well.

- Adjust the wellhead valve as necessary to minimize oxygen concentration to no more than 5 percent by volume. If oxygen levels persist above 5 percent, troubleshooting the well or shutting it off until oxygen levels can be lowered may be necessary.

LCRS tie-ins should be inspected periodically to ensure that all components and fittings are functioning properly. Loose fittings and couplings can introduce air into the system and cumulatively reduce the collection efficiency of the GCCS. O&M procedures for the wellheads at the LCRS tie-ins include the following:

- Note any odors or signs of built-up pressure at LCRS risers as this indicates the presence of excess LFG in the area that could potentially be collected.
- Exercise wellhead valves across their entire range of operation to confirm their functionality periodically. If the valve does not move or is otherwise broken, it should be replaced.
- Check wellhead sample ports and dust caps for leaks and repair or replace if necessary.
- Ensure all joints and mechanical fasteners (unions, Fernco couplings, hose clamps, etc.) are in good condition, secure, and provide a proper seal from leaks. Any loose or broken fittings should be tightened or repaired.
- Inspect flexible hoses for cracks and breaks that can occur resulting from the hose becoming brittle due to exposure to extreme weather conditions.
- Adjust the wellhead valve as necessary to minimize oxygen concentration to no more than 5 percent by volume. If oxygen levels persist above 5 percent, troubleshooting the well or shutting it off until oxygen levels can be lowered may be necessary.

K.2.h.4 System Monitoring

Each monitoring well will be monitored on a quarterly basis at a minimum for static pressure, methane, or combustible gases using an instrument calibrated to methane, carbon dioxide, and oxygen concentration. Methane will be measured and recorded in terms of a percent by volume. The monitoring equipment will be calibrated in accordance with the manufacturer's recommendations.

The general procedure for monitoring at each well is as follows:

1. Record meteorological conditions including ambient temperature and barometric pressure, if available.
2. Field calibrate the methane monitoring equipment.
3. Prior to monitoring, note any damage to the wellhead, well casing, or LCRS riser pipe, and repair if necessary. Failure to repair damage can affect the validity of the monitoring results.
4. Record the time of monitoring for the well.
5. Connect the monitoring instrument to the sampling hose.
6. Turn on the meter and observe the monitored parameters.
7. Remove the instrument and hose.
8. Repeat steps 3 through 7 for each monitored location.

Any problems encountered during monitoring, observations, or other pertinent information that could impact the interpretation of the data shall be recorded.

The following lists the parameters typically recorded at the wellheads:

- Temperature.
- Vacuum.
- Methane concentration.
- Carbon dioxide concentration.
- Oxygen concentration.
- Balance gas concentration.

The following lists the parameters typically recorded at the inlet of the blower/flare station:

- Gas flow rate and temperature.
- Methane concentration.
- Carbon dioxide concentration.
- Oxygen concentration.
- Balance gas concentration.
- System pressure.

K.2.h.5 System Maintenance

The wellheads shall be operated and maintained in accordance with the manufacturer's specifications and operational instructions. If any problems are found at the wellheads, wells, or nearby header and lateral piping, repairs shall be initiated at that time, if possible. All repair activities will be recorded and kept onsite.

K.2.h.6 Isolation of Portions of the GCCS

The GCCS is designed with header isolation valves that can be closed to isolate header segments to accommodate troubleshooting and repairs. These butterfly valves are shown on the record drawings that are on file with FDEP and maintained on site.

K.2.h.7 Condensate Management System Monitoring and Maintenance

Condensate is formed as extracted LFG cools. The rate at which condensate is generated is dependent on the LFG flow rates and the temperature differential between the warmer gas and the cooler piping.

Condensate traps and sumps are located along the header to remove condensate from the gas stream at engineered low points. Condensate collected in the traps drains back into the waste mass. Condensate collected in sumps with pumps is pumped to the leachate collection tanks via a force main.

No maintenance or monitoring is required for the condensate traps since they are self-draining. Sump maintenance includes periodically checking and cleaning the pneumatic pumps as recommended by the manufacturer. In addition, the pumping rate can be estimated based on the cycle counter readings.

K.2.h.8 Subsurface Fire Considerations

Subsurface landfill fires or subsurface oxidation can occur when buried waste in the CCCL ignites. The natural decomposition of waste can create substantially high temperatures and

in the presence of enough oxygen can lead to combustion or oxidation of the waste. These events can be minimized by limiting the potential for atmospheric oxygen to enter the waste mass by ensuring adequate landfill cover and avoiding over-pulling on the CCCL by the GCCS. The temperature of the extracted LFG will be measured at the wellheads.

If a subsurface oxidation is detected, the technician or other site personnel will immediately notify the Site Manager, and actions will be implemented to contain and eliminate the oxidation.

The following symptoms may indicate the presence of a subsurface waste oxidation:

- Deformed well casings.
- Carbon monoxide (CO) concentrations in excess of 1,000 parts per million (ppm) in the extracted LFG. Levels of CO between 500 and 1,000 ppm are viewed as indicators of a potential subsurface oxidation and require further investigation.
- Dramatic localized settling.
- Sharp increase in LFG temperatures.
- Smoke or smoky odor emanating from the landfill surface or wellheads.
- Stressed vegetation.
- Presence of sooty material inside GCCS components.

The most effective method of preventing, suppressing, and extinguishing a subsurface oxidation is to eliminate the pathways of oxygen intrusion into the CCCL. To accomplish this, potential sources of air intrusion must be sealed as much as practical, and reducing the rate of LFG extraction may be necessary. In severe cases, the entire GCCS may need to be shut down in the areas adjacent to the affected waste mass.

Even after these measures have been taken, subsurface oxidation may continue for days or weeks before it is completely extinguished. Daily CO and temperature monitoring of extraction points within the area of the subsurface oxidation should be performed to determine the effectiveness of the implemented control measures.

K.2.h.9 Leachate Controls

For Phases 1/1A, 2, and 3, the leachate management system design includes a system of collection pipes that lead to a sideslope sump. The sideslope sump is at the low-point at the west end of each cell. The low-point acts as the sump for the collection and detection systems. For leachate removal, the collection riser and the leak-detection riser include submersible pumps. Leachate from Phase 1/1A will be first pumped to the Master Pump Station (MPS) and then pumped to the leachate storage tank along with the leachate currently being collected from the 7-acre closed area. Leachate from Phases 2 and 3 will be pumped to the leachate storage tank.

The main components of the Phases 1/1A, 2, and 3 leachate management system include the following:

- Geocomposite drainage layer with rock-filled leachate collection trenches and perforated pipes leading to a main header pipe.
- Collection sump system including collection riser, leak-detection riser, and submersible pumps for leachate removal.

- Control panel including pump controls and remote flow-meter head, including telemetry relay to the computer monitoring system at the office.
- Connection to influent line to the MPS and underground high-density polyethylene (HDPE) piping force main.

Leachate is stored in the leachate storage tanks on the south side of the site; leachate is then transported via a force main to the Meadowcrest WWTP. Appendix D of this Operation Plan provides a copy of the leachate treatment agreement.

Leachate evaporation will be employed as a supplemental method to dispose of leachate. The supplemental evaporation of leachate involves spraying small quantities of leachate from a spray bar mounted on the rear of a tank truck onto Phase 2 and 3 areas of the CCCL. Leachate spray evaporation may be applied under the following conditions:

- Leachate may only be applied on Phases 2 and 3 within the bermed working face area.

Leachate generation will be minimized by keeping the working faces as small as possible. A second working face may be used occasionally. During special events, such as during initial lift filling of a new cell, additional working faces may be operated. Daily and/or intermediate cover will be placed with slopes to promote stormwater runoff. The mixing of stormwater with leachate will be minimized by grading the daily and/or intermediate cover away from the working face and by using soil berms to direct stormwater runoff away from the working face. Gutters and lined conveyance ditches will also be used to collect and transport stormwater to stormwater management facilities.

K.2.h.10 Stormwater Controls

Section K.10 of this Operation Plan discusses the operation of the existing stormwater system. The stormwater system will be managed as required by Rule 62-701.500(10), FAC, to meet applicable standards for Rules 62-302 and 62-330, FAC. The system shall minimize stormwater from entering waste-filled areas and avoid stormwater mixing with leachate. All stormwater conveyances shall be inspected to verify adequate performance as part of the Daily Operator Log (Appendix E). Conveyances not performing adequately will be repaired within 3 working days. Documentation of all inspections and repairs will be kept on file at the landfill office.

K.2.I WATER QUALITY MONITORING (RULE 62-701.500(2)(I), FAC)

Groundwater monitoring will be conducted as described in the *Citrus County Central Landfill Groundwater Monitoring Plan*. Changes to the monitoring plan were addressed in the *Citrus County Central Landfill Water Quality Monitoring Plan* by Jones Edmunds and submitted to FDEP in June 2018 (Appendix F). The updated *Groundwater Monitoring Plan* reflects those changes noted in the Jones Edmunds Report. The plan will be updated periodically based on current operation permit requirements with a current copy held in the Solid Waste Administration Offices at the CCCL.

K.2.J MAINTAINING AND CLEANING THE LEACHATE COLLECTION SYSTEM (RULE 62-701.500(2)(J), FAC)

The leachate system at the CCCL consists of collection, storage, pre-treatment by aeration in the existing leachate storage tanks, and pumping to a County-operated wastewater

treatment facility for ultimate disposal for the closed portion and Phases 1/1A, 2, and 3 active portions of the landfill. Maintenance of the leachate system facilities is performed as specified in the manufacturer's manuals kept on file in the landfill office. Inspection and cleaning of the system will be performed every 5 years and/or at the time of permit renewal. Inspection of storage tanks will be performed every 3 years.

K.3 OPERATING RECORDS (RULE 6-2701.500(3), FAC)

The operating record will consist of all records, reports, analytical results, and all notifications as required by Rule 62-701, FAC. These records are considered an integral part of the Operation Plan and will be kept at or near the facility. The operating records will be available for inspection at reasonable times upon request by FDEP personnel.

The Citrus County Solid Waste Management Division Director will be responsible for storing and filing all operational records. The minimum records to be kept as part of the official operating record include the following:

- Current permits and applications.
- Monthly waste disposal records (column, weight, or truckloads, County of origin).
- Random load-checking records.
- Leachate quantities (information collected monthly/submitted annually to FDEP).
- On-site rain-gauge data.
- Annual estimate of remaining capacity (permitted disposal) in cubic yards.
- Regulatory agency inspection report.
- Groundwater sampling plan, including well construction information, sampling locations, and water-quality sampling results.
- All official notifications to or from FDEP regarding the facility.
- Training verifications/certifications.
- Landfill Operation Plan, including all supplementary material incorporated by reference.
- Leachate tank inspection records.
- Gas monitoring records.
- Maintenance summary forms.
- GCCS operating records.
- Unauthorized waste disposal manifests.
- CESQG verification documentation.

K.4 WASTE RECORDS (RULE 62-701.500(4), FAC)

Each month a report of the amount of waste received in tons will be compiled. The report will also include estimates of the amounts of the following waste types:

- Household waste.
- Commercial waste.
- Ash residue.
- Incinerator by-pass waste.
- Construction and demolition debris.
- Treated biomedical waste.
- Agricultural waste.

- Industrial waste.
- Yard trash.
- Sewage sludge.
- Industrial sludge.
- Water/air treatment sludge.
- Waste tires.
- CSA.
- HHW facility.

In accordance with Rule 62-701.500(4)(a), FAC, reports are compiled monthly and copies provided to FDEP annually by February 1.

K.5 ACCESS CONTROL (RULE 62-701.500(5), FAC)

The entire CCCL is fenced, and the access is gate controlled at all times. Figure ES-1 is a site plan of the entire landfill and illustrates the landfill access control facilities. The landfill operates and accepts waste from commercial haulers Monday through Saturday, as follows:

- Monday–Friday: 8:00 a.m. to 4:30 p.m.
- Holidays and Saturday: 8:00 a.m. to 2:30 p.m.

The facility is closed on Sundays and for the following holidays:

- New Year’s Day.
- Memorial Day.
- Independence Day.
- Labor Day.
- Thanksgiving Day.
- Christmas Day.

Hours of operation may be extended following a natural disaster.

A sign at the entrance of the facility provides information concerning operating hours, holidays observed, restrictions, conditions of disposal, etc. Information is also on the facility’s website at

https://www.citrusbocc.com/departments/public_works/solid_waste_management/index.php.

During periods with inadequate daylight after 6:30 a.m., the County uses portable light plants to illuminate the working face. The facility does not accept waste from citizens until 8:00 a.m.

K.6 LOAD CHECKING PROGRAM (RULE 62-701.500(6), FAC)

An operator must be on duty at the CCCL or access for waste disposal will not be available.

K.6.A WASTE INSPECTION (RULE 62-701.500(6)(A), FAC)

The County has implemented a load checking program to detect and discourage attempts to dispose of unauthorized wastes at the CCCL. This program includes at least three random checks by landfill personnel each week and inspection of suspicious loads, which are

vehicles that have previously been determined to have delivered unauthorized waste or loads that have unusual physical characteristics.

If any regulated hazardous wastes are identified during load checking, the waste will be immediately placed in the HHW C/S Facility for sorting and storage. The following summarizes the load inspection program. The complete load inspection plan is kept on file in the landfill office.

1. Disposal area personnel will direct a minimum of three vehicles per week to a separate area within the working disposal area.
2. The driver of the vehicle will be asked the source of the waste by the inspector. The load will be completely discharged and spread uniformly so that all waste is visible.
3. The inspector will proceed to inspect the load for unauthorized waste. These shall include, but are not limited to, the following:
 - Restricted materials (tires, yard waste, etc.).
 - Regulated hazardous waste.
 - Biomedical waste.
 - Containers of liquids.
 - Compressed gas cylinders.
 - Polychlorinated biphenyl (PCB) wastes (transformers).
 - Large quantities of household type hazardous waste (indication of business source).
4. If any unauthorized items are observed, the waste will be relocated by the County to the appropriate disposal/management area. The collection company will be contacted to send a representative to verify the contents of the load with the inspector and the Crew Leader. Payment for disposal of the waste will be the sole responsibility of the person responsible for shipping the waste.
5. The person responsible for shipping the waste will provide a manifest documenting the proper disposal of the unauthorized waste found during inspection. The manifest must indicate the corresponding identification number assigned to the waste during inspection.
6. If any spill or contamination of regulated hazardous waste or biomedical waste is observed, the Crew Leader will notify a hazardous waste staff member and/or implement the Emergency Incidents and Contingency Plans (Appendix A). This plan may include notifying FDEP, the persons responsible for shipping the wastes, and/or the generator of the wastes.
7. Landfill personnel will relocate all special wastes such as tires, appliances, lead acid batteries, and lawn debris to the proper disposal areas. A separate invoice will be issued to the persons responsible for shipping the waste and made part of the inspection report. Section K.2.c provides procedures for handling special wastes.
8. If any amount of household hazardous waste is identified, the Crew Leader or a Hazardous Waste staff member will be notified and it will be relocated to the HHW C/S Facility.

9. Copies of all completed inspection reports will be forwarded to the Administrative Office for the Division of Solid Waste Management, the persons responsible for shipping the waste, and the Citrus County Special Operations Section. These records will be maintained for the life of the landfill.
10. Vehicles that have previously been determined to have delivered unauthorized waste will be considered suspicious and may be subjected to inspection at any time and in the same manner as the random inspections.

K.6.B HAZARDOUS WASTES AND HANDLING PROCEDURES (RULE 62-701.500(6)(B), FAC)

No hazardous wastes will be accepted at the CCCL for disposal. If any regulated hazardous wastes are identified by random load checking or are otherwise discovered to be improperly deposited at the landfill, the landfill operator shall promptly notify FDEP, the person responsible for shipping the wastes to the landfill, and the generator of the wastes, if known. The area where the wastes are deposited shall immediately be cordoned off from public access. If the generator or hauler cannot be identified, the landfill operator shall ensure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility.

Subsequent shipments from sources found or suspected to be previously responsible for shipping regulated hazardous waste shall be subject to precautionary measures before the solid waste management facility accepts wastes. The Citrus County Special Operations response team is notified for handling and storage of hazardous materials for disposal in an appropriate off-site facility.

The owner or operator shall arrange or have equipment for temporary storage, handling, and transport to an authorized disposal or recycling facility for unauthorized waste that is inadvertently accepted by the facility. Unless an alternate schedule is included in an operation plan submitted with the permit application that provides for the control of odors and vectors, putrescible waste shall not be stored for longer than 48 hours and non-putrescible waste shall not be stored for longer than 30 days.

K.6.C RECORDING INSPECTION RESULTS (RULE 62-701.500(6)(C), FAC)

Results of the load checking inspections described in Section K.6 of this document will be recorded in writing and retained at the CCCL for a minimum of 3 years in accordance with Chapter 62-701.500(6)(b)(2)(c), FAC. This information will include the date and time of inspection, name of the hauling firm, vehicle identification number, and observations made by landfill personnel during the inspection. In addition, efforts to record the name of the driver, license plate number, and source of waste as stated by the driver will be made. The inspector will sign the written record. Appendix G provides a sample form used to document the inspection results.

K.7 WASTE HANDLING REQUIREMENTS (RULE 6-2701.500(7), FAC)

The following description represents waste handling requirements as required by Rule 62-701.500(7), FAC. The County will meet or exceed the requirements at all times to minimize the potential adverse impacts to employees, public health, or safety.

The County will maintain a primary working face for commercial customers. On occasion, the County will have a second working face that will be used by residential customers in an effort to keep them separated from the commercial vehicles. The second working face will be operated and maintained in accordance with the guidelines of this Operation Plan.

K.7.A WASTE THICKNESS AND COMPACTION FREQUENCIES (RULE 62-701.500(7)(A), FAC)

The waste material will be spread in layers of approximately 2 feet in thickness and compacted to approximately 1 foot in thickness, or as thin as practical, by a landfill compactor before the next layer is applied.

K.7.B FIRST LAYER OF WASTE (RULE 62-701.500(7)(B), FAC)

The first lift of waste placed above the liner and leachate-collection system will be a minimum of 4 feet in compacted thickness. Waste loads in this first lift will be screened for any large, rigid objects or other materials that would damage the liner or leachate-collection system.

K.7.C SLOPES OF WORKING FACE (RULE 62-701.500(7)(C), FAC)

The working faces and side grades above land surface will be sloped at a maximum of 3 feet horizontal to 1-foot vertical rise. The lift depth will typically be a maximum of 10 feet. Lift depths may be deeper than 10 feet depending on specific operations, daily waste volumes, width of the working face, and good safety practices.

K.7.D WIDTH OF WORKING FACE (RULE 62-701.500(7)(D), FAC)

The working faces will only be wide enough to safely accommodate vehicles unloading materials and compacting equipment. Since the waste requires daily cover, the width of the working face will be minimized.

K.7.E INITIAL/DAILY COVER (RULE 62-701.500(7)(E), FAC)

Daily cover will consist of 6 inches of compacted soils, a yard waste/soil mix, synthetic material such as tarps and geomembranes, or a spray-on slurry of polymer and recycled paper fibers as approved by FDEP.

K.7.F INITIAL COVER PROCEDURES (RULE 62-701.500(7)(F), FAC)

Daily cover as described in K.7.e above will be placed over the waste at the end of each working day.

K.7.G INTERMEDIATE COVER (RULE 62-701.500(7)(G), FAC)

An intermediate cover in addition to the 6-inch initial cover shall be applied and maintained within 7 days of cell completion if additional solid waste will not be deposited within 180 days of cell completion. The landfill operator may remove all or part of the intermediate cover before placing additional waste or installing the final cover. The following materials meet the criteria of Subsection 62-701.200(55), FAC, and may also be used as intermediate cover:

- Recovered screen material.

- A mixture of soil and ground or chipped yard trash provided that soil makes up at least 50 percent by volume of the mixture.

K.7.H FINAL COVER (RULE 62-701.500(7)(H), FAC)

Areas that have been filled to design dimensions will receive a final cover within 180 days after attaining final elevation in accordance with the Closure Plan for the CCCL. Section K.2.g.3 of this plan provides a description of the final cover.

K.7.I SCAVENGING AND SALVAGING CONTROL (RULE 62-701.500(7)(I), FAC)

Scavenging will be strictly prohibited at the working face of the CCCL.

K.7.J LITTER POLICING METHODS (RULE 62-701.500(7)(J), FAC)

If any litter escapes the litter controls employed in the working area, such litter will be picked up as soon as possible. Litter policing will occur at least on a daily basis. Any litter outside the working area will be picked up within 24 hours.

K.7.K EROSION CONTROL (RULE 62-701.500(7)(K), FAC)

Erosion control measures shall be employed to correct any erosion that exposes waste or causes malfunction of the stormwater management system. Such measures shall be implemented within 3 days of occurrence. If the erosion cannot be corrected within 7 days of occurrence, the landfill operator shall notify FDEP and propose a correction schedule. These measures are identified and discussed as follows:

- Intermediate soil cover configured to collect and transport stormwater.
- 4 to 5 inches of mulch soil cover to prevent erosion.
- Regular inspection of intermediate soil cover.
- Benches and lined ditches to transport concentrated volumes of stormwater runoff.

K.7.k.1 Intermediate Soil Cover

Temporary berms to direct stormwater away from solid waste placement and compaction activities will surround the active areas of the CCCL. Inactive areas will be covered with intermediate soil cover with a minimum thickness of 1 foot. The intermediate soil cover will be sloped to promote run-off and decrease infiltration of stormwater.

Intermediate covered areas subject to erosion will be mulched or seeded with grass appropriate to the season as needed to control erosion.

K.7.k.2 Down Drains

Stormwater collected in swales and benches will be directed to lined ditches and/or temporary piping. The lined ditches and/or temporary piping will be installed to transport the collected stormwater to the stormwater management system without damaging the intermediate soil cover. Lightweight reinforced polyethylene will be used to line the ditches.

K.7.k.3 Inspections

The intermediate soil cover will be regularly inspected for erosion damage. Any damage that is discovered will be repaired within 3 days.

K.8 LEACHATE MANAGEMENT (RULE 62-701.500(8), FAC)

The design of the leachate management system includes a system of collection pipes that lead to a sideslope sump. The sideslope sump is at the low-point on the west side of each cell. The low-point acts as the sump for the collection and detection systems. For leachate removal, the collection riser and the leak-detection riser will include submersible pumps.

Leachate from Phases 1/1A and from the 7-acre closed area will be first pumped to the MPS then pumped to the leachate storage tank. Leachate is also pumped from Phases 2 and 3 to the leachate storage tank. Effluent from the leachate storage tank will be pumped to the Meadowcrest WWTP or used as irrigation on Phases 2 and 3. Appendix D provides the agreement with the WWTP. Since the leachate is going to a WWTP for treatment, the on-site treatment plant was decommissioned and demolished. The leachate will be applied in small quantities within the bermed working face area from a spray bar mounted on the rear of a tank truck. Leachate will not be applied during active precipitation, in the presence of ponding, or in quantities that may cause runoff, surface seeps, wind-blown spray, or exceedance of limits as the amounts described below:

- Leachate will be applied in Phase 3 once 30 feet of waste is in place and may be applied at a rate of 3,552 gallons/day. Leachate recirculation will only be applied within the bermed working face area. If this area is already wet due to rainfall, leachate recirculation will not be applied and will not occur during active rainfall or where any standing water is observed within the bermed working face area.
- Leachate will be applied in Phases 2 and 3 at a maximum rate of 4,663 gallons/day once 70 feet of waste is in place. Leachate recirculation will only be applied within the bermed working face area. If this area is already wet due to rainfall, leachate recirculation will not be applied and will not occur during active rainfall or where any standing water is observed within the bermed working face area.

The main components of Phases 1/1A, 2, and 3 leachate management systems include the following:

- Rock-filled leachate collection trenches with perforated pipes leading to the sump.
- Collection sump system including collection riser, leak-detection riser, and submersible pumps for leachate removal.
- Control panel including pump controls and remote flow-meter head.
- Connection to influent line to the existing leachate storage tank.

K.8.A LEACHATE LEVEL MONITORING (RULE 62-701.500(8)(A), FAC)

The depth of leachate over the liner in Phases 1/1A, 2, and 3 is monitored with level transducers on the leachate removal pumps. In addition, the leachate pump sideslope risers and leachate collection pipe cleanout sideslope risers provide a mechanism to observe leachate levels through physical measurements.

With the completion of the leachate force main to the Meadowcrest WWTP, leachate sampling and reporting are no longer required. The onsite leachate treatment plant has been demolished.

K.8.B OPERATION AND MAINTENANCE OF LEACHATE COLLECTION SYSTEM (RULE 62-701.500(8)(B), FAC)

The landfill operator will be responsible for maintenance of the leachate systems, including the piping, pump stations, and piping to the leachate storage tank. The equipment manufacturer will provide O&M manuals for each of the system components.

Maintenance of each component will be performed in accordance with the manufacturer's specifications and documented on a Maintenance Summary Form (Appendix H). Maintenance documentation may also include a video of the cleaning procedures. O&M manuals include the following:

- Description of unit and component parts, including normal operating characteristics and limiting conditions.
- Operating procedures.
- Maintenance and overhaul procedures.
- Installation instructions.
- Original manufacturer's parts list, illustrations, and detailed assembly drawings.
- Spare parts ordering instructions.
- Manufacturer's printed O&M instructions.

During the filling of each cell, a rain tarp system will be employed to cover the exposed cell bottom and sideslopes where operations are not occurring. The rain tarp will be placed so that the area not being filled will be protected and stormwater diverted from the leachate system to the existing channels using the County's hydraulic pumps. In addition, a daily cover material will be placed on the working face during non-working hours as required to minimize leachate generation.

Flow will be monitored from the leachate pumps. Facility personnel will record leachate flows each business day allowing determination of leachate production as a function of rainfall and providing information to assess the efficiency of leachate and stormwater management practices. Leachate generation/flows will be reported quarterly, and the records will be kept at the facility as part of the official operation record.

At least once each business day, facility personnel will inspect each leachate pump station and the leachate level indicators to ensure proper operation. Pumping rates and electrical draw will be confirmed semiannually. If these tests indicate significantly reduced performance, the pumps will be pulled for inspection and repair. A replacement pump will be installed while the repairs are being made.

If leachate flow volume is noticeably decreased, the leachate collection system will be inspected. Possible reasons for low or no flow are pump and/or level transducer malfunction or collection pipe collapse or blockage. If pipe blockage is identified, the collection pipe will be power jetted to remove sediment buildup. Power jetting or rodding will be done from either or both ends of the header.

K.8.C LEACHATE HANDLING (IF REGULATED AS HAZARDOUS WASTE) (RULE 62-701.500(8)(B), FAC)

If, in the future, the leachate becomes classified as a hazardous waste, it will be managed in accordance with Rule 62-730, FAC, or other rules as may be applicable at the time.

K.8.D OFF-SITE TREATMENT (RULE 62-701.500(8)(C), FAC)

Leachate is transported via a force main west on SR 44 to a gravity manhole off CR 491 north of SR 44, from which it is conveyed to the Meadowcrest WWTP via gravity and transmission mains. If additional treatment and disposal is necessary, leachate will be transported to one of several Citrus County Utilities WWTPs.

K.8.E CONTINGENCY PLAN FOR MANAGING LEACHATE (RULE 62-701.500(8)(E), FAC)

If the connection to the Meadowcrest WWTP is interrupted, leachate will be transported to one of several Citrus County Utilities WWTPs. Since multiple WWTPs are available for leachate disposal, complete interruption of offsite disposal ability is not expected.

K.8.F RECORDING LEACHATE QUANTITIES (RULE 62-701.500(8)(F), FAC)

Quantities of leachate collected by the LCRS are recorded in gallons per day from the leachate flow observations. Utilities staff record daily flow amounts on a standard form. Completed forms are compiled monthly with the compiled form sent to the Facility Manager to be filed in the facility's operating record.

The County uses a number of metering points to measure leachate generation. The flows generated from each landfill phase of the newer 80-acre area are measured directly by flow meters within the discharge line of each pump.

The flow meter at the discharge location for the treatment plant discharge recirculates back to the MPS. Flow meter Number 5 records the flow coming from the 7-acre closed area and the treatment plant. With construction of the new leachate force main, a new meter has been installed in the vicinity of the scalehouse.

K.8.G RECORDING PRECIPITATION (RULE 62-701.500(8)(G), FAC)

A rain gauge has been installed and is operated and maintained by County personnel to record precipitation at the disposal facility. Precipitation records will be maintained in the facility's operating record and will be compared with leachate generation rates.

K.8.H INSPECTION AND CLEANING (RULE 62-101.500(8)(H), FAC)

The leachate collection systems at the CCCL will be pressure cleaned or inspected by video every 5 years or at permit renewal. Results of the cleanings and inspections are kept on file in the landfill office.

K.9 LANDFILL GAS MONITORING (RULE 62-701.500(9), FAC)

This LFG monitoring program for the CCCL has been prepared in accordance with Rule 62-701.530, FAC. As described below, the plan includes monitoring for subsurface LFG migration at the facility property boundary adjacent to the active landfill (Phases 1/1A, 2, and 3), the closed 60-acre landfill, and in on-site structures. The LFG monitoring program is

designed to confirm compliance with the requirements of Rule 62-701.530(1)(a)1, FAC, which requires the following:

- The methane concentration in on- or off-site structures may not exceed 25 percent of the lower explosive limit (LEL). The LEL for methane is 5 percent by volume in air. Therefore, the maximum allowable concentration in on- or off-site structures is 1.25 percent methane by volume.
- The methane concentration at or beyond the landfill property boundary may not exceed the LEL (i.e., 5 percent methane by volume).

As explained below, the monitoring plan was prepared based on site-specific conditions.

K.9.A BACKGROUND INFORMATION

In November and December 2005, 19 permanent monitoring probes were installed along the new property boundary of the site. A new property boundary agreement has been established with the Florida Division of Forestry and FDEP. The LFG monitoring network was modified in 2017 from the approved gas management system design included in the Final Consent Agreement #05-1078. Due to the newly observed parameter exceedances, Jones Edmunds submitted a *Landfill Gas Assessment and Groundwater Delineation Plan* to FDEP on March 22, 2017, documenting a plan to expand the LFG and groundwater monitoring systems north of the closed Class I Landfills. The modifications were completed and are documented in the *Landfill Gas Assessment and Groundwater Delineation Report*, prepared by Jones Edmunds dated November 28, 2017. The new monitoring network includes the existing gas monitoring probes (GP-1 through GP-19) and 11 new LFG monitoring probes (GP-20 through GP-30). The probes were constructed as required in the Consent Order with long sections of slotted pipe and have been retrofitted for monitoring at varying depths in each probe; refer to Appendix I.. The LFG monitoring probes are monitored quarterly. Figure 9-1 is a site map showing the LFG monitoring probe locations and Figure 9-2 shows a detail of the gas probes.

K.9.B LANDFILL AREAS

The landfill areas on site include the closed 60-acre landfill, a part of which is approximately 7 acres that has a bottom liner as well as a geosynthetic cap liner, and the active Phases 1/1A, 2, and 3 landfill cells. The balance of the closed 60-acre landfill is unlined but has been capped with a geosynthetic membrane and protective soil cover. The depth of waste in the closed 60-acre landfill is approximately 40 feet below ground surface. The active Class I Landfill (Phases 1/1A, 2, and 3) has a geomembrane bottom-liner system, and the bottom depth of refuse is approximately 80 feet below ground surface. Groundwater is present approximately 110 feet below ground surface, and the soil at the site is primarily silty and clayey sand.

The GCCS at the active Class I Landfill is designed to provide a means of relieving internal gas pressures within the landfill and prevent fugitive emissions of LFG to the atmosphere through the cover soils and the subsurface migration of LFG to the surrounding areas. The GCCS includes the following features:

- LFG extraction wells (EW-1 through EW-11) installed in 2009 are composed of 6-inch polyvinyl chloride (PVC) pipe, installed in a 30-inch borehole, and backfilled with FDOT

No. 4 stone. The borehole was sealed with a hydrated bentonite plug and backfilled to grade with clean soil backfill.

- New LFG extraction wells (EW-12 through EW-18) will consist of 8-inch PVC pipe, installed in a 36-inch borehole, and backfilled with gravel. The borehole will be sealed with a hydrated bentonite plug and backfilled to grade with clean soil backfill.
- New horizontal gas collector trenches in Phases 2 and 3 with remote wellhead connections (HC-1 through HC-4) will consist of 6-inch lateral piping. The horizontal trenches will drain to the north into Phase 3. Horizontal gas collectors will be installed by constructing a horizontal collector pipe surrounded by porous non-carbonate, non-calcareous media and wrapped in a geotextile filter fabric. Porous media may include tire chips, crushed concrete, or gravel as allowed by permit.
- Tie-ins are made to the existing LCRS risers and connected to the header/lateral system, routing LFG to the blower/flare station.
- A below-grade header/lateral network is installed. All piping will be HDPE Standard Dimensional Ratio (SDR) 17.
- A 2-inch HDPE SDR 9 air-supply line is installed at the blower/flare and compressor location to CS-1 on the east side of the Class I cells .
- A condensate sump (CS-2) with a pneumatic pump is installed at the blower/flare station. An O&M manual for the pneumatic pump was submitted to FDEP with the report of construction completion.
- The self-draining condensate traps (CT-1 and CT-2) were abandoned and replaced with one condensate trap (CS-3) with a dedicated pneumatic pump on the west side of Phase 2. The sumps will allow for the drainage of condensate from the header and lateral system to the leachate storage tanks.
- Collected LFG is routed to the blower/flare station for combustion via the 750 standard cubic feet per minute (scfm) candlestick flare.

If performing video inspection or cleanout of the LCRS via these risers is necessary, it can be accomplished by closing the 2-inch wellhead gate valve, disconnecting the flexible hose, and removing the quick release caps or flanged lids and associated piping. The construction documents contain details of the GCCS.

The gas migration control system installed at the Closed Class I Landfills will be inspected periodically. All components and fittings including wellheads, condensate sump, and blower skid will be visually inspected for damage and/or proper function. The blower station will be operated and maintained according to the manufacturer's specifications. If any problems are identified at the blower station or condensate sump, repairs shall be completed as soon as possible. All maintenance and repair activities will be recorded and filed on site.

Pneumatic pumps will be periodically visually inspected to ensure proper operation by checking the pump counters and recording cycle counts for each pump in operation. The sumps and condensate knockout pot will be visually inspected to determine if the pumps are maintaining liquid levels at low level.

K.9.C MONITORING OF ON-SITE STRUCTURES

To ensure the safety of workers inside and around permanent structures on site, ambient air will be monitored on a quarterly basis in onsite structures in accordance with the requirements of Rule 62-701.530(2)(a), FAC. As stated above, and in

Rule 62-701.530(1)(a), FAC, the methane concentration in on- or off-site structures may not exceed 25 percent of the LEL, or 1.25 percent methane by volume. The following gas monitoring will be performed in structures at the facility.

- Explosive gas alarms in the scale house building will provide continuous monitoring for unacceptable concentrations of explosive gas. These monitors are designed to sound an alarm when methane concentrations exceed 25 percent of the LEL. The signal remains on as long as gas is present, and a red alarm light stays on after an alarm condition to alert personnel that methane was detected during their absence. Log sheets will be kept at each location to record when the alarm has been triggered, and each alarm will be calibrated or replaced on a regular basis according to the schedule recommended by the manufacturer.
- On a quarterly basis the following structures will be monitored:
 - Administration building.
 - Scale House.
 - Gun ranges.
 - Modular Buildings.
 - Shop.
 - Hazardous Waste Drop-off Center.

Monitoring will consist of using handheld instruments to monitor for combustible gases at all slab penetrations, floor drains, cracks in the slabs, along baseboards, in electrical boxes and outlets, and in enclosed spaces such as closets and ground-level cabinets.

K.9.D GAS MONITORING PROCEDURES

K.9.d.1 Monitoring Procedures for Probes

Each probe will be monitored on a quarterly basis for static pressure and methane concentration, or combustible gases using an instrument calibrated to methane. Methane will be measured and recorded in terms of a percent by volume in air or as a percentage of the LEL. The monitoring equipment will be calibrated each day before monitoring.

The general procedure for monitoring at each probe will be as follows:

1. Record meteorological conditions including ambient temperature and barometric pressure.
2. Calibrate the methane monitoring equipment.
3. Purge any calibration gas or gas from previous probes from the methane monitoring instrument.
4. Zero the pressure gauge.
5. Before monitoring, note any damage to the probe and repair if necessary. Failure to repair damage to the aboveground casing, cap, or monitoring probe can affect the validity of the monitoring results.
6. Attach the sampling hose to the pressure meter and the labcock valve on the monitoring probe.
7. Record the time for monitoring with the probe.
8. Open the labcock valve.
9. Measure and record the pressure in the probe.

10. Close the labcock valve.
11. Connect the methane monitoring instrument to the sampling hose.
12. Open the labcock valve.
13. Turn on the meter and observe the gas concentration readings, noting any spikes in concentration.
14. After the gas concentration readings stabilize, record the steady-state reading, making note of any spike that occurred before reaching a steady-state reading. In accordance with Rule 62-701.530(2)(b), FAC, purging of the probe is not allowed.
15. Remove the instrument and hose, and close the labcock valve.
16. Repeat steps 3 through 15 for each probe.

Any problems encountered during monitoring, observations, or other pertinent information that could impact the interpretation of the data shall be recorded.

K.9.d.2 Monitoring Procedures for On-Site Structures

The following on-site structures will be monitored for methane or combustible gas on a quarterly basis using handheld field instruments in accordance with Rule 62-701.530(2)(a), FAC:

- Administration building.
- Scale house.
- Gun ranges.
- Modular Buildings.
- Shop.
- Hazardous Waste Drop-off Center.

Methane will be monitored and recorded in terms of the percent by volume in air or as a percentage of the LEL, and the monitoring equipment will be calibrated each day before monitoring.

The general locations for monitoring at each structure will be as described below:

Administration Building

A handheld meter will be used to monitor for methane at each of the following locations:

- Along the baseboards in each of the rooms, closets, and hallways.
- In all ground-level cabinets.
- At the floor drains in the bathrooms.
- At all electrical outlets in each room and hallway.
- At electrical panels inside and outside the building.
- At outdoor electrical outlets.

Scale House, Modular Building, and Shop

A handheld meter will be used to monitor for methane in the scale house, modular building, and shop at each of the following locations:

- Along the baseboards.
- At any cracks in the concrete slab or flooring.

- In all ground-level cabinets.
- At all electrical outlets inside and outside the building.
- At electrical panels inside and outside the building.

Hazardous Waste Drop-off Center

Methane concentration will be checked at the following locations at the hazardous waste drop-off center:

- At any cracks in the concrete slab or flooring.
- In any ground-level cabinets.
- At all electrical outlets inside and outside the building.
- At electrical panels inside and outside the building.

Gun Ranges

Two gun ranges are on site that are operated by the Withlacoochee Technical Institute on the closed 60-acre landfill. Both gun ranges will be monitored for methane at the following locations:

- At cracks in the concrete slabs.
- At all electrical outlets and switches.
- At all slab penetrations, such as support posts for the roofs of the firing platforms.

K.9.E REPORTING

Results of the monitoring will be reported to FDEP quarterly. Appendix I to this plan includes a copy of the monitoring form.

If the results of the monitoring show that combustible gas concentrations exceed the limits specified in Rule 62.701.530(1)(a), FAC, the County will take the following actions:

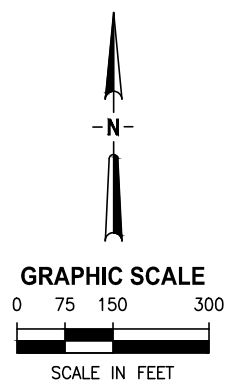
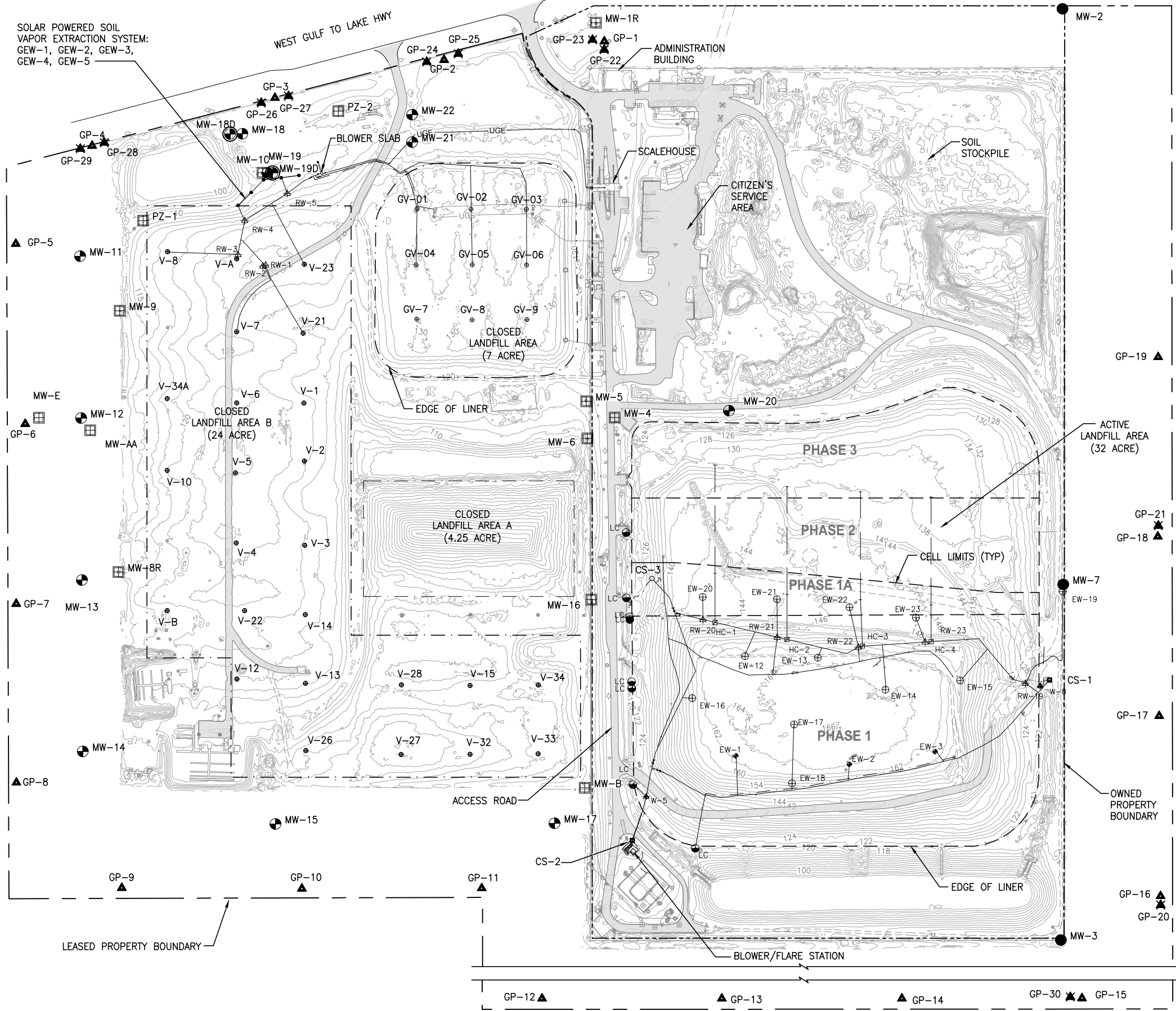
- Immediately take all necessary steps to ensure protection of human health and notify FDEP of the exceedances.
- Within 7 days of the detections, submit a gas remediation plan to FDEP for approval. The gas remediation plan must describe the nature and extent of the problem and the proposed remedy. The remedy must be completed within 60 days of detection unless otherwise approved by FDEP.

K.9.F ROUTINE ODOR CONTROL

The site is inspected on a daily basis for odors at the point of compliance. Potential sources for odors include: incoming waste, workface activities, landfill gas, condensate systems, and leachate collection and handling systems. If an odor is detected and a source identified, appropriate steps will be taken to mitigate the incident. The installation of the GCCS should eliminate odors generated by the decomposition of waste.

Deodorants and odor neutralizers will be acquired and used within 48 hours of an odor complaint if soil cover does not mitigate the odor issues at the working face. Daily cover provides an effective seal against odors. If odors persist, daily cover will be increased and cover procedures will be reviewed and altered if necessary.

LAST SAVED: 4/21/2021 8:59 AM BY: PUPSTILL PATH: Y:\03860-CITRUS COUNTY PROJECTS\087-01 CLASSIFIED AND CADD\GRADES\CAD FIGURES MINOR MOD\03860087-FIG-MON-NET-9-1.DWG PLOTTED: 4/21/2021 09:00 AM BY: PAUL E. UPSTILL



- LEGEND**
- ⊕ EW-1 LFG EXTRACTION WELL
 - ⊕ EW-15 LFG EXTRACTION WELL
 - ⊕ EW-10 DOWNSLOPE LFG EXTRACTION WELL
 - ⊕ EW-8R REMOTE LFG EXTRACTION WELLHEAD
 - HEADER/LATERAL
 - ⊕ CS-2 CONDENSATE SUMP
 - MW-7 BACKGROUND WELLS
 - ⊕ MW-13 COMPLIANCE MONITORING WELL
 - ⊕ V-33 PASSIVE GAS VENT
 - ⊕ GV-06 PASSIVE GAS VENT (INSTALLED 2009)
 - ⊕ PZ-1 PIEZOMETERS
 - ⊕ MW-9 PIEZOMETERS
 - ▲ GP-1 GAS PROBE
 - ▲ W-7 LEACHATE CLEANOUT RISER WELLHEAD
 - ▲ GP-21 NEW LFG PROBE (2017)
 - ⊕ MW-18D NEW GW MONITORING WELL (2017)
 - MW-21 DETECTION WELL

- NOTES:**
1. TOPOGRAPHIC CONTOURS PREPARED BY COASTAL LAND SURVEYORS AND MAPPERS, DATED 10/15/2020.
 2. EXISTING LFG VENTS LABELING MAY VARY IN THE FIELD.

FIGURE 9-1
MONITORING NETWORK
CITRUS COUNTY CENTRAL LANDFILL
LECANTO, FLORIDA

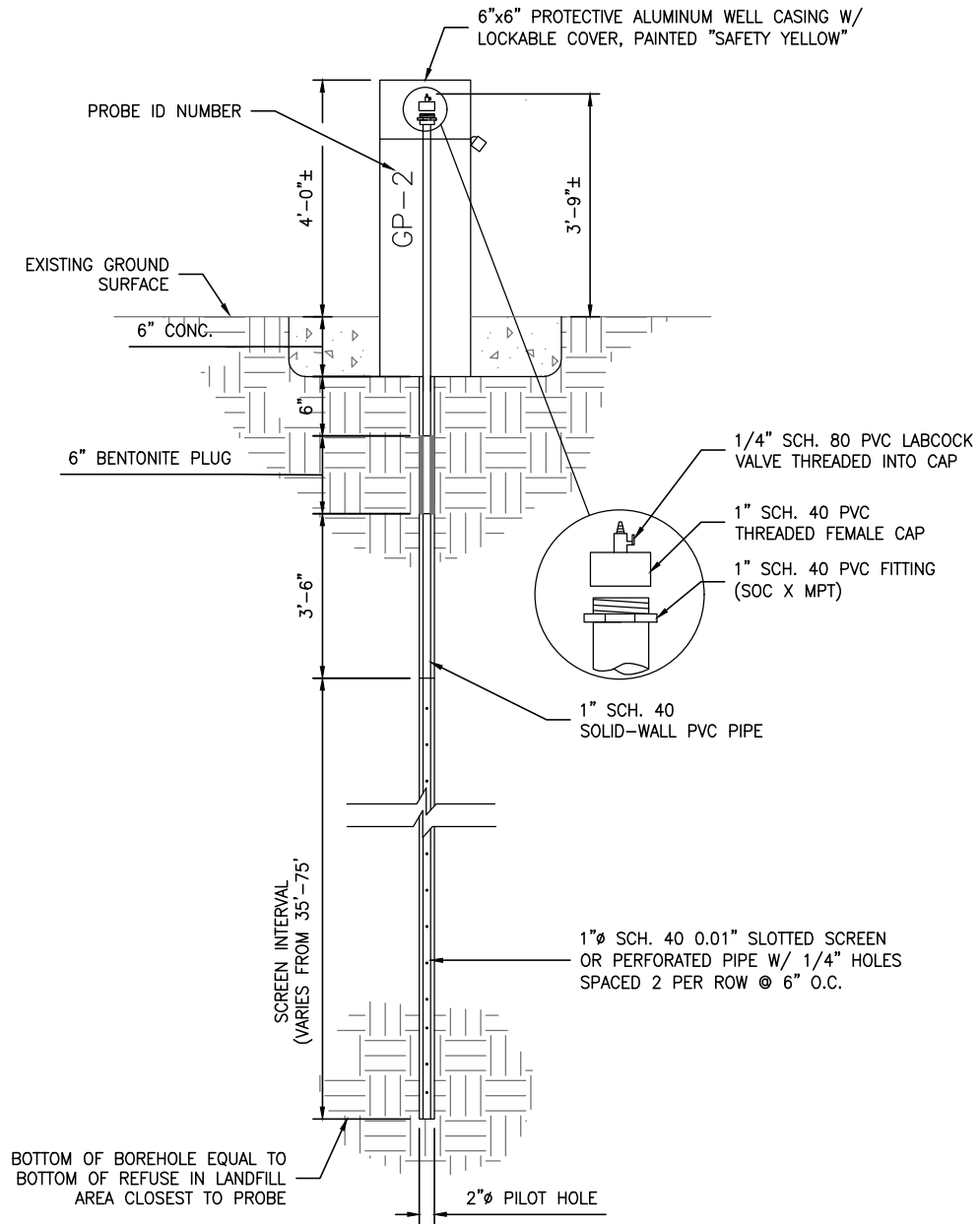


FIGURE 9-2
LFG MONITORING PROBE DETAIL
CITRUS COUNTY CENTRAL LANDFILL
LECANTO, FLORIDA

K.10 STORMWATER MANAGEMENT SYSTEM AND MAINTENANCE (RULE 62-701.500(10), FAC)

The Stormwater Management System will be operated and maintained as necessary to meet the requirements of Rule 62-701.400(9), FAC.

K.10.A STORMWATER BEST MANAGEMENT PRACTICES

The landfill will use the following stormwater best management practices (BMPs):

- Side swales.
- Grass.
- Sod.
- Down drains.
- Benches.
- Dry retention stormwater ponds.
- Pumps to transport stormwater.
- Lined ditches.

Many of these stormwater management systems were constructed during development of Phases 1 and 2 of the CCCL. Plans and cross-sections of these systems, including as-built drawings and modifications, are on file with the FDEP Southwest District office. Additional stormwater management systems were installed as part of the Phase 3 expansion. Record drawings of the Phase 3 expansion were submitted with the construction certification upon completion of the project.

K.10.B STORMWATER MAINTENANCE PROCEDURES

The stormwater management system O&M will include the following:

- All stormwater conveyance systems will be inspected periodically or after major storm events.
- Any damaged systems will be repaired.
- Accumulated sediment will be removed as necessary.
- All stormwater pumps will be serviced as specified by the pump manufacturer.

K.10.C SURFACE DRAINAGE STRUCTURES

During operation of the facility, the County will install portions of the stormwater drainage features as shown on the Operations Drawings as interim drainage-control measures. The interim control measures shall include piping, inlet structures, and energy dissipaters as identified on the Operations Drawings. The piping and inlet boxes will be removed and reinstalled as part of final closure construction. The Filling Sequence Plan of the Operations Drawings shows the timing for installing interim drainage measures.

K.11 EQUIPMENT AND OPERATION FEATURES (RULE 62-701.500(11), FAC)

K.11.A EQUIPMENT (RULE 62-701.500(11)(A), FAC)

The County owns a diverse mix of equipment to spread, compact, and cover the waste in the CCCL. While the equipment at the landfill may vary, sufficient equipment will be maintained at the site to ensure proper operation of the landfill. A current list of equipment is as follows:

- One landfill compactor.
- One excavator.
- One bulldozer.
- Two wheel loaders.
- One water truck.
- One fuel truck.
- One articulated dump truck.
- One skid steer.

In addition, the site will have auxiliary vehicles including:

- One roll-off truck.
- Several pickup trucks.
- Several utility vehicles.
- Several trailers.

Normal maintenance will be performed on site. Major maintenance item repairs (e.g., engine, transmissions, auxiliary drives) will be performed at the maintenance facilities or at off-site service facilities.

K.11.B RESERVE EQUIPMENT (RULE 62-701.500(11)(B), FAC)

The County has arrangements with suppliers to obtain reserve equipment within 24 hours of equipment breakdown if sufficient equipment is not available to properly operate the CCCL.

K.11.C COMMUNICATION EQUIPMENT (RULE 62-701.500(11)(C), FAC)

Landfill employees will be able to communicate by two-way radios, and a telephone is at the scale house and Administrative Office.

K.11.D DUST CONTROL (RULE 62-701.500(11)(D), FAC)

Control of dust will be maintained by wetting roads as necessary with a 1,200-gallon water tank truck.

K.11.E FIRE PROTECTION AND FIRE FIGHTING CAPABILITIES (RULE 62-701.500(11)(E), FAC)

The daily soil cover aids in fire prevention at the CCCL. The main method of fire extinguishing is to apply soil to the burning waste using a dozer. Ample soil is stockpiled on site if needed for fire extinguishing purposes. The facility is surrounded by a drainage ditch and road that would act as a firebreak protecting the adjacent forest. In addition to soil

stockpiles, two fire hydrants are at the site, one in the citizen drop-off area and one near the fill area.

All equipment and vehicles at the landfill will be equipped with fire extinguishers, and all personnel will be trained in their use. All extinguishers will be inspected regularly and repaired or replaced as needed.

Emergency services are notified telephonically using 911.

K.11.F LITTER CONTROL DEVICES (RULE 62-701.500(11)(F), FAC)

Daily cover will provide the main litter control. When the active area of the landfill is below the ground surface, litter is not expected to be a problem. When the active area is above the ground surface, the perimeter ditch and fence will provide a barrier to blowing litter. In addition, portable and/or temporary litter fences will be located adjacent to the working face to prevent litter from being blown away from the working area.

K.11.G SIGNS (RULE 62-701.500(11)(G), FAC)

Appropriate signs will be used and maintained to ensure maximum safety, efficiency, and general information. Signage will include, at a minimum, facility name and operating authority, traffic flow, hours of operation, disposal rates, and restrictions or conditions of disposal.

K.12 ROADS (RULE 62-701.500(12), FAC)

K.12.A ALL-WEATHER ACCESS ROAD (RULE 62-701.500(12)(A), FAC)

All-weather roads, passable and safe under normal operating conditions, will be maintained to prevent dust, rutting, or loss of traction. The facility access roads are surfaced with asphaltic concrete. Figure ES-1 shows the locations of the access and perimeter site roads.

K.12.B PERIMETER AND OTHER ON-SITE ROADS (RULE 62-701.500(12)(B), FAC)

Some perimeter roads and internal roads will be constructed of limerock and/or stabilized soils. These roads will be inspected daily and repairs will be made in a timely manner. Limerock roads will be scraped and smoothed with a road grader or dozer as necessary. When needed, roadways will be wetted to control dust and to ensure high visibility. On-site roads will be maintained to allow access to monitoring devices and stormwater controls, for landfill inspections, and fire fighting.

K.13 ADDITIONAL RECORDKEEPING AND REPORTING (RULE 62-701.500(13), FAC)

K.13.A PERMIT APPLICATION DOCUMENTATION (RULE 62-701.500(13)(A), FAC)

Records of all information used to develop or support the permit applications and any supplemental information submitted to comply with Rule 62-701, FAC, pertaining to construction of the facility will be kept throughout the life of the facility. Records pertaining to the operation of the landfill will be kept for the life of the facility.

K.13.B MONITORING INFORMATION (RULE 62-701.500(13)(B), FAC)

Records of all monitoring information, including calibration and maintenance records and copies of all reports required by permit, will be retained for at least 10 years. Background water-quality records will be kept for the life of the facility.

K.13.C REMAINING LIFE AND CAPACITY ESTIMATE (RULE 62-701.500(13)(C), FAC)

The landfill will maintain an annual estimate of the remaining life and capacity (in cubic yards) of the existing constructed landfill and the remaining capacity and site life of other permitted areas not yet constructed. The annual estimate will be based on a summary of the heights, lengths, and widths of solid waste disposal units. The estimate will be made and reported annually to FDEP as part of the annual update to the closure and long-term care cost estimates.

K.13.D ARCHIVED RECORDS (RULE 62-701.500(13)(D), FAC)

The landfill may archive records that are more than 5 years old, if necessary. Archived records will be available for inspection within 7 days of the receipt of the request.

Appendix A
Emergency Incidents and
Contingency Plan

CITRUS COUNTY CENTRAL LANDFILL

230 W. Gulf to Lake Highway, Lecanto, Florida

EMERGENCY INCIDENT PLAN

Life and Safety: CALL 911

Other Emergencies:

Step 1. Call Administrative Office via radio or cell phone

Landfill Office: 352-527-7670

Step 2: Environmental Response Coordinator

Primary Contact	Secondary Contact	Alternate Contact
Henry Norris	Dan Sherlock	Harold Gravely
Work: 352-527-7671	Work: 352-527-5570	Work 352-527-7670
Cell: 352-302-6980	Cell: 352-302-3437	Cell: 352-400-0612

Evacuation Procedures:

Primary Rally Point – Administrative Office

Secondary Rally Point – Staff Parking Lot

June 2021

**CITRUS COUNTY CENTRAL LANDFILL
EMERGENCY INCIDENTS AND CONTINGENCY PLAN**

The Citrus County Central Landfill and Related Facilities
For Citrus County, Florida
230 W. Gulf to Lake Highway
Lecanto, Florida 34461

Commissioners:

Jeff Kinnard, County Commission District 1
Ronald Kitchen Jr., County Commission District 2
Ruthie Schlabach, County Commission District 3
Scott Carnahan, County Commission District 4
Holly Davis, County Commission District 5

Administration:

Randy Oliver, County Administrator

County Attorney

Denise Dymond Lyn

Department of Public Works

Randall Olney, Public Works Director

Division of Solid Waste Management

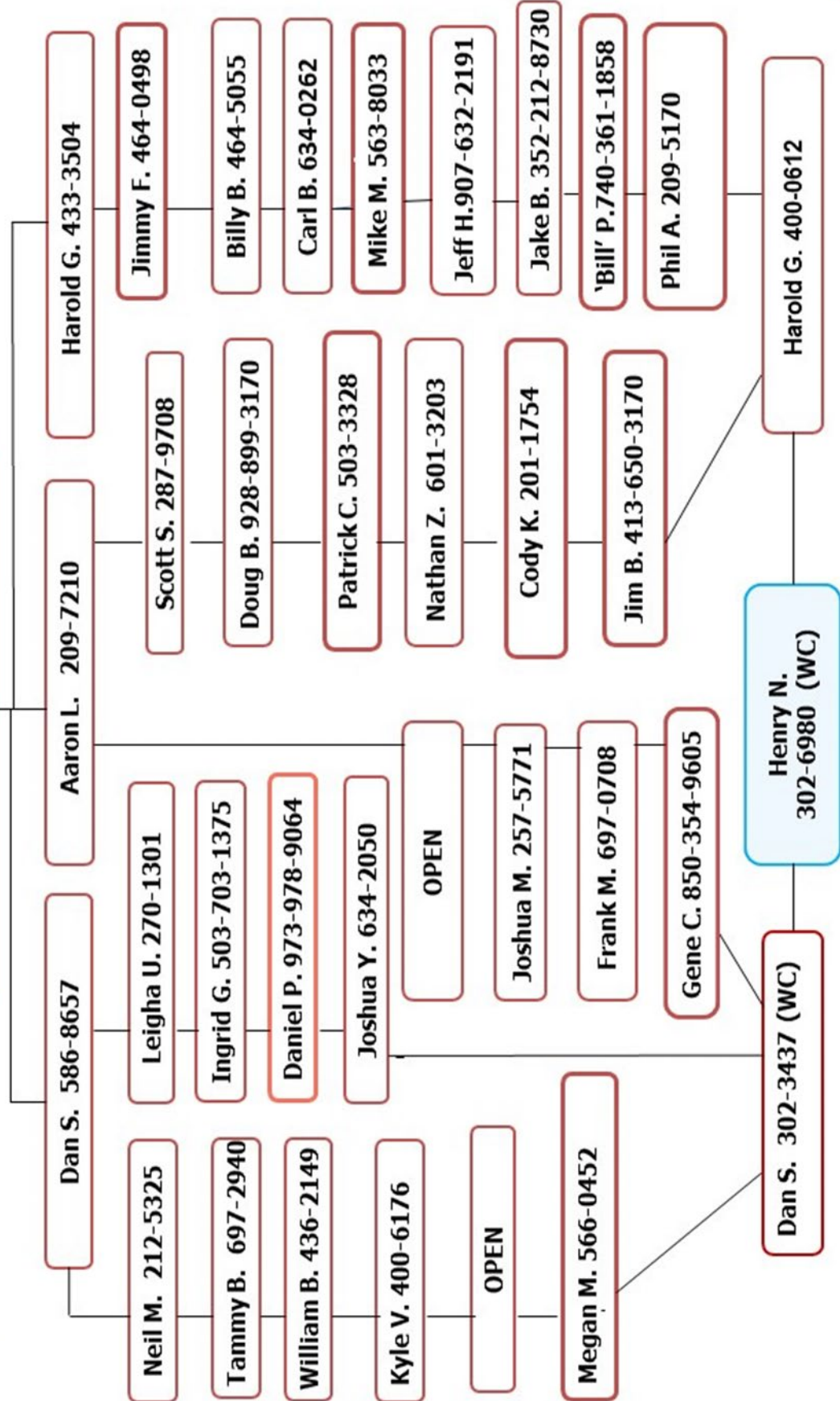
Henry Norris, Director
Citrus County Division of Solid Waste Management
Citrus County Central Landfill



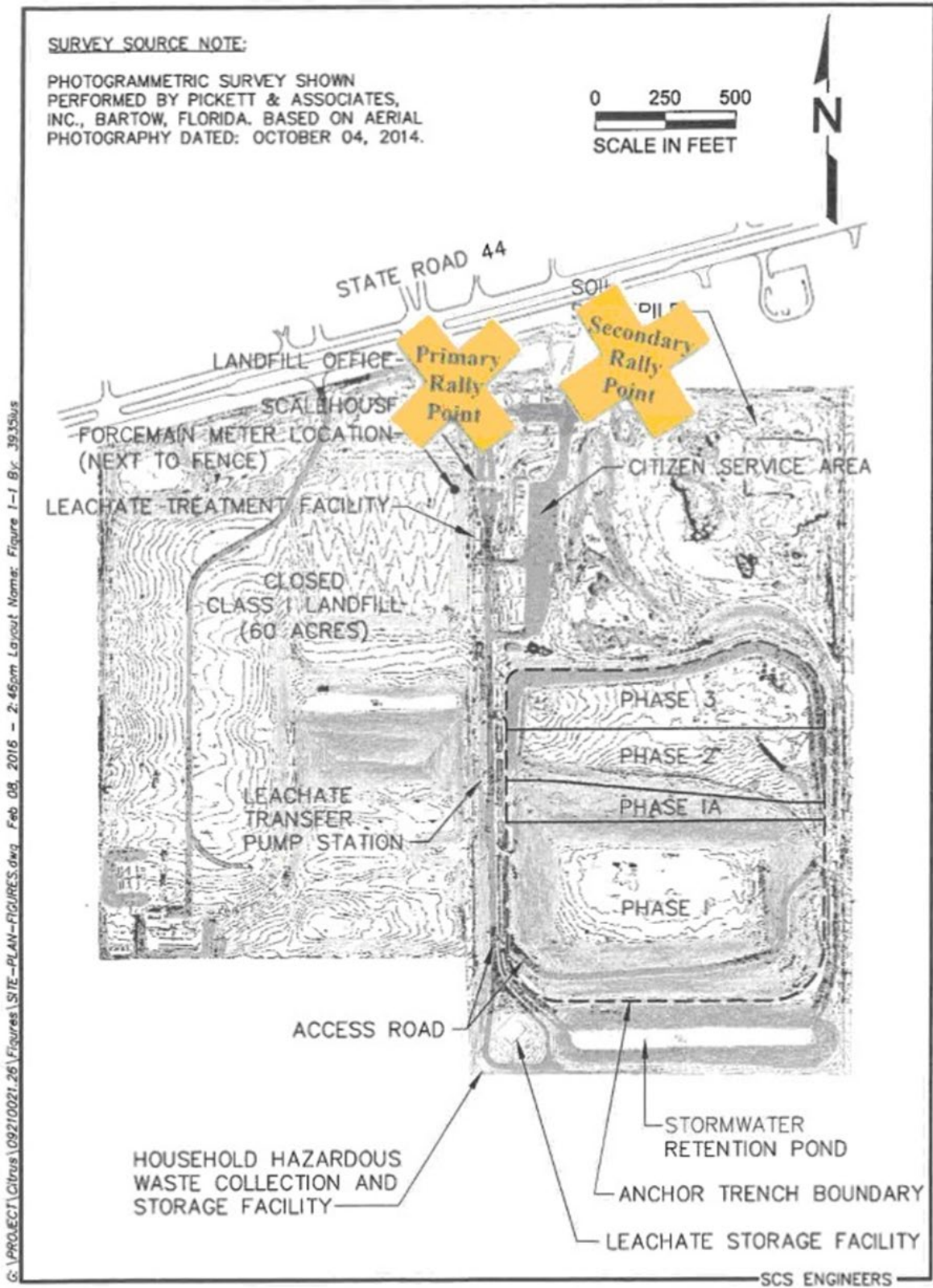
EMERGENCY CALL FLOW CHART

updated 3-9-2021

Henry N. 419-6893 or 453-9106



Site Plan, Citrus County Central Landfill



CITRUS COUNTY DIVISION OF SOLID WASTE MANAGEMENT FACILITIES

Citrus County Central Landfill Active 80-Acre Site

Citrus County Central Landfill Closed 60-Acre Site

Citrus County Operations Maintenance Building/Diesel Fuel Facility

Citrus County Waste Separation Facility – “Citizen Service Area”

Citrus County Hazardous Waste Collection Center and Storage Facility

TABLE OF CONTENTS

1	PURPOSE AND SCOPE	1-1
2	PREPAREDNESS	2-1
3	EMERGENCY RESPONSE COORDINATOR/TEAM	3-1
4	SOLID WASTE MANAGEMENT STAFF LIST	4-1
5	PREVENTING EMERGENCY INCIDENTS	5-1
5.1	Scalehouse Operation Facility	5-1
5.2	Operations Maintenance Building and Diesel Fuel Facility	5-1
5.3	Waste Separation Facility – Citizen Service Area (CSA)	5-1
5.4	Methane Gas Collection System	5-1
5.5	Hazardous Waste Collection and Storage Facility	5-1
6	IDENTIFYING EMERGENCY INCIDENTS	6-1
7	CONTINGENCY PLANS	7-1
7.1	Fire	7-1
7.2	Explosion.....	7-1
7.3	Uncontrolled Leaks or Spills	7-2
7.4	Personal Injuries	7-2
7.5	Approaching Hurricanes or Tornadoes.....	7-2
7.6	Lightning Strikes	7-3
7.7	Temporary Transfer Station.....	7-4
7.8	Other Miscellaneous Emergency Incidents	7-4
8	NOTIFICATION PROCEDURE	8-1
9	CONTINGENCY EQUIPMENT AND SUPPLIES	9-1
10	EVACUATION PROCEDURES	10-1
11	CLEANUP AND DECONTAMINATION	11-1
12	FOLLOW UP REPORTING	12-1
13	SITE LAYOUT	13-1

LIST OF TABLES

Table 1	Outside Agency Emergency Contact Information	2-1
Table 2	Solid Waste Management Staff List	4-1

LIST OF FIGURES

Figure 1	Emergency Call Flow Chart	10-2
Figure 2	Site Plan, Citrus County Central Landfill	13-1

APPENDICES

Appendix 1	Operations Maintenance Building and Diesel Fuel Facility: Material Listing and Quantities
Appendix 2	Citizen Service Area: Material and Maximum Site Capacity
Appendix 3	Methane Gas: Hazard Management Summary
Appendix 4	Hazardous Waste Facility Emergency Incidents and Contingency Plans
Appendix 5	Waste Tire Storage/Processing Facility Emergency Plan

1 PURPOSE AND SCOPE

This plan provides information and guidance for managing emergency incidents that could affect the Citrus County Central Landfill Site(s) and to adopt those contingency plans that would avoid, mitigate, or lessen the severity of the situation.

2 PREPAREDNESS

Local authorities have been notified and should be kept apprised of the operations at the Citrus County Central Landfill Site at 230 West Gulf to Lake Highway, Lecanto, Florida. A site diagram should be provided to them together with a copy of the contingency plan for all revisions.

A current copy of this plan should be maintained at the Central Landfill Administrative Office and at the Hazardous Waste Collection Center. The Citrus County Department of Fire/Rescue, the Department of Public Works, and the Sheriff's Office should be given access to the Solid Waste Management (SWM) Central Facility.

If contacting an outside agency or department becomes necessary, use the following information:

Table 1 Outside Agency Emergency Contact Information

Type of Emergency	Contact Department	Contact Phone Number
Emergency	Emergency Response 3425 West Southern Street Lecanto, Florida 34461	Emergency – DIAL 911
Emergency Medical	Nature Coast EMS 3876 W. County Hill Drive Lecanto, Florida 34461	Emergency – DIAL 911 352-249-4700
Law Enforcement	Citrus County Sheriff's Office 1 Dr. Martin Luther King Jr. Avenue Inverness, Florida 34453	Emergency – DIAL 911 352-726-4488
Fire and HazMat	Citrus County Department of Fire/Rescue 3600 W. Sovereign Path Lecanto, Florida 34461	Emergency – DIAL 911 352-527-5406
Hospital	Citrus Memorial Hospital 502 West Highland Boulevard Inverness, Florida 34453	Emergency – DIAL 911 352-726-1551
Environmental	Department of Agriculture and Consumer Services Division of Forestry 15019 Broad Street Brooksville, Florida 33512	352-797-4140
	Department of Environmental Protection Division of Waste Management 13051 N. Telecom Parkway Tampa, Florida 33637	813-470-5700

Every effort should be made to operate the SWM facilities safely. All the necessary materials to contain or mitigate small spills, fires, or releases should be inspected and maintained on site as outlined in the emergency supplies list. The tools, equipment, and materials to clean up all residues should also be available. Daily supplies of material should be used to contain and cleanup any de minimis releases during normal operation. Good housekeeping will support a safer work environment.

FLORIDA STATE WARNING POINT

The mission of the State Warning Point Watch Office is to provide the people of the State of Florida and the Division of Emergency Management with efficient and effective communications during normal periods as well as pre-and-post disaster periods and to serve as the contact point in Florida for communications between local Governments and Emergency Agencies, State Government Agencies, and the Federal Government.

GENERAL INFORMATION

800-320-0519

SPILLS

800-320-0519 or 866-742-0481

- Petroleum Spill – Reportable Quantities:
 - Soil: Spills more than 25 gallons.
 - Surface Water: All spills regardless of quantity.
- Release Notification Period: Within 24 hours.
- Written Report: Yes – Discharge Report Form.

3 EMERGENCY RESPONSE COORDINATOR/TEAM

PRIMARY – HENRY NORRIS, DIRECTOR SOLID WASTE MANAGEMENT

Phone: Work 352-527-7670
Direct 352-527-7671
Work Cell 352-302-6980

SECONDARY – DANIEL SHERLOCK, OPERATIONS MANAGER

Phone: Work 352-527-7670
Direct 352-527-5570
Work Cell 352-302-3437

ALTERNATE – HAROLD GRAVELY – OPERATIONS CREW LEADER, OPERATIONS

Phone: Work 352-527-7670
Direct 352-527-5575
Work Cell 352-400-0612

EMERGENCY RESPONSE COORDINATOR OPERATIONS

If local emergency response agencies are called, the first arriving emergency response company should establish Incident Command. The Incident Commander in charge should implement and expand, as necessary, the incident command structure.

The SWM Emergency Response Coordinator (ERC) and Secondary Coordinators should comprise the Facility's Emergency Response Team (ERT). As necessary, the Coordinators and ERT should assist and be under the direction of the existing command structure. During large scale emergency operations, the SWM ERC and ERT may serve as or assign an individual to serve as part of a Unified Command Staff.

4 SOLID WASTE MANAGEMENT STAFF LIST

Table 2 Solid Waste Management Staff List

Department	Name	Title
Administration	Henry Norris	Director, SWM
	Ingrid Grutter	Administrative Coordinator
	Joshua Younce	Compliance Manager
Programs	Dan Sherlock	Operations Manager
	Leigha Utter	Customer Service Specialist
	Vacant	Program Supervisor
	Frank Marallo	Hazardous Waste Specialist
	Joshua McMinds	Hazardous Waste Technician
	Doug Bemus	Litter Supervisor
	Patrick Collins	Maintenance Worker
	Nathan Zolman	Maintenance Worker
	Cody Knippen	Maintenance Worker
James Belanger	Maintenance Worker	
Maintenance	Aaron Lake	Landfill Maintenance Supervisor
	Scott Sharp	Equipment Services Worker
Scale House	Neil Maves	Solid Waste Supervisor
	Tammy Bagley	Lead Solid Waste Technician
	William Berry	Solid Waste Technician
	Kyle Vancamp	Solid Waste Technician
	Vacant	Solid Waste Technician
	Megan Malicoate	Solid Waste Technician
Landfill Operations	Harold Gravely	Operations Crew Leader
	James Fuller	Lead Heavy Equipment Operator
	Carl Ballard	Heavy Equipment Operator
	Billy Black	Heavy Equipment Operator
	Jeffrey H.	Heavy Equipment Operator
	Michael Morvatz	Heavy Equipment Operator
	James Pritchard	Medium Equipment Operator
	Philip Aguiar	Medium Equipment Operator

5 PREVENTING EMERGENCY INCIDENTS

Operations should be conducted at the Central Landfill facilities that maximize worker and environmental safety while minimizing negative impacts to the environment, the facility, and fellow workers. No smoking should be permitted in the facility's designated compound areas and access should be restricted to authorized personnel in some areas as needed. NO SMOKING signs should be posted in areas around the facilities. Safety and operations plans should be followed at all times.

5.1 SCALEHOUSE OPERATION FACILITY

The enclosed portion of the scalehouse is fitted with a methane gas alarm. Fire extinguishers are located at this location. During an alarm, the ERC should be contacted. An emergency eyewash and shower facility is at the leachate treatment facility. Appendix 1 details materials and maximum site capacity.

5.2 OPERATIONS MAINTENANCE BUILDING AND DIESEL FUEL FACILITY

Fire extinguishers are in the maintenance building and at the diesel fuel facility. Appendix 1 details materials and maximum site capacity.

5.3 WASTE SEPARATION FACILITY – CITIZEN SERVICE AREA (CSA)

Fire extinguishers are at the furniture collection site, rimmed tire collection site, and oil collection site, which proximate to the wood waste storage site. The CSA is outfitted with an emergency water shower and eye-wash station. Appendix 2 details materials accepted and maximum site capacity.

5.4 METHANE GAS COLLECTION SYSTEM

Methane gas is a natural by-product of municipal solid waste decomposition. The active gas collection system is designed and operated to collect and destroy flammable gases. Landfill gas is collected at the active landfill and destroyed at the flare. The leachate collection system is connected to the active gas collection system. The flare system has automatic shut-offs and can also be shut down manually. Landfill gas at the closed cells is primarily vented passively. As part of the landfill gas mitigation project, several of the passive vents at the closed site were connected to a small blower and flare system; this system is to actively pull gas from the closed cells to avoid the gas from entering groundwater. Appendix 3 summarizes methane gas hazard mitigation.

5.5 HAZARDOUS WASTE COLLECTION AND STORAGE FACILITY

The Hazardous Waste Collection Center is equipped with inside and outside storage, fusible-link fire extinguishment systems, and portable BC and ABC extinguishers. The facility is also equipped with an emergency water shower and eye-wash station. Appendix 4 provides specific emergency information.

6 IDENTIFYING EMERGENCY INCIDENTS

The following situations should be considered emergencies:

1. Fire or smoke.
2. Explosion.
3. Serious leak or spill.
4. Personal injury/medical emergency.
5. Approaching hurricanes or tornadoes.
6. Any other incident which requires immediate attention, such as but not limited to:
 - a. Vehicle accident.
 - b. Vehicle disruption.
 - c. Incidents that could disrupt the service of this facility.

7 CONTINGENCY PLANS

Whenever a perceived or actual emergency situation occurs, the person who recognizes the emergency should notify the SWM Administrative Office via radio or cellphone, who should advise the ERC. If the primary ERC is not available, an alternate ERC should be notified. The ERC should be responsible for implementing contingency plans. If necessary, the ERC should notify all facility personnel and provide for their response, safety, and/or evacuation. If necessary, the ERC should implement the notification plan and/or evacuation plan. The ERC should direct staff regarding response procedures as the situation requires.

The ERC should assess possible hazards to human health or the environment that may result from any spill, release, fire, or explosion. This assessment should consider the direct and indirect impact to such entities.

During an emergency, the ERC should take all reasonable measures necessary to ensure that fire, explosions, spills, and releases do not occur, reoccur, or spread to other parts of the facility.

7.1 FIRE

The person who recognizes the emergency should also notify the Administrative Office via radio/cellphone, who should advise the ERC. If the primary ERC is not available, an alternate ERC should be notified. The ERC should determine whether outside agencies need to be contacted and if so, dial 911.

During a small fire, the personnel discovering the fire should determine whether they have the proper training and if the fire could be extinguished safely and quickly with the available fire extinguishers. The first consideration should be the safety of all people within the facility.

If a fire is in the chemical holding area of the Leachate Treatment Facility or in the area of the Hazardous Waste Collection Facility, an initial determination should be made concerning the safety of responders or response actions. If a fire is inside a building, the doors of the building should not be opened.

Regardless of whether staff or Fire/Rescue has been used to extinguish a fire, the Citrus County Fire/Rescue should be called to complete a Florida Fire Incident Report. During a trash fire that requires offsite assistance, the Operation Plan shall be implemented and the event shall be reported to the Florida Department of Environmental Protection (FDEP).

7.2 EXPLOSION

If an explosion occurs, the person who recognizes the emergency should also notify the Administrative Office, via radio/cellphone, who should advise the ERC. The ERC should determine whether the facility should be evacuated and outside agencies contacted. Life or property should never be put in peril while attempting to handle explosions.

7.3 UNCONTROLLED LEAKS OR SPILLS

During an uncontrolled leak or spill, the personnel discovering the leak or spill should take the following actions if it is safe to do so:

- Notify the Administrative Office via radio/cellphone, who can advise the ERC.
- Ensure the safety of personnel in the area.
- Eliminate sources of ignition.
- Stop the flow of any material or gas leak at the source.
- Contain the leak or spill.

The ERC should direct facility staff regarding response procedures as the situation requires. Actions may include but not be limited to:

- Evacuate area as needed.
- Initiate actions to notify local authorities, emergency response agency, and government agencies as needed.

Identify the spilled material, check available Material Safety Data Sheets or Safety Data Sheets, and consult the Emergency Response Guide procedures. Action may include but not be limited to:

- Confirm that additional personnel have been assigned to stop the flow of the spilling product and secure leaks if it can be done safely.
- Assess the spill threat, site safety, and parameters such as spill volume, extent, and direction of movement.
- Follow up on containment efforts.
- Establish a Hot Zone and Cold Zone/Safe Work Area.
- Initiate clean up actions after the spill has been investigated and if it can be done safely.
- Follow clean/decontamination procedures outlined in Part 12.

7.4 PERSONAL INJURIES

The personnel discovering the injured party should take the following actions:

- Notify the Administrative Office via radio/cellphone, who should advise the ERC.
- Determine whether the injured party needs assistance.
- Apply first-aid in accordance with the caregiver's level of training or willingness to provide *Good Samaritan* treatment.

7.5 APPROACHING HURRICANES OR TORNADOES

The Florida Division of Emergency Management flood maps show that the SWM facility is above the elevation and outside the Storm Surge Level of a Category 5 hurricane. If ordered to evacuate, the ERC should notify staff of the actions to take, where to safely evacuate, or the location of an alternative meeting site if the facility becomes severely damaged or inaccessible.

Before hurricane season during June through November, the ERT should survey facility structures to determine whether any improvements should be made for facility safety. Staff

should be apprised of actions they can take to make their workplace more weathertight and secure from wind and water damage. When a hurricane is approaching the facility, staff should:

- Maintain and monitor a National Oceanic and Atmospheric Administration (NOAA) Weather Alert Radio in the office.
- Plan for a means of on-site communication if cell-towers or portable radios are disrupted.
- Ensure that each employee understands the SWM call-down procedure for warning and post-storm communications.
- Secure buildings, cover windows, and move integral equipment to a secured area.
- Secure or move hazardous waste equipment, drums, cubes, and personal protective equipment (PPE) to a secure area.
- Clear property or tie down any items that could become flying missiles in high wind, e.g., scrap metal, tires, cubic yard boxes, and trash cans.
- Fill portable gas tanks, fleet vehicles, and equipment gas tanks and generators; check oil, water, and tires. Fuel pumps will not operate without electricity.
- Take important documents, files, backup tapes, emergency contact information, etc., to a safer location.
- Ensure each employee has a photo ID and an authorization tag for returning to their residence and to locate to their authorized work location.
- Contact commercial customers and suppliers and share the communications and recovery plan in advance.
- Prepare a list of and make contact with vendors to provide disaster recovery services before they obtain an agreement or contract with other businesses.
- If evacuation is advisable, turn off unnecessary electricity, water, and gas.
- Unplug all valuable electrical, computerized, and electronic devices; elevate to a level not susceptible to water damage.
- Double-bag and elevate paperwork that will not be moved.
- Close the facility in sufficient time to allow employees to secure their homes, obtain needed supplies, and temporarily evacuate, if necessary.
- After the storm passes, use caution before entering the facility. Check for downed powerlines, structural damage, and uncontrolled leaks or spills. If any electrical equipment is wet, contact an electrician. Prepare loss information for insurance claims and obtain independent estimates of damages. Take photographs.
- When power is lost, do not connect a portable generator to building wiring. (This could kill or injure neighbors or electrical crews.)
- Beware of snakes, insects, or animals driven to higher ground by flooding.

7.6 LIGHTNING STRIKES

The potential for lightning strikes in Florida is high; therefore, the following safety rules shall be followed:

- Postpone outdoor activities if thunderstorms or lightning are imminent.
- If an employee, community service worker, or other individual is in an area without shelter, staff should check on and assist the member to safety.

- If thunder is heard, seek shelter. Move to a sturdy building or vehicle.
- Do not take shelter in a small shed or under isolated trees.
- Avoid bodies of water or facility fencing.
- Follow the 30-30 Rule:
 - **30 Seconds:** Count the seconds between seeing lightning and hearing thunder. If this time is less than 30 seconds, lightning is an imminent threat. Seek shelter immediately.
 - **30 Seconds:** After hearing the last clap of thunder, wait 30 minutes before leaving shelter. Half of all lightning deaths occur after the storm passes.

7.7 TEMPORARY TRANSFER STATION

Citrus County will implement a temporary transfer station if any condition prevents normal disposal operations at the landfill for more than 48 hours. This temporary transfer station will be on top of the existing lined landfill. The transfer station will be constructed as a split-grade facility. Waste collection trucks will unload on the upper level. A front loader will lift the off-loaded waste and place into a transfer vehicle on the lower level. The transfer trucks will be weighed before leaving the site to ensure that they are legal for over-the-road transport. Crushed concrete and asphalt will be used as an operating surface. This provides an area for trucks to unload. Sloping the area away from the tipping area to a perimeter berm will provide drainage. This liquid will be allowed to percolate into waste or be collected. Collected liquid will be pumped to the leachate storage tank. Precipitation that falls outside the perimeter berm will be managed as stormwater. Litter fences will be placed around the facility to reduce the potential for blowing litter. The temporary transfer station will not be operated for more than 30 days unless additional approval is granted from FDEP. The County has a reciprocal agreement with Hernando County for emergency access to the disposal facilities should the need arise. Appendix B of the Operation Plan contains a copy of the interlocal agreement.

7.8 OTHER MISCELLANEOUS EMERGENCY INCIDENTS

For any other perceived, imminent, or actual emergency situation, the person who recognizes the emergency should notify the Administrative Office via radio or cellphone, who should advise the ERC. The ERC should take responsibility for implementing the contingency plans. If necessary, the ERC should notify all facility personnel and provide for their evacuation; the notification plan should be implemented. The ERC should advise staff regarding response procedures as the situation requires.

The ERC should assess possible hazards to human health or the environment that may have resulted from any release, fire, or explosion. This assessment should consider the direct and indirect impacts. During an emergency, the ERC should take all reasonable measures necessary to ensure that fire, explosions, and releases do not occur, reoccur, or spread to other parts of the facility.

8 NOTIFICATION PROCEDURE

Whenever an imminent or actual emergency situation arises, the person who recognizes the emergency should notify the Administrative Office via radio/cellphone, who should advise the ERC. If the primary ERC is not available, an alternate ERC should be notified.

The assigned ERC is responsible for implementing the contingency plans. If necessary, the ERC should notify all facility personnel and provide for their evacuation. Generally, the most expedient method of notification is by two-way radio. The ERC should direct the facility staff in response procedures, staging areas, or evacuation routes as the situation requires.

9 CONTINGENCY EQUIPMENT AND SUPPLIES

LANDFILL EQUIPMENT

- Olympian 150KW Generator – Trailer-Mounted.
- Deere 850 LWH Dozer
- Acme 691 Hydraulic Driven Submersible Pump System 61 HP
- Yanmar Transfer Centrifugal Trash Pump 6-Inch
- CAT P6000 Diesel Forklift
- Ford F-250 2WD Pickup Truck
- Ford F-250 2WD Pickup Truck
- Mac Roll-Off Truck
- Ford Escape XLS SUV
- Chevy Silverado Pickup Truck
- Pro-Tainer Recycling Trailer, Dump 10 + cy
- Loudo Dump Trailer, Tandem Axle 8 x 14
- Ford Ranger 4 x 4 Pickup Truck
- Hurds Custom Ammo/Fireworks Disposal Trailer
- Volvo Front End Loader (3-Year Lease)
- Volvo L110 Front End Loader (3-Year Lease)
- Volvo Articulated Dump Truck
- Ford Ranger Single Cab 4 x 4 Pickup Truck
- Bobcat T630 Track Loader (Skid Steer)
- Bobcat Broom Attachment
- Kubota All-Terrain Vehicle
- Toro Z595-D Master Mower
- FINN LF-120 Landfill Sprayer (ADC)
- Freightliner Water Truck w/2,500-gallon tank
- TSI TC-350 Wheel Crusher (Tire De-Rimmer)
- Kubota All-Terrain Vehicle
- Kubota All-Terrain Vehicle
- Kubota All-Terrain Vehicle
- EZ-Pull Utility Trailer
- EZ-Pull Utility Trailer (Litter Crew)
- Kubota Tractor
- Kubota Batwing Mower
- LubeMate Lube Trailer
- Generac Dayton 20KW Generator Stationary (Fuel Pumps/Shed)
- Generac 40 KW Generator Stationary
- Doosan 6KW Portable Lite Tower
- Ford 1/2-Ton Extended Cab Pickup
- Ford F-250 Pick Up 2SD
- Freightliner Roll Off Truck w/30 cy Dumpster
- Kut Kwick Slope Mower
- Volvo LC450H Landfill Compactor
- Volvo L110 Front End Wheel Loader
- Utility Trailer 7000 GVWR 3.5 Tones
- Tire Grapple Attachment
- Fork Attachment
- Hydraulic Driven Submersible Pump
- Hot Pressure Washer
- Homemade Trailer

CONTINGENCY SUPPLIES AT THE HAZARDOUS WASTE COLLECTION CENTER

SUPPLIES

- Shovels
- Broom
- Squeegee
- ABC and BC Fire Extinguishers
- Bung Wrenches
- Hand Tools and Wrenches
- First Aid Kit
- PVC Hand Drum Pump (Water and Corrosives)
- Rotary Drum Pump (Solvent-Safe Pump)
- pH Testing Tape

- Poly, 65-Gallon Overpack Drum
- Poly, 30-Gallon Overpack Drum
- Metal, 55-Gallon Drums
- Poly, 55-Gallon Drums
- Poly, 5-Gallon Pails
- Scrub Brushes
- Poly Sheeting
- Emergency Eye Wash and Shower Station
- Drum Wrenches
- Drum Labeling Material

MATERIALS

- Tube Sock Absorbent
- Vermiculite, Bagged Absorbent
- Abzorbit, Bagged Absorbent
- General Purpose Absorbent Pads Oil
- Absorbent Pads and Socks
- Sodium Bicarbonate Neutralizer

PERSONAL PROTECTION EQUIPMENT (PPE)

- Chemical Resistant Aprons
- Chemical Resistant Coverall
- Chemical Resistant Shoe Covers
- Chemical Resistant Smocks
- Personally-Issued Hardhats
- Both Neoprene and Nitrile Gloves
- Leather Work Gloves
- Clear and Sunglass Safety Glasses
- Personal Respirator
- Face Shields

10 EVACUATION PROCEDURES

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

If the facility needs to be evacuated, the ERC should notify facility personnel by portable radio. All onsite personnel should be accounted for and verified by contacting each supervisor. Depending on the nature and location of the emergency, the ERC should advise facility personnel and citizens which evacuation route and plan to implement. Operations staff should inform all non-county personnel and citizens on site and assist with their safe exit.

Traffic on roads into the facility should be stopped and re-routed as necessary by scalehouse personnel.

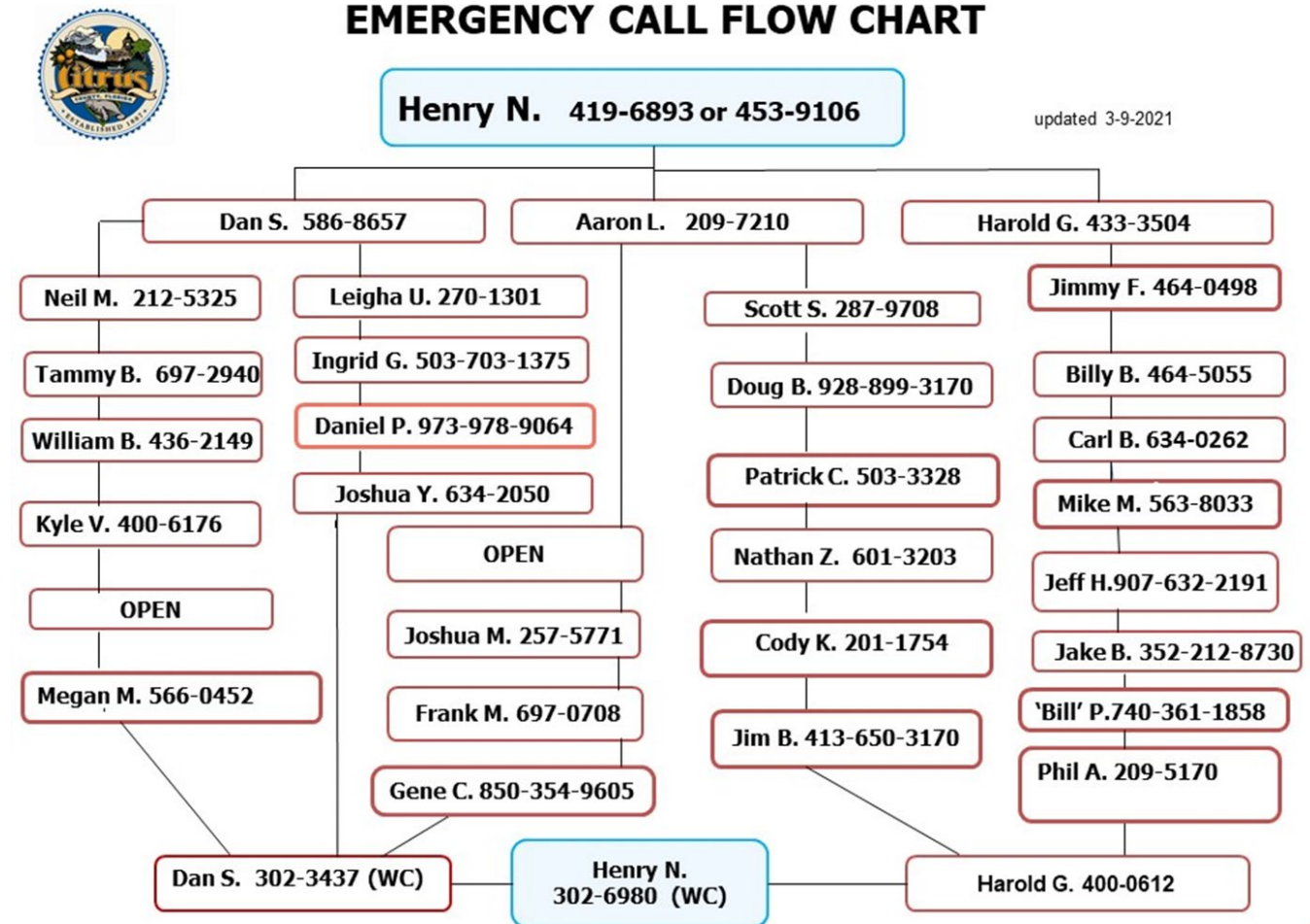
Clear access for response personnel and vehicles to the emergency should be maintained by county personnel. During a chemical release, bomb threat, fire, or other emergency, evacuate immediately if instructed to do so. Upon completing the evacuation of the facility, all personnel are to proceed directly to a rally point as designated by the ERC.

If personnel cannot attain the primary or secondary rally point, they should evacuate the facility using the nearest up-wind gate.

Primary Rally Point will be the Administrative Office.

Secondary Rally Point will be the Employee Parking Lot.

Figure 1 Emergency Call Flow Chart



Area Code **352** for all numbers unless otherwise specified.

11 CLEANUP AND DECONTAMINATION

All residues from a release, fire, or explosion should be contained and cleaned up consistent with the emergency spill procedure.

Immediately after the emergency, the ERC should provide for treating, storing, or disposing of the recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

The ERC should ensure that in the affected areas of the facilities:

1. No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed.
2. All emergency equipment listed in these contingency plans are cleaned and ready for their intended use before operations are resumed.

Any contaminated equipment should be cleaned with a suitable solvent and the discarded solutions handled in an appropriate manner or discarded with the spill cleanup material.

Decontamination should be conducted in accordance with an appropriate decontamination program.

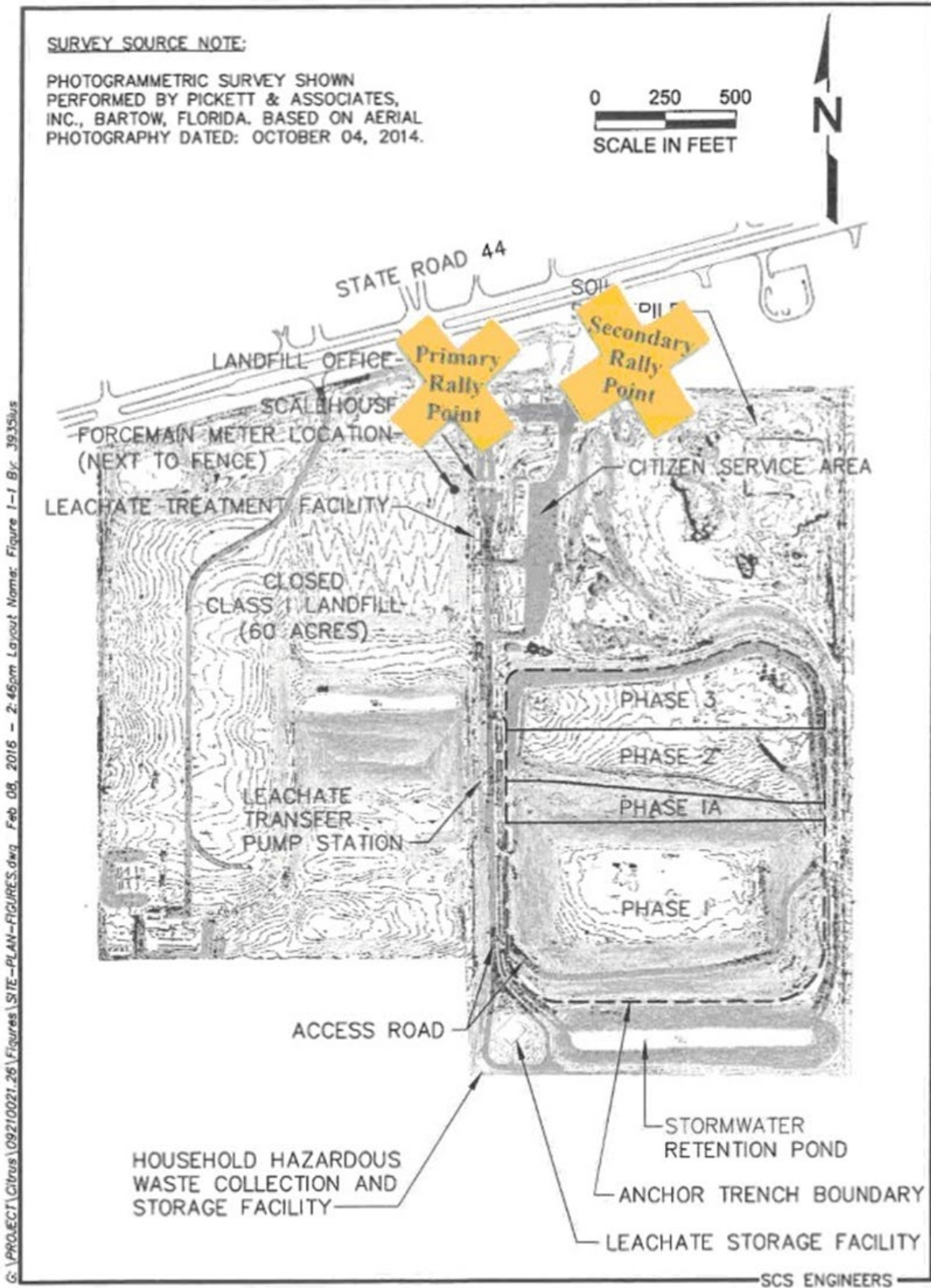
12 FOLLOW-UP REPORTING

1. Initially, whenever an imminent or actual emergency situation arises, the on-call ERC should immediately:
 - a. Activate internal facility alarms or communication systems where applicable to notify all facility alarms or communication systems.
 - b. Notify appropriate state or local emergency response agencies with designated response roles if their help is needed.
2. Whenever a spill/release, fire, or explosion occurs, the ERC should immediately identify the character, exact source, amount, and extent of any released materials. He or she may accomplish this by observation, review of facility records, or by chemical analysis if necessary.
3. Concurrently, the ERC should assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment should consider direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated; the effects of any hazardous surface water run-off from water or chemical agents used to control fire; or heat-induced explosions).
4. If the ERC determines that the facility has had a release, fire, or explosion that could threaten human health or the environment outside the facility, he/she should report the findings as follows:
 - a. If the assessment indicates that evacuation of local areas may be advisable, appropriate local authorities should immediately be notified. The ERC should be available to help appropriate officials decide whether local areas should be evacuated.
 - b. The ERC should immediately notify the government official designated as the on-scene coordinator for the area or the State Warning Point (using the 24-hour telephone number 1-800-320-0519).
 - c. Include:
 - Name and telephone number of person reporting.
 - Name and address of facility.
 - Time and type of incident (e.g., release, fire).
 - Name and quantity of material(s) involved to the extent known.
 - Extent of injuries, if any.
 - Possible hazards to human health or the environment outside the facility.
5. During the emergency, the ERC should take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, reoccur, or spread to other areas of the facility. These measures should include where applicable stopping processes and operations; collecting and containing release waste; releasing waste; and removing or isolating containers.

6. During an emergency, the ERC should monitor for leaks, pressure buildup, gas generation, or ruptures in containers and/or equipment wherever this is appropriate.
7. After an emergency, the ERC should provide for treating, storing, or disposing of recovered waste; contaminated soil or surface water; or any other material contaminated by a release, fire, or explosion at the facility.
8. The ERC should ensure that in the affected area(s) of the facility:
 - a. No waste that may be incompatible with the released material is stored or handled until cleanup procedures are complete.
 - b. All emergency equipment listed in the EMERGENCY INCIDENTS AND CONTINGENCY PLANS should be cleaned and ready for its intended use before operations are resumed.
9. The Owner or operator of the landfill should notify appropriate State and local authorities in writing that the facility is functional before operations are resumed in the affected area(s) of the facility.
10. The Owner or operator should note in the operating record the time, date, and details of any incident that requires implementation of the EMERGENCY INCIDENTS AND CONTINGENCY PLANS. Within 24 hours after the incident, the situation should be reported to FDEP (SW District Office Compliance Assurance Supervisor), and a written report on the incident should be submitted within 7 days. The report should include:
 - a. Name, address, and telephone number of the Owner or operator.
 - b. Name, address, and telephone number of the facility.
 - c. Date, time, and type of incident (e.g., fire, explosion).
 - d. Name and quantity of material(s) involved.
 - e. The extent of injuries, if any.
 - f. An assessment of actual or potential hazards to human health or the environment where applicable.
 - g. Estimated quantity of disposition of recovered material that resulted from the incident.

13 SITE LAYOUT

Figure 2 Site Plan, Citrus County Central Landfill



Appendix 1

Operations Maintenance Building and Diesel Fuel Facility: Material Listing and Quantities

OPERATIONS MAINTENANCE BUILDING AND DIESEL FUEL FACILITY

MATERIAL LISTING AND QUANTITIES

MAINTENANCE BUILDING

Chemical Listing	Maximum Quantities On Site
Gasoline	Eight 5-gallon cans
Oil	Two 55-gallon drums
Hydraulic Oil	Two 55-gallon drums
Grease	Two 120-pound drums
Adhesive for Plastics	Five 5-gallon containers
Lube Trailer	500 gallons diesel fuel
Diesel Exhaust Fluid (DEF)	One 330-gallon tote

DIESEL FUEL FACILITY

Chemical Listing	Maximum Quantities On Site
Diesel Fuel	Four 500-gallon tanks

Appendix 2

Citizen Service Area:

Material List and Maximum Site Capacity

CITIZEN SERVICE AREA

MATERIAL LIST AND MAXIMUM SITE CAPACITY

Material	Maximum Materials/Capacity
Garbage and Trash Containers	Ten 30-yard dumpsters
Recyclable Material Containers	<ul style="list-style-type: none"> ▪ Ten 8-yard containers for single-stream recycling in CSA. ▪ Fourteen 8-yard containers on closed site.
Waste Oil Containers	Three 385-gallon, double-wall containers
Antifreeze Containers	Two 100-gallon, double-wall containers
Waste Cooking Oil	One 100-gallon double-wall container
Waste Tires	115 tons
Scrap Metal	50 tons
Wood Waste	Approximately 5,000 tons combined capacity for unprocessed and processed wood waste
Lead Acid Batteries	Two pallets (50 – 75 batteries per pallet) within a secondary containment
Propane Tank Container	<p>One 20-yard roll-off container containing:</p> <ul style="list-style-type: none"> ▪ Two hundred and fifty 20-pound tanks ▪ Twenty 30-pound tanks ▪ Five 60-pound tanks ▪ Ten 100-pound tanks ▪ One 120-gallon tank
Fluorescent Bulbs	<ul style="list-style-type: none"> ▪ One hundred 4-foot fluorescent tubes ▪ Thirty 6- and 8-foot fluorescent tubes ▪ Three hundred compact fluorescent lights ▪ Up to eight 55-gallon drums of crushed bulbs kept in the fluorescent bulb building

Appendix 3
Methane Gas:
Hazard Management Summary

METHANE GAS, HAZARD DATA, AND MANAGEMENT SUMMARY

LANDFILL GAS HAZARDS AND MANAGEMENT

INTRODUCTION

Inside a landfill, waste breaks down and produces gas consisting mainly of methane and carbon-dioxide. Methane is the main threat to safety at a landfill because it can occur in large enough concentrations to explode if a spark is present. Carbon-dioxide is relatively nonreactive but can present some risk of asphyxiation. Minor components include ammonia, benzene, and hydrogen-sulfide, of which hydrogen-sulfide is the most important because it is easy to detect, giving landfills the distinctive *rotten egg* smell. While methane is odorless, it usually occurs in the presence of hydrogen-sulfide. These minor gases are all flammable but are unlikely to occur in sufficient quantities to explode.

EXPLOSION HAZARD

Methane is highly explosive when it makes up between 5 and 15 percent of the air volume. As the gas moves easily through loose soil, it can be a particular concern when it leaches into the confined spaces of a nearby building. Vapors can travel a considerable distance to an ignition source and flash back over the vapor trail. Contact may cause burns to skin and eyes.

OTHER HEALTH HAZARDS

Landfill gas has a putrescent, noxious, odor that generally is offensive to people rather than any adverse health effects related to exposure. Breathing methane and carbon-dioxide is only hazardous when it is present at high enough levels to significantly decrease the amount of oxygen in the air. During a severe gas leak in a confined space, suffocation can occur. Symptoms of being in an oxygen-deprived environment include sudden increased respiration (inability to catch one's breath), racing heartbeat, poor muscular coordination, and rapid fatigue. In more severe cases, nausea and vomiting often precede loss of consciousness, which can lead to death.

INCIDENT RESPONSE

The landfill maintains a comprehensive gas management system (Attachment A) to continuously burn off methane gas and mitigate the risk of dangerous buildup. If an emergency gas incident occurs, the following procedure should be used to manage the incident:

- Call 911.
- Keep unnecessary people away; isolate hazard area and deny entry.
- Stay upwind, out of low areas, and ventilate closed spaces before entering.
- Do not extinguish fires involving methane unless the flow of leaking material can be stopped.
- Cool from the side containers that are exposed to the heat of a fire with flooding amounts of water until well after the fire is extinguished.
- Apply water from as far away as possible.

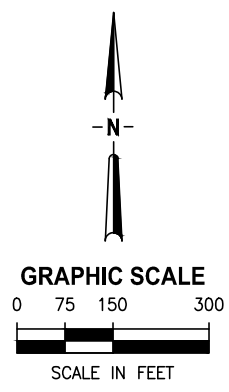
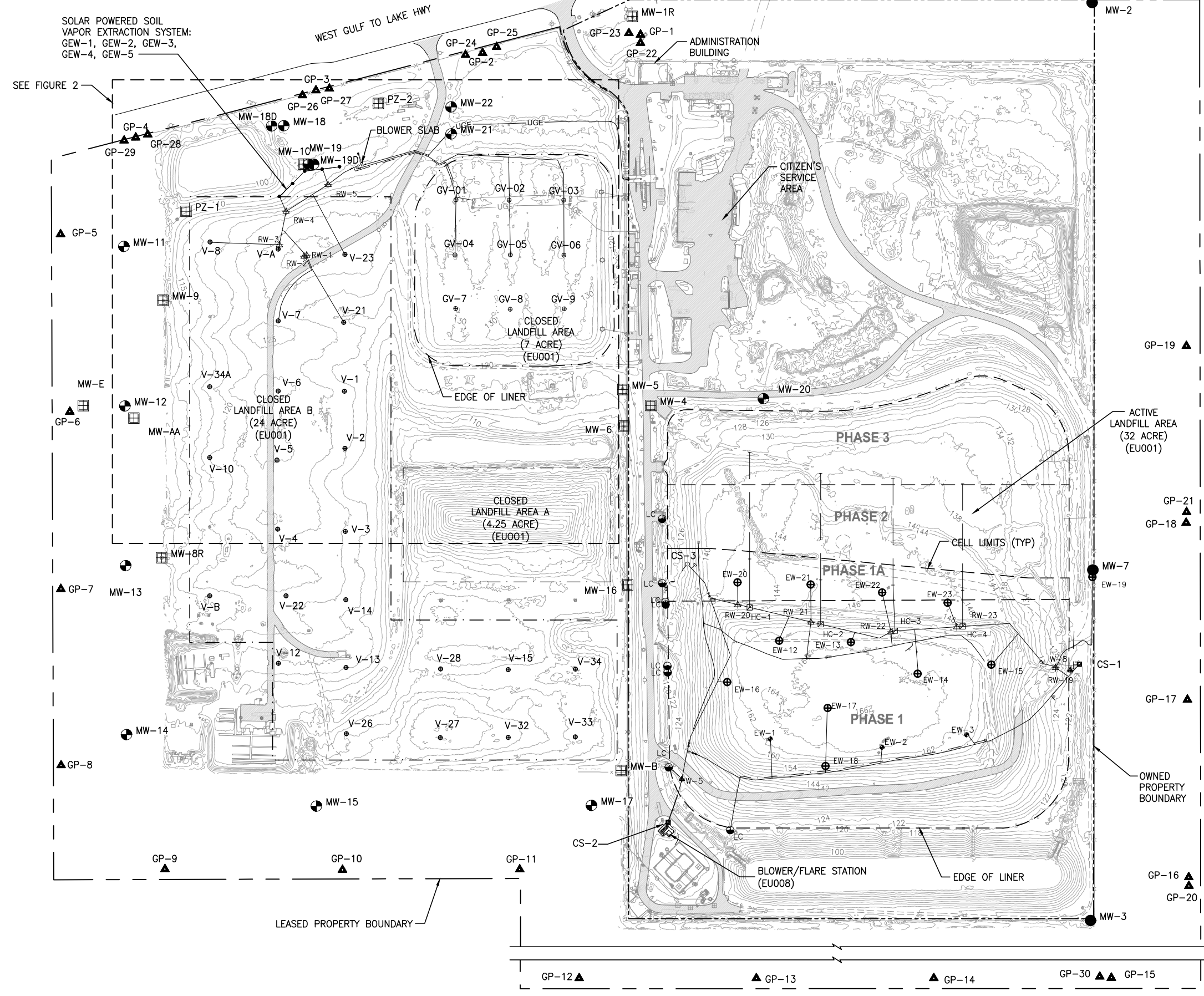
- Move containers from the area of the fire and stop leaks if this can be done without undue risk.
- Use water spray to protect personnel attempting to move containers and stop leaks.

LIFE SUPPORT AND TREATMENT

Any rescuers should wear appropriate respiratory protection:

- Remove victims of inhalation from the toxic environment and monitor for respiratory distress.
- Copiously flush exposed eyes or skin with water.
- Administer 100-percent humidified supplemental oxygen with assisted ventilation as required. If not breathing, give artificial respiration.
- Carefully observe patients with inhalation exposure for the development of any systemic signs or symptoms and administer symptomatic treatment as necessary. Monitor arterial blood gases and chest x-ray in cases with significant exposure.

LAST SAVED: 6/28/2021 10:00 AM BY: PUPSTILL PATH: \\Y:\03860-CITRUS COUNTY PROJECTS\087-01 CLASSIEPANANDCSUPGRADES\CAD\FIGURES\MINOR MOD\03860087-ATT-A.DWG PLOTTED: 6/28/2021 10:01 AM BY: PAUL E. UPSTILL



- LEGEND**
- ⊕ EW-1 EXISTING LFG EXTRACTION WELL
 - ⊕ EW-10 EXISTING DOWNSLOPE LFG EXTRACTION WELL
 - ⊕ EW-8R W-1 EXISTING REMOTE LFG EXTRACTION WELLHEAD OR EXISTING LEACHATE CLEANOUT RISER WELLHEAD
 - EXISTING LFG PIPING
 - ⊕ CS-2 EXISTING CONDENSATE SUMP
 - CT-1 EXISTING CONDENSATE TRAP
 - LC EXISTING LEACHATE CLEANOUT
 - MW-7 EXISTING BACKGROUND GROUNDWATER MONITORING WELL
 - MW-13 EXISTING COMPLIANCE GROUNDWATER MONITORING WELL
 - ⊕ V-33 EXISTING PASSIVE LFG VENT
 - ⊕ GV-06 EXISTING PASSIVE LFG VENT (INSTALLED 2009)
 - ⊕ PZ-1 EXISTING PIEZOMETER
 - ⊕ MW-9 EXISTING PIEZOMETER
 - ▲ GP-1 EXISTING GAS PROBE
 - ⊕ W-7 EXISTING LEACHATE CLEANOUT RISER WELLHEAD

- NOTES:**
1. TOPOGRAPHIC CONTOURS PREPARED BY COASTAL LAND SURVEYORS AND MAPPERS, DATED 10/15/2020.
 2. EXISTING LFG VENTS LABELING MAY VARY IN THE FIELD.

**ATTACHMENT A
FACILITY PLOT PLAN
CITRUS COUNTY CENTRAL LANDFILL
LECANTO, FLORIDA
APRIL 2021**

Appendix 4

Hazardous Waste Facility Emergency Incidents and Contingency Plans

HAZARDOUS WASTE FACILITY EMERGENCY INCIDENTS AND CONTINGENCY PLANS



CONTENTS

- Introduction
- Regulatory and Contractual Requirements
- Contingency Procedures
- Spill Response
- Attachment A: Example Emergency Responder Notification Form
- Attachment B: Emergency Contingency Plan:
 - Figure 1: Site Plan and Evacuation Map
 - Figure 2: Map to the Nearest Hospital

INTRODUCTION

This Hazardous Waste Program should maintain a copy of the Solid Waste Management Facility's *EMERGENCY INCIDENTS AND CONTINGENCY PLANS* at the Hazardous Waste Collection Facility. These contingency plans explain the necessary actions to minimize hazards to human health or the environment from fire, explosion, or unplanned emergencies and chemical releases. To the extent possible, these plans should be followed when an emergency incident occurs.

REGULATORY AND CONTRACTUAL REQUIREMENTS

Guidelines used for this Program's emergency contingency plans are established within Occupational Safety and Health Administration (OSHA) standards 29 Code of Federal Regulations (CFR) 1910.38 and 1910.120 (a) and (q), Environmental Protection Agency (EPA) standard 40 CFR 265.50, Subpart D, and the Florida Administrative Code (FAC) Chapter 62-730 for Hazardous Waste, Chapter 62-737.400 for Management of Spent Universal Waste, and Chapter 62-710 for Used Oil Management.

CONTINGENCY PROCEDURES

The emergency telephone number for response to this facility is **911**. The designated Emergency Response Coordinator (ERP) responsible for implementing the emergency contingency plans is the Director of Solid Waste Management. In the Director's absence, he/she should assign another competent staff member as instructed in the Solid Waste Management *EMERGENCY INCIDENTS AND CONTINGENCY PLANS*. For timely response, this Program should make emergency information available to local emergency response teams or contractors, who may be called upon in an emergency situation.

HAZARDOUS WASTE FACILITY EMERGENCY INCIDENTS AND CONTINGENCY PLANS

Notification for Hazardous Waste Emergency Incidents and Contingency Plans should:

- Provide instructions to Program staff regarding emergency procedures relevant to job duties; see the Hazardous Waste SOG on *Hazard Communications and Employee Right to Know (RTK) Program*.
- Provide annual instruction to Program staff regarding how the Contingency Plans should be implemented.
- Be easy to assess.
- Be placed in the yellow Emergency Information box at the Hazardous Waste Collection Facility.
- Contain information that is pertinent to hazardous waste emergencies and contingencies.
- Be updated annually before the scheduled annual training.
- Be revised if it fails the desired expectations after an emergency event.
- Be updated if changes are applicable to contact information, rules, requirements, facility design, construction, operation, or maintenance.
- Include a form letter including a brief response explaining what should be expected of the emergency responder (Attachment A).
- Include a copy of the Hazardous Waste Facility Emergency Incidents and Contingency Plans, with a site plan and evacuation maps (Attachment B with Figures 1 and 2). Figure 1 includes a site map with specific waste types listed with emergency evacuation routes. Figure 2 includes a map indicating the best route to the closest medical facility.



**Board of County Commissioners
DEPARTMENT OF PUBLIC WORKS
SOLID WASTE MANAGEMENT DIVISION**

P.O. Box 340, Lecanto, Florida 34460

Telephone: (352) 527-7670 FAX: (352) 527-7672

email: landfillinfo@citrusbocc.com

TDD Telephone: (352) 527-5303

Citrus Springs/Dunellon/Inglis/Yankeetown, Toll Free (352) 489-3120

TTY Telephone (352) 527-0825 or (352) 527-5312

June 8, 2021

Fire Chief Craig Stevens
3600 W. Sovereign Path, Suite 291
Lecanto, Fl. 34461

RE: Emergency Responder Notification Form

Attachment A Sample

Dear Chief Stevens,

Enclosed is the Citrus County Hazardous Waste Emergency Contingency Plan. Section 29 CFR Part 1910.38 and 40 CFR Part 265.53 require Hazardous Waste Collection Facility operators to create an emergency contingency plan and to make arrangements with nearby police, fire, hospital, and environmental response contractors to provide an expedient and coordinated response to emergencies.

This letter and the enclosed Plan are to clarify our contingency plan and familiarize your agency with our Facility. This is to be used in the event of a Facility fire, explosion, an unplanned release of hazardous materials, or medical emergency. The Plan describes the services for which your agency would be needed, and it designates all other authorities and actions. The Plan also details types, maximum quantities, and storage locations for hazardous materials or wastes (e.g., floor and plot plans, escape routes).

The Plan should be reviewed annually and be revised if changes are necessary. This Facility will forward revised copies to you when these changes occur. This Program appreciates your assistance and looks forward to any recommendations or suggestions to ensure a comprehensive and complete Plan.

Respectfully,

Joshua McMinds
Hazardous Waste Coordinator
Division of Solid Waste Management

CC: Solid Waste Management Director

CITRUS COUNTY HAZARDOUS WASTE EMERGENCY CONTINGENCY PLAN

Address	Citrus County Hazardous Waste Collection Facility 230 West Gulf to Lake Highway Lecanto, Florida 34461
	PO Box 340 Lecanto, Florida 34460
EPA ID Number	FLD 98-210-2741
Last Revision Date	October 2020

EMERGENCY RESPONSE COORDINATOR (ERC)

ERC RESPONSIBLE FOR IMPLEMENTING THIS PLAN

The designated facility staff person responsible for implementing this plan is trained to respond to emergencies or has the information necessary to make decisions to respond to an emergency.

Name	Henry Norris
Position or Job Title	Director, Solid Waste Management
Phone (Work)	352-527-7670
Cellphone 24-Hour	352-302-6980

FIRST ALTERNATE DESIGNATED FACILITY STAFF PERSON RESPONSIBLE FOR IMPLEMENTING THIS PLAN

The first alternate designated facility staff person responsible for implementing this plan is contacted if the primary designated facility staff person responsible for implementing this plan is not able to be reached.

Name	Dan Sherlock
Position or Job Title	Operations Manager
Phone (Work)	352-527-7670
Work Cell	352-302-3437
Home Cell	352-586-8657

SECOND ALTERNATE DESIGNATED FACILITY STAFF PERSON RESPONSIBLE FOR IMPLEMENTING THIS PLAN

The second alternate designated facility staff person responsible for implementing this plan is contacted if the first alternate designated facility staff person responsible for implementing this plan is not able to be reached.

Name	Harold Gravely
Position or Job Title	Field Crew Leader, Solid Waste Management
Phone (Work)	352-527-5575
Cellphone	352-400-0612

EMERGENCY TELEPHONE NUMBERS

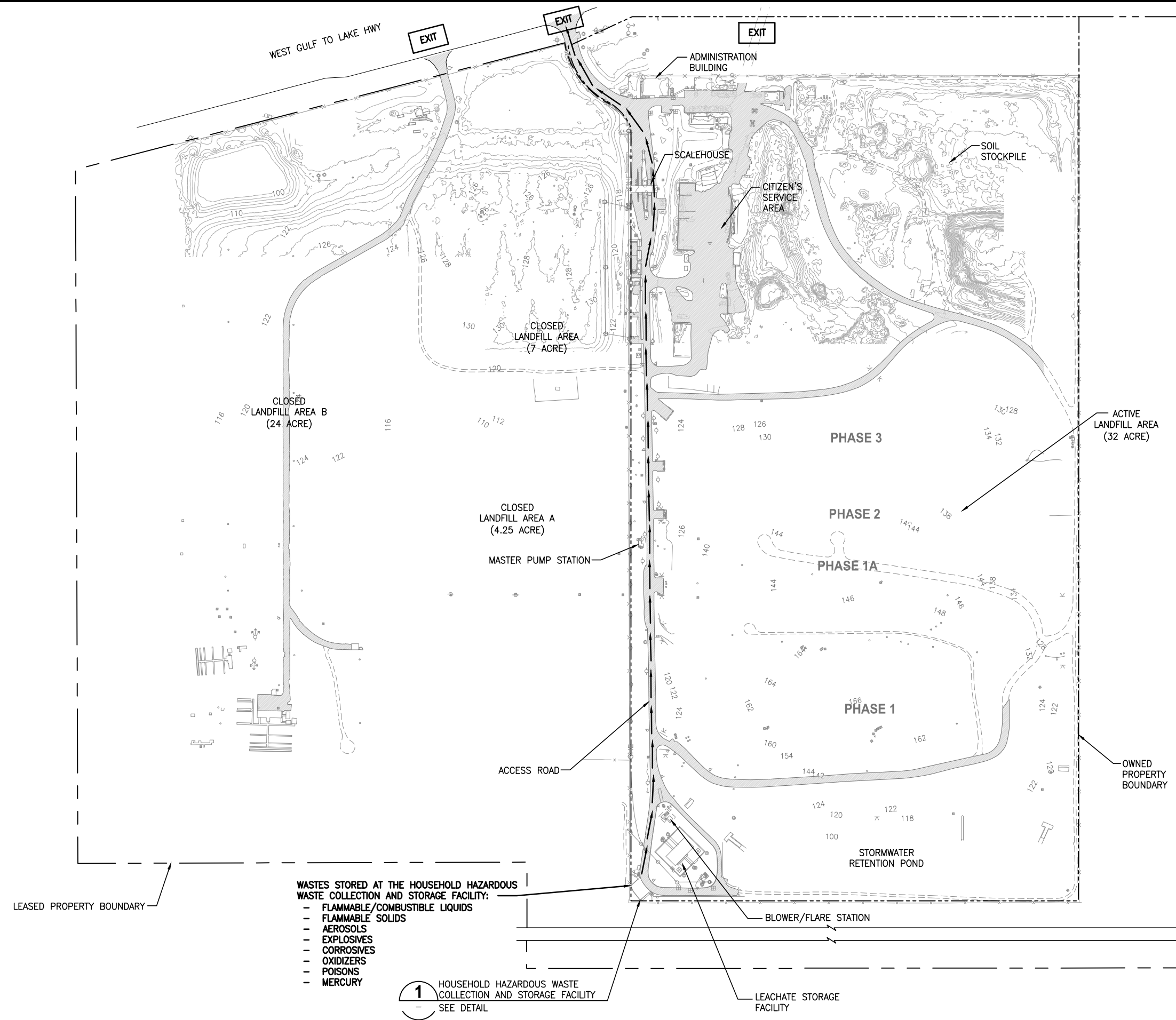
All Emergencies	911
Police	911
Fire	911
Ambulance	911
Florida State Warning Point (to report any emergency)	800-320-0519
Bomb Squad (Local County Sheriff's Office)	911
HazMat Team (Local Fire/Rescue)	911

HAZARDOUS AND UNIVERSAL WASTE STORED ONSITE

Waste Category/Products	Hazard Class/Label	Package Type and Size	Maximum Quantity
Ammunition/Fireworks/Flares	Explosives, Division 1.4	Poly, 5-gallon buckets with screw-top lid.	< 50 pounds
Paint and Mixed Aerosols	Flammable Gas, Class 2	One 50-gallon cart and two 55-gallon drums.	< 300 pounds
Flammable liquids, paints, thinners, fuels	Flammable Liquid, Class 3	One-gallon containers and 55-gallon metal drums	Six drums < 2,500 pounds
Paint-related materials and Tars (in cans)	Flammable Liquid, Class 3	One and 5-gallon cans in 4-foot-by-4-foot metal cages	Three cages < 2,000 pounds
Paint-related materials (loose packed)	Flammable Liquid, Class 3	Steel, 55-gallon drums with open-top lids	Two drums < 300 pounds

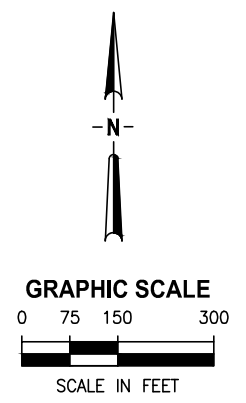
Waste Category/Products	Hazard Class/Label	Package Type and Size	Maximum Quantity
Roofing Tars and Adhesives (bulked)	Flammable Liquid, Class 3	Steel, 55-gallon drums with open-top lids	Two drums < 1,000 pounds
Reactive Solids	Flammable Solids, Division 4.1	Poly, 5-gallon with screw-top lid	One container < 10 pounds
Oxidizers	Oxidizer, Division 5.1	Poly, 5-gallon with screw-top lid	< 50 pounds
Organic Peroxide	Organic Peroxide, Division 5.2	One-gallon zip-lock bag, labeled	< 1 pound
Pesticides/Poisons	Poison, Class 6	Segregated by solids and liquids into categories. Located on shelves for lab packing.	< 1,500 pounds
Acids	Corrosive, Class 8	Poly, 55-gallon, closed-top drum < 800 pounds	Two drums
		Poly, 30-gallon, closed-top drum < 250 pounds Residential-style containers	One drum < 400 pounds
Basics (Alkalis)	Corrosive, Class 8	Poly, 55-gallon, closed-top drum < 500 pounds	Two drums
		Poly, 30-gallon, closed-top drum < 250 pounds Residential-style containers	One drum < 400 pounds
Mercury	Corrosive, Class 8	Poly, 5-gallon with screw-top lid	One container < 50 pounds
PCB Ballasts/Capacitors	Miscellaneous, Class 9	Poly, 5-gallon with screw-top lid	Two containers < 100 pounds
Petroleum or Oil Wastes with Dirt or Asphalt Mix	Miscellaneous, Class 9	Steel, 55-gallon drums with open-top lids	Four containers < 3,000 pounds
Used Oil for Recycling	Universal Waste – Non-Hazardous Waste	Steel, 55-gallon drums with open-top lids	One container < 300 pounds
Spent Fluorescent Tubes for Recycling – Crushed in Drums	Universal Waste – Non-Hazardous Waste	Steel, 55-gallon drums with open-top lids	One container < 500 pounds

LAST SAVED:6/10/2021 11:13 AMBY:TLEBLANC PATH=Y:\03860-CITRUS COUNTY\PROJECTS\087-01 CLASSIEXPANANDCSAUPGRADES\CAD\FIGURES MCD REPORT\03860087-FIG-XXX.DWG PLOTTED:6/10/2021 11:13 AMBY:THOMAS LE BLANC, EI



- WASTES STORED AT THE HOUSEHOLD HAZARDOUS WASTE COLLECTION AND STORAGE FACILITY:**
- FLAMMABLE/COMBUSTIBLE LIQUIDS
 - FLAMMABLE SOLIDS
 - AEROSOLS
 - EXPLOSIVES
 - CORROSIVES
 - OXIDIZERS
 - POISONS
 - MERCURY

1 HOUSEHOLD HAZARDOUS WASTE COLLECTION AND STORAGE FACILITY
SEE DETAIL



- LEGEND**
- EVACUATION ROUTE
 - EXIT SITE EXIT POINT

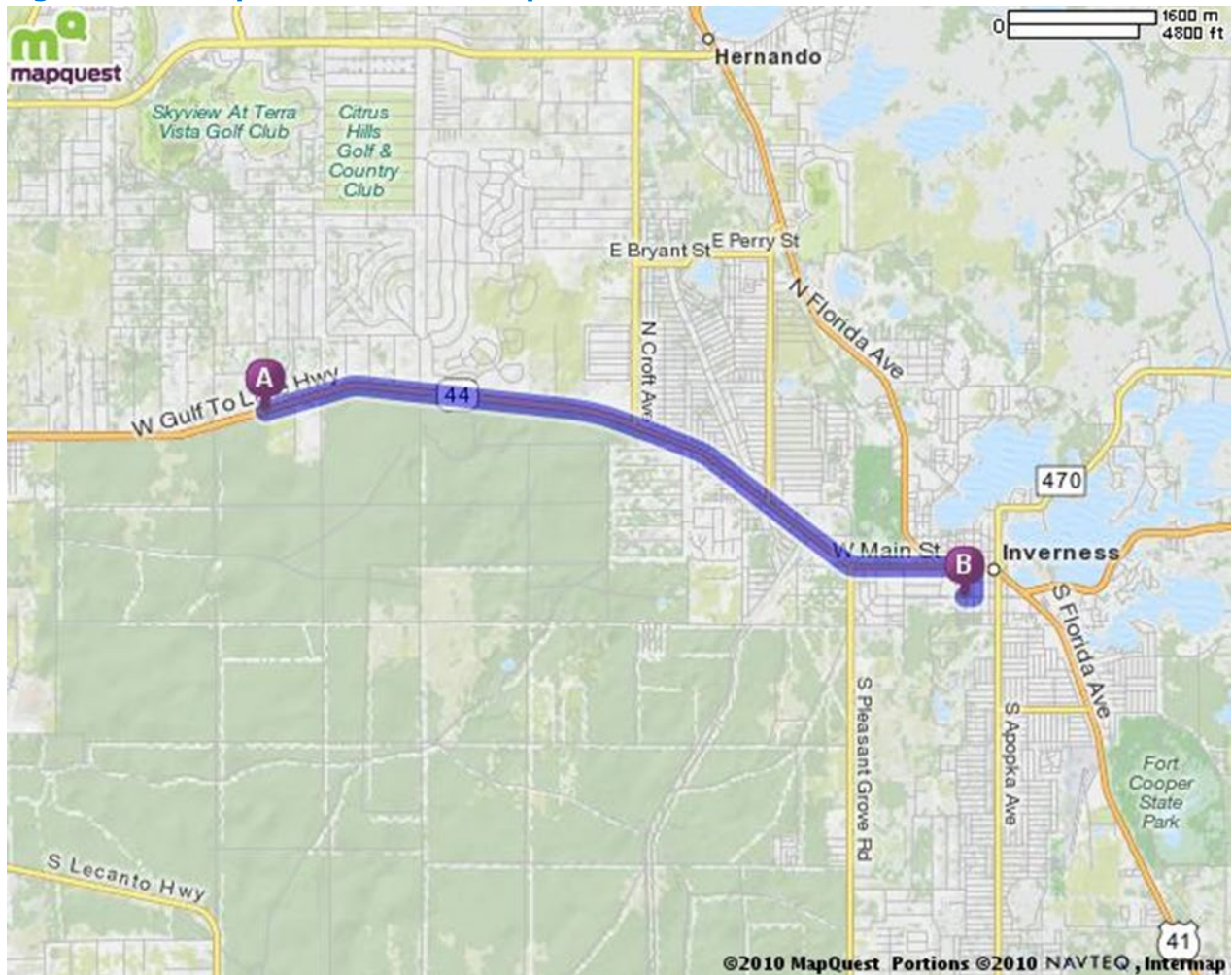






HOUSEHOLD HAZARDOUS WASTE COLLECTION AND STORAGE FACILITY **1**
NTS

NOTES:
1. TOPOGRAPHIC CONTOURS PREPARED BY COASTAL LAND SURVEYORS AND MAPPERS, DATED 10/15/2020.

FIGURE 1
SITE PLAN AND EVACUATION MAP
CITRUS COUNTY CENTRAL LANDFILL
LECANTO, FLORIDA

Figure 2 Map to the Closest Hospital



- | | | |
|---|--|--------|
|  | 1. Start out going EAST on W GULF TO LAKE HWY/FL-44 E toward S THAYER AVE. Continue to follow FL-44 E. | 7.0 mi |
|  | 2. Turn RIGHT onto S OSCEOLA AVE. | 0.3 mi |
|  | 3. Turn RIGHT onto W HIGHLAND BLVD. | 0.1 mi |
|  | 4. 502 W HIGHLAND BLVD. | |

Appendix 5
Waste Tire Storage/Processing Facility
Emergency Plan

CITRUS COUNTY CENTRAL LANDFILL WASTE TIRE STORAGE/PROCESSING FACILITY

EMERGENCY RESPONSE MANUAL FOR DEPARTMENT OF PUBLIC WORKS DIVISION OF SOLID WASTE MANAGEMENT CITRUS COUNTY CENTRAL LANDFILL 230 W. GULF TO LAKE HIGHWAY LECANTO, FLORIDA 34461 352-527-7670

MAY 2021

PREPAREDNESS

Local fire authorities have been notified and will be kept apprised of the operations at the Citrus County Central Landfill Waste Tire Storage Facility in Recycle Alley at the Central Landfill, 230 W. Gulf to Lake Highway, Lecanto, Florida 34461. A site diagram will be provided as well as a copy of all revisions.

Waste tires are removed on a monthly basis through the County's Recycling and Transport contractor. The County's permit allows up to 115 tons of waste tires to be accumulated and stored onsite between removals.

The offsite copy of this manual is maintained at Citrus County Fire Services, 285 S. Kensington Avenue, Lecanto, Florida 34461.

EMERGENCY NOTIFICATION LIST

During an emergency at the Waste Tire Storage Facility, the Solid Waste Management Division Director or designee shall make notification(s) using the following list. The agency or agencies to be notified shall be based upon the type and degree of emergency.

Entity	Contact Details	Telephone Number
Solid Waste Management (After Hours)	Henry C. Norris, Jr.	352-302-6980
	Vacant (Program Supervisor)	352-400-0674
Hospital	Citrus Memorial Hospital	
	502 West Highland Boulevard Inverness, Florida 34453	352-726-1551
Law Enforcement	Citrus County Sheriff's Office 1 Dr. Martin Luther King, Jr., Avenue Inverness, Florida 34461	352-726-4488

Entity	Contact Details	Telephone Number
Emergency	Police, Fire, Medical Response 3549 Saunders Way Lecanto, Florida 34461	911
Fire Prevention	Citrus County Fire Rescue – Fire Prevention 3600 West Sovereign Path Lecanto, Florida 34461	352-527-5406
Emergency Medical	Nature Coast EMS 3876 W. Country Hill Drive Lecanto, Florida 34461	352-249-4700
Environmental	Department of Environmental Protection, Southwest District 13051 N. Telecom Parkway Temple Terrace, Florida 33637-0926	813-470-5700
	Office of Emergency Response	813-470-5954

EMERGENCY PROCEDURES

Every effort shall be made to operate the facility in a safe manner. During a small fire, the personnel discovering the fire should determine whether it can be extinguished safely and quickly with an available fire extinguisher. If the fire can safely be extinguished with available materials, appropriate actions should be taken and timely notification made to the Director or the Certified Landfill Operator in charge and Citrus County Fire Prevention.

During a larger fire, the Director and/or Certified Landfill Operator in charge or other such person as may from time to time be designated shall be notified immediately, and he/she shall notify 911 and mobilize on-site equipment, which includes one 2,600-gallon water-tanker with pump until emergency response vehicles arrive at the site. In addition, a fire hydrant is in the vicinity of the southwest corner of the tire storage area as well as a water fire extinguisher at the north end of the area and a dry chemical extinguisher at the south end. Telescoping hooked poles are stored next to the tool crib door in the Maintenance Building, which can be used to move individual burning tires away from the pile if necessary. The Citrus County Fire Rescue has a facility approximately 1-1/2 miles from the Central Landfill.

During a large fire creating oily material at the site, the following procedure shall be implemented:

1. Dike the area with absorbents to prevent spreading.
2. Spread absorbents to clean up material.
3. Contain used absorbents in 55-gallon steel drums.
4. Properly dispose of the drums through the County's Hazardous Waste Disposal Contractor.
5. Perform other actions deemed necessary by the Fire Services officer in charge at the scene and/or the Director of Solid Waste Management.

All materials needed for clean-up and disposal are stored in the Household Hazardous Waste Collection Center at the southwest corner of the Central Landfill.

FOLLOW UP

During an emergency, the permittee shall immediately (within 24 hours) notify FDEP explaining the occurrence and remedial measures to be taken, method to prevent reoccurrence, and time needed for repair. Written, detailed notification shall be submitted to the FDEP within 7 days following the occurrence.

Appendix B
Citrus/Hernando Counties
Interlocal Agreement

**INTERLOCAL AGREEMENT
BETWEEN HERNANDO COUNTY AND CITRUS COUNTY FOR
MUTUAL EXCHANGE OF SERVICES FOR
SOLID WASTE DISPOSAL DURING EMERGENCY EVENTS**

THIS AGREEMENT is made and entered into by and between HERNANDO COUNTY, a political subdivision of the State of Florida, by and through its Board of County Commissioners, hereinafter called "HERNANDO," and CITRUS COUNTY, a political subdivision of the State of Florida, acting by and through its Board of County Commissioners, hereinafter called "CITRUS."

WITNESSETH:

WHEREAS, In the event of an emergency, CITRUS or HERNANDO may have waste that it wishes to dispose of in the other County's solid waste disposal system; and

WHEREAS, both Counties have additional disposal capacity in its integrated solid waste management system and is willing to accept and dispose of additional solid waste from the other County during an emergency event; and

WHEREAS, CITRUS and HERNANDO, pursuant to Section 163.01, Florida Statutes, wish to enter into this Interlocal Agreement to provide for a mutual exchange of services for the disposal of solid waste at either waste disposal system during an emergency event; and

WHEREAS, through this cooperative agreement, CITRUS and HERNANDO wish to initiate successful and environmentally sound emergency Solid Waste Disposal options for the benefit of both County's residents.

NOW, THEREFORE, in consideration of the foregoing premises, which shall be deemed an integral part of this Interlocal Agreement, and of the mutual covenants and conditions hereinafter set forth, CITRUS and HERNANDO, intending to be legally bound, hereby agree as follows:

SECTION 1. PURPOSES

The WHEREAS clauses set forth above are incorporated herein by reference and made a part of this agreement. Based thereon, it is the purpose and intent of this Agreement to define the terms and conditions of mutual provisions of solid waste disposal services between the Counties. This Agreement is intended to provide a mutual exchange of services for the disposal of solid waste at either County's Solid Waste Management facility during an emergency event. All terms and conditions of this Agreement shall be interpreted in a manner consistent with, and in furtherance of, the purposes as set forth above.

SECTION II. AUTHORITY FOR AGREEMENT

This Agreement is entered into pursuant to the authority set forth in Chapter 87-441, Laws of Florida, Section 163.01, Florida Statutes, as amended, Section 252.38 Florida Statutes, and Chapter 403 Part IV, Florida Statutes. Either County warrants and represents to the other county that the execution and delivery of this Agreement has been duly authorized by all appropriate actions of the Governing Body of either County, and this Agreement has been executed and delivered by an authorized officer of either County, and this Agreement constitutes the legal, valid and binding obligation of either County enforceable against it in accordance with its terms (except as enforceability may be limited by applicable bankruptcy or similar laws affecting creditors' rights, and by application of equitable principles if equitable remedies are sought).

SECTION III. DEFINITIONS

Certain terms having specific definitions are used in this Agreement, and these terms and definitions, unless the context clearly indicates to the contrary, are as follows:

- A. CITRUS – shall mean CITRUS County, Florida, a political subdivision of the State of Florida.
- B. HERNANDO – means HERNANDO County, Florida, a political subdivision of the State of Florida.
- C. Governing Body of CITRUS – means the Board of County Commissioners of CITRUS County.
- D. Governing Body of HERNANDO – means the Board of County Commissioners of HERNANDO County.
- E. Emergency Event – shall mean locally declared state of emergency, failure of the landfill's normal and backup power supply, scales, scalehouse building and / or computers for scalehouse management system.
- F. Hazardous Waste – means a waste material, or a combination of waste materials, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or may pose a substantial present or potential hazard to human health or the environment when improperly transported, disposed of, stored, treated, or otherwise managed. The term "hazardous waste" includes, but is not limited to, volatile, chemical, biological, explosive, flammable, radioactive, and toxic materials. "Hazardous Waste" shall also mean waste which is defined as harmful, toxic, dangerous or hazardous at any time during the term of this Agreement pursuant to i. Chapter 82-730 F.A.C ii. Any other Federal, State, HERNANDO County or local codes, statutes or laws; and iii. Any regulations, orders or other actions promulgate or taken with respect to the terms listed in (1) through (iii) above; provided, however, that any such materials which are later determined not to be harmful, toxic, dangerous or hazardous by any governmental agency or unit having appropriate jurisdiction shall not be considered "Hazardous Waste" unless a contrary determination has been made or is made by any other governmental agency or unit having appropriate jurisdiction.
- G. Non-processable Waste – means ashes, foundry sand, cesspool and other human wastes, human remains and animal carcasses, tree trunk sections, branches and stumps, matter or material or material longer than six feet, motor vehicles (including major parts such as transmissions, rear ends, springs, and fenders), agriculture machinery and equipment, marine vessels and their major parts, any other large machinery or equipment, liquid waste, any matter or material of which in the Solid Waste Disposal System is prohibited by any law, ordinance, rule, or regulation of any government or public agency having jurisdiction over the project and its operations, ordinance materials, Hazardous Waste and Special Waste.
- H. Solid Waste – shall have the same meaning as defined in Rule 62-701.200(13) F.A.C. ("Class I Waste" means solid waste that is not hazardous waste, and this is not prohibited from disposal in a lined landfill under Rule 62-701.300, F.A.C.)
- I. Solid Waste Disposal System – means any and all facilities used and useful by the Counties in collection, transportation, and disposal of solid waste, including as applicable, but not limited to, volume reductions, plants, sanitary landfills or other disposal means, resource recovery facilities, including transfer stations to the extent the transfer stations are provided or operated to carry out the provisions of proper disposal.
- J. Special Wastes – means any waste that require extraordinary management and includes, but is not limited to: abandoned automobiles; inoperative and discarded refrigerators, ranges, washers, water heaters, and other similar domestic and commercial appliances; used tires; waste oil; sludges; dead animals; septic tank pumpings; and infectious waste.
- K. Transfer Station – means a facility where solid waste is placed before being transferred to a solid waste processing or disposal facility.

SECTION IV. COUNTIES OBLIGATION TO PROVIDE DISPOSAL DURING EMERGENCY EVENTS

- A. **Disposal Obligation** – During the term of this Agreement, either County shall provide solid waste disposal services to the other party upon notification of their intent to implement emergency operations. Such disposal services shall consist of either County accepting the waste from the other County for disposal in their respective Solid Waste Facility. The respective Counties shall be fully responsible for the control and ultimate disposition of the same.
- B. **Disposal Quantities** – Such disposal services shall consist of CITRUS accepting the waste from HERNANDO in the maximum amount of 150 tons per day during emergency operations and HERNANDO accepting the waste from CITRUS in the maximum amount of 400 tons per day during emergency operations. Emergency Operations shall be considered a 60 day period, which period may be extended in writing upon mutual agreement between the Counties.
- C. **Status of CITRUS Collectors** – HERNANDO agrees, subject to the tonnage limitations that licensed collectors from CITRUS which are authorized by CITRUS to utilize HERNANDO County's Solid Waste Facility shall be authorized to use said facility upon implementation of emergency operations by CITRUS.
 - a. **Authorized Disposal** – HERNANDO agrees that CITRUS shall not be charged for disposal under the terms of this Agreement for collectors or persons which have not been authorized by CITRUS to utilize the HERNANDO Solid Waste Facility. Any such unauthorized collector or person disposing of solid waste from CITRUS shall be charged by HERNANDO directly for the applicable tipping fee in the event HERNANDO elects to accept such waste.
- D. **Status of HERNANDO Collectors** – CITRUS agrees, subject to the tonnage limitations that licensed collectors from HERNANDO which are authorized by HERNANDO to utilize CITRUS County's Solid Waste Facility shall be authorized to use said facility upon implementation of emergency operations by HERNANDO.
 - a. **Authorized Disposal** – CITRUS agrees that HERNANDO shall not be charged for disposal under the terms of this Agreement for collectors or persons which have not been authorized by HERNANDO to utilize the CITRUS Solid Waste Facility. Any such unauthorized collector or person disposing of solid waste from CITRUS shall be charged by CITRUS directly for the applicable tipping fee in the event CITRUS elects to accept such waste.
- E. **Reports** – The Counties agrees to provide reports indicating the amount of waste received from either County under the terms of this Agreement.
- F. **Hours of Operations** – Both Counties agree that their Solid Waste Disposal Facilities shall be available to accept disposal of waste from the other County for not less than forty (40) hours per week, excluding weeks with legal holidays.

SECTION V: PAYMENT OBLIGATIONS

- A. **Service Fee** – Both Counties agree to pay the other County a service charge on a per tonnage basis based upon the actual number of tons delivered at either facility during the emergency period as follows:
 - a. Service fee charged to CITRUS for use of HERNANDO'S facility shall be \$54.50 per ton.
 - b. Service fee charged to HERNANDO for use of CITRUS'S facility shall be \$55.00 per ton.
- B. **Source of Payments by Counties** – The obligation of either County to pay any monies due under the Agreement does not constitute a general indebtedness of either County within the meaning of any statutory or constitutional provision limiting the amount and nature of indebtedness that may be incurred by either County. The obligations and liabilities of either County under this Agreement are payable solely from operating and maintenance accounts or funds from either County's solid waste collection or disposal operations.
- C. **Irrevocable Commitment to Pay** – CITRUS and HERNANDO shall pay the billings submitted by either County throughout the term of this Agreement and said payment shall be without notice or demand and without set-off, counterclaim, suspension or deduction.

- D. **Collector Identification** – Both Counties shall provide to the other County specific information identifying the licensed collectors within their respective County, that are authorized to deliver waste to the respective County’s Solid Waste Facility under the terms of this Agreement. Such identification shall include, but not be limited to, the collector’s name, permit number, vehicle types and registration numbers, and such other information useful in the identification of authorized collectors.
- E. **Collector Responsibilities** – Both Counties agree that its’ licensed collectors utilizing either County’s Solid Waste Disposal Facility shall be responsible for the proper removal, transport and disposal of any non-processable waste, hazardous waste or special waste delivered to the County’s Solid Waste Disposal Facility. Said collectors shall also be responsible for compliance with any applicable federal, state or local laws, including the respective Counties ordinances, governing the transportation and disposal of solid waste.

SECTION VI: COLLECTION OF SOLID WASTE

CITRUS and HERNANDO agree that both Counties shall be solely responsible for the collection of solid waste within either County. Furthermore, the Counties agree that they will take all necessary steps to require the collection services permitted or licensed by the respective Counties to deliver the waste at such location and during such times as either County shall direct during emergency events. It is affirmatively understood that neither County shall be obligated to accept waste under the terms of this Agreement from individual residents or other persons from the other County.

SECTION VII: TERM OF AGREEMENT

This Agreement shall have a term of one (1) year, which shall automatically renew for succeeding year periods, unless terminated by either party via the provision of sixty (60) days written notice prior to the expiration of that term year. Notice shall be provided to the administrator of the county being notified of termination. The Counties obligation to deliver and pay for the agreed upon delivered waste tonnage and obligation to accept such waste under the terms of this Agreement shall commence upon mutual agreement of both parties. This agreement is not a put or pay type of agreement.

SECTION VIII: COVENANT OF FURTHER ASSURANCES

The Counties agree that from and after the date of execution hereof, each will, upon the request of the other, execute and deliver such other documents and instruments and take such other action as may be reasonably required to carry out the purpose and intent of this Agreement.

SECTION IX: PRIOR AGREEMENTS

This Agreement shall supersede any or all other agreements between CITRUS and HERNANDO, if any, to the extent that the terms and provisions of any such agreement conflict with the terms and provisions of this Agreement.

SECTION X: ASSIGNMENT

No assignment, delegation, transfer, of this Agreement or part hereof, shall be made, unless approved by both Counties.

SECTION XI: NOTICE

Any notices or other rights permitted or required to be delivered pursuant to the Agreement, shall be delivered to HERNANDO, at the Office of the HERNANDO County Administrator and to CITRUS, at the Office of CITRUS County Administrator.



SECTION XII: AMENDMENT

This Agreement may only be amended by writing duly executed by CITRUS and HERNANDO.

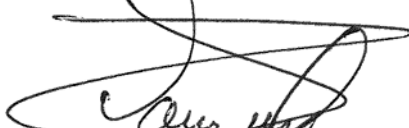
SECTION XIII: FORCE MAJEURE

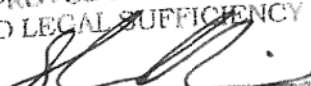
In the event either County's performance of this Agreement is prevented or interrupted by consequence of an act of God, or of the public enemy, or national emergency, allocation or other governmental restrictions upon the use or availability of labor or materials, rationing, civil insurrection, riot, racial or civil rights disorder or demonstration, strike, embargo, flood, tidal wave, fire, explosion, bomb detonation, nuclear fallout, windstorm, hurricane, sinkholes, earthquake, or other casualty or disaster or catastrophe, or an order, judgment or injunction of any court, or state or deferral administrative agency exercising jurisdiction over the subject matter of this Agreement, or a federal or state statute, or the incorporation of previously unincorporated areas within either County, that the parties shall not be liable for such nonperformance, and the time of performance shall be extended for such time period that such party is diligently attempting to perform.

IN WITNESS WHEREOF, the parties hereto have executed the foregoing agreement on this 19th day of November, 2013 (date of last party's execution).

ATTEST:


Don Barbee, Clerk

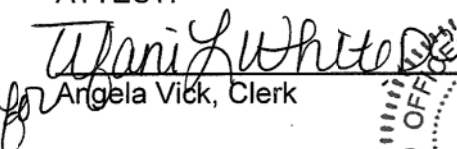
HERNANDO COUNTY, a political subdivision of the State of Florida:

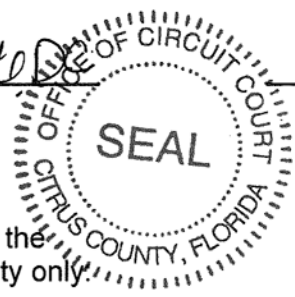

David D. Russell, Jr., Chairman

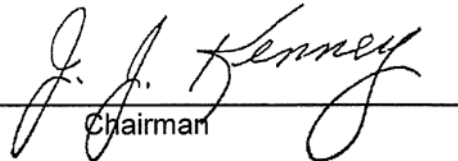
APPROVED AS TO FORM AND LEGAL SUFFICIENCY
BY 
County Attorney's Office

CITRUS COUNTY, a political subdivision of the State of Florida:

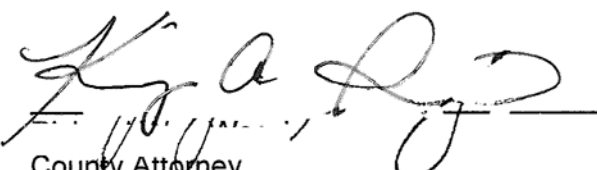
ATTEST:


Angela Vick, Clerk

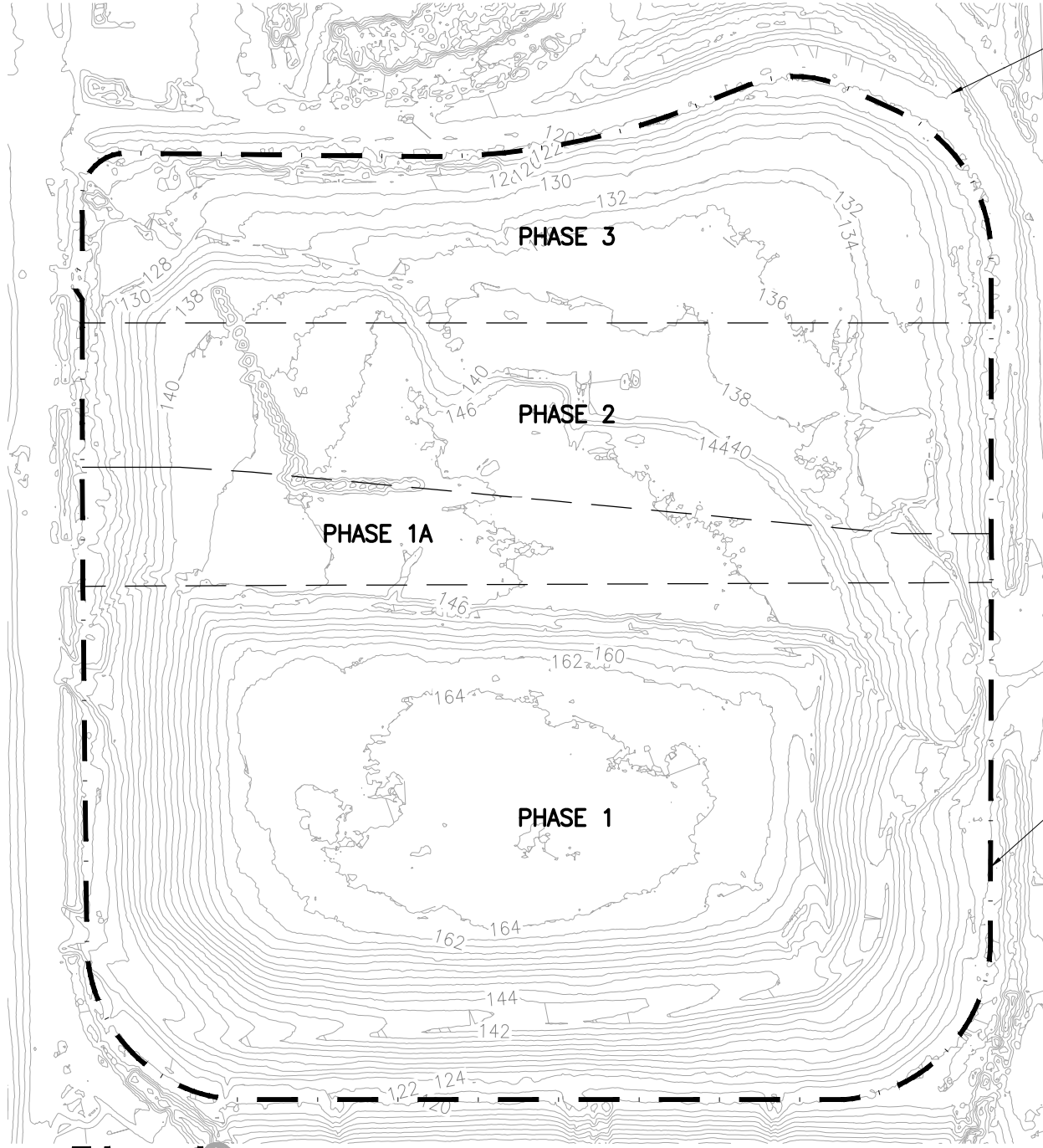



Chairman

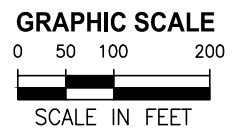
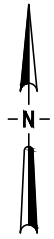
Approved as to form for the Reliance of Citrus County only.


County Attorney

Appendix C
Fill Sequence Plan



EXISTING 2' CONTOUR (TYP)

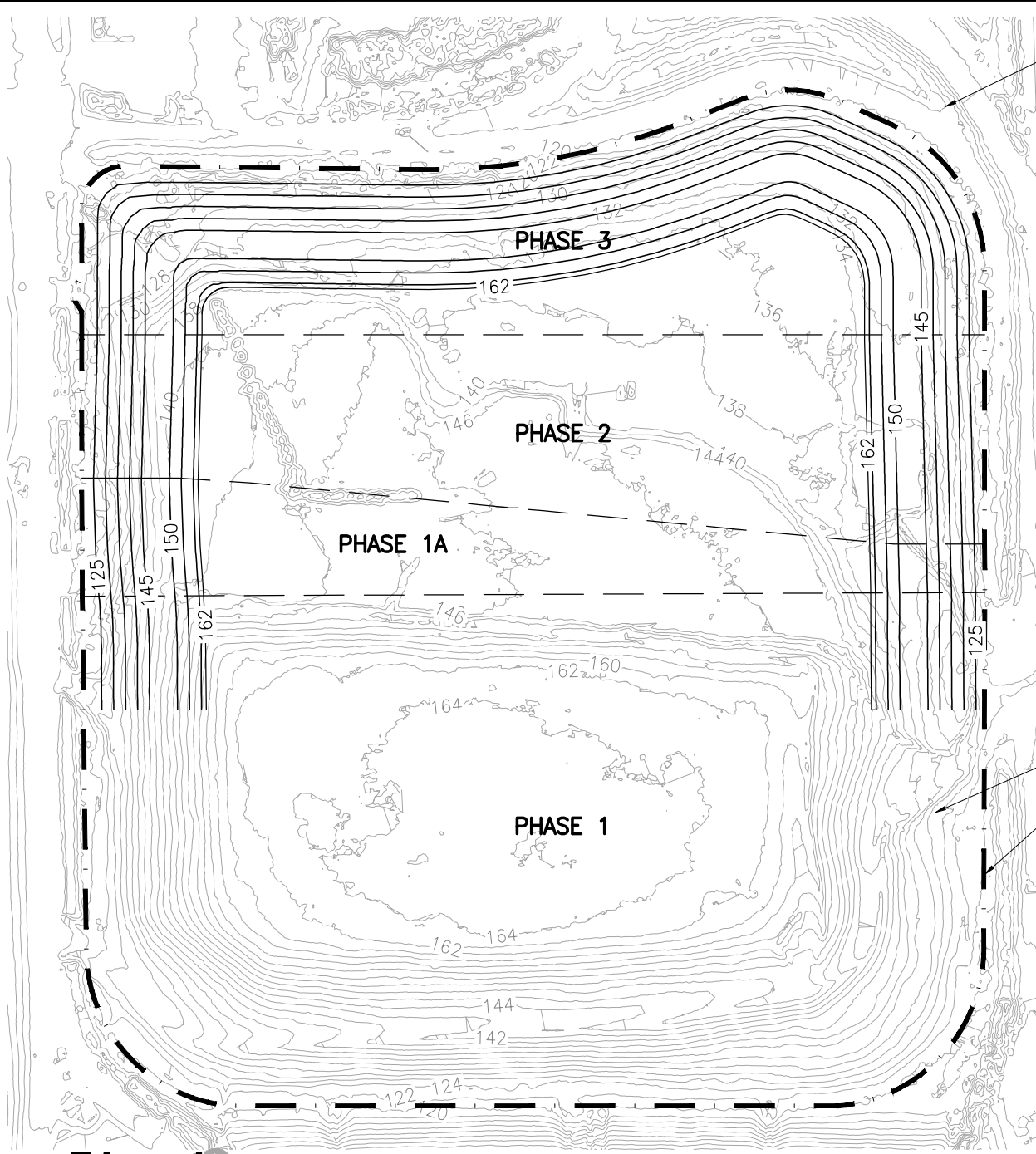


NOTES:

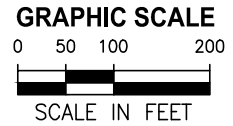
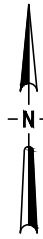
1. EXISTING GRADES FROM TOPOGRAPHIC SURVEY PERFORMED SEPTEMBER 2020 BY DRAGONFLY SOLUTIONS.
2. INTERMEDIATE COVER IS IN PLACE IN PHASE 1.
3. PERMITTED SIDE SLOPES ARE 3H:1V.
4. PEAK PERMITTED BUILDOUT ELEVATION: PHASE 1/1A TO 215 FEET NGVD; PHASE 2 AND 3 TO 218.1 FEET NGVD.

LIMITS OF LANDFILL CELL (APPROX)

**FIGURE 1 – FILL SEQUENCE PLAN
PHASES 1, 1A, 2, AND 3 – EXISTING GRADE
CITRUS COUNTY CENTRAL LANDFILL
LECANTO, FLORIDA
MAY 2021**



EXISTING 2' CONTOUR (TYP)

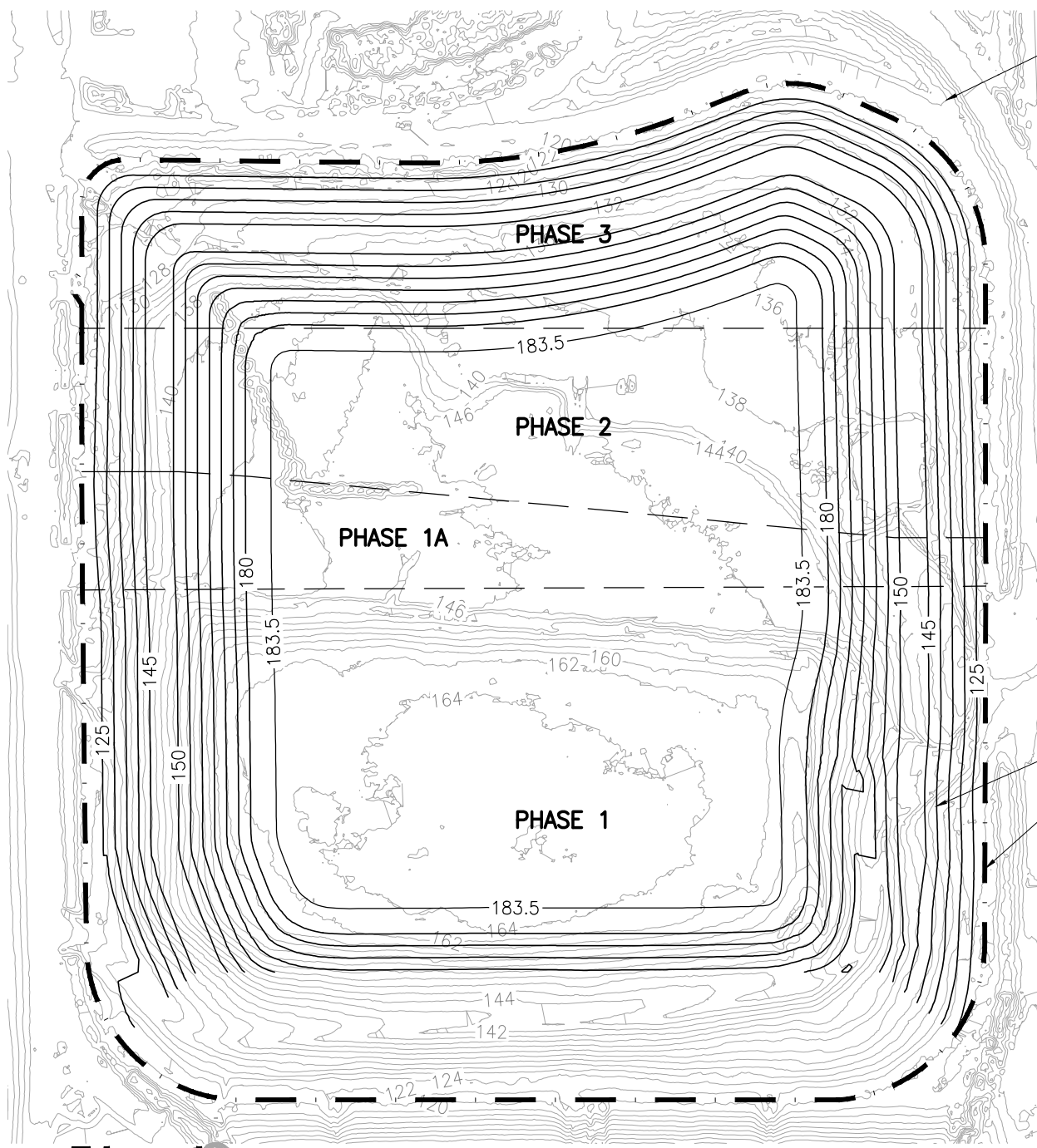


- NOTES:**
1. CONTINUE FILLING IN PHASES 1A, 2, AND 3 TO MATCH PHASE 1 BUILDOUT.

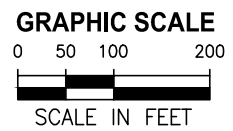
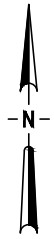
PROPOSED 5' CONTOUR (TYP)

LIMITS OF LANDFILL CELL (APPROX)

**FIGURE 2 – FILL SEQUENCE PLAN
PHASES 1, 1A, 2, AND 3 – STEP 1
CITRUS COUNTY CENTRAL LANDFILL
LECANTO, FLORIDA**



EXISTING 2' CONTOUR (TYP)

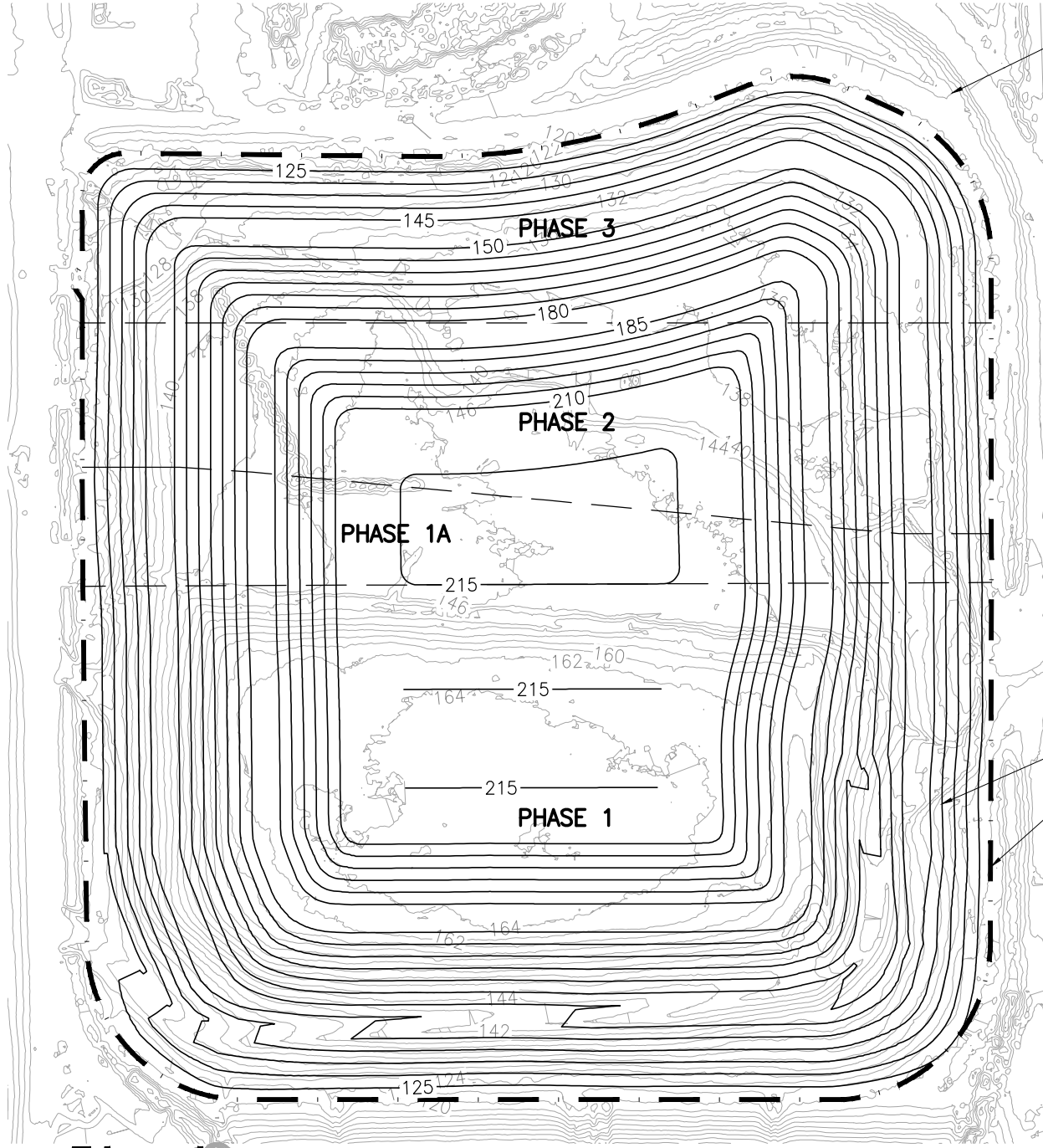


- NOTES:**
1. CONTINUE FILLING IN PHASES 1, 1A, 2, AND 3 TO BENCH AT ELEVATION 183.5 FEET.

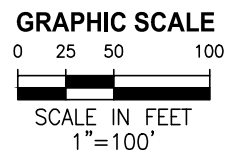
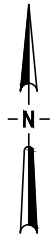
PROPOSED 5' CONTOUR (TYP)

LIMITS OF LANDFILL CELL (APPROX)

**FIGURE 3 – FILL SEQUENCE PLAN
PHASES 1, 1A, 2, AND 3 – STEP 2
CITRUS COUNTY CENTRAL LANDFILL
LECANTO, FLORIDA**



EXISTING 2' CONTOUR (TYP)



- NOTES:**
1. CONTINUE FILLING IN PHASES 1, 1A, 2, AND 3 TO PEAK BUILDOUT ELEVATION

PROPOSED 5' CONTOUR (TYP)

LIMITS OF LANDFILL CELL (APPROX)

**FIGURE 4 – FILL SEQUENCE PLAN
PHASES 1, 1A, 2, AND 3 – STEP 3
CITRUS COUNTY CENTRAL LANDFILL
LECANTO, FLORIDA
MAY 2021**

Appendix D
Leachate Treatment Agreement



BOARD OF COUNTY COMMISSIONERS
DEPARTMENT OF WATER RESOURCES
DIVISION OF UTILITIES
3600 W Sovereign Path Suit 291
Lecanto, Florida 34461-9014
Telephone: (352) 527-7650 Fax: (352) 527-7644
Citrus Springs/Dunnellon/Inglis/Yankeetown area - Toll Free (352) 489-2120
TTY Telephone: (352) 527-5312
www.bocc.citrus.fl.us

MEMORANDUM

To: Larry Brock, Assistant Public Works Director

Thru: Ken Cheek, Water Resources Director *KJC*
Jeff Rogers, Public Works Director *JR*

From: Gary Loggins, Utilities Operations Division Director *GL*

Date: May 27st, 2015

Re: Memorandum of Understanding

This Memo shall serve as a memorandum of understanding (MOU) between Citrus County Utilities Division (Utilities) and Citrus County Solid Waste Management Division (SWM).

Utilities agrees to secure and treat leachate produced at SWM landfill at a monthly base rate of \$752.98 plus \$8.40 per thousand gallons of leachate treated, not to exceed 100,000 gallons per day on an annual average basis. Flows may be adjusted accordingly by Utilities during extreme wet weather conditions.

SWM agrees to pay a Wastewater Capacity fee of \$56,000.00 for 36.15 Equivalent Residential Units (ERU's) at \$1,550.00 per ERU. SWM also agrees to pay the \$752.98 base rate (6" meter base charge) plus \$8.40 per thousand gallons.

SWM agrees to provide annual influent Toxicity Characteristic Leaching Potential test (TCLP) listed in 40 CFR, Part 261.24, Appendix XI, (at leachate storage tanks).

This MOU shall continue through the duration of SWM, landfill long-term care requirements.

Cc: Randy Oliver, Citrus County Administrator

**Supplement to Memorandum of Understanding
between Citrus County Utilities Division
and Citrus County Solid Waste Management Division**

Dated May 27, 2015

Leachate Force Main Billing

The Utilities Division will read the leachate force main meter at the landfill on a monthly basis and forward the invoicing through the Clerk's Office Finance / Accounts Payable Section for approval of payment by Solid Waste Management.

Leachate Hauling and Disposal Procedure

In the event Solid Waste Management is required to implement contractor hauling and disposal at one of the County's Wastewater Treatment plants, by the 10th of the following month, the Solid Waste Management will provide a monthly summary report to Utilities Division indicating the disposal amount (gallons per day) for each plant and the treatment fee (per day) at the rate of \$8.40 per thousand gallons.

Payment shall be through the Journal Voucher process initiated by the Utilities Division upon receipt of the monthly summary report from Solid Waste Management.

Appendix E
Daily Operator Log

Citrus County Central Landfill

Daily Operator Log

DESCRIPTION	SOURCE / LOCATION	ACTION REQUIRED	TYPE OF ACTION	ACTION COMPLETION DATE / NOTES
EROSION (50% of soil has been eroded. Waste, liner or geonet is exposed) To be repaired within 48 hours or by close of the next business day	<input type="checkbox"/> 80 ACRE <input type="checkbox"/> 60 ACRE <input type="checkbox"/> OTHER	YES · NO YES · NO YES · NO		
SETTLEMENT (low spots & improperly graded areas which causes ponding of water) To be repaired within 7 days	· 80 ACRE · 60 ACRE · OTHER	YES · NO YES · NO YES · NO		
ODORS (Beyond North Boundary Line)	· 80 ACRE · 60 ACRE · OTHER	YES · NO YES · NO YES · NO		
LITTER (Normal traffic areas to be collected & disposed daily - property boundary weekly)	· 80 ACRE · 60 ACRE · OTHER	YES · NO YES · NO YES · NO		
Complete DAILY: Identify & report any leachate seepage in phase 1,1A,2,& 3. Identify whether seep has breached into the swale or is still contained within liner.	Contained Breached · ·	YES · NO		
WATERING for dust control Show locations on map	· 80 ACRE	Number of Truck loads:	Attach tickets to log	Damage and/or failure of any of the landfill site facilities, unauthorized leachate discharges, dry GW wells, gas exceedances, fire, explosion, development of sinkholes or other subsurface instability at the site. Notify DEP within 24 hours and written follow up within 7 days.
Leachate Storage Tank containment area inspection leaks / damage		YES · NO		
Working Face Width < 50'x75'. Only wide enough for traffic, minimizing exposed area & daily cover	· 80 ACRE	YES · NO		
Stormwater Conveyance adequate performance of stormwater system	· 80 ACRE · 60 ACRE · OTHER	YES · NO YES · NO YES · NO		

OTHER ITEMS:

To be forwarded to SWM Director by 10:00 am each day

Daily Inspections assigned as follows:

- Monday: Dan / Michael
- Tuesday: Harold / Neil
- Wed: Tammy/Michael
- Thursday: Billy / Dan
- Friday: Aaron / Neil
- Sat: Certified Landfill Operator
- Sunday: Per sign up sheet

INSPECTED BY: _____ DATE _____

*see schedule

Appendix F
Groundwater Monitoring Plan

**CITRUS COUNTY CENTRAL LANDFILL
WATER QUALITY MONITORING PLAN
WACS FACILITY NO. SWD/09/39859**

Prepared for:

Citrus County
230 W. Gulf to Lake Highway
Lecanto, Florida 34461



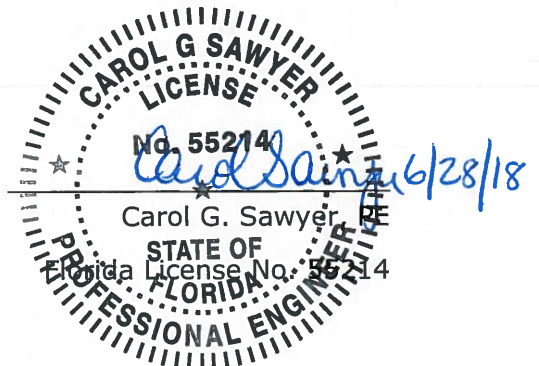
Prepared by:

Jones Edmunds
730 NE Waldo Road
Gainesville, Florida 32641

PE Certificate of Authorization #1841

PG Certificate of Authorization #133

June 2018



WATER QUALITY MONITORING PLAN FOR THE CITRUS COUNTY CENTRAL LANDFILL

This Water Quality Monitoring Plan (WQMP) details the compliance sampling required at the Citrus Central Landfill. This monitoring plan follows the format of Part L – Water Quality Monitoring Requirements – of the State of Florida Application for a Permit to Construct, Operate, Modify, or Close a Solid Waste Management Facility.

The only change to this WQMP from the previous plan (dated March 2016) is the addition of the three new groundwater assessment wells to the semiannual assessment sampling events. Wells MW-18D, MW-19D, and MW-22 will be sampled semiannually for the assessment monitoring parameters listed in Table e(2)(b).

Attachment 1 is a site map that shows the groundwater monitoring network with the addition of the three new assessment wells.

WATER QUALITY MONITORING PLAN

a. Sign and Seal

The water quality monitoring plan has been signed, dated, and sealed in accordance with Chapter 62-701.510(2)(a), FAC.

b. Sampling and Analysis

All sampling and analysis have been performed in accordance with Chapter 62-160, FAC; 62-701.510(2)(b), FAC; the FDEP Standard Operating Procedures 001/01; and the current Permit No. 21375-018-SO/01.

c. Groundwater Monitoring Requirements

- (1) The existing monitoring network has one detection well – MW-21.
- (2) The existing monitoring network has nine compliance wells – MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, MW-20, and MW-22.
- (3) The existing monitoring network has two background wells – MW-3 and MW-7.
- (4) Attachment 1 shows the locations of each groundwater monitoring well in the proposed monitoring network. Attachment 2 is a table that provides well construction information for all existing wells.

With the inclusion of the three new wells, four assessment wells – MW-18, MW-18D, MW-19, and MW-19D – are in the monitoring network.

- (5) Well spacing is less than 500 feet across the downgradient direction of groundwater flow and approximately 1,500 feet apart across the upgradient direction of groundwater flow in the uppermost aquifer –the Floridan aquifer – within the zone of discharge.
- (6) The screened intervals of the monitoring wells were positioned to encounter the water table of the unconfined Floridan aquifer throughout normal seasonal fluctuation.
- (7) The wells are constructed to provide representative groundwater samples from the zones monitored. Attachment 2 provides well construction information for all wells.
- (8) Unused wells and piezometers will be abandoned properly, as specified in Rule 40D-3.531, FAC, and the rules of the Southwest Florida Water Management District.
- (9) The site has no detection sensors.

d. Surface Water Monitoring Requirements

Surface water is only required to be sampled if a discharge off the Citrus County Central Landfill property occurs. The sample will be collected from the body of water from which the discharge occurred.

e. Sampling Frequency and Requirements

(1) Newly installed wells and replacement wells will be sampled for the parameters listed in Rules 62-701.510(7)(a) and (7)(c), FAC, within 2 weeks of well completion and development.

(2) Routine monitoring well sampling and analysis requirements:

(a) Water samples from all monitoring wells (background and compliance) will be sampled semiannually for the parameters listed in Section 62-701.510(7)(a), FAC, as tabulated in Table e(2)(a).

Table e(2)(a) Monitoring Well Sampling Parameters	
Field Parameters	Laboratory Parameters
Static Water Levels	Total Ammonia -N
Specific Conductivity	Chlorides
pH	Iron
Dissolved Oxygen	Mercury
Turbidity	Nitrate
Temperature	Sodium
Colors and Sheens (by observation)	Total Dissolved Solids (TDS)
	Those parameters listed in 40 CFR Part 258, Appendix I.

(b) Assessment wells – MW-18, MW-18D, MW-19, MW-19D, and MW-22 – will be sampled semiannually for the parameters listed in Table e(2)(b).

Table e(2)(b) Assessment Well Sampling Parameters

Field Parameters	Laboratory Parameters
Static Water Levels	Benzene
Specific Conductivity	Methylene Chloride
pH	Vinyl Chloride
Dissolved Oxygen	
Turbidity	
Temperature	
Colors and Sheens (by observation)	

(3) Surface water is only required to be sampled if a discharge off the Citrus County Central Landfill property occurs. If discharge off the property occurs, samples will be collected for the parameters listed in Section 62-701.510(7)(b), as tabulated in Table e(3).

Table e(3) Surface Water Sampling Parameters

Field Parameters	Laboratory Parameters
Specific Conductivity	Unionized Ammonia
pH	Total Hardness
	Biochemical Oxygen Demand (BOD5)
Dissolved Oxygen	Iron
Turbidity	Mercury
Temperature	Nitrate
Colors and Sheens (by observation)	Total Dissolved Solids (TDS)
	Total Organic Carbon (TOC)
	Fecal Coliform
	Total Phosphorus
	Chlorophyll A
	Total Nitrogen
	Chemical Oxygen Demand (COD)
	Total Suspended Solids (TSS)
	Those parameters listed in 40 CFR Part 258, Appendix I.

f. Evaluation Monitoring, Prevention Measures, and Corrective Action

(1) Groundwater Corrective Actions

If monitoring parameters are detected in wells at concentrations that are significantly above background water quality or that are at concentrations above FDEP's water quality standards or criteria specified in Rule 62-520, FAC, the well will be re-sampled within 30 days after the initial analytical data are received to confirm the data. If the data are confirmed or the well is not re-sampled, FDEP will be notified in writing within 14 days of the finding. Upon notification by FDEP, evaluation monitoring will be initiated in accordance with Chapter 62-701.510(6), FAC.

(2) Surface Water Corrective Actions

Surface water is only sampled on a per-discharge event. FDEP will be notified within 24 hours of discovery of a discharge event.

g. Water Quality Monitoring Report Requirements

Groundwater monitoring reporting is required and has been completed in accordance with Chapter 62-701.510(8), FAC.

(1) Groundwater compliance monitoring reports are submitted to FDEP semiannually in accordance with the current permit (FDEP Permit No. 21375-018-SO/01).

Additionally, these reports are submitted in accordance with the requirements of Section 62-701.510(8)(a), FAC.

(2) Water quality data will be provided electronically in a format consistent with requirements for importing into FDEP databases and in compliance with the permit.

(3) A technical report signed, sealed, and dated by a PG or PE will be submitted to FDEP every 2.5 years in accordance with the requirements of Chapter 62-701.510(8)(b), FAC. The most recent report dated March 2018 summarized data from the First Semiannual 2015 through the First Semiannual 2017 sampling events. The report summarizes and interprets the water quality and water level measurements collected during the past 2.5 years. The report included the following:

a) Tabular display of data showing all detected parameters.

b) Graphical display of any leachate key indicator parameters.

c) Hydrographs for all monitoring wells.

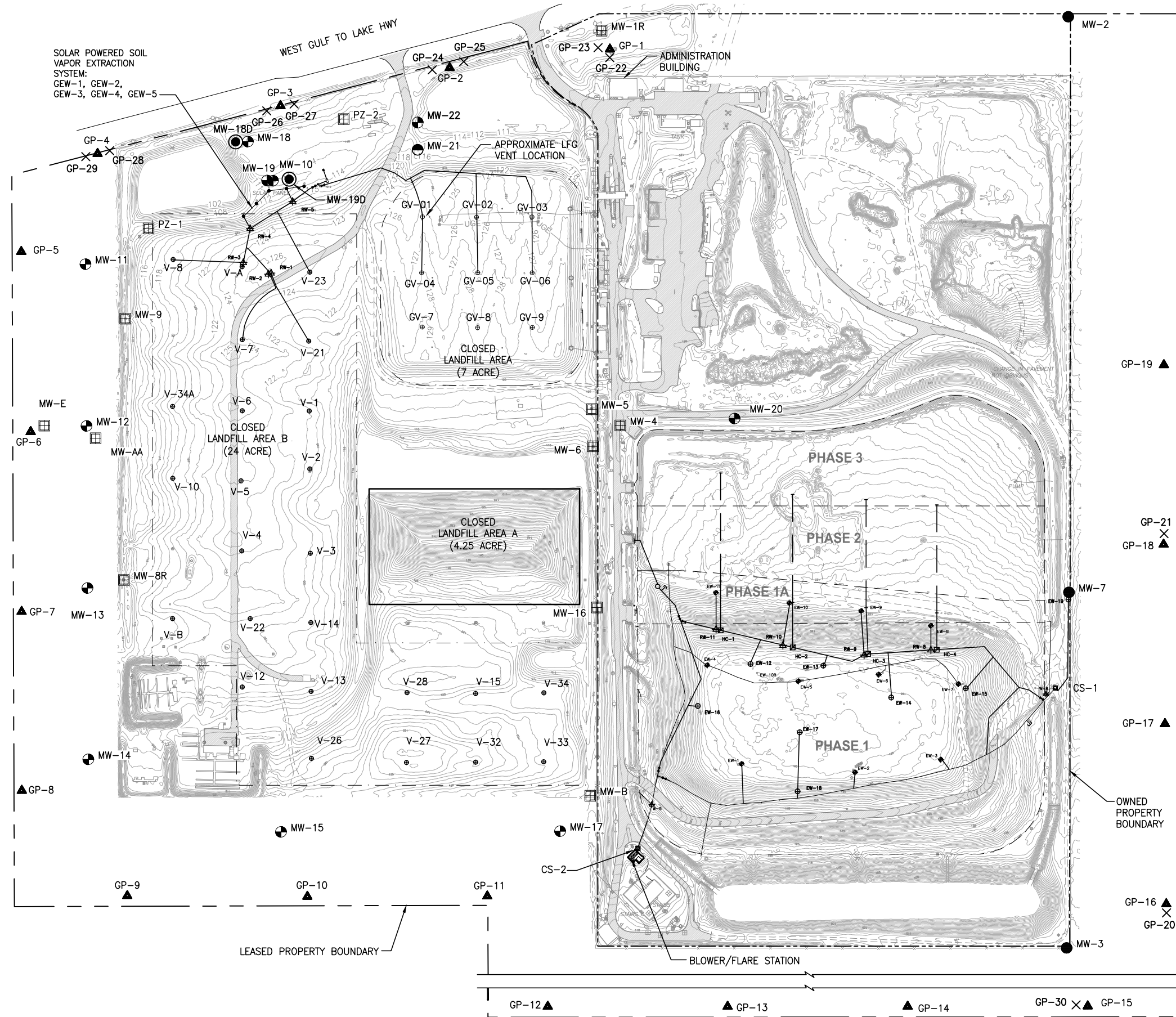
d) Trend analysis of any monitoring parameter consistently detected.

e) Comparisons between shallow-, medium-, and deep-zone wells.

f) Comparisons between background water quality and the water quality in detection and compliance wells.

- g) Correlations between related parameters such as total dissolved solids and specific conductance.
- h) Discussions of erratic and/or poorly correlated data.
- i) Interpretation of groundwater contour maps including an evaluation of groundwater flow rates.
- j) An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based on site conditions.

Attachment 1
Site Map



SOLAR POWERED SOIL VAPOR EXTRACTION SYSTEM:
 GEW-1, GEW-2, GEW-3, GEW-4, GEW-5

WEST GULF TO LAKE HWY

ADMINISTRATION BUILDING

APPROXIMATE LFG VENT LOCATION

CLOSED LANDFILL AREA (7 ACRE)

CLOSED LANDFILL AREA B (24 ACRE)

CLOSED LANDFILL AREA A (4.25 ACRE)

PHASE 3

PHASE 2

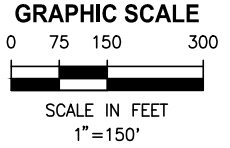
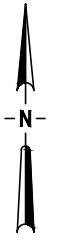
PHASE 1A

PHASE 1

OWNED PROPERTY BOUNDARY

LEASED PROPERTY BOUNDARY

BLOWER/FLARE STATION



LEGEND

- ⊕ EW-1 LFG EXTRACTION WELL
- ⊕ EW-15 LFG EXTRACTION WELL
- ⊕ EW-10 DOWNSLOPE LFG EXTRACTION WELL
- ⊕ EW-8R REMOTE LFG EXTRACTION WELLHEAD
- HEADER/LATERAL
- ⊠ CS-2 CONDENSATE SUMP
- MW-7 BACKGROUND WELLS
- ⊕ MW-13 COMPLIANCE MONITORING WELL
- ⊕ V-33 PASSIVE GAS VENT
- ⊕ GV-06 PASSIVE GAS VENT (INSTALLED 2009)
- ⊠ PZ-1 PIEZOMETERS
- ⊠ MW-9 PIEZOMETERS
- ▲ GP-1 GAS PROBE
- ▲ W-7 LEACHATE CLEANOUT RISER WELLHEAD
- × GP-21 NEW LFG PROBE (2017)
- MW-18D NEW GW MONITORING WELL (2017)
- MW-21 DETECTION WELL

NOTES:

1. TOPOGRAPHIC CONTOURS PREPARED BY PICKETT SURVEYING, DATED 09/28/17.
2. EXISTING LFG VENTS MAY NOT BE LABELED AS SHOWN.

**MONITORING NETWORK
 CITRUS COUNTY CENTRAL LANDFILL
 CITRUS COUNTY, FLORIDA**

LAST SAVED: 6/28/2018 4:56 PM BY: PUPSTILL PATH: \\JEACAD\DRAWING\03860 CITRUS COUNTY\059 GCCS\FIGURES\03860059FIG-MON-NET.DWG PLOTTED: 6/28/2018 04:56 PM BY: PAUL UPSTILL

ATTACHMENT 2
Well Construction Information

Well Name	Well Designation	Date Installed	Top of Casing Elevation (ft NGVD)	Screen Details							Filter Pack (Silica Sand)	Well Location	
				Total Depth (Ft. BLS)	Total Depth (ft BTOC)	Length (ft)	Depth (Ft. BLS)		Elevation (Ft. NGVD)			Easting (Ft.)	Northing (Ft.)
							Top	Bottom	Top	Bottom			
MW-AA	Piezometer	NR	105.85	116	117.4	10	106	116	-1.6	-11.6	NR	514330.1915	1642944.6946
MW-B	Piezometer	NR	113.30	128	128.8	20	108	128	4.5	-15.5	NR	515703.188	1641952.201
MW-E	Piezometer	NR	109.36	118	120.9	20	98	118	8.5	-11.5	NR	514187.411	1642978.872
MW-1R	Piezometer	NR	118.07	125	127.8	10	115	125	0.3	-9.7	NR	515734.4675	1644075.0314
MW-2	Piezometer	NR	136.05	161	163.8	15	146	161	-12.8	-27.8	NR	517016.947	1644134.012
MW-3	Background	NR	120.31	119	119.8	15	104	119	15.5	0.5	NR	517026.689	1641528.493
MW-5	Piezometer	NR	120.98	120	122.5	10	110	120	8.5	-1.5	NR	515706.7199	1643027.5870
MW-6	Piezometer	NR	118.27	122	124.7	10	112	122	3.6	-6.4	NR	515710.8712	1642921.8127
MW-7	Background	NR	128.47	137	139.06	20	117	137	9.4	-10.6	NR	517032.495	1642518.150
MW-8R	Piezometer	NR	117.96	128	127.98	20	108	128	10.0	-10.0	NR	514408.379	1642551.088
MW-9	Piezometer	NR	113.29	121	120.96	20	101	121	12.3	-7.7	NR	514411.959	1643276.437
MW-10	Compliance	11/2/05	113.37	120.5	120.0	20	100.5	120.5	13.4	-6.6	20/30	514808.4751	1643659.0352
MW-11	Compliance	11/2/05	104.69	112.0	111.7	20	92.0	112.0	13.0	-7.0	Gravel	514299.5523	1643424.8999
MW-12	Compliance	11/2/05	103.36	110.0	109.5	20	90.0	110.0	13.9	-6.1	20/30	514306.5574	1642972.8677
MW-13	Compliance	11/10/05	111.92	120.0	119.5	20	100.0	120.0	12.4	-7.6	20/30	514299.7062	1642543.8233
MW-14	Compliance	11/10/05	108.50	116.0	115.5	20	96.0	116.0	13.0	-7.0	20/30	514302.3733	1642085.7341
MW-15	Compliance	11/10/05	123.58	130.0	129.6	20	110.0	130.0	14.0	-6.0	20/30	514845.7153	1641844.4367
MW-16	Piezometer	10/31/05	119.64	127.0	126.6	20	107.0	127.0	13.0	-7.0	20/30	515765.2792	1642292.6040
MW-17	Compliance	11/3/05	110.85	118.0	117.5	20	98.0	118.0	13.4	-6.7	20/30	515619.9611	1641846.2474
MW-18	Assessment	1/23/07	115.82	120.0	119.7	20	100.0	120.0	16.1	-3.9	20/30	514730.9420	1643746.0676
MW-19	Assessment	1/22/07	113.50	140.0	139.6	10	130.0	140.0	-16.1	-26.1	20/30	514816.3731	1643660.2048
MW-20	Compliance	1/12/11	119.76	125.70	125.0	20	105.0	125.0	14.76	-5.24	20/30	516104.004	1642999.189
MW-21	Detection	1/12/11	115.63	125.40	125.0	20	105.0	125.0	10.63	-9.37	20/30	515259.800	1643743.909
MW-18D	Assessment	7/31/17	115.68	140.00	139.6	10	130.0	140.0	-13.92	-23.92	20/30	514743.728	1643744.784
MW-19D	Assessment	7/29/17	113.59	160.00	159.6	5	155.0	160.0	-41.01	-46.01	20/30	514825.267	1643661.619
MW-22	Compliance	8/1/17	113.79	125.00	124.5	20	105.0	125.0	9.29	-10.71	20/30	515212.968	1643815.567
PZ-1 A	Piezometer	1/26/07	110.97	120.0	119.7	20	100.0	120.0	11.3	-8.7	20/30	514454.2759	1643505.5893
PZ-2 A	Piezometer	1/24/07	116.82	120.0	119.8	20	100.0	120.0	17.0	-3.0	20/30	515020.7612	1643833.4593

Updated with County survey information dated September 14, 2017.

BTOC = Below Top of Casing
ft = Feet

BLS = Below Land Surface

NR = Not recorded

NGVD = National Geodetic Vertical Datum

Appendix G
Sample Load Checking Inspection Forms

CITRUS COUNTY CENTRAL LANDFILL

WEEKLY MONITORING OF WASTE – INSPECTION RESULTS

HAULING COMPANY: _____ **DATE:** _____ **TIME:** _____

DRIVER NAME: FIRST _____ **LAST:** _____

CO. ID# OF VEHICLE: _____ **(VEHICLE TAG NO.** _____ **)**

SOURCE OF WASTE AS STATED BY DRIVER: _____ **RESIDENTIAL ROUTE []**

COMMERCIAL ROUTE [] _____ **OTHER []** _____

OBSERVATIONS OF THE INSPECTOR INDICATES THE FOLLOWING RESTRICTED MATERIAL WAS LOCATED IN THE VEHICLE LOAD WHEN DISCHARGED INTO THE LANDFILL DISPOSAL AREA OR AT THE YARD WASTE FACILITY: _____ **YES ()** _____ **NO ()** _____

TIRES: _____ **WHITE GOODS:** _____ **BAGGED LAWN DEBRIS:** _____ **LOOSE LAWN DEBRIS:** _____

GARBAGE IN YARD WASTE AREA: _____ **SLUDGE (WITH > 12% LIQUID):** _____

DRUMS OVER 20 GAL WITHOUT HOLES: _____ **OTHER:** _____

RELOCATION ACTION: _____

RED BAGS (BIOMEDICAL): _____ **HOUSEHOLD HAZARDOUS WASTE SUCH AS:** _____

PAINTS: _____ **PAINT RELATED – (THINNERS):** _____ **AEROSOLS:** _____

POISONS: _____ **REACTIVES:** _____ **CORROSIVES:** _____ **FLAMMABLES:** _____

OIL/FILTERS: _____ **BATTERIES:** _____ **OTHER(S):** _____

ACTION TAKEN FOR HW MATERIALS: _____

INSPECTOR SIGNATURE AND TITLE

FOLLOW UP

PICTURE OF LOAD TAKEN _____ **YES()** _____ **NO()** _____ **BY:** _____

SCALEHOUSE ADVISED TO ADD WRC: YES () NO () NUMBER OF CHARGES
(971C= WASTE RELOCATION CHARGE @ \$90 PER EVERY HOUR TO RELOCATE MATERIAL

ADM. FOLLOW-UP: WRC VERIFIED IN SYSTEM _____ **YES ()** _____ **NO ()** _____ **By:** _____

ADM. FOLLOW-UP - PICTURE ATTACHED TO REPORT: _____

Appendix H
Maintenance Summary Form



Board of County Commissioners
DEPARTMENT OF PUBLIC WORKS
SOLID WASTE MANAGEMENT DIVISION

Maintenance Summary Form

Date _____ Identified by: (staff name) _____

Location of Problem _____

Description of Maintenance Needed / Problem _____

Date Item Originally Placed into Service _____ N/A

Manufacturer _____ Model _____

Serial # _____ Other _____

Type _____ Hp _____

Voltage _____ Phase _____ Primary/Secondary _____

Speed/RPM _____

Control panel # _____

Materials used/Needed _____

Performed by: _____

Reviewed by (Supervisor's Name) _____

Supervisor's Signature _____ Date Completed _____

Instructions for completing the Equipment Operator Service Report

It is the responsibility of each equipment operator to ensure that this form is correctly and completely filled out. It is to be used by each operator to monitor the condition of the equipment. It is designed to be used by at least two operators a day but can be used by more if need be. Information on this form is used to track data such as hours used, fuel usage, oil consumption and to notify the supervisor and other operators of the condition of the equipment. Safety items must be reported immediately to the supervisor on duty.

Explanation of entries to be made: Refer to the operator's manual for further instructions.

Daily Walk Around Inspection:

Each operator will do a thorough walk around inspection as prescribed in the operator's manual before operation.

Beginning Hours:

Record the hours that you started operating the equipment.

Refuel Hours:

Record the hours that you filled the fuel tank. This will differ depending on when fuel is added.

Ending hours:

Record the hours when you leave the equipment.

Fuel Added, Gallons:

Record the total amount of fuel added to the fuel tank.

Check/Top-off Engine Oil:

Check the oil and if needed record the amount added.

Check Coolant Level:

Look at the sight glass, do not remove radiator cap if engine is hot.

Check Hydraulic Oil Level:

Check the oil and if needed record the amount added.

Check Transmission Oil Level:

Check the oil and if needed record the amount added.

Lubricate per Operators Manual:

Lubricate the points specified in the manual as prescribed in the manual.

Check Drive Train for leaks:

Look under and around the equipment for leaks.

Remove Debris:

Remove anything that is not part of the machine. Pay attention to pinch areas.

Drain Fuel Filter Water Separator:

Refer to operator's manual for procedure.

Backup Alarm & Fire Extinguisher:

These are critical safety items and must be serviceable at all times.

Clean Windows and Cab Interior:

Wash the windows and sweep out the cab. Remove your trash.

Quick Coupler & Tire Pressure:

Ensure that the coupler has no obvious cracks and that the tire pressure is correct.

Check/ Clean Cab fresh air filters:

Check and clean both external and internal cab fresh air filters.

Clean Primary Engine Air Cleaner:

Clean when necessary. Observe Indicator.

Initials:

Place your initials in the space provided to show that you completed the form.

Operator Comments:

Space provided for comments relating to machine operation and safety issues.

This form needs to be turned in to the field crew leader no later than 10:00 AM every Monday for the previous week. They will then review all entries for accuracy and corrective action if necessary.

OPERATOR DAILY CHECKS & SERVICE	1008 Volvo LC450H Compactor	20576 Volvo Articulated Truck	20584 MAC Roll-Off Truck	53430 631750 Volvo Loader		
Equipment Number:	20598 Water Truck	20508 Bobcat Skid Steer	53471 Kut Kwick Slope Mower	53431 631751 Volvo Loader		
	20599 CAT Excavator	55560 Kubota RTV 1100	20517 Toro Mower	52543 Kubota RTV 900		
Start:	7233 JD 850L Dozer	51556 Tire De-Rimmer	53470 Kubota Batwing Mower	53373 Kubota RTV 1100		
		L20 Volvo Mini Loader	53456 Freightliner Roll-Off Truck	55182 Freightliner Roll-Off Truck		
Ending:	WEEK OF:			TO:		
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Daily Walk Around Inspection						
Beginning Hours						
Refuel Hours						
Ending Hours						
Fuel Added, Gallons						
D.E.F Added, Gallons						
Check / Top-off Engine Oil						
Check Coolant Level / Radiator						
Check Hydraulic Oil Level						
Check Transmission Oil Level						
Check Drivetrain For Leaks						
Remove Debris From Pinch Areas						
LUBRICATE every 10 hours						
Drain Fuel Filter Water Separator						
Backup Alarm & Fire Extinguisher						
Fire Suppression System Check / Test						
Clean Windows and Cab Interior						
Quick Coupler and Tire Pressure						
Check / Clean Cab Fresh Air Filter						
Clean Primary Engine Air Cleaner						
Initials						
Operator Comments:	<i>"Have you greased and cleaned " YOUR " machine lately"</i>					
Total Hours Operated		Must be given to Aaron		Next Service Due		
Total Fuel Used		by 10:00 AM every Monday				
Gallons Per Hour				Posted		

Equipment Number: 52425	52425 Landfill Sprayer Machine			
OPERATOR DAILY CHECKS & SERVICE				
Start:				
Finish:	WEEK OF:		TO:	
	Monday	Tuesday	Wednesday	Thursday
	Friday	Saturday		
Beginning Hours				
Refuel Hours				
Ending Hours				
Fuel Added, Gallons				
Check Engine Air Filter				
Check / Top-off Engine Oil				
Check Level in Radiator & Overflow Tank				
Check Hydraulic Oil Level				
Check Tires for Damage / Cuts				
Grease every 8 hours (1-2 Squirts) Lithium				
Check Engine & Tank Area for Leaks				
Remove Debris From Wheels & Decking				
Inspect Tank for Foreign Objects (Clean)				
Inspect Hitch, Safety Chains				
Inspect all Handrails are in Place & Secure				
Check Bag Cutter is in Place & Secure				
Check & Clear Nozzle for Obstructions				
Remove Drain Plug On Pump for (Freeze)				
Check Automatic Pressure Lubricator				
Initials				
Operator Comments:	<i>"Have you greased and cleaned " YOUR " machine lately"</i>			
Total Hours Operated		Must be given to Aaron		Next Service Due
Total Fuel Used		by 10:00 AM every Monday		
Gallons Per Hour		Posted		

**CITRUS COUNTY SOLID WASTE MANAGEMENT
EQUIPMENT OPERATOR SERVICE REPORT**

Equipment Number: 19711	WEEK OF:					TO:						
Daily Service Checks / Prior to Use	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Beginning Hours / Ending Hours												
No visible oil or water leaks												
Engine Oil, brake fluid & hydraulic fluid levels												
Hydraulic Lines and fittings (wear / crimping)												
Lift and tilt cylinders (damage or leaking fluids)												
Tires (no excessive wear / splitting, etc.)												
Radiator coolant overflow level												
Horn & Backup alarm												
Seat belt & parking brake alarms												
Parking brake												
All dash lights on with key is turned on												
Outside lights and backup lights operating												
Air filter cleaned every 10 hours												
Check fire extinguisher (gauge & pin)												
Diesel Fuel Level / Gallons Added												
Grease tilt socket pins (2) every 50 hours												
Grease tie rod pins (4) every 50 hours												
Grease mass support (2) every 50 hours												
Grease lift chains (2) every 50 hours												
Lube lift chains w / engine oil every 50 hours												
Grease king pins (4) every 50 hours												
Initials:												
Operator Comments:	<i>"Have you greased and cleaned " YOUR " machine lately"</i>											
Tagged out of service:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No								
Total Hours Operated					Must be given to Aaron				Next Service Due			
Total Fuel Used					by 10:00 AM every Monday							
Gallons Per Hour									Posted			

Generators

Equipment Number:	#15326 Olympian										
	#51488 Generac										
OPERATOR DAILY CHECKS & SERVICE	#14125 Dayton										
Start:											
Finish:	WEEK OF:			TO:							
	Monday	Tuesday	Wednesday	Thursday	Friday						
	Saturday										
Daily Walk Around Inspection											
Time Start											
Beginning Hours											
Refuel Hours											
Ending Hours											
Fuel Added, Gallons / Propane %											
Check / Top-off Engine Oil											
Check Coolant Level / Radiator											
Check Drivetrain For Leaks											
Check Tires (If Equipped)											
Clean Primary Engine Air Cleaner											
Initials											
Operator Comments:	<i>"Have you greased and cleaned " YOUR " machine lately"</i>										
Total Hours Operated		Must be given to Aaron by 10:00 AM every Monday		Next Service Due							
Total Fuel Used											
Gallons Per Hour						Posted					

Equipment Number:	55070 Doosan Light Tower											
OPERATOR DAILY CHECKS & SERVICE												
Start:												
Finish:	WEEK OF:					TO:						
	Monday	Tuesday		Wednesday		Thursday		Friday		Saturday		
Daily Walk Around Inspection												
Time Start												
Beginning Hours												
Refuel Hours												
Ending Hours												
Fuel Added, Gallons												
Check / Top-off Engine Oil												
Check Coolant Level / Radiator												
Check Drivetrain For Leaks												
LUBRICATE every 10 hours												
Check Tires												
Clean Engine Air Cleaner												
Clean Primary Engine Air Cleaner												
Check Mast Wiring and Cables												
Check Lights												
Initials												
Operator Comments:	<i>"Have you greased and cleaned " YOUR " machine lately"</i>											
Total Hours Operated		Must be given to Aaron				Next Service Due						
Total Fuel Used		by 10:00 AM every Monday										
Gallons Per Hour						Posted						

Equipment Number:	52180 Kubota RTV 900			
	52179 Kubota RTV 900			
OPERATOR DAILY CHECKS & SERVICE				
Start:				
Finish:	WEEK OF:			TO:
	Monday	Tuesday	Wednesday	Thursday
	Friday	Saturday		
Daily Walk Around Inspection				
Beginning Hours				
Refuel Hours				
Ending Hours				
Fuel Added, Gallons				
Check / Top-off Engine Oil				
Check Coolant Level / Radiator				
Check Hydraulic Oil Level				
Check Transmission Oil Level				
Check Drivetrain For Leaks				
Remove Debris From Pinch Areas				
LUBRICATE every 50 hours				
Clean Machine and Cab Interior				
Tire Pressure / Tread Condition				
Clean Primary Engine Air Cleaner				
Initials				
Operator Comments:	<i>"Have you greased and cleaned " YOUR " machine lately"</i>			
Total Hours Operated		Must be given to Aaron by 10:00 AM every Monday	Next Service Due	
Total Fuel Used				
Gallons Per Hour			Posted	

Equipment Number: 53196				
Lube Trailer				
OPERATOR DAILY CHECKS & SERVICE				
Start:				
Finish:	WEEK OF:			TO:
	Monday	Tuesday	Wednesday	Thursday
	Friday	Saturday		
Daily Walk Around Inspection				
Time Start				
Check Drivetrain Wheels / Tires				
Check all Tanks, Leaks, Lines & Connections				
Check Compressor, Fuel, Air Filter, Belts, Drain				
Fuel Added, Gallons for Compressor				
Check all Hose Reels, Pumps, Filters, Gauges				
Check Rear Enclosure, Rollup Door and Clean				
Check Solar Panel, Clean, Damage				
Check Grease Pump, Lines, Gun & Level				
Check Battery				
Check Fire Extinguisher				
D.E.F				
Water				
Initials				
Operator Comments:	<i>"Have you greased and cleaned "YOUR" machine lately"</i>			
Total Hours Operated		Must be given to Aaron		Next Service Due
Total Fuel Used		by 10:00 AM every Monday		
Gallons Per Hour				Posted

Equipment Number:	#17286 Acme Pump			
	#53447 Heidra Pump			
OPERATOR DAILY CHECKS & SERVICE	#51130 Yanmar Pump			
Start:				
Finish:	WEEK OF:			TO:
	Monday	Tuesday	Wednesday	Thursday
	Friday	Saturday		
Daily Walk Around Inspection				
Time Start				
Beginning Hours				
Refuel Hours				
Ending Hours				
Fuel Added, Gallons				
Check / Top-off Engine Oil				
Check Coolant Level / Radiator				
Check Hydraulic Lines / Oil Level				
Check Drivetrain For Leaks				
LUBRICATE every 10 hours				
Drain Fuel Filter Water Separator				
Check Tires (If Equipped)				
Clean Primary Engine Air Cleaner				
Pump to Tanks / Pump to DRA				
Storage Tanks Level Starting / Ending				
Initials				
Operator Comments:	<i>"Have you greased and cleaned "YOUR" machine lately"</i>			
Total Hours Operated		Must be given to Aaron		Next Service Due
Total Fuel Used		by 10:00 AM every Monday		
Gallons Per Hour				Posted

Appendix I
LFG Monitoring Form

**LANDFILL GAS MONITORING
CITRUS COUNTY CENTRAL LANDFILL**

General Data

Date:		Sampler:	
Time:		Sky Conditions:	
Air Temperature (deg C):		Measuring Device:	

Sampling Data

Station I.D.	Date Sampled	Time Sampled	Depth of Intake (Feet)	O2 % Volume	CO2 % Volume	Methane		Station Type
						Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	
GP-1			20					Gas Well
GP-1			40					Gas Well
GP-2			20					Gas Well
GP-2			40					Gas Well
GP-3			20					Gas Well
GP-3			40					Gas Well
GP-4			20					Gas Well
GP-4			40					Gas Well
GP-5			20					Gas Well
GP-5			40					Gas Well
GP-6			20					Gas Well
GP-6			40					Gas Well
GP-7			20					Gas Well
GP-7			40					Gas Well
GP-8			20					Gas Well
GP-8			40					Gas Well
GP-9			20					Gas Well
GP-9			40					Gas Well
GP-10			20					Gas Well
GP-10			40					Gas Well
GP-11			20					Gas Well
GP-11			40					Gas Well
GP-12			25					Gas Well
GP-12			50					Gas Well
GP-12			75					Gas Well
GP-13			25					Gas Well
GP-13			50					Gas Well
GP-13			75					Gas Well
GP-14			25					Gas Well
GP-14			50					Gas Well

**LANDFILL GAS MONITORING
CITRUS COUNTY CENTRAL LANDFILL**

General Data

Date:		Sampler:	
Time:		Sky Conditions:	
Air Temperature (deg C):		Measuring Device:	

Sampling Data

Station I.D.	Date Sampled	Time Sampled	Depth of Intake (Feet)	O2 % Volume	CO2 % Volume	Methane		Station Type
						Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	
GP-14			75					Gas Well
GP-15			25					Gas Well
GP-15			50					Gas Well
GP-15			75					Gas Well
GP-16			25					Gas Well
GP-16			50					Gas Well
GP-16			75					Gas Well
GP-17			25					Gas Well
GP-17			50					Gas Well
GP-17			75					Gas Well
GP-18			25					Gas Well
GP-18			50					Gas Well
GP-18			75					Gas Well
GP-19			25					Gas Well
GP-19			50					Gas Well
GP-19			75					Gas Well
GP-20			105					Gas Well
GP-21			115					Gas Well
GP-22			70					Gas Well
GP-23			100					Gas Well
GP-24			70					Gas Well
GP-25			100					Gas Well
GP-26			70					Gas Well
GP-27			100					Gas Well
GP-28			70					Gas Well
GP-29			100					Gas Well
GP-30			105					Gas Well
Admin Building			-					Structure
Mod Bldg			-					Structure
Shop			-					Structure

**LANDFILL GAS MONITORING
CITRUS COUNTY CENTRAL LANDFILL**

General Data

Date:		Sampler:	
Time:		Sky Conditions:	
Air Temperature (deg C):		Measuring Device:	

Sampling Data

Station I.D.	Date Sampled	Time Sampled	Depth of Intake (Feet)	O2 % Volume	CO2 % Volume	Methane		Station Type
						Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	
Scale House			-					Structure
Treatment Facility			-					Structure
Firing Range			-					7 Structures
Haz Waste Drop off Center			-					4 Structures

**LANDFILL GAS MONITORING
CITRUS COUNTY CENTRAL LANDFILL**

General Data

Date:	Sampler:
Time:	Sky Conditions:
Air Temperature (deg C):	Measuring Device:

Sampling Data

Station I.D.	Time Sampled	O2 % Volume	CO2 % Volume	Methane		Station Type
				Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	
MW-1R						GW Well
MW-2						GW Well
MW-3						GW Well
MW-5						GW Well
MW-6						GW Well
MW-7						GW Well
MW-8R						GW Well
MW-9						GW Well
MW-10						GW Well
MW-11						GW Well
MW-12						GW Well
MW-13						GW Well
MW-14						GW Well
MW-15						GW Well
MW-16						GW Well
MW-17						GW Well
MW-18						GW Well
MW-19						GW Well
MW-20						GW Well
MW-21						GW Well
MW-AA						GW Well
MW-B						GW Well
MW-E						GW Well
PZ-1						GW Well
PZ-2						GW Well

Appendix B
Closure and Long-Term Care Plan

**CITRUS COUNTY CENTRAL LANDFILL
CLOSURE AND LONG-TERM CARE PLAN**

Prepared for:

Citrus County Solid Waste Department
230 W. Gulf to Lake Hwy
Lecanto, Florida 34460



Prepared by:

Jones Edmunds & Associates, Inc.
730 NE Waldo Road
Gainesville, Florida 32641-7599

Jones Edmunds Project No.: 03860-087-01

June 2021

TABLE OF CONTENTS

1	INTRODUCTION	1-1
1.1	Site Information	1-1
2	CLOSURE PERMIT REQUIREMENTS.....	2-1
3	CLOSURE DESIGN PLAN	3-1
3.1	Closure Phases	3-1
3.2	Existing Topography and Final Grading Plans.....	3-1
3.3	Closure Provisions.....	3-1
3.4	Final Elevations Before Settlement.....	3-1
3.5	Side-Slope Design.....	3-1
3.6	Final Cover Installation.....	3-3
3.7	Final Cover Design Requirements.....	3-3
3.7.1	Protective Soil Layer Design	3-3
3.7.2	Barrier Soil Layer Design	3-3
3.7.3	Erosion Control Vegetation.....	3-3
3.7.4	Geomembrane Barrier Layer Design	3-4
3.7.5	Geosynthetic Clay Liner Design.....	3-4
3.7.6	Stability Analysis of the Cover System and the Disposed Waste.....	3-4
3.8	Stormwater Control	3-4
3.9	Access Control.....	3-4
3.10	Gas Management System	3-5
4	CLOSURE OPERATION PLAN.....	4-1
4.1	Actions to Close.....	4-1
4.2	Schedule	4-1
4.3	Financial Assurance for Long-term Care.....	4-1
4.4	Water-Quality Monitoring Plan	4-1
4.5	Gas Management System	4-1
5	CERTIFICATION	5-1
5.1	Survey Monuments	5-1
5.2	Final Survey Report	5-1
6	DECLARATION TO THE PUBLIC.....	6-1
7	OFFICIAL DATE OF CLOSING.....	7-1
8	TEMPORARY CLOSURE	8-1
9	OTHER CLOSURE PROCEDURES	9-1

9.1	Closed Landfill Use.....	9-1
9.2	Relocation of Wastes.....	9-1
10	LONG-TERM-CARE REQUIREMENTS	10-1
10.1	Right of Access.....	10-1
10.2	Gas Collection and Monitoring System.....	10-2
10.3	Groundwater Monitoring System.....	10-2
10.4	Successors of Interest.....	10-2
10.5	Stabilization Report.....	10-2
10.6	Monthly Inspection Checklist.....	10-2
10.7	Maintenance and Repair.....	10-3
10.8	Grass.....	10-4
10.9	Erosion Control.....	10-5
10.10	Stormwater Structures.....	10-5
10.11	Landfill Cap.....	10-5
10.12	Management of Monitoring Devices.....	10-6
10.12.1	Groundwater Monitoring Wells.....	10-6
10.12.2	Gas Monitoring.....	10-7
10.13	Record-Keeping Requirements.....	10-7
10.13.1	Records of Monitoring.....	10-7
10.13.2	Inspection Forms.....	10-8
10.14	Completion Of LTC.....	10-8

LIST OF FIGURES

Figure 1-1	Site Location Map.....	1-2
Figure 1-2	Site Plan.....	1-3
Figure 3-1	Final Cover and Grading.....	3-2

LIST OF TABLES

Table 10-1	Schedule for Notification and Corrective Actions.....	10-3
------------	---	------

ATTACHMENTS

Attachment A	Post-Closure Monthly Inspection Checklist
--------------	---

1 INTRODUCTION

This Closure and Long-Term Care (CLTC) Plan provides guidelines and procedures for the closure requirements, closure construction, inspection, maintenance, repairs, monitoring, and recordkeeping of the Class I Citrus County Central Landfill (CCCL). The CCCL includes an active, lined Class I Landfill and two closed, unlined Class I landfill cells, and one closed lined Class I landfill cell.

This plan discusses closure procedures and requirements that are permitted in accordance with Rules 62-701.600 and 62-701.610, Florida Administrative Code (FAC), and long-term care (LTC) requirements specified in Rule 62-701.620(2), FAC.

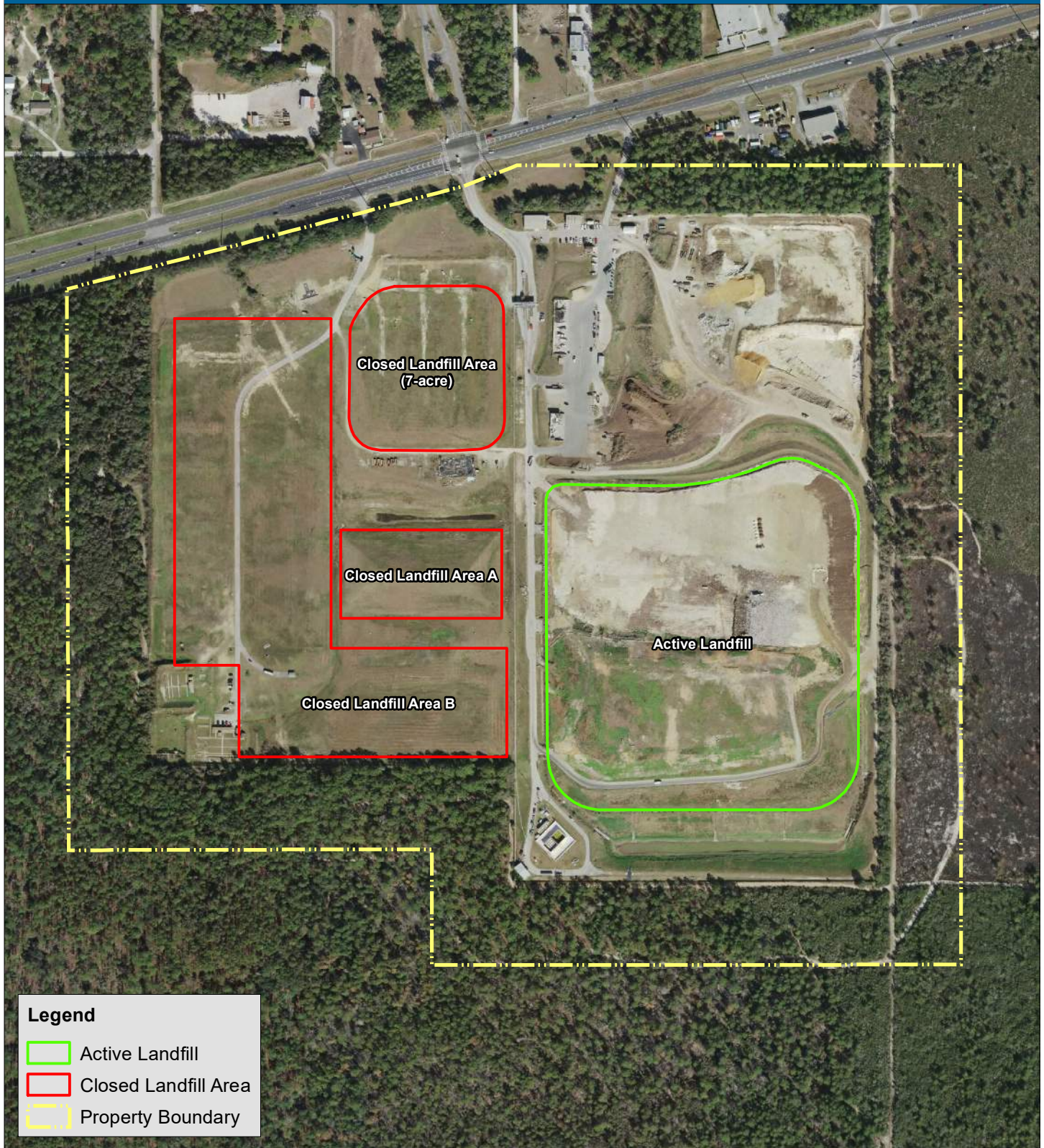
This plan combines recommendations and Florida Department of Environmental Protection (FDEP) requirements. Only those permit items pertinent to the closure and routine maintenance and/or operation of the closed landfill and the stormwater system have been identified and discussed.

1.1 SITE INFORMATION

The CCCL is owned by Citrus County, Florida, and operated by the Citrus County Solid Waste Management Department. CCCL is in Lecanto, Florida, at 230 W. Gulf to Lake Highway (State Highway [SR] 44), in Section 1, Township 19 South, and Range 18 East.

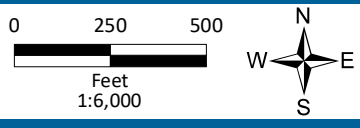
The CCCL encompasses approximately 140 acres and consists of an active 32.6-acre lined Class I Landfill (Phases 1, 1A, 2, and 3), three closed Class I landfills encompassing approximately 60 acres, a yard waste processing area, a waste tire storage area, and supporting infrastructure (e.g., scalehouse, administrative building, and a citizens waste drop-off area). Two of the three closed Class I landfills are unlined. The active landfill has an active gas collection and control system (GCCS), and the closed landfills have passive landfill gas vents. Figure 1-1 provides the Site Location Map, and Figure 1-2 provides a Site Plan showing facility buildings and monitoring sites.

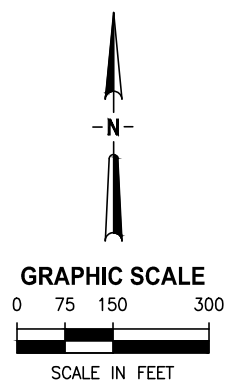
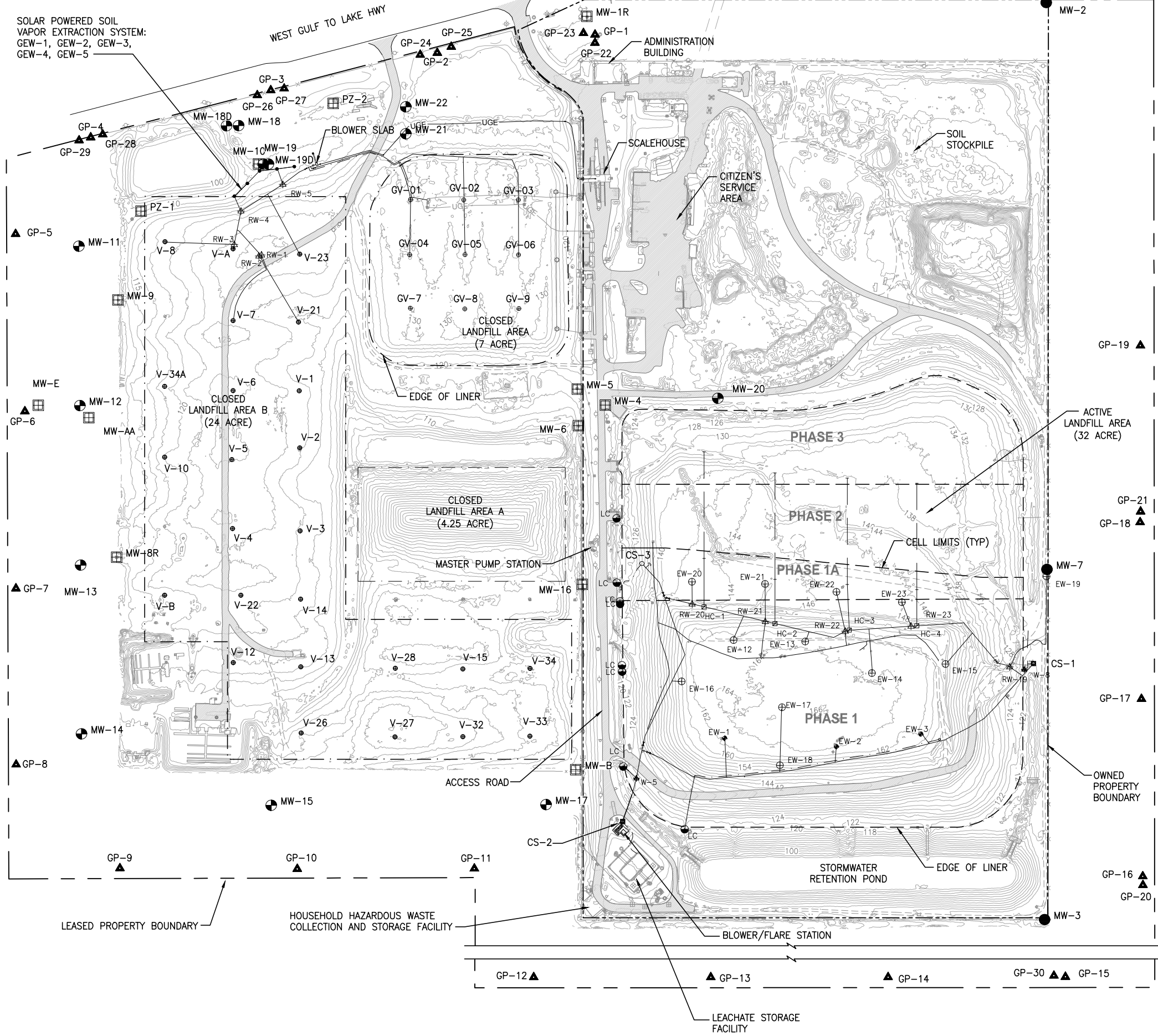
Figure 1-1
Site Location Map
Citrus County Central Landfill



Legend

- Active Landfill
- Closed Landfill Area
- Property Boundary





- LEGEND**
- ⊕ EW-1 EXISTING LFG EXTRACTION WELL
 - ⊕ EW-10 EXISTING DOWNSLOPE LFG EXTRACTION WELL
 - ⊕ EW-8R W-1 EXISTING REMOTE LFG EXTRACTION WELLHEAD OR EXISTING LEACHATE CLEANOUT RISER WELLHEAD
 - EXISTING LFG PIPING
 - ⊕ CS-2 EXISTING CONDENSATE SUMP
 - CT-1 EXISTING CONDENSATE TRAP
 - LC EXISTING LEACHATE CLEANOUT
 - MW-7 EXISTING BACKGROUND GROUNDWATER MONITORING WELL
 - MW-13 EXISTING COMPLIANCE GROUNDWATER MONITORING WELL
 - ⊕ V-33 EXISTING PASSIVE LFG VENT
 - ⊕ GV-06 EXISTING PASSIVE LFG VENT (INSTALLED 2009)
 - ⊕ PZ-1 EXISTING PIEZOMETER
 - ⊕ MW-9 EXISTING PIEZOMETER
 - ▲ GP-1 EXISTING GAS PROBE
 - ⊕ W-7 EXISTING LEACHATE CLEANOUT RISER WELLHEAD

- NOTES:**
1. TOPOGRAPHIC CONTOURS PREPARED BY COASTAL LAND SURVEYORS AND MAPPERS, DATED 10/15/2020.
 2. EXISTING LFG VENTS LABELING MAY VARY IN THE FIELD.

**FIGURE 1-2
SITE PLAN
CITRUS COUNTY CENTRAL LANDFILL
LECANTO, FLORIDA**

LAST SAVED: 6/28/2021 9:05 AM BY: TLEBLANC PATH: Y:\038660-CITRUS COUNTY PROJECTS\087-01 CLASSIFIED PANADCSAUGRADES\CAD\FIGURES\PANADCSAUGRADES\CAD\FIGURES\087-01-2.DWG PLOTTED: 6/28/2021 09:48 AM BY: PAUL E. UPSTILL

2 CLOSURE PERMIT REQUIREMENTS

In accordance with the requirements of Rule 62-701.600(2), FAC, the following describes the procedures that will be followed and the information that will be provided at the time of final closure of the landfill.

Upon reaching final disposal capacity, a final closure permit application will be submitted. The plan submitted at that time will be in accordance with current solid waste regulations. The permit drawings submitted as part of this Permit Application will be updated to reflect actual site conditions at the time of final closure. These plans will include sufficient detail to construct the closure.

The closure plan submitted as part of this Permit Modification Application includes the following items:

- Closure Design Plan (Section 3).
- Closure Operation Plan (Section 4).
- Long-Term-Care Requirements (Section 10).
- Demonstration of proof of financial responsibility for LTC (Sections 4.3 and 10.4).

3 CLOSURE DESIGN PLAN

The Closure Design Plan consists of engineering plans and this document regarding closure design and procedures for the closure of the Class I Landfill in accordance with Rule 62-701.600(3), FAC.

3.1 CLOSURE PHASES

The County proposes to close the entire active Class I Landfill at the same time when all cells have reached final grades.

3.2 EXISTING TOPOGRAPHY AND FINAL GRADING PLANS

Figure 1-2 shows the topography for the active Class I landfill. This survey was flown by Dragonfly Aerosolutions on October 15, 2020, and signed and sealed by Coastal Land Surveyors and Mappers. Figure 3-1 shows the final grades.

3.3 CLOSURE PROVISIONS

The final cover will be placed on the exterior side slopes when the slopes have been filled to capacity.

3.4 FINAL ELEVATIONS BEFORE SETTLEMENT

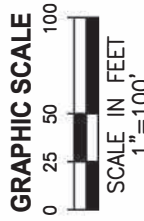
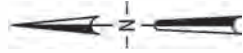
Figure 3-1 shows the final cover elevations before settlement and the grading plan. The maximum elevation of the final cover for Phases 1 and 1A is 215 feet National Geodetic Vertical Datum of 1929 (NGVD), and the maximum elevation of the final cover for Phases 2 and 3 is 218.1 feet NGVD.

3.5 SIDE-SLOPE DESIGN

The side slopes of the final cover design are shown to include benches, downslope drainage ways, and energy dissipaters. Side slopes shall not be steeper than a 3 feet horizontal to 1 foot vertical rise to control erosion of the final cover material. The side slopes will be designed to control stormwater flow using techniques such as building benches and tack-on berms on the side slopes of the landfill. The side slopes will contain downslope drainage-ways with water-flow energy dissipaters. Access for maintenance equipment will be provided. The design will address the susceptibility for erosion of the earthen material proposed for final cover relative to historical rainfall patterns for the area, the period between the patterns for the area, the period between the application of the final cover and establishment of vegetation, and maintenance procedures.

The Closure Design Plan will include an evaluation of the stability of the cover system and the disposed waste. The closure shall be designed to meet the minimum 1.5 factor of safety criteria in Subsection 62-701.400(2), FAC. This evaluation shall include an analysis of the potential for slides along the weakest interface of the final cover system and for deep-seated rotational or translational failures through the waste and the final cover. The analysis

EXISTING 2' CONTOUR (TYP)



NOTES:
 1. CONTINUE FILLING IN PHASES 1, 1A, 2, AND 3 TO PEAK BUILDOUT ELEVATION

PROPOSED 5' CONTOUR (TYP)

LIMITS OF LANDFILL CELL (APPROX)

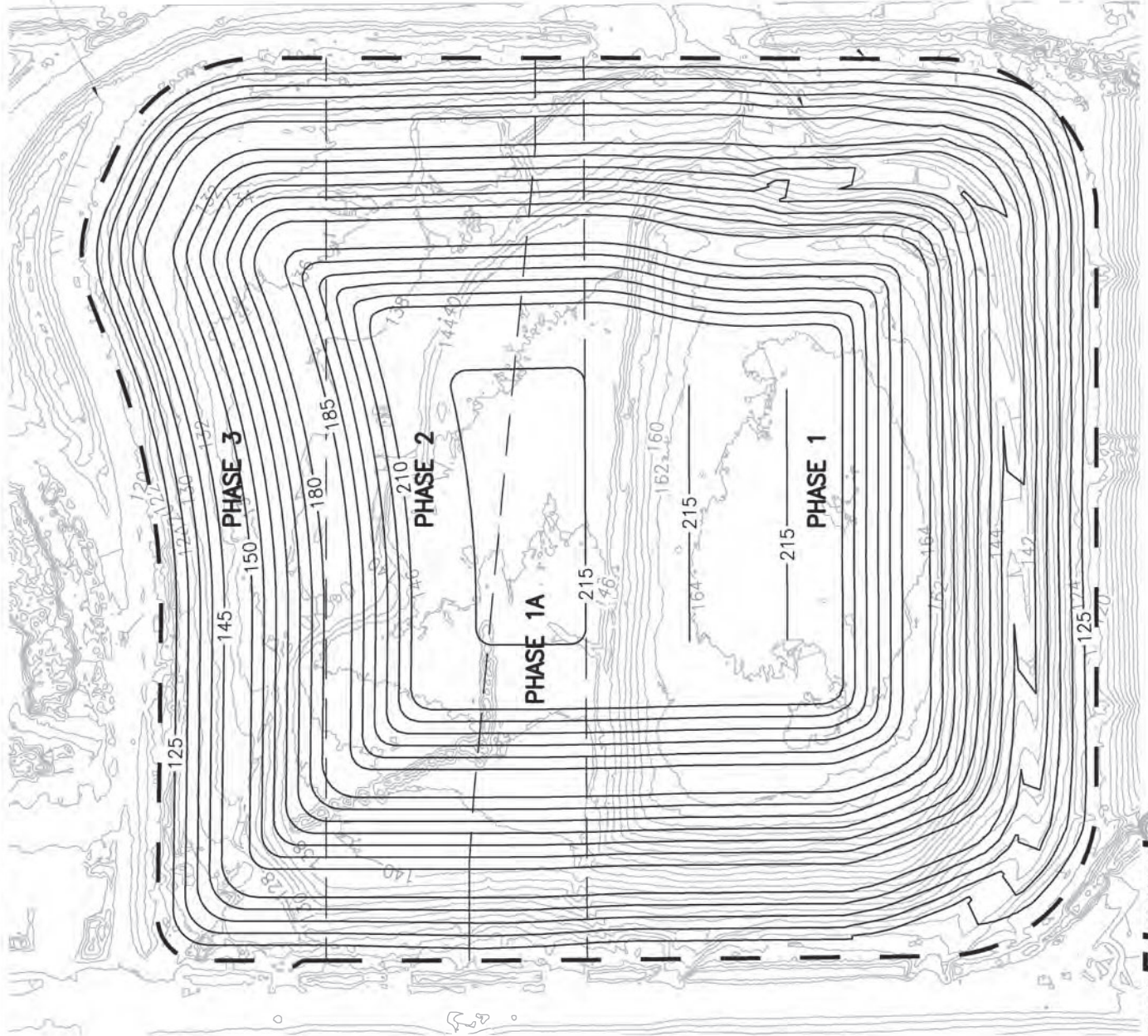


FIGURE 3-1 – FINAL COVER AND GRADING PHASES 1, 1A, 2, AND 3 CITRUS COUNTY CENTRAL LANDFILL LECANTO, FLORIDA MAY 2021

will be based on the laboratory measurements of the interface friction angles of the cover system components.

3.6 FINAL COVER INSTALLATION

Final cover installation plans will be submitted at the same time as the Closure Permit Application, including a Construction Quality Assurance (CQA) Plan that meets the requirements of Subsections 62-701.400(7) and (8), FAC. A schedule for installing closure components will be provided. The top-grade vent will be designed to minimize erosion, maximize runoff and to prevent ponding or low spots while considering total fill height and expected subsidence caused by decomposing waste.

Final cover will be placed over the entire surface of each completed solid waste disposal unit or units within 180 days after the final waste deposit or within the timeframe set forth in the approved Closure Plan. The final cover will be vegetated to control erosion and provide a moisture infiltration seal with species that are drought-resistant and have roots that will not penetrate the final cover. Provisions for cover material and maintenance of the cover during LTC will be provided.

3.7 FINAL COVER DESIGN REQUIREMENTS

The final cover system will be designed to minimize infiltration and erosion and will include a barrier layer meeting Chapter 62-701.600, FAC, requirements. The barrier layer will have chemical and physical resistance to materials that it may come in contact with and be capable of withstanding exposure to the natural environmental stresses and forces throughout the installation/seaming process as well as settlement of the waste during the CLTC period. All geosynthetic components used in the final cover shall meet the standards and specifications contained in Subparagraphs 62-701.400(3)(d)1 and 2, 62-701.400(3)(d)5 through 11, and 62-701.400(3)(e) and (f), FAC. The barrier layer shall have a permeability that is substantially equivalent to or less than the permeability of the bottom-liner system.

3.7.1 PROTECTIVE SOIL LAYER DESIGN

A protective soil layer at least 24 inches thick shall be placed on top of the geomembrane. Material specifications, installation methods, and compaction specifications will be designed to protect the barrier layer from root penetration, resist erosion, and remain stable on the final design slopes of the landfill.

3.7.2 BARRIER SOIL LAYER DESIGN

The closure design includes geomembrane in lieu of a barrier soil layer.

3.7.3 EROSION CONTROL VEGETATION

The closure design includes sod placement above the protective soil layer to control erosion.

3.7.4 GEOMEMBRANE BARRIER LAYER DESIGN

The barrier layer will consist of the following (from top to bottom):

- Sod.
- 24-inch soil layer with the upper 6 inches capable of supporting vegetative growth.
- Double-sided geocomposite drainage layer.
- 40-mil textured linear low-density polyethylene (LLDPE) geomembrane.
- 12 inches of soil leveling course to intermediate cover that has been prepared and compacted over the waste.

Figure 3-1 provides a conceptual final cover design.

3.7.5 GEOSYNTHETIC CLAY LINER DESIGN

The closure does not include a geosynthetic clay liner as a barrier layer.

3.7.6 STABILITY ANALYSIS OF THE COVER SYSTEM AND THE DISPOSED WASTE

A stability analysis will be submitted at the time of permitting. This layer will include topsoil or soils that will sustain vegetative growth. The design may include a drainage layer between the geomembrane and the protective soil layer if necessary during the design and permitting process.

3.8 STORMWATER CONTROL

The stormwater conveyance and treatment system for the facility has been designed, permitted, and constructed. The CCCL operates under two separate Environmental Resource Permits (ERPs) that appear to be for the entire project site including the entrance road: Southwest Florida Water Management District (SWFWMD) ERP No. 40-2023 Modifications 001 through 005; and FDEP ERP No. 09-0291076 Modifications 001 through 006. The stormwater system was designed and permitted for final buildout conditions. Stormwater at the facility is prevented from coming onto or into waste-filled areas.

The *Environmental Resource Permit Drawings*, prepared by SCS Engineers and submitted as record drawings in March 2011 show the proposed final cover stormwater management and control system.

The design includes terraces at elevations 148.5 and 183.5 feet NGVD. Stormwater will drain along terraces to inlets, where they will enter 12-inch lateral chute pipes that connect to 18-inch stormwater downchute pipes. The stormwater will discharge down to grout-filled fabric revetment spillways, through the perimeter stormwater swales, and into the stormwater treatment areas. The stormwater system will be maintained throughout active operations at the landfill and will serve as the stormwater management system after closure.

3.9 ACCESS CONTROL

Fencing and other measures are used to restrict access. The boundary of the landfill property is fenced. Access to the site is restricted to prevent unauthorized entry and

dumping. The County will retain the right of entry to the property for inspecting, monitoring, and maintaining the site for the LTC period after solid waste operations are terminated. The right of access for the Permittee and FDEP will be maintained in case the property changes ownership.

If any landfill monuments are severely damaged or destroyed, corrective actions will be taken. If any access roads are severely damaged, corrective actions will be taken to maintain passable and safe roads on the site.

3.10 GAS MANAGEMENT SYSTEM

The CCCL operates under a Title V Air Operation Permit No. 0170366-007-AV and operates an active landfill gas collection system at the active Class I landfill that complies with the requirements of Rule 62-701.530, FAC. The gas management system is an active gas collection system that uses vertical collection wells and horizontal collection trenches to collect landfill gas generated within the waste. The gas wells are designed to reduce gas pressure in the interior of the landfill by collecting gases and preventing gases from moving laterally. The facility is not currently required by regulations to install the GCCS, but the facility decided to install the active gas collection system early. The gas collection system is connected to a landfill gas control system that consists of an open flare.

4 CLOSURE OPERATION PLAN

The following Closure Operation Plan is for the closure of the CCCL Class I Landfill (Phases 1, 1A, 2, and 3). The closure will be constructed when waste reaches final grades.

4.1 ACTIONS TO CLOSE

The construction of the closure surface will consist generally of preparing the subgrade, installing the toe drain, installing the geosynthetic components, and installing cover soil. The construction will begin with disking and scraping the intermediate cover to remove the vegetation. The subgrade will be graded to meet design elevations and prepared to receive the geomembrane. The geomembrane and geocomposite will be installed in accordance with the design drawings. Following geosynthetic installation, 24 inches of protective cover soil will be placed over the geosynthetics, and sod will be placed over the protective soil.

4.2 SCHEDULE

Closure of the Class I Landfill will commence when Phases 1, 1A, 2, and 3 have reached final grades. At that time, the final closure Permit Application to FDEP will provide a more detailed schedule.

4.3 FINANCIAL ASSURANCE FOR LONG-TERM CARE

The County maintains a Closure Escrow Fund in accordance with Rule 62-701.630, FAC, to cover the cost of final CLTC of the CCCL (for the active and closed Class I Landfill).

4.4 WATER-QUALITY MONITORING PLAN

Consult the Water-Quality Monitoring Plan referenced in the most current solid waste operations permit for the CCCL.

4.5 GAS MANAGEMENT SYSTEM

No changes are proposed to the Title V permit and existing active gas management system. Some infrastructure (e.g., vertical gas collection wells, horizontal gas collection trenches, header pipe) will have to be extended to accommodate the Class I closure. All modifications to the active gas management system will be documented and reported as outlined in the Title V permit reporting and recordkeeping requirements.

5 CERTIFICATION

After closure operations are inspected and approved by FDEP, the County will file a declaration to the public in the deed records of Citrus County. The declaration will include a legal description of the property on which the landfill is located and a site plan specifying the area filled with solid waste. The declaration shall also include a notice that any future owner or user of the site should consult FDEP before planning or initiating any activity that disturbs the landfill cover, monitoring system, or other control structures. A certified copy of the declaration will be filed with FDEP.

5.1 SURVEY MONUMENTS

After the landfill is closed with soil, a description of permanent benchmarks outside the landfill cells, survey monuments, and the marker posts that identify the waste-filling limits will be provided.

5.2 FINAL SURVEY REPORT

A final survey will be completed by a Florida-licensed Professional Surveyor and Mapper who verifies that final contours and elevations of the CCCL are in accordance with the plans as approved in the permit. The final closure survey will be submitted with the final soil conversion closure certification.

Aerial mapping techniques that provide equivalent survey accuracy may be substituted for the survey. Contours will be shown at no greater than 5-foot intervals.

6 DECLARATION TO THE PUBLIC

In accordance with Rule 62-701.600(7), FAC, once closure construction has been completed for the entire CCCL, the County will file a declaration to the public in the Citrus County deed records. The declaration will include a legal description of the property and a site plan specifying the area filled with solid waste. The declaration will also include a notice that any future owner or user of the site should consult FDEP before planning or initiating any activity involving disturbing the landfill cover, monitoring system, or other control structure. A certified copy of the declaration will be filed with FDEP.

7 OFFICIAL DATE OF CLOSING

The requirements identified in Sections 3 through 6 will be submitted to FDEP in accordance with Rule 62-701.600(8), FAC. FDEP will evaluate the documents to verify that they comply with the closure plan and regulatory requirements. After review, FDEP will notify the County in writing that the facility closure has been completed.

8 TEMPORARY CLOSURE

If an area of the landfill will not receive waste for more than 180 days, a 12-inch intermediate soil cover will be placed on the area and the area will have a rain cover applied or will be sodded to prevent erosion and stormwater intrusion. The waste will be covered with a minimum of 12 inches of soil cover and maintained in accordance with all applicable statutory regulations.

9 OTHER CLOSURE PROCEDURES

This Section describes the procedures that will be followed in accordance with Rule 62-701.610, FAC, for the closure of the Class I Landfill.

9.1 CLOSED LANDFILL USE

No use has been designated for the closed landfill area. In accordance with Rule 62-701.610(1), FAC, the County will consult with FDEP before conducting activities at the closed landfill. The County acknowledges that FDEP retains regulatory control over any activities that may affect the integrity of the environmental protection measures of the landfill.

9.2 RELOCATION OF WASTES

In accordance with Rule 62-701.610(2), FAC, if at any time after closure the County intends to relocate waste within the footprint of the landfill, the County will request permission from FDEP to move waste from one point to another within the footprint of the same solid waste disposal unit. The County will submit a Permit Modification Application to FDEP to reflect the proposed relocation of waste activity. The Permit Modification Application will address the requirements of Rule 62-701.610 (2)(a) through (e), FAC.

10 LONG-TERM-CARE REQUIREMENTS

In accordance with Rule 62-701.620, FAC, the County will be responsible for monitoring and maintaining the facility in accordance with the FDEP-approved closure plan. The LTC Plan will remain in effect for a minimum of 30 years from the date of closing, but the LTC period may be extended by FDEP to be consistent with Rule 62-701.620(1), FAC.

If disturbed, closed landfill areas are a potential hazard to public health, groundwater, and the environment. Therefore, FDEP retains regulatory control over any activities that may affect the integrity of the environmental protection measures, such as the landfill cover, drainage, monitoring system, or stormwater controls. FDEP will be consulted before activities are conducted at the closed landfill. During the LTC period, the County will continue water-quality monitoring in accordance with the permit requirements. The closure permit will be renewed every 10 years until the groundwater monitoring well analyses have stabilized and FDEP notifies the applicant in writing that renewal is not required.

Supervising the closed landfill is the responsibility of a person experienced in the closure requirements of a solid waste management facility. The facility will be inspected monthly during the LTC period. The LTC period has not been initiated for the closed landfill cells since the site is considered one single facility with one groundwater-monitoring network for closed and active landfill cells.

In accordance with Rule 62-701.620(3), FAC, the County may apply to FDEP for a permit modification to reduce the LTC period or eliminate some aspects of LTC. FDEP will grant such modification if reasonable assurance is provided to FDEP that no threat exists to human health or the environment and if the landfill:

- a. *Has been constructed and operated in accordance with approved standards.*
- b. *Was closed with appropriate final cover, vegetative cover has been established, and a monitoring system has been installed.*
- c. *Has a 10-year history after closure of no violations of water quality standards or criteria detected in the monitoring system and no increases over background water for any monitoring parameters that may be expected to result in violations of water quality standards or criteria.*
- d. *Has had no detrimental erosion of cover, and subsidence of waste has ceased.*

10.1 RIGHT OF ACCESS

In accordance with Rule 62-701.620(7), FAC, the County is obligated to retain the right of entry and to make provisions for access to the landfill property and the closed area of the landfill for the LTC period for inspecting, monitoring, and maintaining the site. The boundary of the landfill property is fenced. Access to the site will be restricted to prevent unauthorized entry and dumping. As part of the routine checklist procedure, all fencing and signage will be inspected for damage and repaired, repainted, and replaced if necessary to maintain the integrity of these items.

If any landfill monuments are severely damaged or destroyed, corrective actions will be taken. The site roadways will be inspected as part of the routine checklist procedure. If any access roads are severely damaged, they will be repaired to maintain passable and safe roads on the site.

10.2 GAS COLLECTION AND MONITORING SYSTEM

In accordance with Rule 62-701.620(5), FAC, the gas collection and monitoring system will be maintained for the LTC period of the landfill. If the landfill has stabilized to the point where no significant production of combustible gases or objectionable odors occur, the County may apply to modify the closure permit to reduce the LTC schedule.

10.3 GROUNDWATER MONITORING SYSTEM

In accordance with Rule 62-701.620(8), FAC, the groundwater monitoring system will be maintained for the LTC period of the landfill. Refer to Section 10.12 for additional details.

10.4 SUCCESSORS OF INTEREST

Any authority acquiring rights of ownership, possession, or operation of the CCCL through sale, lease, or transfer of property will be subject to all requirements of the permit and will provide any required proof of financial responsibility to FDEP in accordance with Rule 62-701.620, FAC. Leases or transfers of property will include specific conditions to delineate the following:

- The County is responsible for closure and will maintain any required proof of financial responsibility until the person or entity acquiring ownership, possession, or operation of the landfill establishes the required proof of financial responsibility with FDEP.
- Responsibility for continued monitoring, maintaining, and correcting deficiencies or problems.
- Mineral rights attached to the property and the rights to any recoverable materials that may be buried on the property or landfill gases that may be produced. An FDEP permit will be required if any on-site operations after closing a landfill involve disturbing the landfill.

Transfer of a landfill permit will be in accordance with Rule 62-4.120, FAC.

10.5 STABILIZATION REPORT

In accordance with Rule 62-701.620(6), FAC, the County will submit a report to FDEP that addresses landfill stabilization every 5 years after permit is issued for LTC. The submittal will include the technical report required in Rule 62-701.510(9)(b), FAC, and address subsidence, barrier layer effectiveness, stormwater management, and gas production and management. For lined landfills, the submittal will also address leachate collection and removal system effectiveness, leachate quality, and leachate quantity.

10.6 MONTHLY INSPECTION CHECKLIST

The County proposes to inspect the landfill monthly to ensure compliance with the LTC requirements and provide a log of landfill inspection activities. The County will inspect the

landfill slopes monthly in accordance with the Monitoring, Maintenance, and Testing Plan included in the site's Operation Plan. Attachment A includes an LTC monthly inspection checklist for the site. The site checklist forms are completed and signed by the individual conducting the monthly inspection. Items requiring attention are noted on the forms and brought to the attention of the Landfill Manager.

10.7 MAINTENANCE AND REPAIR

The County will inspect and maintain the landfill to minimize impacts to the function and/or integrity of the final cover system, the leachate collection/detection system, the leachate storage tank, and various other elements of the site. The County will provide site access control, erosion control, grass cover maintenance, and prevention of ponding. The condition of the surface vegetation, landfill cap, gas collection and monitoring system, stormwater system, and monitoring devices will be the primary focuses during the inspection.

Table 10-1 is a schedule for notification if corrective actions are required. Records of discovery will also be kept on the Monthly Inspection Checklist (Attachment A).

Table 10-1 Schedule for Notification and Corrective Actions

Activity	Initial Notification	Written Notification/Corrective Action Plan	Corrective Action
Sinkhole within 500 feet	Within 24 hours of discovery	Within 7 days of discovery, including description, location, size shown on plan sheet, corrective action plan	Based on proposed schedule
Fire/Explosion	Within 24 hours of discovery	Within 7 days of discovery, including remedial measures and schedule of activities	Based on proposed schedule
Damage to Facilities/Failure of Systems	Within 24 hours of discovery	Within 7 days of discovery, including details of damage/failure, remedial measures, schedule of repairs	Based on proposed schedule
Damage to Groundwater Monitoring System	Within 24 hours of discovery	Within 7 days of discovery, including details of damage/failure, remedial measures, schedule of repairs	Based on proposed schedule
Damage to Stormwater System	Within 24 hours of discovery	Within 7 days of discovery, including details of damage/failure, remedial measures, schedule of repairs.	Within 30 days of written notification
Erosion of Final Cover System >6 inches in depth	N/A	Description on Inspection Log	Within 72 hours of discovery
Leachate not accepted by Disposal Facility	Same as Written Notification	Within 3 days of cessation of leachate acceptance, including explanation of contingency measures and schedule of disposal.	Within 7 days of cessation of acceptance

Activity	Initial Notification	Written Notification/Corrective Action Plan	Corrective Action
Damage to Leachate Collection/ Detection System	Within 24 hours of discovery	Within 7 days of discovery, including details of damage/failure, remedial measures, schedule of repairs.	Based on proposed schedule
Damage to Storage Tanks Systems	Within 24 hours of discovery	Within 7 days of discovery, including details of damage/failure, remedial measures, schedule of repairs.	Based on proposed schedule

10.8 GRASS

Maintaining the soil conversion grass cover will include mowing, fertilizing, seeding, mulching, and filling areas of subsidence. Mowing, fertilizing, seeding, mulching, and filling will continue as needed. The following is a general schedule and description of grass maintenance activities.

Mowing—The height of the grass will be observed during monthly inspections. If the grass is found to be approximately 18 inches high, mowing will be scheduled before the next inspection. Caution will be exercised while mowing to keep heavy equipment away from the gas vents and monitoring devices.

Fertilizing—The general recommendations for commercial fertilizer are 16-4-8 formulation (nitrogen-potassium-phosphorus), of which 60 percent of the nitrogen will be in the urea-formaldehyde form and in conformance with State laws. Fertilizer will be applied once per year as needed. The spread rate will be 8 to 10 pounds per 1,000 square feet or as instructed on the package. The local US Department of Agriculture (USDA) extension office will be called to verify these recommendations.

Seed and Sod—Damaged areas or other areas where grass cover is sparse will be reseeded or sodded. Sod is generally recommended for use in all areas such as on steep slopes and in highly eroded or bare spots. Sod will be staked in place with sod pegs where necessary.

Seeding, if sown on relatively flat areas, will be performed in the early spring and late fall as needed in the following manner:

- Early spring—Scarified Bahia with 20 percent Bermuda seed.
 - Minimum percent pure seed – 95.
 - Minimum percent germination and hard seed – 80.
 - Bahia seed will not germinate until overnight temperatures stay above 70° Fahrenheit.
- Late fall—Italian rye.
 - Minimum percent pure – 95.
 - Minimum percent germination and hard seed – 90.

- Seed will not germinate until overnight temperatures stay below 70° Fahrenheit and above 40° Fahrenheit.
- Bahia Sod—16-inch-by-24-inch slabs with 1-1/2-inch root bed.

Seed Rates—The following are general recommendations for maintenance and replacement growth. High-erosion areas and bare patches will be seeded more heavily. Spread rates may vary for different grass seeds from different suppliers. The instructions on the seed bags will be followed. Maintenance seeding will be used where the grass is healthy and full. Replacement seed rates will be used on bare or thin grass growth areas.

- Maintenance Seed Rates

- Spring 1/2 pound per 1,000 square feet.
- Fall 1/2 pound per 1,000 square feet.

- Replacement Seed Rates

- Spring 3 to 5 pounds per 1,000 square feet.
- Fall 3 to 5 pounds per 1,000 square feet.

Watering—The County will water as required to maintain the health of the grass; daily watering will never be necessary. If the blades of the grass begin to wilt and loose resiliency when walked on, water needs to be applied. The water that is applied will be clean and potable.

10.9 EROSION CONTROL

Avoiding erosion is likely be the most cost-effective means of protecting the closure cap. A relatively minor eroded area combined with a severe storm event can degrade the final cover. The best way to avoid erosion is to maintain a healthy stand of grass and keep drainage swales free of silt and sediment. Cleaning the drainage swales will prevent overflow and backflow and reduces the risk of erosion from these causes. Large amounts of silt or sediment removed from the drainage swales may indicate damage to the closure cap.

10.10 STORMWATER STRUCTURES

All stormwater structures will be clean of all silt or soil deposits. All soil settlement surrounding these items will be brought to the attention of the Landfill Manager and then repaired in a manner consistent with the surrounding area. Grass will be maintained, replaced, reseeded, and mowed as indicated in the section on grassing. The drainage swales will be cleaned annually as needed.

10.11 LANDFILL CAP

Post-closure maintenance of the cover system will include inspecting the system in landfill areas that have a differential settlement of 5 feet or more in a horizontal distance of 100 feet. The system will be repaired in those areas as necessary. Any differential settlement at the landfill will be corrected to allow drainage paths to remain intact. *Differential settlement* is defined as one area of the closure subsiding or settling faster than the surrounding area. Differential levels will be checked if evidence of settlement is detected

during routine site inspections. Differential level check information will be kept on file and will be made available for FDEP review.

If the final cover needs to be repaired, repair will follow the original design specifications. Repairs to the final cover will be under the supervision of a Professional Engineer. Accounts of all repairs to the final cover system and test results will be documented in Daily Observation Reports and maintained by the County. Repairs to any layer of the final cap system will be in accordance with the specification and CQA Plan for landfill cover construction.

10.12 MANAGEMENT OF MONITORING DEVICES

This Section describes procedures for maintaining and repairing groundwater and gas monitoring devices. Figure 1-2 shows the locations of the monitoring devices. Groundwater monitoring will continue at the landfill with the potential for periodic revisions after laboratory reports are evaluated.

10.12.1 GROUNDWATER MONITORING WELLS

If a monitoring well becomes inoperable, the County will notify FDEP immediately in writing as shown in Table 10-1. All inoperative monitoring devices will be replaced with functioning devices within 60 days of the discovery of the malfunctioning unit unless the Landfill Owner or Operator is notified otherwise in writing by FDEP.

The written notification will describe in detail the problem that has occurred and the remedial actions that will be taken. If deemed necessary, the damaged monitoring well will be properly abandoned and a new well will be constructed close to the abandoned well. Copies of the well abandonment permit and site inspection prepared by SWFWMD will be provided to FDEP for abandoning wells. Monitoring well design and replacement will be approved by FDEP before well abandonment and installation. When the monitoring well is completed, the following information will be provided to FDEP:

- Well Identification.
- Driller's Lithologic Log.
- Latitude/Longitude.
- Total Well Depth.
- Aquifer Monitored.
- Casing Diameter.
- Screen Type and Slot Size.
- Casing Type and Length.
- Elevation at Top of Pipe.
- SWFWMD Well Construction Permit Number.
- Elevation at Land Surface.

The newly constructed monitoring well will be developed and included in the routine monitoring.

The LTC permit will be renewed every 10 years until the monitoring well analyses have stabilized and FDEP notifies the County in writing that the permit renewal will not be required.

Groundwater monitoring will only be conducted by an individual trained in groundwater monitoring and reported to FDEP as required by the closure permit. Care will be taken when equipment is near any monitoring well so that no damage is done.

10.12.2 GAS MONITORING

Gas monitoring will continue at the landfill in accordance with the Operation Plan. Soil monitoring probes will be replaced and repaired in accordance with Rule 62-701.530, FAC. FDEP will be notified of maintenance repair activities.

10.13 RECORD-KEEPING REQUIREMENTS

Records of information used to develop or support the permit applications and any supplemental information submitted to FDEP will be kept for the design life of the landfill. Records of monitoring information, including calibration and maintenance records, all original chart recordings for continuous monitoring instrumentation, and copies of all reports required by permit will be kept for at least 10 years. Background-water-quality records will be kept for the design life of the landfill. Annual estimates of the remaining life and capacity and site life will be maintained. Annual estimates will be based on a summary of the heights, lengths, and widths of the solid waste disposal units and will be submitted annually to FDEP. Records more than 5 years old, which are required to be retained, may be archived if they can be retrieved within 7 days.

10.13.1 RECORDS OF MONITORING

Records of water-quality monitoring information will include the following:

- Facility name and identification number and identification number of the surface water and groundwater monitoring points.
- The date, exact place, and time of sampling or measurements.
- The person responsible for performing the sampling or measurements.
- Water levels before sampling.
- The dates analyses were performed.
- The person responsible for performing the analyses.
- The analytical techniques or methods used and method detection limits and applicable water-quality standards.
- STORET code numbers for parameters analyzed.
- The results of such analyses.

Water-quality monitoring reporting and evaluations, including routine sampling events, will be consistent with the pertinent requirements of Rule 62-701.510(8), FAC.

A technical report signed, sealed, and dated by a Professional Geologist or Professional Engineer will be submitted to FDEP every 2.5 years during the active life of the facility and every 5 years during the LTC period in accordance with Rule 62-701.510(8)(b), FAC. The technical report will be updated at the time of permit renewals. The technical report will meet the requirements of Rule 62-701.510(8), FAC, and will include the following:

- Tabular displays of data.
- Trend analyses.

- Comparisons of shallow-, middle-, and deep-zone wells.
- Correlation of parameters and discussions of data correlations.
- Interpretations of groundwater contour maps and flow rates.
- Evaluation of the adequacy of the frequency of water-quality monitoring and of the sampling locations.

10.13.2 INSPECTION FORMS

Inspections of the final cover and stormwater system will be documented and kept on file at the County office.

The County will document deficiencies observed in the fencing and security, access roads, monitoring devices, stormwater system, or final cover system during inspections of the landfill. The extent of damaged areas, the extent of the areas repaired, and a detailed description of the repair work will be recorded.

10.14 COMPLETION OF LTC

After the LTC period is completed, the Owner or Operator will notify FDEP with a certification, signed and sealed by a Professional Engineer, verifying that LTC has been completed in accordance with the closure plan.

Attachment A
Post-Closure Monthly
Inspection Checklist

**Citrus County Central Landfill
Post-Closure Monthly Inspection Checklist
Page 1 of 2**

Landfill Inspected: _____ Date of Inspection: _____			
Field Personnel: _____			
Conditions: _____			
Section A: Fencing and Security	Yes	No	N/A
1. Damage to fences, gates, or locks	_____	_____	_____
2. Gates unlocked/locks missing	_____	_____	_____
3. Signs of forced entry detected	_____	_____	_____
Section B: Access Roads	Yes	No	N/A
1. Access and site roads in poor condition	_____	_____	_____
2. Signs need repair	_____	_____	_____
Section C: Final Cover System	Yes	No	N/A
1. Settlement of cover	_____	_____	_____
2. Evidence of erosion, cracks, gullies	_____	_____	_____
3. Inadequate growth of grass cover	_____	_____	_____
4. Excessive grass height (greater than 18 inches)	_____	_____	_____
5. Holes or damage to cover	_____	_____	_____
6. Growth of damaging weeds or saplings	_____	_____	_____
7. Evidence of leachate seeps	_____	_____	_____
8. Landfill marker damage	_____	_____	_____
9. Impacts due to settlement	_____	_____	_____
10. Ponding of water	_____	_____	_____
Section D: Gas Venting System	Yes	No	N/A
1. Visible damage to system components	_____	_____	_____
2. Blockage in pipes	_____	_____	_____
3. Excessive release of odors	_____	_____	_____
Section E: Monitoring Devices	Yes	No	N/A
1. Damage to groundwater monitoring wells	_____	_____	_____
2. Damage to gas monitoring wells	_____	_____	_____
3. Locks missing	_____	_____	_____
4. Damage to gas monitor probe	_____	_____	_____

Appendix C

**Florida Jetclean Report and
Technical Memorandum**

Citrus County Central Landfill Leachate Collection System Cleaning and Video Inspection

TO: Henry Norris, Jr. Solid Waste Director
Citrus County Solid Waste Management

FROM: Carol Sawyer, PE
Matthew Morse, EI

DATE: August 19, 2020

SUBJECT: Summary of Leachate Collection System Cleaning and Inspection
Jones Edmunds Project No. 03860-077-01

1 INTRODUCTION

Jones Edmunds was contracted by Citrus County to perform video inspection and cleaning of leachate collection pipes at the Citrus County Central Landfill (CCCL). The video inspection or water pressure cleaning are required by Rule 62-701.500(8)(h) and Specific Conditions 2.A.5.c and 2.C.12.c of Solid Waste Permit No. 21375-025-SO-01. This work was subcontracted to Florida Jetclean. Jones Edmunds reviewed the results, summarized areas of concern, and compared the report to the previous inspection to note any differences. The results of this work will be evaluated in more detail as part of the separate Leachate System Evaluation and Upgrades project (Jones Edmunds Project No.: 03860-080-01, Task Order RFQ 19-065).

2 SUMMARY OF 2020 CLEANING AND VIDEO INSPECTION

Florida Jetclean performed high-pressure water jetting and video inspection of the leachate collection pipes at the active CCCL on July 14, 2020. Florida Jetclean documented their findings in a report, included as Attachment 1. The leachate pipes in Phases 1, 1A, 2, and 3 were jet-cleaned to the extent possible. Video inspection was performed in Phases 1A, 2, and 3; it was not possible to do video inspection in Phase 1 because the diameter of the pipes is only 6-inches (as opposed to 8-inches in the other phases) and the design included bends in the pipe which is not conducive for video inspection. The pipes were accessed through the cleanouts. No leachate pumps were removed as part of this work.

The report in Attachment 1 describes four areas of pipe in which possible issues were encountered during inspection work. Jones Edmunds reviewed the videos and a summary is as follows:

1. Phase 3: Setup 1 (WCO1 to ECO2)¹: Video #1 shows the camera submerged at approximately 153.4 feet (4:40 minutes) and goes dark at approximately 165.9 feet (5:35 minutes). Based on the report and video, the camera stops at 186.8 feet for unknown reasons, but based on the presence of sand noted in Setup #3, sand is the likely cause. Although the water jet was able to proceed past this point, the accumulation of sand is a possible concern and may hinder future inspection events.
2. Phase 2: Setup 2 (WCO3 to ECO4):
 - a) Video #2 shows the camera submerged at approximately 178.3 feet (5:55 minutes). Just before being submerged, a circular/ring structure is visible that is detached from the pipe wall at approximate distance 177 feet. This may be the dislodged bead/ring mentioned in the 2015 Jetclean Report for the video inspection of Phase 2 west to east, although in 2015 the bead/ring was noted at 121.7 feet. This ring did not hinder cleaning or inspection; and it is unlikely that it hinders leachate conveyance.
 - b) At approximately 733 feet (20:45 minutes), the view begins to go dark. There is a dark mass that increases in size on the viewing range. The video commentary speculates possible sand.
3. Phase 3: Setup 3 (ECO2 to WCO1):
 - a) At approximately 141.5 feet (5:22 minutes), what appears to be a shallow layer of sand can be seen at the bottom of the pipe and continues farther down the length of the pipe.
 - b) Farther down the line, larger masses of a material, presumably sand, appear in the middle of the pipe.
 - c) At approximately 353.9 feet (15:45 minutes), there appears to be a larger mass of sand that may fill most of the pipe area at this location (though it is difficult to verify due to the low visibility).
 - d) Video #3 is the longest because it appears the video recorder was left on after being removed (about 24:30 minutes).
4. Phase 1A: Setup 6 (WCO5 to ECO6): The video notes an egg-shaped pipe at approximately 81.9 feet (1:53 minutes). The video camera is unable to proceed due to the constricted pipe area at approximately 108.0 feet (2:00 minute) in the video.

We will further evaluate the possible sand intrusion and pipe deformation as part of the Leachate System Evaluation and Upgrades project (Jones Edmund's Project No.: 03860-080-01). The information gathered as part of this cleaning/video inspection effort will be used to determine if there are potential issues with the leachate conveyance system.

¹ WC = westside cleanout EC = eastside cleanout

3 COMPARISON TO 2015 CLEANING AND INSPECTION WORK

The 2015 Jet clean Report (Attachment 2) was performed by Florida Jetclean between April and July of 2015. The results of that work are compared to the most recent cleaning and video inspection.

Table 1 Jet Cleaning Results: 2015 vs. 2020

Jet-Cleaning Location	2015 Jetclean Report		2020 Jetclean Report	
	Distance (ft)	Comments (Abbreviated)	Distance (ft)	Comments (Abbreviated)
Phase 2 Primary Sump	N/A	N/A	229	<i>No comments</i>
Phase 3 W to E	500	Entire pipe thru overlap	1,000	Entire pipe thru overlap
Phase 3 E to W	1,000	Entire pipe thru overlap	1,000	Entire pipe thru overlap
Phase 2 W to E	500	Entire pipe thru overlap	1,000	Entire pipe thru overlap
Phase 2 E to W	1,000	Entire pipe thru overlap	1,000	Entire pipe thru overlap
Phase 1A W to E	132	Entire pipe thru overlap	108	Jets stops, pipe crushed
Phase 1A E to W	1,000	Entire pipe thru overlap	1,200	Jets stops, pipe crushed
10 W to E *	1,300	Jet stops	1,300	Jet stops
11 W to E *	210	Jet stops	500	Jet stops
12A W to E *	210	Jet stops	1,000	Jet stops
12B to 15E *	1,300	Entire pipe thru overlap	1,300	Entire pipe thru overlap
15E to 12B *	1,000	Entire pipe thru overlap	1,000	Entire pipe thru overlap
13 W to E *	170	Jet stops	170	Jet stops
14 W to E *	180	Jet stops	180	Jet stops

* These points are through clean outs in Phase 1; refer to figure in Attachment 1.

Table 2 Video Inspection Results: 2015 vs. 2020 Comparison

Video Location	2015 Jetclean Report		2020 Jetclean Report	
	Distance (ft)	Comments (Abbreviated)	Distance (ft)	Comments (Abbreviated)
Phase 1A E to W	380.7	Cannot push further; no defects noted	361.1	<i>No issues noted</i>
Phase 1A W to E	89.9	Partially Crushed/Oval	108.0	Partially crushed, camera stops; small jet stopped, same location
Phase 2 E to W	454.9	Cannot push further; no defects noted	309.1	<i>No issues noted</i>
Phase 2 W to E	455.9	Cannot push further; Dislodged bead/ring at 121.7 ft	732.8	Camera stops under leachate, unknown reason; small jet proceeded 1,000 ft
Phase 3 E to W	988.4	Phase 3 Sump Reached	362.6	Sand stops camera's progress; small jet proceeded 1,000 ft
Phase 3 W to E	<i>Not performed; sump reached E to W</i>		186.8	Camera stops under leachate, reason unknown; small jet proceeded 1,000 ft

Key differences observed:

1. The partially crushed/egg-shaped pipe noted in Phase 1A of the 2020 Jetclean Report was also noted as partially crushed in the 2015 Jetclean Report. However, whereas the 2015 report noted that the water jet was able to pass the constricted pipe area, the 2020 report noted that the water jet stopped at this location.
2. In the Phase 2 pipe, the camera is noted as stopping at a different location in 2020 compared to 2015. The video commentary notes possible sand near the location where the camera stops.
3. The video inspection was able to proceed the entire length of the Phase 3 pipe in 2015, but the 2020 video inspection was only able to proceed a fraction of the total length from either direction. Sand was noted in the pipe in the 2020 inspection but not in the 2015 inspection.

4 RECOMMENDATIONS

The 2020 Jetclean Report noted that the high-pressure jet was unable to pass the Phase 1A blockage due to crushing, whereas the water jet was able to proceed in 2015. This may indicate that the pipe has become more constricted during this period, hindering its ability to convey leachate to the sump. Further investigation is recommended in the Phase 1A leachate pipe to determine the cause and severity of this issue.

Sand has accumulated in the leachate pipes in Phases 2 and 3 since the 2015 Jetclean Report. Although the high-pressure jet was able to proceed through these pipes, this finding indicates that sand may continue to accumulate in the future. This sand prevents these pipes from being fully inspected, and if an issue were to arise behind a sand blockage, access would be more difficult. We will evaluate the possible cause of the sand intrusion. One option could be more intensive cleaning efforts to remove or reduce the accumulation of sand in these leachate pipes.

Attachment 1
Florida Jet clean Report July 2020

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
EXPLOSION PROOF VIDEO INSPECTION
VACUUM TRUCK SERVICES
WWW.FLORIDAJETCLEAN.COM

7538 DUNBRIDGE DRIVE
ODESSA, FL 33556
T: 800-226-8013 / F: 813-926-4616
FLORIDAJETCLEAN@YAHOO.COM

Jones Edmunds Citrus County Landfill Phases 1-3 Leachate Collection Pipe Maintenance

Work Performed July 2020

Conducted By:
Florida Jetclean
800-226-8013

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
EXPLOSION PROOF VIDEO INSPECTION
VACUUM TRUCK SERVICES
WWW.FLORIDAJETCLEAN.COM

7538 DUNBRIDGE DRIVE
ODESSA, FL 33556
T: 800-226-8013 / F: 813-926-4616
FLORIDAJETCLEAN@YAHOO.COM

REPORT

DATE : 7/21/2020
TO : Carol Sawyer – Jones Edmunds
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : Citrus County Landfill – 2020 Phase 1-3 Leachate Pipe Maintenance

Florida Jetclean completed the high-pressure water-jetting and explosion-proof video-inspection of the existing Phase 1-3 leachate collection piping at the Citrus County Landfill on 7/14/2020. Included with this report are the applicable Jetting logs, Video Reports, and the inspection footage in .MP4 format for complete detailed review.

High-pressure Water-jetting:

As the below jetting log indicates, all existing Phase 1-3 leachate piping was jetcleaned as far as possible through the available access locations via high-pressure water-jetting nozzle. Distances achieved are documented below.

JETTING LOCATION	ACHIEVED DISTANCE (ft)	COMMENTS
Phase 2 Primary Sump	229'	
Phase 3 – West to East	1,000'	Entire Pipe Jetcleaned Through Overlap
Phase 3 – East to West	1,000'	Entire Pipe Jetcleaned Through Overlap
Phase 2 – West to East	1,000'	Entire Pipe Jetcleaned Through Overlap
Phase 2 – East to West	1,000'	Entire Pipe Jetcleaned Through Overlap
Phase 1A – West to East	108'	Jet Stops - Pipe Crushed
Phase 1A – East to West	1,200'	Jet Stops – Pipe Crushed
10 – West to East	1,300'	Jet Stops
11 – West to East	500'	Jet Stops
12A – West to East	1,000'	Jet Stops
12B to 15E	1,300'	Entire Pipe Jetcleaned Through Overlap
15E to 12B	1,000'	Entire Pipe Jetcleaned Through Overlap
13 – West to East	170'	Jet Stops
14 – West to East	180'	Jet Stops

Explosion-proof Video-inspection:

After jetcleaning was completed the above piping was video-inspected as far as possible using explosion-proof video-inspection equipment (see included CCTV Survey List, Pipe Graphic Reports, photos, and inspection footage). With the exception of the items listed below, all other areas of the pipes appear to be in good condition with no additional defects noted.

<u>VIDEO LOCATION</u>	<u>ACHIEVED DISTANCE (ft)</u>	<u>COMMENTS</u>
Setup 1 - Phase 3 – WCO to ECO	186.8'	Camera stops under leachate with no clear video picture. Reason for stoppage can not be determined. Smaller jet nozzle proceeded 1,000'.
Setup 2 - Phase 2 – WCO to ECO	732.8'	Camera stops under leachate with no clear video picture. Reason for stoppage can not be determined. Smaller jet nozzle proceeded 1,000'.
Setup 3 - Phase 3 – ECO to WCO	362.6'	Sand visible in pipe stopping camera's forward progress. Smaller jet nozzle proceeded 1,000'.
Setup 6 - Phase 1A – WCO to ECO	108.0'	Pipe partially crushed stopping camera's forward progress. Smaller jet nozzle stopped at same location.

Please call us with questions or concerns.

Regards,



Ralph Calistri - Florida Jetclean - 800-226-8013

CCTV Surveys List for JEA

Number of surveys in this list is 6 as of Wednesday, July 15, 2020

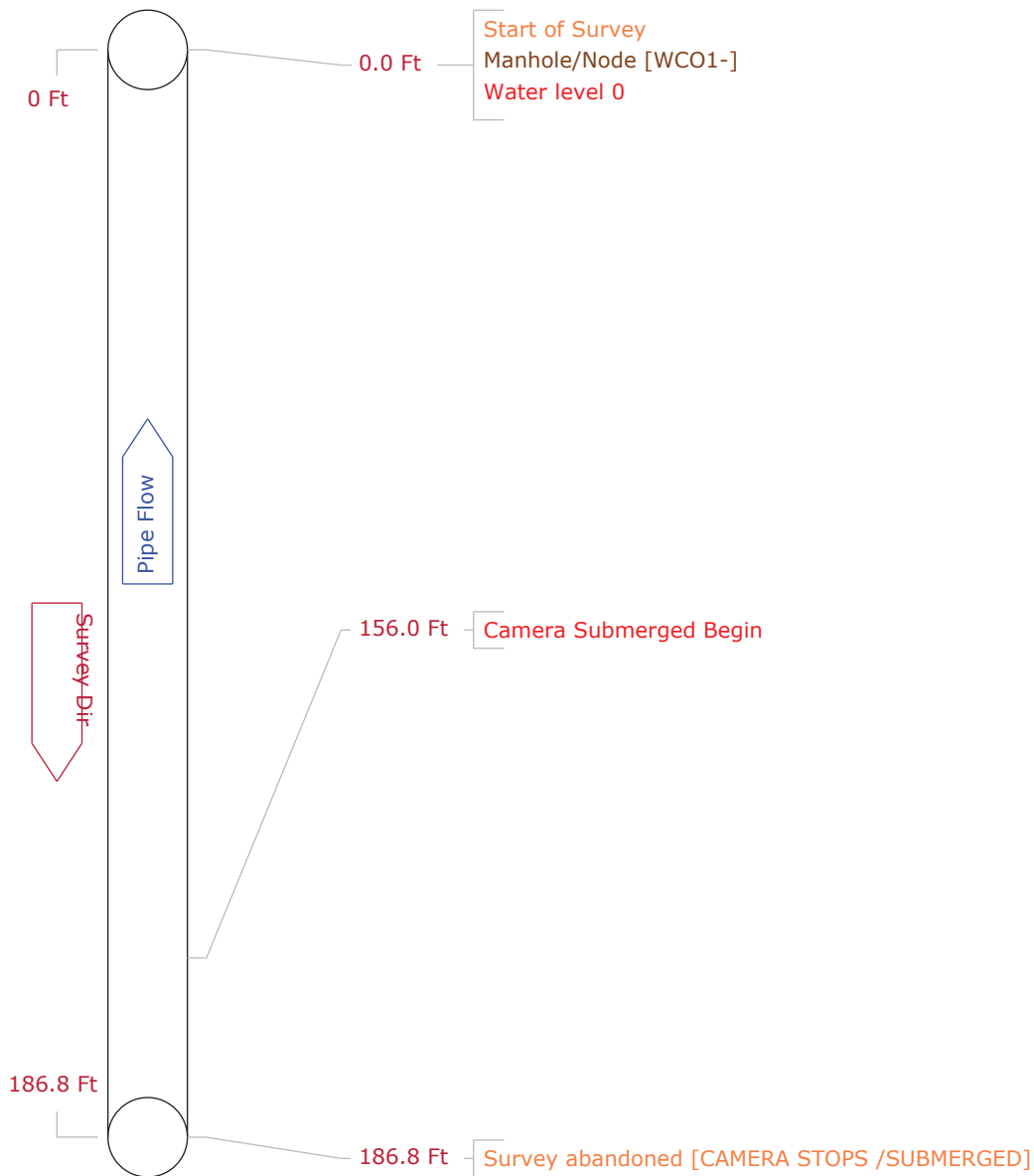
Unit of measure: ft

Setup	Date	Street	Start MH	Finish MH	Dir	Size inch	Pre Clean	Vid Cassette	Scheduled Length	Surveyed Length
1	7/14/2020	CITRUS COUNTY LF PHASE 3	WCO1-	ECO2	U	8	Y			186.8
2	7/14/2020	CITRUS COUNTY LF PHASE 2	WCO3-	ECO4	U	8	Y			732.8
3	7/14/2020	CITRUS COUNTY LF PHASE 3	ECO2-	WCO1	D	8	Y			362.6
4	7/14/2020	CITRUS COUNTY LF PHASE 1A	ECO6-	WCO5	D	8	Y			361.1
5	7/14/2020	CITRUS COUNTY LF PHASE 2	ECO4	WCO3	D	8	Y			309.1
6	7/14/2020	CITRUS COUNTY LF PHASE 1A	WCO5-	ECO6	U	8	Y			108.0
Total Scheduled Length									0.0	
Total Length Surveyed										2,060.4



Pipe Graphic Report of PLR ECO2 A for JEA

Work Order	Contract		Video		Setup	1			
Facility	Operator	BMN	Van Ref	5	Surveyed On	07/14/2020			
Street Name	CITRUS COUNTY LF PHASE 3		City	LACANTO FL					
Location type	Berm								
Surface									
Survey purpose	Other (state in comments)		Weather	Dry					
Pipe Use	Other (state in comments)		Schedule length	Ft	From	WCO1-	Depth	F	
Shape	Circular		Size	8 by	ins	To	ECO2	Depth	t
Material	Other (state in comments)		Joint spacing	Ft		Direction	Upstream		
Lining			Year laid			Pre-clean	Y	Last cleaned	7/14/2020
General note	HDPE LEACHATE COLLECTION					Structural	Service	Constructional	
Location note	JETTING=1000					Miscellaneous	Hydraulic		

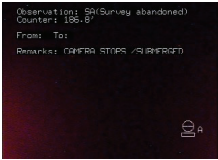


CCTV Picture List of ECO2 A for JEA

Work Order			Setup 1
Video	Survey Date	2020/07/14	
Path to picture files	G:\Snaps\JEA\		
Path to video files	G:\Movies\JEA\		
Path to media files	G:\Media\JEA\		



Video Index Count 156.0 Ft
Code Camera Submerged Begin
Remarks
File Name 3.jpg



Video Index Count 186.8 Ft
Code Survey abandoned
Remarks CAMERA STOPS /SUBMERGED
File Name 4.jpg

Observation: CUB(Camera Submerged Be
Counter: 156.0'

From: To:

Remarks:



Observation: SA(Survey abandoned)
Counter: 186.8'

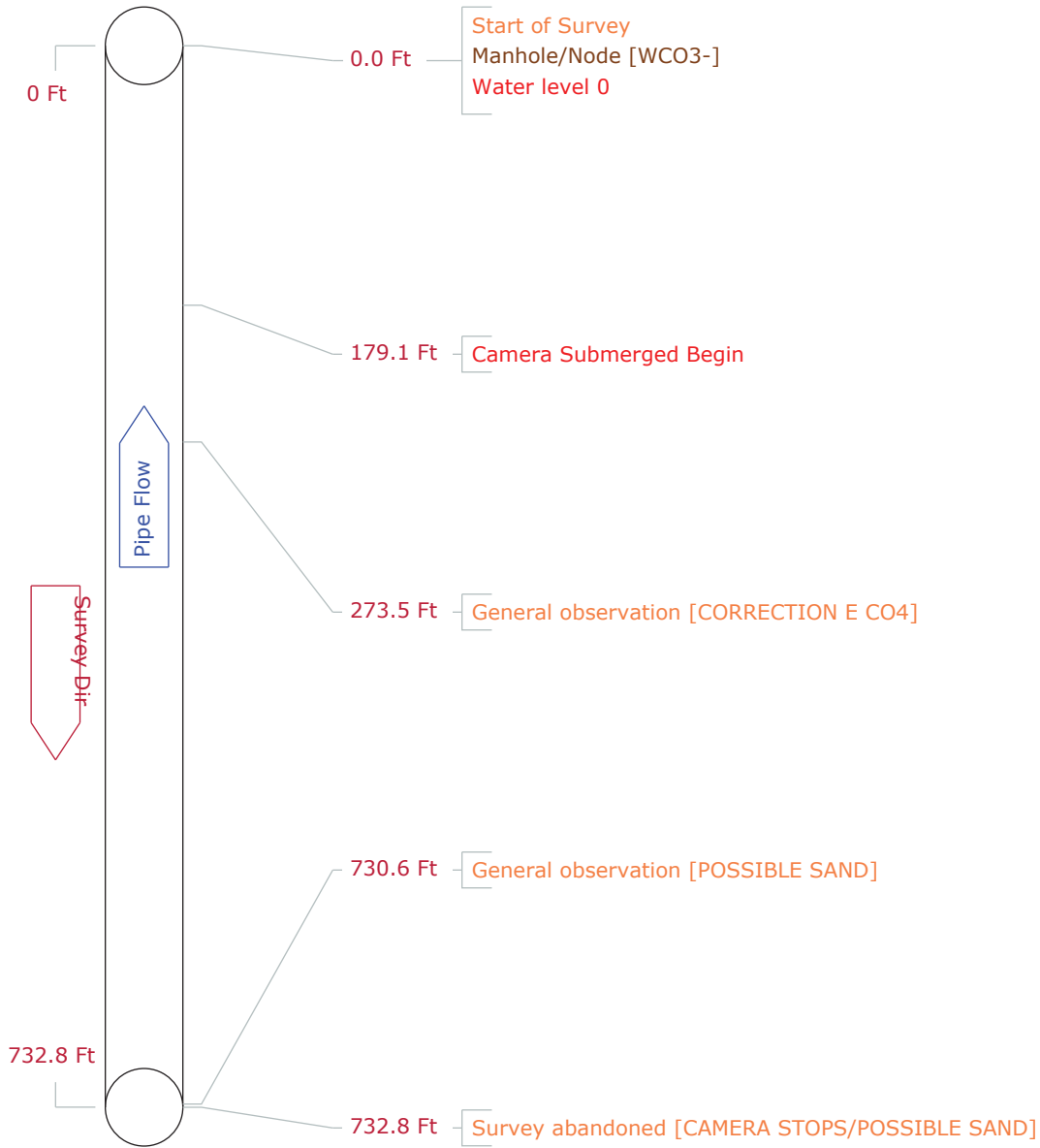
From: To:

Remarks: CAMERA STOPS /SUBMERGED



Pipe Graphic Report of PLR **ECO4** **B** **for** **JEA**

Work Order	Contract		Video		Setup	2			
Facility	Operator	BMN	Van Ref	5	Surveyed On	07/14/2020			
Street Name	CITRUS COUNTY LF PHASE 2		City	LACANTO FL					
Location type	Berm								
Surface									
Survey purpose	Other (state in comments)		Weather	Dry					
Pipe Use	Other (state in comments)		Schedule length	Ft	From	WCO3-	Depth	F	
Shape	Circular		Size	8 by	ins	To	ECO4	Depth	t
Material	Other (state in comments)		Joint spacing	Ft		Direction	Upstream		
Lining			Year laid			Pre-clean	Y	Last cleaned	7/14/2020
General note	HDPE LEACHATE COLLECTION					Structural	Service	Constructional	
Location note	CORRECTION ECO4 JETTING=1000					Miscellaneous	Hydraulic		



FLORIDA JETCLEAN
Phone: 1800-226-8013

CCTV Picture List of ECO4 B for JEA

Work Order			Setup 2
Video	Survey Date	2020/07/14	
Path to picture files	G:\Snaps\JEA\		
Path to video files	G:\Movies\JEA\		
Path to media files	G:\Media\JEA\		

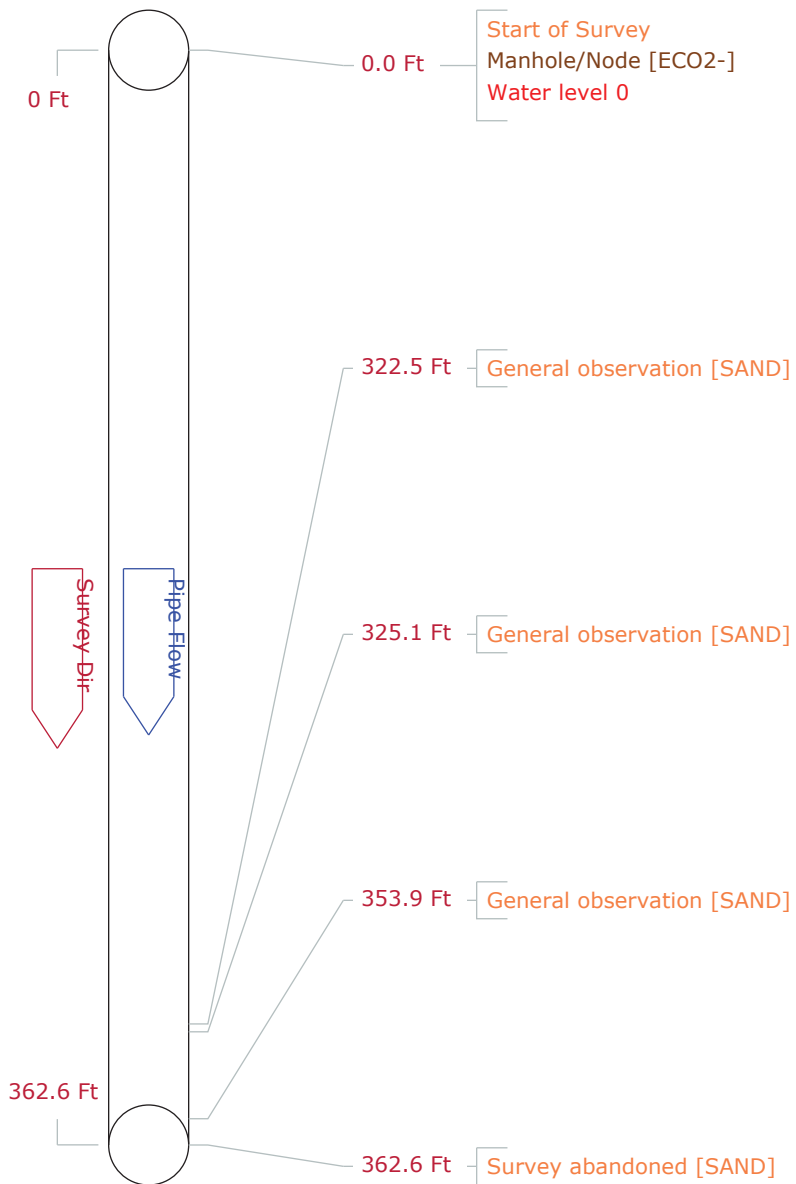


Video Index Count 732.8 Ft
Code Survey abandoned
Remarks CAMERA STOPS/POSSIBLE SAND
File Name 6.jpg



Pipe Graphic Report of PLR **ECO2- C** **for JEA**

Work Order	Contract		Video		Setup	3
Facility	Operator	BMN	Van Ref	5	Surveyed On	07/14/2020
Street Name	CITRUS COUNTY LF PHASE 3		City	LACANTO FL		
Location type	Berm					
Surface						
Survey purpose	Other (state in comments)		Weather	Dry		
Pipe Use	Other (state in comments)		Schedule length	Ft	From	ECO2-
Shape	Circular	Size	8 by	ins	To	WCO1
Material	Other (state in comments)		Joint spacing	Ft	Direction	Downstream
Lining			Year laid		Pre-clean	Y
General note	HDPE LEACHATE COLLECTION				Last cleaned	7/14/2020
Location note	JETTING=1000				Structural	Service
					Miscellaneous	Hydraulic
					Constructional	



FLORIDA JETCLEAN
Phone: 1800-226-8013

CCTV Picture List of ECO2- C for JEA

Work Order			Setup 3
Video	Survey Date	2020/07/14	
Path to picture files	G:\Snaps\JEA\		
Path to video files	G:\Movies\JEA\		
Path to media files	G:\Media\JEA\		



Video Index Count 322.5 Ft
Code General observation
Remarks SAND
File Name 8.jpg



Video Index Count 325.1 Ft
Code General observation
Remarks SAND
File Name 9.jpg

Observation: GO (General observation)
Counter: 322.5'

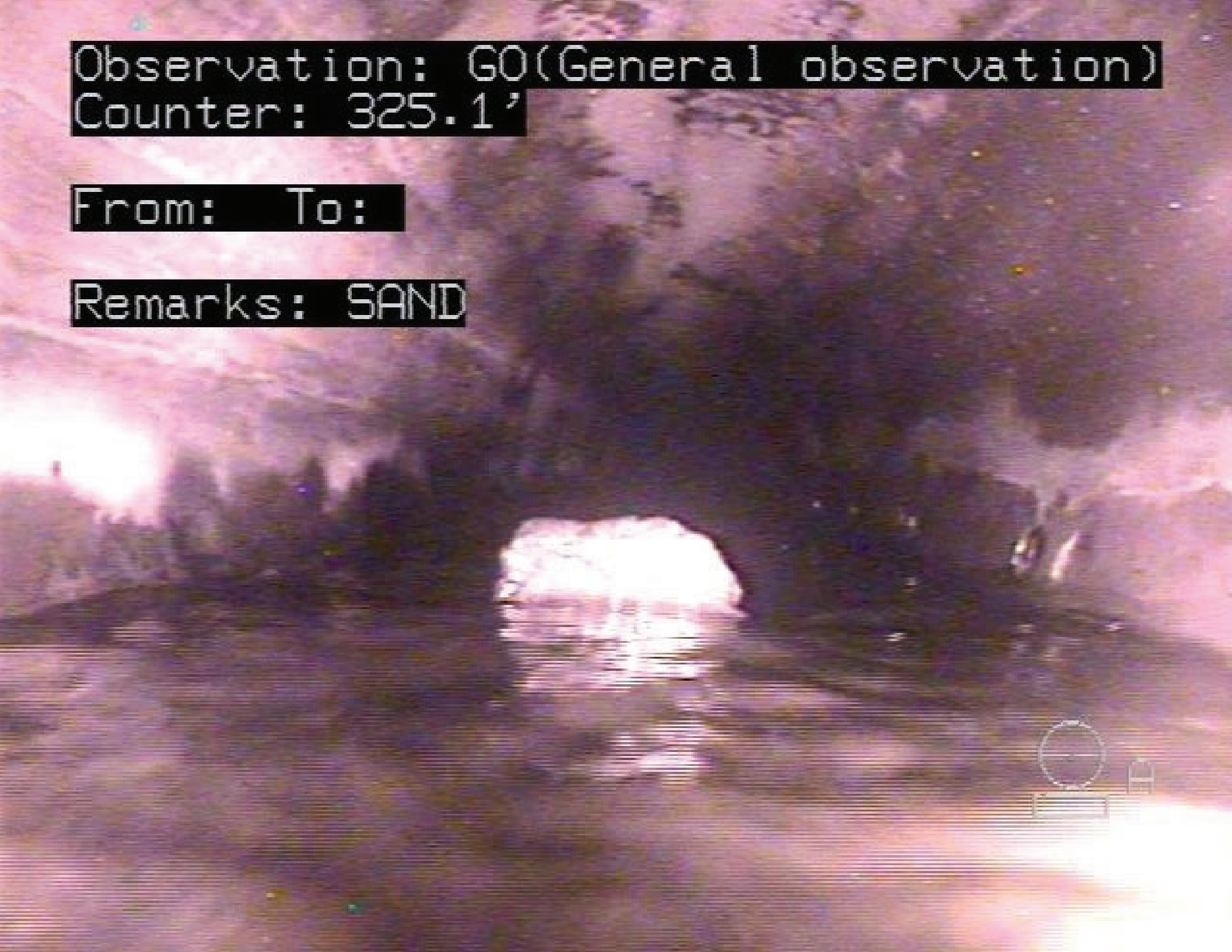
From: To:



Observation: G0(General observation)
Counter: 325.1'

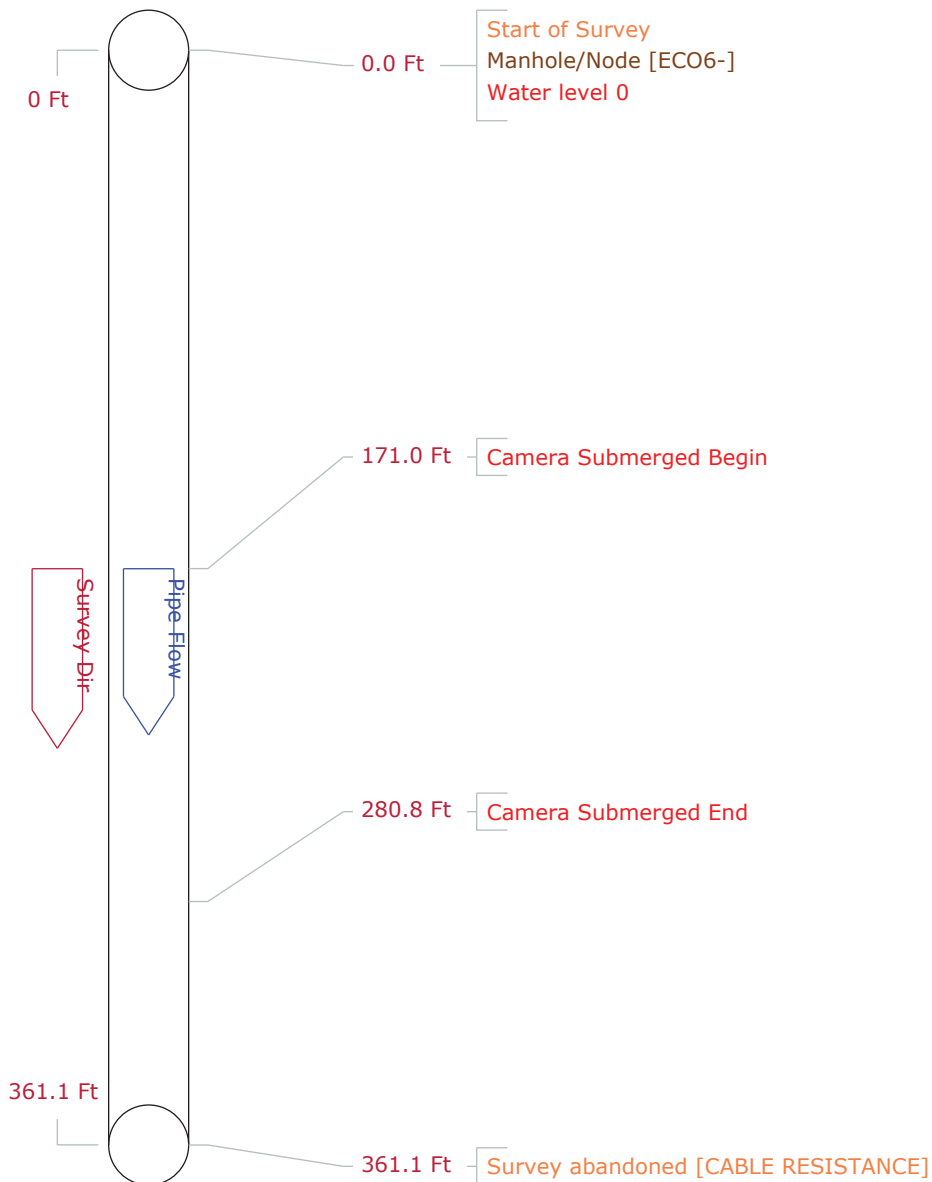
From: To:

Remarks: SAND



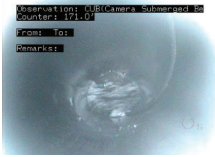
Pipe Graphic Report of PLR ECO6- C for JEA

Work Order	Contract		Video		Setup	4
Facility	Operator	BMN	Van Ref	5	Surveyed On	07/14/2020
Street Name	CITRUS COUNTY LF PHASE 1A		City	LACANTO FL		
Location type	Berm					
Surface						
Survey purpose	Other (state in comments)		Weather	Dry		
Pipe Use	Other (state in comments)		Schedule length	Ft	From	ECO6-
Shape	Circular	Size	8 by	ins	To	WCO5
Material	Other (state in comments)		Joint spacing	Ft	Direction	Downstream
Lining			Year laid		Pre-clean	Y
General note	HDPE LEACHATE COLLECTION				Last cleaned	7/14/2020
Location note	JETTING=1200				Structural	Service
					Miscellaneous	Hydraulic
					Constructional	



CCTV Picture List of ECO6- C for JEA

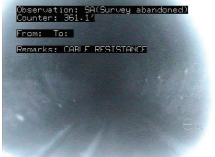
Work Order			Setup 4
Video	Survey Date	2020/07/14	
Path to picture files	G:\Snaps\JEA\		
Path to video files	G:\Movies\JEA\		
Path to media files	G:\Media\JEA\		



Video Index **Count** 171.0 Ft
Code Camera Submerged Begin
Remarks
File Name 11.jpg



Video Index **Count** 280.8 Ft
Code Camera Submerged End
Remarks
File Name 12.jpg



Video Index **Count** 361.1 Ft
Code Survey abandoned
Remarks CABLE RESISTANCE
File Name 13.jpg

Observation: CUB(Camera Submerged Be
Counter: 171.0'

From: To:

Remarks:



Observation: CUE(Camera Submerged En
Counter: 280.8'

From: To:

Remarks:

Observation: SA(Survey abandoned)
Counter: 361.1'

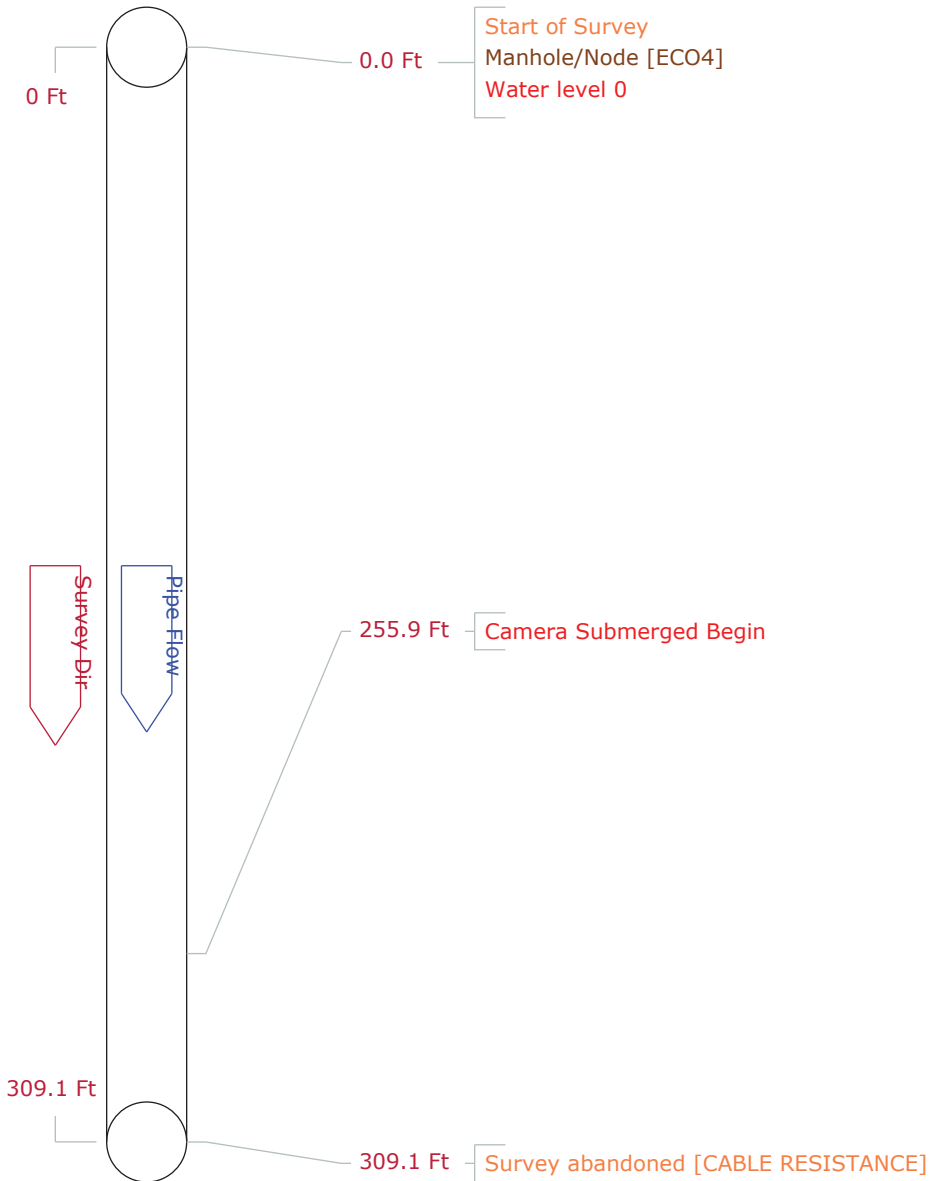
From: To:

Remarks: CABLE RESISTANCE



Pipe Graphic Report of PLR ECO4 D for JEA

Work Order	Contract		Video		Setup	5			
Facility	Operator	BMN	Van Ref	5	Surveyed On	07/14/2020			
Street Name	CITRUS COUNTY LF PHASE 2		City	LACANTO FL					
Location type	Berm								
Surface									
Survey purpose	Other (state in comments)		Weather	Dry					
Pipe Use	Other (state in comments)		Schedule length	Ft	From	ECO4	Depth	F t	
Shape	Circular		Size	8	by	ins	To		WCO3
Material	Other (state in comments)		Joint spacing	Ft		Direction	Downstream		
Lining			Year laid			Pre-clean	Y		Last cleaned
General note	HDPE LEACHATE COLLECTION				Structural	Service	Constructional		
Location note	JETTING=1000				Miscellaneous	Hydraulic			



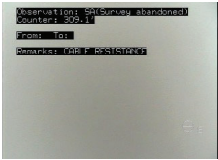
FLORIDA JETCLEAN
Phone: 1800-226-8013

CCTV Picture List of ECO4 D for JEA

Work Order			Setup 5
Video	Survey Date	2020/07/14	
Path to picture files	G:\Snaps\JEA\		
Path to video files	G:\Movies\JEA\		
Path to media files	G:\Media\JEA\		



Video Index **Count** 255.9 Ft
Code Camera Submerged Begin
Remarks
File Name 15.jpg



Video Index **Count** 309.1 Ft
Code Survey abandoned
Remarks CABLE RESISTANCE
File Name 16.jpg

Observation: CUB(Camera Submerged Be
Counter: 255.9'

From: To:

Remarks:



Observation: SA(Survey abandoned)
Counter: 309.1'

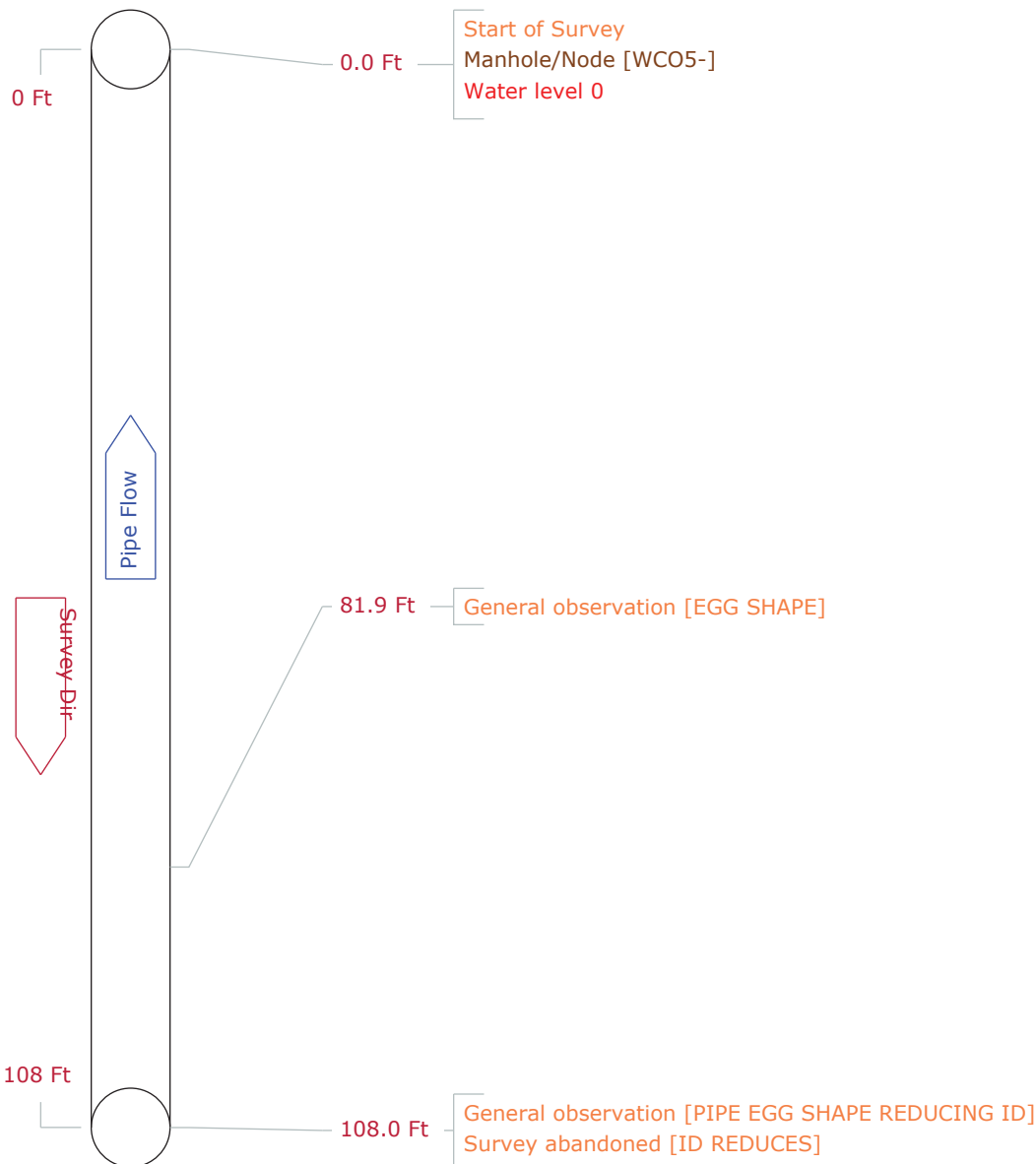
From: To:

Remarks: CABLE RESISTANCE



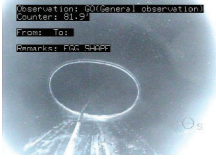
Pipe Graphic Report of PLR ECO6 E for JEA

Work Order	Contract		Video		Setup	6			
Facility	Operator	BMN	Van Ref	5	Surveyed On	07/14/2020			
Street Name	CITRUS COUNTY LF PHASE 1A		City	LACANTO FL					
Location type	Berm								
Surface									
Survey purpose	Other (state in comments)		Weather	Dry					
Pipe Use	Other (state in comments)		Schedule length	Ft	From	WCO5-	Depth	F	
Shape	Circular	Size	8	by	ins	To	ECO6	Depth	f
Material	Other (state in comments)		Joint spacing	Ft		Direction	Upstream		
Lining			Year laid			Pre-clean	Y	Last cleaned	7/14/2020
General note	HDPE LEACHATE COLLECTION					Structural	Service	Constructional	
Location note	JETTING=108					Miscellaneous	Hydraulic		

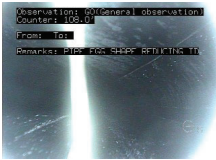


CCTV Picture List of ECO6 E for JEA

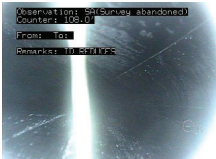
Work Order			Setup 6
Video	Survey Date	2020/07/14	
Path to picture files	G:\Snaps\JEA\		
Path to video files	G:\Movies\JEA\		
Path to media files	G:\Media\JEA\		



Video Index **Count** 81.9 Ft
Code General observation
Remarks EGG SHAPE
File Name 18.jpg



Video Index **Count** 108.0 Ft
Code General observation
Remarks PIPE EGG SHAPE REDUCING ID
File Name 19.jpg



Video Index **Count** 108.0 Ft
Code Survey abandoned
Remarks ID REDUCES
File Name 20.jpg

Observation: G0 (General observation)
Counter: 81.9'

From: To:

Remarks: EGG SHAPE



Observation: G0(General observation)
Counter: 108.0'

From: To:

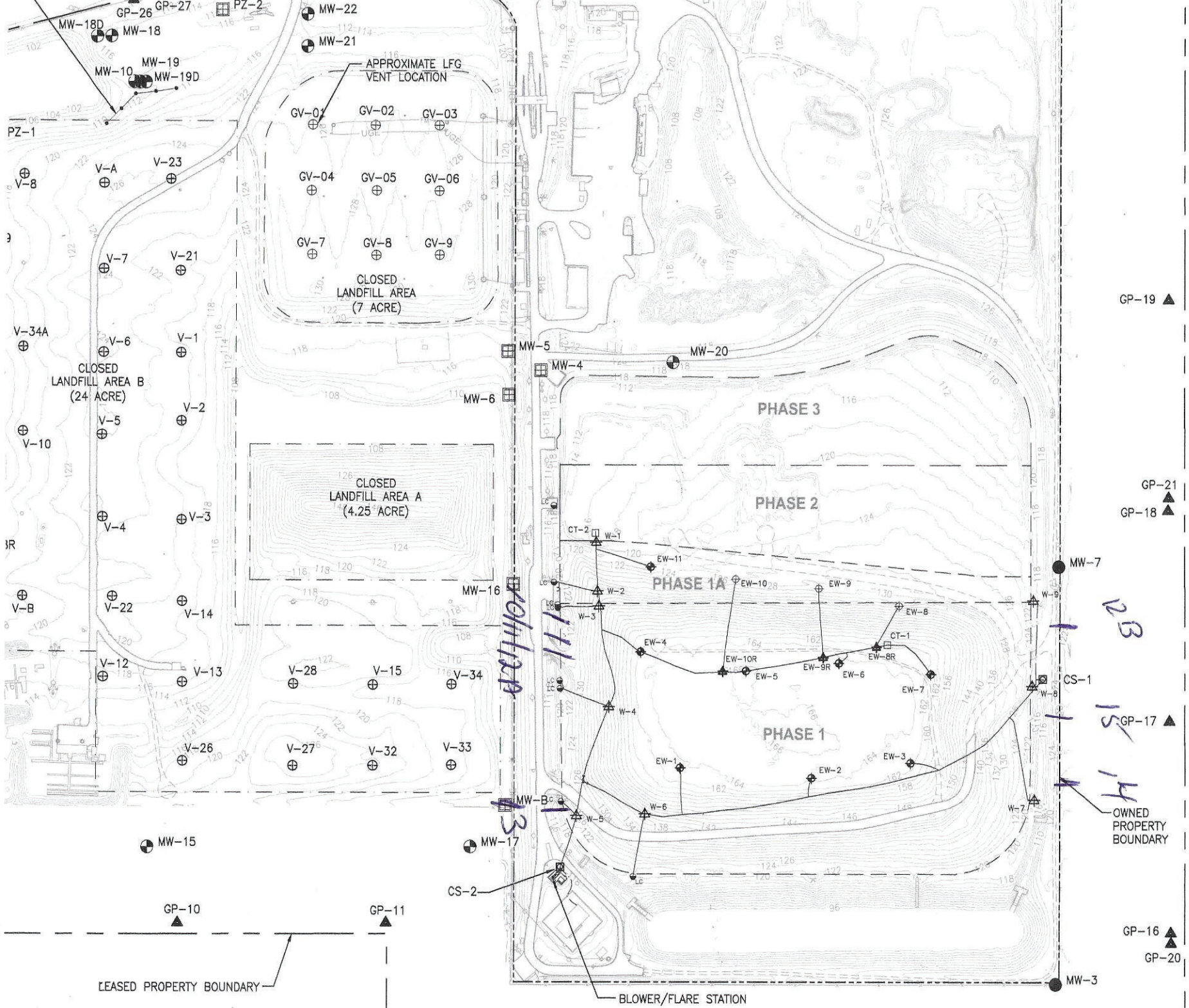
Remarks: PIPE EGG SHAPE REDUCING ID

Observation: SA(Survey abandoned)
Counter: 108.0'

From: To:

Remarks: ID REDUCES





- EW-1
- EW-2
- EW-3
- EW-4
- CS-2
- CT-1
- LC
- MW-1
- MW-2
- V-3
- GV-1
- PZ-1
- MW-3
- GP-1
- W-7

NOTES:
 1. TOPOGRAPHIC SURVEYING,
 2. EXISTING LFG
 3. AS-BUILT IN BY BBL SU 2010.

23

15

14

Attachment 2
Florida Jetclean Report July 2015

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
PIPELINE VIDEO INSPECTION (EX)
VACUUM TRUCK SERVICES
LASER PROFILING / NO DIG REPAIRS

7538 DUNBRIDGE DR., ODESSA, FL 33556
TEL: 800-226-8013 FAX: 813-926-4616
WEB: WWW.FLORIDAJETCLEAN.COM
EMAIL: FLORIDAJETCLEAN@YAHOO.COM

SCS Engineers Citrus County Landfill 2015 Leachate Pipe Maintenance

**Work Performed
April 2015 - July 2015**

**Conducted By:
Florida Jetclean
800-226-8013**

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
PIPELINE VIDEO INSPECTION (EX)
VACUUM TRUCK SERVICES
LASER PROFILING / NO DIG REPAIRS

7538 DUNBRIDGE DR., ODESSA, FL 33556
TEL: 800-226-8013 FAX: 813-926-4616
WEB: WWW.FLORIDAJETCLEAN.COM
EMAIL: FLORIDAJETCLEAN@YAHOO.COM

REPORT

DATE : 7/16/2015
TO : Ed Hilton – SCS Engineers
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : Citrus County Landfill - Existing Leachate Pipes - 2015 Maintenance

Florida Jetclean completed the high-pressure water-jetting and explosion-proof video-inspection of the existing leachate collection piping at the Citrus County Landfill on 7/8/2015. Included with this report are the applicable Jetting logs, Pipe Graphic Reports, and the inspection footage in DVD format.

High-pressure Water-jetting:

As the below jetting log indicates, all existing leachate piping was jetcleaned as far as possible via high-pressure water-jetting nozzle and was blockage free upon completion.

<u>JETTING LOCATION</u>	<u>ACHIEVED DISTANCE (ft)</u>	<u>COMMENTS</u>
P3 - West to East	500.0'	Entire Pipe Jetcleaned Through Overlap
P3 - East to West	1,000.0'	Entire Pipe Jetcleaned Through Overlap
P2 - West to East	500.0'	Entire Pipe Jetcleaned Through Overlap
P2 - East to West	1,000.0'	Entire Pipe Jetcleaned Through Overlap
P1A - West to East	132.0'	Entire Pipe Jetcleaned Through Overlap
P1A - East to West	1,000.0'	Entire Pipe Jetcleaned Through Overlap
10 - West to East	1,300.0'	Jet Stops
11 - West to East	210.0'	Jet Stops
12A - West to East	210.0'	Jet Stops
12B to 15E	1,300.0'	Entire Pipe Jetcleaned Through Overlap
15E to 12B	1,000.0'	Entire Pipe Jetcleaned Through Overlap
13 - West to East	170.0'	Jet Stops
14 - West to East	180.0'	Jet Stops

Explosion-proof Video-inspection:

After jetcleaning was completed the above piping was video-inspected as far as possible using explosion-proof video-inspection equipment (see included Pipe Graphic Reports and DVD's). A summary of the video-inspections are provided below for quick reference. The Pipe Graphic Reports and DVD's should be referenced for complete details.

<u>VIDEO LOCATION</u>	<u>ACHIEVED DISTANCE (ft)</u>	<u>COMMENTS</u>
Phase 3 - East to West	988.4'	Phase 3 Sump Reached

		No Defects Noted
Phase 1A - West to East	89.9'	Impassable Partially Crushed / Oval Pipe
Phase 2 - West to East	455.9'	Camera Can Not Be Pushed Further Dislodged Bead / Ring at 121.7'
Phase 2 - East to West	454.9'	Camera Can Not Be Pushed Further No Defects Noted
Phase 1A - East to West	380.7'	Camera Can Not Be Pushed Further No Defects Noted

All areas of the existing piping viewed with the inspection-camera were in good condition, with no defects noted or visible. All areas of the pipes accessed with the jet nozzle were clean and blockage free as of the completion of our mobilization.

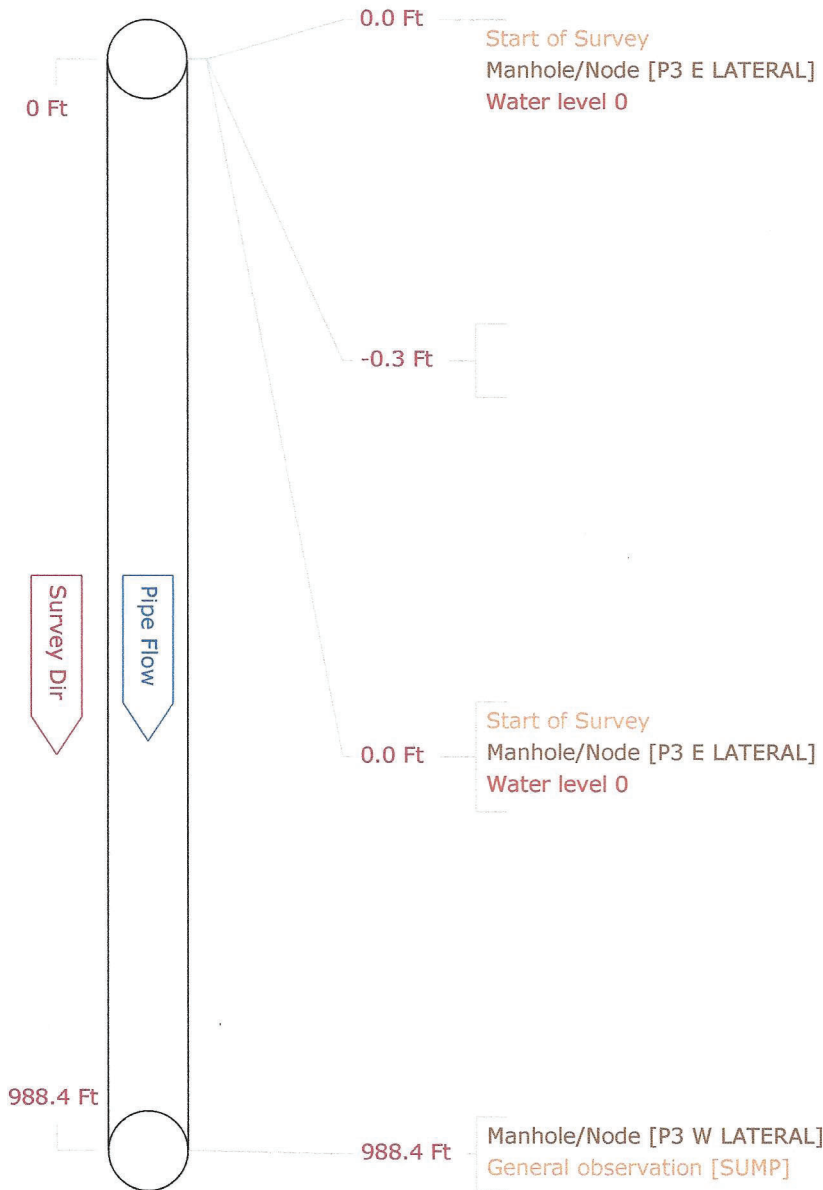
Please call us with questions or concerns.

Regards,


Ralph Calistri - Florida Jetclean - 800-226-8013

Pipe Graphic Report of PLR **P3 E LATERAL A** for **CITRUS COUNTY SOLID WASTE**

Work Order	Contract		Video 1	Setup 1
Facility	Operator BMN	Van Ref 4	Surveyed On 07/07/2015	
Street Name	PHASE 3 LATERAL	City	EAST SIDE LAT 3	
Location type	Berm			
Surface				
Survey purpose	Other (state in comments)		Weather	Dry
Pipe Use	Other (state in comments)		Schedule length	Ft
Shape	Circular	Size 8 by	ins	From P3 E LATERAL Depth
Material	Other (state in comments)		Joint spacing	Ft
Lining			Year laid	
General note	HDPE LEACHATE COLLECTION		Pre-clean Y	Last cleaned 7/7/2015
Location note			Structural	Service Constructional
			Miscellaneous	Hydraulic

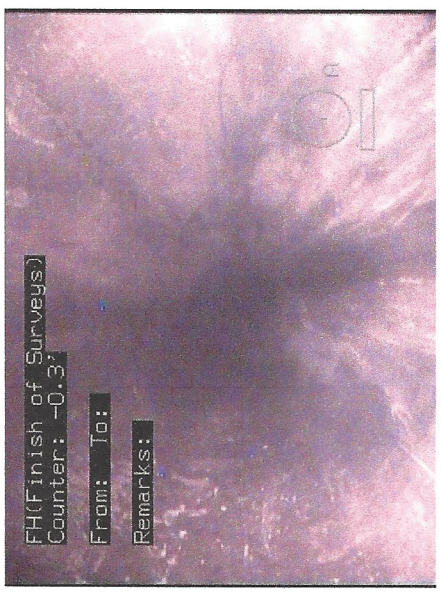


FLORIDA JETCLEAN
Phone: 800-226-8013

CCTV pictures of P3 E LATERAL A for CITRUS COUNTY SOLID WASTE

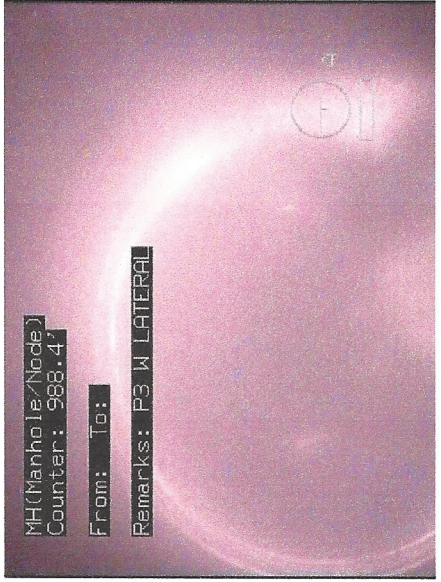
Work Order	Video 1	Surveyed On 07/07/2015	Direction Downstream	Setup 1
Street Name PHASE 3 LATERAL	City Name EAST SIDE LAT 3	Weather Dry		
Location Berm	From Manhole P3 E LATERAL	To Manhole P3 W LATERAL		

Date: 07/07/2015
 Distance: -0.3 Ft
 Obs: Finish of Surveys
 Comments:



FH(Finish of Surveys)
 Counter: -0.3'
 From: To:
 Remarks:

Date: 07/07/2015
 Distance: 988.4 Ft
 Obs: Manhole/Node
 Comments:
 P3 W LATERAL



MH(Manhole/Node)
 Counter: 988.4'
 From: To:
 Remarks: P3 W LATERAL

Date: 07/07/2015
 Distance: 988.4 Ft
 Obs: General observation
 Comments:
 ;UMP

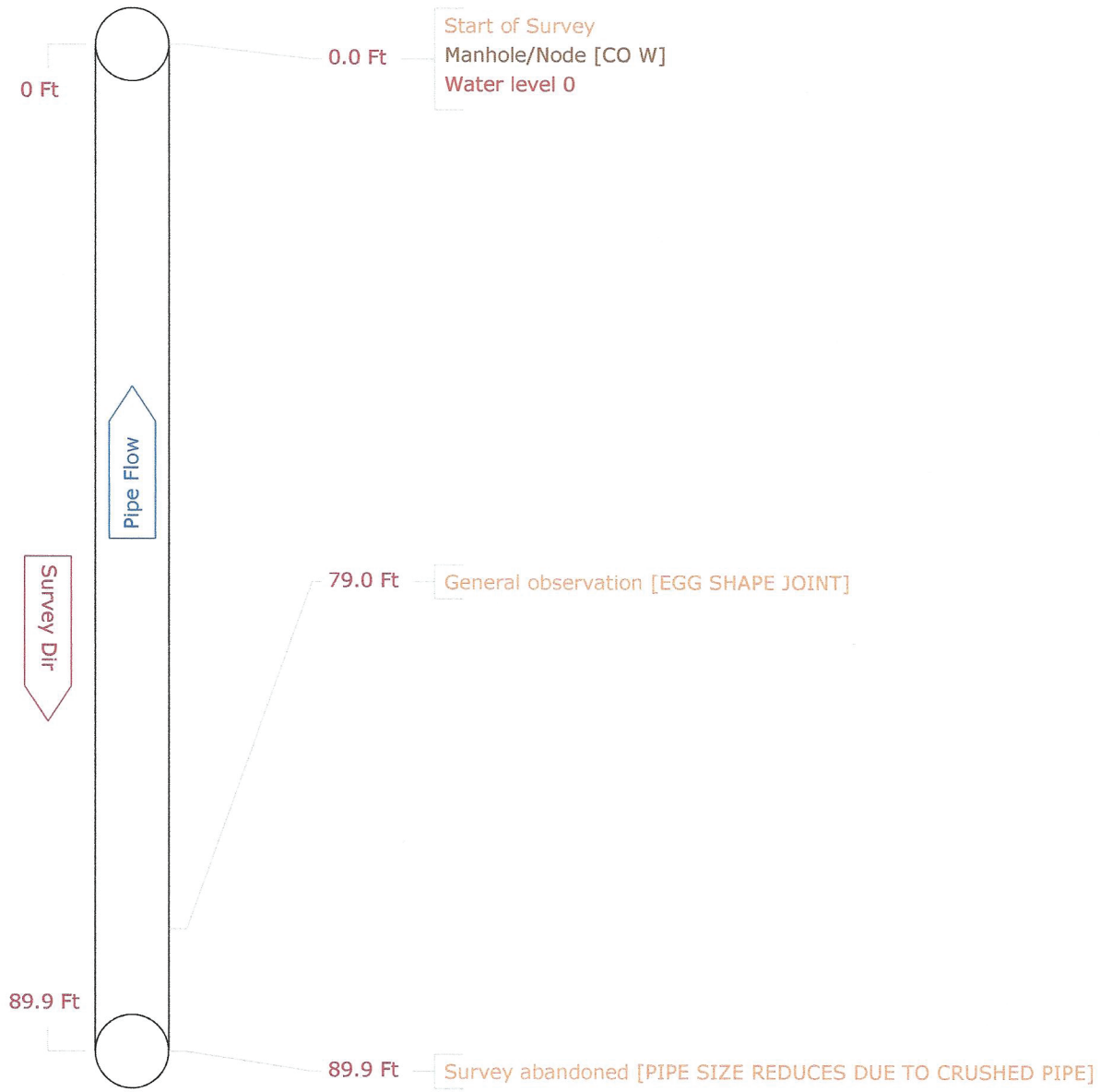


GO(General observation)
 Counter: 988.4'
 From: To:
 Remarks: SUMF



Pipe Graphic Report of PLR CO E C for CITRUS COUNTY SOLID WASTE

Work Order	Contract		Video	1	Setup	3			
Facility	Operator		Van Ref	Surveyed On		04/28/2015			
Street Name	CITRUS COUNTY PHASE 1A		City	CITRUS COUNTY LF					
Location type	Berm								
Surface									
Survey purpose	Other (state in comments)		Weather	Light rainfall					
Pipe Use	Other (state in comments)		Schedule length	Ft	From	CO W	Depth	F t f t	
Shape	Circular		Size	8 by	ins	To	CO E		Depth
Material	Other (state in comments)		Joint spacing	Ft		Direction	Upstream		
Lining			Year laid			Pre-clean	Y		Last cleaned
General note	JETTING=132 POSSIBLE CRUSHED PIPE				Structural	Service	Constructional		
Location note	VIDEO IN REVERSE VIDEO SHOWS PHASE 1				Miscellaneous	Hydraulic			

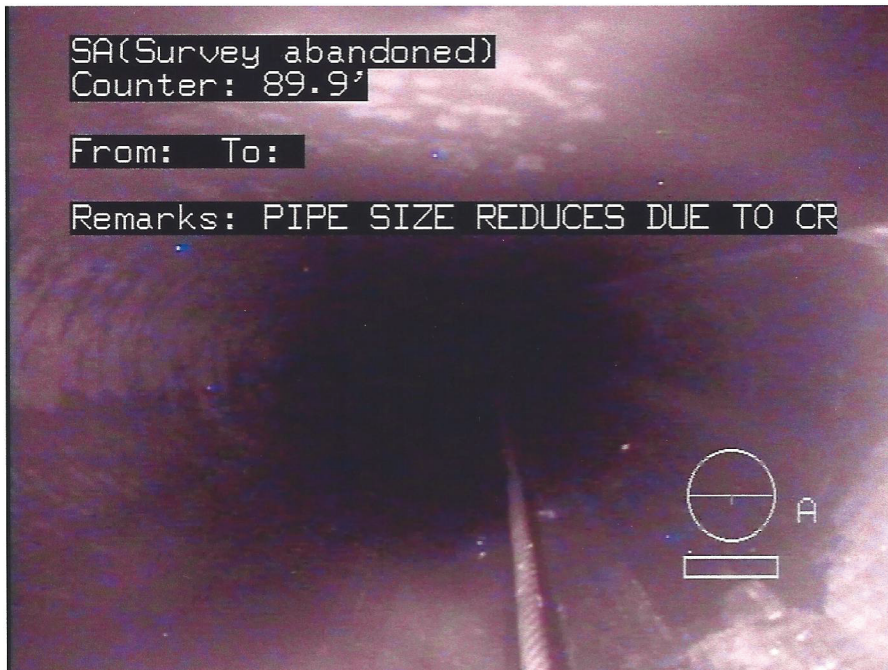


FLORIDA JETCLEAN
Phone: 800-226-8013

Work Order	Surveyed On 04/28/2015	Setup 3
Street Name CITRUS COUNTY PHASE 1		Video 1
City Name CITRUS COUNTY LF	Weather Light rainfall	
Location Berm		
From Manhole CO W	To Manhole CO E	Direction Upstream



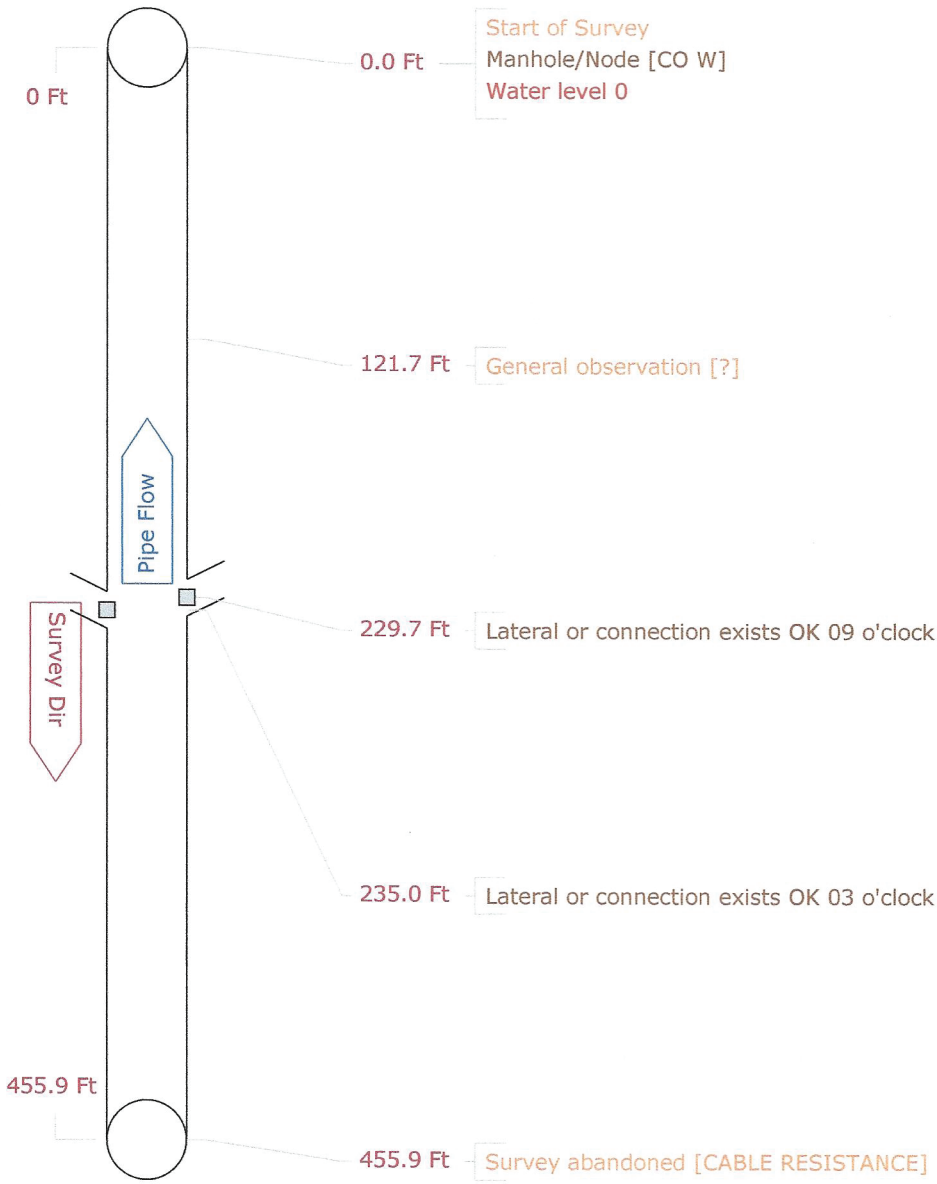
Date: 04/28/2015 **Distance:** 79.0 Ft **Obs:** General observation
Comments: EGG SHAPE JOINT



Date: 04/28/2015 **Distance:** 89.9 Ft **Obs:** Survey abandoned
Comments: PIPE SIZE REDUCES DUE TO CRUSHED PIPE

Pipe Graphic Report of PLR **CO E** **D** **for** **CITRUS COUNTY SOLID WASTE**

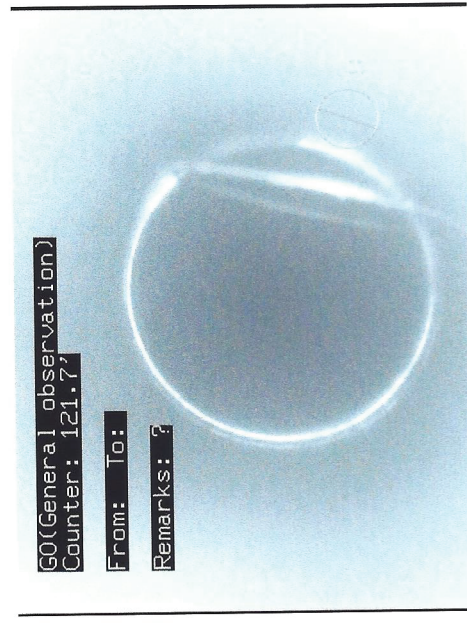
Work Order	Contract		Video 1	Setup 4
Facility	Operator		Van Ref	Surveyed On 04/28/2015
Street Name	CITRUS COUNTY PHASE 2	City	CITRUS COUNTY LF	
Location type	Berm			
Surface				
Survey purpose	Other (state in comments)		Weather	Light rainfall
Pipe Use	Other (state in comments)		Schedule length	Ft
Shape	Circular	Size 8 by	ins	From CO W Depth
Material	Other (state in comments)		Joint spacing	Ft
Lining			Year laid	
General note	JETTING=500 OVERLAP		Pre-clean Y	Last cleaned 4/27/2015
Location note			Structural	Service Constructional
			Miscellaneous	Hydraulic



CCTV pictures of CO E D for CITRUS COUNTY SOLID WASTE

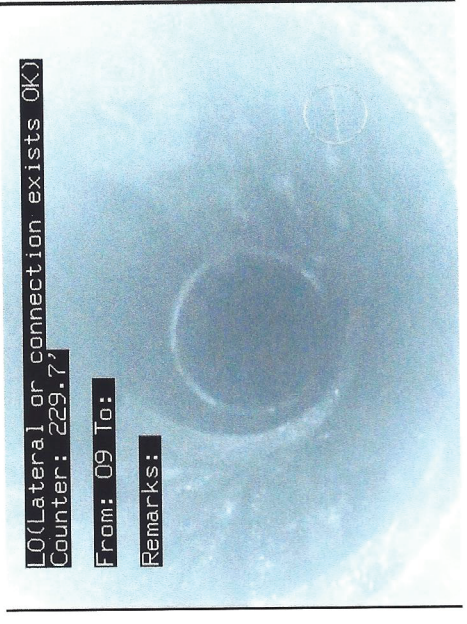
Work Order	Video 1	Surveyed On 04/28/2015	Direction Upstream	Setup 4
Street Name CITRUS COUNTY PHASE 2	City Name CITRUS COUNTY LF	Weather Light rainfall		
Location Berm	From Manhole CO W	To Manhole CO E		

Date: 04/28/2015
 Distance: 121.7 Ft
 Obs: General observation
 Comments:
 ?



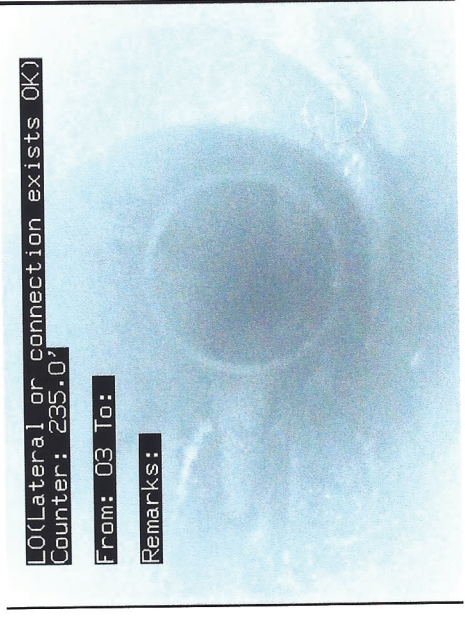
G0(General observation)
 Counter: 121.7'
 From: To:
 Remarks: ?

Date: 04/28/2015
 Distance: 229.7 Ft
 Obs: Lateral or connection exists OK
 Comments:



L0(Lateral or connection exists OK)
 Counter: 229.7'
 From: 09 To:
 Remarks:

Date: 04/28/2015
 Distance: 235.0 Ft
 Obs: Lateral or connection exists OK
 Comments:



L0(Lateral or connection exists OK)
 Counter: 235.0'
 From: 03 To:
 Remarks:

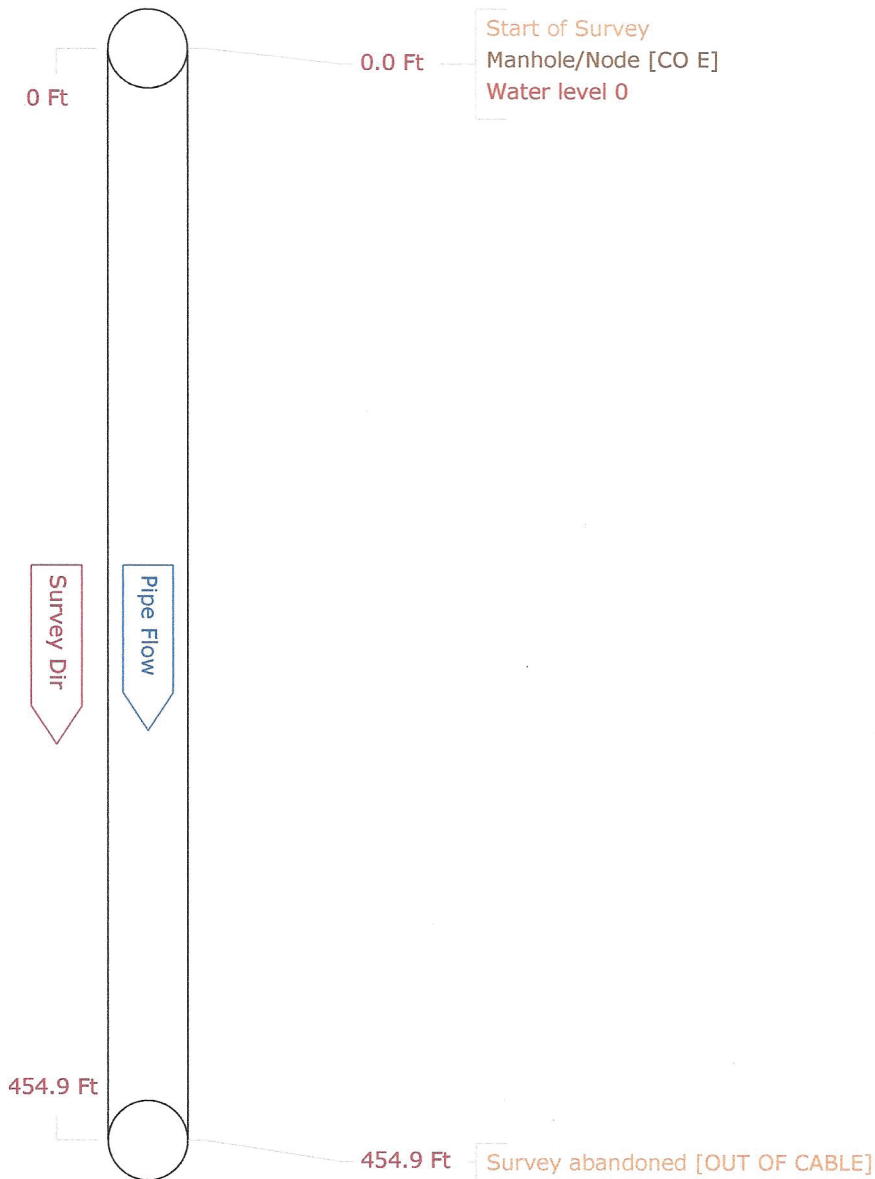
Date: 04/28/2015
 Distance: 455.9 Ft
 Obs: Survey abandoned
 Comments:
 CABLE RESISTANCE



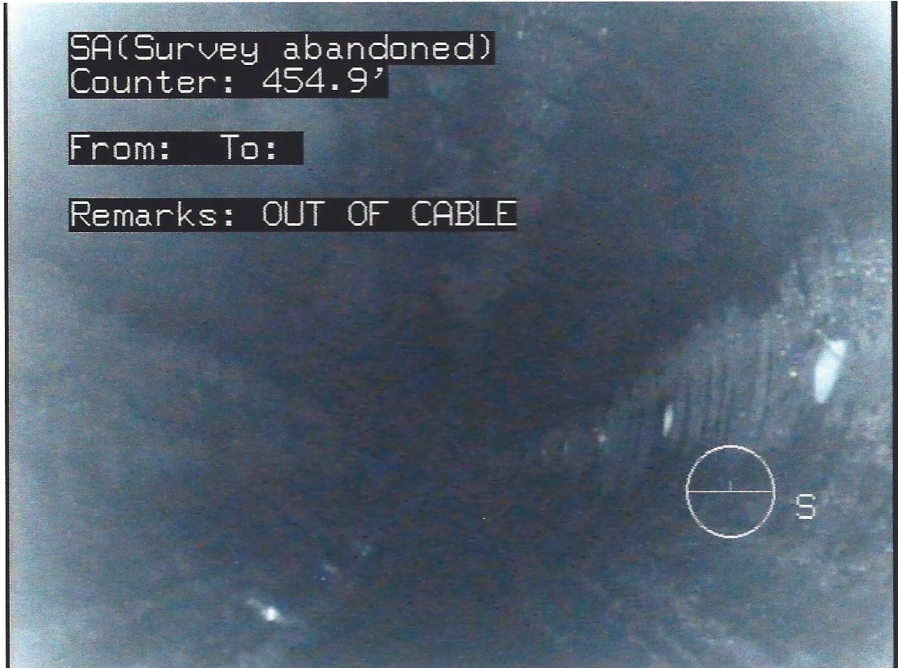
SA(Survey abandoned)
 Counter: 455.9'
 From: To:
 Remarks: CABLE RESISTANCE

Pipe Graphic Report of PLR CO E G for CITRUS COUNTY SOLID WASTE

Work Order	Contract		Video	1	Setup	8			
Facility	Operator		Van Ref	Surveyed On		04/28/2015			
Street Name	CITRUS COUNTY PHASE 2		City	CITRUS COUNTY LF					
Location type	Berm								
Surface									
Survey purpose	Other (state in comments)		Weather	Light rainfall					
Pipe Use	Other (state in comments)		Schedule length	Ft	From	CO E	Depth	F	
Shape	Circular		Size	8 by	ins	To	CO W	Depth	f
Material	Other (state in comments)		Joint spacing	Ft		Direction	Downstream		
Lining			Year laid			Pre-clean	Y	Last cleaned	4/27/2015
General note	JETTING=1000				Structural	Service	Constructional		
Location note					Miscellaneous	Hydraulic			



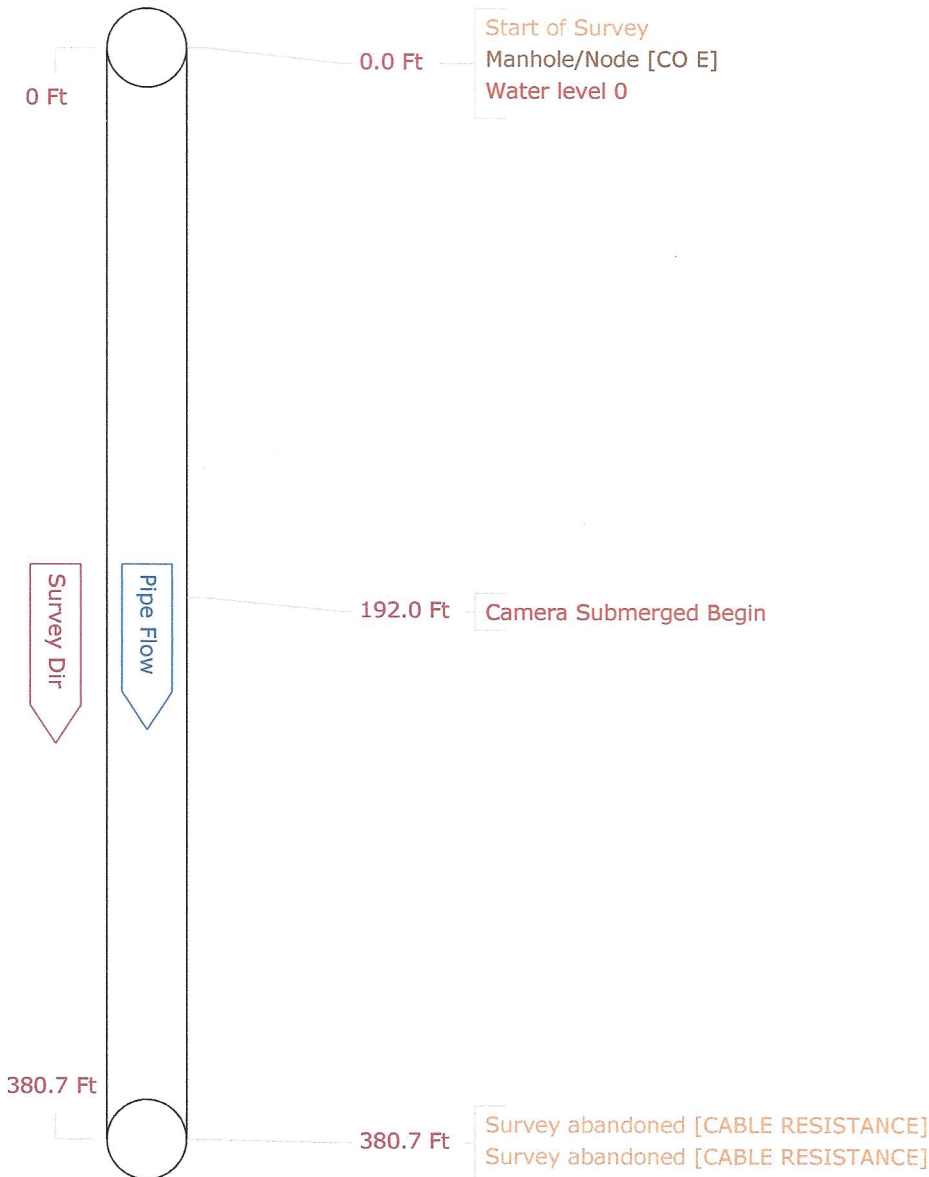
Work Order	Surveyed On 04/28/2015	Setup 8
Street Name CITRUS COUNTY PHASE 2		Video 1
City Name CITRUS COUNTY LF	Weather Light rainfall	
Location Berm		
From Manhole CO E	To Manhole CO W	Direction Downstream



Date: 04/28/2015 **Distance:** 454.9 Ft **Obs:** Survey abandoned
Comments: OUT OF CABLE

Pipe Graphic Report of PLR CO E H for CITRUS COUNTY SOLID WASTE

Work Order	Contract		Video	1	Setup	9			
Facility	Operator		Van Ref	Surveyed On		04/28/2015			
Street Name	CITRUS COUNTY PHASE 1A	City	CITRUS COUNTY LF						
Location type	Berm								
Surface									
Survey purpose	Other (state in comments)		Weather	Light rainfall					
Pipe Use	Other (state in comments)		Schedule length	Ft	From	CO E	Depth	F	
Shape	Circular		Size	8 by	ins	To	CO W	Depth	f
Material	Other (state in comments)		Joint spacing	Ft		Direction	Downstream		
Lining			Year laid			Pre-clean	Y	Last cleaned	4/27/2015
General note	JETTING=1000				Structural	Service	Constructional		
Location note	VIDEO SHOWS PHASE 1				Miscellaneous	Hydraulic			



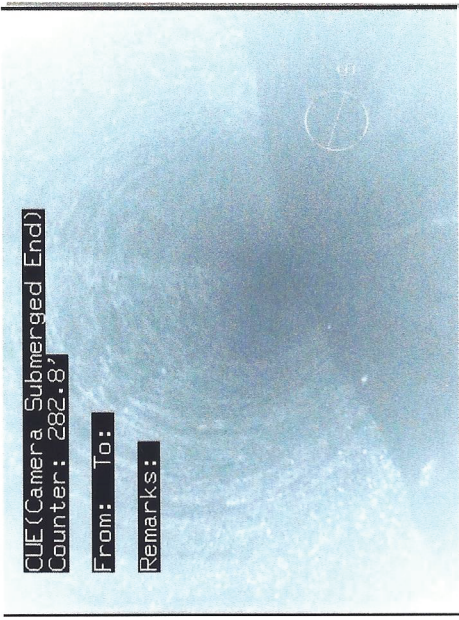
CCTV pictures of CO E H for CITRUS COUNTY SOLID WASTE

Work Order	Video 1	Surveyed On 04/28/2015	Direction Downstream	Setup 9
Street Name CITRUS COUNTY PHASE 1	City Name CITRUS COUNTY LF	Weather Light rainfall		
Location Berm	From Manhole CO E	To Manhole CO W		

Date: 04/28/2015
 Distance: 192.0 Ft
 Obs: Camera Submerged Begin
 Comments:



Date: 04/28/2015
 Distance: 380.7 Ft
 Obs: Survey abandoned
 Comments: CABLE RESISTANCE



Date: 04/28/2015
 Distance: 380.7 Ft
 Obs: Survey abandoned
 Comments: CABLE RESISTANCE

