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Ms. Susan Pelz, Program Manager
Florida Department of Environmental Protection
SW District - Solid Waste Department
13051 North Telecom Park
Temple Terrace, FL 33637-0926

**RE: Permit Application for Brooksville South Cement Plant
CEMEX Construction Materials Florida, LLC
Hernando County, Florida**

Dear Susan:

On behalf of CEMEX Construction Materials Florida, LLC (CEMEX), Koogler and Associates, Inc. is submitting the attached application for storage, handling and processing of alternative fuel materials at the Brooksville South Cement Plant. CEMEX has been working with alternative fuels for the past several years successfully conducting trials or evaluations of a broad range of alternative fuels. CEMEX recognizes and treats these materials as viable and valuable commodities that replace fossil fuels (e.g. coal or petroleum coke).

While CEMEX treats these materials as fuels, in a concerted effort with the Department, CEMEX is requesting the Department to issue a permit for this operation to address any potential regulatory concern of these fuel materials. To date, CEMEX has successfully trial burned thousands of tons of these viable alternative fuels under the air construction permits issued by the Department. During this time, the Department has never determined any violations of State rules related to the use of alternative fuels. The operations include on-site transport, storage, processing, and handling of these materials.

KA 307-12-04
May 30, 2012

Dept. of Environmental
Protection
MAY 31 2012
Southwest District

CEMEX believes that by expanding their fuel use to include alternative fuels, it will result in the following benefits:

1. Increased demand for such residual materials as fuel encourages recovery versus discard to landfills. This objective matches the goals of the State efforts to increase residual material diversion from discard for re-use or recycling.¹
2. Comparable fuel quality: There are important considerations regarding the quality of these fuels in that the constituents within these fuels must be comparable to currently approved fuel used on-site (e.g., coal). Because these fuels must be comparable to the fuels already allowed on-site, these fuels, by definition, should not release to the environment any constituents that are different to those fuels currently allowed. This topic is addressed in detail in the application.
3. Promotion of related recycling and recovery business activities (i.e., employment, taxable income) in the State.
4. Reduction of greenhouse gas emissions by re-using and reducing landfilled biogenic material, reducing source material transportation and reducing methane emissions from landfilled materials.
5. Promotion of a more diverse energy supply which improves the viability of CEMEX and the alternative fuels market suppliers.

CEMEX sincerely appreciates the Department's review of the enclosed documents which include one (1) original and three (3) copies of DEP Form #62-701.900(4) and attachments for the Alternative Fuel Storage System at the CEMEX Brooksville South Cement Plant.

If you have any questions regarding this application or require further information, please contact me at (352) 377-5822 or mlee@koooglerassociates.com.

Regards,



Max Lee, PhD., P.E.
KOOGLER AND ASSOCIATES, INC.

MRL/tr
Enclosures

cc: George Townsend, CEMEX Construction Materials Florida, LLC

**APPLICATION FOR PERMIT
TO OPERATE AN
ALTERNATIVE FUEL
PROCESSING FACILITY**

CEMEX Construction Materials Florida, LLC

Brooksville South Cement Plant

Brooksville, Hernando County, Florida

Application Date: May 30, 2012

Consultant:

Maxwell R. Lee, Ph.D., P.E.

Tammy L. Reed

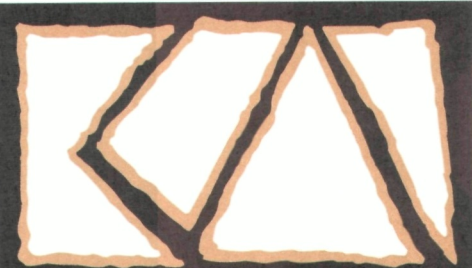
Koogler and Associates, Inc.

4014 NW 13th Street

Gainesville, FL 32609-1923

(352) 377-5822

307-12-04



KOOGLER & ASSOCIATES, INC.

ENVIRONMENTAL SERVICES

4014 NW 13th STREET
GAINESVILLE, FL 32609-1923
352/377-5822 ■ FAX/377-7158

**APPLICATION FOR ALTERNATIVE FUEL
PROCESSING FACILITY**

CEMEX Construction Materials Florida, LLC
Brooksville South Cement Plant
Brooksville, Hernando County, Florida

Application Date: May 30, 2012

Consultant:

Maxwell R. Lee, Ph.D., P.E.
Tammy Reed
Koogler and Associates, Inc.
4014 NW 13th Street
Gainesville, Florida 32609-1923
(352) 377-5822

307-12-04



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- B. Professional Engineering Estimate
- C. Financial Assurance Cost Estimate Form

APPENDIX

- 1. Site Figures

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Protection
MAY 31 2012
Southwest District

1.0 INTRODUCTION

CEMEX Construction Materials Florida, LLC (CEMEX) owns and operates the CEMEX Brooksville South Cement Plant (facility) located at 10311 Cement Plant Road in Brooksville, Hernando County, Florida. The facility includes two Portland Cement kiln lines and associated equipment capable of producing up to 1,800,000 tons of clinker per year. The cement kiln No. 2 is currently permitted to burn natural gas, distillate fuel oil, on specification used oil, coal, petroleum coke, propane, flyash, and tire derived fuels and materials that are defined as “non-hazardous” under the rules of 40 CFR 260 (i.e., RCRA) regarding solid waste. Furthermore, the alternative fuels are not “secondary materials that are identified as solid waste” under 40 CFR 241.

CEMEX believes that expanding their fuel portfolio use to include these additional alternative fuels will result in the following benefits:

1. Increased availability and stability of energy sources through the use of locally generated, processed and transported energy sources in comparison to conventional fuels (i.e., coal which can be and is transported from around the world to this plant and other cement plants).
2. Promotion of related recycling and recovery business activities (i.e., employment, taxable income) in the State.
3. Reduction of greenhouse gas emissions by re-using and reducing landfilled biogenic material, reducing source material transportation and reducing methane emissions from landfilled materials.
4. Increased demand for recovered materials as fuel encourages recovery versus landfilling. This matches the goals of the State efforts to increase waste diversion for re-use or recycling.¹

¹<http://www.dep.state.fl.us/waste/recyclinggoal75/default.htm> (last visited April 18, 2011)

5. Promotion of a more diverse energy supply which improves the viability of CEMEX and promotes and supports the alternative fuels market.

In order to move forward with the permanent usage of alternative fuels, CEMEX is submitting this application to address the potential Florida Department of Environmental Protection (FDEP) Office of Solid Waste concerns for long-term storage and processing these materials. While this application addresses solid waste permitting that follows the general F.A.C. section of 62-701, this facility is unlike other solid waste management facilities. In particular, this operation is NOT a waste-to-energy (WTE) facility. CEMEX receives, transfers, stores, and handles these materials as fuel commodity. In contrast, the production of cement requires specific fuel characteristics that solid waste cannot meet. Unlike a mass burn operation, cement kiln systems are very sensitive to fuel composition. In addition, the composition of fuels must be very carefully monitored given that the kiln must create a salable product, cement, in which all of the ash content of the fuel is incorporated into the cement.

To assure compliance to all state of Florida regulations, CEMEX is submitting this application for a permit that addresses the rules of 62-701 for a “waste” processing facility. As such, CEMEX is requesting a permit from the FDEP to operate alternative fuel processing facility for the purpose of receiving and temporarily storing alternative fuel source materials until they are used to fuel the kiln.

2.0 BACKGROUND INFORMATION

2.1 Permitting

CEMEX has been issued several air construction permits (FDEP Permit Nos. 0530021-031-AC, 035-AC, 037-AC) from the Florida Department of Environmental Protection (FDEP). On April 24, 2012, Permit 0530021-039-AC was issued. The permit was issued for several changes including; construction of long-term mechanical and pneumatic material handling systems for introduction of alternative fuels into the existing preheater/precalciner Kiln No. 2 System; and modification or replacement of the main kiln burner system to allow introduction of a variety of fuels to the Kiln No. 2 System; and the long-term firing of a variety of alternative fuels (AF) including tire-derived fuel; plastics; roofing materials; agricultural biogenic materials; untreated and treated cellulosic biomass; carpet-derived fuels; and engineered fuels (EF) in the Kiln No. 2 System.

Historically, the facility included both the cement kilns (owned and operated by CEMEX) and a 150-MW coal fired boiler (owned and operated by Central Power & Lime). Recently, the two companies have worked to legally and physically delineate the operations and obtain separate air permits. The Power plant will be modified soon to operate as a 70-MW biomass fired boiler. As such, Central Power & Lime operation of the electricity generating boiler is also governed by their Site Certification Permit, PA82-17P, recently revised and re-issued on April 17, 2012. The Site Certification addresses the operations and maintenance of the biomass-fueled electrical generating unit; biomass fuel delivery, handling and storage facilities; recirculation ponds; water intake

and outfall structures and pipes; transmission infrastructure; access roadways and other associated facilities including security and fire and safety procedures. Given the intimate relation of the two operations, some operations such as roadway access and water discharge are commonly addressed in the Site Certification. This application includes information from the Site Certification permitting as the information (e.g., drawings and maps) is applicable to both the power plant operation and the cement plant operation.

3.0 APPLICATION WITH SECTION B, ADDITIONAL INFORMATION

The following pages include the completed form, 62-7012.900(4) with the additional information required by the form provided in the following subsections.



Florida Department of Environmental Protection

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

DEP Form #: 62-701.900(4), F.A.C.

Form Title: Application to Construct, Operate, or Modify
a Waste Processing Facility

Effective Date: January 6, 2010

Incorporated in Rule: 62-701.710(2), F.A.C.

APPLICATION TO CONSTRUCT, OPERATE, OR MODIFY A WASTE PROCESSING FACILITY

GENERAL REQUIREMENT: Solid Waste Management Facilities shall be permitted pursuant to Section 403.707, Florida Statutes (F.S.) and in accordance with Florida Administrative Code (F.A.C.) Chapter 62-701. A minimum of four copies of the application shall be submitted to the Department District Office having jurisdiction over the facility. The appropriate fee in accordance with Rule 62-701.315(4), F.A.C., 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 and include all additional information, drawings, and reports necessary to evaluate the facility.

Please Type or Print in Ink

A. GENERAL INFORMATION

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

☐ Transfer Station

☐ Materials Recovery Facility:

☐ C&D Recycling

☐ Class III MRF

☐ MSW MRF

☐ Other Describe: _____

☒ Other Facility That Processes But Does Not Dispose Of Solid Waste On-Site:

☐ Storage, Processing or Disposal for Combustion Facilities (not addressed in another permit)

☒ Other Describe: Alternative Fuel Processing Facility

NOTE: C&D Disposal facilities that also recycle C&D, shall apply on DEP FORM 62-701.900(6), F.A.C.

2. Type of application:

☐ Construction/Operation

☒ Operation without Additional Construction

3. Classification of application:

☒ New

☐ Substantial Modification

☐ Renewal

☐ Intermediate Modification

☐ Minor Modification

4. Facility name: CEMEX Brooksville South Cement Plant

5. DEP ID number: To Be Assigned County: Hernando

6. Facility location (main entrance): 10311 Cement Plant Road Brooksville, FL 34601

7. Location coordinates:
Section: 8 Township: 22S Range: 19E
Latitude: 28° 34' 54" Longitude: 82° 25' 56"
Datum: WGS84 Coordinate Method: Unknown
Collected by: N/A Company/Affiliation: N/A
8. Applicant name (operating authority): CEMEX Construction Materials Florida, LLC
Mailing address: 10311 Cement Plant Road, Brooksville, FL 34601
Street or P.O. Box City State Zip
Contact person: Mr. James S. Daniel Telephone: (352) 799-7881
Title: Plant Manager jdaniel@cemexusa.com
E-Mail address (if available)
9. Authorized agent/Consultant: Koogler and Associates, Inc.
Mailing address: 4014 NW 13th Street, Gainesville, FL 32609
Street or P.O. Box City State Zip
Contact person: Tammy Reed Telephone: (352) 377-5822
Title: Environmental Scientist treed@kooglerassociates.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: NA
12. Date site will be ready to be inspected for completion: TBD
13. Estimated costs:
Total Construction: \$ Not Applicable Closing Costs: \$ 144,688.32-incl. 20% contingency
14. Anticipated construction starting and completion dates:
From: Not Applicable To: Not Applicable
15. Expected volume of waste to be received: _____ yds³/day 250 tons/day
16. Provide a brief description of the operations planned for this facility: _____

Receive and process alternative fuels for Portland Cement kiln. Note this facility does not intend to
receive or process secondary materials that are identified as solid waste per 40 CFR 241. This
application is submitted to address state of Florida regulatory matters.

B. ADDITIONAL INFORMATION

Please attach the following reports or documentation as required.

1. Provide a description of the solid waste that is proposed to be collected, stored, processed or disposed of by the facility, a projection of those waste types and quantities expected in future years, and the assumptions used to make the projections (Rule 62-701.710(2)(a), F.A.C.).
2. Attach a site plan, signed and sealed by a professional engineer registered under Chapter 471, F.S., with a scale not greater than 200 feet to the inch, which shows the facility location, total acreage of the site, and any other relevant features such as water bodies or wetlands on or within 200 feet of the site, potable water wells on or within 500 feet of the site (Rule 62-701.710(2)(b), F.A.C.).
3. Provide a description of the operation and functions of all processing equipment that will be used, with design criteria and expected performance. The description shall show the flow of solid waste and associated operations in detail, and shall include (Rule 62-701.710(2)(c), F.A.C.):
 - a. Regular facility operations as they are expected to occur;
 - b. Procedures for start up operations, and scheduled and unscheduled shut down operations; and
 - c. Potential safety hazards and control methods, including fire detection and control.
4. Provide a description of the loading, unloading, storage and processing areas (Rule 62-701.710(2)(d), F.A.C.).
5. Provide the identification and capacity of any on-site storage areas for recyclable materials, non-processable wastes, unauthorized wastes, and residues (Rule 62-701.710(2)(e), F.A.C.).
6. Provide a plan for disposal of unmarketable recyclable materials and residue, and for waste handling capability in the event of breakdowns in the operations or equipment (Rule 62-701.710(2)(f), F.A.C.).
7. Provide a boundary survey, legal description, and topographic survey of the property (Rule 62-701.710(2)(g), F.A.C.).
8. Provide a description of the design requirements for the facility which demonstrate how the applicant will comply with Rule 62-701.710(3), F.A.C.
9. Provide an operation plan which describes how the applicant will comply with Rule 62-701.710(4), F.A.C. (Rule 62-701.710(2)(h), F.A.C.).
10. Provide a closure plan which describes generally how the applicant will comply with Rule 62-701.710(6), F.A.C. (Rule 62-701.710(2)(i), F.A.C.).
11. Unless exempted by Rule 62-701.710(10)(a), F.A.C., provide the financial assurance documentation required by Rule 62-701.710(7), F.A.C. (Rule 62-701.710(2)(j), F.A.C.).
12. Provide documentation to show that stormwater will be controlled according to the requirements of Rule 62-701.710(8), F.A.C.
13. Provide documentation to show that the applicant will comply with the recordkeeping requirements of Rule 62-701.710(9), F.A.C.
14. Provide a history and description of any enforcement actions by the applicant described in subsection 62-701.320(3), F.A.C. relating to solid waste management facilities in Florida. (Rules 62-701.710(2), F.A.C. and 62-701.320(7)(i), F.A.C.)

C. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

The undersigned applicant or authorized representative of CEMEX Construction Materials Florida LLC

is aware that statements made in this form and attached information are an application for a alternative fuels

processing facility 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

James Daniel

Name and Title (please type)

jdaniel@cemexusa.com

E-Mail address (if available)

10311 Cement Plant Road

Mailing Address

Brooksville, FL

City, State, Zip Code

(352) 799-7881

Telephone Number

Date

Attach letter of authorization if agent is not a governmental 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 waste processing 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

Maxwell R. Lee, Ph.D., P.E.

Name and Title (please type)

4014 NW 13th Street

Mailing Address

Gainesville, FL 32609

City, State, Zip Code

mlee@kooglerassociates.com

E-Mail address (if available)

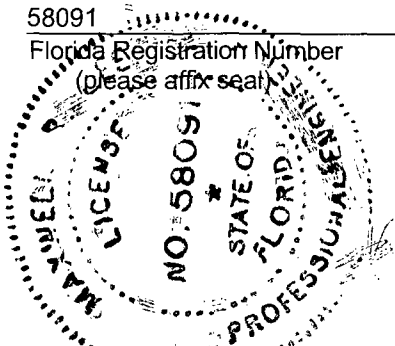
(352) 377-5822

Telephone Number

5/29/12
Date

58091

Florida Registration Number
(please affix seal)



3.1 Description of Alternative Fuels

Provide a description of the solid waste that is proposed to be collected, stored, processed or disposed of by the facility, a projection of those waste types and quantities expected in future years, and the assumptions used to make the projections (Rule 62-701.710(2)(a), F.A.C.).

The CEMEX Brooksville South Cement Plant has obtained FDEP permitting for air emissions to burn the alternative fuels at their facility beginning in early 2011 under air permit 0530021-031-AC. Additional related air permits have been issued, 0530021-035-AC, 0530021-037-AC, and 0530021-039-AC to allow use of alternative fuels. CEMEX has evaluated alternative fuels under the temporary trial burn air permits and the temporary approval from the Southwest FDEP office of Solid Waste during 2011 (email from Susan Pelz to Max Lee on September 14, 2011 for outdoor storage of clean biomass and peanut hulls.). In addition, the FDEP memo dated November 4, 2008 from Mary Jean Yon to John Gibby pointedly addresses that similar alternative fuels used at the GREC center to those used at CEMEX are not considered solid waste for purposes of solid waste permitting (62-701, F.A.C.). CEMEX has trial burned several materials including tire-derived fuel, a variety of clean biomass materials, and engineered fuel. Note the engineered fuel is not stored outdoors.

CEMEX was issued an air construction permit (FDEP permit No. 0530021-039-AC) from the Florida Department of Environmental Protection (FDEP) on April 24, 2012. The permit was issued for several changes including the firing of a variety of alternative fuels (AF) including tire-derived fuel; plastics; roofing materials; agricultural biogenic materials; untreated and treated cellulosic biomass; carpet-derived fuels; and

engineered fuels (EF) in the Kiln No. 2 System. CEMEX continues to conduct trial burns under the currently approved air permits and the temporary approval from the Southwest DEP office of Solid Waste.

It is noted that fuel composition is critical to assure the kiln system is not adversely affected nor is the final cement product. As such, while the permitted fuels include a broad range of materials, the following discussion is provided to explain how the characteristics of fuels must be known and controlled, unlike solid waste or even refuse-derived fuel. These requirements help distinguish these operations from waste to energy (WTE) facilities.

3.1.1 Impacts of Alternative Fuels

A cement kiln functions to make cement, not to burn fuel. Coal and pet coke comprise over 85 percent of the fuels used currently in the U.S. cement industry². These fossil fuels used for combustion, e.g., coal and pet coke, are historically the fuels of choice, not for cost, but primarily for predictable fuel combustion properties, predictable availability, and able to be stored for long periods. Alternative fuels can have a wide range of physical and chemical properties such that the thermochemistry of the kiln system can be out of balance and can cause significant damage to the kiln. For example, alternative fuels that have highly variable heat content and cause fuel mass flow variations can cause local overheating and redox reactions. The potential for increased thermal stresses in the kiln can damage the refractory anchors and furnace

²International, I. *Trends in Beneficial Use of Alternative Fuels and Raw Materials*. 2008; Available from: <http://www.epa.gov/sectors/pdf/cement-sector-report.pdf>.

shell. High concentrations of alkali, chlorine, sulfur and many other elements and compounds of a fuel can cause kiln damage (e.g., refractory corrosion, alkali bursting). As well, the mechanical behavior of particle size of fuel plays an important role in thermal distribution that must be considered. Clearly, as the percent of fuel substitution increases, the specifications of the alternative fuel must be well controlled and predictable. If the fuel has highly variable properties, the cement product can be ruined and the value of both cement and fuel is worthless. Modern standards of cement quality (e.g., USDOT, FDOT, ASTM, AASHTO) require very strict and controlled inputs to the physiochemical properties of cement and concrete. To meet these requirements, the first decision makers for using alternative fuels are based on the cement quality assurance managers and production managers.

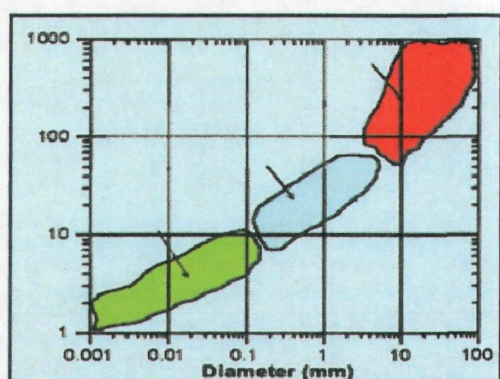


FIGURE 1.BURNOUT TIME VERSUS FUEL PARTICLE SIZE³

The above diagram explains that the particle size will affect the speed of combustion (i.e., burnout time) such that fluctuations of particle size of a given material will change the combustion time and the thermochemistry in the kiln. Note that this concept of

³:<http://www.flsmidth.com/~media/Brochures/Brochures%20for%20kilns%20and%20firing/AlternativeFuel.ashx>

impacts to thermochemistry includes changes to the physical location of the heat distribution. So, using a fuel with variable particle size will change the burnout time and will change the location of the flame combustion in the kiln. This shift of the flame combustion can severely impact the chemistry of the raw material conversion. The discussion above of the optimum burning regime and the effect of particle size clearly shows the need to use a fuel that has constant and controllable composition and characteristics.

Understanding the potential impacts (as discussed above) that alternative fuels can have on a kiln system demonstrates that a cement kiln is not simply an incinerator and that a cement kiln operator takes great risks with its equipment and product if it does not properly control the consistency and quality of its fuels. This is a very important distinction that indicates that cement kilns are not simply taking solid waste and burning it in the kiln. Instead they are taking select materials that are in their existing state of minimal value and are processing them sufficiently to make a valuable and useful material out of them. Similarly, the fuels blended with limestone, clay, sand, iron ore, and fly ash into a raw mix design must be considered to effectively thermally reacted into clinker and ground into cement.

The list of alternative fuels is requested to include:

- a) **Tire-Derived Fuel (TDF)**, which includes whole and shredded tires with or without steel belt material including portions of tires such as tirefluff. The kiln is

currently permitted to use whole tires using the existing tire injection mechanism system.

- b) **Plastics**, which include materials such as polyethylene plastics used in agricultural and silviculture operations. This may include incidental amounts of chlorinated plastics. Note that chlorine above the range of 0.2% cl will cause damage to kiln preventing use of chlorinated plastics.
- c) **Roofing Materials**, which consists of roofing shingles and related roofing materials with the bulk of the incombustible grit material separated and which is not subject to regulations as an asbestos-containing material per 40 CFR 61 subpart M.
- d) **Agricultural Biogenic Materials**, which includes materials such as peanut hulls, rice hulls, corn husks, citrus peels, cotton gin byproducts, animal bedding and other similar types of materials.
- e) **Cellulosic Biomass - Untreated**, which includes materials such as untreated lumber, tree stumps, tree limbs, slash, bark, sawdust, sander dust, wood chips scraps, wood scraps, wood slabs, wood millings, wood shavings and processed pellets made from wood or other forest residues.
- f) **Cellulosic Biomass - Treated**, which includes preservative-treated wood that may contain treatments such as creosote, copper-chromium-arsenic (CCA), or alkaline copper quaternary (ACQ), painted wood, or resinated woods (plywood, particle board, medium density fiberboard, oriented strand board, laminated beams, finger-jointed trim and other sheet goods). The permittee shall not fire

more than 1,000 lb/hour averaged on a 7-day block average basis of segregated streams of wood treated with copper-chromium-arsenic (CCA) compounds.

- g) **Carpet-Derived Fuel**, which includes shredded new, reject or used carpet materials.
- h) **Alternative Fuel Mix**, which includes a blended combination of two or more of any of the above materials.
- i) **Engineered Fuel (EF)** is engineered to have targeted, consistent fuel properties such as: calorific value, moisture, particle size, ash content, and volatility. The specific targeted properties are established based on available alternative fuel material supply and are carefully controlled through blending of non-hazardous combustible materials or through separation of non-hazardous incombustible materials from combustible materials (mixes of any alternative fuels where the blending and processing may also include the addition of on-specification used oils or other non-hazardous liquids to ensure consistent and predictable fuel properties). EF is engineered largely from the above materials and could consist of animal meal, automotive manufacturing byproducts, clean-up debris from natural disasters, processed municipal solid waste, paint filter cake, hospital materials (non-infectious), pharmaceuticals (expired prescriptions), cosmetics, and confiscated narcotics.

As such, the Brooksville South Cement Plant is requesting to collect, store and process these alternative fuels (AF) on-site. As previously stated, all these materials will be used as a fuel source.

The Brooksville South Cement Plant is planning to store materials in five separate locations. These storage locations with fuel types are listed on the following table.

Table 1. Fuel Type									
Location*	Tire Derived Fuel	Plastics	Roofing Materials	Agricultural Biogenic Materials	Cellulosic Biomass- Untreated	Cellulosic Biomass- Treated	Carpet- Derived	Alternative Fuel Mix**	Engineered Fuel
A-Frame Bldg. - Covered	X	X	X	X	X	X	X	X	X
ASB Storage - Covered	X	X	X	X	X	X	X	X	X
CPL Slab	---	X	X	X	X	---	X	X	---
NW Outdoor Storage	---	X	X	X	X	---	X	X	---
Outdoor Storage Trailers	---	X	X	X	X	---	X	X	---

* See Section 3.4 for location details

**If an alternative fuel mix includes material not allowed to be stored outdoors, then the mix will not be stored outdoors.

These locations are mapped and further discussed in the following sections. The total storage capacity of these locations is 4,400 tons. As such, the Brooksville South Cement Plant is projecting to have a maximum of 4,400 tons of alternative fuels on-site at any given time.

3.2 Site Plans

Attach a site plan, signed and sealed by a professional engineer registered under chapter 471, F.S. with a scale not greater than 200 feet to the inch, which shows the facility location, total acreage of the site, and any other relevant features such as water bodies or wetlands on or within 200 feet of the site, potable water wells on or within 200 feet of the site (Rule 62-701.710(2)(b) FAC.

Facility figures depicting the site location and other relevant features are provided in Appendix 1. These figures were provided for the Site Certification Permit, No. PA 82-

17P, issued by the Department on April 17, 2012. It is understood that these figures do not meet the requirements of the Rule stated above. Although the information is for a separate FDEP project at this facility, the information remains valid and applicable. CEMEX is therefore respectfully requesting an exemption to this requirement and is requesting that FDEP accept and apply those approved drawings to this project.

3.3 Description of Equipment

Provide a description of the operation and functions of all processing equipment that will be used, with design criteria and expected performance. The description shall show the flow of solid waste and associated operations in detail, and shall include (Rule 62-701.710(2)(c), F.A.C.):

- a. Regular facility operations as they are expected to occur;***
- b. Procedures for startup operations, and scheduled and unscheduled shut down operations; and***
- c. Potential safety hazards and control methods, including fire detection and control.***

While the above "Description of Equipment" is to address the equipment for handling the AF, it is important to discuss the kiln system startup and shutdowns. The facility will only use alternative fuels (AF) when the kiln is operating at normal conditions. Thus, AF will not be used during scheduled and unscheduled startup and shutdown of the kiln system due to the limits of the air permits but as well, due to the operators needing maximum control of thermal distribution in the kiln system during startup and shutdown. Startup and shutdown are periods when the system operation is rapidly changing and thus, fuel inputs to the kiln must be very tightly controlled.

Covered trucks will unload alternative fuels at the designated storage areas. When alternative fuels are to be used in the pyroprocessing process, materials will be transported via front end loader to the Schenck Feeder system.

The following figures describe the major component of the AF handling/injection system, the Schenk Feeder System. This type of feeder system is becoming a common system used by many cement plants for AF. Additional information of this type of feeder system can be found at: http://www.schenckamericas.com/prod_altfuelfeeding.html. The feeder system includes a docking station for walking trailers or hopper to unload material that is then fed into a screw feeder. The material is conveyed, weighed and then injected pneumatically into the kiln. AF startup of operations will include the use of the walking bed trailers to deliver AF to the Schenck feeder system. In the case of an unscheduled shutdown of the feeder, delivery of the fuel material to the Schenck feeder will cease and the trailers will be used to store the material until the issue has been resolved. See Figures 2-7, representing a Schenck feeder delivery system and a process flow diagram. The equipment installation has been completed and is operational. This type of system has been in use at the plant for the trial burn permit activities and has provided excellent control of the handling of the AF.

Schenck Process - World leader in the supply of Alternative Fuel Feeding Systems.

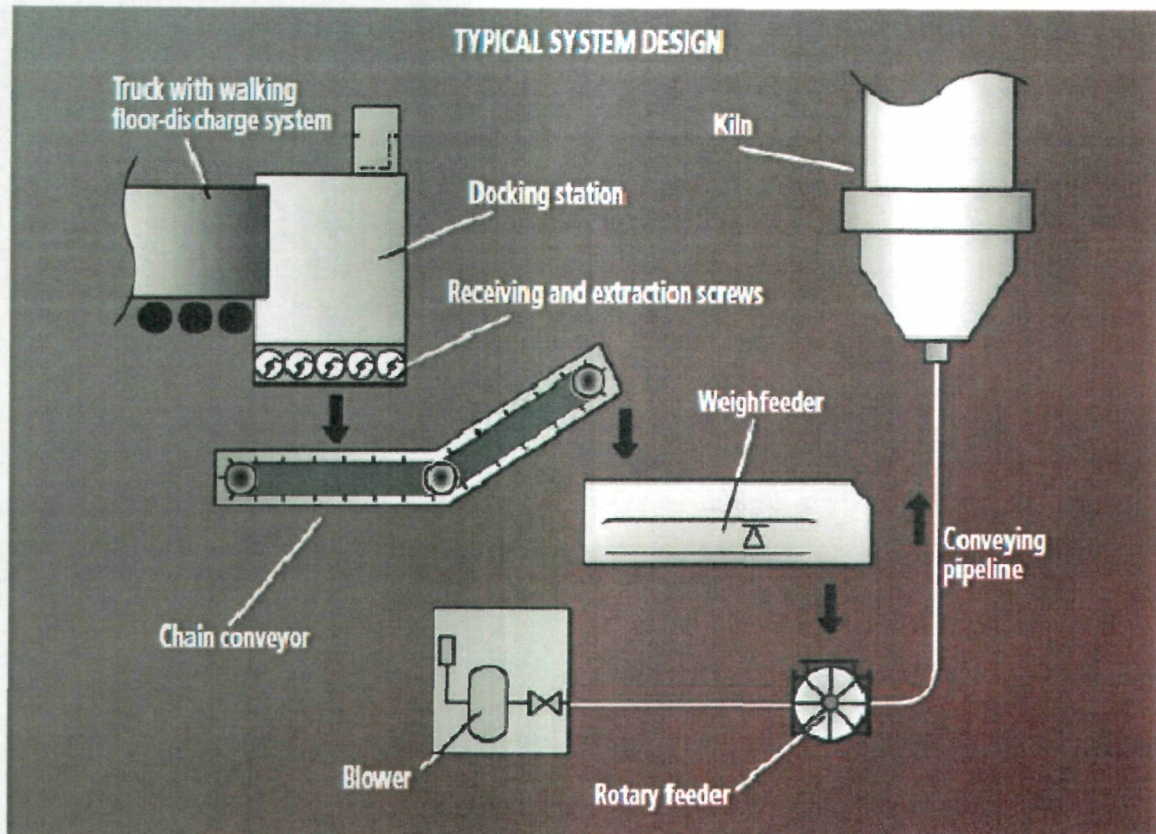


Figure 2.Schenck Feeder System⁴

⁴Schenck Feeder System brochure.<http://www.schenckamericas.com/companybrochure.pdf>.



Figure 3.CoveredSchenck Feeder System



Figure 4.Two offloading docks of typical Schenck feeder system

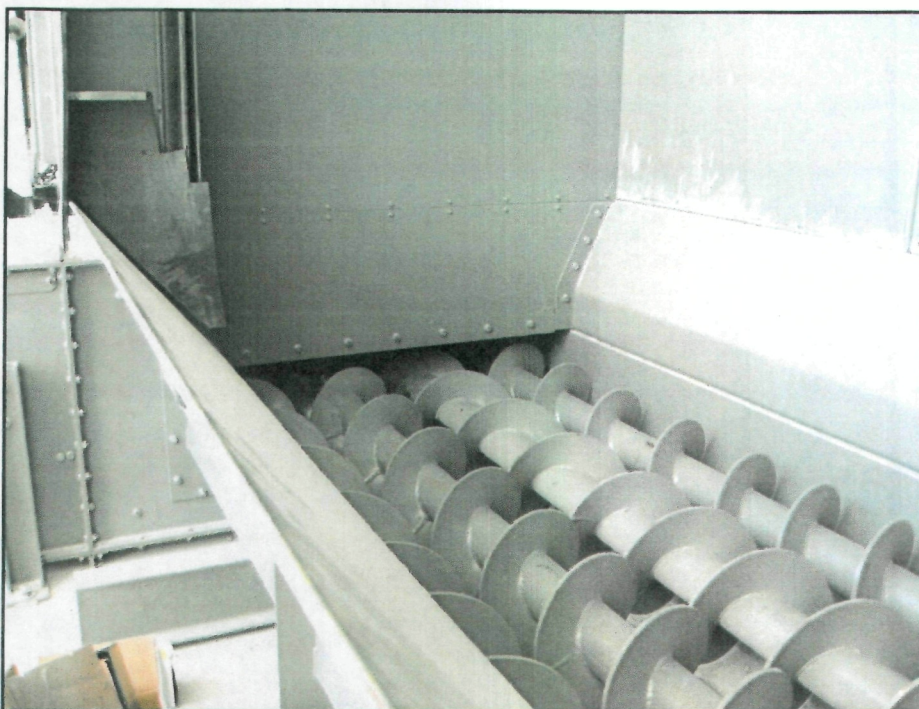


Figure 5. Screw conveyor in bottom of offloading ports



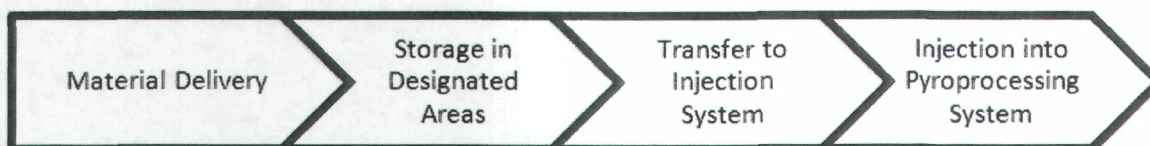
Figure 6. Conveyors coming from offloading ports to metering system



Figure 7. Pneumatic blower from metering system to injection porthole

CEMEX personnel working with the Schenck Unit have received Schenck training on proper operation of the system. This will include, but is not limited to, training on safety interlocks, location of all emergency stops, location of electrical disconnects and how to unplug material from the system. In addition the operators have fire safety training as part of employee training which is addressed as part of the Site Certification permit.

The flow of alternative fuels from delivery to use will be as follows:



3.4 Description of Loading, Unloading, Storage and Processing Areas

Provide a description of the loading, unloading, storage and processing areas (Rule 62-701.710(2)(d), F.A.C.).

The storage areas and drainage details for each of the planned alternative fuel locations are identified and depicted on Figure 7. The facility has two designated covered storage areas and three designated outside storage areas with a total maximum storage capacity of 4,400 tons. Note that a primary goal is to keep these materials dry such that outdoor storage, while used, is not preferred due to rain exposure. Water within the AF directly reduces the value of the fuel. As such, outdoor storage is generally only for short term use given rain exposure. Engineered fuel will only be stored under cover. The details for these locations are as follows:

Covered Storage

- A-Frame Building – 1,000 ton capacity - NE end of the building. This building has a roof and an impervious floor. Drainage is directed to the drainage ditch which outfalls to the settling pond.
- Additive Storage Building (ASB) – 1,000 ton capacity – SW end of building. The ASB has a clay lined floor.

Outside Storage

- Northeast Outdoor Storage Area (NOSA) – 2,000 ton capacity. This area has previously been used for storage of woody biomass materials that are used as an alternative fuel source.

- CPL Slab - 300 ton capacity. Drainage is directed to the drainage ditch which outfalls to the settling pond (See Figure 8). Materials are placed in this location prior to injection into the alternative fuels feeding system.
- Outdoor Trailer Storage – 100 tons. Drainage is directed to the drainage ditch which outfalls to the settling pond. However, all materials in this location will be stored in enclosed trailers.

3.5 Storage Capacity

Provide the identification and capacity of any on-site storage areas for recyclable materials, non-processable wastes, unauthorized wastes, and residues (Rule 62-701.710(2)(e), F.A.C.).

The above citation from the regulation is intended to address solid waste facilities and does not apply entirely to this AF processing facility. CEMEX does not intend to receive “recyclable materials”. CEMEX does request to process materials on-site for screening and reducing sizing as needed. Examples of non-processable wastes such as large metal fragments are removed and placed in a roll-off container for shipment to a landfill disposal site. CEMEX will make every effort to ensure that unauthorized wastes are not brought on-site. The current air permit (0530021-039-AC) describes unauthorized waste to include:

The permittee is prohibited from firing the following materials in the pyroprocessing system: hazardous waste as defined in 40 CFR 261, nuclear waste, and radioactive waste. The permittee shall not knowingly fire biomedical waste, asbestos-containing materials per 40 CFR 61 Subpart M, whole batteries, and unsorted municipal waste. These prohibited materials shall not be used to manufacture engineered fuels.

If the permittee identifies delivered material that falls under specific condition 4, the supplier shall be contacted and the material shall be returned, disposed, or any other appropriate legal method of handling the material shall be employed. The permittee shall maintain records of delivery, sampling and analysis, and actions taken to correct abnormalities. Such records shall be stored on-site for at least five years and available for inspection upon request.

Unauthorized material is immediately rejected and shipped back off-site. Received material is manifested and records are retained of the materials. To date, CEMEX rejected one truck shipment based on the material not being sized to small enough dimensions. A visual inspection is carried out on each delivery to ensure the materials are adequate fuel materials capable of being used in the pyroprocessing system. Residues do not apply to this operation.

If improper alternative fuel materials enter the facility, the materials will be re-loaded into the supplier's walking trailers and returned to the supplier at the earliest opportunity. No other recyclable materials, non-processable wastes or unauthorized wastes and residues will be stored on-site.

3.6 Plan for Disposal

Provide a plan for disposal of unmarketable recyclable materials and residue, and for waste handling capability in the event of breakdowns in the operations or equipment (Rule 62-701.710(2)(f), F.A.C.).

The Plan for Disposal for this operation is unlike the typical solid waste facility. The facility will not need to address recyclable materials and residue. Material that is unusable as a fuel is and will be rejected, and if unloaded will be reloaded into the supplier's trailers and sent back to the supplier. The supplier will be notified of the problem and instructed to not deliver that type of material in the future. Any material that is unprocessable will be shipped to either a landfill or back to the supplier(s).

In the event of a breakdown in the operation or equipment resulting in an excess of alternative fuel material which cannot be stored on-site, the material will be handled as follows:

- If the material can be stored outside, and the outside and inside material storage areas are at capacity, the material will be rejected upon delivery.
- If the material can only be stored under cover, and the covered storage areas are at capacity, then the material will be rejected upon delivery.



Figure 8.CEMEX Brooksville South - Facility Site Plan Aerial and AF storage locations

3.7 Boundary Survey, Legal Description, and Topographic Survey

Provide a boundary survey, legal description, and topographic survey of the property (Rule 62-701.710(2)(g) FAC.

Boundary surveys, legal description, and topographic survey of the property were submitted for the Site Certification Permit, No. PA 82-17P issued by the FDEP on April 17, 2012. Although the information is for a separate FDEP project at this facility, the information remains valid and applicable. A copy of the survey and legal description for the entire property, including the mining areas, is provided in Appendix 1.

3.8 Design Requirements - Rule 72-701.710(3)

(a) Tipping, processing, sorting, storage and compaction areas that are in an enclosed building or covered area shall have ventilation systems. The areas that are not enclosed shall be equipped with litter control devices.

The identified storage areas have adequate ventilation being either outdoors or pole barns. The areas are maintained the same as fuel storage areas with housekeeping measures implemented to maintain the product by sweeping and dust control as needed.

(b) The facility shall be designed with a leachate control system to prevent discharge of leachate and avoid mixing of leachate with stormwater, and to minimize the presence of standing water.

These fuels typically have 5-10% moisture. Given these are fuels, CEMEX intends to minimize outdoor storage of AF materials, and outdoor storage will only be used for clean materials as listed in Table 1 on page 15. CEMEX is currently permitted to store coal outside which contains similar constituents as some of the AF materials. The site is designed such that drainage is directed to the drainage ditch which outfalls to the settling pond.

(c) Provisions shall be made for evaluating the quantity of all incoming solid waste and recovered materials. Storage areas shall be designed to hold the expected volume of materials until they are transferred for disposal or recycling.

The receipt of AF material will be monitored as described in Sections 3.6 and 3.9. The storage areas have already been constructed and are designed to hold the expected volume of material until the materials are transferred for use as fuel for the kiln. All incoming AF materials are weighed and manifested. See Sections 3.4, 3.5, and 3.6 for additional details on the handling and storage of AF materials.

3.9 Operation Plan

Provide an operation plan which describes how the applicant will comply with Rule 62-701.710(4), F.A.C. (Rule 62-701.710(2)(h), F.A.C.).

3.9.1 Receiving

AF materials will be transported to and within the facility by covered truck, as needed, to limit fugitive dust, and stored in accordance with applicable regulations. The air permitting requires material to be transported in covered truck to prevent fugitive emissions. Most materials such as carpet, plastic, and paper will likely be delivered in large bales – which may require processing, but other materials such as roofing shingles, peanut hulls, engineered fuels, sawdust and wood shavings may come in unbaled or loose. Materials will be inspected by the provider prior to shipment. If unacceptable material is found, it will be removed by the provider at the provider's expense. Access to the facility is regulated by a manned guard gate at all times.

Upon delivery, the trucks will be inspected to assure the documented materials are being delivered. As noted above, records of each shipment will be stored for at least five years.

3.9.2 Preparation

Depending on the material being processed, the material may be grinded and may also be screened to ensure uniform particle size as well as removal of unwanted materials, and passed through a belt magnet for metal removal. This operation would be conducted at one of the storage locations having water runoff control. A primary requirement of the quality of the fuel material is minimal moisture content, thereby limiting the potential of wet material to the maximum extent possible. Processing and storage will be conducted either under cover or in enclosed conditions to prevent dispersal of material and contact with storm/run-off water. After processing is complete, mechanically transported materials will be moved by mobile equipment (front loader, truck and trailer, etc.) from storage to a hopper system which feeds the injection into the pyroprocessing system. Pneumatically-fed materials will be transported via mobile equipment from storage into a dosing system, and then inserted into the pyroprocessing system. Dust suppression in storage areas will be used as needed and any stored alternative fuel material causing nuisance odors will be removed from the site. The facility will store materials under cover and on a concrete surface with run-off control. No putrescible material will be stored or handled.

3.9.3 Transport, Handling, and Storage

The transport of materials to the site will be in covered trucks or containers. The trucks will enter through the front gate and deposit the materials at one of the five specified alternative fuel storage locations (See Figure 7).

3.9.4 Personnel

The responsible person(s) for individual portions of operation.

The Plant Manager: James Daniel

Environmental Manager: George Townsend

3.9.5 Equipment

See section 3.3 of this document.

3.9.6 Best Management Practices (BMP) Plan

See following page for Table 2 - BMP Plan.

Table 2. Best Management Practices Plan	
Practice	Description
Minimization of Fugitive Dust	<ol style="list-style-type: none"> 1) Drop points to storage areas shall be designed to minimize the overall exposed (or exposed to the atmosphere) drop height for materials that have the potential to create airborne dust particles. 2) Periodic maintenance shall be performed to maintain offloading locations and associated drop point integrity as necessary. 3) Periodic visual observation of operations shall be performed by personnel trained on EPA Visible Emissions Method 22 and/or Method 9. If fugitive dust is detected, appropriate fugitive dust minimization techniques shall be implemented.
Minimization of Material in Contact with Stormwater	<ol style="list-style-type: none"> 1) Material will be processed and stored undercover or in enclosed conditions. It is a primary goal of the facility to keep the AF materials dry.
Fire Prevention/ Spontaneous Combustion Minimization	<ol style="list-style-type: none"> 1) The Emergency Response Plan includes: <ol style="list-style-type: none"> a. Facility maintains a separate Fire Prevention and Safety Plan on-site. b. The local Fire Department performs an annual inspection of the facility. c. All buildings and mobile equipment are equipped with firefighting equipment as required by all county, state, and federal codes and regulations. 2) Proper storage of recovered materials to ensure that heat generated from pile compaction does not result in spontaneous combustion. 3) All fuel areas must display appropriate signage (fire hazard warnings, no smoking, etc.) to notify personnel and visitors of any potential fire hazards to prevent accidental combustion of fuel materials. 4) All on-site welding activities require permitting to adequately process for and prevent fires as a result of welding.
Quality Assurance	<ol style="list-style-type: none"> 1) The materials shall be delivered to the Plant with all loads properly secured, contained, and covered. 2) For each shipment of material, the permittee shall record the date, quantity and a description of the material received and keeps a record of the Bill of Lading for a minimum of two years. 3) The permittee shall inspect and sample shipments of material to ensure that delivered materials meet the respective expected selection criteria. If the permittee identifies off-specification material, the supplier shall be contacted and the material shall be returned, disposed, blended, or any other appropriate legal method of handling the material shall be employed. 4) The permittee shall maintain records of off-specification deliveries and actions taken to correct such abnormalities. Such records shall be stored on-site for at least two years and available for inspection upon request.
Safety	CEMEX maintains a separate Safety Plan on-site.

3.9.7 Contingency Plan

In the event of an operational interruption or emergency, such as fires, explosions, or natural disasters, material delivery to the facility will cease until the interruption or emergency has been resolved. The facility maintains a Contingency Plan (Plan) under the Site Certification Permit (No.PA 82-17P, issued by the Department on April 17, 2012). This Plan addresses a broad range of contingencies that are described in 62-701.320.(16) including fires, explosions, and natural disasters. The Site Certification Permit and Contingency Plan are on file at the facility.

The Contingency Plan shall be kept at the facility at all times and shall be accessible to facility operators. The contingency plan includes:

1. Designation of persons responsible for implementation of the contingency plan;
2. Procedures for notification of appropriate emergency response persons, including the department, the local government, and local fire protection agencies;
3. A description of emergency procedures to be followed, including the location of fire-fighting equipment and explanations of how to use this equipment;
4. Provisions for the immediate shutting down of those parts of the facility affected by the emergency and notification to customers of the closure of the facility; and
5. Procedures for notification of neighbors and local government officials of the potential impacts of the emergency, and provisions to minimize those impacts.

3.9.8 Operators and Spotters

Not applicable to the processing and storage of AF material. Material comes to the facility as a sorted and sized commodity. Therefore, the requirement of regulated spotter and operator training per 62-701.320(15), F.A.C. should not be required.

3.9.9 Objectionable Odors

The facility will be operated such that objectionable odors will be addressed in accordance with subsection 62-296.320(2), F.A.C. The facility will not allow the discharge of air pollutants which cause or contribute to an objectionable odor.

3.9.10 Fire Protection

The facility has adequate fire protection available at all times as required under the facility Site Certification Permit.

3.9.11 Access

Access to the facility is controlled through the use of plant personnel on-site 24 hours per day, 7 days per week by the use of surveillance cameras, fences, and natural barriers. All vehicles are logged in and out.

3.9.12 Regulated Hazardous Wastes

If regulated hazardous wastes are discovered to have been improperly deposited at the facility, the facility operator will promptly notify the Department, the person responsible for shipping the wastes to the facility, 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 facility operator shall assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility.

3.10 Closure Plan

3.10.1 Notification and Closing Process

Prior to ceasing operations, notification will be provided to the Department and contracted waste suppliers and generators of the intent to close and the expected time frame. Access to the facility is controlled through the use of plant personnel on-site 24 hours per day, 7 days per week, by the use of surveillance cameras, fences, and natural barriers. All vehicles are logged in and out. When the facility is no longer going to function as an AF processing facility, the plant personnel will deny access of AF materials to the facility. A notice will be posted at the entrance to the property stating that the facility is closed.

Prior to closing the facility, any remaining AF materials from the storage areas will be combusted in the cement kilns or removed from the facility and taken to a permitted solid waste management facility or returned to the supplier(s).

3.10.2 Quantity of Alternative Fuel Materials

The maximum quantity of AF materials to be stored at the facility is 4,400 tons. There is no disposal of ash from the combustion of AF materials as a fuel in the cement manufacturing process. Maximum usage for the kiln system is estimated at 240 tons/day, with an average expected usage of 150 tons/day. The expected average inventory turnaround is therefore approximately 29 day's supply based on 4,400 tons per day of storage and 150 tons per day usage. For the CEMEX Brooksville South Cement Plant facility that amount is as follows:

$$150 \text{ tons/day} \times 29 \text{ days} = \underline{4,400 \text{ tons of AF material}}$$

At a higher usage rate, the material storage would be for a shorter period of time.

3.10.3 Closure Scheduling

At the time a decision is made to close the facility, it is estimated that the total time necessary for closure will be as follows:

Notification Period - 2 Months

The Notification Period is expected to be two months to allow time for waste collectors to revise their routing and notify the generators.

Combust All Alternative Fuel Materials At Facility - 2 Months

After the 2 month Notification Period ends, the facility will be closed to incoming alternative fuel materials. As the facility will be managed to ensure that approximately less than 30 times the daily capacity of the equipment is stored, approximately 30 days of normal operations are necessary to combust all AF materials. To cover any unforeseen circumstances (i.e., down time), this phase of closure is estimated to be 60 days.

Removal of Residues - 30 Days

Although significant quantities are not expected, any residues at the facility will be loaded into trailers or roll-off containers and transported to a Department-approved solid waste management facility for disposal.

Restore Facility to its Pre-Permit Condition

If facility rehabilitation in accordance with 62-711.700(3)(c) is deemed necessary by the Department, CEMEX will work with the Department to develop and implement a plan for action. Part of the plan development will address adequate time for completion. Without a scope of work, the time frame to complete this task is unknown.

Department Notification

CEMEX will notify the Department when the closing of the facility is complete. CEMEX understands that the Department will inspect the site to ensure that all closing procedures have been correctly implemented and completed. Upon Department inspection and approval of the facility closing, the Department shall provide CEMEX approval of the closing in writing. It is further understood that the Department Secretary or his designee shall release the financial instrument within 30 days of closing approval.

3.10.4 Closure Cost Estimates

The estimated closing costs for the facility are based on current third party estimates. The third parties are not subsidiary or parent companies and their estimates are based on performing the work and are reported on a per unit basis. Closing costs include removal and disposal of AF materials, manual labor for facility cleanup, facility re-grading (if necessary), and inspection by a Professional Engineer registered in the state of Florida. The cost estimates are certified by a Professional Engineer. The cost

estimate is re-estimated at least annually and submitted to the Department at least 60 days prior to the anniversary date of the instrument.

To demonstrate financial assurance of the facility closing costs, CEMEX will obtain a guarantee bond that meets or exceeds the required amount of money for the closure costs.

The actual total estimated cost of closing the facility at the time of development of this Closure Plan is \$120,573.60. The closing estimates are provided in the Attachments, and are detailed in the following sections.

Removal/Disposal of Alternative Fuel Materials

The closing cost estimate for this task is based on the quantity of AF material that is permitted for the facility at the amount that would be expended to remove, process, and dispose of AF material at the facility and to close the related operations at the facility. The estimate was obtained from Greenway Recycling and is provided as Attachment A. The estimate is as follows:

- 4,400 tons @ approximately \$26.11/ton = \$114,900

Professional Engineer Services

This cost estimate is for an inspection by a professional engineer registered in Florida. A professional engineer will visit the facility to determine if there are spills or any solid wastes remaining after the removal of residues. The engineer

will provide an inspection report detailing the findings and if applicable, will direct the cleanup effort. The closure cost estimate includes the cost for the inspection and reporting (see Attachment B). The estimate for professional engineering services is as follows:

- Site Inspection and Reporting - 8 hours at \$175/hour = \$1,400.00

Manual Labor

The cost of manual cleaning and debris removal is based on the United States Bureau of Labor Statistics for Occupational Employment and Wages, May 2011 for Cleaners of Vehicles and Equipment.⁵ The cost of rough grading was obtained from RSMeans⁶. The costs for manual labor for facility clean-up and re-grading (if necessary) are estimated as follows:

- Cleanup - \$25/man hr x 80 hrs. = \$2,000.00
- Rough Grading - Equipment Operator \$51.00/8 hr. day and Backhoe \$728.80/day for two 8 hour days = \$2,273.60.

⁵US DEPARTMENT OF LABOR, OCCUPATIONAL EMPLOYMENT STATISTICS, Occupational Employment and Wages, May 2011. <http://www.bls.gov/oes/current/oes537061.htm>.

⁶RSMeans. *Assemblies Cost Data*, 28th Annual Edition; 2003.

3.10.5 Summary of Closure Plan

CEMEX has developed this Closure Plan in accordance with Rule 62-701.320(10)(b) (F.A.C.). Closing cost estimates were obtained from independent third parties, and appropriate proof of appropriate financial responsibility has been demonstrated. The total current estimated cost of closing the facility is \$120,573.60. A Financial Assurance Cost Estimate Form is provided as Attachment C.

3.11 Financial Assurance

Unless exempted by Rule 62-701.710(10)(a) FAC, provide the financial assurance documentation required by Rule 62-701.710(7) FAC (Rule 62-701.710(2)(j) FAC).

CEMEX will provide the required financial assurance upon the Department's review and approval of the closing cost estimates, and no later than sixty days prior to accepting alternative fuel materials at the site under this solid waste permit. CEMEX will add a 20 percent contingency fee (\$24,114.72) to the estimated closing costs for financial assurance to be provided totaling \$144,688.32.

3.12 Stormwater Control

Provide documentation to show that stormwater will be controlled according to the requirements of Rule 62-701.710(8), F.A.C.

Facility operations are governed by Site Certification Permit PA82-17P, issued by the FDEP in April 2012. The facility was not required to obtain an Environmental Resource permit and has a letter from the Environmental Protection Agency stating that a National Pollutant Discharge Elimination System (NPDES) permit is not required. The facility has a closed drainage system. Run-off from the facility is directed to the perimeter drainage ditch which is pumped to a series of on-site ponds. In the event of a storm

event causing the ponds to overflow, two emergency spillways would direct flow to the adjacent property owned by CEMEX. Based on the Site Certification, at no time would there be a discharge of stormwater to waters of the United States and no ditch connects to off-site surface waters. CEMEX conducts quarterly monitoring of the perimeter ditch and one of the receiving ponds (shown in Figure 8) in accordance with the Site Certification Permit.

All of the proposed storage areas are designated as Flood Zone X (not within a flood zone), with the exception of a small northeastern portion of the NW outside storage area, which is designated as Flood Zone A (an area inundated by 100 year flooding for which no base flood elevations have been determined).

3.13 Recordkeeping Requirements

Provide documentation to show that the applicant will comply with the recordkeeping requirements of Rule 62-701.710(9), F.A.C.

CEMEX will retain operational records to include a daily log of the quantity of AF materials received, processed, stored, and removed from the site for recycling or disposal, and the county of origin of the waste, if known. These records will include each type of AF material which is processed, recycled, and/or disposed. The records will be compiled on a monthly basis and made available for inspection by the Department. The facility will retain the records for a minimum of three years.

3.14 Enforcement Actions

Provide a history and description of any enforcement actions by the applicant described in subsection 62-701.320(3), F.A.C. relating to solid waste management facilities in Florida. (Rules 62-701.710(2), F.A.C. and 62-701.320(7)(i), F.A.C.)

The facility has not had any enforcement actions relating to solid waste management facilities in Florida.

- A. AF Material Removal Cost Estimate**
 - B. Professional Engineering Estimate**
 - C. Financial Assurance Cost Estimate**
- Form**

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ESTIMATE



KOOGLER & ASSOCIATES, INC.
ENVIRONMENTAL SERVICES



May 21, 2012

Steven Bassler
Production Manager - United States of America
CEMEX
10311 Cement Plant Road Brooksville
Florida 34601

RE: Removal of C&D material and Natural Wood Material from Cemex Brooksville Plant.

Dr. Mr. Bassler,

The following is a cost breakdown of what Greenway Recycling, Inc. would charge to haul and dispose of materials in the Brooksville Plant Alternative Fuel Storage Areas. All materials would be transported in 120 CY walking floor trailers. The materials will be disposed at a properly permitted waste facility and documented for your records.

C & D Material (2,100 Tons)

Costs Per Ton

Transport:	\$20.00
Disposal:	\$15.00
Unit Total:	\$35.00
Total Cost:	\$35.00 x 2,100 tons = \$73,500.00

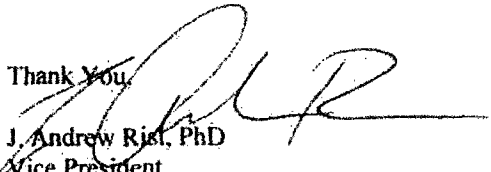
Natural Wood Material (2,300 Tons)

Costs Per Ton

Transport:	\$12.00
Disposal:	\$ 6.00
Unit Cost:	\$18.00
Total Cost:	\$18.00 x 2,300 tons = \$41,400.00

Total Material Disposal Cost: \$114,900.00

Thank You,


J. Andrew Rist, PhD
Vice President
Greenway Recycling, Inc.

3035 Highway 92 East
Lakeland, FL 33801
(863) 668 - 5402 Phone
(863) 668 - 5403 Fax

3585 126th Avenue North
Clearwater, FL 33762
(727) 573-1110 Office
(727) 573-1109 Fax
(727) 573-1180 Plant

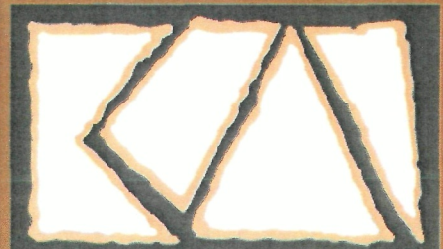
www.greenway-recycling.com

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KOOGLER & ASSOCIATES, INC.
ENVIRONMENTAL SERVICES

307-12-04
May 16, 2012



4014 NW 13th STREET
GAINESVILLE, FL 32609-1923
352/377-5822 ■ FAX/377-7158

Mr. George Townsend
CEMEX Construction Materials Florida, LLC
PO Box 1508
Brooksville, FL 34605-1508

Re: Closing Cost Estimate - Professional Engineering Services
CEMEX Brooksville South Cement Plant Alternative Fuel SWL Permit
Brooksville, Hernando County, Florida

Dear George:

Thank you for the opportunity to present this cost estimate for Professional Engineering services for the Brooksville South Cement Plant, Alternative Fuels Facility.

A Professional Engineer (P.E.), registered in Florida, will visit the Facility to conduct a site inspection to determine if there are any spills of any solid wastes or other clean-up activities necessary to meet the closure requirements as described in the Closure Plan and in accordance with Rule 62-701.600 (F.A.C.). The engineer will provide an inspection report detailing the findings and directing clean-up efforts if necessary. The professional engineer's inspection will also include a visual evaluation of the Facility elevations. The inspection report will detail these findings, and will provide direction of re-grading if necessary. The costs for Professional Engineering services as described above are as follows:

Site Inspection by P.E., 4 hours at \$175.00/hr. =	\$700.00
Report of findings and direction clean-up and re-grading as necessary, 4 hours at \$175.00/hr. =	\$700.00
<u>TOTAL</u>	<u>\$1,400.00</u>

We look forward to assisting you with this project in the future.

Best regards,

Maxwell R. Lee., Ph.D., P.E.
President, Koogler and Associates, Inc.

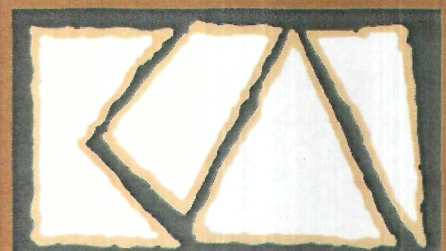
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COST
ESTIMATE
FORM



KOOGLER & ASSOCIATES, INC.
ENVIRONMENTAL SERVICES



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: CEMEX Brooksville South Cement Plant WACS ID: _____
 Permit Application or Consent Order No.: To Be Assigned Expiration Date: _____
 Facility Address: 10311 Cement Plant Road; Brooksville, FL 34601
 Permittee or Owner/Operator: CEMEX Construction Materials Florida, LLC
 Mailing Address: 10311 Cement Plant Road; Brooksville, FL 34601

Latitude: 28° 34' 54" Longitude: 82° 25' 56"
 Coordinate Method: Degrees/Minutes/Sec Datum: NAD83 (assumed)
 Collected by: Unknown/From Original Form Company/Affiliation: N/A

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
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total disposal unit acreage included in this estimate: _____ Closure: N/A Long-Term Care: N/A

Facility type: ☐ Class I ☐ Class III ☐ C&D Debris Disposal
 (Check all that apply) ☐ Other: N/A

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
13051 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

III. 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 Deflator 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:

To Be Approved

Latest Department Approved
Closing Cost Estimate:

Current Year Inflation
Factor, e.g. 1.02

Inflation Adjusted Closing
Cost Estimate:

x

=

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

N/A

Latest Department Approved
Annual Long-Term Care
Cost Estimate:

Current Year Inflation
Factor, e.g. 1.02

Inflation Adjusted Annual
Long-Term Care Cost
Estimate:

x

=

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

10311 Cement Plant Road

Address

James Daniel, Facility Manager

Name & Title

Brooksville, FL 34601

City, State, Zip Code

Date

jdaniel@cemexusa.com

E-Mail Address

352-799-7881

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 exp

2. Cost estimate must be certified by a professional engineer.

3. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.

4. In some cases, a price quote in support of individual item estimates may be required.

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	1	\$2,273.60	\$2,273.60
Placement and Spreading	CY (Rough Grading: Equipment & Operator 16 hrs.)			
Compaction	CY			
Off-Site Material	CY			
Delivery	CY			
Subtotal Slope and Fill:				\$2,273.60
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY			
Synthetics - 40 mil	SY			
Synthetics - GCL	SY			
Synthetics - Geonet	SY			
Synthetics - Other (explain)				
Subtotal Cover Material:				
4. Top Soil Cover:				
Off-Site Material	CY			
Delivery	CY			
Spread	CY			
Subtotal Top Soil Cover:				
5. Vegetative Layer				
Sodding	SY			
Hydroseeding	AC			
Fertilizer	AC			
Mulch	AC			
Other (explain)				
Subtotal Vegetative Layer:				
6. Stormwater Control System:				
Earthwork	CY			
Grading	SY			
Piping	LF			
Ditches	LF			
Berms	LF			
Control Structures	EA			
Other (explain)				
Subtotal Stormwater Control System:				

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	1	\$0.00	_____
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	_____	_____	_____
Blowers	EA	_____	_____	_____
Collection System	LF	_____	_____	_____
Other (explain) _____	_____	_____	_____	_____
Subtotal Active Gas Extraction Control:				_____
9. Security System:				
Fencing	LF	_____	_____	_____
Gate(s)	EA	_____	_____	_____
Sign(s)	EA	_____	_____	_____
Subtotal Security System:				_____
10. Engineering:				
Closure Plan Report	LS	1	\$0.00	_____
Certified Engineering Drawings	LS	1	\$0.00	_____
NSPS/Title V Air Permit	LS	1	\$0.00	_____
Final Survey	LS	1	\$0.00	_____
Certification of Closure	LS	1	\$0.00	_____
Other (explain) Disposal _____	_____	1	\$114,900.00	\$114,900.00
Subtotal Engineering:				\$114,900.00
<u>Contractor (Greenway Recycling)</u>				

Description	Hours	Cost / Hour	Hours	Cost / Hour	Total Cost
11. Professional Services					
	<u>Contract Management</u>		<u>Quality Assurance</u>		
P.E. Supervisor	4	\$175.00	4	\$175.00	\$1,400.00
On-Site Engineer	_____	_____	_____	_____	_____
Office Engineer	_____	_____	_____	_____	_____
On-Site Technician	_____	_____	_____	_____	_____
Other (explain)	80	\$25.00	_____	_____	\$2,000.00
Clean-up Tech	_____	_____	_____	_____	_____

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	LS	1	_____	_____
Subtotal Professional Services:				\$3,400.00

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, 0 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 entries left blank.

Description	Sampling Frequency (Events / Year)	Number of Wells	(Cost / Well) / Event	Annual Cost
1. Groundwater Monitoring [62-701.510(6), and (8)(a)]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Subtotal Groundwater Monitoring:				_____
2. Surface Water Monitoring [62-701.510(4), and (8)(b)]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Subtotal Surface Water Monitoring:				_____
3. Gas Monitoring [62-701.400(10)]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Subtotal Gas Monitoring:				_____
4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)c]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
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	EA	_____	_____	_____
Cleaning	LS	1	_____	_____
Tanks	EA	_____	_____	_____

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)	1000 gallon	_____	_____	_____
Subtotal Leachate Collection / Treatment Systems Maintenance:				_____
6. Groundwater Monitoring Well Maintenance				
Monitoring Wells	LF	_____	_____	_____
Replacement	EA	_____	_____	_____
Abandonment	EA	_____	_____	_____
Subtotal Groundwater Monitoring Well Maintenance:				_____
7. Gas System Maintenance				
Piping, Vents	LF	_____	_____	_____
Blowers	EA	_____	_____	_____
Flaring Units	EA	_____	_____	_____
Meters, Valves	EA	_____	_____	_____
Compressors	EA	_____	_____	_____
Flame Arrestors	EA	_____	_____	_____
Operation	LS	1	\$0.00	_____
Subtotal Gas System Maintenance:				_____
8. Landscape Maintenance				
Mowing	AC	_____	_____	_____
Fertilizer	AC	_____	_____	_____
Subtotal Landscape Maintenance:				_____
9. Erosion Control and Cover Maintenance				
Sodding	SY	_____	_____	_____
Regrading	AC	_____	_____	_____
Liner Repair	SY	_____	_____	_____
Clay	CY	_____	_____	_____
Subtotal Erosion Control and Cover Maintenance:				_____
10. Storm Water Management System Maintenance				
Conveyance Maintenance	LS	1	\$0.00	_____
Subtotal Storm Water Management System Maintenance:				_____
11. Security System Maintenance				
Fences	LS	1	\$0.00	_____
Gate(s)	EA	_____	_____	_____
Sign(s)	EA	_____	_____	_____
Subtotal Security System Maintenance:				_____

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
12. Utilities	LS	1	\$0.00	
Subtotal Utilities:				

13. Leachate Collection/Treatment Systems Operation

Operation

P.E. Supervisor	HR			
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR			
Materials	LS	1	\$0.00	

Subtotal Leachate Collection/Treatment Systems Operation: _____

14. Administrative

P.E. Supervisor	HR			
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR			
Other _____				

Subtotal Administrative: _____

Subtotal of 1-14 Above: _____

15. Contingency	_____	% of Subtotal of 1-14 Above		
Subtotal Contingency:				

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
16. Site Specific Costs				
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
Subtotal Site Specific Costs:				

ANNUAL LONG-TERM CARE COST (\$ / YEAR): _____

Number of Years of Long-Term Care: _____

TOTAL LONG-TERM CARE COST (\$): _____

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.

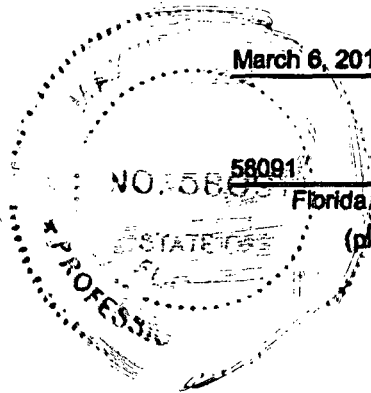


Signature

Maxwell R. Lee, Ph.D., P.E.
Name and Title (please type)

March 6, 2012
Date

58091
Florida Registration Number
(please affix seal)



4014 NW 13th Street
Mailing Address

Gainesville, FL 32609
City, State, Zip Code

mlee@kooglerassociates.com
E-Mail address (if available)

352-377-5822
Telephone Number

VII. SIGNATURE BY OWNER/OPERATOR



Signature of Applicant

James Daniel, Plant Manager
Name and Title (please type)

E-Mail address (if available)

10311 Cement Plant Road
Mailing Address

Brooksville, FL 34601
City, State, Zip Code

352-799-7881
Telephone Number

1. Site Figures

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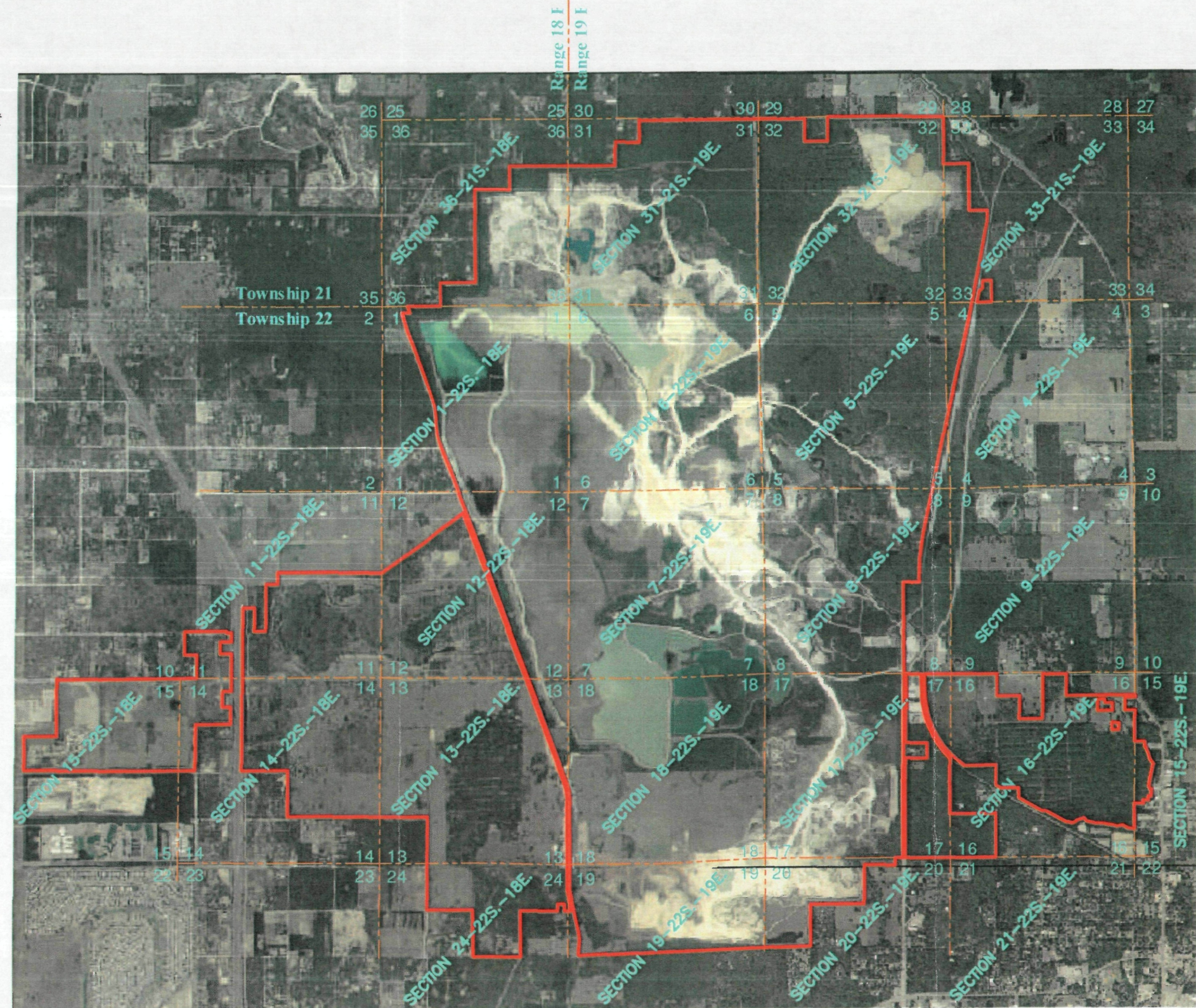
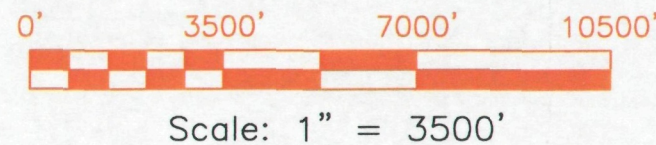
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KOGLER & ASSOCIATES, INC.
ENVIRONMENTAL SERVICES

*Specific Purpose Survey
For Gregg Mine*

Section 36, Township 21 South, Range 18 East
Section 31, 32, 33, Township 21 South, Range 19 East
Section 1, 11, 12-15, 24, Township 22 South, Range 18 East
Section 4-8, 15-20, Township 22 South, Range 19 East
Hernando County, Florida



Specific Purpose Survey
PREPARED FOR:
Gregg Mine

PROJECT NO.: 20040010
PHASE: 116

SURVTECH SOLUTIONS, INC. SURVEYORS AND MAPPERS
10220 U.S. Highway 92 East, Tampa, FL 33610
phone: (813)-621-4929, fax: (813)-621-7194, Licensed Business #7340
email: sbrown@survtechsolutions.com <http://www.survtechsolutions.com>



*Specific Purpose Survey
For Gregg Mine
Section 36, Township 21 South, Range 18 East
Section 31, 32, 33, Township 21 South, Range 19 East
Section 1, 11, 12 -15 , 24, Township 22 South, Range 18 East
Section 4-8, 15-20, Township 22 South, Range 19 East
Hernando County, Florida*

Legal Description

Apparent Title Vested in:

Florida Crushed Stone, Rinker Materials Corporation, Rinker Materials S of Florida Inc., Camp Phosphate Company, & Brooksville Rock Company, Inc, by Warranty Deeds, Quit Claim Deeds and Tax Deeds.

Recorded in Folio Number R36-421-18-0000-0080-0000 Deed Book 82, Page 147, Deed Book 84, Page 283, Deed Book 87, Page 359, O.R. Book 7, Page 372, O.R. Book 84, Page 24, O.R. Book 304, Page 284, O.R. Book 478, Page 1760, Folio Number R01-422-18-0000-0020-0000 Deed Book 75, Page 366, Deed Book 80, Page 349, Deed Book 82, Page 63, Deed Book 83, Page 549, Deed Book 84, Page 283, Deed Book 87, Page 448, Deed Book 92, Page 403, Deed Book 120, Page 166, O.R. Book 7, Page 372, O.R. Book 8, Page 69, O.R. Book 290, Page 465, O.R. Book 303, Page 178, O.R. Book 304, Page 284, O.R. Book 551, Page 1021, Folio Number R17-422-19-0000-0010-0000 O.R. Book 9, Page 414, O.R. Book 114, Page 109, O.R. Book 173, Page 454, O.R. Book 184, Page 504, O.R. Book 255, Page 788, Q.R. Book 331, Page 432, O.R. Book 331, Page 775, O.R. Book 946, Page 614, Folio Number R04-422-19-0000-0100-0000 Deed Book 80, Page 516, O.R. Book 6, Page 126, Q.R. Book 18, Page 325, Folio Number R33-421-19-0000-0160-0000 Deed Book 74, Page 105, Deed Book 116, Page 523, O.R. Book 6, Page 126, O.R. Book 17, Page 572, O.R. Book 24, Page 308, Folio Number R18-422-19-0000-0010-0000 Deed Book 80, Page 323, Deed Book 82, Page 99, Deed Book 82, Page 147, Deed Book 84, Page 283, Deed Book 87, Page 448, O.R. Book 8, Page 545, O.R. Book 18, Page 543, O.R. Book 27, Page 423, O.R. Book 144, Page 32, Folio Number R08-422-19-0000-0050-0000 Deed Book 74, Page 40, Deed Book 74, Page 41, Deed Book 74, Page 42, Deed Book 74, Page 118, Deed Book 74, Page 43, Deed Book 74, Page 47, Deed Book 74, Page 45, Deed Book 74, Page 105, Deed Book 74, Page 107, Deed Book 74, Page 118, Deed Book 74, Page 132, Deed Book 74, Page 158, Deed Book 74, Page 226, Deed Book 80, Page 510, Deed Book 87, Page 359, Deed Book 116, Page 422, O.R. Book 6, Page 124, O.R. 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Book 23, Page 257, Folio Number R08-222-19-1550-0010-0010 Deed Book 74, Page 113, Deed Book 74, Page 158, Deed Book 96, Page 544, Deed Book 114, Page 19, Deed Book 116, Page 422, O.R. Book 33, Page 344, O.R. Book 33, Page 346, O.R. Book 45, Page 639, R12-422-18-0000-0020-0000 Deed Book 80, Page 323, Deed Book 82, Page 63, Deed Book 84, Page 50, Folio Number R32-421-19-0000-0010-0000 Deed Book 82, Page 99, Deed Book 84, Page 283, Deed Book 87, Page 359, Deed Book 91, Page 243, Deed Book 91, Page 244, Deed Book 96, Page 285, Deed Book 108, Page 180, Deed Book 116, Page 424, Deed Book 116, Page 523, Deed Book 122, Page 292, O.R. Book 7, Page 74, O.R. Book 15, Page 335, O.R. Book 16, Page 73, O.R. Book 16, Page 103, O.R. Book 133, Page 694, O.R. Book 746 Page 1891, O.R. Book 760, Page 745, Folio Number R06-421-19-0000-0030-0010 O.R. Book 19, Page 204, Folio Number R.05-422-19-0000-0020-0000 Deed Book 74, Page 42, Deed Book 74, Page 113, Deed Book 75, Page 419, Deed Book 75, Page 436, Deed Book 80, Page 493, Deed Book 80, Page 323, Deed Book 80, Page 516, Deed Book 80, Page 520, Deed Book 82, Page 33, Deed Book 82, Page 65, Deed Book 84, Page 283, Deed Book 87, Page 359, Deed Book 116, Page 424, Deed Book 116, Page 426, O.R. Book 72, Page 315, Folio Number R13-422-18-0000-0010-0000 O.R. Book 2013, Page 678, Folio Number R13-422-18-0000-0030-0000 O.R. Book 829, Page 1351, Folio Number R14-422-18-0000-0060-0000 O.R. Book 829, Page 1351, Folio Number R24-422-18-0000-0030-0000 O.R. Book 829, Page 1351, Folio Number R08-422-19-0000-0010-0000 O.R. Book 954, Page 186, Folio Number R17-422-19-0000-0020-0000 O.R. Book 1118, Page 1248, Folio Number R17-422-19-0000-0070-0000 O.R. Book 946, Page 614, Folio Number R17-422-19-0000-0100-0000 O.R. Book 1295, Page 1453, Folio Number R18-422-19-0000-0050-0000 O.R. Book 829, Page 1351, Folio Number R18-422-19-0000-0030-0000 O.R. Book 544, Page 519, O.R. Book 544, Page 520, Folio Number R20-422-19-0000-0050-0000 O.R. Book 810, Page 608, Folio Number R19-422-19-0000-0010-0000 O.R. Book 829, Page 1351, Folio Number R16-422-19-0000-0100-0030 O.R. Book 581, Page 1961, Folio Number R36-421-18-0000-0090-0010 O.R. Book 1147, Page 1411, Folio Number R20-422-19-0000-0110-0020 O.R. Book 1031, Page 1996, Folio Number R16-422-19-0000-0030-0000 O.R. Book 2271, Page 737, Folio Number R36-421-18-0000-0180-0000 O.R. Book 1149, Page 1893, Folio Number R11-422-18-0000-0080-0000 O.R. Book 44, Page 494, Folio Number R17-422-19-0000-0130-0000 O.R. Book 697, Page 429, Folio Number R36-421-18-0000-0090-0000 O.R. Book 1152, Page 1522, Folio Number R17-422-19-0000-0010-0020 O.R. Book 9, Page 414, O.R. Book 23, Page 257, Folio Number R14-422-18-0000-0060-0011 O.R. Book 32, Page 19, Folio Number R13-422-18-0000-0060-0000 O.R. Book 18, Page 439, Folio Number R10-422-18-0000-0190-0000 O.R. Book 68, Page 631, Folio Number R33-421-19-0000-0160-0010 Deed Book 116, Page 523, Folio Number R15-422-18-0000-0030-0000 O.R. Book 44, Page 439, Folio Number R16-422-19-0000-0400-0000 O.R. Book 1728, Page 948, Folio Number R33-421-19-0000-0160-0000 Deed Book 80, Page 516, Deed Book 116, Page 523, O.R. Book 6, Page 126, O.R. Book 17, Page 572, O.R. Book 24, Page 308, Deed Book 119, Page 176, O.R. Book 23, Page 257, Folio Number R31-421-19-0000-0010-0000 Deed Book 80, Page 492, Deed Book 80, Page 516, Deed Book 83, Page 184, Deed Book 83, Page 406, Deed Book 84, Page 283, Deed Book 91, Page 243, Deed Book 91, Page 244, Deed Book 87, Page 359, Deed Book 101, Page 26, O.R. Book 2, Page 159, O.R. Book 10, Page 315, O.R. Book 10, Page 575, O.R. Book 11, Page 237, O.R. Book 13, Page 575, O.R. Book 14, Page 559, O.R. Book 40, Page 308, O.R. Book 105, Page 270, O.R. Book 478, Page 1760, O.R. Book 843, Page 1109, O.R. Book 951, Page 127, O.R. Book 951, Page 128, Folio Number R06-422-19-0000-0110-0000 Deed Book 74, Page 39, Deed Book 74, Page 43, Deed Book 74, Page 44, Deed Book 74, Page 50, Deed Book 74, Page 103, Deed Book 74, Page 104, Deed Book 74, Page 107, Deed Book 74, Page 226, Deed Book 75, Page 366, Deed Book 75, Page 419, Deed Book 80, Page 323, Deed Book 80, Page 388, Deed Book 80, Page 453, Deed Book 80, Page 492, Deed Book 82, Page 33, Deed Book 82, Page 65, Deed Book 82, Page 134, Deed Book 83, Page 143, Deed Book 84, Page 283, Deed Book 87, Page 359, Deed Book 103, Page 138, Deed Book 120, Page 166, Deed 116, Page 428, O.R. Book 11, Page 357, O.R. Book 19, Page 204, O.R. Book 348, Page 857, O.R. Book 951, Page 127, O.R. Book 951, Page 128.

The above descriptions being the same land described in a Title Report prepared by Johnston & Sasser PA, File Number: 40-2007-98, bearing an effective date of: February 9, 2007 at 11:00 PM.

Specific Purpose Survey

PREPARED FOR:

Gregg Mine

PROJECT NO.: 20040010
PHASE: 116

SURVTECH SOLUTIONS, INC. SURVEYORS AND MAPPERS





10220 U.S. Highway 92 East, Tampa, FL 33610

phone: (813)-621-4929, fax: (813)-621-7194, Licensed Business #7340
email: sbrown@survtechsolutions.com <http://www.survtechsolutions.com>



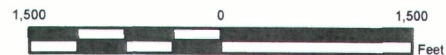


LEGEND

-  EXISTING PROJECT LOCATION
-  PARCEL BOUNDARY
-  RAILROAD
-  COUNTY ROAD

REFERENCES

1. EXISTING PROJECT LOCATION: FLORIDA POWER DEVELOPMENT, 2011
2. PARCEL BOUNDARIES: HERNANDO COUNTY PROPERTY APPRAISER, 2011
3. RAILROADS: GOLDER ASSOCIATES INC., 2011
4. ROADS: FLORIDA DEPARTMENT OF TRANSPORTATION, 2011
5. 2010 AERIAL: SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT AND WOOLPERT, INC., 2010



REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RWW
PROJECT						

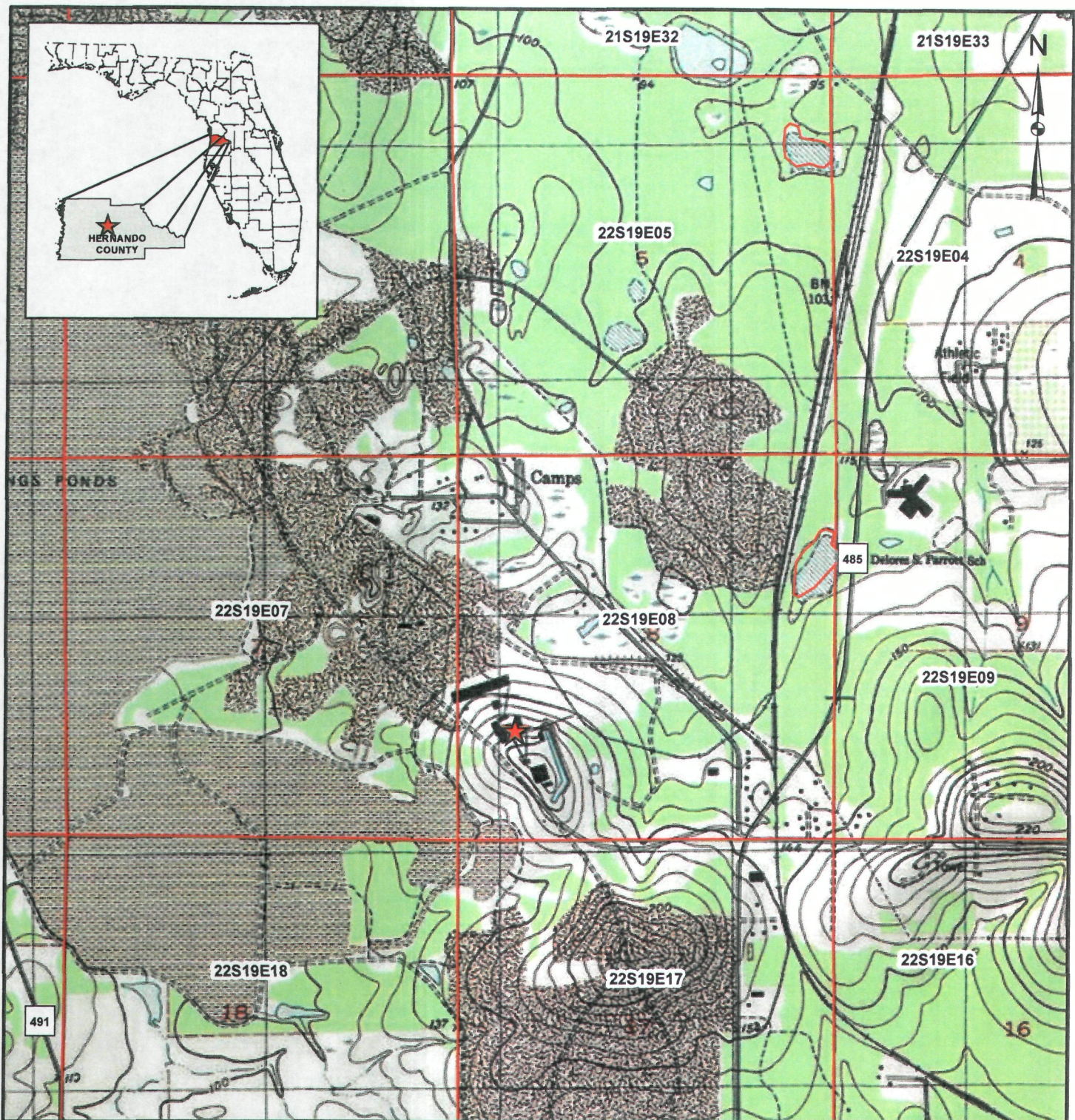
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TITLE

EXISTING PROJECT LOCATION



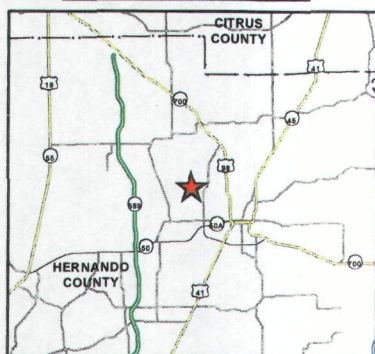
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GIS	JDG	09/07/2011	FIGURE 2.1.0-2		
CHECK	KJK	09/15/2011			
REVIEW	SHO	09/15/2011			



LEGEND

- ★ APPROXIMATE PROJECT LOCATION
- TOLL ROAD
- US ROAD
- STATE ROAD
- COUNTY ROAD
- TOWNSHIP-RANGE-SECTION
- COUNTY BOUNDARY

REGIONAL MAP



REFERENCES

1. APPROXIMATE PROJECT LOCATION: FLORIDA POWER DEVELOPMENT, 2011
2. ROADS: FLORIDA DEPARTMENT OF TRANSPORTATION, 2011
3. TOWNSHIP-RANGE-SECTION: FLORIDA RESOURCES & ENVIRONMENTAL ANALYSIS CENTER, 2003
4. COUNTY BOUNDARIES: FLORIDA GEOGRAPHIC DATA LIBRARY, 2008
5. USGS TOPOGRAPHIC MAP: NATIONAL GEOGRAPHIC SOCIETY, 2010

2,000 0 2,000 Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW
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PROJECT

FPD BIOMASS CONVERSION PROJECT

TITLE

LOCATION MAP



PROJECT No. 113-89534			FILE No. 113-89534A005		
DESIGN	JG	06/13/2011	SCALE: AS SHOWN	REV.	0
GIS	JG	06/13/2011	FIGURE 2.1.0-1		
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REVIEW	SHO	09/15/2011			

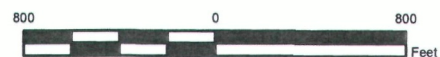


LEGEND

- PROPOSED CERTIFIED SITE BOUNDARY
- APPROXIMATE COOLING WATER FLOW PATTERN
- APPROXIMATE STORMWATER FLOW
- PUMP

REFERENCES

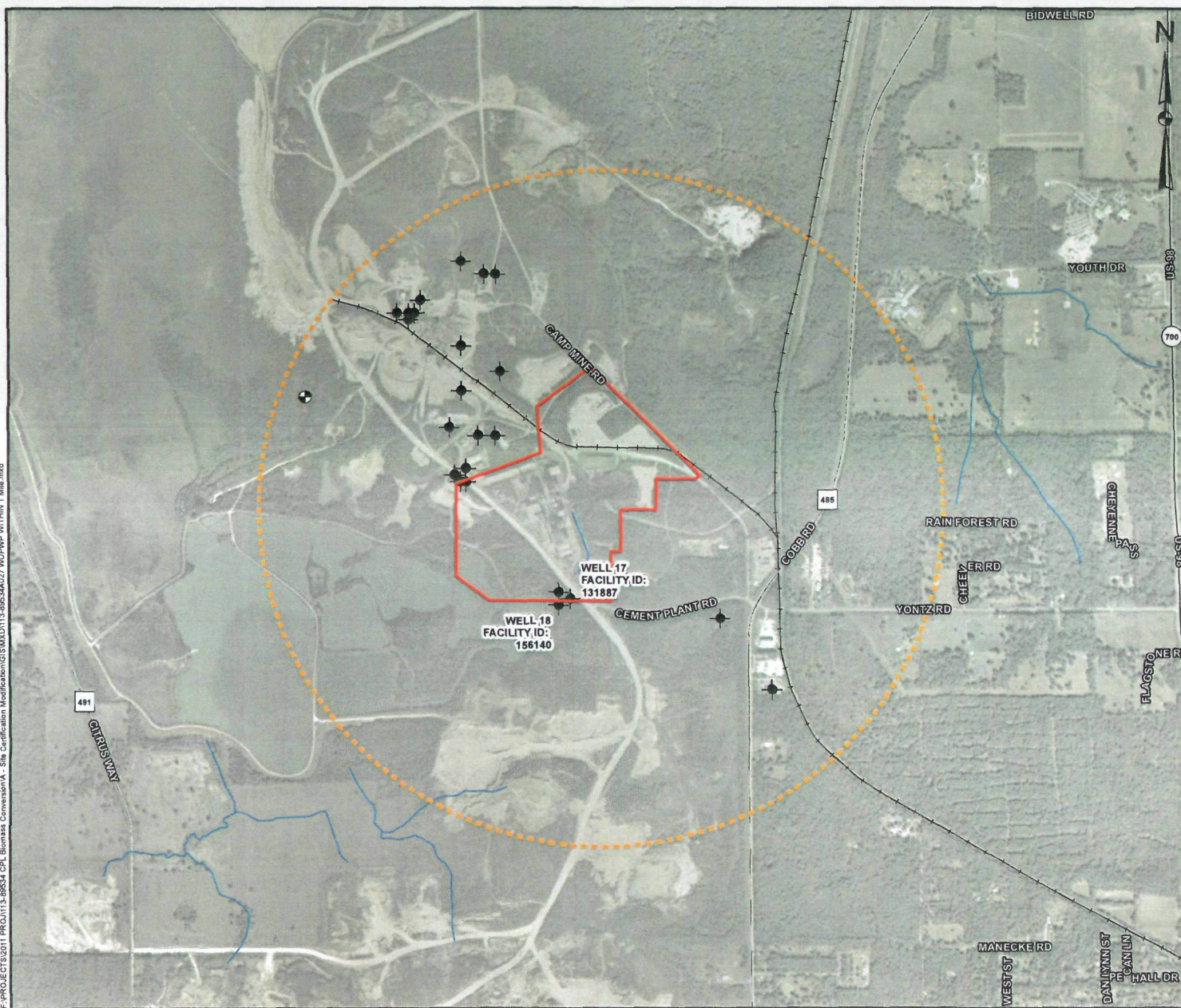
1. APPROXIMATE STORMWATER FLOW AND APPROXIMATE COOLING WATER FLOW: FLORIDA POWER DEVELOPMENT, 2011
2. PROPOSED CERTIFIED SITE BOUNDARY: FLORIDA POWER DEVELOPMENT, 2011
3. 2010 AERIAL: SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT AND WOOLPERT, INC., 2010



REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RWW
PROJECT						
FPD BIOMASS CONVERSION PROJECT						
TITLE						
EXISTING SITE COOLING WATER AND STORMWATER FLOW PATTERNS						
PROJECT No. 113-89534				FILE No. 113-89534A026		
DESIGN	JDG	07/11/2011	SCALE: AS SHOWN REV. 0			
GIS	JDG	09/15/2011	FIGURE 2.3.4-1			
CHECK	MHS	09/15/2011				
REVIEW	SHO	09/15/2011				



PROJECT No. 113-89534			FILE No. 113-89534A026		
DESIGN	JDG	07/11/2011	SCALE: AS SHOWN REV. 0		
GIS	JDG	09/15/2011	FIGURE 2.3.4-1		
CHECK	MHS	09/15/2011			
REVIEW	SHO	09/15/2011			



LEGEND

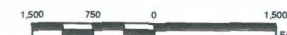
- ⋯ 1 - MILE RADIUS
- PROPOSED CERTIFIED SITE BOUNDARY
- STATE ROAD
- COUNTY ROAD
- RAILROAD
- RIVER/STREAM/DITCH/CANAL

WITHDRAWAL POINTS

- MONITORING WELL
- ◆ WITHDRAWAL OF GROUNDWATER

REFERENCES

1. PROPOSED CERTIFIED SITE BOUNDARY: FLORIDA POWER DEVELOPMENT, 2011
2. 1 - MILE RADIUS: GOLDER ASSOCIATES INC., 2011
3. WITHDRAWAL POINTS: SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT, 2011
4. RIVER/STREAM/DITCH/CANAL: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, 2006
5. ROADS: FLORIDA DEPARTMENT OF TRANSPORTATION, 2011
6. RAILROADS: FEDERAL RAILROAD ADMINISTRATION (FRA), 2010
7. 2009 AERIAL: I-CUBED, 2010



REV	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

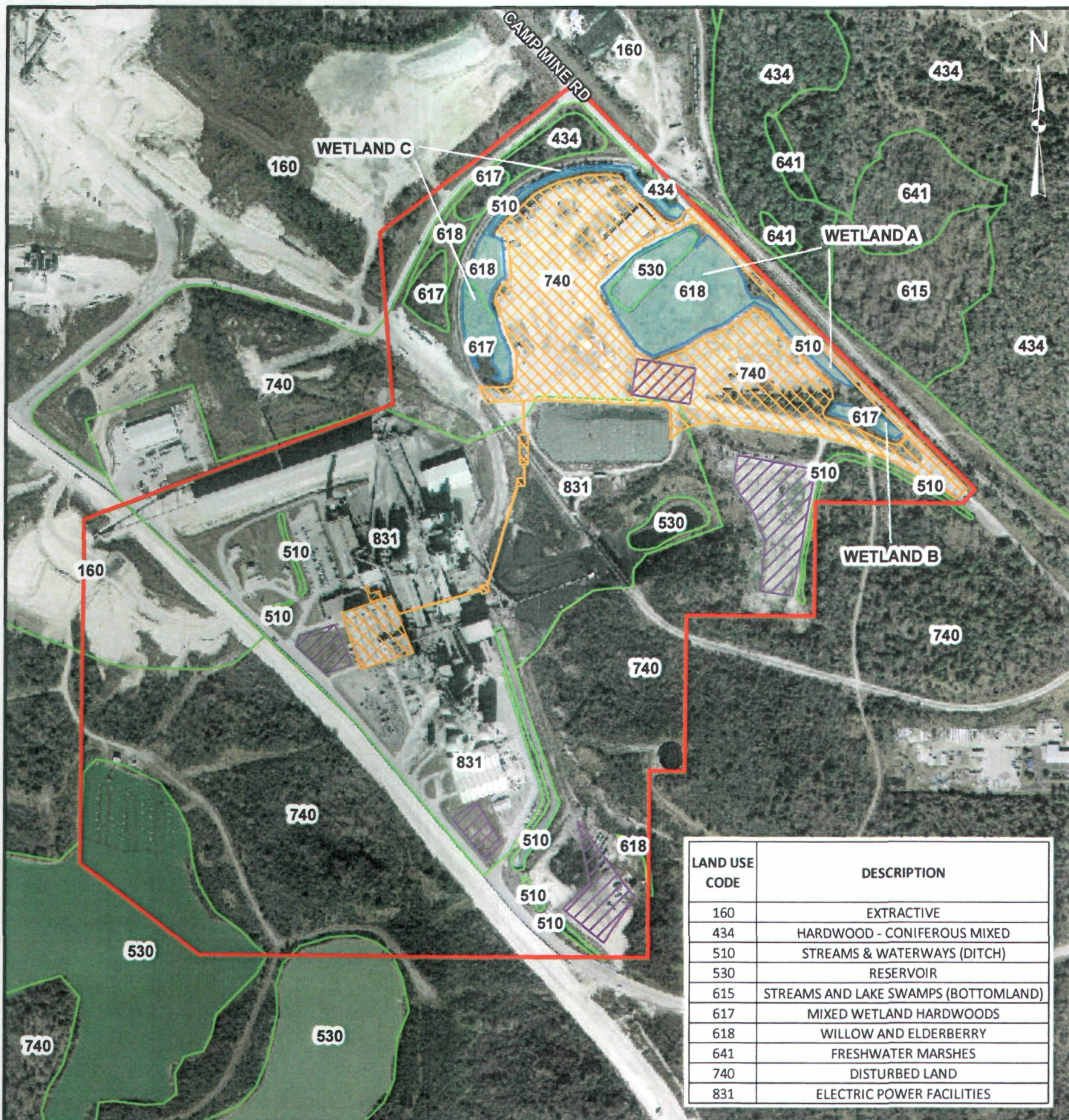
PROJECT FPD BIOMASS CONVERSION PROJECT

TITLE WATER USE PERMIT WITHDRAWAL POINTS WITHIN A 1 - MILE RADIUS



PROJECT No 113-89534	FILE No 113-89534A027
DESIGN JDC 07/08/2011	SCALE AS SHOWN REV 0
GIS JDC 09/15/2011	
CHECK MLM 09/15/2011	
REVIEW SHO 09/15/2011	

FIGURE 2.3.3-1



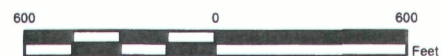
LAND USE CODE	DESCRIPTION
160	EXTRACTIVE
434	HARDWOOD - CONIFEROUS MIXED
510	STREAMS & WATERWAYS (DITCH)
530	RESERVOIR
615	STREAMS AND LAKE SWAMPS (BOTTOMLAND)
617	MIXED WETLAND HARDWOODS
618	WILLOW AND ELDERBERRY
641	FRESHWATER MARSHES
740	DISTURBED LAND
831	ELECTRIC POWER FACILITIES

LEGEND

- PROPOSED CERTIFIED SITE BOUNDARY
- APPROXIMATE PROPOSED CONSTRUCTION LAYDOWN AREAS
- APPROXIMATE PROPOSED NEW INFRASTRUCTURE
- SURVEYED WETLAND/SURFACE WATER BOUNDARY
- LAND USE/LAND COVER BOUNDARY

REFERENCES

1. APPROXIMATE PROPOSED NEW INFRASTRUCTURE, CONSTRUCTION LAYDOWN AREAS AND PROPOSED CERTIFIED SITE BOUNDARY: FLORIDA POWER DEVELOPMENT, 2011
2. LAND USE/LAND COVER: SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT, 2009 AND GOLDBERGER EDITS, 2011
3. SURVEYED WETLAND/SURFACE WATER BOUNDARIES: U.S. SURVEYOR AND GOLDBERGER ASSOCIATES INC., 2011
4. 2010 AERIAL: SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT AND WOOLPERT, INC., 2010



REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RWW
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PROJECT

FPD BIOMASS CONVERSION PROJECT

TITLE

LAND USE/LAND COVER



PROJECT No. 113-89534	FILE No. 113-89534A008
DESIGN JDG 06/13/2011	SCALE: AS SHOWN REV. 0
GIS JDG 09/15/2011	
CHECK HTA 09/15/2011	
REVIEW SHO 09/15/2011	

FIGURE 2.3.5-1